1888.

NEW ZEALAND.

SEACLIFF LUNATIC ASYLUM.

REPORT OF THE COMMISSION

APPOINTED TO INQUIRE INTO THE CONDITION OF THE ASYLUM BUILDING; TOGETHER WITH THE MINUTES OF PROCEEDINGS AND NOTES OF THE EVIDENCE TAKEN.

ALSO

A STATEMENT IN REPLY TO THE COMMISSIONERS' REPORT

BY MR. R. A. LAWSON,

AND A MEMORANDUM ON THE SAME REPORT BY THE ASSISTANT ENGINEER-IN-CHIEF.

Presented to both Houses of the General Assembly by Command of His Excellency.

WELLINGTON:
BY AUTHORITY: GEORGE DIDSBURY, GOVERNMENT PRINTER.

1888.

1888.

NEW ZEALAND.

INQUIRY INTO CONDITION OF SEACLIFF LUNATIC ASYLUM BUILDING.

(REPORT OF COMMISSION.)

Presented to both Houses of the General Assembly by Command of His Excellency.

COMMISSION.

To all to whom these presents shall come, and to HARRY PASLEY HIGGINSON, of Wellington, in the Colony of New Zealand, a Member of the Institute of Civil Engineers; WILLIAM HENRY SKINNER, of Auckland, in the said colony, Esquire; and BENJAMIN WOOLFIELD MOUNTFORT, of Christchurch, in the said colony, Esquire—Greeting:

WHEREAS a certain building has been erected for the purposes of a lunatic asylum, and the use and convenience thereof, known as the Seacliff Lunatic Asylum, in the Blueskin District, in the Provincial District of Otago: And whereas the said building was erected or purported to be erected under a certain contract bearing date on or about the eleventh day of September, 1879, made between Her Majesty the Queen and James Gore, contractor, of Dunedin, in the Provincial District of Otago: And whereas allegations have been made that the said building so erected as aforesaid, or a part thereof, is in an unsatisfactory condition owing to defects in the preparation of the site, or in the construction of the said building itself or a part thereof, and otherwise; and it is also alleged that, by reason of the premises, the said building is or may become dangerous to the lives of the persons resident therein, or otherwise unfit for occupation: And whereas it is expedient that inquiry should be made as to the truth or otherwise of the said allegations:

Now, therefore, I, James Prendergast, for and on behalf of His Excellency the Governor of the Colony of New Zealand, and as his duly-appointed deputy, in pursuance and exercise of every power and authority enabling me in this behalf, having confidence in your knowledge, ability, and integrity, do hereby, by and with the advice and consent of the Executive Council of the said colony, appoint you, the said

HARRY PASLEY HIGGINSON,
WILLIAM HENRY SKINNER, and
BENJAMIN WOOLFIELD MOUNTFORT,

to be Commissioners, by all lawful ways and means to inquire into all and singular the allegations hereinbefore mentioned, and each of them, and in particular to inquire as to the present state and condition of the said asylum-building, and to ascertain whether there are any good grounds for the above-mentioned allegations; and, if so, to ascertain as far as possible the cause or causes of the unsatisfactory state and condition of the said building, or any part of it, and particularly as to whether the same arises either partly or wholly from the character or formation of the ground upon which the said building is erected, or partly or wholly from defective construction, or from bad or defective materials or workmanship having been employed therein, or from the architect's plans and specifications not having been adhered to in the execution of the works; and if it shall appear to you that the plans and specifications aforesaid have not been adhered to and complied with either in the damaged part of the building or any other part thereof, then you are as far as possible to ascertain whether the responsibility for the divergence from the provisions and requirements of the contract entered into for the erection of the said building rests with the architect under whose supervision and control the same was erected, or with the inspector of works who acted under him, or with both of them, or with some other person or persons. And I do direct that such inquiry shall be held at Dunedin, in the said provincial district, or at such other place or places within the Provincial District of Otago as may be found convenient and as you may appoint, and on such day or days and at such time and place as you may think suitable; and that before you commence the said inquiry at least three days' notice in writing of the day, place, and time on and at which you will be prepared to enter upon or proceed with the said inquiry shall be given to such person or persons as may in your opinion be affected by or concerned in the said inquiry. And I also direct that you may from time to time fix such days or times for hearing evidence and proceeding in the matter of the said inquiry as you may think fit, subject, however, to the terms of these presents; and also that you may from time to time adjourn, alter, or vary the days or times aforesaid, in

such manner as you may judge desirable for the purpose of giving full effect to the said inquiry. And I hereby empower you to call before you and examine on oath, or otherwise as may be allowed by law, all such person or persons as you may think capable of affording you information in the premises, and that all such evidence shall be fully and fairly taken down and transcribed in writing, and shall be signed by the person or persons giving such evidence. And I declare that this Commission shall continue in full force and virtue, and you, the said Commissioners, may from time to time, and at any place or places in Otago aforesaid, proceed in the execution thereof, although the inquiry be not regularly continued from time to time by adjournment; and, further, that all the powers, duties, and authorities by these presents vested in you, the said Commissioners, may be exercised and performed by any two of you sitting and acting together. And I do hereby require you, or any two of you, with as little delay as possible, and not later than the first day of March next ensuing, to report to me, under your hands and seals, your opinion resulting from the said inquiry in respect of the several matters and things inquired into by you under or by virtue of these presents, and that you shall state in your report aforesaid what measures you would recommend for adoption in order to place the building herein referred to, or any part thereof, in a satisfactory condition, and to prevent further damage occurring to it. And, lastly, I do hereby declare that this Commission is and is intended to be issued subject to the provisions of "The Commissioners' Powers Act, 1867," and "The Commissioners' Powers Act Amendment Act, 1872."

Given under my hand as such Deputy-Governor as aforesaid, and issued under the Seal of the Colony of New Zealand, at the Government House, at Wellington, this thirty-first day of January, one thousand eight hundred and eighty-eight.

(L.S.) WILLIAM F. D. JERVOIS, Governor,
By his Deputy, JAMES PRENDERGAST.

Approved in Council.
FORSTER GORING, Clerk of the Executive Council.

EXTENSION OF TIME FOR REPORTING.

To HARRY PASLEY HIGGINSON, Esq., M.Inst.C.E., WILLIAM HENRY SKINNER, Esq., and BENJAMIN WOOLFIELD MOUNTFORT, Esq.

WHEREAS by a certain instrument in writing, or Commission, bearing date the thirty-first day of January, 1888, you, the said Harry Pasley Higginson, William Henry Skinner, and Benjamin Woolfield Mountfort, were appointed to be Commissioners for the purposes and with the powers and authorities in the said Commission more particularly mentioned: And whereas by the said Commission you were directed and required to report to the Governor of the Colony of New Zealand your proceedings and your opinion touching the matter mentioned therein on or before the first day of March, 1888: And whereas it is expedient that the said period should be extended as hereinafter provided:

Now, therefore, I, William Francis Drummond Jervois, the Governor of the Colony of New Zealand, by and with the advice and consent of the Executive Council of the said colony, and in exercise and pursuance of every power and authority enabling me in this behalf, do hereby extend the period within which you shall (using all diligence) report to me, as by the said Commission provided, to the fifteenth day of March, 1888; and, with the like advice and consent, and in further pursuance and exercise of the said power, I do hereby confirm the said Commission, except as altered by these presents.

Given under my hand, and issued under the Seal of the Colony of New Zealand, at the Government House, at Wellington, this second day of March, one thousand eight hundred and eighty-eight.

(L.S.) WM. F. DRUMMOND JERVOIS, Governor.

Approved in Council.
FORSTER GORING, Clerk of the Executive Council.

REPORT OF COMMISSION.

To His Excellency Sir William Francis Drummond Jervois, K.G.C.M.G., C.B., Governor and Commander-in-Chief in and over Her Majesty's Colony of New Zealand, and Vice-Admiral of the same.

MAY IT PLEASE YOUR EXCELLENCY,—

We, the undersigned, appointed by a Commission dated the thirty-first day of January, 1888, under the hand of the Governor, and sealed with the Public Seal of the Colony, to inquire into the condition of the Seacliff Lunatic Asylum building and all the facts and circumstances connected therewith, respectfully submit for your Excellency's consideration the following report of our proceedings, and of the opinions we have formed in respect of the several matters and things inquired into by us under virtue of the said Commission.

Twenty witnesses have given evidence on oath, which evidence has been taken down, transcribed in writing, signed by such witnesses, and accompanies this report.

At the commencement of the inquiry the Architect (Mr. R. A. Lawson) and the Contractor (Mr. James Gore) suggested that the inquiry should be adjourned until the arrival of the Inspector (Mr. Brindley), who was on his way from Sydney. The Commissioners, however, decided not to delay the proceedings, but undertook to see that Mr. Brindley should be made thoroughly acquainted with the evidence that might have been taken prior to his arrival.

1. The Commissioners find that the Seacliff Lunatic Asylum building is in an unsatisfactory condition, partly owing to neglect in draining the site, both before and after the commencement of its erection, and partly owing to certain defects in its construction to be hereafter detailed.

The contract for the central block was accepted on the 11th of September, 1879. Upon the 23rd of October, 1879, the Architect wrote to the Engineer in Charge of the Middle Island, requesting that drainage-trenches should be sunk behind the site of the permanent building, so as to isolate the site. Upon the 16th of January, 1880, the Architect again wrote to the Engineer in Charge to the same effect, urging more speedy action. Upon the 29th of March, 1881, the Architect again wrote to the Engineer in Charge, urging the expediency of proceeding with the main back drainage, and pointed out that Dr. (now Sir James) Hector, who reported upon the site on the 9th of June, 1880, had laid much stress upon the necessity of isolating the site. The Inspector of Works also wrote to the District Engineer (Mr. E. R. Ussher) upon the 1st of April, 1882, to the same effect, pointing out at the same time that water was standing in the foundations to a height of 6in. below the floor-plates.

The Architect wrote to the Engineer in Charge upon the 25th of April, 1882, pointing out the necessity for carrying out a comprehensive drainage-scheme, as the foundations were being damaged by drainage-water lying in the trenches, and that indications of unequal settlement were beginning to show. In reply, the Engineer in Charge wrote to the Architect upon the 19th of May, 1882, asking for further particulars. This is the first indication that the Public Works Department contemplated the execution of any system of drainage. The Engineer in Charge stated that in his opinion its execution should be deferred until the erection of the building was approaching completion, and that the keeping of the foundations free from water during the prosecution of the works was a matter for the Architect and the Contractor to attend to.

Sir James Hector in his report upon the site pointed out that the northern end of the building was placed upon an unstable formation of boulder-clay, which was liable to expand and contract during wet and dry weather. He recommended the excavation of a deep trench round the northern end of the building, in order to cut off the foundation from the surrounding clay formation, and isolate it from the effect of any motion to which that formation was subject, and at the same time facilitate its thorough drainage. He also suggested the alteration of the plan of the building, in order to avoid placing it upon excavation-sites of different levels and geological formations.

The Commissioners are of opinion that in designing a building of this importance and magnitude a proper provision should have been made in the specification for dealing with the drainage of the foundations, especially since they were placed at different levels. It was not possible to put in an efficient system of drainage after the erection of the building without considerable additional expense, and weakening the foundations in ground of doubtful character.

The Architect repeatedly called the attention of the Public Works Department to the fact that drainage was necessary, eliciting no reply, however, until the 29th of May, 1882, or thirty months after his first letter on the subject was written. Seeing the urgency of the necessity for proper drainage, especially after the publication of Sir James Hector's report, we consider the Architect to blame for not insisting upon such works being carried out as he considered necessary to insure the safety of the building in course of construction under his directions.

Whether or not it was the intention of the Public Works Department to take all drainage operations under its charge in the first instance we have no evidence to show; but the Commissioners consider that this must have been the case, and therefore are of opinion that the department cannot be considered to be free from blame for not paying attention to the repeated applications of the Architect and warnings of Sir James Hector on the subject.

The Commissioners are not satisfied that the isolating-drain called for by the Architect and recommended by Sir James Hector would have remedied the defects in the excavated site, as it would have established very efficient drainage; but they are, however, of opinion that under the circumstances it would have been a great advantage, and that the recommendation referred to should have been acted upon, as the entire separation of the site from the surrounding formation would have removed the possibility of any extensive creep of the ground being communicated to the structure.

2. The Commissioners do not consider that the building at the present time is absolutely dangerous; but, as it is evident that the action causing the settlement has not ceased, it will be necessary to keep a close watch, so that, upon any indications of the tendency of the movement to increase, measures may be taken to provide accommodation elsewhere for the patients now in the affected part until the building shall have been restored to its proper state. Mr. Reid, the carpenter in charge, from the nature of his duties, will be able to keep an accurate check on any movement affecting the safe use of any part in which it may become unduly conspicuous, and we advise that he shall keep a diary, noting any alteration in the present indications of settlement in walls, floors, windows, doors, or other parts in or adjacent to the north wing and its airing-courts, and that he shall furnish reports at least monthly to the District Engineer, noting any matter which in his opinion requires attention.

3. With the exception of a fracture in the main front gable of the central building (which is separately reported on by the Commissioners) and a local settlement in the bay windows at the east end of the north wing, the injury to the structure is confined to the ambulatory and the building appertaining to it, named upon the plan Block 2 (north), having dimensions about 100ft. by 25ft., and which connects the north wing to the central portion of the asylum. This part is rent, fissured, and bent to a very serious extent, having apparently suffered from two movements, the effects of which and the present appearance being minutely recorded in the evidence of Mr. P. S. Hay, where drawings (No. 18), giving dimensions, show the plumbings of the walls and the cracks now visible. Some small indications of movement appear in the north wing, caused apparently by the larger ones of the connecting blocks before named; but it appears to the Commissioners that the injury to the north wing, being slight, will not affect its stability, provided that the remedial measures hereafter detailed are carried out.

4. The Commissioners consider that there were good grounds for anxiety in the fact that the

cracks and distortions were continuously developing in that part of the asylum now under review; and, although possibly the reports were exaggerated, yet the present detailed examination and survey, by fixing and limiting the area of unsoundness, may tend to reassure the Government as to the present condition of the entire building.

5. In dealing with that very important portion of the inquiry—viz., what is the cause of the present state of the works of that part of the building affected—the Commissioners have taken a large mass of evidence, and they have spent four days on the building itself, making a close examination of the same, and also of the ground in the immediate vicinity. Two main theories have been propounded to account for the injuries now manifest in the building—viz., first, that a gradual movement of the surface of the ground has taken place, carrying with it the whole of the north wing of the damaged building; and secondly, that the effects seen in the block now affected are from the operation of vertical settlement and consequent action thereon.

With regard to the alleged movement eastward, the Commissioners have given every possible attention to this supposition; but they find that, from the absence of any data, lines of setting out, or fixed bench-marks, there are no reliable means of checking the position on the ground of the building as finished. They have excavated the water-main supply-pipe to the building at that part where, if there had been a movement of ground to the extent asserted, some indications might have been fairly expected, and they found nothing to lead them to suppose that any movement had taken place. While, therefore, not asserting that such a movement is impossible, the Commissioners may fairly say that it has not been proved.

In respect to the second theory—viz., vertical settlement—a drawing from the Public Works Office produced before the Commissioners professes to represent the western front of that portion of Block No. 2 (north) as it appeared 17th February, 1885, the said drawing bearing a statement on it that the cracks there shown had increased very little, if anything, since the winter of 1884. If this drawing is to be taken as correct, it shows distinctly the effects of vertical settlement in the north and south ends of the block, the centre part at that time not sinking at the same rate as the ends; but, as since the drawing was made the western wall has been replastered, these indications are no longer visible, and the present aspect of this same wall seems to indicate a further movement wherein the centre sunk more than the sides, and the later cracks and fissures tend to cross those of a former date, leading to the inference that this wall must, from the double lines of fissures, be in a state of disintegration. The effect of the continuous action producing the vertical settlement was found by levelling to amount to 4in., as ascertained from the adjacent stable portion of the building.

The intermediate and cross-walls of the block seem to have sunk more or less in connection with the back or west wall, being also influenced by their greater or less weight as loaded with chimneys or otherwise, while the outer wall on the east front, which is carried on low-pitched arches, and is not tied into the other walls for a distance of 70ft., has settled in a different degree—not so much as the other two longitudinal walls, but sufficient to have caused extensive fractures across the piers and arches, and to have assisted, in combination with the other walls last named, in creating a thrust north and south. That to the south, being butted by the main building, has not developed any injury to that part, whereas the north building, being weaker, and having no abutment, has been thrust out towards the north.

It appears from all the evidence that the ground on which this Block No. 2 (north) stands was always known to be doubtful. On the 13th December, 1881, the Inspector suggested that the concrete at this part should be improved, and he also reported that the concrete of the main back retaining-wall cracked before any brickwork was built upon it. It is also shown by evidence and letters that the water constantly lay about on the surface and saturated the ground at this part: in fact, without drainage the whole body of this ground must have been in the condition of plastic puddle, so that one part, being unduly pressed by a heavy wall, sank until the clay below was sufficiently compressed to bear it, and by so doing drove the water into the surrounding parts, which, not being so heavily laden, yielded in varicus degrees, and might even have been raised in some parts, which indeed seems to have been the effect in the present case. Referring more especially to the east wall, built on piers, the points of support were rather scant in area (considering the material), but they have been much assisted by being on a continuous foundation; otherwise there can be little doubt but that the whole of the east wall would have become a ruin. The real weakness of this wall consists in the method of construction above the arcade, where, instead of the wall receding in set-offs for the floor-plates, it is carried up in one thickness from bottom to top, and the wall-plates of both floors built into the thickness of the wall, thus practically reducing the wall from 18in. to 14in.; in addition to which, at each 18in. for a length of 70ft. the wall is additionally cut into by building in the floor-joists, 6in. by 9in.; thus at these two points in the height reducing the thickness of wall to 12in. Unfortunately these very points on both upper floors have been selected for the white stone band-courses, which do not bond in well with the brick dimensions, necessitating much cutting and broken brickwork at the weakest points of the wall. This construction, with a very slight settlement, is sufficient to account for the contortions in the upper part of this wall; and another detail that tends to weaken this and all the walls throughout is the great number of air-flues with which they are perforated from bottom to top.

The Commissioners, therefore, are of opinion that the cause of the movement in the part of the building now under examination may be attributed to unequal settlement, caused by the absence of good drainage, by the want of sufficiently broad and deep footings, by the total absence of cross-tie, and by a weak method of construction of the walls generally. The Commissioners are also of opinion that sufficient provision was not made in the specifications for the best brick bond; and from the account given of this important detail it appears that the bricks cannot be considered as first-class, and must depend to a greater extent than is desirable on the tenacity of the mortar, so that when a strain came on the walls they would slide upon the joints sooner than break through the bricks, which can be seen in many places at the fractures.

Without going so far as to say that the materials and workmanship now in the works are absolutely bad or utterly defective, the Commissioners are clearly of the opinion that they are not of the quality or description warranted by the magnitude and importance of the building, nor are they in conformity with the spirit of the specification, especially of the General Conditions, which provide "that all materials are to be of the very best of their respective kind, and the works executed in the very best, most substantial, and workmanlike manner;" whereas it is shown by the evidence of the Inspector that he was in constant contention with the Contractor as to the proper execution of the work, the method of executing the contract, the quality of the bricks, and many other matters, and he distinctly says that he never was satisfied with the manner in which the contract was performed, and that he considered the latter part of the work (which included the north wing) to be executed in an inferior manner to the first part.

The Commissioners consider that the evidence generally, and the letter-book of the Inspector, show that there was an honest endeavour on his part to insure good work and sound construction, but that he was placed at a great disadvantage owing to the indecisive and inexact wording of the specification that he was called upon to work with; and, although the General Conditions are strict and precise, yet they were never appealed to or acted upon—in fact, they seem by the Contractor and his agents to be treated as so much waste-paper. And in this special matter there seems to have been a most unfortunate misunderstanding, as the Architect provided no general conditions, and he seems to have looked on those provided by the Works Office as no conditions of his, declining to look on the Inspector as his assistant, although he admits that the Inspector could make no alterations, reject work, or order extras without his (the Architect's) approval. It is extremely difficult under these circumstances to understand the Inspector's position, and it cannot be surprising that work was passed that under the usual course of proceeding would not have been permitted.

Another source of weakness in the construction that may be pointed out is this: The specification provides that all stone must be laid on its natural bed, and, as shown by the drawings, all window-jambs are drawn with very long narrow stones, and a short header between. Now, although most probably the short stones may be on their natural beds (of which there is no proof), yet it is very improbable that the long stones should also fulfil this condition; in addition to which an element of unsound construction is introduced, inasmuch as in each tall stone for the two joints belonging to it from eight to sixteen joints of brickwork are made to work in in the height; and it is manifest that in process of natural adjustment within the work itself there must be from four to eight times the settlement in the brickwork to what there is in the stone—a process which would bring an undue pressure on the tall narrow stones, which they are not capable of sustaining; and this is visible in several places, where the jamb-stones are crushed or kicked out with the weight. With respect especially to the two turrets on the main centre gable, there appears to the Commissioners a considerable amount of insecurity. These turrets are placed at the external angles of the main building. The centre of each turret is on the external salient angle, so that there are three-fourths of the circular plan of turret outhanging, and only one-fourth built in on the wall; and this the Commissioners do not think sufficient, more especially considering that these turrets are loaded with a very massive newel-staircase of Port Chalmers stone, and the walls supporting them are less than 2ft. thick. These turrets are sufficient of themselves to try the walls very severely, but when it is found that between the two turrets a tall and heavy gable is carried on an arch of 28ft. span, the thrust of which is in direct accord with the outward pull of the overhanging turrets, it cannot be surprising that some untoward developments should manifest themselves. Accordingly, it will be found that there is a considerable tendency here set up for a sinking of the main gable more than the portico gable, and a continuous fracture can be traced from the side arch of the front portico on both sides, up through the flanks of the main front gable. It is clearly a mistake to endeavour to erect such largely-projecting masses on so slim a wall, and with a large arch assisting to dislocate the building, unless special precautions for tying in the turrets quite across the walls had been provided. These settlements developed themselves tolerably early in the course of the works, and in consequence thereof, and at the request of the Inspector, all other similar turrets throughout the building have been built with a much reduced overhang.

During the inquiry a plan (No. 3) was put in by the Public Works Department, purporting to show the concrete foundations of the north ambulatory walls and north wing as actually constructed. In order to ascertain the facts necessary, numerous pits were sunk at different points in the positions indicated upon the plans. From the results of measurements made by Mr. P. S. Hay, that gentleman endeavoured to prove that the concrete foundations had been so far reduced in size as to very materially affect the stability of the building. Exception was taken to the nature of the measurements made, which only showed the dimensions of the foundations from the outer or one face of the building. As it was considered that further particulars were necessary in order to show accurately the size and quality of that portion of the work, the Commissioners had additional pits sunk upon both sides of the foundations in seven different places, the result of which proved that, though in some cases the dimensions exceeded the sizes intended, in several they were considerably less.

In No. 2 Block (north), where the defects show most extensively, the following particulars are given as the result of the examination:—

	As per Contract Drawing.	As intended and ordered.	As built.
	Ft. in.	Ft. in.	Ft. in.
Front ambulatory wall—			
Cubic feet per foot-run	9 6	9 0	8 1
Bearing-surface in square feet ...	3 3	3 0	3 0
Middle wall—			
Cubic feet per foot-run	3 5¼	4 0	4 0
Bearing-surface in square feet ...	2 9	2 0	2 0
Back wall—			
Bearing-surface in square feet ...	4 0	2 6	2 4

It will be observed that, though the cubic contents do not correspond with the quantities ordered and intended to have been put in, there is no very serious discrepancy, especially when it is known that the concrete was simply thrown into a trench excavated in the clay, which could not be expected to preserve extreme regularity in outline. It was also proved in evidence that the Contractor was paid by measurement for all concrete placed in the work, and that it certainly was not to his advantage to reduce the quantity for which he received a liberal price. Boulders were observed to have been allowed to remain in the positions in which they were found in the trench, apparently with the knowledge and consent of the Inspector. In several places large stones lying very close together were found embedded in the concrete. A large amount of evidence was obtained upon this subject. These stones were known as "packing," and were permitted to be inserted by the contract specification "to the Inspector's approval." There was considerable difference of opinion between the Inspector and Contractor as to the quantity that should be admitted. The Inspector was of opinion that these stones were placed too close together, and that in No. 2 Block (north) they should be entirely omitted, as, owing to the soft nature of the ground, he considered that the concrete should be composed of stronger material, the stone packing, in his judgment, weakening the foundations. The Commissioners do not find that the Inspector was supported by the Architect in this opinion, but that the former had in consequence to wage a perpetual war with the Contractor on the subject, and eventually give way, for the stone packing was inserted throughout the work.

The Commissioners consider that the specification for concrete was very vague, and that it should have given full particulars as to the exact proportion of material to be used, and not have left so important a matter to be a constant cause for dispute between the Inspector and Contractor. It also placed the former in a very unfair position, unless his opinions and instructions were promptly and properly supported by the Architect, to whose guidance and decision it was his duty to appeal.

During their examination of the concrete the Commissioners have been enabled to form the opinion that the quality of that placed in the northern end of the building is not so good or so well executed as in the other portions of the structure. They, however, found no reason to doubt the quality or proportions of cement used, as the work had set well, though full of interstices, owing to the proportions specified, in which sand formed no part.

6. The Commissioners are of opinion that the defects observed in the building cannot be altogether traced to the fact that either the plans or the specifications were not adhered to. The Architect's plans and specifications have been generally followed, excepting in the concrete foundations, in which there has been a serious departure from the contract-plan.

The plan provides for concrete footings to all foundations of walls. These were shown, as measured by scale—for the front ambulatory wall a width over all of 3ft. 3in. by 12in. in depth, for the middle wall a width of 2ft. 9in. by 15in. in depth, and for the back wall a width of 4ft. by 15in. in depth. In construction, the Inspector considered that a stronger foundation would be secured by carrying up these walls of a greater average thickness, but without footings, losing sight of the fact that in doing so the bearing-surface would be considerable reduced. In his evidence the Inspector states that the foundations of the front and middle walls were put in and paid for as 3ft. wide by 3ft. deep, the back wall being increased from 2ft. to 2ft. 6in. in thickness; but the footings, 4ft. in width, were omitted altogether. This alteration was made with the Architect's consent, as it obviated the necessity for the use of boarding, the trenches being cut out to the size, and the concrete simply thrown in. The Architect states in evidence that it was his intention to put in the foundations in this manner where possible, as instanced by the schedule-prices, where the concrete in walls where framing had to be used, a higher price is paid. It was also ascertained that there had been a difference of opinion between the Inspector and Contractor as to the dimensions of various portions of the works as read by scale from the contract-plans. No architect's plans other than those attached to the contract were put before the Commissioners, and they found considerable difficulty in arriving at the intended dimensions as measured by scale upon rough tracing-cloth. These were the only plans provided for use on the work by the Architect, though the Inspector, who was paid by Government, had, for his own satisfaction and convenience, drawn out a large number of working-drawings to a large scale, which were used during the construction of the building.

The plans attached to the contract were, with a few exceptions, drawn to a scale of one-eighth or one-sixteenth of an inch to a foot. This was too small to be of any material use in laying out the works or arriving at the correct dimensions. The specification was also, generally, of a very loose description, and quite insufficient to insure the carrying-out in a proper workmanlike manner of a contract of such magnitude. It was too general in its character, leaving too much to be determined by the mutual agreement of the Contractor with the Architect or Inspector.

Although the reduction in the bearing-surface of the concrete foundation-walls was the result of the alteration made in the contract-drawings, the Commissioners are of opinion that such alteration was not the sole cause of the defects, though to some extent it must have contributed towards it. A large bearing-surface is absolutely necessary where the site of the foundation is proved to be not only wet, but of a faulty and treacherous nature, consequently, where the defects to the building have occurred, and where ample warning was given by the highest authorities, the width of the concrete wall-base should not only have been maintained at the dimensions shown in the contract-plans, but additional precautions should have been taken, and the bearing-surface very considerably increased. Unless in exceptionally good ground, the intended depth of 3ft. for the foundations is not considered to be sufficient to be safe from the effects of the weather. The Commissioners, therefore, find that the departure from the contract-plans in respect to the width of the footings to have been a serious error of judgment on the part of the Architect and his Inspector.

7. The Commissioners are of opinion that the Architect is responsible for any divergence from

the contract-plans, as in his evidence he stated that the Inspector acted under his orders entirely, and that he (the Architect) was prepared to accept the full responsibility.

The Inspector in his evidence stated that he was left with a large amount of discretion—more so than would be the case with an ordinary clerk of works—and that he was satisfied with the dimensions of the concrete foundations, and that they were strong enough to carry the superstructure. The Architect appears to have accepted the Inspector's opinion in the matter, and to have taken no steps to make himself personally acquainted with the nature of the ground, or to have suggested that any special care should be exercised beyond making repeated applications to the Public Works Department to drain the foundations.

As an example of the incompleteness of the plans attached to the contract, the Commissioners would point out that upon the ground-plan of the building the back and cross walls of the ambulatories are denoted by dotted lines, which are stated by the Architect to indicate that they were not to be taken down to the same foundation-level as the middle and front walls. At the same time the cross-sections of the building at various points clearly show that the intention was to build the whole of the three walls up from the same foundation-level. This was the view taken by the Inspector, who held that the back wall was included in the contract, and refused to include the measurement of that wall below the first-floor in his quantities of extra work. He was, however, overruled, and subsequently yielded to the Architect's views and interpretation, and then signed or initialled the sheets of quantities which were treated as extras to the contract, and paid for as such.

The Architect's intention is stated by himself to have been that the back wall should be founded at a higher level than the middle and front walls, though in reading the plans together the Commissioners fail to see that such intention was clearly expressed therein, but, that all three walls being shown on the cross-sections as having their foundations at the same level, they are of opinion that the whole were included in the contract, and that the back and cross walls on the basement-floor should not have been treated as an extra. The Architect has throughout this inquiry made no objections to any of the deviations from the plans that were from time to time made at the instigation of the Inspector; consequently it is held as proof that such deviations were all made with his full consent and approval.

8. With respect to measures for placing the damaged portion of the building in a satisfactory condition, they may be arranged under two heads—first, thorough and efficient drainage of the grounds; second, reinstatement and strengthening of the injured parts of north Block 2.

As a preliminary to the first proposal, seeing that the question has been raised of an eastward movement of the entire north wing, and the complete absence of any fixed stations from which to determine the truth or otherwise of the movement, the Commissioners recommend that permanent points of observation shall at once be fixed, carefully selected at a sufficient distance to be beyond the range of local disturbance, and that there shall be a series of intermediate stations or marks on the suspected ground; and that at regular intervals—say, not less than once a month—careful observations shall be taken from the permanent stations, and the result recorded. As it is most probable that, if there is any movement, it will take place during the winter or spring, it will be expedient that these points and stations should at once be selected and established.

The Commissioners recommend that before the winter sets in a comprehensive system of surface-drainage shall be done to relieve the foundations from the water which they found. The footings, especially at the north end, were filled up to within a short distance of the surface. From whatever source this water may arise, it is very injurious, as it keeps the base of the walls constantly wet, and, by continually saturating the clay, tends to increase the present damage and to risk its extension. A systematic inspection of all air-gratings near the ground should be made, as at present many of them are partially or wholly below the ground-level, and are bound to admit surface-water below the floors of the building. All gratings liable to the above defects should be raised above the ground-level, or, if this cannot be done, they should be built up and cemented over. In connection with this part of the drainage, the whole of the traps or inlets at the foot of rain-water pipes require to be raised round their margins, made watertight, and provided with gratings at least of one-fourth larger area than that of the pipes discharging into them. At several places the Commissioners noted that a large portion of the water from the downpipes must pass under the floor of the building, owing, firstly, to the inadequate inlets in the cess-traps, and, secondly, that the air-gratings seemed purposely put to receive the overflow from the downpipes and convey it under the floor. A board was taken up in the floor of the north wing, and the ground was found to be in a wet state; in fact, it appeared to the Commissioners that the whole of the ground at this north wing is completely saturated, and that unless a thorough draining and drying of the ground is effected more damage from settlement is very probable. The Commissioners also recommend that the isolating-drain advocated by Sir James Hector in 1880, and also repeatedly asked for by the Architect, shall be put in so soon as the result of the observations previously recommended indicate the slightest forward movement in any part of the building. Pending the result of these observations, they consider the drainage scheme already constructed by the Public Works Department will be found sufficient to intercept all water flowing from the high ground at the back of the building; but the result of the observations before recommended may demonstrate that there will be no necessity to construct this extensive work. It is also recommended that all air-gratings below ground-floor line, where closed, shall (if the configuration of the ground allows) be opened out. The Commissioners also recommend that all the rain-water outlet-pipes at present connected with the soil-pipes shall be disconnected and carried to the outlets independently, as the present trap-arrangement cannot be depended upon to exclude sewer-gas. It is also recommended that additional rain-water downpipes shall be fixed where required, as at present the number and capacity are not sufficient to carry off the water from certain portions of the roofs.

Referring to the second part—namely, the reinstatement and repairs—the Commissioners,

taking into account the many and varied fractures and fissures to be found in the block now under discussion, have come to the conclusion that it would be inexpedient to advise the Government to attempt any underpinning or repairing works. From the plans and construction of the works these operations, conducted in very small compartments and by artificial light, must be very expensive, and, if successful, would only result in a patched and unsatisfactory building. The Commissioners recommend that the longitudinal portion of Block 2, comprising the north ambulatory, be taken down with care, and the materials fit for use numbered and marked, so that they can be replaced in the same positions as at present, and that the building be re-erected, but in a better manner and with more care to constructive details than formerly. They anticipate that the value of the materials to be reused will more than cover the cost of the taking-down. The ground-surface at the site should be levelled and drained by pipes under the site of the building, and a strong platform of concrete—say, 2ft. in thickness—should be thrown over the entire area, with deepened borders under the outer and main walls, and with projecting footings. Fair time should be allowed for the concrete to set, and the work carried up with—say, main wall, 1ft. 10½in. thick for the ground-floor, 1ft. 6in. for the first-floor, and 1ft. 2in. for the second-floor, all in English bond with iron ties; all wall-plates built on solid set-offs; and the whole three longitudinal walls well tied together, either by dog-irons to fished floor-joists or with iron tie-rods. If the main block is extended more to the north than at present, it may be built to form an abutment; if the building is to be carried no further northward, then strong buttresses should be built at that end of the block. The upper and lower airing-courts should be laid down with asphalting, having good fall and outlets, and every possible precaution should be taken by drainage to prevent water from obtaining entrance below the surface of the ground near the building. The Commissioners observed that along the north front the ground is now disposed so that it tends to cast the rain-water towards the walls. This should be at once remedied, and an asphalt pavement not less than 8ft. wide, with an outward slope, be laid down all round the north wing.

The Commissioners also consider that iron tie-rods should be placed to those principals in the roof of the upper hall or theatre of the central portion that are now without this assistance. As the construction of this part is rather weak, and the unusually heavy outside corbels on the thin wall require all the cross-tie that it is possible to give it, it would be as well that the new ties, and also those already in the roof, should be connected by iron bolts with the outside corbellings.

With regard to the main front centre gable the Commissioners recommend that the turrets be taken down, the stone staircases taken out, and that they be re-erected with wooden stairs, and be further secured by strong iron bands connected together by iron bar-ties across the gable. Minor repairs, as at the bay window in the north wing, may be also necessary.

After the close of the proceedings a letter was received from the Architect, Mr. Lawson, requesting that another sitting should be held by the Commissioners, in order that certain documents might be called for which had not been produced by the Engineer in Charge, Mr. Blair. That gentleman having, however, stated upon oath that the documents called for had no existence, and therefore could not be produced, the Commissioners decided that it was not advisable or necessary to reopen the inquiry. As the Commissioners had carefully gone into all possible evidence bearing upon constructive matters, and having satisfied themselves that the documents referred to by Mr. Lawson, if in existence, were bearing upon subjects quite outside the scope of the inquiry intrusted to them, they decided to refuse the application, but to forward his letter with this report, writing to him in reply to that effect.

Given under our hands and seals at Dunedin, this fifth day of March, 1888.

(L.S.) H. P. Higginson, M. Inst. C.E.
(L.S.) W. H. Skinner, Architect.
(L.S.) B. W. Mountfort, Architect.

APPENDICES.

List of Witnesses—Mr. Lawson's Protest—Mr. Lawson's Two Letters and Replies thereto—Mr. P. S. Hay's Plans of Building (5 sheets)—Ground-plan of Seacliff Asylum—Elevation of Building in 1884.

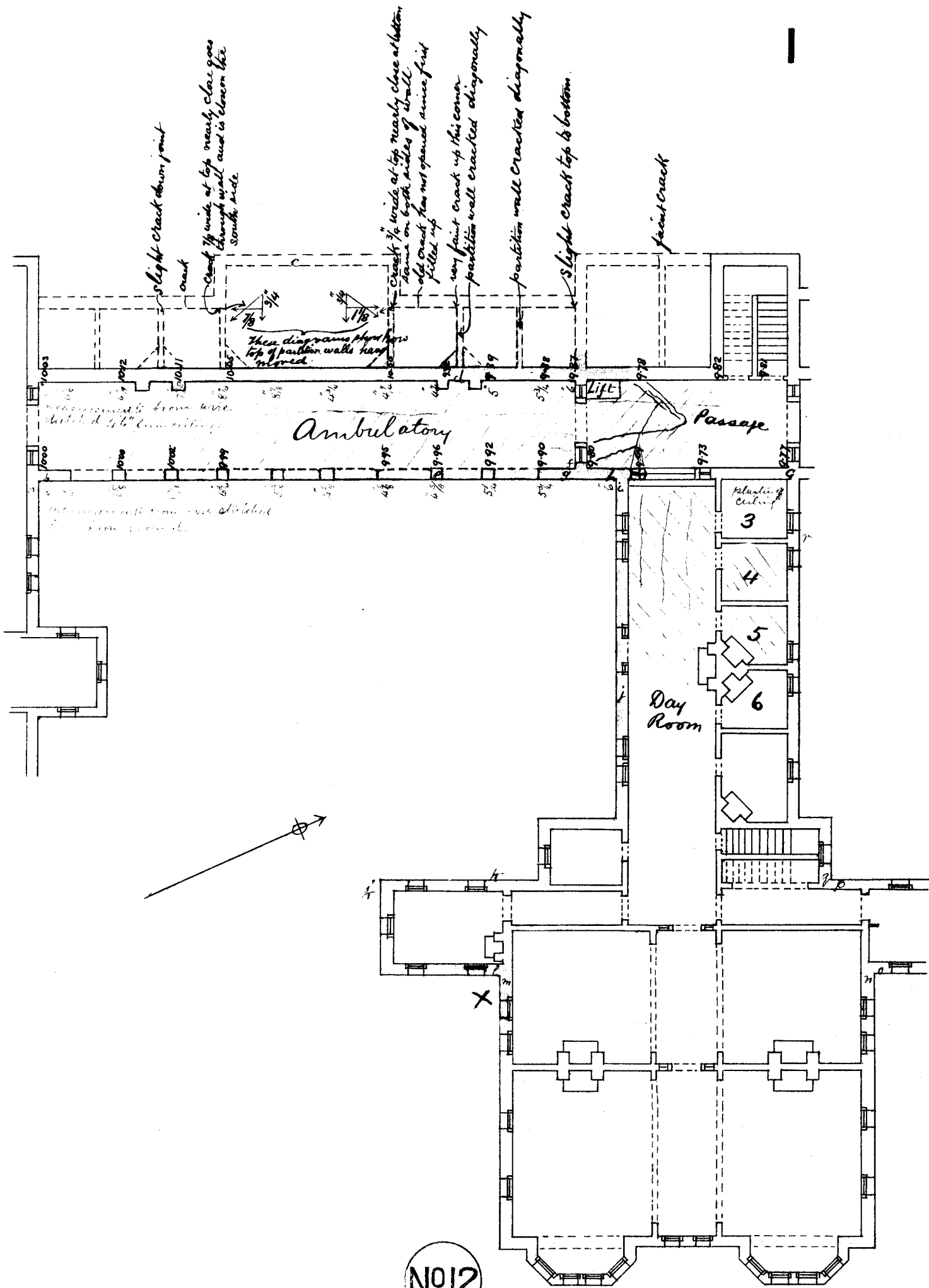
List of Witnesses.

Messrs. W. N. Blair,	Messrs. Robert Forrest,	Messrs. James Gore,
James Donald,	George Cronk,	R. A. Lawson,
E. R. Ussher,	George Watkins,	Alfred Brindley,
James Hunter,	Benjamin Butcher,	Donald Reid,
James Lough,	John Gore,	James Marchbanks;
P. S. Hay,	Alfred Morrison,	Sir James Hector.
Daniel Dodd,	John Dick,	

Mr. Lawson's Protest.

To the Honourable the Commissioners appointed to inquire into the condition of the Seacliff Lunatic Asylum Building.

On my own behalf, and on that of any others who may hereto append their signatures, I protest against any further evidence being taken in the matter of the above inquiry in the absence of Alfred T. Brindley, seeing that he is a principal mentioned in the remit from His Excellency the Governor to the said Commissioners, and, that being so, there is therefore a possibility of his being subjected to serious loss and damage because of his absence, or because of any decision which may



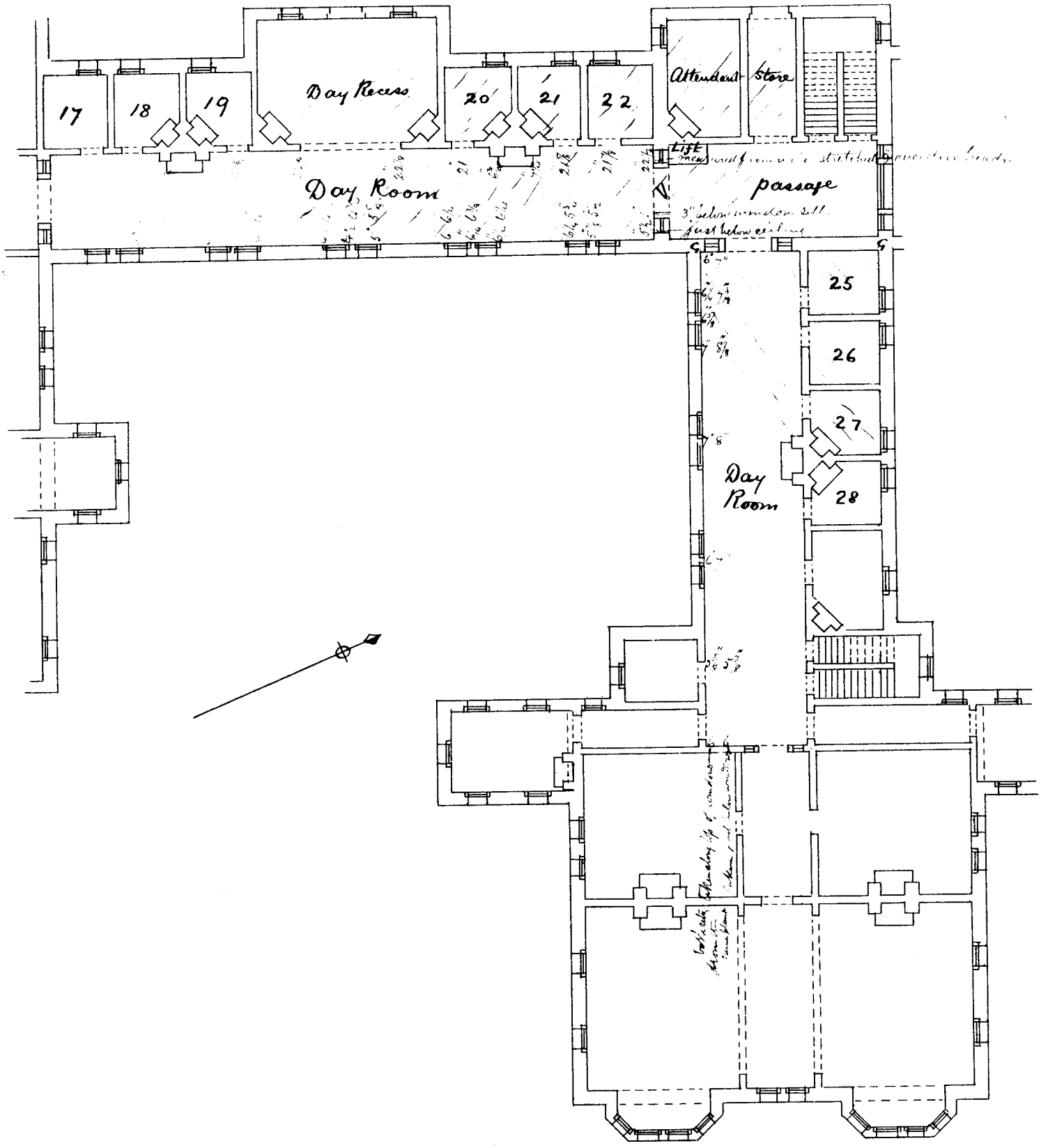
SEACLIFF LUNATIC ASYLUM

GROUND PLAN

Scale. 16 feet to an inch.

COPY OF **P.W.D. 15550**

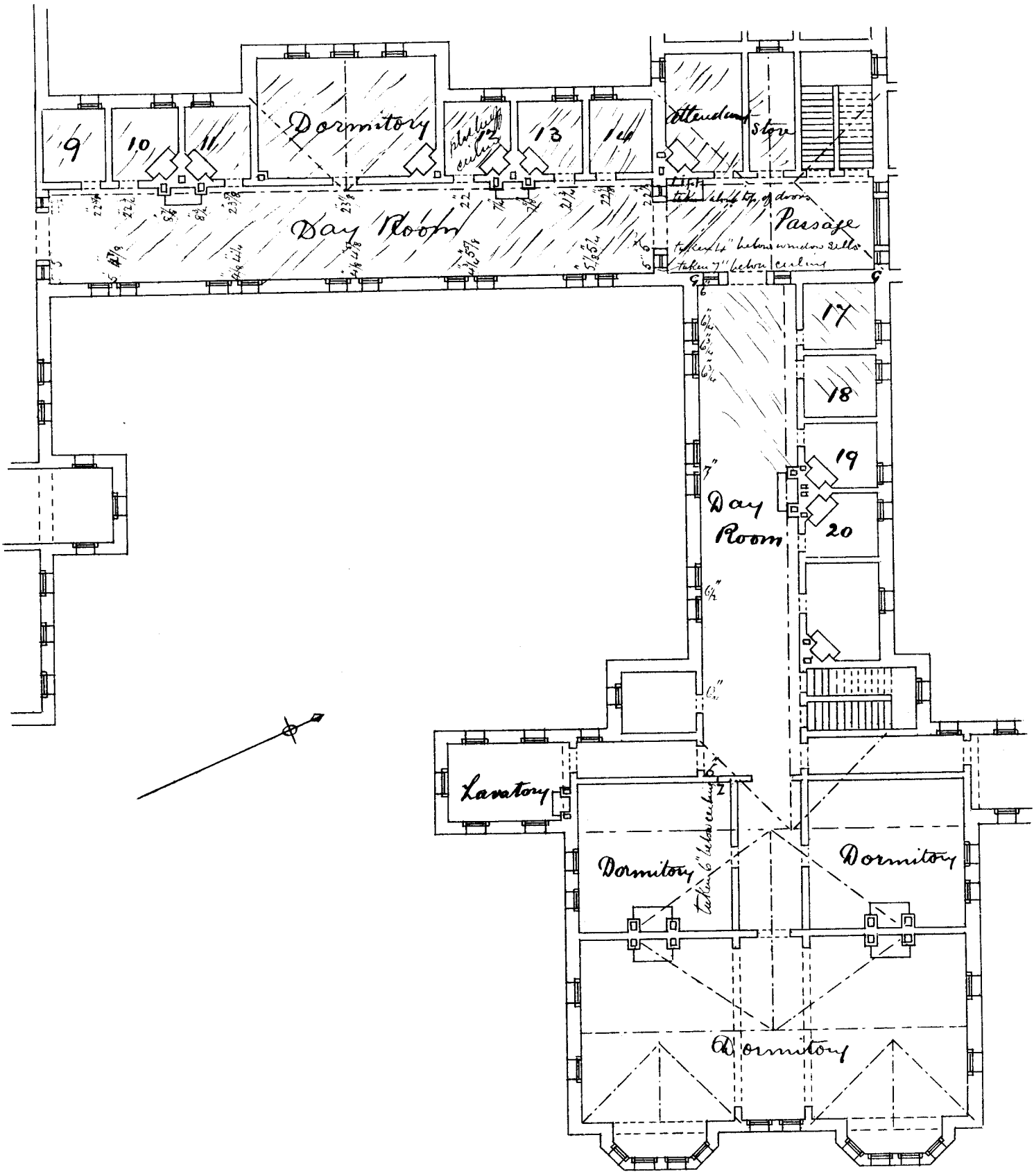
SEACLIFF LUNATIC ASYLUM 2



FIRST FLOOR PLAN

Scale. 16 feet to an inch. COPY OF **P.W.D. 15550**

SEACLIFF LUNATIC ASYLUM

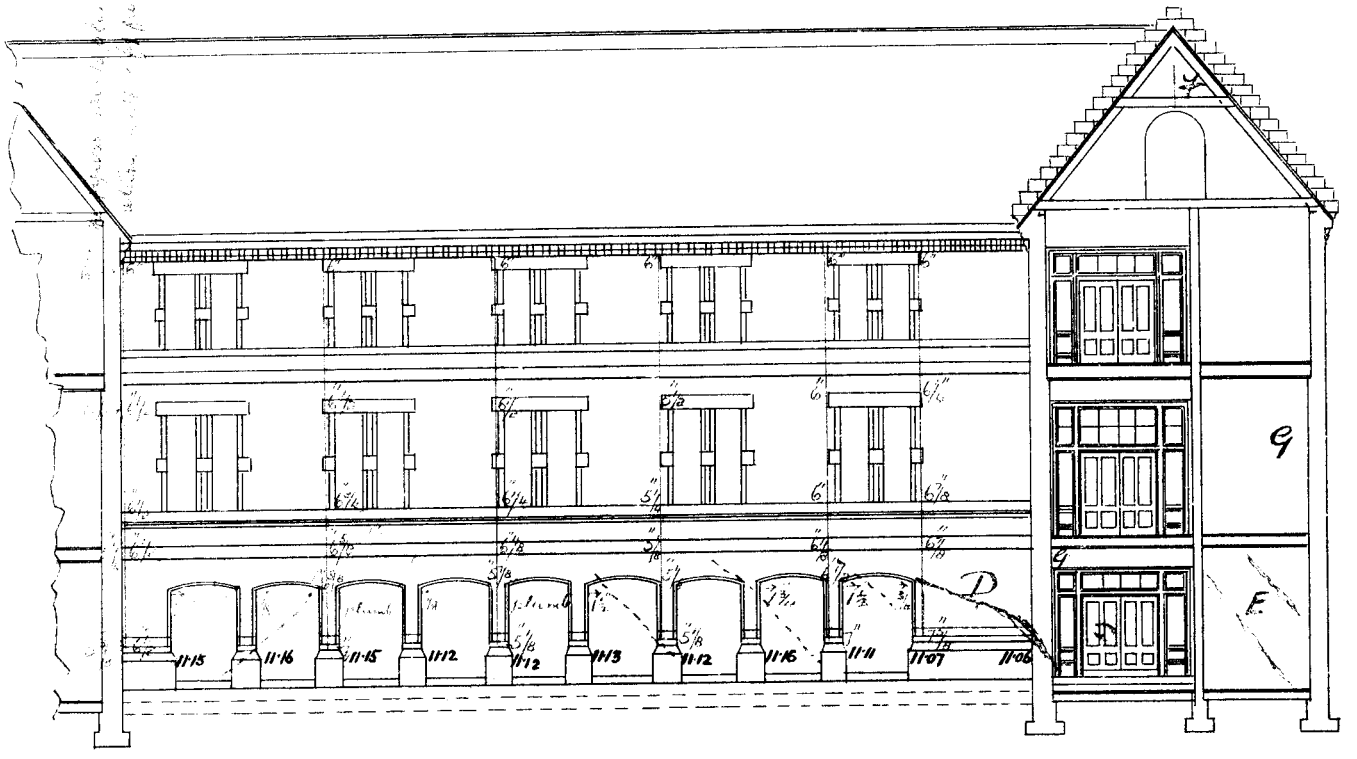


SECOND FLOOR PLAN

Scale. 16 feet to an inch

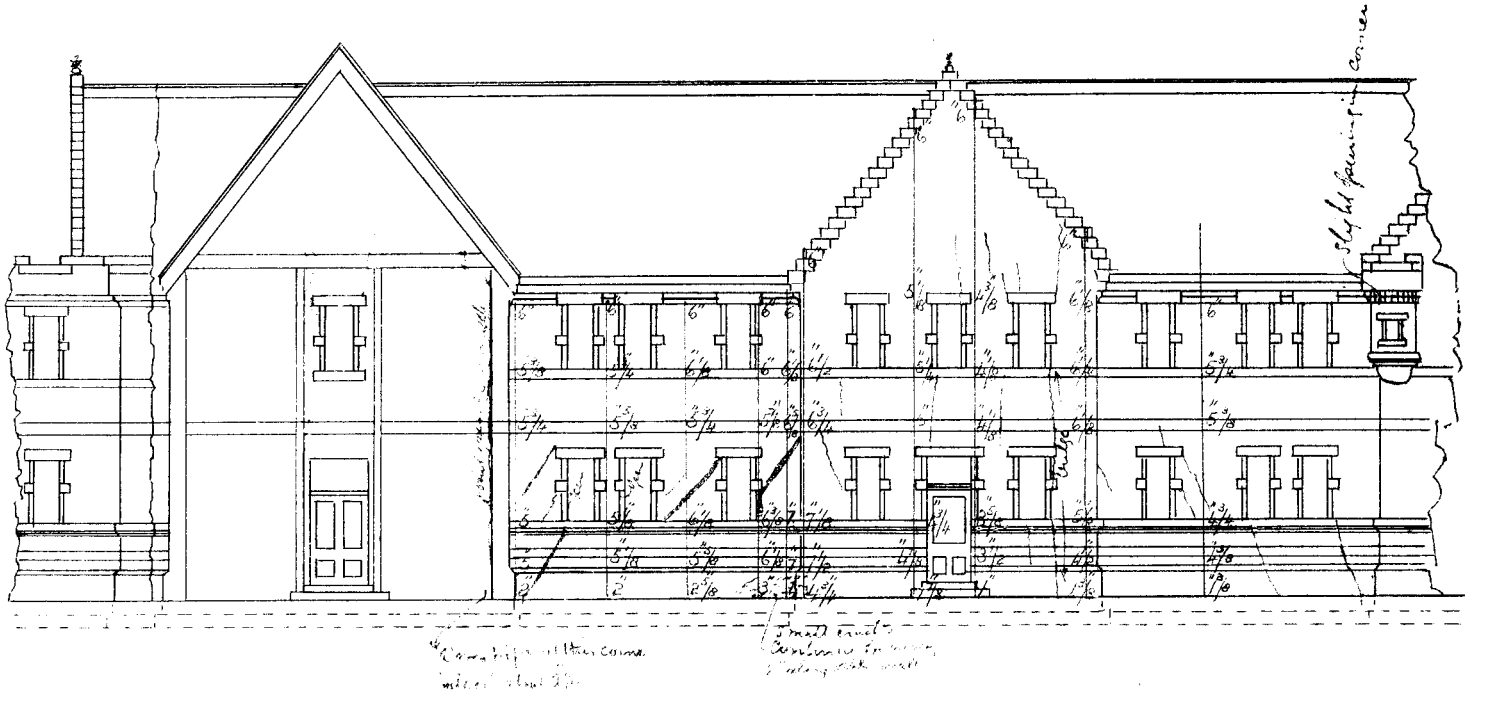
COPY OF **P.W.D. 15550**

SEACLIFF LUNATIC ASYLUM 4



FRONT ELEVATION

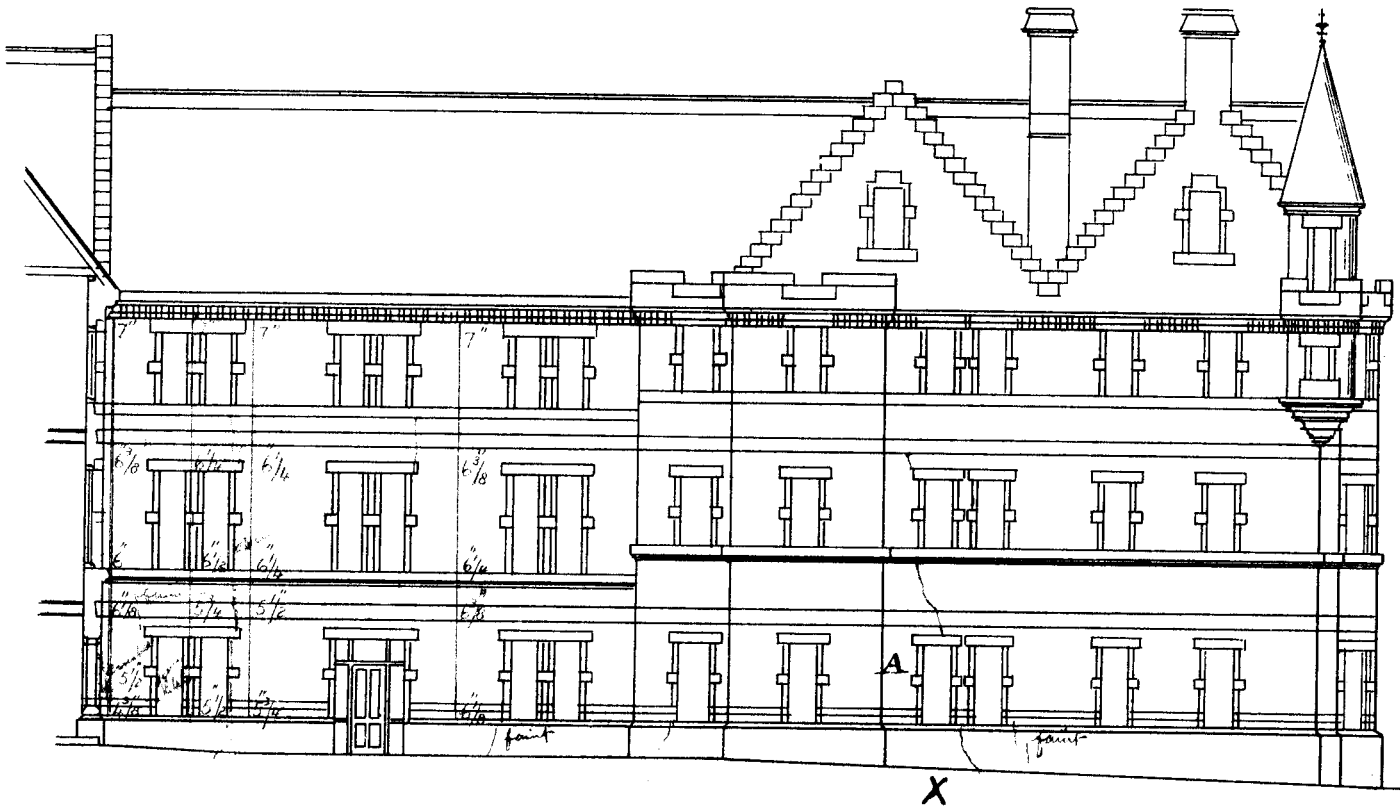
Note Plinth levels added
13. 2. 88
P.L.Hay



BACK ELEVATION

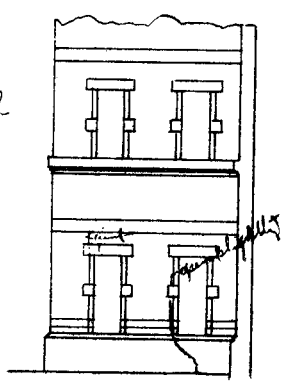
Scale . 16 feet to an inch. COPY OF P.W.D. 15550

SEACLIFF LUNATIC ASYLUM

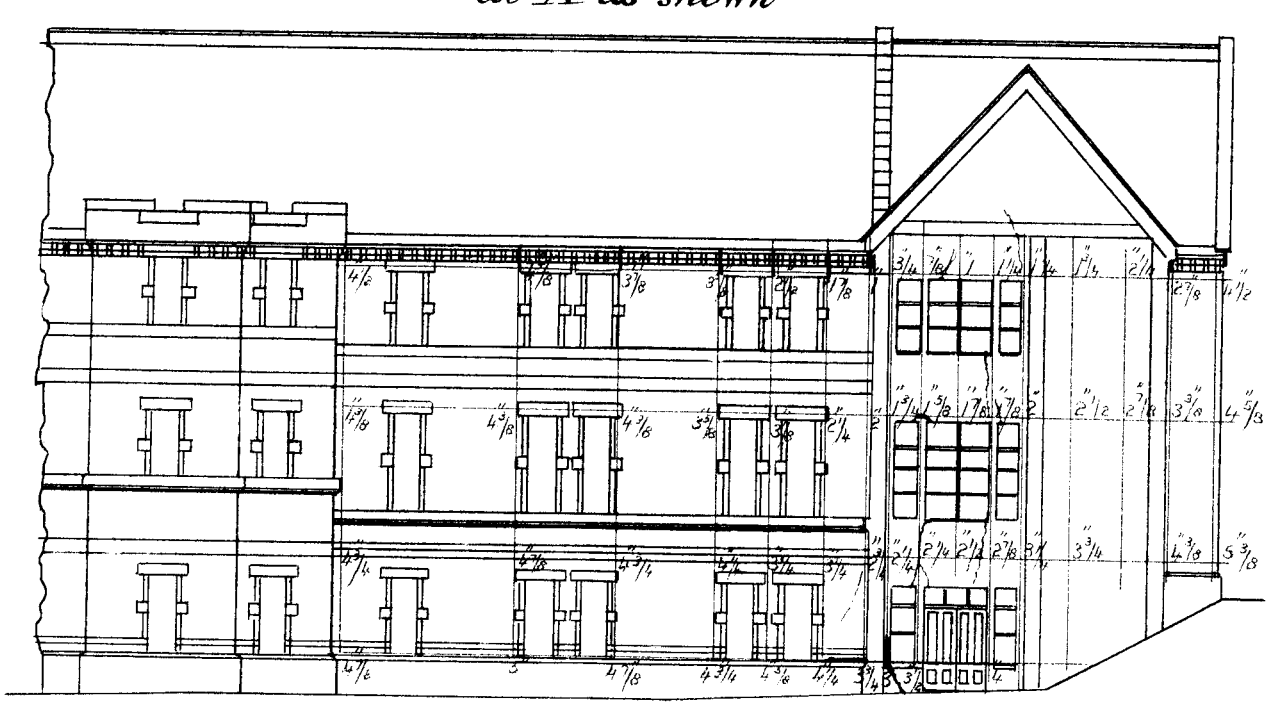


SOUTH ELEVATION OF NORTH WING

Note blue figures denote measurements from plumb line to wall



Part Elevation of Lavatory Wall at A as shown



NORTH ELEVATION OF NORTH WING

Scale. 16 feet to an inch

COPY OF **P.W.D. 15550**

SEACLIFF LUNATIC ASYLUM

— SCALE 20 FEET = 1 INCH —



— BACK ELEVATION —

SKETCH SHEWING CRACKS THAT OCCURRED IN 1884.

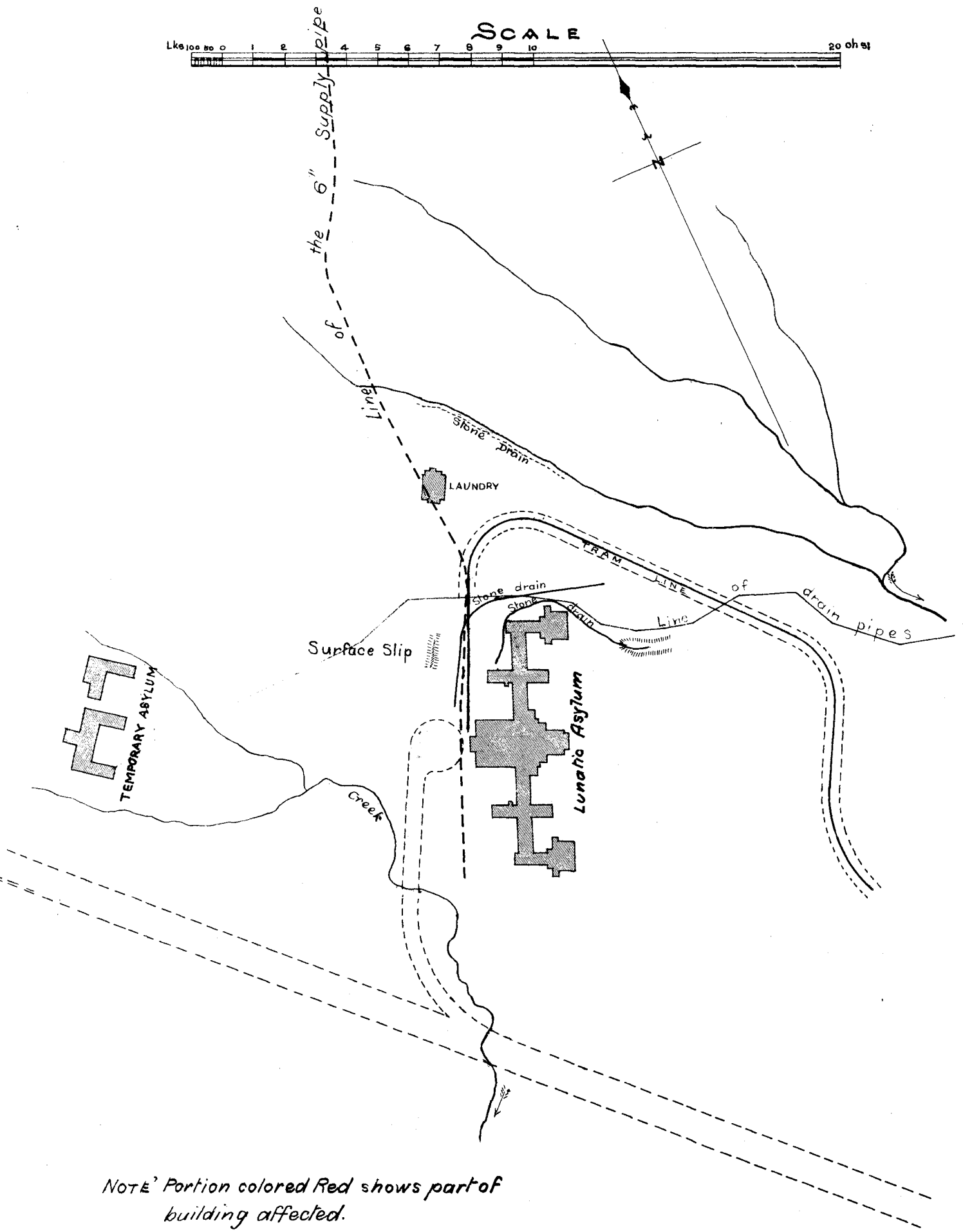
Note! This represents the cracks as they appeared on the 17th Feb: 1885, but they had increased very little if anything since the winter of 1884.

Sgd E.R.Ussher.
18.2.88.

No 27

SEACLIFF LUNATIC ASYLUM

Ground Plan



NOTE' Portion colored Red shows part of building affected.

be given or come to by the said Commissioners from evidence taken in his absence; also for the general reason that it is not fair to try any man in his absence.

Signed by us, this 14th day of February, 1888.

R. A. Lawson.
James Gore.

Mr. Lawson's Letters.

Gentlemen,— Dunedin, 1st March, 1888.

Referring to a matter which took place at the last sitting of the Commission, I desire very particularly to bring under your notice that certain important things remain unexplained, and that on this account it is absolutely necessary, in the interests of truth, that there should be a further meeting of the Commissioners so as to arrive at a correct conclusion on the matters under inquiry.

Mr. Blair, in his opening statement on oath, stated that it was in June, 1885, that he first became aware of what he termed defective foundations at Seacliff. On this matter being under discussion before the Commissioners, I called for the correspondence which had passed between Mr. Ussher and Mr. Blair, and between Mr. Blair and Mr. Ussher, in connection therewith at the time, and Mr. Blair passed in certain letters which he said were the correspondence referred to and asked for.

On my asking for the production of this same correspondence at the closing sitting, I was informed after some search that they were not in the possession of the Commissioners. As I consider it absolutely necessary that the correspondence referred to herein, and also linked in with the letters I laid before the Commissioners of date the 26th May and the 11th June, 1885, and addressed to myself from Mr. Ussher, should be in the possession of the Commissioners before they can possibly arrive at a correct judgment in the whole matter of this inquiry, I now respectfully request that a further meeting of the Commissioners be held, in order to obtain the said correspondence, and afford opportunity of obtaining a correct knowledge of their nature and contents.

I further respectfully inform you that, unless this correspondence is produced, and meeting of Commission held, I shall lay the matter before the Colonial Secretary and Minister for Public Works without delay.

I have, &c.,

To the Hon. the Commissioners. R. A. Lawson.

Sir,— Dunedin, 2nd March, 1888.

In reply to your letter dated the 1st instant, in which you request that a further meeting of the Commissioners may be held in order that certain important matters should be explained, the Commissioners are of opinion that any further evidence of the nature alluded to by you could not influence their report.

The production of letters between Messrs. Ussher and Blair (if such exist) at the date mentioned is quite unnecessary for the purpose of enabling the Commissioners to come to a correct conclusion. Mr. Blair stated on oath that no letters passed between Mr. Ussher and himself between the dates alluded to on the subject of the foundations of Seacliff Asylum.

The Commissioners therefore consider that a reopening of the inquiry would elicit no information that could alter their decision, and would entail unnecessary expense.

Your letter on the subject will, however, be forwarded together with their report.

I have, &c.,

H. P. Higginson,

R. A. Lawson, Esq., Architect, Dunedin. Chairman of Commission.

Gentlemen,— Dunedin, 3rd March, 1888.

I have the honour to acknowledge the receipt of your favour dated the 2nd March instant, in reply to mine of preceding day, and in which you inform me that "the production of letters between Messrs. Ussher and Blair (if such exist) at the dates mentioned"—26th May, 1885, and 11th June, 1885, or thereabouts—"is quite unnecessary for the purpose of enabling the Commissioners to come to a correct conclusion," &c.; that "the Commissioners therefore consider that a reopening of the inquiry would elicit no information that could alter their decision," &c.

I am, however, still distinctly of opinion that not only does the correspondence between Messrs. Ussher and Blair exist, Mr. Blair himself having passed in certain letters which he said at the time were the correspondence referred to and asked for by me—I am also further of opinion that the correspondence bears on the matters under inquiry very materially indeed.

Under these circumstances I reserve to myself the right of taking what further action may appear to me requisite in order to elicit the truth.

I thank you for your courtesy in forwarding my former letter together with your report, and have further to request you to extend the same courtesy towards this present letter.

I have, &c.,

To the Hon. the Commissioners. R. A. Lawson.

Sir,— Dunedin, 5th March, 1888.

I have the honour to acknowledge the receipt of your letter of the 3rd instant, which will be forwarded (together with your former letter on the same subject) with the Commissioners' report.

I have, &c.,

R. A. Lawson, Esq., Architect, Dunedin. H. P. Higginson, Chairman.

MINUTES OF PROCEEDINGS.

MONDAY, 6TH FEBRUARY, 1888.

THE Commission met at 11 a.m. in the Ministers' room, Bond Street, Dunedin.

Present: Messrs. H. P. Higginson and W. H. Skinner.

It was resolved, on the motion of Mr. Skinner, that Mr. Higginson should act as Chairman *pro tem.*, and the election of Chairman be deferred until the arrival of Mr. Mountfort in Dunedin.

Formal notice was given in writing by the Secretary to Messrs. W. N. Blair, R. A. Lawson, and James Gore, requesting their attendance on Thursday, the 9th February, for the purpose of giving evidence before the Commission; the two latter gentlemen were also informed that they might accompany the Commission to Seacliff on the 7th February, if so disposed.

The Secretary was instructed to secure the services of a shorthand writer for Thursday, the 9th February.

The Commission adjourned at 1 p.m. until 8 a.m. the next day.

TUESDAY, 7TH FEBRUARY, 1888.

The Commission (all present) proceeded to Seacliff by the 8.10 a.m. train and inspected the building, returning to Dunedin at 7.40 p.m. the same day. The Commissioners were accompanied by Messrs. Lawson, Architect; Gore, jun.; Blair; Ussher, Resident Engineer; Hay, assistant engineer; and Hunter, Inspector of Public Works.

WEDNESDAY, 8TH FEBRUARY, 1888.

The Commission, accompanied by Messrs. Ussher and Hunter, again proceeded to Seacliff to inspect the building, leaving town at 8.10 a.m., and returning at 7.40 p.m.

THURSDAY, 9TH FEBRUARY, 1888.

The Commission met in the Ministers' room at 9.30 a.m.

Present: Messrs. Higginson, Mountfort, and Skinner.

The minutes of the three previous meetings were read and confirmed.

On the motion of Mr. Mountfort, seconded by Mr. Skinner, Mr. Higginson took the chair.

At 11 a.m. Messrs. Blair, Lawson, Gore, and Gore, jun., were present.

Messrs. Lawson and Gore raised an objection to proceeding with their evidence, as the absence of Mr. Brindley, the Inspector of Works of Seacliff Asylum building, was likely to greatly prejudice the case.

A general discussion on the question followed.

Mr. Blair then intimated his readiness to give evidence before the Commission on the following day.

Resolved, That notice be given to Mr. Brindley to appear before the Commission as early as possible.

The discussion was taken down.

Resolved, That the inquiry be adjourned until next day at 11 a.m., and that Mr. Blair should be called as the first witness.

The Commission met again at 2 p.m., and examined plans, documents, &c., until 5 p.m.

FRIDAY, 10TH FEBRUARY, 1888.

The Commission met at 9.30 a.m.

Present: All the Commissioners.

The minutes of the previous meeting were read and confirmed.

At 11 o'clock Messrs. Lawson, Gore, sen. and jun., and Mr. Ussher were admitted.

Mr. Blair, being sworn, then gave evidence before the Commission, and his evidence was taken down. Messrs. James Donald and E. R. Ussher gave evidence after having been duly sworn, and their evidence was taken down.

At 5 p.m. the Commission adjourned until 10 a.m. the following day.

SATURDAY, 11TH FEBRUARY, 1888.

The Commission met pursuant to adjournment.

Present: All the Commissioners.

The minutes of the previous meeting were read and confirmed.

The Commission conferred together, and examined plans and documents, and adjourned at 1 p.m. until Monday, the 13th.

MONDAY, 13TH FEBRUARY, 1888.

The Commission met pursuant to adjournment.

Present: All the Commissioners.

The minutes of the previous meeting were read and confirmed.

At 10 a.m. Messrs. Blair, Lawson, Ussher, and Gore, sen. and jun., were admitted.

Messrs. James Hunter, James Lough, and P. S. Hay gave evidence before the Commission, and their evidence was taken down.

The following witnesses were summoned to attend at 11 a.m. on the following day: Messrs. Robert Forrest, Benjamin Butcher, G. Cronk, G. Watkins, H. M. Henderson, and J. Dick.

At 5 p.m. the Commission adjourned until the next day.

TUESDAY, 14TH FEBRUARY, 1888.

The Commission met pursuant to adjournment.

Present: All the Commissioners.

The minutes of the previous meeting were read and confirmed.

At 11 a.m. Messrs. Blair, Ussher, Lawson, and Gore, sen. and jun., were admitted.

Mr. P. S. Hay (recalled) and Mr. Daniel Dodd gave evidence. The evidence of these two witnesses was taken down.

Mr. Lawson then objected to bring forward his evidence until the arrival of Mr. Brindley in Dunedin.

A general discussion followed.

The Commission decided to proceed with the hearing of evidence on the following day at 10 a.m.

A written protest was then handed in, signed by Messrs. Lawson and James Gore.

The Commission adjourned at 1.30 p.m. until the next day.

WEDNESDAY, 15TH FEBRUARY, 1888.

The Commission met at 10 a.m. in the Supreme Court buildings, pursuant to notice.

Present: All the Commissioners.

The minutes of the previous meeting were read and confirmed.

The proceedings were opened to the public, the Commission having previously so decided, and notified in the public Press. Before commencing the evidence the Chairman called the attention of the Press representatives to the fact that past and future proceedings should be equally fully reported, as they would have an opportunity of perusing all the previous evidence as soon as it was transcribed.

Messrs. Robert Forrest, George Cronk, George Watkins, Benjamin Butcher, and John Gore, having been duly sworn, gave evidence before the Commission. Their evidence was taken down.

The Commission adjourned at 4 p.m. until the next day.

THURSDAY, 16TH FEBRUARY, 1888.

The Commission met pursuant to adjournment.

Present: All the Commissioners.

The minutes of the previous meeting were read and confirmed.

Messrs. John Gore (recalled), Alfred Morrison, John Dick, and James Gore were duly sworn, and gave evidence before the Commission, and their evidence was taken down.

The Commission adjourned at 5 p.m. to the next day.

FRIDAY, 17TH FEBRUARY, 1888.

The Commission proceeded to Seacliff by the 8.10 a.m. train, and examined the Asylum building, returning by the 7.40 p.m. train. All the Commissioners were present.

SATURDAY, 18TH FEBRUARY, 1888.

The Commission met at 9.30 a.m. in the Supreme Court building.

Present: All the Commissioners.

The minutes of the previous meeting were read and confirmed.

The Commission examined plans and documents, and discussed the evidence taken, and adjourned at 1 p.m. to Monday, the 20th February.

MONDAY, 20TH FEBRUARY, 1888.

The Commission met at 9.30 a.m. at the Supreme Court.

Present: All the Commissioners.

The minutes of the previous meeting were read and confirmed.

The Commission examined plans, evidence, &c., and adjourned at 5 p.m. to the following day.

TUESDAY, 21ST FEBRUARY, 1888.

The Commission met pursuant to adjournment.

Present: All the Commissioners.

The minutes of the previous meeting were read and confirmed.

Mr. R. A. Lawson at this stage asked for leave to be represented by counsel. His request was, however, declined. Mr. Lawson, having been duly sworn, gave evidence before the Commission, and his evidence was taken down.

The Commission then adjourned to Thursday, Wednesday being a public holiday.

THURSDAY, 23RD FEBRUARY, 1888.

The Commission met pursuant to adjournment.
Present: All the Commissioners.
The minutes of the previous meeting were read and confirmed.
Mr. R. A. Lawson continued his evidence, and Mr. A. T. Brindley, having been duly sworn, gave evidence before the Commission, and their evidence was taken down.
The Commission then adjourned to 10 a.m. on the following day.

FRIDAY, 24TH FEBRUARY, 1888.

The Commissioners met pursuant to adjournment.
Present: All the Commissioners.
The minutes of the previous meeting were read and confirmed.
Mr. A. T. Brindley, Sir James Hector, Mr. D. Reid, and Mr. James Marchbanks were duly sworn, and gave evidence before the Commission. Mr. Hay (recalled) also gave evidence. All the evidence was taken down.
At 5 p.m. the Commission adjourned to the next day.

SATURDAY, 25TH FEBRUARY, 1888.

The Commission met pursuant to adjournment.
Present: All the Commissioners.
The minutes of the previous meeting were read and confirmed.
The Commission examined plans and documents, and adjourned at 1 p.m. to Monday, 27th February.
A telegram was received from the Under-Secretary for Public Works, extending the term of sitting of the Commission a fortnight.

MONDAY, 27TH FEBRUARY, 1888.

The Commission met pursuant to adjournment.
Present: All the Commissioners.
The minutes of the previous meeting were read and confirmed.
Mr. A. T. Brindley (recalled) gave evidence. Messrs. James Gore, W. N. Blair, and R. A. Lawson each made a statement, in which they reviewed the previous evidence given before the Commission. This concluded the evidence.
The Commission adjourned to the next day.

TUESDAY, 28TH FEBRUARY, 1888.

The Commission proceeded to Seacliff by the 8.10 a.m. train to further inspect the asylum building, and returned to town at 7.40 p.m.
All the Commissioners were present.
It was decided to adjourn to Thursday, 1st March, to wait for the transcription of evidence.

THURSDAY, 1ST MARCH, 1888.

The Commission met in the Ministers' room, Bond Street, at 9.30 a.m.
Present: All the Commissioners.
The minutes of the two previous meetings were read and confirmed.
The Commissioners spent the day discussing and weighing the evidence and compiling their report, and at 5 p.m. the Commission adjourned to the following day at 9.30.

FRIDAY, 2ND MARCH, 1888.

The Commission met pursuant to adjournment at 9.30 a.m.
Present: All the Commissioners.
The minutes of the previous meeting were read and confirmed.
A letter was received from Mr. R. A. Lawson requesting a further meeting of the Commissioners for the production of correspondence which he stated had taken place between Messrs. Ussher and Blair. Mr. Lawson was informed that any further evidence of that nature he might be capable of producing could not, in the opinion of the Commissioners, influence their report.
The Commissioners spent the day compiling their report, and adjourned at 5 p.m. to the next day.

SATURDAY, 3RD MARCH, 1888.

The Commission met pursuant to adjournment at 9.30 a.m.
Present: All the Commissioners.
The Commissioners conferred together, and continued and concluded their report.
Adjourned at 5 p.m. to Monday, 5th March.

MONDAY, 5TH MARCH, 1888.

The Commission met at 9.30 a.m.
Present: All the Commissioners.
The minutes of the two previous meetings were read and confirmed.

The Commissioners passed the day revising their report, which was signed and sealed, and adjourned at 4.30 p.m.

THE following documents were handed in as exhibits during the course of the inquiry:—No. 1. Plan of additional footings introduced. 2. Plan of large drains at back. 3. Plan of cross-sections of footings in north wing. 4. Memorandum from Mr. C. Y. O'Connor. 5. Mr. Brindley's letter-book. 6. Plan and specifications. 7. List of letters from District Engineer to Mr. Brindley. 8. Letter, Mr. Ussher to Engineer-in-Chief. 9. Plan of general drainage. 10. Longitudinal section on Drain No. 2. 11. Plan of section of prospecting-shaft. 12. Mr. Hay's report and plans. 13. Mr. Lawson's protest. 14. Measurement of concrete and brickwork (extra) (Gore). 15. Measurement of concrete by Mr. Gore. 16. Dr. Hector's report. 17. Contractor's final certificate. 18. Hay's plan of present position of building. 19. Three letters, Ussher to Lawson, A, B, C. 20 and 21. Letter-books by Mr. Lawson. 22. Letter, Blair to Lawson. 23. Public Works correspondence (put in by Mr. Blair). 24. Cross-section at slip. 25. Dr. Hector's report of 10th June, 1880, and correspondence on same. 26. Letter *re* cement and addressing correspondence, put in by W. N. Blair. 27. Tracing of north wing (back elevation). 28. Letter, Gore to Brindley. 29. Roll of plans made by Brindley. 30. Dr. Hector's second report, of 4th April, 1881. 31. J. B. Low's draft of final certificate. 32. Public Works Department measurement of concrete in foundations as per plans.

REPORT OF DISCUSSION WHICH FOLLOWED MR. LAWSON'S OBJECTION TO PROCEEDING WITH EVIDENCE BEFORE THE ARRIVAL OF MR. BRINDLEY IN DUNEDIN.

Seacliff Buildings Commission, Dunedin, Thursday, 9th February.

Present: Messrs. Higginson (Chairman), Skinner, and Mountfort.

On the Commissioners assembling,

Mr. R. A. Lawson intimated that he objected strongly to the Commissioners proceeding to take evidence in the absence of Mr. Brindley, who was as much a principal as any of the parties then before the Commission, he having been expressly referred to in the warrant appointing the Commission. Mr. Brindley was the appointee of Mr. Blair, and there was no person who could give such important evidence as he on the matters to be inquired into.

Mr. Blair denied that Mr. Brindley was his appointee in any shape or form. He was appointed at the special request of Mr. Lawson. He had received no instructions whatever from the Public Works Department, which looked to Mr. Lawson alone for the proper conduct of these contracts.

Mr. Lawson urged that, as Mr. Brindley's character and reputation might be at stake, he ought in common fairness to be present and hear the evidence from the beginning. Mr. Brindley had been gazetted as an officer of the Government.

Mr. Blair: That is an unfounded assertion.

Mr. James Gore: Mr. Brindley told me himself that he had been gazetted. It is very easy to obtain definite information on that point.

Mr. Blair: I should certainly like to start with a clear understanding on this point. I—that is, the Public Works Department—have had no communication whatever with Mr. Brindley with reference to the carrying-out of this work.

Mr. James Gore: Mr. Brindley will be able to speak as to that himself.

The Chairman: Was he the servant of the Public Works Department or of the Architect?

Mr. Blair: Of the Architect. If Mr. Lawson had complained of Mr. Brindley not doing his duty he could have been dismissed at once.

Mr. Lawson: I quite admit that.

Mr. Blair: Suppose I put myself in the position of His Excellency when he signed this Commission, which was prepared by the Law Officers of the Crown or by some other department, if I may make an invidious comparison—I issued the letter of appointment. Here I should like to ask Mr. Lawson a couple of questions: First, did he carry out the works under the instructions of the Public Works Department?

Mr. Lawson: Certainly.

Mr. Blair: Did he carry out these foundations or any portion of the work under the instructions of the Public Works Department?

Mr. Lawson: From me. I may say that I am not going to shirk any of my responsibility.

Mr. Blair: Then it was carried out under your instructions?

Mr. Lawson: Certainly.

Mr. Skinner: When the Inspector communicated with Mr. Lawson in reference to faulty work, did Mr. Lawson take his instructions from the Public Works Department and communicate these instructions to Mr. Brindley?

Mr. Lawson: I repeat that I do not want to shirk any responsibility in this matter. It is on account of Mr. Brindley's absence, and seeing that his name is mentioned in this record, that I urge that, from a consideration of fair-play, he should be here to hear all the evidence.

The Chairman: You acknowledge that Mr. Brindley acted under your instructions?

Mr. Lawson: Certainly—most decidedly.

Mr. Blair: Then why raise the point at all?

Mr. Lawson: Because he was never appointed by me.

Mr. Blair: The formal letter of his appointment was issued by me.

Mr. Lawson: That is all I want. But to tackle me with the responsibility of his appointment is simply absurd.

Mr. Skinner: The absence of one witness should not in any way retard the progress of this Commission, since we know that this witness can be obtained at some future time. I think that

we should proceed and take the evidence in reference to certain defects in certain portions of the building. If Mr. Lawson does not feel disposed to give evidence now, then, as these defects have been shown, Mr. Blair should, I think, give evidence in regard to the defects that have appeared in the building.

The Chairman: What you mean is that we shall proceed, and take Mr. Blair's evidence first. I should agree with Mr. Skinner if Mr. Brindley were only a witness, but it is hardly correct to go on without him if he is a principal.

Mr. Skinner pointed out that Mr. Brindley could be furnished with a copy of all the evidence taken in his absence.

Mr. Lawson: I maintain that there is a great difference between the position of a witness and a principal, and the Commissioner ought to know that difference.

Mr. Skinner: But it is not a case that will be settled in a day or two.

Mr. Lawson: But is this man to be prejudiced? We know that he has been sent for, and that he is coming. We have that from Mr. Blair. He is as much a principal in this case as any of us.

Mr. Skinner: I cannot agree with you in that sense.

Mr. Lawson: Certainly he is not an ordinary witness.

Mr. Skinner: Assuming that he is a principal—and I believe he is—it is unnecessary to stop the whole Commission for the sake of one principal who is absent.

Mr. Lawson: To go on in his absence is like hanging a man first and trying him afterwards.

Mr. Skinner: In this case all the evidence will be taken down, and copies of the evidence can be furnished to Mr. Brindley. If there is anything in that evidence which is contrary to fact—that is not true—he will have every opportunity given to him to rebut it. I, as one of the Commissioners, say that if Mr. Blair is prepared with any evidence in reference to the defects in the asylum we should proceed.

Mr. Lawson: It is for the Commissioners to decide. I have no wish whatever to hinder matters.

Mr. Blair: The only objection I have to the course that has been suggested is that it quite reverses the thing. This inquiry, I may say, is held neither at the instigation, suggestion, nor wish of the Public Works Department. We have satisfied ourselves on a certain point that previously we were not satisfied with; and, that being so, we are practically in the position of a defendant, and a defendant is never asked to begin a case.

Mr. Skinner: If you, Mr. Blair, refuse to proceed, and Mr. Lawson and his friends refuse to proceed, we are in this position: we cannot go on, and the Government will be looking to us to report.

Mr. Blair: I do not refuse to proceed—I am entirely in the hands of the Commission; but I submit that by the proposed course of procedure you are putting myself and the Public Works Department in a position that we ought not to occupy.

Mr. James Gore: I entirely deny that Mr. Blair is brought here as a defendant. Certain allegations have been made and obtained publication in the Parliament of the colony. Mr. Blair cannot deny this: that allegations have been publicly made of such a strong nature as to cause the Minister for Public Works to say in his place in Parliament that if these allegations are proved he will hold the Contractor responsible. That is a fact which is clearly established. There is no doubt of these statements having been made. Therefore it is I who am the defendant, as I am the party against whom these statements were made.

The Chairman: That is an open question. I do not think we can determine that very well.

Mr. Blair: I do not say, and have never said, that I am the defendant. I do not know that there is either a plaintiff or a defendant in the case. But, so far as the conduct of this inquiry is concerned, if I am asked to go on now I am put in the position of making out a case for the plaintiff, whereas, as we all know, it is the man who feels aggrieved who takes action. But the Public Works Department does not feel aggrieved, and therefore takes no action. We have neither asked for nor wish this inquiry; it has been forced on us. Consequently we ought to be in the position of the defendant. We should come in second at this inquiry.

Mr. James Gore: I certainly feel that I am the defendant in this case. I will read you Mr. Mitchelson's own words: "It was his intention to cause an inquiry to be made, and, if it was found that the Contractor was legally liable to make the work good, the Government would take action." I hold distinctly from that that I am on my trial. It is a matter which may involve thousands of pounds to me.

Mr. Skinner: This Commission have laid no charge, but wish to get what information we can in reference to the construction of the building—to ascertain whether the defects have been caused by the Contractor or whether they were beyond his control. That is what the Commission has been appointed to find out.

Mr. Gore: Exactly. And on the findings of this Commission the Government may take action against me or not, as the case may be.

Mr. Lawson: Then there is the matter of the slip, which, I maintain, is the only matter, as will be proved, to be inquired into.

Mr. Gore: I distinctly say that I ought to know what charges are to be made against me. My own evidence will not take more than five minutes, possibly. But, as I am in the position of defendant, I should like to know what evidence is to be brought against me, so that I may have the opportunity of bringing rebutting evidence.

Mr. Skinner: There is no charge laid against you or any one in particular. The Commissioners have nothing to do with the paragraph you have just read.

Mr. Gore: But it is the official head of the Public Works Department who has distinctly

made that statement. Do not misunderstand me, gentlemen. I am quite prepared to give evidence now—I am willing to do so at this moment; but I wish to know what charges are brought against me.

Mr. Blair: I wish it to be distinctly understood that I do not refuse to proceed. I have merely submitted that what I deem to be the right course is for me to come after Mr. Lawson and Mr. Gore have closed their case. If, however, the Commissioners say "No," I am prepared to go on; but I can scarcely do so to-day. I shall be ready to go on to-morrow morning.

Mr. Gore: I suppose we shall be allowed to call rebutting evidence?

Mr. Blair: That is an understood thing under any circumstances. We can take evidence at any time.

Mr. Skinner: If it is certain evidence, in reference to certain parts of the building.

Mr. Lawson: Or the grounds?

Mr. Skinner: With the idea of the Commissioners reporting on the results after the evidence has been taken.

The Chairman: It cannot make a great deal of difference to Mr. Brindley whether he gives his evidence first or last, seeing that before he gives his evidence he will have an opportunity of hearing what charges have been made.

Mr. Skinner: If we cannot proceed with our work now it means a delay of at least a week.

Mr. Blair: I am prepared to go on to-morrow if the Commissioners so decide, but I can scarcely do so to-day.

The Chairman: I do not see that it makes any difference whether the Public Works Department begins first or not.

Mr. Blair: I wish it to be distinctly understood that I can bring forward rebutting evidence at any time after Mr. Gore's and Mr. Lawson's cases are finished. As a matter of fact I must do that.

Mr. Lawson: I hope it is understood that we also can call rebutting evidence if any new matter is introduced.

The Chairman: Yes, if new matter is introduced.

Mr. Lawson: By either party.

Mr. Skinner: But there must be no cross-questioning.

Mr. Gore: But if a witness makes a statement that is not correct surely we can call evidence to rebut that?

Mr. Lawson: I think we should have the right to ask questions.

The Chairman: All questions to be asked will have to be put through the Chairman.

Mr. Lawson: If you think it a proper question it should be put.

Mr. Blair: I certainly expect to ask a great many questions of the other side, if we are going to have two sides; and these must necessarily come out in cross-examination.

Mr. Gore: The object of this inquiry is to elicit the facts. There is nothing to conceal by us.

Mr. Blair: I am quite prepared to have my witnesses cross-examined, and I ought to have the right to cross-question the witnesses of the other side. I am not going very deeply into it.

Mr. Skinner: If all questions are to be put through the Chairman, in that case it makes it a different matter altogether.

Mr. Lawson: I merely desired to put before the Commissioners as strongly as I could why I think Mr. Brindley would be prejudiced if we proceed in his absence.

The Chairman: He will have an opportunity of reading over all the evidence directly he arrives. Perhaps he will be in just as good a position as if he were present now.

Mr. Gore: I may mention that of my own knowledge Mr. Brindley acted under the instructions of the Public Works Department as to putting down certain drains, about which evidence will have to be given. In that case it is very necessary that he should be here. I have heard him make statements which are quite different from what we now hear from "the man in the street."

The Chairman: We can elicit that from him when he is present.

The Commissioners, at this stage, decided to adjourn till next day at 11 a.m.

MINUTES OF EVIDENCE.

FRIDAY, 10TH FEBRUARY, 1888.

MR. BLAIR'S OPENING STATEMENT.

THE Commissioners met at Ministers' office, Bond Street, Dunedin, at 10 a.m.

The Chairman: With regard to the form of taking the evidence, the Commissioners hope that both sides will see the necessity of allowing all the evidence to be given without any interruption taking place. If either the one side or the other wishes to ask a witness any questions there will be opportunity given of doing so as soon as the witness's statement is finished. Either side should make a note of the questions required to be asked, and, as I have said, an opportunity will be given of putting such questions afterwards. Unless some such form of procedure is adopted it will be perfectly impossible to take down the evidence or get through with the evidence expeditiously. I think that the course I have suggested will be the better way of proceeding.

Mr. Gore: I am perfectly satisfied that that is the only way of getting on with the inquiry.

Mr. Blair: I am about to make to the Commissioners a statement of what I intend to prove. Of course I shall swear to all the facts of the case.

The Chairman: You can supplement it with anything further in writing which you desire to put in.

Mr. Blair: I shall swear to any statement of facts which I make. [Mr. Blair having been sworn, proceeded to address the Commissioners as follows:] As the object of this inquiry is, among other things, to find out who, if any one, is responsible for the damage to the asylum building, it is necessary for me to enter into the subject somewhat in detail—for this reason, that the Public Works Department is alleged to be implicated in the matter. It has been broadly stated both in Parliament and in the Press that these injuries have occurred through the default or the negligence of the Public Works Department or its officers; and, as I am concerned not only as an officer, but individually, it will be one of my main objects to show that neither the department nor any of its officers are in the slightest degree to blame for the mishaps that have occurred. In order to place the whole matter before the Commissioners as clearly as possible, I shall first give a sketch of the various steps taken in carrying out the building; in the second place I shall deal with the question of responsibility; thirdly, I shall consider the cause of damage; and fourthly, I shall consider the defects which have been discovered. Now, first, as to a sketch of the various steps that have been taken towards carrying out the works. The work was begun in 1878. A temporary asylum was erected, to which a number of the inmates of the asylum in Dunedin were sent. These inmates were employed in clearing the ground for the permanent building; and it was proposed that they should excavate the whole of the site of, and also make the bricks for, the permanent building. It was, however, found that this arrangement would not answer; so the contractor for the building (Mr. Gore) had to undertake the excavation of the site, and he was paid for this as an extra. Mr. R. A. Lawson was appointed the architect of the building, and he prepared the designs and superintended the construction to the end. The contract for the erection of the central block—the first one undertaken—was entered into on the 11th September, 1879; the contract for the remaining blocks was entered into on the 28th October, 1881. It was, however, in reality one contract from the first. The contractors tendered for the building in five blocks, and the Government accepted the tender for the central block, and had the option during the currency of the contract of accepting a tender for any one or the whole of the remaining blocks. The tender for the remaining four blocks was accepted on the 28th October, 1881. The central block and one on each side of it were finished on the 9th September, 1883. No. 2 Block, which is the one on the extreme north, and the one in which the damage has occurred, was not finished till the 21st February, 1884. The final certificate for the whole building was given on the 4th July, 1884. Before the contract was actually finished symptoms of settlement appeared in the extreme northern block, and the District Engineer at Dunedin (Mr. Ussher) took steps to put in a drain behind this block. This drain started well in front of the building, and, passing on the northern side, turned right in behind the building, and passed the northern block by a little over a chain. Mr. Ussher thought that by draining the subsoil the subsidence would stop. This drain was put in between May and July, 1884. The settlement seemed to stop for some time, but afterwards reappeared, and between March and June, 1886, another drain was put in. This drain was in very much the same locality as the previous one, but closer to the building. It came quite close to the building behind the northern block, and it was at a very much lower level. The settlement again stopped for awhile, and the stoppage was attributed to the drain; but when winter set in and the ground became wet the cracks began afresh. We then began—that is, the department began—to think that drainage would not cure the settlement, and in October, 1886, a plan for widening the base of the foundation was prepared, and the foundations were strengthened by being widened and extended in various directions. I shall now hand this plan in to the Commissioners [Document 1 produced]. The last drain which was put in was supposed to be too low, the first one not to be low enough; so a third drain was put in immediately over the second one. It was put in near the level of the foundations, and close by them. That was in 1886. The plan I have just put in is a general plan showing these drains. I shall describe it further on.

Mr. Mountfort: When was the second drain, at the higher level, put in?

Mr. Blair: That was put in about January, 1887.

The Chairman: That is the red one on the plan?

Mr. Blair: Yes. The lower gallery of No. 2 drain was completed in June, 1886, having been commenced on the 25th March. If you wish I will give you the exact dates of all the drains.

Mr. Mountfort: It was done before you widened the foundations?

Mr. Blair: I will give you the dates of all the drains. The first drain was begun on the 16th May, 1884, and completed on the 16th July, 1884. The second drain was commenced on the 25th March, 1886, and finished on the 30th June, 1886. Increasing the foundations and the upper gallery was done in January, 1887.

The Chairman: What is shown in red on the plan?

Mr. Blair: Yes. We began that on the 7th November, 1886, and completed it on the 17th January, 1887. The third drain was put in immediately over the second one, and close to the building. This, as I have said, was commenced at the end of 1886, and finished at the beginning of 1887. The cracks seemed again to have stopped for awhile, but whether the drain had anything to do with the stoppage or not is a matter which we are not clear about—we have a doubt about it. The Public Works Department is, however, satisfied that the strengthening of the foundation has undoubtedly done good, for the cracks that in the first instance were the largest have not moved again, or, at all events, have not moved to any appreciable extent. The movement, however, is extending outwards from the position where the strengthening had taken place, and further works must be done to prevent further settlement. It is in consequence of this fresh movement that this inquiry is now being held. Now I come to the second point—who is responsible for the damage done? I wish first to explain the relations between the Public Works Department and the Architect. In 1878 I was Engineer in Charge of the Middle Island. At about that time the office of Colonial Architect had been abolished, and the matter of attending to the public buildings throughout the colony was transferred to the Public Works Department. It was, however, arranged that when

any building of magnitude was to be carried out the department should employ a private architect. In accordance with this arrangement I was in communication with the Minister for Public Works as to employing an architect for the lunatic asylum at Seacliff, and I was authorised by the Minister to communicate with Mr. Lawson on the subject. After a conference with Mr. Lawson, at which we practically arranged the whole matter, I wrote him formally asking him on what terms he would undertake to act as Architect for the asylum. He replied to me, on the 17th July, 1878, that he would prepare all the plans and specifications required for the erection of the lunatic asylum and industrial school (at that time there was some idea of erecting an industrial school). He replied as follows: "I agree to prepare all plans and specifications required for the erection of the lunatic asylum and industrial school building, as proposed, at Seacliff; also to superintend and carry out the erection of the said buildings, furnish all copies of drawings and specifications, details and other particulars, to contractors and clerk of works who may be appointed; no charge being made on the contractors for any of the matters referred to; payment being made to me at the rate of 5 per cent. on value or cost of work done, and 2½ per cent. for preparations of plans and specifications of such portions of the same not to be carried out." That is an extract from Mr. Lawson's letter. I myself recommended the acceptance of this offer, and, having received the Minister's approval, I duly accepted it. In pursuance of this arrangement Mr. Lawson has carried out, designed, and superintended the building from first to last, and he has received therefor, in the shape of commission, the sum of £4,185 7s. 3d. It will be seen that under Mr. Lawson's agreement he was to provide all the detailed plans required and all the copies required by the contractors or clerk of works. This is a point that I specially wish the Commissioners to make a note of: I shall refer to it later on. After the contract was entered into Mr. Lawson applied to have a clerk of works appointed, to live on the ground, and superintend the erection of the building in the usual way; but, as the building was of so much importance, Mr. Lawson recommended that, instead of having an ordinary tradesman, such as is usually appointed, we should appoint a man of higher standing. He therefore recommended the name of Mr. Alfred Brindley, who was his assistant in his own office, and who, I understand, had prepared most of the plans for the asylum. Mr. Brindley was duly appointed. Mr. Brindley was paid by the Government; but from first to last in the matter of the building he was entirely under the direction of Mr. Lawson, the Architect. The Public Works Department paid his salary monthly, and, as a matter of convenience and to avoid circumlocution, he sent in to the District Engineer monthly a short progress-report, stating what work had been done during the previous month; but beyond that there was no communication of any kind between the Public Works Department and Mr. Brindley regarding the building of the asylum; in fact, the thing is put in a very positive way in the specifications by Mr. Lawson himself. The last clause in the specifications reads: "The whole works in all their departments to be completed to the entire satisfaction of Mr. R. A. Lawson, architect, Dunedin, or to that of duly-appointed inspectors under same." I wish particularly to direct attention to this, because it has been alleged that Mr. Brindley was acting, or had acted, under the direction of the Public Works Department, which is altogether incorrect. In a very voluminous correspondence there are only eight letters from the Public Works Department to Mr. Brindley: one is with reference to his employment, and another as to the transference of the laundry contract from Mr. Gore to Messrs. Gore, jun.; the other six letters refer to excavation and drainage. There is no allusion whatever to the building. I have a list of these letters here, and they can be produced if required. As I have already stated and shown, the Public Works Department had nothing whatever to do with the carrying-out of the works, or in giving directions to Mr. Brindley or to the contractors, or to anybody else except Mr. Lawson. On the 3rd December, 1887, Mr. Lawson published a pamphlet containing four letters in reference to the building. These letters are dated the 23rd October, 1879, 16th January, 1880, 29th June, 1880, and 2nd February, 1886. All these letters were addressed to me. The last letter—which I may say in passing is perfectly private—is addressed "My dear Blair." How it came to be published as an official communication is a matter of judgment and taste which does not, I presume, come within the scope of the inquiry. In the introduction to these letters Mr. Lawson says that they show that "two years before the portion of the building affected by the ground-slip was erected I urged the necessity of drainage-works being carried out, in order to prevent the said slip or movement, and pointed out what would occur if such matters were not done. At every available opportunity since I have called attention to this matter; and, although a partial stoppage of the movement was caused for over twelve months by a small portion of drainage-works being carried out, I still urged that the whole work was necessary for the security of the building; and, having previously proved the complete success of similar protective works at the temporary asylum on similar ground adjoining, I have the utmost confidence in asserting that nothing else will save the portion of the permanent building affected from further disaster." Taking the smaller points first, in reply to the statement in manuscript at the end of the letters, in which Mr. Lawson says that no reply has been given by me to any of the foregoing letters, I may remark that the principal letter, which is the third one (and this third letter embodies the two previous ones) is not a letter sent by Mr. Lawson of his own motion, as might be inferred from the tenor of the introduction, but is a reply to a report by Dr. Hector. This report, which referred to the site of the building, came to me, and I requested Mr. Lawson to make remarks upon it. I also indicated certain points which ought to be made clear. The letter was duly referred to Dr. Hector, who made a rejoinder, and his rejoinder was referred to Mr. Lawson, and the latter's acknowledgment appears on the papers. This is a small point, but I wish to make it clear. Mr. Lawson also takes credit for the successful stoppage of the slip at the temporary building, although there is neither credit nor discredit attached to the transaction. I may say that the work was not done by him, but by the Public Works and asylum officials. There is another point in connection with the introductory remarks by Mr. Lawson. In this introduction he states that he has the utmost confidence in asserting that nothing short of having the drain made completely round the back of the building

" will save the portion of the permanent building affected from further disaster." Yet in his letter to me—the private letter, headed " My dear Blair," of the 2nd February, 1886—he states that " the southern half and central portion are already secured by natural formation and drainage." There is some inconsistency here. The letter of the 23rd October, 1879, printed by Mr. Lawson, refers to open trenches, to be cut as deep as possible. From the cross-sections it will be seen that at that time it was almost impossible to cut these trenches. Not only was the ground high, but it was occupied by the building operations then going on; in fact, the Contractor occupied the whole ground in making bricks and in otherwise carrying on the works. Another minor point in this correspondence occurs in the letter of the 16th January, 1880. Mr. Lawson certainly refers *inter alia* to these trenches, but, as will be seen, the main object of the letter, as stated in the first paragraph, was to push on the preliminary work at the site of the new permanent buildings, so that the building itself might be gone on with. Mr. Lawson refers, in his letter of the 29th June, 1880, to the drain being in a tunnel if necessary, but there is nothing to indicate that this would drain the strata that was supposed to be slipping, and, as subsequent events have amply proved, the drain would have been of no effect whatever. Mr. Lawson's last letter with reference to the " isolating-drain," as he calls it, and which is not published—why it was not published I do not know—is dated the 29th March, 1881; and in it he speaks of this isolating-drain, and other works that are required. Dr. Hector visited Dunedin a few days afterwards. He saw Mr. Lawson and myself about the 3rd April, 1881, on the whole subject of the building and the suitability of the site. We then came to a decision as to the advisableness of going on with the rest of the building. Dr. Hector, who had been in doubt previously, was now satisfied that if certain minor precautions were taken with reference to the foundations of the northern blocks they might be gone on with; and, with reference to the isolating-drain that had been previously talked about, he said that it was not absolutely necessary to go on with it at that time. From that date Mr. Lawson entirely dropped the subject of the isolating-drain. That was in April, 1881, and we hear nothing more from him with reference to the isolating-drain until the 12th May, 1884—that is, for more than three years he said nothing whatever about the drain; it had passed out of mind and sight altogether until the cracks appeared in the building. Then Mr. Lawson, for some reason or other, revived this question, although he had been silent on the subject for upwards of three years. I point this out specially in order to show how much reliance can be placed on the statement that Mr. Lawson directed attention to the matter " at every available opportunity." After this interview in April, 1881, Dr. Hector made a memorandum to the Government. At this time he thought that the isolating-drain was of much less importance than previously. Dr. Hector referred to the necessity of surface-drainage. He said that it was necessary to go on with the surface-drainage, and Mr. Lawson apparently took up the cue from this; for, although he was perfectly silent on the question of the isolating-drain from March, 1881, till May, 1884, he brought up the subject of the surface-drain several times. On the 25th April, 1882, he wrote me with reference to the surface-drain. He said in this letter of the 25th April, 1882: " I desire to bring again under your notice the pressing necessity of initiating and carrying out a *comprehensive drainage scheme*" — the words " comprehensive drainage scheme " are in italics, so that Mr. Lawson emphasised them—" in connection with the above building. At present the foundations of the new building are being damaged by the drainage-water lying in all the trenches, and unless proper drainage is speedily carried out I will not be responsible for the consequences, as already indications of unequal settlement are beginning to show." This was only one matter referred to in the letter. He also referred to the water-supply and the gas-fittings. It will be well to observe that in this letter he says that he desires to bring again under my notice the necessity of drainage. He says nothing about the isolating-drain, but talks of a " comprehensive drainage scheme," thus showing that the question of the isolating-drain had been abandoned; and, as a matter of fact, it had been so abandoned long previously. Mr. Lawson's letter is dated the 25th April, 1882, and I replied to it on the 19th May as follows: " The full purport of your remarks on the question of drainage did not strike me till this moment; otherwise I would have sent a special reply sooner. I do not concur in the position you now take up in the event of a ' comprehensive drainage scheme ' not being carried out, for you have repeatedly informed me that any indications of unequal settlement were not attributable to the slips or want of drainage; and, furthermore, I understood that both you and Dr. Hector were now quite satisfied of the suitability of the ground. Arrangements have been made for laying a pipe to take away sewage, but, as you pointed out when I was reporting on Dr. Neill's memorandum, it would not be advisable to put any drains round a building till it is nearly finished. Keeping the foundations free of water during the erection of the building, if that is what you allude to, is clearly a matter for yourself and the Contractor. I shall be glad to get from you further particulars of what you want done." Although I pointedly asked Mr. Lawson for particulars of what he wanted done he did not reply to my letter till the 20th March, 1883, nearly a year afterwards, and this notwithstanding the statement made in his published pamphlet that at every available opportunity he has called attention to the matter of drainage. On the 20th March, 1883, Mr. Lawson replied to my letter of 19th May, 1882. It was not, however, a direct reply, for no reference is made in it to the previous letter. He, however, sent me a list of the further works required to be completed at Seacliff. He sent this list of works in pursuance of a decision come to at a conference with Mr. Dick, who was then Colonial Secretary. Mr. Lawson in this letter says, " I further promised Mr. Dick to communicate with you as to the further works required to complete at Seacliff, so as to give possession to Dr. Neill, and which I understand had in part been authorised." Amongst these further works was that the " general formation of the ground should be pushed forward before winter sets in; also drainage, as being necessary for preventing probable settlement." These are his actual words. Again, I would point out that, although Mr. Lawson wrote to me in fear of settlements on the 25th April, 1882, and although I asked him pointedly on the 19th May for particulars of what he wanted, he did not consider it necessary to send these particulars till the 20th March, 1883, nearly a year afterwards. This letter

of 20th March, 1883, from Mr. Lawson wanted, in addition to the general formation of the ground and the drainage, outhouses, airing-courts, gasworks, bells, and medical superintendent's residence gone on with; so that even then the drainage was not made a prominent requirement. In answer to the letter I asked Mr. Lawson to submit a scheme of drainage, &c., outhouses, &c., with estimates. This was done on the 23rd March, 1883. I added in my minute to him on the subject, "I will talk it (the scheme) over with you beforehand if you like." On the 8th May, 1883, Mr. Lawson forwarded the estimates for the various works required, with a plan of the drainage. In forwarding this plan he says: "As to the drainage, it would be of great importance if this part of the work could be at once placed in hand. A large amount of rain-water from the roof alone is sufficient to injure the foundations, and when to this is added all the natural surface-drainage you can imagine what may result. Would I be authorised to proceed with this at once?" From this and the preceding letter, which I have already referred to, it will be seen that Mr. Lawson relied on these drainage-works, of which he made a plan, to prevent the settlement he dreaded. He again refers to the surface-drainage on the 31st May, 1883. He says, writing of the works that were necessary to complete everything at Seacliff, that he "would again draw your attention to the urgent necessity of having the drainage portion of the work put in hand as soon as possible, so as to prevent damage to the building." All these letters bear out the fact that Mr. Lawson had amended his ideas with reference to the drainage. He abandoned the isolated-drain scheme entirely, and went in for the surface-drainage. This surface-drainage he drew a plan of. It was duly authorised, and the work was carried out in accordance therewith. Mr. Lawson, therefore, got all that he required under his amended ideas. He abandoned the isolated drain in 1881, and then ever after 1881 he looked to the surface-drainage as the cure or preventative of settlement. That surface-drainage was supplied according to his own plans, which were duly carried out. Mr. Lawson, therefore, got all that he asked for. As already stated, Mr. Lawson was silent with reference to the isolated drain from the 29th March, 1881, to 12th May, 1884. He then, in reply to a statement of Dr. Grabham about the dampness of the walls, advocated the making of this main drain to prevent dampness and all underground movement. This was, of course, after the cracks had appeared. We next hear from Mr. Lawson a year afterwards, on the 25th May, 1885, also in reply to a report by Dr. Grabham. In this reply he says "that the fracture in the wall caused by the movement of the strata referred to is in no way serious, and, so far as I am aware, has not enlarged or extended since the drain was sunk intercepting the underflow of the drainage-water twelve months ago, under the direction of the Public Works Department." Again he refers to the same subject on the 6th July, 1885, in a letter to Mr. Ussher. He says in this letter: "I have now the honour to inform you that, from measurements recently taken on the spot, I am in a position to state that no movement nor further extension of the cracks in the wall has taken place since, in company with Mr. Blair and yourself, I visited the building and examined the same. In other words, my former report as to this matter, of date the 26th May last, is absolutely correct—viz., that the fracture in the wall caused by the movement in the strata has not enlarged or extended since the trench was sunk intercepting the underflow of water twelve months ago, under the direction of the Public Works Department. The trench hereinbefore referred to is shown on the Drawing No. 2 accompanying your late report on this crack, and representing cross-section at Seacliff Asylum. This work is in the direction of the main drainage, or drain advised by me from the first; but I would still urge that one further back, deeper, and continued right across the whole distance, as also shown in your drawing, should be formed, and so thoroughly complete the isolation and solidification of the site." This shows that at that time Mr. Lawson was satisfied with the drain that had been put in by the Public Works Department, and up to so recent a date as the 20th July, 1886, Mr. Lawson seems to have continued of the same opinion, for on that date he wrote to Dr. Macgregor, stating, "As to the crack of the wall in north wing, and broken plaster resulting from same, these were caused solely by moving of adjoining strata, and cannot in any way be blamed on the building. The underground drainage having been intercepted, this movement has apparently ceased, and the plaster-work has been made good." It will be further seen that, although Mr. Lawson at this time advocated the extension of the drain further south, he was satisfied with what had been done, and he admits that what had been put in was in accordance with his original ideas of the isolating-drain. This is not, however, in accordance with his ideas as expressed in the published private letter to me of the 2nd February, 1886, which states that the southern half of the central portion of the building is already secured by natural formation and drainage. Mr. Lawson's letter advocates another drain further back, and deeper, and continued across the whole distance, according to a plan prepared by Mr. Ussher. This drain was not carried out, but another drain, as already described, nearer to the building, close to the northern and western sides of the northern block, was made. This drain is carried out to a great depth, 17ft. below the foundation of the building. I will describe this drain to you from the plan. This [indicating on plan] shows the block which was affected by the first drain put in. This drain was put in between the months of May and July, 1884. A section of it is shown here [indicating on plan]. That section corresponds within a few feet in position with the plan attached to that published sketch of Mr. Lawson's. It is almost of the same depth, but there are a few feet different in the positions.

Mr. Lawson: There is no scale to my sketch.

Mr. Blair: I will merely say that the drain is practically on the level of the back of the foundations of the walls. It will certainly intercept any flow of water in this direction towards the building [indicating on plan]. Any flow that would go past that drain would be a long way below the building. This drain was put in in 1884. You will also see that this drain was built by shafts put in about every 20ft. The second drain was put in at a much lower level. The top is about 12ft. 6in. below the foundations of the back wall, and it is 18ft. away from them at the middle. That drain was also built with shafts, although there are fewer shafts.

The Chairman: There are three shafts in it.

Mr. Blair: Yes. There are not so many shafts filled with stones along in the front; but behind the building there were two shafts filled with stone.

Mr. Mountfort: Can you point out the position of the shafts?

Mr. Blair: The shafts in the second drain are numbered 1 to 9, and Nos. 4, 8, and 9 are filled with stones.

The Chairman: Cut right up and filled up to the surface?

Mr. Blair: Yes. I now come to the position of the third drain, which is a gallery from the second one. Its position is a little below the level of the foundations. We were afraid that this drain (No. 1) was too high, and this one (No. 2) too low, so this third one was carried, as I have shown, a little below the level of the foundations. It has three shafts, coming very nearly to the surface.

The Chairman: They appear to break joint—they come alternately.

Mr. Blair: Yes. You will see that this top gallery drains into one of the shafts leading to the lower gallery. .

The Chairman: They were connected?

Mr. Blair: Yes. The three shafts immediately behind the building are vertical. There is also a branch drain from the top gallery. It is inclined towards the foundation, and carried in under the back wall to the middle wall, where it terminates.

The Chairman: That is the dotted line shown on the plan?

Mr. Blair: Yes. The whole of the back of the building is on a slope, and the water is supposed to be intercepted by these drains. This drain (No. 2) is carried down to a great depth. As I have just stated, another drain ran parallel with this, but at a higher level—almost level with the foundations of the building—and shafts connecting the two drains and connecting the top drain with the surface were put down. This was done with the object of cutting through all the strata, so that all the water would be drained; but the settlement has not stopped, and we are now of opinion that no drain behind, as suggested by Mr. Lawson, would be effectual in preventing the settlement, for we have given Mr. Lawson far more drains than were asked for. We have drained the ground in every conceivable way, and have given far more drainage than was ever contemplated by Mr. Lawson in his original scheme, although that original scheme had been abandoned by him long ago. We must therefore come to the conclusion that there is no ground whatever for saddling the Public Works Department with responsibility for not putting in this isolating-drain referred to in the published correspondence, for we have put in isolating-drains far more than ever was intended, and they have had little or no effect in preventing the settlement. The cause of the settlement must therefore be looked for in another direction; so also must the cure.

Mr. Mountfort: Before Mr. Blair goes any further I should like him to tell us what sort of stones were used, and how they were filled in.

Mr. Ussher: We used large boulders; then we put in manuka scrub, and covered that with clay. We used no tiles.

Mr. Mountfort: How were these stones got into these spaces?

Mr. Ussher: Carried down the shaft.

Mr. Mountfort: They did not lay open to the air?

Mr. Ussher: No.

Mr. Mountfort: How were the stones got into the shaft—by hand, or were they pushed in with sticks?

Mr. Blair: They were built in backwards. The man who put them in will give evidence.

Mr. Mountfort: What is the height of that shaft? Is it high enough for a man to work in?

Mr. Blair: Yes; it is about 4ft. high.

Mr. Mountfort: Being underground work—not done in the daylight—was there any possibility of "slumming" the work?

Mr. Blair: No. The work was done by day-labour, under the supervision of our own officers. But evidence on that point will be given afterwards. To put it shortly: Mr. Lawson first contemplated an isolating-drain, and then abandoned the idea in favour of surface-drainage. We gave him surface-drainage in accordance with his own plan. When the cracks appeared he reverted to his original idea of an isolated drain. We have now given him isolated drainage far more than was contemplated, thought of, or dreamt of. It is therefore clear that, wherever the responsibility lies, it is not from neglect on the part of the Public Works Department in meeting the wishes of the Architect in the matter of the drains. Now as to the cause of the damage: Mr. Lawson has all through attributed the damage to what may be called *vis major*, the movement of the whole site. There are slips at various places on the asylum reserve and at other places in the locality, and a theory has been advanced that the whole hillside is on the move towards the sea. This theory does not, however, work out. It cannot be retained for a moment, for, if the whole hillside were on the move, the whole of the asylum would be on the move; and there is no indication anywhere, except on the northern block, of movement or settlement. The settlement is really confined to some 70ft. or 80ft. in the length of the building, whereas the total length of the building is 570ft. We therefore see that it is quite impossible that the various slips which have appeared in the locality are connected: in fact, they are only such slips as appear in all similar country where the bush is removed. We have plenty of evidence of it on both sides of the Otago Harbour. There have been a number of slips of the same class down the Peninsula, and right up the coast to Waikouaiti. There is a small slip behind the asylum building where the excavation was made; but this slip is quite shallow, and it has stopped long ago. It cannot possibly have any connection with the movement in the building: in fact, it would be absurd to assume for a moment that such a shallow small slip could have such a large effect as is manifested in the settlement of this ponderous building in front of it. It is utterly impossible that such a slip could reach the asylum, and, if it did reach the asylum, it would not have the effect of pushing down the walls. I visited the place in July, 1885, and, after careful examination, I came to the conclusion, as stated in my printed

report presented to Parliament, "that the injury to the building is no more than might have been caused by irregular settlement in the foundations." Subsequent investigations have proved that this view is correct. Mr. Blackett visited the place, and he was of the same opinion; and careful examinations made by Mr. Hay recently show, without doubt, that there is no forward movement of a general kind in the strata underlying the asylum; and, if such a movement had existed, the drains put in at three different levels would have undoubtedly stopped it. Mr. Hay's report of the 18th December, 1887, goes fully into the matter. Among other things, he shows that, instead of being out of line downhill, portions of the building are bent uphill. He also shows that, instead of the back wall being pressed against the centre one—which would undoubtedly have been the case had the damage been caused by a thrust from behind—the front walls have actually gone away from the back walls. It is also seen that where extra foundations were put in, at the end of 1886, the base of the foundations being widened and strengthened has prevented to a very great extent the settlement of the wall thus protected, and it is very remarkable to observe that at the junction between the strengthened walls and the walls that have not been strengthened the latter have gone away from the former. The subsidence continues where the strengthening has not been put in, but it has stopped where the strengthening has been put in, thus showing that the extra width of foundation is what is required. There is therefore, in our opinion, no doubt whatever that the damage has not been caused by a movement of the ground from behind, but, as I put it in my report in 1885, by irregular settlement in the foundations. It is quite possible that this settlement may be aggravated by overflow from the downpipes, which are imperfectly constructed; but this also is a matter which the Architect only is concerned with. The Public Works Department has nothing whatever to do with it. This plan will show you what has been done. We found that the principal settlement was here [indicating on plan]. We put down large blocks of concrete on each side of these openings. The blocks were 3ft. 3in., and 2ft. 6in. deep. We built up five arches, and so gave greater bearing-surface to the foundations. Old rails were put on the top of these blocks and bedded into them, and strengthening-blocks were put in as buttresses in the angles, still using the rails to distribute the weight. There is no doubt whatever that this has been of very great assistance, for the large cracks which were in existence when I inspected the building in 1885 had not materially increased—that is, they have not materially increased since the strengthening was put in.

Mr. Skinner: At what date was this?

Mr. Blair: July, 1885.

Mr. Skinner: What was the size of these cracks?

Mr. Blair: I think $\frac{5}{8}$in.; perhaps more. The building was then settling down. At that time there was no movement—practically no movement outside this block [indicating on plan]. There is not the slightest doubt that this widening has done good. These cracks have not extended to any great extent.

Mr. Mountfort: Did you punch holes into the walls to get these rails in?

Mr. Blair: Yes.

The Chairman: So long as the rails held they increased the bearing?

Mr. Blair: This brings me to the last part of my statement—the defects that have been discovered in connection with the building and the foundations. Attention was first directed to this matter by Mr. Ussher in investigating the question of the drainage. In September, 1885, he was led to believe that the foundations were defective at the place where the damage has occurred. On the 9th September he says that "the foundations are not carried down in accordance with the drawings, and are resting upon very soft material, with a slight quantity of water trickling through it." He was asked from Wellington, on the 11th, to get Mr. Lawson to explain why the foundations had not been carried down in accordance with the contract. On the 18th Mr. Ussher states that "there is a step which causes a deduction of some inches from the depth of the concrete shown on the plan. I do not, however, consider the matter of very great moment. A slight increase in the depth of the foundation would not affect the building, on account of the soft nature of the ground here. On this subject the Architect might, perhaps, be called on for an opinion." In this same report Mr. Ussher gives measurements of the foundations, and he also refers to a place in which "the concrete is intersected for a width of nearly 2ft. by what appeared to be an old drain filled with sticks, brickbats, and pieces of lime mortar." A fresh movement having occurred in May, 1886, at the front part of the building, Mr. Arthur Bell, who happened to be in Dunedin, was asked to investigate it. In the course of his report he gives a sketch where he has bared the concrete for a depth of 2ft. and a length of 3ft., and, instead of the concrete projecting, or being flush with the brickwork, it was really narrower than the superincumbent brick wall. There is a considerable overhang. This piece was bared afresh for the inspection of the Commissioners, as also was the adjoining window, which had never been opened before; and I may be permitted to say that it would be difficult to find a more flagrant example of scamping. As I have already stated, plans were prepared for strengthening the foundation in October, 1886, and the work was carried out immediately. It was expected that this work would effectually cure the subsidence, so nothing further was done towards investigating the alleged defects in the foundations; but when the cracks reappeared in December last the matter was fully gone into by Mr. Hay. Mr. Hay has prepared very elaborate plans, which I submit, showing the extent of the damage all over the building. He has also bared the foundations at no less than thirty-seven places, and in no instance has he found the foundation anything like what it ought to be, according to the contract plans. All along the colonnade, where the damage has been the greatest, the foundations are about 18in. too shallow, and there are no footings whatever. I hand in this plan—the sections of the foundations; also a key-plan showing where the sections were taken. [Document No. 3 produced.] It is scarcely necessary to describe them, as they describe themselves.

The Chairman: Are any of these foundations shown on both sides of the wall?

Mr. Blair: Only on one side.

Mr. Mountfort: We opened one at No. 5, and saw it on both sides.

Mr. Gore: It has been done since we opened it.

Mr. Blair: Nearly the whole of that was done on the plan by Mr. Hay, when he came down here in December; but he has since amplified that. He has put in some of these [indicating on plan]. For instance, these two were not in before.

Mr. Lawson: Allow me to say that this discussion points to the absolute necessity of Mr. Brindley being present. He is the man under whose direct supervision these were put in—every one of them. That is the chief point: in fact, it is Mr. Brindley's character that is at stake. There are various circumstances deduced by the evidence which Mr. Brindley may notice for himself, but which he cannot notice by merely reading over the evidence, as is proposed. I say that this is a matter of vast importance to Mr. Brindley in regard to his professional character. I cannot too strongly urge that his professional character is at stake in reference to the particular thing under examination, he having been the Inspector on the spot. It was under his supervision that this work was actually carried out.

Mr. Skinner did not think that the Commissioners should stop the inquiry till Mr. Brindley arrived.

Mr. Lawson: At all events, I submit that it is absolutely necessary that the inquiry should not deal with this particular matter until Mr. Brindley arrives. I submit that that is only fair-play to Mr. Brindley.

Mr. Blair: I shall clear up that matter to a very great extent in the course of my remarks.

Mr. Lawson: In what way?

Mr. Blair: By the evidence I am giving now.

Mr. Lawson: Of course it is for the Commissioners to decide, and I must submit; but I cannot too strongly urge that, in common fairness to Mr. Brindley, he should be present at this examination.

Mr. Skinner: So far as we are concerned we shall make him acquainted with the whole of the evidence.

The Chairman: My opinion—and I think it will be that of my brother Commissioners—is that every opportunity shall be given to Mr. Brindley of becoming acquainted with everything that has taken place during his absence.

Mr. Lawson: I have simply urged all through that Mr. Brindley is the party chiefly interested.

The Chairman: I think he will be perfectly satisfied that he is to have the whole of the evidence before him.

Mr. Gore (to Mr. Blair): Have you never tried one hole inside?

Mr. Blair: We could not do so without tearing up the floor.

Mr. Skinner: I may say that we have had one or two holes opened since, and that we intend to have one or two more opened.

Mr. Blair: Mr. Hay will, in evidence, show that at these places the foundations will, on the average, not carry the half of the weight per lineal foot that they would have done if put in as shown on the contract drawings. Beyond submitting the plans, it is clearly unnecessary for me to go into this matter, as pits were opened out and the Commissioners saw it for themselves. I might, however, refer to one or two points. At one place, near the north end of the colonnade, the concrete was only about 18in. deep, and it was cut into by a huge boulder, and in some cases the brick wall is, as at the front, actually overhanging the foundation. This is the case specially nearly all along the back wall—one of the most important walls in the building. The quality of the concrete was also anything but what it should be. As the Commissioners saw for themselves, large stones were put in to save the cement all through it. Sometimes these stones, instead of being a foot or two apart, were actually in "nests," and I shall bring evidence to show that in some cases they were put in by the barrow-load. This was the case even in the most important part of the structure—the tower. Although the Architect was warned by Dr. Hector as to the necessity of secure foundations, I have evidence to show that barrow-loads of dirty stones were thrown into the concrete. There are only one or two places where the concrete was found anything near the mark, and these places were near the middle of the building, where no settlement has appeared: in all the pits that were opened up at this place the concrete was considerably better than it was in the portion of the building that has given way.

Mr. Gore: I submit that Mr. Blair should not make any statement except he can give it of his own knowledge.

Mr. Blair: I have made no statement unless it has been from my own knowledge.

Mr. Skinner: If he makes any statement he will have to bring evidence and prove it.

Mr. Gore: In that case I have nothing more to say.

The Chairman: No statement can have any weight with us unless it is substantiated. I suppose Mr. Blair intends to verify it; if he does not, we cannot of course be bound by it.

Mr. Blair: We are not prepared to assert that the building would have stood absolutely true had the work been carried out in accordance with the contract; but we submit that there is no doubt whatever that, had it been so carried out, the subsidence, if there had been any at all, would have been a mere fraction of what has taken place. The ground is soft, and is admittedly bad, and no attempt was apparently made to drain the foundations, and, as I have shown, instead of the foundations being increased where the ground was bad, as is always done in works of this kind when the opening-out of the ground shows that the plans should be altered—instead of so increasing the foundations, the foundations were in this case decreased to a lamentable extent. Of course by no stretch of the imagination can this alteration from the contract drawings be attributed to the Public Works Department; and in all our attempts to deal with this matter the department has assumed that the works have been carried out in accordance with the contract. If a suspicion to the contrary had crossed our minds, the means taken to remedy the defects at the earliest stages

would have been very different from what they were. Now as to who is responsible: I have clearly shown that the foundations have not been put in in the way they ought to have been. I have also shown that these foundations are in all probability the main, if not the sole, cause of the settlement. It is now a question as to who is responsible for this great divergence from the contract. So far as the department is concerned, we have nothing whatever to do with it; the matter lies between the Architect and his subordinate—the Inspector. It would not, however, be right for me to leave it at this stage, for a large quantity of evidence has been collected with reference to the mode in which the work was carried out. Mr. Ussher will give evidence that he was unofficially aware of great friction between the Inspector and the Contractor, and between the Inspector and the Architect. The Inspector complained bitterly to Mr. Ussher, also to myself, that he was not backed up by the Architect; and I have here his letter-book, containing ample proof of this statement. I have only got the letters one way; I have not got the letters which he received from the Architect, but I have Mr. Brindley's letter-book containing copies of the letters he sent to the Architect. Once or twice the matter went so far that, although Mr. Brindley had no official right to correspond with the department, he did write to Mr. Ussher several times complaining of his treatment by Mr. Lawson, and the way in which his instructions were disregarded by the Contractor. I should also say, with reference to Mr. Brindley's position, that he (Mr. Brindley) complained that he was kept by Mr. Lawson making detailed drawings for the use of the Contractor, while he ought to have been out upon the works inspecting them. In the letter that I read of the agreement with Mr. Lawson, it will be seen that Mr. Lawson had out of his commission to provide these detailed drawings. These detailed drawings ought to have been made by himself or by his private staff in his own office; but, instead of spending a portion of his commission in this work, he utilised the man who was paid for by the Government—Mr. Brindley—to do this work for him. As a matter of fact, I believe that nearly all the detailed drawings were done by Mr. Brindley. He even prepared the plan of the drainage to which I have already referred, which is not a detailed drawing, but a new plan altogether. It is no wonder then that Mr. Brindley could not devote so much time to inspection as he otherwise would have done. I may say that I was not aware of the extent of this circumstance; otherwise action would have been taken long ago. I shall simply read a few extracts from Mr. Brindley's letters to Mr. Lawson. One is in reference to the stone packing.

The Chairman: In the concrete, you mean?

Mr. Blair: Yes. The specification was that stone packing may be used in the concrete with the Inspector's approval, and Mr. Brindley writes to Mr. Lawson to ask what proportion of stone he considered fair. In a letter dated the 13th December, 1881, he says: "Seeing that there is a question of the foundation of the north wings not being right"—this is the very portion now under discussion—"would it not be as well that some arrangement should be made to do away with the packing altogether?" You will see that Mr. Brindley directed attention to the ground being bad in this case, and that, instead of the foundation being scamped, he wanted the foundations improved. "The way Mr. Gore wants stone put in is about 3in. apart, which is simply ridiculous, and that, too, with 2in. metal. His price for concrete is 50s. per cubic yard."

Mr. Skinner: Did you say 50s. per cubic yard?

Mr. Blair: Yes. I am reading an extract from Mr. Brindley's letter. I did not check it by the schedule.

Mr. Gore: I presume that you will put the contract in; because that is not in accordance with the facts.

Mr. Skinner: The schedule reads: "45s. in trench and 50s. in boxes."

Mr. Gore: That is a different thing. That is including boxing. Will you please give the date of the letter you have just been reading?

Mr. Blair: It is dated the 13th December, 1881. The letter goes on to say: "My way of it is, the stone to be not less than 1ft. or 1ft. 6in. apart, according to size, and concrete put in lifts of 1ft. high at a time. Unless I am to stand by and see every stone go in, I am afraid there will be more go in than is good for the stability of the building; and should it come to an examination I am afraid that Mr. Gore would be the loser, as there would be no help for it but to have it taken out. Perhaps if you are up during the week you can judge for yourself, though it is certain the amount of stone cannot be checked other than standing by and seeing it go in." From what we have seen on the ground it is very clear to us that the Architect did not stand by the Inspector on this occasion, and on this point on the 1st August, 1882, Mr. Brindley again wrote with reference to the stone packing. The letter is not very legible, but it shows that Mr. Gore insisted on putting in the stone from 4in. to 6in. apart, and that he disregarded Mr. Brindley's instructions in the matter: in fact, Mr. Brindley on this account only certified provisionally to the work. He says: "I send this month's certificate provisionally that above is to your satisfaction; also owing to the inability of getting shingle to mix with metal. The concrete lately put in can bear no comparison with the north wing." This letter refers to the south wing, and if the concrete there is inferior to that which we saw in the extreme-north wing, well, it must be very extraordinary material. The concrete question again comes up on the 5th October, 1882. Mr. Brindley writes to Mr. Lawson: "I must again protest against the way Mr. Gore instructs his workmen to put stone packing in concrete. He insists on the stone being put 3in. or 4in. apart; and the man putting in concrete in trenches,"—I presume, without framing—"whether instructed or not I do not know, on the slightest chance puts them in anyhow. As it is impossible to be at different parts of the work where the concrete is being put in during the whole day, I shall refuse to pass any more concrete put in by aforesaid man and manner above described. I called attention to the matter not being satisfactory, and requested Mr. Gore's manager to remove the man. This he refused to do, as it seems he has not power to do, and also questions my right to require such dismissal. It is not the first time he had tried to scamp work. As concrete still continues to be put in, I have to take this course to protect myself, and also ask you to stop payment of the last certificate until such time as the matter is settled. At

present, it seems from Mr. Gore's manner, he is neither bound by time, General Conditions, details, or instructions, as he, as you know, questions every detail, and considers himself the right person to judge *re* materials and workmanship, details, &c., and tries to ignore any instructions I may give. This is not as it should be. I must insist on his paying a little more deference to me and to my instructions." Mr. Brindley felt so strongly over this matter that he sent an unofficial note to Mr. Ussher, with a copy of this letter. He says: "I enclose press copy of letter sent this day to Mr. Lawson. In the event of his not seeing this matter satisfactorily settled, I shall have to ask you to take the matter up, as literally Mr. Gore repudiates my authority altogether; and, as works are yet a long way from completion, the sooner Mr. Gore is brought to his senses the better. There are only two courses open to me, either to give up my office or not pass work. I have chosen the latter." Although Mr. Brindley wrote so strongly to Mr. Lawson on the 5th October, he did not receive an immediate answer from him. Apparently I am not the only one who is guilty of not answering letters. On the 28th of that month he asks for an answer for three letters, especially to the one of the 5th. Of course I have not got the answers to these letters, but I shall call on Mr. Lawson to produce them. Mr. Brindley, however, apparently received a letter in answer to his one of the 28th October, and the answer which he seems to have got was a request to work amicably with the Contractor. On the 2nd November, 1882, he says: "I received your letter of the 30th with reference to working amicably with contractors. I try to do so, but certainly think as Inspector I am not supposed to pass work not done as your instructions or my directions (as before-mentioned concrete is not). Also it is about time some extreme measure is taken when the Contractor or his manager repudiates my instructions as in the present case; and the withholding the certificate is the only way to protect myself." Mr. Brindley evidently thought that the instructions to "work amicably with the Contractor" implied passing bad work. In that same letter Mr. Brindley says: "I have not certified for about 40 yards of concrete put in during the early part of the month, not being satisfied with the manner of its being put in and the amount of stone packing." Of course I do not know whether that concrete was taken out or not.

Mr. Gore: Mr. Blair is not giving evidence now.

Mr. Lawson: It is another reason why Mr. Brindley should be present. The whole thing is perfect rubbish—what he is reading; yet it is given on oath.

Mr. Blair: Mr. Lawson will have an opportunity of showing that it is not true, if such is the case.

Mr. Lawson: I still consider Mr. Brindley is not being rightly treated.

The Chairman: This is only a statement by Mr. Blair, and it is open to you, Mr. Gore, or Mr. Brindley to controvert it.

Mr. Blair: While on this subject I will read a memorandum to me by Mr. O'Connor, dated the 2nd of February, 1888, of what came under his own observation while he was Inspecting Engineer in the Middle Island. He says with reference to the concrete: "On the first of these occasions I was passing by the building with Mr. Ussher, on our way to the temporary building higher up the hill, where some work required to be done, and I noticed some of the foundation-work being put in in a manner which seemed to me to be the most slovenly and most unworkman-like character that I had ever seen. The trenches were irregular in shape and not clear of water, and the gravel composing the concrete appeared to be muddy and unwashed, and some stones in it were much too large to be properly admitted in such a small mass of concrete. As the work was entirely in Mr. Lawson's charge, I did not of course make any comment upon it to any of his subordinates on the ground; but I made a remark to Mr. Ussher, who was with me, something I think, to the effect that if that sort of work would do for the foundations of a large building I must have been wasting people's money all my life. I also resolved to inform you about it, which I did, I think, the next morning, on my return to Dunedin."

Mr. Skinner: From whom is that?

Mr. Blair: Mr. O'Connor, the present Under-Secretary for Public Works, who was Inspecting Engineer under me for the Middle Island at this time. Mr. Ussher will tell you that the Architect's attention was drawn to the fact.

Mr. Lawson: This statement was made by Mr. Brindley, you say?

Mr. Blair: Mr. Ussher will say so.

Mr. Lawson: That Mr. Brindley has said that?

Mr. Blair: So he informed me.

Mr. Gore: It is a piece, I now see, with all the rest.

The Chairman: I think you had better not interrupt.

Mr. Gore: I am quite ready to give any information I can on the subject. But this is all hearsay.

Mr. Blair: Mr. Ussher will give evidence in support of this memorandum of Mr. O'Connor's, and he will also show that Mr. Brindley told him that the Contractor tipped barrow-loads of dirty boulders from the excavation behind the building into the trenches, in lieu of the materials specified; that the Architect's attention was drawn to the fact, but that the Inspector received no satisfaction from him. This is all I have to say upon the matter of the concrete, and it bears out what we have all seen for ourselves in the foundations. You have also seen that, although the contract requires the concrete to be put in in boxes or cases, there were only three or four places in which there was any appearance of casings having been used, and the foundation has been laid bare at nearly forty places. As I read it, the Commission has to investigate the condition not only of the damaged part of the building, but of any other part thereof. I shall therefore give some evidence as to the condition of several other works in the asylum, and the materials used in them. First as to the matter of bricks: There was a considerable amount of heartburning over the question of bricks. The matter came under my personal notice once or twice while on the ground and otherwise, and I communicated unofficially with Mr. Lawson—directed his attention to it, with, I believe, at the time the result of having the matter partly rectified. Mr. Brindley on the 4th

September, 1882, says, in writing to Mr. Lawson: "During my absence from the job to bring in certificate to town on Saturday last, about five thousand or so of very bad bricks have been run out of the last two kilns, and, having mixed with the rest, it is impossible to pick them out. What should I do under the circumstances? The best of the kilns are but just passable, being rather shaky. I see no other course but to condemn the lot. If I do this, I expect it will stop the job. Would you telegraph what had better be done, or come out to-morrow morning?" I do not know what was done. On the following morning Mr. Brindley again wrote: "On getting further into the stack the bricks are even worse, some of them having scarcely seen fire at all. Out of a day's work, about five or six hundred have been picked out. I must, in justice to the work, condemn the lot, which I shall do to-morrow, if I do not hear from you. Unless this is done, it seems to me Mr. Gore or any of his men are to be the judge of material, and not the Inspector; and I may say it is a piece of sharp practice on the brick-burners' part to run them out during my absence, in face of my repeated instructions that they should not do so, when kilns are being emptied." Mr. O'Connor also refers to this question of bricks. In continuation of the extract already read, he says: "Continuing along the building-works, Mr. Ussher and myself then came to a stack of bricks, and from force of habit, or curiosity, I picked up two of these and struck them together, and was astonished to find that, instead of giving a clear, sharp ring, as they should have done, they gave out a dull, sullen thud, indicating either that the clay was bad, or else that the bricks were badly burnt. I therefore resolved to inform you about this also, and did so, I believe, next morning, as I was clearly of opinion that no large building could safely be erected with bricks of that kind. When I informed you accordingly, you seemed to be very much annoyed that such work should be permitted, and you immediately sat down and wrote a note to Mr. Lawson, as I understood it, on the subject. I do not think that I read the note, therefore cannot say what you put in it. I do not think it was written officially or copied, as I believe you put it in an envelope, and sent it off at once; but I happened to meet Mr. Lawson the very next morning, or a day or two afterwards, on the railway-platform at Dunedin Station on his way to Seacliff, and I concluded that he was going there in pursuance of what you wrote to him, and I think I mentioned to you afterwards that your note had had prompt attention." With reference to the brick question, Mr. Ussher will also corroborate in evidence the statements that are here made by Mr. O'Connor and myself, Mr. O'Connor's memorandum also refers to beams that were too weak. The matter was rectified, so it is unnecessary to enlarge on it. I, however, put in the memorandum, as it shows the relations that existed between the department and the Architect. [Document No. 4 produced.] From Mr. Brindley's correspondence it appears that there are other matters in the way of defective materials in regard to which the Contractor practically placed the Inspector at defiance, and I can find no record of the Inspector having been backed up by the Architect. On the 23rd May, 1883, Mr. Brindley writes to Mr. Lawson: "I have to call your attention to the thickness of the gable-wall at the end of the Block 2 (south)—the one I spoke to you about on last visit to town. Mr. Gore insists on same being an extra, and has built it 9in. thick, and informs me he intends to write you and charge the same as extra. As all the roof and gables are 14in. thick, there is no reason why this should not be; and, as it is not an extra, I must request you to ask Mr. Gore to make the same proper thickness, as he will not do it for me. It is very annoying to have to make so many complaints, but it seems as if the same game was to be tried as some months back—that is, ignore my instructions, and do work for you but not for me, even though from your instructions. As I will not have this, and consider the only way to bring Mr. Gore to his senses is to touch him in the pocket, I shall refuse to pass certificate for brickwork of this block next month. It is just a trick to get out of 4½in. of wall. Mr. Gore also informs me that he intends to charge for 11in. by 4in. joists, &c." And on the 1st June, referring to this gable, Mr. Brindley again writes: "In the matter of the gable, of which I wrote last week, Mr. Gore's manager says he will not take it down, and generally defies me or any one else to make it be removed. I have given written notice to Mr. Gore, and must refer you to clause 9 of General Conditions to withhold payment of certificate till such time as it is altered." A further question then arose with reference to cement. On the 4th June, 1884, Mr. Brindley wrote to Mr. Lawson as follows: "I have to call your attention to the cement Mr. Gore is using—viz., Brooks, Shoulbridge, and Co.'s. The only brands specified are White's or Knight Bevan's. The manner of Mr. Gore getting such cement on the ground and starting to use it is anything from right, as up to mid-day on Tuesday no cement was on the ground, but during my absence in town yesterday four trucks, or about a hundred casks, of above brands were delivered, and a start was made on foundations. I therefore have given notice to Mr. Gore's manager to stop using any more, it not being of approved specified brands. I have taken this stand to protect myself, as it seems to be the starting-point of Mr. Gore's sending up further unapproved material, if not objected to, as it would also give an opening for any rubbish being sent up that he might think fit; also, if he is allowed to deviate from the specifications, because it does not suit him, any authority I have as Inspector is gone, and the Government might just as well save my salary, and let him have his own way of carrying out the work. The job would, under the arrangement as understood by Mr. Gore, seem to be summed up in the words, 'this was understood,' and 'that was intended,' as the case suited him." We have a similar difficulty with reference to the lead. On the 10th of September, 1884, Mr. Brindley wrote complaining that 5lb. lead was being laid down, instead of 6lb., on the laundry.

Mr. Gore: This is nothing to do with the present inquiry. I had nothing to do with the laundry.

The Chairman: Was that Mr. Gore's work?

Mr. Blair: It was transferred to Mr. Gore's son, but Mr. Gore started it.

Mr. Gore: I have no objection to the matter coming out.

The Chairman: It is no part of the asylum contract.

Mr. Gore: I have no objection to the statement, but it is not evidence. I should prefer the matter coming out, because the parties who put the lead on will be called.

Mr. Blair: Mr. Brindley wrote on the 10th September, 1884, "The rolls of lead were sent up with a small strip cut off the ends, so as to cut off weight, lengths, &c., of each sheet, evidently with the intention of misleading." This is all I have to say with reference to the defective works on the buildings, and I think it is sufficient to show that defective works exist, and, furthermore, that the Inspector was not backed up by the Architect as he ought to have been; but, as he will be here to speak for himself in a few days, I shall leave that matter at this point. I shall now sum up shortly the conclusions which must be come to from the statement that I have just made and from the evidence which will be forthcoming in support thereof: (1.) That all the building operations were absolutely under the control of Mr. Lawson as Architect, and that the Inspector of Works was absolutely and entirely under his control and direction. (2.) That all the drains required by Mr. Lawson were put in, and very many more besides, and that they have had little or no effect in stopping the damage to the building. (3.) That the damage to the building is not in consequence of a general movement of the hillside towards the sea, or from the slips that have occurred in the neighbourhood, but that it is due to irregular settlement in soft ground. (4.) That, instead of being widened over the soft ground, the foundations were actually reduced to a very serious extent, thereby increasing the risk of settlement and damage. (5.) That the foundations throughout the damaged portions of the building are all defective; that they are much smaller than shown in the contract, and that the work and material are both faulty in the extreme. As I have been unexpectedly called on to proceed first in this inquiry, I claim the right of reply and of producing any other evidence at any stage of the inquiry which I may consider necessary, or which may arise from the evidence brought in by Messrs. Lawson and Gore. This, I understand, the Commission has agreed to give.

The Chairman: Oh, yes! When Mr. Gore and Mr. Lawson have produced their evidence you will have an opportunity of answering it.

Mr. Blair: I submit a plan showing the drains that have been put in, plans of the strengthening that has been done to the foundation, and also plans of the defective foundations, showing how far they diverge from what is provided for in the contract. I also put in Mr. Brindley's letter-book and other papers, which will be laid upon the table as the inquiry proceeds. [Documents 5 and 6 (letter-book and plans) produced.] There is a point with reference to the Commission to which I have made no allusion whatever—that is, as to suggestions for making good the damage that has taken place and preventing further damage. It is not the intention of the department to give any evidence on this point, or, in fact, any expert evidence involving opinions beyond what I have already given and what appears in the papers and report. As the Commission is composed entirely of experts, the Public Works Department does not consider it necessary or right to submit any evidence of this kind. I have therefore to intimate at this early stage that no such evidence will be forthcoming beyond what appears in the papers and what I have stated here.

Mr. Gore: I should like to know what is the date of Dr. Grabham's report.

Mr. Blair: On what?

Mr. Gore: On the asylum building.

Mr. Blair: 9th June, 1880.

Mr. Mountfort: I should like you, Mr. Chairman, to ask Mr. Blair to what stage the works had been carried at the date of Dr. Hector's report—what had been done and what had not been done at that time.

Mr. Lawson: There was nothing touched.

The Chairman: There is some reference in the report to what work was done then.

Mr. Gore: There was very little done to the foundations—simply to the central block.

Mr. Mountfort: Here is what Dr. Hector says: "The south end of the main building will stand on formation A, as in the former case, but with a further complication of greensand, which occurs interstratified with the clay-marls, and carries water, and will require special arrangements for drainage. The north end of the building and part of the foundations of the central portions already laid are on the unstable portion C, the movement of which, owing to the shape of the under-surface, will be towards the north-east, and unless the foundations are carried through to the solid, or otherwise completely isolated from the general mass of formation C."

The Chairman: Yes; he refers to the northern end of the building.

Mr. Lawson: You are confusing things, gentlemen. It is the temporary site that Dr. Hector was referring to.

Mr. Mountfort: No; he says, the site of the new asylum.

Mr. Ussher: There was nothing done at the date of that report.

Mr. Lawson: There was no work done on the new building then.

The Chairman re-read the quotation from Dr. Hector's report.

Mr. Lawson: That is exactly what he means. The northern end of the foundation was not touched.

Mr. Mountfort: I thoroughly understand. Part of the centre foundations was laid. I want to know in what state the works were then.

Mr. Blair: The contract for the centre block was accepted.

Mr. Lawson: The contract for the three blocks was accepted then.

The Chairman: In June, 1880, the foundations were laid.

Mr. Blair: And concreted.

The Chairman: In the north wing?

Mr. Blair: No; in the central wing.

Mr. Skinner: At what time, Mr. Gore, did you commence operations on the site?

Mr. Gore: I went up there directly after the contract was signed, but I was up there for eight months doing nothing except making preparations and clearing the ground.

The Chairman: I see that Dr. Hector simply alludes to the foundations being laid in the central portion.

Mr. Blair: That is so.
Mr. Gore: I think it would be about June, 1880, that I commenced work.
Mr. Skinner: That would be about the time that Dr. Hector visited the ground, accompanied by Mr. Lawson and Mr. Blair, and made his report.
Mr. Gore: I had also put a well in the ground.
Mr. Skinner: And some of the foundations?
Mr. Gore: Yes; some in the central block were put in.
Mr. Skinner: That is where the tower is?
Mr. Lawson: Yes; but no work was done in either of the outside blocks.
Mr. Blair: There was no alteration in the site after Dr. Hector visited the ground.
Mr. Lawson: There was an alteration made before that.
Mr. Skinner: Was there any alteration after the 10th June, 1880?
Mr. Blair: No.

JAMES DONALD sworn and examined.

1. *Mr. Blair.*] What are you?—A ganger.
2. Were you employed in the asylum works?—Yes, sir.
3. What were you doing?—I was at various work. Part of my time I was at the brick-machine, part of the time quarrying, and part of the time excavating.
4. What were you excavating?—Reducing the hill to get the foundations in for the building.
5. Were you excavating the trenches?—Yes.
6. Were you excavating the trenches for the northern end?—For a portion of it.
7. *The Chairman.*] Were you employed as a workman or a ganger?—As a ganger.
8. Under whose orders?—Mr. Gore's.
9. *Mr. Skinner.*] Were you in the employ of Mr. Gore?—Yes, sir.
10. *Mr. Blair.*] How long were you there?—About three years.
11. What was the nature of the ground when you cut out the foundations at the northern end?—It was very soft.
12. Was it wet?—Yes, very wet.
13. *Mr. Skinner.*] Throughout?—More especially at the northern end.
14. *The Chairman.*] Can you describe the distance along the building that it was wet—from what point to what point?—From the central block to the end of the northern block.
15. *Mr. Blair.*] That is, the whole of Block 2?—Yes, the whole of Block 2—the last block.
16. Was it wet at the back?—Yes, very wet.
17. Was it wet at the front?—Hardly so wet in the front: it seemed to get more water in it at the back.
18. What was the nature of it—clayey, boulders, or what?—It was a blue clay, discoloured with a sort of stagnant water principally.
19. From your knowledge of these things would you consider that was a place where there ought to be put in something extra in the way of foundations?—Yes, I should think it ought to have a better foundation. I should say so.
20. Was there a better foundation wanted there than in other parts of the asylum?—Well, yes, I should say it was, because the southern end was stronger, in my opinion.
The Chairman: I think you are asking the witness to state things he knows nothing at all about. He is not able to judge whether the foundations were fit or not.
Mr. Blair: I asked him if his experience was such as to give him confidence in giving an opinion. I can ask him, I suppose, whether this part of the foundation was softer than the other parts.
The Chairman: Certainly.
21. *Mr. Blair* (to witness).] Was this part of the foundation softer, or much softer, than other portions?—Yes, sir.
22. Was that the softest place in the building?—Yes, the softest place in the whole lot.
23. *Mr. Skinner.*] That is, at the back wall of the north wing?—Yes; and more especially at the front here, where there was a swamp.
24. The front of which?—The front of Block 1.
25. *Mr. Blair.*] And the back portion of Block 2?—Yes.
26. The front part of Block 2, you say, was a little better—the front part of this north block?—It was all wet.
27. *The Chairman.*] I should like to ask him, with regard to the foundations of concrete at the back wall, whether that portion of the building was as wet, if not wetter, than other parts. Did more water come in there?—Yes.
28. Did it appear to flow from the cutting at the back, or simply to rise from the bottom? Did you see any flowing in?—It was from the bottom—seeping from the bank.
29. Was there so much water that it necessitated baling?—Yes.
30. Did the foundations fill up in one night, for instance?—That I could not say, because it is some time back.
31. Of course, as far as you recollect?—They made a deal of water.
32. *Mr. Blair.*] You said it was seeping from the back: did the water not rise from the bottom of the trench?—Certainly, the water did rise from the bottom as well: it was a swampy portion altogether, that portion.
33. *The Chairman.*] In putting in the concrete wall at the back, there was a bank behind it?—Yes.
34. Was that shored up or retained in any way?—It was shored up.
35. With timber?—It was—a portion of it—and battered on another portion.
36. Did it show a tendency to slip in?—Yes.

37. Were you there when the concrete wall was backed up?—Yes, sir.
38. Can you describe how the backing was put in?—Part of clay and part of stone, just as the material was found handy.
39. Thrown in at the back?—Yes.
40. That is the same stuff that was excavated?—Yes, out of the hill at the back.
41. Was it punned or rammed?—Yes.
42. Was there any water standing about the wall after it was completed, before the filling was put in?—Well, no more than pools were lying about, you know.
43. *Mr. Blair.*] Do you know Mr. Inspector Brindley?—Yes, sir.
44. Did he ever find fault with the way in which the concrete was put into the trenches?—Yes, he has found fault several times.
45. Did you hear him finding fault yourself?—Yes, sir.
46. Did you know of any considerable quantities of boulders being thrown into the concrete?—Yes.
47. Boulders and rubbish?—Spawls—bluestone.
Mr. Gore: I think, Mr. Chairman, Mr. Blair might put his questions more generally, and not in such a leading manner—putting words into the witness's mouth.
Mr. Blair: I have not put words into his mouth.
The Chairman: You might put the question—was rubbish put in or not?
48. *Mr. Blair.*] Was what you consider rubbish put in?—Yes, spawls.
49. How were they put in—by hand or by the barrow-load?—Well, I have seen them put in by the barrow, but principally by hand.
50. But you have seen them put in by the barrow-load?—Yes, sir, I have.
51. *Mr. Skinner.*] I should like to ask what he means by spawls. Is it the spawls off large blocks by the hammer, or round boulders?—There were round boulders and spawls off the hammer.
52. *Mr. Blair.*] Were these spawls mixed with the cement before the concrete was put in the trenches?—No.
53. Tipped in afterwards?—Tipped in.
54. Whereabouts in the building were these barrow-loads of boulders and spawls put in?—Well, mostly in the tower that I seen.
55. Did you ever know the Inspector to condemn the bricks?—Yes, I have heard of it.
56. Did you see the bricks yourself?—Yes.
57. Have you any notion of what bricks should be?—Yes, I have a good idea.
58. Were these good bricks?—No, they were not, as a rule.
59. Well, do you know if condemned bricks have been put into the building?—Yes, I believe they were used there.
60. *Mr. Gore.*] You believe! do you swear it?—Yes, I swear it.
61. *Mr. Blair.*] Were there any condemned bricks, to your knowledge, removed from the ground?—Well, there might be a thousand or two.
62. Were there any sold by the Contractor, do you know?—Well, not unless the neighbours got them. They might have got two or three thousand, I suppose.
63. What were they sold to the neighbours for?—For chimneys and suchlike.
64. Were there bricks over at the asylum after the asylum was finished?—Yes, a few.
65. Do you happen to know how many there were, or what they were worth?—Well, Mr. Gore offered them to me for about £15 or £16, so far as I remember.
66. Were those all condemned bricks, or were there other bricks among them?—Mostly condemned bricks, and there were a few good ones amongst them, and it took in the kilns as well.
67. Took in what stood in the kilns?—Yes; and the kilns themselves.
68. *The Chairman.*] I would ask the witness whether he recollects the condemned bricks being used, for instance, for filling in the courts, or any other purpose—broken up and put on the roads?—Yes, some were. A great many might have been got rid of in that way.
69. *Mr. Gore.*] For concrete?—A good many were used up in that way.
70. *Mr. Blair.*] Do you think they were used in concrete in the walls?—In the brickwork.
71. *Mr. Skinner.*] Was it part of your duty to see the mixing of the concrete?—I was on the walls or in the foundations.
72. Only the cutting-out?—No; in filling them up.
73. Was it your duty to supervise the mixing of the concrete?—No; I was in the walls, placing the stones at a portion of the building.
74. That is, placing the packing?—Placing the packing, yes, sir.
75. Then you did not see the mixing of the concrete?—Oh, yes! I saw the mixing of the concrete. Of course it was always in sight.
76. *Mr. Lawson.*] Was it under Mr. Gore's orders he was mixing the packing?—Yes.
77. *The Chairman.*] Did he give the orders direct?—Yes; or through Mr. Gore here, or Mr. John Gore.
78. They were given direct to you?—Yes.
79. What were the orders, if you recollect?—To place the stone in courses, 8in. or 9in. apart—7in., 8in., or 9in. apart.
80. How big were they—I mean in height?—Twelve-inch courses.
Mr. Lawson: They were told to place them 3in. or 4in.
81. *The Chairman.*] Were you told to place them 3in. or 4in. apart?—I did not say so, sir.
82. Were you?—No, sir.
83. *Mr. Gore.*] You said Mr. Brindley found fault with the foundations: what was the fault he found?—Having too much water in. He wanted to bale the water out before putting in the concrete.

84. Was that done?—No; it was not done on this occasion.
85. On which occasion was that?—I cannot say the date now.
86. What part of the building?—This portion of the block, near the north end.
87. You say spawls were put in by the barrow. They were all brought by barrow, were they not?—Yes; tipped up and then spread.
88. Respecting these condemned bricks, do you know of any being wheeled over the banks?—Yes; a lot of bats went over the banks.
89. Do you know of any large quantities being wheeled over? If you were told that the whole of six weeks' making were wheeled over the bank would you say it was not so?—No.
90. You would not say it was not so?—No.
91. There might have been?—There might have been.
92. *The Chairman.*] That is, thrown away in the tip?
Mr. Gore: Yes.
93. *Mr. Gore* (to witness).] Do you know of your own knowledge whether any of the bricks were sent as far as Blueskin or Waikouaiti?—I remember some going to Waikouaiti.
94. When the concrete was being mixed do you know whether it was measured or not measured in boxes?—Measured.
95. Do you know was Mr. Brindley there?—Sometimes.
96. Was he away often?—Several times he has been away.
97. As a matter of practice, was he present or absent?—As a practice, he was at his duties.
98. And the concrete, you say, was measured in boxes?—Yes, Sir.
99. There is one other question I should like to ask him: he was there at the commencement, and knows the nature of the ground—the parts excavated. I should like to ask the nature of this particular part before it was interfered with. You may not know from this plan, but I shall simply state that the stable was here, almost at the corner of the centre block?—Yes.
100. Do you remember when the engine was brought up?—Yes.
101. The portable engine?—Yes.
102. Do you remember what sort of ground it was, or how we got the engine a little way beyond the front of the stable?—Yes.
103. How did we get it?—With planks.
104. The ground was very wet there?—Yes.
105. Can you say in what direction the water percolated?—Yes; there was a creek, if I remember right, coming down this way. It came through the north end of Block 1 in a south-easterly direction, and fell away into the gully.
106. You were employed pretty constantly packing the wall?—Yes, after I left the brick-making.
107. Did you, as a workman, give Mr. Brindley satisfaction, or did he complain of you?—Yes; at one time he did complain of me.
108. *Mr. Gore, jun.*] Mr. Donald, you said the whole of this block was wet?—Yes.
109. Do you mean to state that you were at the cutting-out of the foundations of this block—the extreme north block?—No, I was not.
110. You had left our employ before that was done?—No.
111. You had not?—No.
112. You are sure of that?—Yes.
113. You were not cutting out foundations?—I was not at that work.
114. Do you recollect where you were working before you left our employ—was it not at the extreme south block?—At No. 2 contract, south wing.
115. *Mr. Blair.*] You say that the boulders were tipped into the concrete. Were these boulders spread out after they were tipped in till there were spaces between each of them?—As a rule, they were.
116. Were they in all cases?—No.
117. *Mr. Gore.*] Where were they not spread?—More especially round the tower.
118. *Mr. Blair.*] You say planks had been put down in order to bring the engine across: would it not have been necessary to lay planks down on the main road in winter time?—It was very soft in winter time.
119. Suppose you had been taking that engine down the main road, would it have been necessary to put planks in part of the main road?—Yes; they were troubled at the station-yard.
120. *Mr. Gore.*] I would ask this further question: in order to get the engine were logs laid down anywhere except at this one spot?—I could not say, Mr. Gore. I saw the engine up at the station and at the main building.

Mr. E. R. Ussher sworn and examined.

121. *Mr. Blair.*] You are District Engineer at Dunedin?—Yes.
122. The first question I wish to put to Mr. Ussher is with reference to the temporary buildings. It is not at all an important point, but I wish to ask who carried out the works connected with the stoppage of the slips there?—They were carried out by the Public Works Department.
123. Were they not carried out by Mr. Lawson?—No.
124. I also wish to get from you particulars of the relationship in which you stood to the carrying-out of this asylum contract?—The main building?
125. The main building. Had you anything to do with the conduct of the works?—No, nothing whatever.
126. Were you in official communication with Mr. Brindley with regard to this building?—No.
127. I mean with regard to carrying out the works?—You mean during the time the contract was going on?
128. Yes?—No.

129. What dealings had you with Mr. Brindley in connection with it at all?—Mr. Brindley used to send in a monthly report, stating the progress of the work, in order that the report might be embodied in the usual monthly report that I had to forward to Wellington, to the Engineer-in-Chief or to yourself.

130. Did Mr. Brindley sent the certificates to you?—The certificates were sent to the office, certified as to correctness by the Architect, Mr. Lawson, and forwarded by me to Wellington.

131. Did you telegraph the certificates?—I think I did.

132. In the usual way?—Yes.

133. Did you have anything whatever to do with the granting of these certificates?—Nothing whatever. As regards the amount being made up, it was a matter between the Inspector and the Architect.

134. Did you act simply as paymaster?—That was all—the channel through which the certificates passed.

135. Here is a memorandum prepared in your office of letters sent to Mr. Brindley with reference to matters in connection with Seacliff?—Yes.

136. Is that list complete?—Yes, to the best of my knowledge. I believe it is complete.

137. How many letters are there there?—Eight. [Document put in and marked "7."]

138. Are you perfectly clear on that point, that you never at any time took official cognisance of works in connection with this building?—Yes.

139. Did you ever look upon Mr. Brindley as being under your orders in connection with the building?—No, certainly not.

140. Had you charge of buildings in the Dunedin District at that time?—Yes, all the public works.

141. You heard my statement as to the operations connected with putting in the drains?—Yes.

142. Is that statement correct?—Yes.

143. The account of the various steps taken to secure the building, as related by me—is that correct?—Yes.

144. Were the works carried out in accordance with these plans?—Yes.

145. Was the strengthening carried out in accordance with these plans?—Yes.

146. When was your attention first directed to the doubt as to the foundations being according to contract?—Well, I should have to look up my dates; I cannot carry them in my memory. It was after putting in the drain at the back—some considerable time after.

147. In one of your letters you say you were asked to see Mr. Lawson in reference to this?—Yes.

148. Did you see him?—Yes.

149. What did he tell you?

The Chairman: In reference to what?

Mr. Blair: To the footings not being put in in accordance with the contract.

Witness: It is strictly in accordance with the letter I sent to the Engineer-in-Chief, and is with reference to a step in that portion of the building. I must have used Mr. Lawson's own words, because I reported immediately after seeing him. I am not aware of having a written communication from Mr. Lawson—it would be verbal.

150. *The Chairman.*] You repeated the conversation you had with Mr. Lawson?—The pith of it, in my report with reference to the depth of concrete. [To Mr. Lawson:] I saw you on the subject, and you gave me a reply, which I sent to Wellington.

151. *Mr. Blair.*] 9th June, 1885, is the first notice you took of it?

Mr. Gore: Is that Mr. Ussher's letter?

Witness: Yes. With reference to the remarks as to the foundation not being carried down in accordance with the contract, the Architect informs me that at the particular spot referred to there is a step which causes the deduction of some inches from the depth of the concrete shown on the plan. I do not, however, consider the matter of very great moment: a slight increase in the depth of the foundation would not affect the building on account of the soft nature of the ground here. On this subject the Architect might perhaps be called on for an opinion.

152. *Mr. Blair.*] Did you see the Architect?

153. *The Chairman.*] Before you go on reading the letter will you point out what part of the building you are alluding to—about the spot where it abuts?—It is in connection with this centre wall.

154. The ambulatory in the north wing?—Yes, at Block 2.

155. *Mr. Blair.*] Was that the statement made to you by Mr. Lawson, that there was a step there?—Yes.

156. That was his explanation of your remark?—Yes.

157. *Mr. Lawson.*] What did you understand me to mean about the step—where was it?—Well, evidently I consulted you about the matter, and pointed this portion out to you; but you said it was different from the others—that there was a step there: and I took your word for it.

158. You mean a step in front?—A step in the concrete. It made a difference in the concrete. There was no written communication between us. It is a matter of my memory against Mr. Lawson's.

159. *Mr. Blair.*] In that same letter, Mr. Ussher, would you please read out what you found in reference to the concrete?—"At No. 10 doorway we sank a shaft 2ft., and found the concrete intersected for a width of nearly 2ft. by 1ft. deep by what appeared [rough sketch shown] to be a drain, filled with sticks, brickbats, and lime mortar."

160. *Mr. Skinner.*] Where is No. 10?—The doorway in the central wall of the north ambulatory.

161. *Mr. Mountfort.*] What did you find there?—I describe it distinctly as rubbish—a mixture of everything that should not be in a wall.

162. *Mr. Gore.*] Do I understand Mr. Ussher to say this was in the foundation or in the wall itself?—There was a break in the wall: it was not united.

163. *The Chairman.*] Are you speaking of the foundation?—Yes.

164. Below the surface of the ground?—Yes.

165. *Mr. Gore.*] Below the concrete floor?—Below the floor in the ambulatory, yes. [Letter referred to in this portion of the evidence put in, and marked "8."]

166. *Mr. Blair.*] After that the question of defective foundations passed out of your hands. Mr. Hay took the matter up, and you were not personally concerned in it?—Not beyond that: merely in putting drains in which you have asked me about before.

167. As to the concrete in the foundations, did you see this concrete being put in at any time?—I cannot say that I have.

168. I mean during the time of the building?—During the time of the construction of the building?

169. Did you and Mr. O'Connor see that together?—I was out with Mr. O'Connor, I may say, when the concrete was being put in, but did not pay attention to it, did not examine it, not having anything to do with the work whatever. That is the position I have always taken up in connection with it.

170. Did Mr. Brindley ever complain to you of the concrete?—Yes, bitterly.

171. What did he tell you?—Well, he complained of the manner in which——

Mr. Gore: I beg pardon, Mr. Chairman, but Mr. Ussher is now retailing hearsay evidence. I think Mr. Brindley should be called to prove what he said.

Mr. Blair: I am giving evidence of what Mr. Brindley said to Mr. Ussher.

The Chairman: As Mr. Brindley will appear, I think it will be better to get it first-hand.

Mr. Blair: Then I will reserve the right to recall Mr. Ussher. Mr. Brindley has many times complained.

The Chairman: You will have an opportunity of getting that later. You can ask Mr. Brindley these questions, and Mr. Ussher can always be recalled.

172. *Mr. Blair* (to witness).] Very well, then. Do you know anything about the bricks of your own knowledge?—Yes.

173. Have you seen these bricks?—Yes.

174. Were they good?—No; very large quantities of them were very bad.

175. Did you see any bad bricks put into the building?—I have seen bricks being put in the building that I certainly would not have allowed myself if I had had anything to do with it.

176. Have you seen many of them?—I have from time to time seen bricks going in, but did not take any special notice.

177. Was your general impression that the bricks were faulty?—Yes, decidedly.

Mr. Blair (to the Chairman).] I suppose I cannot ask him what Mr. Brindley told him?

The Chairman: Not now.

178. *Mr. Blair* (to witness).] Do you know of your own knowledge that Mr. Brindley was preparing these detailed drawings?—Yes.

179. You do?—Yes.

180. Have you seen them?—Yes.

181. Many of them?—Yes.

182. *The Chairman:* You say "these detailed drawings:" which?

183. *Mr. Blair.*] The detailed drawings required by the Contractor?—To the best of my knowledge Mr. Brindley prepared three-fourths of them.

The Chairman: We have no detailed drawings put before us.

184. *Mr. Blair* (to witness).] The detailed drawings in connection with the work. You can make a statement?—I give this upon my oath. Mr. Brindley came to me, and said he was frequently asked by the contractors for detailed drawings, and that he (Mr. Brindley) often asked the Architect to supply them; that he could not get them out of him; and that ultimately he (Mr. Brindley) had to make them himself. I have frequently seen him at the drawings; he has shown them to me from time to time; and I think, further, that if the drawings are produced they will be proved to be Mr. Brindley's, and not Mr. Lawson's.

185. *The Chairman.*] I suppose Mr. Brindley had an office?—An office, a drawing-board, and instruments—everything an architect required.

186. *Mr. Skinner.*] Can Mr. Ussher tell us if the clerk of works, Mr. Brindley, was engaged during the day making out these detailed drawings?—Yes; and I can go further, and state that Mr. Brindley, when applied to by the Architect to supply drawings, stated that he was unable to do so, as it interfered so much with his other work that he actually could not do so; that he had quite enough to do looking after the inspection of the building—with which I thoroughly concurred.

187. Were there any detailed drawings with the original plans at the time of the tender?—Not that I am aware of.

188. None but what are here now?—None.

189. *The Chairman.*] I should like to ask one or two questions about the drains. Were you in charge of the carrying-out of the drainage-works at the back of the north wing?—Yes.

190. Were you in these shafts?—No, I cannot say I was. I have seen them during the course of construction.

191. But you have not actually been in them?—No. I am unable to give the strata through which the shafts passed, not having been down them.

192. I was going to ask about the quantity of water?—As to that I could not say.

193. Mr. Hunter, I suppose, would?—Yes; he would be able to give all that information.

194. *Mr. Skinner.*] I suppose you have no proofs of the moving of the foundation. Have you any measurements with reference to the moving of the north portion of the building?—No, I can-

not say that I have. The Inspector and myself have been present plumbing the walls and doing work of that nature, showing the defects of the wall.

195. But no measurements have been taken at the ground-line—that is, the basement-line?—Measurements have been taken by Mr. Hay: he will be able to give information on that point.

196. *Mr. Lawson.*] Is Mr. Ussher aware of any part of the building where the foundations have sunk? Do you know of any part all over the building where there is a settlement of the foundations?—I believe all of the building with the exception——

197. It is not what you believe I ask you. He has been up there often enough?—No, I answer.

198. You do not know any part where there is a settlement of the foundation?—I have not taken measurements myself.

199. I ask if you know of any part. You can say so, yes or no?—There is every appearance of it.

200. Do you know of any part in the whole of the foundations of that building where there is a settlement?—That is the question to be solved.

201. I ask you a distinct question?—To the best of my belief there is settlement in the place under discussion.

202. I ask you if you know any part of that building where there is a settlement in the foundation?—In what way do you mean?

203. *The Chairman.*] I understand Mr. Lawson wishes to ascertain whether you have taken measurements, levels, or observations that enable you to state positively that there has been a settlement?—No, I have not taken them.

204. *Mr. Lawson.*] You are not aware of any settlement?—I have not taken the levels.

205. I am asking you another question. Are you aware of any settlement? It is a very distinct question?—If I am aware of any settlement?

206. Yes?—As I take it, that is what is to be now determined. I have no levels to show any settlement.

207. That is not the question I ask you. You can say "Yes" or "No," surely?—If I have not any measurements showing it, how can I swear it is so?

208. Then you do not know: that is your answer?—I have no measurements to show.

209. That is not the question. I ask you if you know of any settlement of the buildings?—No; I have no measurements I can swear to to show it.

210. You know of none, then?

211. *The Chairman:* Mr. Lawson can ask are you aware of any. You are not positively aware of any, though you have suspicions.

212. *Mr. Lawson.*] That is what I ask—if you can put your fingers on any part of the building where there is a settlement of the foundations. That is a distinct question?—There is every indication of it, in my judgment, at the place under discussion.

213. You may choose not to answer it?—I will not swear to anything I do not know: you may be sure of that. I am on my oath, and will give evidence accordingly.

214. You are not aware of any settlement in the foundations?

The Chairman: The question is rather ambiguous. Mr. Lawson might put it in a different way. Mr. Ussher is aware—he has suspicions—but he is not certain.

Witness: I do say that.

215. *Mr. Lawson.*] That is the first time?—I said, the piece under discussion.

216. I am asking you now, at this moment, if you yourself are aware of any point in that building that you can put your finger on and say, "There is settlement there"?

Mr. Blair: That is, I respectfully submit, not the way to put it. The witness cannot say "Yes" or "No" to that.

The Chairman: He can say, "I have not taken observations to prove it."

Mr. Lawson: That is not an answer to the question I am asking—if he knows the place where there is a sinking of the foundation.

Mr. Skinner: He might give a general answer; and say there are certain indications of settlement.

217. *Mr. Lawson.*] That is a wide answer. [To witness:] Surely you can say within yards or miles?—I submit that to answer the question put to me by Mr. Lawson is to answer the point the Commissioners are investigating.

The Chairman: Mr. Lawson's question means, Can you state on oath that there has been settlement?

218. *Mr. Lawson.*] Can you put your finger on a place where there is settlement?—How can I do that?

219. You can go along the ground and see if there is a hollow or settlement?—Would you consider putting your eye along the ground superior to taking levels?

220. No?—Well, I have not taken levels.

221. You have been there many times during the building and you have been there often since, and you can say if you saw at any one point a distinct settlement. Did you see it, yes or no?—Any one point?

The Chairman: I think, if Mr. Ussher is not in a position to answer that——

Mr. Lawson: I am perfectly satisfied with his not being able to answer it.

Witness: I submit this: that I myself have not taken the levels to prove that, and therefore it would be wrong for me to give on oath an opinion on that point.

222. *The Chairman.*] Then why not say you are not in a position to reply?—I told him I had not taken levels to prove it, and the inference is plain that I could not put my hand on any particular spot.

Mr. Lawson: Very well, I am satisfied.

223. *The Chairman.*] I should like to ask Mr. Ussher whether the slip at the back of the north wing—the old slip, I think it is called—whether any quantity of that was removed while the excavations were being made at the back of the building, or subsequently?—I should say it was cut through more than removed. You are alluding to the depression of the ground.

224. No; I mean above the slip?—No.

225. Since the back part was excavated has this given trouble?—This, I understand, has been widened out a little, to admit of greater width between the airing-court and the toe of the slip.

226. Well, when that back trench was excavated, did this slip give any trouble then?—You mean by travelling towards it?

227. When the excavation was made, did it result in that slip having to be shored up or any quantity of stuff removed?—I do not think there was any large quantity of this removed.

228. Was the stone filling in these trenches put in by your orders?—Yes.

229. What sized stones were ordered to be put in?—Well, as regards specifying the size of the stone, there was no specified size given, but they were good large boulders—I suppose running from 10in. to 12in. They were mixed more or less; the large stones were put there with smaller ones.

230. Do you think such a drain likely to remain permanently open?—You mean, would it not silt up?

231. Yes?—I supposed the space was sufficient between the stones to allow the water to percolate through.

232. *Mr. Mountfort.*] Was there no field-pipe put down in any of these stone drains, or was it thought that it was not wanted?—Yes, that was the reason.

233. Your answer is that a field-pipe was not put down because it was not wanted, in your opinion?—Yes. We did not think it required any pipe. I presume you mean tiles?

234. No; a 6in. or 8in. pipe?—Well, we took it there was quite space enough among the stones to allow the water to percolate through. It has a good fall—a very heavy fall—given to it.

235. *Mr. Skinner.*] I should like to ask a question in reference to the drains. The drains, I see, are not specified. Did the Government put in these drains from the ground-level?—Which are you alluding to?

236. I am alluding to the general drains throughout—all the drains from the ground-line?—Yes, they were put in.

237. By whom?—By the Government, I take it to be.

238. My reason for asking is this: I see they are not specified in the specification. Of course the water must be taken away somehow. Whose business was it to do so?—One plan was submitted by Mr. Lawson, showing the general scheme of taking away the foul and the clean water.

239. That was not in the original contract?—It was put in by the Government.

240. Subsequently?—Yes.

241. *Mr. Mountfort.*] Following up that question, did the drainage-works immediately follow upon the fixing of the downpipes, or were they allowed to go on shooting their water into the ground for any length of time?—I am not in a position to answer that question.

242. *Mr. Lawson.*] Do you not remember a letter being sent by me requesting that the work should be attended to—the general scheme of drainage?—Yes.

243. That is the drainage referred to there?—You submitted a tracing of your proposals for carrying away the water from the building.

244. What is asked is, whether that was immediately done?—It was carried out. As soon as the plan of drainage was determined upon it was given effect to.

245. *Mr. Mountfort.*] For instance, did the water continue to run off the roof for a month?

Mr. Lawson: Yes; for months.

246. *Mr. Blair.*] Mr. Lawson sent that on the 8th May, 1883—the plan of this drainage—and the work was authorised on the 15th June?—Yes. I cannot say when it was finished; but all that, we can get. It was authorised within five weeks of Mr. Lawson's applying for it.

247. *The Chairman.*] Was the drainage carried out by contract or by day-labour?—By day-labour.

248. *Mr. Gore.*] Mr. Ussher, as to this part of the foundation that has been called defective, where you found the hole stopped up with all sorts of rubbish and timber—I wish you to be particular in answering this, because the charge is a very serious one—did it appear to be built in the concrete wall, or was it put there after the concrete had been finished?—To me it had the appearance that some of the sticks were pulled out of the concrete, which was not in a very firm state, in the wall.

249. That is to say, it had not the appearance of being ordinary walling?—No, there was this break.

250. What size?—About 2ft. long by 1ft. in depth.

251. Do you know if there was any drain-pipe near going through that wall?—There is. I know there is a pipe going through here somewhere in this neighbourhood. As to whether it goes through at that very spot I could not say without looking at the drainage-plan.

252. Is it not quite likely that the hole was made after the building was erected and finished, or nearly finished, for the purpose of carrying a drain-pipe through, by the Government—after I had finished the wall?—It might be; I could not be positive.

253. Do you know as a fact that Mr. Brindley did make holes through that wall to carry drain-pipes through?—No, I could not swear to that.

254. You could not swear that he did not?—No.

255. Do you know that there are drain-pipes at the back of the wall?—That I cannot say without consulting the drawings. The drawings will show all that. All that were put in by the Government are shown on the plan.

256. I will ask Mr. Ussher to inspect this plan, and to say if there is a drain going through the wall there. Does the plan you produce show a drain going through near where you found this?—A 9in. drain is shown on the map.

257. It goes right through the wall?—Yes. I contend that the sketch does not bear Mr. Gore's contention out, that it was broken by the Government.

258. *The Chairman.*] Will you explain where No. 10 is. He alludes to some No. 10?—No. 10 is the centre of the north block.

259. Does the drain go through the centre of the block at some point?—It is shown on the plan. At what level it goes through I do not know.

260. *Mr. Gore.*] Mr. Lawson put a question to you as to whether you knew of any vertical settlement in the building. I wish to ask you this: You looked to find out the defects in the building. How did you examine the building to find out the defects?—After putting in the drains.

261. I will ask you this question: Did you notice any window-sills out of line, as though there had been a vertical settlement?—No, I do not know that I did.

262. If there had been vertical settlement to any extent would not that have caused the window-sills to be out of line?—You cannot tell very well looking at it by the eye; you must apply the level.

263. *The Chairman.*] I think Mr. Ussher has not made many exact observations himself?—No.

264. *Mr. Gore.*] I did not know whether he might not have examined it himself?—No. These examinations extended over a considerable period. I did not make them myself.

265. I should like to take you back to the commencement of the building. You remember being up there one day with Mr. Brindley and Mr. Lawson, discussing the question of moving the site?—It was discussed, yes.

266. Do you remember my suggesting to you that it should be removed 2 chains further south than it is at present. Perhaps I may refresh your memory by this: You said something about moving the district road. You remember it was moved 5 chains. Do you remember my suggesting it should be moved 2 chains still further south?—I could not say. I had no personal interest in it. I am aware the building was moved 5 chains further south, but I could not say I heard you remark it should be removed other 2 chains.

267. Do you remember anything being said by yourself that the district road would have to be removed and its removal gazetted. If the building was moved 2 chains further it would necessitate the moving of the district road?—This is a conversation?

268. This was a conversation on the ground. There is nothing in this, but I wish to show that I had doubts about the ground?—I cannot deny anything Mr. Gore states now. This conversation probably took place, but I have no recollection of it. The old road was quite close to the building, and the asylum people certainly considered the road should be put further away from the building.

269. You do not remember saying, if the building was moved 2 chains further it would necessitate moving the road?—No, but it certainly would have done so.

270. *Mr. Blair.*] With reference to this question of settlement, if you were to take levels, is there any point you could be sure of to start from?—No; there are none of the old bench-marks that I am aware of on which the building was set out.

271. Were there levels taken after the building was built, before any settlement took place?—Before it?

272. Were there any levels taken of the building as it was built, before settlement took place?—None that I am aware of.

273. Supposing you had found that that building was down ½in., could you swear that that was settlement if you had nothing fixed?—No; you must take one portion of the building to condemn the other. You must only assume a datum to start from.

274. As a matter of fact, has the building been correctly set out in line, we will say?—I think not.

275. *The Chairman.*] Who made the cross-section of the ground before excavation?—It was made by an officer of the department.

276. And to what datum did he work?—Well, he would assume a datum of his own, and work round all levels to it.

277. Then the levels were not connected with the railway datum?—No.

278. Any bench-mark there?—Not that I am aware of.

Mr. Blair: Unless we had a bench-mark on the building it would not be of service. We do not know that the building has been erected to the levels shown upon this drawing.

279. *The Chairman.*] No, but the levels on the drawings seem to have been referred to. Was there ever a bench-mark or anything there?—The site of the building was set out in accordance with a rectangular base-plan, cut up into smaller rectangles. As far as I understand, there was an assumed datum or bench-mark, and that bench-mark would be transferred to others in the neighbourhood. All these were in existence, but as the ground got cleared these bench-marks vanished. None of them were connected with the bench-mark on the railway.

280. You do not think any of these bench-marks could be discovered?—No. [General plan of drainage put in by Mr. Blair, and marked "9."]

MONDAY, 13TH FEBRUARY, 1888.

Mr. E. R. USSHER recalled and examined.

281. *Mr. Gore.*] You heard in Mr. Blair's statement—I cannot call it evidence—a letter read from Mr. Brindley, in which it was stated that I was using cement that I had no right to use?—Yes, I heard that.

282. Do you remember Dalgetty's people coming to you, and asking you to put the brand of Brooks, Schoulbred and Co. on the list of cements that might be used in the public works?—If by letter, the letter can be found.

283. I think it was by letter, and personally?—If it was by letter, the letter can be turned up.

284. Was it by letter?—I cannot say; but I may say I have no authority to approve of brands—brands must be approved by the Engineer-in-Chief of the Colony.

285. Did you ever test any cement to see if it was equal to the approved brands?—Personally, I never did.

286. *The Chairman.*] You mean that Messrs. Dalgetty's agents applied to have this cement permitted to be used on all public works?

Mr. Gore: On public works generally, and on these in particular. They were the agents for this special brand.

Witness: As I have explained, it would be beyond my functions to allow any particular cement to be used in public works in the colony without reference to the Engineer-in-Chief. I should be reprimanded for doing such a thing.

287. *The Chairman.*] Then you have no recollection of it?—No; and if it was by letter the letter can be turned up. I may say that the agents of all sorts of people come to me, and I always refer them to the Engineer-in-Chief.

288. *Mr. Gore.*] I know there were some interviews between you and Dalgetty's agents, and that it passed between you?—It could not have been passed by me, because I have no authority.

289. James Donald was here on Saturday. Is he employed by the Public Works Department?—I believe he is at the present time.

290. And has been for some time?—I think so.

291. He has been in the Public Works Department's employ for some time as ganger?—Yes, I think so.

JAMES HUNTER sworn and examined.

292. *Mr. Blair.*] What are you, Mr. Hunter?—Inspector of Public Works in the Dunedin District.

293. You have had to do with Seacliff since the building was finished?—Yes, since Mr. Brindley left.

294. Has all the work that has been done, then, since Mr. Brindley left been done under your directions—since the building was taken over from the contractors?—Yes, except little jobs the asylum people may have done themselves.

295. I would first ask you with reference to a letter that Mr. Ussher sent to the department on the 18th September, 1885, in which he reported having discovered a gap in the concrete footings in the centre wall of the north wing?—Yes.

296. There is a plan there numbered. That is where it was?—Yes.

297. What are these numbers?—These are reference-numbers on the original plan.

298. *Mr. Gore.*] Not on the original plan; on this plan, I take it?—Yes, on that plan.

299. *Mr. Blair.*] Did you find the gap there?—Yes.

300. Was there a drain in that gap?—There was what appeared to have been a contractor's drain—bricks laid in a sort of hollow shape, and broken boards laid over the top of them, and the board bedded with a sort of lime mortar on the top of the bricks.

301. Does any permanent drain go through there?—The permanent drain goes through about 3ft. or 4ft. underneath the top of the footings—say 3ft., to be certain.

302. Does the permanent drain go through the footing?—No; I know it goes 1ft., and I think about 2ft., under them.

303. Had you to do with these stone drains that are put in round the building?—Yes, all of them.

304. You had to do with them from first to last?—Yes.

305. Can you describe the class of drain that you put in?—The first drain?

306. *The Chairman:* Cannot we distinguish these drains by numbers or letters?

307. *Mr. Blair.*] This is No. 1 drain. How was that drain (No. 1) constructed?—The first one (No. 1) was made an open cut up to about here, ahead of the access of the ambulatory, about on a line with the front of the colonnade.

308. And after that?—It was a drive, with shafts. When we got on a line with the back of the airing-court, where we turned in to go behind it, they were 18ft. apart. When we got to about where a line from the back of the airing-court would cross the drain No. 1, it was driven from shafts sunk every 18ft. Before that they were a little wider.

309. Eighteen feet apart?—Yes. From here, where a line from the back of the airing-court would cross the drain, the shafts were filled with stone to the surface of the ground. Before it came to that point, as it was an area that was going to be cultivated, they were not filled to the surface, but to say 6ft. or 8ft. from the surface, and filled in with a layer of puddle to prevent the asylum people running water down them.

310. How were the stones laid that were put in?—The open cut was treated as shown; the drive was filled with stones in the same way, but, of course, not near so narrow at the bottom.

311. Did you find any difficulty in driving that?—Well, we were on a line of boulders nearly all the way. Had we been a little lower we should just have missed them. There was a stratum of boulders that we were in nearly all the way after we passed the line of the back of the building going westward.

312. Did you find the ground slipping in on you very much?—It did not show like a slip at all, except at one point.

313. And where was that?—That is about here, opposite the slip behind the airing-court, between chains 2 and 3.

314. What was the length of that soft ground?—It was just about what is shown there. I could not just say from memory. I plotted it at the time myself, and that is correct.

315. Something under 20ft. ?—Yes, about that.

316. And was that all the bad ground?—Yes, that was all the bad ground. We could not form correct conclusions, because we were not deep enough.

317. With reference to the next drain, No. 2, how was that constructed?—That is a drive nearly all the way. Here is where the drive begins.

318. Nearly all the way, for about 5½ chains?—All the way round, yes.

319. And were shafts put in as shown upon the drawing?—Shafts were put in exactly as shown on the drawing.

320. Were two shafts put in the airing-court?—There were two shafts in the airing-court and one a little outside, at the north-west corner of the building.

321. Then, what about No. 3 drain, or the top gallery of No. 2? Was that also put in in the same way?—That was put in as shown, only we did not put in the slanting drain.

322. Did you put it in plumb?—It is put in plumb.

323. Did you put in a plumb drain instead of the slanting one?—Yes, a plumb one; not the slanting.

324. What was the reason you did not put it in on the slant?—Because we would have had a large trench to open, and I thought it better to put it down plumb and to connect it with the drive from below. I regarded that as an improvement.

325. Do you think that these drains have cut the water wherever the drains have gone through?—Without a doubt they took all the water that there was.

326. Do you think they have cut the drainage of the airing-court?—As deep as they went they cut everything that could be cut, and have collected everything there was to collect.

327. You found evidence of a small slip in No. 1 drain, you said, behind the airing-court?—Yes.

328. Between pegs 2 and 3?—Yes.

329. Did you find any corresponding bad ground in drain No. 2?—No.

330. Opposite that?—No.

331. You did not—did you—find anything corresponding to it in the top gallery of drain No. 2?—No.

332. Nothing whatever?—No.

333. No appearance of it?—No appearance of it.

334. Can you produce the strata there?—Yes; this is it here, as near as these things can be shown.

335. *The Chairman.*] That is a longitudinal section?—Yes. [Longitudinal section of strata, bottom drain No. 2, put in, and marked "10."]

336. *Mr. Blair.*] That is the strata of drain No. 2?—Yes.

337. *The Chairman.*] Which portion of drain No. 2?—The whole of it.

338. There are two drains No. 2: this is the bottom drain?—Yes. The strata of the upper gallery is not shown except as far as it may be shown in the strata above the lower drain.

339. *Mr. Skinner.*] That goes to the back of the airing-court?—No; to the back of the building through the airing-court.

340. *Mr. Blair.*] No. 1 drain went behind the airing-court?—Yes.

340A. And No. 2 behind the building?—Yes.

341. *Mr. Mountfort.*] The bottom of the upper gallery seems 12ft., scale, from the bottom of the lower gallery?—Yes.

342. *Mr. Blair.*] Would you please describe generally the construction of that drain, Mr. Hunter—how the stones were put in?—Well, I can describe it. I drew out a rough sketch, and I was present when much of it was made. The ground generally was not very soft, and the stones were placed along the bottom in the shape of a rough drain. The stones were specially selected, and put with their points down, placed so as to leave a triangular opening between them. Then, above that there was another row of stones similarly placed, and above that smaller stones laid some inches apart, with a flat stone covering them. Then, above that the stones were hand-laid so as to lay them as open as possible, without building them, laying them in so as to make the best of every stone that we laid, not throwing them in at random—hand-laid in a way. Above that came the scrub. The stones were laid as shown on sketch of transverse section. We were always careful to set the stones hard up against the side of the drive, so that there could be no chance of anything coming in from any cause whatever; and where the drain proved the least soft on the bottom, which was very seldom or hardly ever—but there were one or two places—flat stones were sunk in the bottom of the drive, and pointed ones put on them instead of on the ground as before described. This rough sketch is a correct description as nearly as these things can be described.

343. *The Chairman.*] Did you tell us the size of the drain?—It is about 2½ft. wide at the bottom, and about 3½ft. high to where we turn in behind the building. After that it is about 4½ft. high. It jumps up here, if you observe. Of course you know in these things you cannot go to inches. It might go a little more or a little less, as we might meet a boulder in the top of the drive or otherwise. The drain-stones were made smaller as they got towards the top, so that if the scrub should ever rot away there would be the means of preventing any earth getting down into the large openings. Every care was taken that any one could almost think of, according to my knowledge.

344. *Mr. Blair.*] Have you made any calculation as to how much that drain would carry—how much the openings in it are as compared with a tile-drain—what size tile-drain would carry as much?—I do not know of any tile-drains that are made that would carry as much water. The biggest tile I have seen in this country is 4in., and I am sure it would carry more than an 8in.

345. Was there anything in the strata that led you to think that this drain would silt up readily?—I had not the most remote idea that such a thing was possible.

346. Can you conceive of any undue quantity of sediment being carried into this drain or pits?—No; there was not a sufficient quantity of water to carry any in, and the ground was not such as would give way readily to water.

347. In cutting the drain through, how much water was there in it?—Well, I have had a little to do with drives, on diggings and what not, and it is nothing I would have taken any note of as a wet drive. Of course, a man would get a little moist rubbing against the sides and lying against them when working, but there was nothing to call wet, not even to wet a man through in the whole of a day's work.

348. Have you noticed the water that flows from that drain at various times?—Yes: it is much less now than it was at first, but I could not give it by quantity except by a sort of comparison.

349. Well, comparing it with what it is, was it three times as much?—I do not think it was ever four times—say three times. It dried away rapidly; and another thing was, we finished the drain after a spell of very wet weather. Indeed, its construction was interrupted by wet weather.

350. Then, do you think you have seen that ground in an average bad condition?—Yes, I am sure we saw it in its worst condition; it has improved every day since. I am sure we saw it in its worst condition, unless we go back to another very wet winter, when, of course, no one saw it, because the ground was not open.

351. Is this a section of a pit or prospecting-shaft that was put down at the time (June, 1885)?—Yes; it is a section of a pit or shaft put down behind the airing-court to ascertain the nature of the strata.

352. Is that, to the best of your knowledge and belief, correct?—Yes; I took it, I plotted it. I take it to be as correct as any one can ascertain strata of this nature. A great many of the strata ran into each other. You cannot say with certainty where one ends or begins, to inches, and sometimes feet. [Section and plan of prospecting-shaft, with letters, put in and marked "11."] The shaft was sunk deeper into the rock because we were prospecting, and then, afterwards, when we found (were certain) we were into the solid clay-rock of the district, and thought it hopeless to get indications of rock-dips or the strata overlying the rock by entering in a tunnel (drive) at the bottom of the shaft, because we were too deep, we went up the shaft and entered it as shown. The reason why the northern drive was put in in this way (direction), I may say, was that, judging from the surface-indications I saw, I thought that line (direction) likely to cut across under what appeared to be the slip on the surface of the ground. As we drove along below we pricked up 2ft. or 3ft. above the roof of the drive at intervals, but only through the rock to the strata above, at the points shown, where there seemed to be a slight dip or basin (hollow) in the surface of the rock.

353. *Mr. Blair:* In connection with that, gentlemen, I will give in another letter referring to the same subjects, and they can be put together. These letters all refer to the shafts. These show the strata, and are all connected with the same thing?

Witness: That shaft is not connected with No. 1 drain in any way, except that No. 1 drain goes over one of its drives.

354. *Mr. Blair.*] Were you on the building, or did you take cognisance of the first cracks that appeared?—The first crack that I saw was one that appeared in the concrete wall north of the central portion. Of course, that was before Mr. Brindley left the work. I think it is marked on the plan as the "old crack."

355. You see some cracks marked on the plan of the back wall. These cracks come diagonally on the back wall. This is a very old plan. Were these cracks?—At that time.

356. They have now been plastered up?—I do not remember having seen this one at the south.

357. That is not the south?—I do not remember them; I have no remembrance of having seen it.

358. But you remember the north crack?—That is the north—that one in the next subdivision; and there is also one in the wall to the south again.

359. *Mr. Gore.*] I understand you have seen no crack in the wall south of this crack here?—I have seen no crack south of the gable in the north airing-court.

360. *The Chairman.*] At what level did the ground slip in on the drain No. 1? You stated that a portion of it came in, but you did not say at what level. Was it at the top or the bottom, or for the whole length?—We drove through an old slip, but it was not slipping in. We met a "greasy back" that showed slipping-indications, but of course it really did not slip in and fill up the drive, or anything of that sort. But we saw from the nature of the back and strata cut that there had been movement there some day.

361. Faulty ground?—The strata changed here, and it gave the indications mentioned.

362. Did you timber it?—We did put some slight supports here and there, but it was not timbered in a sense. We might have a stay across, but there was no timbering in the sense of the word.

363. Do we understand that there was no actual slipping in?—No, not so far as interfering with our drive is concerned. We simply took notice of it as being an indication of a slip, because I had instructions to describe the strata.

364. I am referring to drain No. 1. That was an open cut?—Yes, so far. When we came to the point you are speaking of we were driving, and beyond that point it is also a drive.

365. Where did the open cut stop?—The open cut stopped there, and the drive began about 20ft. south-easterly from the first shaft, and this dotted line below the grade-line, between pegs 2 and 3, is purely imaginary, to show that the strata dipped that way.

366. In this longitudinal section of No. 2 drain you show solid clay-rock?—Yes.

367. That you drove through?—Yes.

368. Can you describe the solid clay-rock?—Well, it is a clay-rock something like fireclay when dry.

369. Of what colour?—It is a very dark blue if it is damp when you get it, but as it dries up it gets a darkish white, and exposed to the weather it will pulverise; but it is not ground that will slip in any condition, because you can see it steep at many places along the railway-line.

370. Was it at only one point you came across that?—You will see it shown in every place where found.

371. What is this?—That is the same thing (clay-rock), but where the water has been soaking into it for ages of course it gets soft, and in a drive like that we could not be sure that it was solid except when it stood up high enough for the drive to cut sufficiently into it. I give my opinion that what is shown cut into was solid.

372. When you cut into this rock did you find any water run?—No water.

373. On the surface?—No; that was a very dry place every way between shafts 6 and 7.

374. Did you consider the nature of the ground at the bottom of this drive was of sufficient consistency to stand, and not run in among the stones?—There was not a shadow of a doubt but what it would stand for ever.

375. It was safe ground?—Yes, and every precaution was taken in the way we planted the stones; everything was done that could be done.

376. In this section you show sand?—Yes, two little bars of sand.

377. Do you think it probable that the sand ran in?—It could not run in, because it was dry before the stones were laid. As this was cut through we did not timber in a sense. There might have been a stick here and there, and a board put up at the side, perhaps; but there was no timbering in a sense from my point of view.

378. I only ask to make sure: it was not possible for the sand to run in and fill up the interstices?—Yes; it was not possible.

379. *Mr. Mountfort.*] You had no fear of it tumbling in upon you?—No; that will stand longer than anything else that is there will stand, I think. Even the scrub we put in laced and forced in. Everything we put in was put in as tight as could be.

380. *Mr. Skinner.*] At whose orders were these drains put in?—The first drain, No. 1, I believe, was a suggestion of Mr. Brindley's through Mr. Ussher, and then of course it was carried out.

381. I want to know who gave the orders?—I got orders from Mr. Ussher.

382. Did you go down to the solid rock-foundation when sinking that shaft in the airing-court?—The main exploring-shaft is behind the airing-court.

383. Yes, that shaft?—Yes, we were several feet into it, as shown. As you will observe, we turned back and entered in the drive higher up the shaft.

384. Is there any possibility of water getting down below this?—No. The reason why we entered higher up was to get some knowledge of the strata overlying the rock. If we get into solid rock and keep down in it, it is always the same strata.

385. Is there any possibility of water from the southward coming into your drive and through the building, escaping your drains?—Do you mean going behind it from the southward?

386. Is there any possibility of that?—Well, such a thing is possible, but it is not at all likely. Taking all things into consideration I should be inclined to say No.

387. But there is a possibility of the water escaping your drains altogether and coming along the south?—In that case it must go between the wall and this 23ft. It narrows down as the drive comes closer to the building. It must come between 10 and 12, and I do not think that it is at all likely that any water would come that way, seeing that the ground to the south is so much drier.

388. It is possible, but not likely: that, then, will be your answer?—Yes.

389. *The Chairman.*] Have you formed any idea, from your drive, which way the ground-rock dips?—Of course, we found different strata running from here to here [indicating on plan].

390. Will that line give your idea?

Mr. Blair: The section will show it as being very much broken.

Witness: It is so fantastic that one can scarcely imagine that that is correct. At this point [at the end of No. 2 drive] it is like what is shown, only there is a little less depth on one side of the drive than the other. Of course, the mean is taken as the centre line. It is highest on the side of the drive next to the building at places. Where that rock has been under the action of water for a long time it becomes soft for a long way down. You would not think it is the rock of the district until you go several feet down, when it gets gradually harder and harder.

391. *Mr. Lawson.*] What has been your experience previous to this with regard to the excavation of buildings?—Of course I have had experience in supervising the construction of sections of railways as Inspector for the Public Works Department. I was also clerk of works at Grand Hotel and other buildings. I have had a general all-round knowledge, acquired on various works during the past twenty-five years.

392. Of masonry?—Yes; but I have not been a mason.

393. On works of that class? Have you been connected with building at all?—I have told you how I have been connected with brick, stone, and wooden buildings.

394. I am speaking of the construction of buildings?—I have not constructed many buildings.

395. Have you ever, of your own knowledge, before come across any instance in which a drive, such as you have been describing, has been tunnelled underneath a building like this one has been?—Did you say a tunnel underneath the building?

396. We have been told that drain No. 2 was 17ft. below the foundation?—To the one side of the building.

397. As a practical man, did it not strike you as being a rather peculiar thing that such should have been done?—Not at all. I have put in a lot of small drives in that manner. I will undertake to put in a drive without either danger to the building, myself, or to those working with me, from end to end of the building, and the deeper the drive is the better.

398. Then you do not know much about the construction of buildings?—I did not say "I do not know much about buildings." I have drawn buildings, and I have built buildings personally.

399. Did it never strike you as being possible that the whole of the strata you have been speaking about might be on the move?—It did not strike me. It is as sound as anything you can get there.

400. I am speaking of the whole of the strata above the rock?—I saw no indications of it moving.

401. Did you not see a slip there?—I have mentioned about that in the drive at the back of the airing-court.

402. That is an indication?—It is an indication of a local slip.

403. Is it not an indication of a slip towards the building?—Oh, yes! it slips towards it.

404. Was it not a fact that while you were constructing the drive you had a man jammed by a slip in the strata?—Yes; we had a man who was frightened by some stuff falling in on him. He was not much "jammed;" he proceeded with his work, and did not lose an hour.

405. That man had to be dug out, had he not?—No: the man was struck by some stuff which held him by the legs until he was got out.

406. Was it from the upper or lower side of the drive that the material fell in—which side?—I cannot say. I think it was likely to fall from either side; it was in the open cut.

407. As a matter of fact, did it not fall from the upper side—that furthest away from the building?—I do not know.

408. You do not know though you were inspector at the time?—I do not.

409. *The Chairman.*] In continuation of what Mr. Lawson has asked you, you might make it clear why these two drains were put in. Was it before or after the building cracked?—The building was showing signs of cracking; hence the reason for the No. 1 drive being put in. It showed signs of further cracking; hence the reason of No. 2 drive being put in: and it has shown signs of cracking since then.

410. Since the drives were put in?—Yes.

411. Serious cracks?—Yes, they are serious; just as much as before. I might say the cracks are enlarging and extending, though not so fast now.

412. It appears, then, that there has been a general slipping, and that the ground has been gradually going?—Well, I should say that the cracks have been gradually opening; but I do not say anything about slipping.

413. *Mr. Blair.*] You have been asked about indications of a certain slip in the drain. Is the one you have described between pegs 2 and 3?—Yes.

414. What was the length of that?—I cannot say, speaking from memory.

415. Would it be 20ft. long?—Yes, about that.

416. Did you find any indications anywhere else?—No.

417. None whatever?—No. The reason of that exploring-shaft was to test the extent of the slip, if any.

418. *Mr. Lawson.*] You say that you did not find any other indication whatever of movement?—No.

419. Was there no indication of movement in the airing-court at the north-east angle?—It has moved there.

420. *The Chairman.*] Mr. Lawson is now referring, I understand, to the openings in the foundations of the wooden building?—I understand him to be referring to the north-west corner.

Mr. Lawson: That is right.

421. *The Chairman.*] Have you formed any opinion as to the direction that these foundations have moved in?—The cracks in the 12in. by 12in. concrete base at the north-west corner seem to indicate a movement in a south-easterly direction; but, as the concrete is on the surface and near the surface-toe of the old slip, it may only be a surface-movement in no particular direction for any distance. Of course, the main building is straining generally towards the east and north, although there is local indication at places as if it moved in other directions; which I cannot account for, except by supposing that when the building subsides and strains towards the east and north certain thrusts and cross-strains on cross-walls, &c., cause the minor parts to strain in other and sometimes in seemingly opposite directions.

422. Have you taken any measurements, then?—I have taken no measurements to prove these things.

423. Do you know if any bench-marks were found after Mr. Brindley left?—None. The main lines of building were always set off by the surveyors. The only thing done after I came on the ground in the way of bench-marks was taken by myself, independently of anybody else. I do not think that any other bench-marks are in existence, because they would in all probability have been cut down by the asylum people.

424. *Mr. Skinner.*] There have been certain excavations made round the foundations: who was it who gave the orders for these openings?—Mr. Hay was the party who gave me instructions in a general way, although he did not say in every case "Sink here" or "Sink there." In some cases the ganger sunk them, and in other cases I did. I believe I gave orders for perhaps most of them, Mr. Hay for some, and sometimes men on the staff were told to sink them. So that, though the place was not actually marked, they were generally told within a few feet perhaps.

425. *Mr. Gore.*] You say that you found a gap in the centre: I presume you mean the centre of this recess [indicating on plan]?—It is a notch in that wall I allude to.

426. You say you found a gap in the centre of that wall?—Yes.

427. You said it appeared to have been the contractor's drain, and that the gap had apparently been filled up with rubbish. Tell me why you came to the conclusion that that was done before the concrete was put in?—The drain was filled with bricks laid open and hollow, and protected by a board on top. I concluded it was in when the concrete was laid, from the exact manner the concrete fitted into every irregularity in the contour of the sides of the drain, and also from its interstices being nearly full of fine silt, showing that muddy water had flowed through them for a considerable time.

428. Do you not know that Mr. Brindley himself put a drain through the wall there?—I do not.

429. As a matter of fact, there is a drain-pipe there?—Yes.

430. *Mr. Blair.*] Surely not through the wall?—No. If it had been put through the wall you would see the top of the pipe in the floor of the colonnade.

431. *The Chairman.*] But you do not know anything about it yourself. I understand you to say that it was done before you came on to the work?—Yes. Some one must have left a hole through there.

432. *Mr. Gore.*] You say that the first crack in the concrete you saw was what has been called the northern crack?—Yes.

433. Did you notice another crack about here [indicating on plan]?—There was a little crack on the south-west corner of the centre part.

434. Did that appear to be the oldest crack?—The oldest crack is to the north.

435. In the north recess?—In the centre of that recess, in the next little cellar.

436. You say that the building was finished when you noticed it?—You were building the laundry when I noticed that crack.

437. Then, this part of the building [indicating on plan] was finished?—It was finished, but I do not know whether it was off your hands.

438. At all events, the work was finished?—It seemed to be.

439. Were these buttresses put in when you went there?—They (the increased foundations) were put in under my inspection.

440. You did not notice a crack behind the south buttress?—I did not.

441. We have it in evidence that after drain No. 2 was put in the cracking stopped for two years?—I do not think it stopped, but think it has not cracked so rapidly since. I mean that I am of opinion that their progress has been much slower than it would have been had the drain not been made.

442. Then it has commenced to slip again?—Yes, to crack again.

443. Your answers would lead us to infer that the drain got choked up?—Not at all. As I have already told you, the drain did not stop the cracking at all. It has not been in for two years at most. The cracks merely paused or opened slower for a little time; but afterwards we found, during September and October, 1886, that they again opened quicker. We finished the buttresses (increased foundations) in January, 1887.

444. You say that it was not till January, 1887, that it was finished?—Of course, increasing the width of the foundations was finished then, and began in November, 1886.

445. Do not let me misunderstand you. I am speaking now of drain No. 2?—I commenced that drain on the 25th March, 1886, and completed it on the 30th June, 1886.

446. You found when this buttress was put in that it stopped the cracking?—It did not stop it, but they have not opened so quickly since.

447. It, however, checked it?—Yes, greatly.

448. You being so much about the building, did you notice any vertical settlement?—There are indications of vertical settlement—going downwards, according to my view.

449. Have you ever tried the level on it?—I have.

450. Where does it show indications of vertical settlement?—Right in the centre of the airing-court.

451. What parts of the building?—About here [indicating on the plan], in the middle of the colonnade, through the centre of the north wall and the centre of the gable in the north wing.

452. Have you noticed the brickwork above the piers? Have you noticed the window-sills, if they are out of line above the brick piers?—No.

453. You have never looked for that?—No.

454. If this front wall has been pushed forward by any means would it not give you the same indications of cracks as there are at present?—It might; but the bases of the pillars are not of the same level—they seem to have sunk.

455. Then above the pillars you have never noticed any settlement or any irregularity?—Do you mean above the springing arches?

456. I am speaking of the next floor?—I have noticed, but have not taken any measurements of them.

457. And never noticed any inequality of the eaves?—I never examined them by measurement in that way. I have never lined the windows up. Mr. Hay took all these measurements.

JAMES LOUGH sworn and examined.

458. *Mr. Blair.*] What are you?—I am a ganger in the employ of the Public Works Department.

459. Had you anything to do with the putting-in of stone drains at Seacliff?—Yes, I had charge of that one—the one that was put in close to the building.

460. The upper part and lower gallery of drain No. 2?—Yes.

461. How did you put in the stones?—I put them in in accordance with Mr. Hunter's instructions. I put in spawled stones at the bottom. The stones were almost all V-shaped, so that there was plenty of room for the water to go through between them.

462. Were the stones all laid by hand?—Yes.

463. Every one of them?—Yes.

464. And packed in tight?—Yes.

465. What did you put over the stones?—Manuka-scrub.

466. What did you put on top of that?—Nothing. There was no room; it was jammed right against the top of the gallery. Then we rammed it with a pick-handle.

467. Did you do the same on the top of the drive?—Yes.

468. Did you find these drives very wet?—I cannot say that they were, according to most of the drives that I have been in. In parts they were wetter; for instance, that one up in the airing-court.

469. In what parts were they?—Between No. 4 and No. 5 shafts.

470. Will you describe the place on the plan?—Well, I am not very certain about it.

471. Say whereabouts it is. There is a projection here [indicating on plan]. Is it anywhere near that?—I think it is the drive that leads up to the northern end of the colonnade. It would be about 30ft. towards the sea.

472. *The Chairman.*] You describe that as the wettest piece?—No. The wettest was inside the airing-court.

473. *Mr. Blair.*] Did it require you to use timber in the shaft?—Yes.

474. Much timber?—Yes; we had sets of slabs every 3ft.

475. What quantity of water was running after the shaft was opened? Would it be 3in., 6in., or 12in.?—It was a mere trickle. There was nothing at the bottom of the shaft to speak of.

476. What sort of weather was it?—It was the winter-time.

477. *The Chairman.*] You say that it was in the airing-court that you came across the water the worst?—Yes.

478. Will you describe how the water came in?—It came in all round the sides of the drive.

479. What became of it?—It was taken away with the mullock.

480. There was not sufficient water to run it away?—No.

481. Then it was simply absorbed in the clay?—Yes; with the mud that was taken out of the drive.

482. There were no indications of pressure on the timber—either from the sides or roof?—No.

483. Of course, there was some pressure; but I mean, were there any indications of any extraordinary pressure. Was the ground slipping at all?—Oh, yes! it was slipping here and there, in pieces of "backs."

484. *Mr. Lawson.*] Where you came across this wet part that you have been speaking of, immediately behind the building, it was about this gable, was it not?—No: it was a little north of the set-off there.

485. *The Chairman.*] To the north of the gable of the airing-court?—Yes.

486. *Mr. Lawson.*] You say that the water was a mere trickle?—Yes.

486A. That means, I suppose, that it was absorbed?—It was absorbed in the mullock that was taken out.

487. The ground itself was naturally absorbing the water?—Yes.

488. You did not check the water—did not catch it?—No.

489. The ground was of such a nature as to absorb it?—The ground was of a clayey nature. I do not think the water got through the ground in preference to going down the drain.

490. Still, you did not catch it?—The only way we did take it away was in the mullock.

491. That evidently showed that there was an amount of water there which, being absorbed in the clay, formed the mullock, as you call it?—Yes.

492. Of course you drove through it. I presume you made a hole 2ft. by 3ft. 6in.; you did not dig the whole of the mullock away?—There was soft ground left on each side of the drive.

493. Then you simply pierced a hole through it?—Yes.

494. *The Chairman.*] Let me clearly understand the nature of this ground. Do you mean to say that the water which came into the drive was absorbed by the excavated material, or that it was absorbed by the surrounding ground?—I mean that it was taken away by the stuff taken out of the drive.

495. By the loose stuff?—Yes; there was never a flow along the drive.

496. When the stuff was removed, what became of the water that was left?—There was a lot of water—sufficient to fill the footmarks in the drive.

497. As to the nature of the ground that was driven through, was it loose, porous, or stiff clay, or loose clay? How would you describe it?—I should not say that it was porous, but I should say that it was loose clay, which appeared to hold water. It was pretty sticky stuff.

498. Do you think that the water would soak into that?—I do not think it would go far.

499. *Mr. Skinner.*] In making this drive, did you come across any sand of a porous nature?—Yes; just a little before getting into that part here [indicating on plan].

500. For what distance did you pass through that?—About 18in. or 2ft.

501. Of what nature was that?—A sandy clay.

502. Of what colour was it?—A bluish colour.

503. Would water flow out of it?—I cannot say that water was flowing out of it; but it would be damp.

504. Then, there was not sufficient water to cause it to run?—No.

505. It was simply damp?—Yes.

506. Did you come across any other sand or sandy ground?—Yes; at the other places I am speaking of there was sand.

507. At what point in the drive was that?—About 30ft. towards the sea from the north.

508. *The Chairman.*] That would be near Shaft 5?—Yes.

509. *Mr. Skinner.*] Was that about the point where the 2ft. of sand was passed through? Have you any recollection of it?—It would be about there.

510. Between 7 and 8 there is a little sand shown. Are you certain about the position?—Yes.

511. You put down all these shafts, I suppose?—Yes.

512. *Mr. Blair.*] How often did you put shafts down? First of all, how many shafts did you put in?—Nine.

513. Did you fill these shafts up?—Yes.

514. *Mr. Gore.*] Will you point out now on the plan where that 2ft. of sand was?—About Shaft 8.

Mr. Blair: There is a note on the plan which makes it quite clear. It says: "Shafts 4 and 9 are filled with stones to within about 3½ft. of the surface; all the others to the same height as the drive."

515. *The Chairman.*] Are you quite certain that it was to the north of Shaft 8? Are you quite sure of the position?—Yes; I am quite certain on the point.

516. *Mr. Mountfort.*] The soft clay is here [indicating on plan], you say; and if I put a cross there it will represent the place?—Yes.

517. That is where you got into soft ground?—Yes.

518. To what extent did you drive beyond that?—For about 8ft., I should say. It was very soft.

519. *Mr. Lawson.*] That is to the south?—Yes.

520. *The Chairman.*] What does it consist of?—A bluish clay. It was pretty stiff, but I should think it would carry water easily.

521. Was there water running out of it?—There was water mixed with it.

522. Were there any stones in it?—Very few; but as we went ahead we came on stones again.

523. Still, there was no more water than could be carried away with the soil as it was removed?—No.

524. It did not flow?—No.

525. Did it stand in the bottom of the drive?—There was always a little left.

526. A sort of leakage, in fact?—Yes.

527. *Mr. Mountfort.*] When you were doing this drive, where did you first enter? Where did you make your first entrance?—At the outlet.

528. You entered there and worked up this way [indicating on plan], I suppose?—Yes.

529. That is, towards the north-west; and you worked right on, following the course of the drain, as had been laid down; and, as you came on the water, it would run off?—Yes.

530. There was no point anywhere where it could bank up?—No.

531. It always had an outlet?—Yes; all the time.

532. Was the whole length of that drain opened at the same time?—No.

533. Was it filled up with stones behind you?—Yes.

534. So that at no time had you solid clay behind you: it was always open?—Yes. As we drove this way we filled it up with stones.

535. Then it was always open?—Yes.

536. *Mr. Blair.*] When this water came into the drain, did it come in more on the one side than the other, or did it come in all round?—It came in all round. We had some pretty heavy rains during that time.

537. You have told us that you had to timber some of the drive. What I want to know is, was there more pressure of the water on the one side than the other?—We had to timber it all round. The ground was pretty loose in some parts.

538. Was there any indication that the hillside was slipping in one direction more than another?—No. I cannot say that I took any particular notice of that.

539. *Mr. Mountfort.*] Was there any indication of the water rising up through the floor?—No; I should think not.

540. Would you have noticed it if there had been?—I certainly think so, if there had been.

PETER SETON HAY sworn and examined.

541. *Mr. Blair.*] Kindly tell the Commissioners what is your position.—I am Resident Engineer in the Public Works Department.

542. You are a graduate of the University of New Zealand, are you not?—Yes; I graduated in honours in mathematics; I obtained first-class honours.

543. I will put into your hands the report you submitted to the Government, or, rather, to the Engineer-in-Chief, on the 18th December last, after your examination of the Seacliff building. I may say that I will put this report in afterwards, together with supplementary observations made by yourself. I suppose you will, as you did in your report, first describe the building as you found it.

Mr. Gore submitted that the entire report should be read.

Mr. Blair: The witness only intends to make use of the report for the purpose of refreshing his memory.

Mr. Gore: For my part I say it is very desirable that I should know what is in this report, in order that I may cross-examine him on it; otherwise I shall have no opportunity of doing so.

The Chairman: In that case it may be necessary to read the report; but there must be parts of it that will be brought out in the witness's evidence.

Mr. Blair: My object is to elicit from the witness what he found at the building when he reported. If it is desirable to give Mr. Gore the opportunity he asks, I will put in the report subsequently.

544. *Mr. Blair* (to witness).] Will you describe the building as you found it?

545. *The Chairman.*] To begin with: give us the date of your visit.—The 23rd, 24th, and 28th November, 1887.

546. *Mr. Gore.*] That was your first visit?—Yes.

547. *Mr. Blair.*] These are your tracings attached to the report?—Yes.

Mr. Blair: I may say, gentleman, that the information was amplified by Mr. Hay afterwards. There is a tracing showing the foundations: that, of course, is now supplemented by the other tracings which he has sent in, and which give the information in a more complete form.

548. *Mr. Blair.*] Will you tell us the position of the cracks as you found them?—I start with the colonnade-wall, and go right round the building.

549. *Mr. Gore.*] Is that No. 2 Block (north)?—All my remarks are confined to that block. The front wall towards the north end shows cracks, which I shall describe directly. The northern pillars overhang outwards, and to the north there are a number of faint cracks in various parts, and there are a few cracks at the south end. Starting with the Drawing No. 4, there is a large crack [marked D on the plan] at the northern end.

550. I should like Mr. Hay, before he proceeds further, to give an explanation of the overhang.—The overhang is outwards, and is at the northern end of the ambulatory wall.

551. *The Chairman.*] It overhangs into the court?—Yes. I may here explain that this wall, at the north end of the arches, though shown as 10ft. long on the contract plan, was reduced to 6ft. 6in. as measured on the ground. That alteration makes that part very much weaker, and is probably one reason why the crack appears there.

552. Can you put your finger on that part of the wall?—It is this part of the colonnade wall abutting on the south wall of the north wing. At this place [indicating on plan] we found it plumb, but if you will turn to Drawing No. 5 you will see that the south wall of the north wing has been crushed back about $\frac{7}{8}$in.: *i.e.*, the part which is just above the crack D at the corner, the wall lies over towards the north $2\frac{5}{8}$in. in the whole height. The crushed portion is about 2ft. up from the top of the plinth, and the crushing quickly dies out as it recedes from the face of the ambulatory-wall: the overhang to the north gradually dies out as you go seaward. There is a similar crack opposite, the northern wall having been crushed out. It is quite noticeable on the ground. There is quite a number of faint cracks in the front wall of the day-rooms of the north wing, and in the main part of the north wing, under the windows and between the windows.

553. In what wall?—The south wall of the north wing, east of the lavatory. These are fainter cracks than the first ones, and they are shown by red lines in these corners [the south elevation and lavatory-wall]. As shown on this same plan [No. 5], there are also cracks on the face of the lavatory-wall; these cracks are faint. They all appeared recently. There are cracks at the bow-window, which is in front. I have no elevation of that. A report on it was made by Mr. Arthur Bell, but there has been no further trouble with it since. When you go round to the north side of the north wing, there is a large bulge over the northern doorway.

554. A bulge outwards?—Yes. The wall, in the corner near the staircase, is practically plumb. The top measured $4\frac{1}{2}$in., the bottom $4\frac{7}{8}$in., from the plumb-line. I suppose that $\frac{3}{8}$in. is near enough plumb for a wall of that height. At the west side of the first double windows the wall leans outward 1in.; at the west side of the double windows next to the rag-end of the colonnade-wall it hangs outwards $2\frac{3}{8}$in. The overhang reaches its maximum just at this rag-end, and is about the same along the wall between the rag-ends on each side of the north door. From the rag-end of the middle wall it gradually decreases to $\frac{7}{8}$in. at the north-west corner. The plumbings at this corner are $4\frac{1}{2}$in. on the top and $5\frac{3}{8}$in. below, giving $\frac{7}{8}$in. of an overhang. So far as I could see, at the northern corner there is no sign of cracking on the outside; but there is a crack inside. It is from $\frac{3}{8}$in. to $\frac{1}{4}$in. wide. With regard to the north wall, we have a bulge starting from this window [indicating on plan] reaching up to the rag-end of the front colonnade-wall, and dying away at the north-west corner, showing that the wall had been pushed out in some way or another. We will now take the gable of the north wing. There are here two cracks, one of which is a large one. At the south-west corner of this gable the overhang of the return-wall is $\frac{1}{2}$in. to the northwards. At the inner angle of the return-wall the overhang of the return-wall is $1\frac{3}{4}$in., and the wall is warped in a very marked manner. The wall in the northern recess overhangs 1in. to the eastward at the north end. Between the double windows the overhang to the east is $\frac{7}{8}$in.; at the north side of the single window the overhang to the east is $\frac{3}{8}$in.; and at the south end the overhang is to the west, and is just 1in.

555. *Mr. Skinner.*] Towards the hill?—Yes. There is a buckle in the wall.

556. *Mr. Blair.*] The northern wall of the central gable?—The southern corner of the first recess. Next we take the north wall of the middle gable. At the inner corner it hangs out 1in. to the north; and the north-west corner of the gable of the return wall overhangs $\frac{3}{4}$in. At the northern corner the west wall hangs towards the hill.

557. Which one is that?—The middle gable, which overhangs to the west $1\frac{1}{2}$in. at the north end. At the north side of the doorway it is practically plumb up to the top of the upper windows, and then it leans to the east $\frac{7}{8}$in. in the remainder of the height. At the south side of the door the overhang to the east is $\frac{1}{4}$in. to the top of the upper windows, and $1\frac{5}{8}$in. from the top of the upper windows to the crow's steps. The overhang at the south end is $1\frac{1}{2}$in. to the east in the whole height.

558. *Mr. Gore.*] That is the south angle?—Yes. The south face of that gable overhangs $2\frac{1}{2}$in. at the outer corner, and $1\frac{5}{8}$in. at the inner corner—it hangs towards the north. The last plumbing I have is between this window [indicating on plan] near the middle of this recess, and the overhang is $1\frac{5}{8}$in.

559. Which way?—Towards the sea. In the first recess we have a number of cracks along the windows, showing that the wall has been displaced seawards. The windows are pulled over; and that is confirmed by all the plumbings I have just given. There are a few faint cracks in the south recess, but they are not of any great importance.

560. *The Chairman.*] Are you going to give us any plumbings along the centre wall?—That wall generally overhangs outwards.

561. Then, the centre wall generally overhangs outwards?—Yes. There are a number of horizontal measurements shown on the various plans here—Plans 1, 2, and 3. The first drawing is

of the ambulatory, and a line taken from corner to corner shows a double curve upwards at the south end, down in the middle, and north part.

562. *Mr. Gore.*] A curve in what direction did you say?—It is a double curve.

563. A sort of buckle, in fact?—On the lower floor it is uphill as much as $\frac{7}{8}$in., and downhill $\frac{3}{8}$in. There is a similar but greater curvature in the back wall. That is as much as $2\frac{1}{4}$in. uphill and $1\frac{3}{4}$in. downhill out of the line taken from corner to corner. Of course these two sets of measurements may not be quite——

564. *The Chairman.*] Still, the measurements are in the same direction?—Yes. There was the same double curvature in the back wall; but it is much greater than in the front wall of the ambulatory. These double curves show in all the floors. You will find the same thing in the day-room on Plan No. 2, but not in so marked a manner. The front room is 1in. uphill and $1\frac{1}{4}$in. downhill under the window-sills, and $1\frac{3}{8}$in. down and 1in. uphill at the ceiling. There is a similar curve in the middle wall. There is a variation of width in the day-room—it is slightly over 1in. wider just opposite to the entrance to the day-recess. The double curvature shows again in the day-room on the top-floor; but it is not quite so marked. It is $\frac{7}{8}$in. uphill and $\frac{1}{8}$in. downhill at the very top, on a line taken 7in. below the ceiling. Taken 4in. below the window-sills, it is $\frac{3}{4}$in. uphill and $\frac{5}{8}$in. downhill.

565. I understand you to say that this movement extends from the basement right up to the roof?—Yes.

566. It begins to lessen as you go higher up?—Yes. The measurements of the day-room in the north wing——

567. Which floor?—The second floor. Those measurements show a bend in the south wall of the north wing, corresponding pretty much with the bulge in the north wall. That you might expect from the way in which it had been carried by the ambulatory-wall. The measurements I have taken in the ambulatory show that the concrete floor is not of the same width all along. At the end it is 12ft. wide.

568. At which end?—At both ends. Near where there is a little man-hole, there is a sudden jump of 3in. in width. It is 12ft. wide opposite one of the pillars, and 11ft. $8\frac{1}{2}$in. opposite the next one.

569. Then it is contracted?—It is a sudden contraction, which probably explains why there is that curvature of the wall. There are no cracks.

570. That is the concrete?—Yes. It is narrower at one place than another.

571. I am not quite clear about your last answers. Are your measurements between the walls or on the floor?—At the level of the concrete, between the base of the pillar and the back wall.

572. Then, in taking your measurements, you took the concrete walls as they were originally put in?—Yes.

573. So that, as there were no cracks showing on the concrete floor, you assumed that it was originally built that way?—Yes. The back concrete wall is pretty nearly parallel with the middle wall. Now, as regards the corridor-roof, it, so far as can be seen, has followed the north wall of the north wing and the colonnade-wall in their movements. It appears to have dragged along the back wall and from it. With regard to the vertical movement on Drawing No. 4, you will find the levels taken along the pillars of the colonnade. The first is on the south side on the plinth, and the level is 11·15. The first pillar on the south end is 11·16; the second pillar, 11·15; the third pillar, 11·12; the fourth pillar, 11·12; the fifth pillar, 11·13; the sixth pillar, 11·12; the seventh pillar, 11·16; the eighth pillar, 11·11; and on the plinth, 11·07 and 11·06. That clearly shows that if the bases were put in to the same level there has been $\frac{1}{2}$in. to $\frac{5}{8}$in. of settlement along the four middle piers.

574. Taking the second one from the south, was this one down?—Yes; it is 11·15.

575. Then 11·15 is straight?—The first of the pillars is 11·16, and the next one is 11·15.

576. *Mr. Gore.*] Then 11·07 is on the wall, and 11·06 in a corner?—Yes.

577. According to these figures this one is $1\frac{1}{4}$in. lower than that one?—Yes. With regard to the vertical movement of the middle wall, you will find the cracks between it and the partition-walls shown on Plan No. 1.

578. What do you call partition-walls?—The cellar partition-walls. The first sign we have is a slight crack between the partition-walls 2 and 3, and the back wall. With regard to the partition between 3 and 4, there is a large crack up to the joint where the brickwork joins the concrete; it is $\frac{3}{4}$in. wide on the top and close at the bottom, showing clearly that the wall is tilting seawards, and also that there has been sinking at the large chimney. It further shows that the centre wall has sunk at its junction with this partition-wall. Between 4 and 5 we have a similar crack. It is $\frac{3}{4}$in. wide, and nearly close at the bottom: that shows that the partition-wall has tilted, and, as there is no corresponding crack between the centre-wall and the partition-wall, this wall and the centre wall have clearly gone down together. Between 5 and 6 there are faint cracks. At the corner of the back wall the partition-wall is cracked diagonally from top to bottom. This last crack runs towards the front, and runs down the chimney. It is open a little at the top, and shows that the middle wall has gone out to seaward. Between 6 and 7 also there is a diagonal crack in the partition-wall, such as would result from the middle wall leaving it and going downwards. At the lift there are very marked signs of settlement. There is a bursting-up of the concrete in that corner. The partition-wall between 7 and 8 has a slight crack up the joint between the partition-wall and the back wall. There is a similar faint crack at the joint between 8 and 9—between the partition-wall and the back wall of the building. With regard to the settlement of the north wall of the north wing, I did not find anything to lead me to believe that it had settled. All the cracks are due to bulging; there is no evidence of settlement.

579. That is, all the cracks in the north wing?—All the cracks in the north wall of the north wing.

580. *Mr. Blair.*] Generally, what difference is there in the levels between the ambulatory in the north wing of Block 2 and of Block 1?—At the two south ends there is a difference of from 1⅝in. to 1¾in. There is no step; it is an easy grade.

581. And what do you say is the average difference between these two?—About 1½in.

582. *Mr. Lawson.*] Which is the upper, and which down?—The north is down.

583. *Mr. Mountfort.*] So far as the levelling of No. 1 goes, is it level?—No. Between the extreme ends of the Port Chalmers step there is a difference of 1½in. It falls towards the north.

584. Which Port Chalmers step do you allude to?—This one [indicating on plan].

585. *The Chairman.*] Beneath the arches?—Yes. These are the only levels I have in that block. In the other ambulatory I found it very uneven.

586. Which ambulatory do you mean?—This one [indicating on plan].

587. *Mr. Blair.*] I shall now ask Mr. Hay if he can account for all these cracks and bulges by the sinking of the foundation?—Referring to the plan No. 1, Mr. Chairman, there is a portion of the foundation there coloured green: my contention is that there has been more or less sinking over the whole of that portion. That includes the middle wall of the ambulatory, some of the partition-walls, a portion of the colonnade-wall under the arches, and round the north wing throughout the portion that extends beyond the point marked *j*, and along the south walls of the north wing at *l*, *m*. To begin with the colonnade, I think I have already shown that the levels indicate sinking if they indicate anything, and there are still greater evidences of sinking. The first thing that would happen if there was sinking of the pillars would be that the colonnade-wall would sink all along the middle, and that would throw a severe thrust on the ends of the wall, at the lower side.

588. *The Chairman.*] At the north and south ends?—Yes, at the extreme ends. We have every evidence of a severe thrust at the north end—we have the wall sheared completely through. At the south end the evidence we have is the bending of a gaspipe. This gaspipe has been pushed through the partition-wall, and it bulges out. It has been pushed through, perhaps—I did not measure it—$\frac{1}{16}$in. or a little more. It has come through the wall, and bulges out considerably—3in. or 4in. from the wall.

589. Can you point out that, because we did not see it?—It is on this plan. It is there, running along that wall. It has evidently been gripped by the colonnade-wall, and the brickwork contracted and pushed the pipe through the partition-wall, the brickwork being more elastic than the pipe.

590. *Mr. Gore.*] How high is that from the floor?—The gaspipe is right along the ceiling of the ground-floor. Of course there will be equal thrusts at the north and south ends, whatever they may be, and the north end has given way because there are only some 6ft. of wall there and the partition is not supported at the north, whereas on the south you have the wall running continuously along. The motion at the lower end of the colonnade-wall, the extreme north, has evidently been forward: it has crushed back the north wall and the south wall of the north wing, and tilted the whole partition over, which I call G G on Plan 4. These doors in partition G G are all tilted over on the lower flat 1½in. in 6ft., on the second flat 1in., and on the top flat, 1⅜in. in the whole height.

591. *Mr. Blair.*] That is the top floor?—Yes. The partition-wall is cracked at E, and the whole wall is falling bodily over. It is cracked at the top; and there is another crack I discovered just to the right of the archway going along there. This is a little crack; it is not shown on the plan.

592. *Mr. Gore.*] Three-eighths of an inch at the top?—Yes. The doorway is out of plumb. The colonnade-wall has thrown over the two walls of the north wing, the south wall and the north wall; and this tilting of the partition G G is the cause of the bulge I described before on the north wall. The two floors apparently have moved with the colonnade-wall. The ceilings clearly show that they have been stretched, and stretched just as we should have them by pushing one wall of the day-room past the other. Both ceilings are cracked diagonally. The middle wall is very much cracked. I have no sections to describe that. It is cracked up between the lift and the north wall. And on the left the dividing-wall of the stairs has tilted over. It has tilted over, I think, about $\frac{7}{8}$in.

593. *The Chairman.*] In the whole height?—In the height of the doorway on the ground-floor.

594. Towards the north?—Yes. It shows the middle wall—partly by its own motion, partly, I think, by the dragging of the colonnade-wall—is going to the north also. Then, the roof has also gone with the colonnade-wall in its northern movements, and it has also gone with it in its seaward movement at the top. It is dragged away from the back wall—dragged away by the united action of the colonnade-wall, the middle wall, and the chimneys tilting over: these are taking the roof with them. The resultant action of the roof on the back wall has been to drag it in a north-easterly direction. The roof has been dragging from the wall: this and, I think, also the weight of the partitions on the back wall, due to the tilting of the partitions, have bulged the back wall seawards a little, as shown by the plan; and the roof at the same time has been dragging the back wall in the first recess northwards. That accounts for that warping in the return-wall from the north gable; and it would also account for these large cracks that you find at the windows. It shows that the walls between the windows have broken as beams they have resisted the motion of the roof, and have been broken at the weakest point. These back walls are broken all along the lower windows. Below that the wall is very much stronger, thicker, and solid. There is a crack just at the very extreme north end, where the wall is weakest. The pull of the roof gradually dies away in the second recess. We have very little showing there in the ceiling of the straining of the rooms. This motion of the roof and floors is very clearly shown, I think, by the cracks in all the ceilings. If you look at Plans 1, 2, and 3, you will find the cracks shown. I did not take the angles exactly, but they are near enough. The cracks are all inclined one way. Over the ambulatory, and in the rooms, they are all inclined one way, on all the floors. That shows that if

we take the colonnade-wall and assume that it has moved more than the middle wall, you will lengthen one diagonal and shorten the other, and thus get these cracks across all through.

595. *Mr. Blair.*] That wall is sinking more?—The front wall has moved more. Then, in the north wing the cracks are in the reverse direction, extending generally up to this block of chimneys in the middle of the day-room. The direction is reversed, showing that the opposite diagonals of the rooms are being lengthened in the north wing. Of course there is a multitude of cracks all through these rooms, as you know. I did not trace out the exact reason how each of these cracks occurred, because they are bound to be very irregular, owing to great differences in the material, and one thing and another; but these movements in the walls I consider account for every one of them, and the general tilting and straining of the building.

596. *Mr. Gore.*] What do you say accounts for the general tilting and straining of the building?—The settlement I have described, and the consequent movements of the walls. Then, the next thing that I took up was the causes of this sinking.

597. *Mr. Blair.*] Will you describe the foundations?—I have submitted a tracing to show what the foundations are as I found them along the colonnade and round the north wing.

598. Are these foundations constructed to carry more or less than those shown on the drawings?—The foundation under the colonnade has been the general cause of the damage. These foundations are very much weaker than those shown on the contract-drawings. There is about 20 per cent. less concrete in them than is shown in the contract-drawings, and they would carry very much less weight per lineal foot than the original or contract sections. They are all of less breadth, have less depth, and will on that account carry less than half the weight, that the original sections would have done. Also, in both cases these foundations have to act as continuous beams in order to distribute the weight over the clay between the pillars. The original section was twice as strong for this purpose as the present one, and therefore the distribution would have been better; so that, on the whole, probably three to one, or nearly three to one, would be a very fair comparison between the carrying-power of the two foundations.

599. That is, the present foundation is about a third of what it should be?—Yes.

600. How could that have been got over in construction?—It could have been got over by inverts between the pillars.

601. *The Chairman.*] That is, supposing the foundation proved to be very soft and bad?—Yes.

602. An invert might have been resorted to to distribute the weight and strengthen the foundation?—Yes. Also, the middle wall of the building has narrower foundations than are shown in the drawings. They scale some 3ft. wide on the drawings.

603. That is an 18in. wall?—Yes. Along the back wall in three places out of four we found that the wall overhangs the foundation. Instead of the bearing-area being increased in any way it was diminished on the side that we could see.

604. *Mr. Mountfort.*] The scale is 4ft.?—Yes. The footings on the contract-drawings scale 4ft. wide by 15in. deep. That would give you some 5 square feet in a section. Supposing them to be in 2ft. will only give 4 square feet, and we have found them less than 4ft. That would be 25 per cent. less concrete if it is the same on the other side.

605. *The Chairman.*] I understand you found no set-off anywhere on the side you exposed?—No, it goes straight down. There was a little bit of a bulge in one place, but you could not call it a set-off. With regard to the back wall it would only carry, according to Rankin's rules for foundations, about six-tenths of what the original foundation would have carried, and it is a wonder it has not sunk a great deal more. Generally, round the north wing there is a footing shown a foot down, and it was found to exist in no case along the outside. There is a projection here and there in some places, but the concrete goes straight down, and in no case are there footings, or any attempt to distribute the weight over a greater area. At the bay-windows I have a section to show, and you yourselves saw that the brickwork overhangs the foundation. That again is exceedingly bad, because it throws most of the weight on the outer edge of the foundation. Another curious item is that the partition-walls—these narrow 9in. walls in the cellars—have footings in many cases, while the heavier walls that are to carry all the weight have none.

606. I do not recollect if the foundations of the cross-walls are of concrete or brickwork?—Concrete, with sometimes 6in. or 8in. of projection.

607. Have they sunk?—Some have sunk, some have not. The widest is one that has not given way—the continuation of the north wall of the intermediate wing. The principal sinking of the partition-walls has been between cells 3 and 4 and 4 and 5, where there are heavy chimneys to be carried. With regard to the foundations of the back wall—all the foundations I have referred to—I find on trying them by the rules for foundations such as these really are that they are all loaded to a very dangerous extent, and it is a wonder to me that the back wall has not gone down a great deal more than it has—that it has not shown more signs of distress. There are only two old cracks there that I have seen. They are now filled up. That wall is also held up by friction due to the earth pressing against the back. There are some 12ft. of earth against it: that is what it scales.

608. *Mr. Blair.*] Are the foundations deep enough to be out of the influence of the weather?—They are not the depth usually prescribed.

609. Are the foundations in accordance with the depth fixed by authorities as to the depth to which they should be sunk to be out of the influence of the weather?—No.

610. *The Chairman.*] In some climates they would have to be sunk deep to be out of the action of frosts?—In England the depth is some 4ft.

611. Of course that all depends upon the nature of the ground and the climate?

Mr. Blair: The minimum depth, I think, is 4ft.

Witness: The Seacliff clay cracks up a good deal.

612. *Mr. Blair.*] I should like you now to tell the Commissioners what the effect would be if this damage had been caused by a slip from behind. You can describe it in your own words, of course.

The Chairman: Do you mean a surface-slip?

613. *Mr. Blair.*] No, from the slip which has appeared behind. I wish Mr. Hay to give us his view as to how that slip would act, and what are his reasons for thinking that the slip has not so acted—that the subsidence is due just to settlement and not to a slip?—Behind the building we have some 95ft. of level ground, and on the rising land behind that there is a little slip of rather small extent. I assume that slip to have extended to the depth of the foundations of the building—12ft. deep. On that supposition you have a pressure of 3 tons per lineal foot.

614. *The Chairman.*] You mean on the vertical 12ft. of earth?—That pressure, before it can affect the building, has to shift the rectangular prism of earth in front of it, 95ft. by 12ft. Assuming the same angle of repose in the two cases, you would have frictional resistance along that 95ft. amounting to over 20 tons; so that you have 3 tons to overcome 20 tons before the building can be touched. For this reason it is evident, I think, that it can have had no effect on the building; also, the slip is very much less than I have assumed. Again, the slip might have bulged the earth up; but it has not been large enough to do this. Then, again, the pressure of the earth that abuts directly on the back wall, according to the best rule for estimating such pressure, is only about 1½ tons per lineal foot along the back wall, and that is not above a fourth or a fifth part of what is required to push the structure bodily through the earth, and to overcome the friction of the concrete on the earth; so that here again you have no power adequate to account for what has taken place. And, again, supposing it had been possible, the straining of the building is not such as would arise from such a cause. You would have had the ceiling and the lower floor bent, as an ordinary beam would bend, into a circular form, and, instead of the cracks in the ceiling being parallel, as we have shown them, the direction would have been reversed at the two ends—the ceilings would have been cracked across the lines of tension, and we should thus have had quite a different set of ceiling-cracks from those I have shown. The above is supposing the slip was acting on the building at right angles to the back wall. Now, suppose we had a slip coming diagonally, we should have had this northern portion pulled towards the north, and these ceiling-cracks would have been reversed, because the opposite diagonals of the day-rooms and cells must have been lengthened. Of course, there is another slip you can take into account—that is, the whole of the north wing going bodily forward—and that would give rise to another set of cracks in the back wall and cracks in the front wall—cracks which do not exist, and of which there is not the slightest sign in any way; and it is such an assumption to make that it has only to be mentioned to refute itself. Then, again, as I said before, these partition-walls of the cellars and the front walls are tumbling away from the back wall or walls; that is, of course, the only supposition to make, because if the back concrete wall has moved uphill it has overcome the earth-pressure behind, which would at least take 15 tons per lineal foot. Of course the first assumption is the simplest one; the second one is improbable or impossible.

615. *Mr. Blair.*] Then you contend that the front walls have gone away from the back?—The front walls have gone away from the back walls.

616. Or the back wall has gone away from the front walls?—The front walls have gone away from the back wall, so far as there has been any movement. The back wall remains where it was.

617. It is impossible for it to?—It is impossible for it to go back.

618. Consequently, the space between the back wall and the front wall must have been caused by a movement of the front wall?—Yes.

619. Mr. Hay can give us evidence as to the water in the pits that were sunk—as to what he saw. Was the water running into those pits clean or dirty?—It was clean, running from the foundation. Evidently a good few voids in the concrete were at that time pretty full of water, for in several pits we took the water out by the bucketful. That is, at both ends of the colonnade and along the south wall of the north wing the pits were all very wet, and at the point marked *r*, at the north wall of the north wing, there was a very wet place. These pits were opened again during my last visit, on the 4th of this month, and you opened them again when you were out at the asylum, and there was very much less water in them; in fact, they were comparatively dry—some of them—compared to what they were when I saw them. On that account I think my first visit about cleared the concrete of water.

620. *The Chairman.*] You mentioned that you plumbed the walls, and give the result of your measurement?—Yes.

621. Could you describe how you plumbed the walls—in what manner?—I plumbed with a very heavy plummet and a fine copper wire. The string was fastened round a rule 6in. from the end, and held at the top of the wall. We measured various points round the wall, and Mr. Hunter was always at the plummet. We were very careful, and wherever there was any oscillation the measurement was stopped till the plummet was again steady.

622. I suppose you did not continue your observations when it was blowing—in windy weather. You are satisfied that your measurements are correct?—Perfectly satisfied that the measurements are correct. The north wall was taken in a different manner—I think even more accurately than plumbing. We plumbed down the two ends very carefully, put in spikes, and wherever the plumb-line hit these spikes we marked points; and afterwards wires were stretched along the wall, and we measured it horizontally.

623. You mentioned that you had measured the concrete on the floor of the ambulatory, and described the concrete as having been built at differenth depths?—Yes.

624. Do you know if that concrete had been either altered or replaced since the buiding has been occupied, or if it is the original concrete?—I could not say. Mr. Hunter would tell that. I simply took the concrete as it stands. There are no cracks to account for the difference of position.

625. You referred to the carrying-powers of that sort of foundation: what did you allow per square foot?—I did not allow anything, I simply compared the two foundations.

626. On Rankin's rules?—Taking Rankin's rule that the carrying-power is proportional to the depth of the foundation below the surface.

627. Would not a great deal depend on the nature of the foundation?—That is comparing the two: I compared the two by the same rule.

628. Then in the friction you mention as having to be overcome to shift the 12ft. depth of ground between the slip and the building—I do not remember exactly what the weight was you gave?—Twenty tons I made the friction.

629. That is, you take the coefficient of the friction at the tangent of 20°?—Yes; that is the same that I used at the back of the wall. The angle represents the angle of repose of material in the slope at the back.

630. You take it at 20°?—Yes.

631. Assuming it to be wet or dry?—Well, the wetter it is the less the angle of repose will be.

632. In sinking these pits the first time you mention that they made water faster than they did latterly?—Yes, very much.

633. You baled the water out, and you think that since then, during the time until they were opened again, there was not so much water?—Yes.

634. And consequently you come to the conclusion that you baled a good deal of it out?—Yes.

635. Did you notice when you baled it out that the water did not make so fast afterwards as it did at first. Did you notice the flow in any way reduced?—No; I did not take any observations about the flow.

636. Between the time you sank the first pits and the last time, was it dry weather or had there been heavy rain?—There had been no heavy storms.

637. What interval elapsed?—On the 23rd and 24th November the pits were sunk, and then they were sunk again on the 6th February—that day you were out.

638. With regard to that angle of repose, is it 20° from the vertical or the horizontal?—The horizontal. [Mr. Hay's plans and report put in, and marked "12."]

639. *Mr. Skinner.*] Can you tell me, Mr. Hay, if the internal angles of the front portion of the ambulatory have had plumbings taken?—The south one has been taken. The plumbing was taken about 5ft. from the angle, along the colonnade-wall, and quite close to the corners at the south wall of the north wing.

640. You did not plumb the north-wing wall—that is, the south wall of the north wing?—Yes, that is the one I took quite close to the corner.

641. How much is that out?—You will see that on the plan No. 5, the south elevation of the north wing. The plumbing was quite close to the corner; 7in. on the top, and 4⅜in. at the bottom.

642. But that is referring to the ambulatory-wall?—No; the south wall of the north wing—the south elevation of the north wing.

643. *The Chairman.*] That is, it is hanging over at the top?—Yes.

644. Towards the north?—Yes.

645. How much?—Two and five eighths.

646. *Mr. Skinner.*] Is there a corresponding hang-over on the north wall of No. 1 Block?—No. The north elevation of the north wing you have there, where the rag-end is of the wall. Two and three-quarters on the other wall.

647. All hanging towards the north?—Yes.

648. The reason I ask is, that there is no fracture between the two walls towards the roof?—There is a fracture near the archway. No, it seems to have gone over bodily. These doors are all tilted, and this partition referred to is cracked at E to allow the tilting-over. The brickwork has burst at E. That is due to the throwing-over of the partition.

649. Does the north wall of No. 1 Block hang over or conform to the south wall of No. 2 Block?—No; it overhangs a little, but not nearly so much.

650. Have you no observations in reference to the moving of the front portion of the north wing—that is, where the bay-windows are?—No, I did not take any notice of those two bay-windows. They were quiet when I was there, and I left them alone.

651. You do not know whether or not they are as they were originally built?—No; I could not say anything about how they were originally built.

652. At what level did you take the measurements—the horizontal levels?—I assumed a datum in one of the doorways, and the others were all reduced to that: they are only comparative, not absolute.

653. You were speaking of taking levels of the south walls: at what height did you take them?—It was the concrete-level at one of the doorways.

654. The floor-line of the ambulatory?—No, just the concrete-level of this particular place; that was all.

655. You took no measurements at all on a level with the floor-line of the ambulatory?—Yes, I have measurements, but they are, unfortunately, not in the centre-line of the ambulatory. It is hard to get a centre-line.

656. You have nothing to show that the foundations proper—that is, below the ground-line—have made any movement?—No, I could not show that they have made any movement horizontally.

657. *Mr. Gore.*] I understand you to say you have no measurements to show any movement horizontally?

658. *The Chairman.*] At what level above the foundations were your measurements taken?—They are shown on the drawing.

659. How many feet?—On the lower floor they were taken about 5ft. 6in. from the ground-level along the front of the pillars—that is, to compare with the measurements Mr. Hunter had taken before. Along the middle wall they were taken at 4ft. 6in. from the ceiling. I have measured along the concrete back wall as well.

660. *Mr. Skinner.*] If the foundations had been put in in accordance with the specifications,

do you think there would have been any subsidence at all?—There might have been a little; but I do not think there would have been the damage that now exists.

661. Do you think the original footings would have been strong enough?—The original footings, if they had been put in of good concrete, would have carried all the weight that would have come upon them.

662. On the present formation?—Yes.

663. Does the present floor-level of the north wing conform to the level of the bases—was it taken parallel with the horizontal portion of the bases?—The ambulatory-floor is not level. Along the ambulatories to the north door the concrete floor was not level along the two wings—not quite level.

664. Do they conform to each other—do they take the same shape—does the floor-line of the ambulatory take the same shape as the bases of the piers?—Oh! you mean——

665. Longitudinally?—No; there is a gradual grade in the floor-level of the ambulatory, and the south pillar is level with No. 7.

666. Have you taken a line along—that is, an axis-line along the centre of the ambulatory, from the south to the north end?—Yes.

667. Can you tell us what the result is?—The centre line. The result is shown on this plan. It shows that the north door is 16¼in. out of line downhill, and the front of the wing about 13in. downhill.

668. Beyond the south wing?—Beyond the south wing.

669. Have you any reason to believe it was built in that way?—I have every reason to believe it was built in that way.

670. *The Chairman.*] How do you arrive at that conclusion?—Because there is a corresponding mistake in the intermediate wing.

Mr. Gore: This wing is 13½in. towards the sea.

671. *Mr. Blair.*] And this one?—Is 11½in. the other way.

672. *Mr. John Gore.*] Did you measure the plan to see which was correct?—Yes; the south one is correct.

673. *The Chairman.*] I suppose you have tried to come to some conclusion whether the building moved bodily down 1ft. or 13in. or not; and, if you think it has not, what are your reasons for thinking so?—If the building had moved in that way all through, the colonnade-wall would have been cracked at the north end, and the back wall would have been cracked to pieces at the south end.

674. *Mr. Blair.*] What would have been the depth of the crack at this place?—I should have looked for a crack of 2in., and there is no indication whatever of such a movement in the ground. A movement of 1ft. would never have escaped notice. Unless it had been a deep movement everything would have gone to smash.

675. *The Chairman.*] Supposing this portion of the ground, including the building, had slipped 1ft. or 13in., or whatever it may be, in any way, whether it had moved from the centre or gone bodily, you would have expected to find indications on the ground of where it had ceased. For instance, at the north end, here, of the building, there would have been a rupture in the ground somewhere?—There must have been.

676. *Mr. Blair.*] Suppose that the movement had commenced as far as the central block, or half-way to the central block—for there are no cracks south of that—and supposing that the remainder of this portion, from the middle of that recess to the end of the building, had moved down the 15in. or 16in. you find it to be down, what would be the size of the crack there?—Oh! some 3in. or 4in.

677. Is there any crack there?—There is a little crack in the basement, but it has been filled up long ago.

678. *Mr. Skinner.*] That crack would be there, assuming everything went down bodily?—Yes, or that it turned.

679. *Mr. Lawson.*] Is it not possible that the crack should be distributed?—If it had been you would have had cracks at the back and at the front. There are no cracks of that kind. There are 3in. difference in the lengths. The one is 13in. and the other 16in. The front has only gone 13in. and the back 16in.

680. *Mr. Blair.*] So that it must have crept upon itself 3in.?—Yes.

681. How much would it round out in the north wall: would that 3in. be taken up?—The north wall is straight along the ground-level. It bulges above the ground-level, but at the ground-level the wall is straight, and practically parallel to the others.

682. Can you say that it is sliding like as if it was on a huge greased slide, like the launching of the "Great Eastern"?—I have heard such a thing proposed, but it is so ridiculous I should not like to mention it.

683. Talking of that discrepancy, do you think it possible for the middle wall to have slipped up 15in.—the middle block?—Not at all likely.

684. Do you think the one is as likely as the other?—The one is just as likely as the other. There is no evidence whatever—no cracks in the ground to account for such movement—and it never would have escaped notice.

685. *Mr. Lawson.*] You say that the front-ambulatory wall there—the sinking of it—has caused all the mischief?—Yes.

686. Can you give us the proof of it?—I have given the proofs already. I have described that already.

687. Where is the evidence of its sinking?—I have shown you on my drawings.

688. No, you have never shown us anything. You say that the north-ambulatory floor is all but level?—No.

689. Well, what is the difference?—It is not level. The north-ambulatory floor is not level.

690. How much is it out?—You are talking of the concrete floor?
691. The bases?—The greatest difference is ½in.
692. Do you mean to tell us candidly that the sinking of ½in. is the whole proof that you have of the mischief?—Not the whole proof; it is part of the proof.
693. I am speaking of the sinking—vertical settlement?—That is what it measures.
694. Is that the whole of the evidence you have of this mischief?—Not the whole evidence.
695. I am speaking of the vertical settlement?—That is what I find it to measure.
696. But there is no other?—Yes.
697. What other?—The bursting of the wall at one end.
698. Do not go away from the subject, if you please. You told us distinctly that the settlement of the ambulatory-wall was the root of the whole evil?—Yes.
699. And now you tell us again you have only a measure of ½in. to show it?
Mr. Blair: Ambulatory-walls.
700. *Mr. Lawson.*] Walls if you like?—The pillars.
701. I will give you another inch if you like, or two, or three, or six even, so that you can see it with your eyes?—You can see it with your eyes now.
702. You can see nothing there. By measurement you have only ½in. to speak to?
Mr. Skinner: I think Mr. Hay said the sill at the intermediate wing and the sill at the north wing were something like about 2in. out.
Mr. Lawson: But, still, I am speaking of a certain point, and upon a certain statement. He said distinctly that the settlement of that one wall—the ambulatory-wall—was the whole root of the matter, and ½in. only was the whole measurement he had to show for it; and does he mean to come here as a man of common-sense, not to say of learning, and tell us that that ½in. of settlement in a distance of 70ft. has caused all the mischief?
Mr. Blair: I submit that these remarks are altogether uncalled-for.
Mr. Lawson: I am speaking upon a statement made by an expert.
The Chairman: You can put a plain question and get a plain answer.
Mr. Lawson: That is a plain question and a plain answer. He says it is out ½in. and that is all, and I wish that distinctly taken down.
703. *The Chairman.*] At what point is this?—Those different measurements at the bases of the columns. Nos. 3, 4, 5, and 6 from the south end are lower than Nos. 1 and 7.
704. *Mr. Gore.*] You said that the piers are overhanging towards the sea?—Yes; some of them are. That was with regard to line.
705. Some of them are perpendicular?—That was with regard to the line.
706. Will you be kind enough to tell me what positions the piers are in?—Which way do you want them?
707. I should like to see them perpendicular all through; I heartily wish it. I will put it to you in this way: Have the piers been running towards the sea from their base?—Some of them have—the northern ones have.
708. How do the southern ones run? Are they perpendicular?—I have only taken every second pillar. The second one—No. 2—leans inward ⅜in.; No. 4 leans outward ¾in.; No. 6 is the same; No. 7 leans inward.
709. That has been sufficiently explained in your evidence. I now come to the question Mr. Lawson asked you when you gave the levels of the piers at their bases. Now, No. 1 is 0·01 higher than No. 2, No. 3 is lower than No. 2, No. 4 is of the same level as No. 3, No. 5 is 0·01 higher than No. 4, No. 6 is of the same height as No. 4?—Of the same height as Nos. 3 and 4.
710. No. 7 is the same height as No. 5, but No. 5 is less than No. 1?—0·05.
711. There is a difference of 0·05 between the whole nine piers, is there not?—Yes.
712. That is a great difference?—Yes.
713. Would that account for the bulging-out of these piers?—It would not account for the bulging-out.
714. Not to the extent of ⅝in.?—It is ½in. to ⅝in.
715. Does it show rents in the concrete under these piers?—You have too much concrete for that.
716. But surely, if there are such heavy cracks as you have described to us—I have not seen the building myself for four years—what do you say they have been caused by?—By the settlement of the foundations.
717. I should rather imagine it would eat into them; and I have had thirty years' experience of foundations?—Oh, no.
718. You think that ½in. settlement would be sufficient to account for all these cracks?—Yes.
719. You say that the corridor-floor is narrower at the centre than it is at each end?—At one place it is.
720. You also stated in your evidence that the piers have not movement at their bases?—In which way?
721. Outward?—I told you that they were out of line, some downhill and others uphill.
722. Out at the base?—Yes.
723. Are they much out?—As I explained before, they are ⅞in. out uphill, and ⅜in. downhill.
724. Is that at the base?—No.
725. But I want it at the base, or at the level of the floor if the piers are not out of line at their base?—I never measured that.
726. When the concrete wall came forward, if it did so, why did you not make the floor narrower in the centre?—I could not without throwing the concrete out.
727. But, as a matter of fact, you did not make it narrower?—My acquaintance with the building began in November last. There is greater curvature in the back wall than in the front wall and in the centre wall. I have explained that already.

728. You say that all the cracks in the north wing, and in the central block, are due to settlement?—Yes, I have said so.

729. You do not think that the foundations of the north wall are straight?—I do not think that there is any settlement there. It is very much drier there.

730. Then you do not think that there is any settlement in the north wing?—Not where the cracks are.

731. You say that the back wall, in three places out of four, is diminished in thickness?—Not the back wall, but the foundations.

732. Then you say that the foundations, in three places out of four, were diminished in thickness?—I said the wall overhangs the foundation.

733. Your evidence was—and I took a note of it—that the back walls in three out of four places are diminished in thickness——

Mr. Blair: I remember the witness saying that he could not go down 12ft. at the back.

Mr. Skinner: I would not strike out the witness's last answer; but I suggest that Mr. Gore should ask him whether he is prepared to swear so-and-so.

The Chairman: I think, Mr. Gore, you should put the question to the witness in that form.

734. *Mr. Gore.*] Then, you are not prepared to say now whether the back wall has been reduced in thickness or not?—I said nothing about the thickness of the wall.

735. This plan that has been prepared by you—the plan that was laid on the table of the House of Assembly—was a copy of your plan, was it not?—Partly a copy, and partly some additions to it.

736. Were the ambulatory-piers shown?—Yes.

737. How did you get the thickness of the foundations?—I only dug at one place—at one side.

738. Can you say that this red line shows now the concrete that has been put in since the building was finished? Let me ask you, could not the walls have been measured then?—It might have been done; but I was not there.

739. It would have been a very simple matter to have measured it at that time?—It might have been.

740. Could you not, in digging these pits, have made it worth while to have broken the concrete floor, and not have put them on one side like that?—It was pretty much the same on the inside as on the outside; and I did not think it worth while to destroy the whole floor in order to ascertain that.

741. This concrete foundation is shown here as 3ft. by 1ft.; and then it tapers off to 2ft. by 3ft.?—2ft. 6in. It is 5ft. from the floor.

742. Then you have to stop?—It goes from 3ft. 6in. to 1ft.

743. *Mr. Mountfort.*] Were there plans of the foundations issued for the Contractor to work to?—These are the contract drawings, Sir.

Mr. Blair: These are the signed contract drawings. There was no other document attached to the contract.

Mr. Gore: I quite admit that. But Mr. Blair is as well aware as I am that a contract drawing will stretch.

744. *Mr. Mountfort.*] If a party is prepared to swear that the foundations were put in 3ft. by 3ft., will you swear that he is wrong—in other words, that, though there is not packing in the footing—for you have sworn that—the footing as carried up is straight? This wall [indicating on plan] is carried up straight.

745. I mean, that it is built 3ft. by 3ft. in the whole width of the footing?—I do not think so.

746. If I show you Mr. Brindley's signature to the measurements?—[No answer.]

747. I should like very much to have an answer to my question. Why, I may ask, do you make a one-sided plan like this, and not show the depth, which you could easily have ascertained?—I would not destroy the floor for a thing like that.

748. Do you not think it would have been worth your while to have done so, seeing that it is a matter that may involve thousands of pounds?

Mr. Skinner: I may mention that the Commissioners have made up their minds to have an examination of the inside of these walls.

Mr. Blair: Do I understand Mr. Gore to say that the concrete was put in as per contract?

Mr. Gore: Yes.

Mr. Blair: All through?

Mr. Gore: Yes.

Mr. Blair: And that the foundations were put in according to contract?

Mr. Gore: Where less was put in we deducted it. Virtually these were all measurements, and were paid for as such.

749. *Mr. Mountfort.*] You have said that the back wall is overloaded?—I said it overhangs the foundations.

Mr. Mountfort: What you said was that it was overloaded, and that the earth was supporting it.

The Chairman: I think that the witness said that the friction of the earth at the back wall would help to support it.

750. *Mr. Gore.*] There can be no dispute that that wall is 2ft. 6in.?—I did not measure that wall.

751. If I say it is 2ft. 6in., should I be right?—I cannot say.

752. Have you measured the weight of the superstructure? Have you reckoned whether the strength of the concrete that has been put in is equal to bearing the weight of the superstructure? You have said that the foundation is not?—What I said was that the clay is not.

753. Then, what you mean to say is that the clay is not able to bear the weight of the superstructure?—I stated that the foundations were dangerously loaded.

754. You mean to say now, then, that the clay is not able to bear the superstructure?—I did not say anything about the strength of the concrete.

755. But you do say that the clay is not able to bear the weight of the superstructure. Now, do you know, as a matter of fact, that the slightest portion of the whole building is where the slip has occurred?—I did not measure the whole building.

756. *Mr. Lawson.*] You spoke of the contract plans in connection with these measurements. Did anybody ever tell you, when taking these measurements, that the whole of the site of this building has been changed from the time that the contract has been signed?—I know that from the drawings.

757. Did you suppose that everything remained exactly as has been shown here on the plan, although that change has taken place? Did they tell you so?—I can see that an alteration has been made.

758. I should just like to ask if that plan there is a basement plan. I suppose that you know something about the meaning of a drawing when you see one. You see these black lines dotted on that plan. You see what is now the middle wall filled down to the full depth?—Yes.

759. How would you read these dotted walls being all along the back? What did you understand by that?—I do not know what was meant by it.

760. I want to know what you understood by all these dotted lines here, from that [indicating on the plan] backwards to what is now the central wall, including the cross ones?—[No answer.]

761. If I were to tell you that it was intended when the plan was first drawn that the wall, or, rather, all the dotted portions of it, should not go down to the same level as is shown in the general plan, would you say that that is a reasonable thing?—As I told you before, I do not know what you meant by that; and it has puzzled others as well as myself.

762. Perhaps you do not know much about a plan?—Not of that sort.

763. This is the front elevation, and this the back [indicating on the plan]. You see dotted lines in the front and all along; also two dotted lines underneath. What would you take these two dotted lines to mean?—To mean the foundations of the front wall.

764. The same rule will apply to the back wall, does it not?—By-the-by, those dotted lines are not drawn on the elevation.

765. If you understand that these lines show the lines of the foundations, then, of course, it follows that these black lines, drawn in the same manner, also show foundations?—Yes.

766. There you see the back wall—the back elevation—and there is the dotted line. How deep is that?—Why do you not make all the drawings agree? This scale is 4ft., and that place is only drawn 2ft.

767. If you have a plan with the elevations coinciding and showing these dotted lines, that shows, does it not, that the wall is not intended to go down to the full depth?—It is shown on the section distinctly.

768. That is a different thing. That ground is very irregular. This might be meant to show that wherever there is a dip in the ground the wall, of course,

769. It is not necessary if you dip like that. There is the transverse section-line; and that is the cross-section longitudinally [indicating on plan]?—There was excavation all along the building at the back.

770. That is a section where there has been a great deal of filling. That is the meaning of that. The fact of the matter is that we are 5 chains away from there. You cannot take that as a criterion to measure by?—But that is all you have got to measure by.

771. But, as a matter of fact, that does not exist at all. Yet you have taken it as a criterion to measure by. We are all groping in the dark.

The Chairman: Mr. Hay apparently looks on the contract drawing as the only drawing by which the contractor is bound.

Mr. Blair: As you will see here, it goes down to the depth all the way now.

The Chairman: That section shows it, certainly.

Mr. Lawson: That does not exist now.

772. *Mr. Gore.*] There is one question which I should like to put to the witness through you, Mr. Chairman. Does Mr. Hay know the ground at Seacliff, more especially the clay and soil? Does he know if it is full of lime?—I have never analysed it.

773. Has it not come under your notice that the reservoir we put in in the bush was no good at first—that it leaked at first?—I believe it has since.

774. As a matter of fact—and you may take my word for it—the water is full of lime. I will put this question to you: Suppose that this ground at the back is exceedingly porous—that it is full of lime and magnesia—and that the ground got saturated with that water, would it not have a tendency to push that wall forward?—No.

775. Did you never hear of an instance of the kind?—There is not sufficient earth behind the wall to push it forward.

776. Do you know Mr. Walter Guthrie's house in Walker Street?—I do not.

777. Then you do not think that the weight of earth behind that wall, even though the water has percolated through the earth, would have a tendency to push that wall forward?—Decidedly not.

778. That is your firm opinion?—It is.

Mr. Blair intimated that that was all the evidence he had to call until after the arrival of Mr. Brindley; and he should reserve the bringing of further evidence until after Mr. Gore and Mr. Lawson had concluded their case.

TUESDAY, 14TH FEBRUARY, 1888.

Mr. Lawson.: I may as well at this stage raise the question about the presence of Mr. Brindley, and I request that this should be taken a note of. We previously did not know what the scope

of the inquiry was—at least, I did not. It is only after the evidence that I am able now to ascertain what really the faults are alleged to have been in connection with the building. I endeavoured to find that out previously in every way I could, but I have not been able till this inquiry to ascertain really what are the alleged faults of the building. I therefore, in the position I am placed in, and which I also feel Mr. Brindley is placed in, at this stage, being the only available and proper stage, because I did not know previously what would be brought forward, say now that it is not proper that the proceedings should go further without Mr. Brindley being present, and that he should have every opportunity of having the evidence gone over again that has already been before us. I do this with the full knowledge—at least, with the full expectation—that you will sympathize with the position in which Mr. Brindley is placed, and I do it in this form: "To the Honourable the Commissioners appointed to inquire into the condition of the Seacliff Lunatic Asylum building: On my own behalf, and on that of any others who may hereto append their signatures, I protest against any further evidence being taken in the matter of the above inquiry in the absence of Alfred T. Brindley, seeing that he is a principal mentioned in the remit from His Excellency the Governor to the said Commissioners, and, that being so, there is therefore a possibility of his being subjected to serious loss and damage because of his absence, or because of any decision which may be given or come to by the said Commissioners from evidence taken in his absence; also for the general reason that it is not fair to try any man in his absence.—Signed this 14th day of February." If you proceed after this I simply lodge my formal protest against your procedure, and I think that if you have not consulted legal authority you should do so.

Mr. Gore, in reply to the Chairman, said he was prepared to call Mr. Forrest, who took certain dimensions for him; Mr. Butcher, his foreman; and some other witnesses.

Mr. Blair said he should certainly claim the right of making a final reply.

Mr. Lawson contended that such a course would be a clear breach of faith.

Mr. Gore supported that view, and urged that the understanding was that after he (Mr. Gore) gave his evidence and called his witnesses Mr. Blair should have the opportunity of recalling any evidence that he thought might be necessary, and that he and Mr. Lawson would have the same opportunity in regard to any new evidence led by Mr. Blair.

The Chairman: I think that will apply to both sides.

Mr. Blair: The understanding under which I went on with the case was clearly this: that Mr. Gore and Mr. Lawson would go on with their case as far as they could, by making their statements and calling their witnesses, before I called any evidence in rebuttal. I certainly should not have gone on unless that had been the understanding.

Mr. Skinner: I certainly think we should go on taking evidence as far as we can.

Mr. Gore: All I ask is to summarise and review all the evidence after it has been taken.

Mr. Blair: I desire also to review the evidence, and I claim my right to do so last of all. That was the understanding on which the first adjournment was allowed; and if that had not been in our minds—at least, I so understood it—I would not have gone on till the arrival of Mr. Brindley.

Mr. Gore: I do not care how it goes. I will go first, if the Commissioners like.

The Chairman: I do not think it matters much who is first or who last.

Mr. Blair: I want Mr. Gore and Mr. Lawson to finish their case; that then I shall call Mr. Brindley and wind up the case.

The Chairman: Then you consider yourself in the position of a defendant?

Mr. Blair: Certainly.

The Chairman: I do not consider you are a defendant any more than the others.

Mr. Lawson: We are all defendants.

Mr. Blair: I claim that I am in the position of a defendant; and it is a well-known principle of law and justice——

Mr. Skinner: We are not bound by rules of law.

Mr. Blair: Then, I will say that it is a well-known rule of equity that the man who asserts has to prove, that the man who feels aggrieved takes action. Now, neither the Government nor the Public Works Department felt aggrieved, and, as I have before said, neither takes action in this matter. Let the parties—they are parties outside—who felt aggrieved take action.

The Chairman: We have no evidence to prove who took action in this matter.

Mr. Mountfort: I think it was stated in the House of Assembly that action would be taken by the Government.

The Chairman: Then, it is the act of the Government.

Mr. Blair: Action has been taken in consequence of representations made in the House and to the Government; but you may be quite sure that no action was taken by the Civil Service.

Mr. Lawson: I certainly will not go on if the claim Mr. Blair now makes is upheld.

The Chairman: You certainly took that view yourself. We do not intend to come to any conclusion as to your being either plaintiff or defendant.

Mr. Blair: I have carefully disclaimed all through being either plaintiff or defendant.

The Chairman: I think the Commissioners had better consider the question of who shall have the last word; it can be left over till our next meeting.

Mr. Blair: I simply wish to have the opportunity of reviewing the evidence after it has all been taken. Mr. Lawson and Mr. Gore may make as long speeches as they please: what I want and am contending for is to review the evidence after, and not before, their speeches are made.

After discussion, it was agreed to postpone for the present the determination of the course of procedure to be followed in the matter of addressing the Court.

The Chairman: Well, I think on behalf of the Commissioners I can say that our only object is to have the inquiry as fair and as open as possible, and it was only because we were firmly of opinion that going on with the evidence now would neither put Mr. Brindley nor anybody else in a

worse position than they would be otherwise, that we consented to go on with it to fill up the time. As we were all here met together it seemed a pity to waste time.

Mr. Lawson: I have thought seriously over it, and during last night I candidly admit I could not get any rest through it, and I felt impelled by a sense of duty to frame this protest. I have not consulted any legal authority.

The Chairman: I do not consider it is a legal point that is raised at all. It is simply a question of what is fair and just.

Mr. Blair: I have no sentiments on the subject at all. I should have been glad to have had Mr. Brindley here from the first, but I submit that at this stage of the inquiry it is too late to raise the point. It was raised before and waived.

Mr. Lawson: I may say at that stage I did not know what was going to be brought forward—I had not the slightest idea.

Mr. Blair: I certainly unfolded my case as amply as I possibly could, and the point might have been raised a second time, and urged more strongly than it was, after I made my statement.

Mr. Lawson: So it was. I did urge it afterwards.

Mr. Blair: This protest ought to have come in then, before we led the evidence.

The Chairman: Of course, if Mr. Lawson's suggestion is carried out it would mean that the inquiry would have to be adjourned till Mr. Brindley arrives.

Mr. Lawson: That is what I think should be done.

Mr. Mountfort: All the evidence is being taken down—it can be placed before him.

The Chairman: That is what was contended at first, but Mr. Lawson seemed to think that was not sufficient.

Mr. Lawson: Any one must be aware that to be present at a trial is a most important thing.

The Chairman: Yes, but we did not look upon Mr. Brindley as being one of the principals. We always understood, and the evidence at first led us to understand, that Mr. Brindley was your assistant.

Mr. Lawson: Here is a letter which the Commissioners may read. I do not put it in just now, but if you will read that you will see wherein I am right in asking that Mr. Brindley should be present.

Mr. Blair: If a decision is come to on that, I think I ought to see it.

The Chairman: It is a copy of a letter from Mr. Lawson to Mr. Brindley, with regard to directions given him. Mr. Lawson contends that in consequence of the correspondence it is evident Mr. Brindley ought to be present. It is only in support of what he has said just now. As a witness is present we can go on with him, and consider the matter of adjournment subsequently.

DANIEL DODD sworn and examined.

779. *Mr. Blair.*] What are you?—A labourer.

780. Did you put in the pipe-drain at the asylum under Mr. Brindley's direction?—Yes, sir.

781. Did you put a pipe in the north wing where this north wing has shown signs of damage?—No, sir; I put them underneath the foundation.

782. Yes, but you put them in that portion of the foundation?—Yes.

783. Is there a pipe put up the middle of this wing—this colonnade—where the settlement has taken place?—There is a pipe up the centre of the court-way.

784. Did you put that pipe in?—Yes, sir.

785. Was that pipe put in over the foundations, or under the foundations, or through the foundations?—Underneath them.

786. Underneath the whole of them?—Yes.

787. The three walls?—Yes.

788. Fully underneath?—Yes.

789. Did you cut into the wall with the view of laying it in them originally?—No; Mr. Brindley's order was to lay them underneath.

790. Did you cut the wall in any way whatever?—No, sir.

791. Did you cut this drain, or help to cut this drain, along close to the building—No. 1 drain?—On the outside?

792. Yes?—Yes, sir.

793. You met with a slight accident in that drain one day?—Yes.

794. Whereabouts—on the flat on the low ground?—Somewhere about here. About No. 5 on the plan, at the end of the building on the north wing.

795. Was that in a drive, or in an open cutting?—An open cutting.

796. How high was the cutting at the time?—About 4ft. or 5ft., as near as I could tell.

797. How did the slip come in—was it the whole hill-side, or a boulder?—No; a piece seemed to come from a boulder. It may have been about 9ft. or. 10ft. long, as near as I could tell.

798. *The Chairman.*] Was the witness working in the drives further up the drain?—Yes, sir.

799. Were you working at both drains?—Yes.

800. There was one point that was not very clear, about the sand in No. 2 drain? Do you remember driving through any bar of sand?—No, sir, I did not do any of the driving. I only sank the shaft, and then left it for them to do the driving themselves.

801. *Mr. Mountfort.*] About this accident: what was the nature of it? He got caught in the stuff?

Mr. Blair: It was in an open cut, 5ft. deep.

802. *Mr. Lawson* (to witness).] Which side of the cutting did it fall in from, standing towards the building, looking up the hill?—It fell from the north side of the cutting.

803. That would be the right-hand side?—Yes.

804. *Mr. Skinner.*] The right-hand side looking towards what?—In looking towards the bush—towards the hill.

805. *Mr. Lawson.*] The side was on the north side, looking towards the bush?—Yes.
806. *The Chairman.*] Was there much water in the drain?—No, sir, there was none.
807. Was there much water in the shafts you sank?—No, nothing to speak of; no more than is seen in every shaft.
808. Had you to bale?—No.
809. You took no buckets of water out?—None whatever.
810. Did you work in the deep shaft that was sunk in the slope at the back of the airing-court?—No.
811. You did not work in that?—No, not in the deep one. I only worked in the shafts in the airing-court, bringing the pipes through. Of course they were dry.
812. *Mr. Skinner.*] What date was this drain put in?—I could not tell that.
813. Was it in 1881, 1882, or 1883?—1884.
814. *The Chairman.*] What position was the building in—how far was it advanced—when the drain was put down?—When No. 1 drain was put in?
815. Yes?—The building was finished, sir.
816. *Mr. Blair.*] You said just now you had to do with the shafts in the airing-court?—Yes.
817. In connection with putting in the pipes?—Yes.
818. Were these shafts dry or wet?—Dry.
819. Quite dry?—Yes.
820. When you put this middle drain through did you strike up a shaft at the top?—Yes, so as to save a lot of deep cutting.
821. Was that dry?—Yes.
822. And that was immediately behind?—Right behind the concrete wall.
823. And that was dry?—Yes.
824. *Mr. Gore.*] Which concrete wall was that?—Right along the back of the building, coming up into the back of the airing-court.
825. *Mr. Skinner.*] Do you mean the foundation-wall?—Yes. We brought the pipes underneath the foundation, and brought them straight up.
826. *Mr. Gore.*] What wing was this—the north wing?—The whole four of the airing-courts we brought up like that.
827. *Mr. Blair.*] And were they all dry?—Yes, sir.
828. Just one other question. At this place where you were caught in the drain in this fashion, was it very solid ground—original ground—or part made ground?—Some made ground.
829. *The Chairman.*] In putting the drain through the back of the concrete wall at the low level you describe, did you see any signs of an old drain at a higher level?—No, sir, not there where I put them through I did not.
830. *Mr. Blair.*] Did you drive under the airing-court?—No; I drove underneath the building.
831. Under the colonnade?—Yes—brought it right up underneath.
832. *The Chairman.*] Then, where the drain was put under the walls it was not an open drain, it was driven?—I drove it underneath the walls, but through the rooms there it was open. It was very shallow.
833. You saw no signs of any other drain at a higher level?—No, sir.
834. A contractor's drain?—No, not to my knowledge.
835. *Mr. Gore.*] If I remember right it was you who put the drain through this wing on the south side of the centre block to the kitchen?—To the kitchen?
836. Did you put a drain through close by the side of the centre block—through to the kitchen? Was it you that put it in. I think it was?—Yes; I brought one to the kitchen.
837. Did you not make a hole in the concrete there that you could pass through and that you did pass through many times?—No, sir, not to my knowledge.
838. You never passed through this concrete wall by a hole that you made yourself—you never passed through from here to get the pipes up the back?—No; I never broke any foundation down.
839. Above the foundation?—No.
840. You never did it?—No.
841. *The Chairman.*] You never broke the concrete?—Never broke the concrete, sir.
842. *Mr. Gore.*] Was there any one else who was likely to have done it?—There was no one else but me brought the drains from the front to the back.
843. If there was a hole made there, no one could have done it except yourself?—There was none made for the pipe unless I made it. But I made none for the pipe, for my orders were strictly to take it under the foundations.
844. Did you see a hole in the concrete above the cement floor?—Not to my recollection.
845. *The Chairman.*] Above the floor of the ambulatory?
Mr. Gore: Yes.
Witness: Not to my recollection.
846. *The Chairman.*] This place where you were cutting into the drain, you say, came down the side of the north wing?—Yes.
847. And when you were caught the slip came from the opposite side of the drain to the building?—Yes.
848. You are positive of that?—Yes, sir.
849. If Mr. Brindley said that it came from the building side, would you contradict him?—If Mr. Brindley said that.
850. Mr. Brindley helped you out?—He was there.
851. If Mr. Brindley says that it came from the building side, and other witnesses say that it came from the building side, would you contradict them?—I say it came from the north side. Looking towards the hill, the slip caught me on the right side.
852. What depth of made ground was there there?—I could not tell.

853. Was the engine-shed standing there at the time?—Some of it was standing there.
854. The engine-shed?—Yes.
855. How far were you from the engine-shed?—We came through the foot of the engine-shed.
856. Did you find any filled ground there?—We found some concrete there.
857. Did you find any filled ground?—I could not tell that.
858. How far from the engine-shed was it you came across this filled-in ground?—I could not give a distinct answer.
859. You say where the ground slipped in upon you there was filled-in ground?—A little on the top: I do not know how much.
860. Now, I want to know from you how far it was from the engine-shed to where this slip occurred in the drain?—As near as I could tell, it would be four or five yards.
861. From the corner of the engine-shed?—Yes.
862. And there was filled-in ground there?—Yes.

On the question of the adjournment of the inquiry until the arrival of Mr. Brindley again coming up—

Mr. Gore said he was quite of opinion that Mr. Brindley should be present.

Mr. Lawson complained that the fact that Mr. Brindley had been summoned was wilfully kept back, and was not disclosed during the discussion of the question when the matter of Mr. Brindley's presence at the inquiry was first raised, and that it was only made known just as they were leaving the room, and after they had got up from their chairs for that purpose.

Mr. Blair said that he had purposely refrained from making the statement that Mr. Brindley was coming over to attend the inquiry, because Mr. Lawson seemed so virtuously indignant concerning Mr. Brindley's absence, and he allowed him to express his indignation, He acknowledged that for a time he had purposely kept back this information, but asserted that he made the statement some time before the adjournment, and that it was not made when they had risen from their chairs to leave the room, but a considerable time before that.

At this stage the Commissioners adjourned the proceedings for a quarter of an hour to consult together upon the question raised by Mr. Lawson as to whether no further evidence should be taken until Mr. Brindley was present.

On resuming the *Chairman* said: Gentlemen, the Commissioners have considered the matter very carefully, and, seeing that when the question of adjournment in consequence of Mr. Brindley's absence was previously brought up Mr. Lawson agreed to go on with the production of his witnesses, if Mr. Blair would first do so——

Mr. Lawson: No, I demur to that; I did not.

The Chairman: Mr. Blair protested that he should not go first, but waived the objection subsequently and agreed to proceed, on the understanding that Mr. Lawson and Mr. Gore should follow.

Mr. Lawson: Mr. Gore may have said so, but not I.

The Chairman: Any adjournment at this stage would, in the opinion of the Commissioners, be unfair to Mr. Blair, and place Mr. Lawson and Mr. Gore in no better position, as, should Mr. Brindley be in Dunedin, his presence would probably be objected to until his evidence is taken. The Commissioners have only to the end of the month to run, or six days after the probable date of Mr. Brindley's arrival, so that it is necessary that we should lose no time in proceeding to take all the evidence possible. Consequently the Commissioners ask Mr. Lawson and Mr. Gore to proceed with their evidence, as previously understood.

Mr. Lawson: I submit to your ruling under protest. [Copy of protest put in, and marked "13."]

WEDNESDAY, 15TH FEBRUARY, 1888.

The Chairman, addressing the representatives of the Press, said that up to the present point no evidence had been published, and before future evidence was published he thought it would only be fair that the evidence that had been taken, or a *résumé* of it, should be published, or otherwise the reports would be entirely misleading. So far as the evidence that had been taken had been transcribed it would be laid on the table, and the Press reporters would have access to it.

Mr. Gore said he thought it was reasonable to request that a summary of the preceding evidence should be given, and if it was not given, as the evidence he intended to call was intended to refute it, the proceedings would seem nonsensical, and his calling of evidence a waste of time.

The Chairman remarked that Mr. Blair's statement had been written out, that the reporters could see it, and that it contained a condensed account of the proceedings on his behalf.

ROBERT FORREST sworn and examined.

863. *Mr. Gore.*] Your name is Robert Forrest?—Yes.
864. I believe you have had considerable experience in building-contracts?—Yes.
865. And also for earth-contracts?—Yes.
866. You are an architect?—Yes.
867. Did you have charge of the Queen's Theatre during the time of its construction?—Yes.
868. I was contractor for that erection?—Yes.
869. Did you design and carry out by your own personal superintendence the Choral Hall, Moray Place?—Yes.
870. I was also contractor for that?—Yes.
871. Did you ever have occasion to find fault when I carried out work?—No.
872. It was done to your entire satisfaction?—It was done to my satisfaction.
873. I believe that you, in conjunction with Mr. Brindley, took the quantities of concrete-cement at Seacliff?—Yes.

874. Have you them?—No.

Mr. Gore: I produce the quantities, and put them in evidence. [Document put in, and marked "14."]

Witness: These are the quantities as taken, and they are signed by Mr. Brindley.

875. *Mr. Gore.*] Will you state to the Commissioners what you did when you went to Seacliff? First of all, how long were you up at Seacliff? You went up specially to take measurements of the foundations?—Yes, I went up specially for that.

876. How long were you there?—I went up on the 5th May, 1882. I was there on the 5th and 6th of May, and on the 11th and 12th; there again on the 7th and 8th of June, and on the 13th and 14th. I was there eight days in May and June; and in 1883, in May and June, I was again there—that was twelve months afterwards. I was there two days in May and one day in June.

877. That is, ten days?—Yes. I took the quantities there and made them up in town, and then Mr. Brindley and I went over the total quantities; and that is the result.

878. Will you state to the Commissioners what process you went through in taking these quantities, who was with you, and if I interfered in any shape or form?—No, I never saw Mr. Gore on the work at all while taking the quantities, nor Mr. John Gore. Mr. Brindley and myself were the only two interested in taking the quantities.

879. I do not know whether your memory will carry you back to find the dimensions that were taken of the ambulatory-wall on the north side?—Mr. Brindley went over that with me.

880. Can you find the dimensions of the ambulatory-wall, north?—Yes.

881. What is the size of it?—The front wall is 3ft. by 3ft.

882. *Mr. Skinner.*] That is, under the pillars?—Yes; that is the front wall.

883. Is it a continuous wall under the piers?—It is a continuous wall 106ft. by 3ft. by 3ft.

884. Did you see this foundation yourself?—I saw the upper part; I did not see the lower part. Mr. Brindley, of course, checked them over.

885. That is a section of the ambulatory-wall?—Yes; this is the front wall.

886. What is the depth of the footing shown?—Three feet.

887. What is the depth of the abstract?—I think about 2ft.

888. Then, if this wall was brought up 3ft., to the top of the concrete, in place of having a recess, would that be weaker or stronger than shown on the plan?—Stronger; because 3ft. will bear more strain.

Mr. Gore: Mr. Forrest is not able to answer this, but I wish to mention to you that I can show that the concrete was superseded by brick, which will partly account for the difference in depth.

The Chairman: In what wall?

889. *Mr. Gore.*] In most of the walls? (To witness:) Do you think that the foundation of the wall, 3ft. by 3ft., will carry the weight of superstructure above it?—It is quite sufficient on solid ground.

890. You believe, then, that it is not because of the concrete foundations that the building has cracked?—I cannot see how it can be so, unless the ground was not of the same nature throughout; and if it was not, still, it would bridge itself over for a distance wherever you put the concrete. If there were 3ft. or, say, 2ft. of soft ground, it would bridge itself over. Unless the pier was standing directly on the centre of the 3ft., the concrete ought to bear any weight put upon it.

891. I wish to call your attention to this back wall. You notice on the plan it is 2ft.?—Yes.

892. What is the measurement of it?—That is, the central wall?

893. No, the back wall?—Two feet six.

894. It is built, then, 6in. thicker than is shown on the plan. Do you think that 2ft. 6in. of concrete is sufficient to carry two stories above it, one of 14in. and one of 9in.?—Eighteen inches would be quite sufficient.

895. You would not have any fear yourself of constructing an 18in. foundation to carry the wall?—I never put more. I consider concrete-work equivalent to a quarter more than brickwork. In fact, we are allowed by the building regulations of this town to do so, and you can use a thinner wall of concrete than of brick.

896. I wish to call your attention to this ambulatory-wall. It has been proved in evidence that these piers vary. This first south-end pier of the ambulatory-wall and the seventh pier are level; and the other piers vary to the extent of from $\frac{1}{8}$in. to $\frac{1}{4}$in., excepting this wall here at the end of the ambulatory—that is $\frac{1}{2}$in. lower than the south end of the ambulatory: would that $\frac{1}{2}$in. of settlement in this wall, which is 78ft. long, cause any appreciable cracks in the building—say it is a little over $\frac{1}{4}$in., between $\frac{1}{2}$in. and $\frac{5}{8}$in.?—These remain stationary?

897. Supposing these at the south end remain stationary, and that settles vertically down $\frac{1}{2}$in. or $\frac{5}{8}$in., would that make any appreciable cracks in the building?—It would have a tendency to make a crack up here, on the south end.

898. Supposing it was possible for this settlement of $\frac{1}{2}$in. to throw the building over, how much would it throw it over at the top?—What is the height of the building here?

899. Say it is double the height of the length of the ambulatory—38ft.?—A quarter of an inch. It would just throw it over half the distance of what it is out of level.

900. Then, if this wall is $4\frac{1}{2}$in. out of plumb, you would not attribute that to $\frac{1}{2}$in. of settlement?—You could not, because it would only throw it over $\frac{1}{4}$in. for the distance of the length of this ambulatory-wall. It stands to reason that, if this is only $\frac{1}{2}$in. out of the level, this would be $\frac{1}{4}$in. out of plumb at the top.

901. You have had a great deal of experience in building, and, having told you that the greatest variation of level on any part of this wall is $\frac{1}{2}$in., would you suppose that is settlement or that the plasterers have finished the cement irregularly?—I could not say.

902. Would one be as probable as the other?—It is quite possible, because you have these two piers level. If these two piers are level now, the caps must have been put on level. Again, it is quite possible that the line may have sagged when the plasterers were striking the line there.

903. Is it possible to have been built that way?—Yes.

904. You would not consider ½in. in 78ft. a great deal for a plasterer to be out of his level?—No, I should find that true for that distance.

905. You have not seen this north wing lately?—I have never been to the building since June, 1883.

906. If I were to tell you that there are very extensive cracks indeed in this north wing, even in the front of the building, could the settlement of this ½in. possibly have caused those cracks?—I do not see that these cracks have anything to do with that at all, unless the ground has shifted bodily forward.

907. Your answer is that you do not see that this has anything to do with the front of the building, unless the ground has shifted bodily forward?—Yes.

908. Knowing the levels of the ambulatory—and I may tell you that is the only place we know the levels of, from all the evidence that has been produced—knowing that that is ½in. out of level, and that the piers are staggering in all directions—some in and some out—and that there is a great pressure of earth at the back of the back wall, would you attribute these piers being thrown out of the perpendicular to the pressure of earth at the back, or to the sinking of the foundations?—This, being level at present, shows no sinking of the foundation at all. It seems to have been brought forward, because this point is level, and so is this point. If those points are level, then it must have come from behind, unless the ground was slipping underneath altogether.

909. Now, taking also into consideration that these piers, as I have told you, have cracked, the superstructure above remains perfectly quiet, without any sign of cracking, and that the windows are also perfectly plumb?—That proves conclusively that the foundations are standing—at least, standing level; and, whatever movement there is, it must be from the earth below. It is very evident the foundations have not sunk if this pier (No. 7) has not sunk.

910. If the foundations of this ambulatory, north, and also this one north and these two south ones, are all put in alike, would you blame the concrete if one of them settled and the others did not?—You could not blame the concrete, because the concrete was all put in the same depth and quantity.

911. Then, if I were to tell you that these three ambulatories do not show signs of crack, but that the extreme north one does, what would you attribute it to?—Movement of the ground. That is all I could attribute it to, because the building had not moved itself.

912. Supposing this had settled vertically?—The building seems to have gone bodily forward through the pressure of the earth behind, or a stratum of water underneath breaking through the formation.

913. You see this back wall acts as a retaining-wall for the earth at the back, the building being only two stories at the back and three at the front. There is one story with the earth against it. Do you know of any similar case in Dunedin, where the wall was built with the earth behind it, giving way: I am referring to Walter Guthrie's?—Yes.

914. You know that wall gave way from the pressure against it?—There were no weep-holes in it.

915. Do you know what sort of ground that is?—You can scarcely tell. In fact, all the back part of the town has partly moved.

916. Do you know has the wall been since rebuilt?—I could not say for that.

917. Then you think that a wall acting as a retaining-wall, as this is—that water trickling through the loose soil would have a tendency to push the wall over?—Water, of course, would seek a way to get to the lowest level, saturate all down here, and, if the rock was lying at a high angle, or greasy clay, would do it.

918. But it is a supposition that this wall has moved forward: would that account for the piers being out of plumb?—Yes.

919. Without regard to vertical settlement?—Yes. This wall might stand, because you have it tight here and bound together.

920. If the foundation of this north block has not settled vertically, what would you attribute the cracks to?—The only thing to attribute them to is simply to the whole block slipping forward. It would move, perhaps, quicker at one part than at another: it depends on the lay of the strata below.

921. During the ten days you were at Seacliff taking these measurements did you observe how the building was constructed, or how the work was carried on generally?—Well, I had not a great deal of time.

922. Did you observe anything about the manner in which the building was being constructed or carried on to lead you to believe the contractor was scamping his work?—No, I could see nothing of that kind. Everything was going on as usual, as far as I could see.

923. Did any one make any complaint to you that the building was being scamped?—No; there was no necessity for doing so.

924. You think there was no necessity for doing so. Why do you think there was no necessity for doing so?—Because I think the building was going on right enough as far as I could see. I was not on the ground to see how the building was being constructed. My time was taken up with the quantities to be got out.

925. There is one question that is very material that I had forgotten. I wish Mr. Blair to produce this ambulatory-plan—this "one-sided" plan, if I may term it so—the plan showing the foundations as constructed. [Exhibit No. 3 produced.] This plan was put in by the Public Works Department, Mr. Forrest. This is the north ambulatory—the extreme north ambulatory. This purports to show the foundations under the piers. If you had been making a drawing to show the

foundations under the piers, as they are and as they were designed, is that the kind of plan you would have made?—No; I would have shown 3ft.

926. Or whatever thickness they may have been?—Yes.

927. Can you possibly from this plan draw a comparison between the strength of the two foundations?—No. The present foundations must be stronger, because you have a greater area of concrete underneath them. I mean a greater perpendicular area. It is only 1ft. thick here, and the 3ft. thickness of the present concrete foundations is much stronger than it would be, by 3ft. by 3ft. by 1ft. There is more concrete in the pier than is shown here.

928. You could not tell from this plan the relative strength of the two foundations?—No, not with that plan.

929. Could you possibly take a dimension from this plan of the foundation put in?—No; because they are differently constructed.

930. What I am speaking of is this: This is supposed to be the concrete foundation put in—these coloured portions: I ask you could you possibly from this plan tell the width of the foundations?—No, not the width.

931. Allowing that you had only this plan to go by, could you tell the thickness of the foundation?—No.

932. Could an engineer, a great mathematician, tell it?—No one could tell it; you could only assume.

933. If this plan was given to you to take out the quantities, the dotted lines showing the original plan, and the quantities of this foundation shown by the three-cornered coloured lines, would you think the man was in earnest who gave it to you, or laughing at you?—I would not take it; I would ask the dimensions.

934. Supposing any one gave you this plan to take the quantities of this cement off, as shown by the coloured drawing, what would you think of the man who gave it to you—would you think he knew his business?—Well, I should think he was trying to lead me astray.

935. *Mr. Lawson.*] Why would you think that?—Because there is nothing definite given you.

936. It is a plan of one side of the foundation?—Yes.

937. Nothing whatever on the plan to show another side at all?—No.

Mr. Gore: It does not profess to be anything but a plan of one side.

938. *Mr. Lawson.*] There is no thickness shown?—No.

939. Will you look at that plan [Exhibit 12]. Looking at that back wall of the north wing, and the rather peculiar kind of twisting that is all about the cracks, what would you attribute that to?—I should like first to see the wall.

940. You decline to answer the question?—I should like to see the wall first.

941. Keeping that in your hand still, if I were to tell you that the whole of these cracks arose from the subsidence of that ½in. Mr. Gore spoke about, would you not think I was perpetrating a huge joke upon you?—I would that. I cannot understand how the building can have sunk ½in. if these two piers are level.

942. But supposing it—allowing that to be the case—supposing there was really a vertical settlement of ½in., or ⅝in., or 1in. even, even a few inches, would you consider that that settlement would cause all these cracks in the back wall?—No, I do not think so.

943. Could it possibly do so?—I do not see where it could, because it would have a tendency mostly to crack it at the south end of the ambulatory—to split it up at the south end of the ambulatory.

944. But if the settlement was only ½in., how could it show anything?—If that settlement takes place in the 78ft. of the north ambulatory, upon the southern part, where it starts away, there would be a vertical crack of ½in. at the top to nothing at the bottom.

945. Would not it be more likely that it would be distributed, and not appear at all?—I am assuming it would all go like in a body.

946. Is that at all likely?—It depends.

947. What I meant to ask is this: Supposing it commences at nothing in the south end and gradually gains all the distance till it reaches ⅝in. at the north end, so that there is ⅝in. of settlement in the whole length, is it not much more likely that it would show nothing at all, because it would be distributed over the whole wall?—No, it would have a greater tendency to show it open at this stationary point, the south end of the ambulatory; and, this building being 36ft. high, and the length of this being 72ft., it would give half the distance on the plumb at the north end, and likewise at the south end it would tilt over from the vertical.

948. If I were to tell you there were no such cracks, what then?—Well, I should say it has not settled at all off the level. It has not gone off the level, though it may have been pushed out at the bottom.

949. If in such a case there is no settlement?—There would be no cracks in the front.

950. When you were up at Seacliff you were measuring the concrete?—Yes.

951. Did you take notice of the kind of concrete?—It was ordinary metal and cement.

952. Did you find anything faulty?—No.

953. Nobody pointed out any faults?—No.

954. And you measured the whole of the concrete?—Yes; the whole of the concrete contained in these quantities.

955. No fault whatever was found at the time you were measuring?—No.

956. If it was proved by measurement that this north wing had slipped or moved 16½in. at the north end of the ambulatory-entrance, and that in the front of the bay-windows here, of the same north wing, it had moved 13½in., what would you attribute that to?—A sinking, and the bottom, here, drawn together.

957. Understand what I mean: both the movements are in the same direction, 16in. here and

13in. here?—I could not say for that. The only thing I could say is that if the building was going down in the centre here it would be apt to contract.

958. If there was a bulge on the north wall would that account for it?—It would not account for the bottom, because the bottom would require to bulge too. This would be a rigid line.

959. If it is proved in evidence that that wall has never been moved—it stands right?—Then I cannot see how this would move. It must move the same distance in front as what it does at the back.

960. If there was a bulge in the ambulatory-floor, would that account any way for it?—Yes, it would show at the doorway here, at the north end; it would contract that door. That door would be the weakest part.

961. But you have not answered my original question. My question was this: If I were to tell you that these two slips have both occurred, what would you say would cause both of them?—The only way it could arise would be from pressure behind acting upon this outside wall—the outer wall of the north wing.

962. *The Chairman.*] Have you anything further to add in answer to that question?—The only thing I could account for that would be the pressure from behind the end of the north wall—the outside wall. The pressure coming from the outer side would act here, this being an open space only filled up with a doorway. It is possible for the pressure from behind to so act as to contract the whole of the outer wall of the north wing. Or it may act in another way: this may have thrust in the outer wall, and contracted the north wall so the cracks would show in the inner angles of the north wall; and that would have a tendency then, at least, to show the difference between the 16in. at the west end and the 13½in. at the east end.

963. *Mr. Lawson.*] I will try to put it in another way. Supposing a line drawn through this ambulatory in the centre shows that originally the whole was in one line from end to end, and that by measurement now it was proved that this opening of the ambulatory-doorway at the north end was 16½in. nearer that line, what would you say caused that?

Mr. Blair: I do not know that I can object to this, but it has not been proved that the line was straight.

964. *Mr. Lawson.*] I am supposing. Supposing there was a straight line throughout the building, and that both sides measured equally to it, and that it was proved now that this angle at the north-west end of the ambulatory was 16½in. nearer that axis-line, what would cause that?—Movement of the whole building; because the building must move to get this line 16½in. further to the east.

965. Would you for a moment imagine that ½in. of settlement in the ambulatory might cause that?—I do not see that the ½in. has anything to do with the straight line through the building at all. It has nothing to do with it. This ½in. of sinkage would have no effect upon this 16½in.

966. You know something about the nature of the ground up there, do you not?—I have seen the ground, passing up on the railway.

967. Do you know anything about the nature of the ground at Seacliff itself?—Well, I believe it is a sort of slipping formation.

968. Have you any personal knowledge of it?—Nothing further than what I have seen coming down on the railway, and from reading Dr. Hector's report on the site some years ago.

969. Do you know of any instances of hills slipping at all?—Oh, yes!

970. Could you tell us of any?—You have Constitution Street, and Heriot Row, Pitt Street, Queen Street, and Albany Street, all at the north end of the city.

971. What is the consequence usually to brick houses on such formation?—They both crack and move forward.

972. In a somewhat erratic way, do they not?—Yes.

973. The cracks are not, as a rule, all in one direction?—Oh, no! they are all twisting.

974. In fact, you could tell, looking at a building, that it was caused by something like that?—Yes, you could very easily tell that. One part of the building remains sometimes, and the other parts move. Generally you can tell.

975. Assuming that there was a slip there, would that explain the nature of these cracks?—I should certainly think so.

976. You think it would be much more likely that it would explain the nature of these cracks as they appear on the drawing than the settlement of ½in. in the ambulatory?—I do not think the settlement of ½in. in the ambulatory would show such cracks at all, because all these cracks cannot be local.

977. *The Chairman.*] In your evidence you stated—I think we were talking about the back wall of the ambulatory—that the concrete in the foundation was strong enough to carry the superincumbent weight, in your opinion?—Yes.

978. Well, I will ask you whether you do not think that that depends just as much upon the nature of the foundation beneath the wall as upon the wall itself?—If the concrete is upon a rigid bottom it is sufficient to carry the superstructure.

979. Do you not think it depends just as much upon the nature of the ground beneath the concrete wall as upon the wall itself as to whether it stands or not?—Oh, yes!

980. Because you mention that the strength of the wall is sufficient to carry the superincumbent weight, ignorant of the foundation beneath?—I did not take the clay into consideration at all. I assumed the foundation was sufficient to carry the concrete.

981. You also stated that the earth pressing against the back wall of the ambulatory, in your opinion, caused the motion?—Yes.

982. In that case would you not suppose that the back wall would be pushed close up to the other two in front?—It depends upon how this part——

983. You stated that, in your opinion, the pressure of the earth at the back of this west-

ambulatory wall would be sufficient to cause the movement?—No; I only assumed it has been sufficient.

984. Very well—assume it. In that case would you not suppose that the masonry of this back wall would be pushed close up to the other two if the pressure is in that direction?—Not necessarily: it depends upon where the pressure is.

985. Supposing there was a crack in this partition-wall—say 2in.—how would you account for that?—If there was a crack in this partition-wall, 2in., this moving bodily forward 16in. would account for that.

986. Would you not in that case expect a crack to exist in the back wall as well as upon this one?—I was only talking of the extreme north wall.

987. You also stated in your evidence that when you were measuring the concrete you only saw the top of it, above ground?—Yes; and there was a part here, on the south wing, I got down to, and, I think, a part at the extreme south, still upon the south wing—the lavatories, I think—and, I think, a part of the north wing, in front.

988. Near the bay-window?—Yes.

989. Then you think you saw sufficient of the nature of the concrete to be able to state whether it was of good quality or bad?—Yes. As far as I could see, I could see no fault with the concrete.

990. I wanted to ascertain how far you did see?—What I did see! I saw most of the foundation.

991. I understand, the top; not beneath the surface?—Yes; except only at these points.

992. *Mr. Gore.*] Ask him if he did not take measurements at several places, especially at the dip of the ground, where he must have seen the concrete?—I have stated so—at these points. I saw all those walls when they were all exposed—the centre longitudinal walls, both north and south, and the cellar-walls.

993. *Mr. Skinner.*] When you went out to take the quantities, were the whole of the foundations open and exposed?—Yes.

994. So that you could measure them?—No; only on the top.

995. How did you ascertain the depth of the foundations?—From the plans and from Mr. Brindley.

996. Then you did not have any pits sunk to find out for yourself the depths?—No.

997. Then you took the quantities from Mr. Brindley?—Yes; Mr. Brindley checked all the quantities. He went over with me, and I took Mr. Brindley's quantities as my quantities.

998. How many pits did you sink?—No pits.

999. There were no pits sunk?—No.

1000. Then I cannot understand how you managed to get the quantities of the foundations unless you had them exposed?—I got Mr. Brindley to go over the quantities with me. Mr. Brindley went over the whole of the foundations with me.

1001. And gave you the measurements?—Yes.

1002. Was it a matter simply of accounts that you went through with Mr. Brindley?—No; I simply went up to take the quantity of concrete used in the foundations, and I got them along with Mr. Brindley. I assumed no quantities by myself, but took Mr. Brindley along with me, and he likewise initialled all the quantities.

1003. Who were you acting for?—Mr. Gore. I may say there are no quantities in this assumed by myself. They were taken along with the Inspector, Mr. Brindley.

1004. Then you are not in a position to swear as to the correct measurement?—I am not in a position to swear to the depth of the foundations in the building.

1005. You are only prepared to swear to the width?—I am prepared to swear that Mr. Brindley went over with me and checked all these quantities as the quantities in the building.

1006. *Mr. Blair.*] With reference to these measurements, do I understand that you cannot swear that in this north-ambulatory foundation, in the colonnade, that the foundations are 3ft. by 3ft.?—No.

1007. You cannot swear that?—No.

1008. You do not know of your own knowledge?—No.

1009. Can you tell me whether you included the back wall in this measurement of the building from end to end—that is, the concrete back wall, shown on the plan and shown on this cross-section. Did you include that back wall?—That wall there is a brick wall. [After consulting plans:] This wall is not measured at all—that is, the back concrete wall behind the cellars.

1010. Are the cross-walls in the cellars measured?—No.

1011. Why did you not measure these walls?—Because the walls were not in.

1012. They are in now, as a matter of fact?—There were only two walls, the north wall and the central wall. I could not see that wall.

1013. What was the other portion of the building resting on if not on that wall?—This is a section, there is the ground-plan, there the basement, with the line J J on it, and the dotted walls behind. In all the other plans that dotted line appears fully.

Mr. Gore: I submit it is hardly fair to ask Mr. Forrest what actually occurred in taking the measurements. I can only say, if the wall has not been measured I have been robbed of £2,000.

The Chairman: The witness is quite at liberty to say he cannot answer. He is not bound to give an answer.

Mr. Blair: I am only asking you to state what you know. I wish to be quite fair.

Mr. Lawson: He is misunderstanding the question.

The Chairman: Let Mr. Forrest say so. If he does not understand the question it is of no use attempting to answer it.

Witness: Foundation of retaining-wall, 214ft. 6in. by 2ft. 6in. It is included here.

1014. *Mr. Blair.*] Then you have included it?—Yes.

1015. And have you included the cross-walls?—Yes, the cross-walls. They are all in.

1016. Can you tell me the quantities in these footings according to the original plans?

The Chairman: The witness stated that he got all these dimensions from Mr. Brindley, and of his own knowledge he knows nothing.

Mr. Blair: I wanted to know whether he knew the quantity of concrete as shown by the contract-plans.

The Chairman; You are asking him now for measurements included in the papers put in as the result.

1017. *Mr. Blair.*] He told us he took the measurements from the plans, and from information given by Mr. Brindley also, and I want to know whether he can give us the quantity of concrete according to the drawings?—I should require to go through it. I could not do it in a few minutes.

Mr. Lawson: Do you mean of the whole building?

Mr. Blair: The whole building.

Mr. Lawson: I hope you recognise, step by step, the importance of having Mr. Brindley present.

Witness: The central block—the total quantity of concrete put down before the 1st May, 1882, was 309yd. 8ft. 10in.—that is, the central block; north wing, 387yd. 16ft. 1in.; south wing, 142yd. 22ft. That was 840yd. 19ft. in boxes. In trenches—505yd. 15ft., central block; north wing, 416yd. 26ft.; south wing, 61yd. 24ft. Total of concrete, 1,825yd. 5ft.

1018. *Mr. Blair.*] Then the total of these boxes and trenches is 1,825yd. Is that the total of concrete as constructed?—That is the total of concrete as constructed up to the 1st May, 1882.

1019. Was there anything more after that?—Yes, 3rd June, 1883.

1020. How much was that?—137yd. 2ft. above ground, and 624yd. 20ft.

1021. And the total of that is?—761yd.

1022. Is that all?—Then there was the brickwork.

1023. Is that all the concrete that was put in?—All that I took quantities of. There may have been more, but I did not measure it.

1024. Was the building finished when you were there?—No.

1025. That comes to 2,586yd.?—Yes; but I could not say whether that is all the concrete. That is all I measured up to the 30th June, 1883.

1026. Now, can you tell us how much the original contract shows?—I could not say how much the original contract shows.

Mr. Gore: I have just found—if you will allow me, and it is pertinent to the question just asked—this statement given to the foreman, whom I intend to call as a witness. I will put this in as an exhibit. I notice it is signed by Mr. Brindley. It shows the quantity of concrete in the foundations and the quantity as per plan: the one is deducted from the other—that is to say, the quantity on the plan is deducted from the quantity actually put in, and it leaves a balance. I think that is what Mr. Blair is trying to arrive at. If I put this in now it will facilitate matters. These were given to Mr. Forrest to assist him in taking the measurement with Mr. Brindley. Of course this is not put in as a complete statement of the measurement, but for what it is worth, as far as it goes.

The Chairman: This is dated the 13th June, 1882?

Mr. Gore: Yes.

1027. *Mr. Blair.*] What is the foreman's name?—John Dick.

The Chairman: These are not final measurements?

Mr. Gore: No. The measurements are taken by the foreman, and initialled by Mr. Brindley as being correct. I put that in to show the measurements as per plan, and as actually carried out, and the difference is added or deducted, as the case might be. [Document put in, and marked "15."]

1028. *Mr. Blair.*] Do I understand, Mr. Forrest, then, that you simply checked these measurements with Mr. Brindley? You did not take them for yourself?—No.

1029. In these particular measurements that you gave us, you gave us concrete in trenches and concrete in boxes. Can you, from the specifications, define what each was?—All the foundations seem to have been of concrete, and the centre wall abutting on the earthwork concrete.

1030. Can you tell from the specifications what portion of the concrete was to be in boxes and what portion was to be in trenches, as you have put them in your measurements?—Of course it is necessary to have boxes for that above the ground. You cannot put concrete in without.

1031. Can you from that tell us what was intended to be put in boxes, and what was to be put in trenches?—There could be no intention. Whatever was underground could be put in trenches, and what was above must be put in boxes.

1032. Is it shown on the specifications that what was underground could be put in the trenches without boxes?—Certainly all parts that could not be put in without boxes would require boxing. The specification says, "The whole to be carefully mixed together, and when placed in position to be strongly boxed or cased, packed solid, and finished level, to receive the superstructure of brickwork." If you dig a trench you can fill the trench.

1033. *The Chairman.*] Is there anything in the specifications implying that?—It says so here: "The whole to be carefully mixed together, &c." [See preceding answer.]

1034. Was it not boxed in the trenches?—You do not require to box your trench.

1035. Is that stated so in that specification?—You have to assume that.

1036. *Mr. Blair.*] Is there anything in the specification to lead you to infer that casing was to be omitted in the trenches?

1037. *The Chairman.*] Does the specification distinctly state that concrete can be placed in the

foundation-trenches without boxes?—Yes: "The whole to be carefully mixed together, and when placed in position."

1038. That is no reply at all. You may place it at the top of a building?—Then you would require to box it.

1039. Then the footing of the foundation is not put in position?—That is a different question.

1040. The specification distinctly states that when the concrete is placed in position it is to be boxed?—I see what you are driving at now. It does not say the trenches have got to be boxed.

1041. Does it say the trenches are not to be boxed?—It does not say so: it says, "The whole, when mixed, to be placed in position." If you place concrete in position in a trench, you do not require to box it, but if you put concrete above that, you have to box all that is over the ground.

1042. I simply repeat the question: Is there anything in the specification to lead you to infer that no boxing was to be put in the trenches?—No: it says it is to be boxed in position.

1043. It is to be boxed in position in the trenches?—It does not say "trenches" there.

1044. *Mr. Blair.*] Do you say it is not to be boxed in trenches from that specification?—I assume it requires no boxing in the trenches.

1045. Tell us, then, upon what this assumption is grounded?—The assumption is grounded on all works. I have never seen occasion to put boxes in trenches. The trenches are cut out the size of the foundation, and the concrete is boxed by the trenches.

1046. From this specification do I understand it was not intended to put cases in the trenches?—I should never expect it.

1047. You are clear upon that point?—I never had it unless the material I was going through was of such a nature——

1048. I am not asking what you would not do, but how you read the specifications as a professional man?—As a professional man, I would not expect the contractor to go and box the foundation.

1049. Not from that specification?—No.

1050. Then how was he to get in his footings without boxing? Take these footings, for instance, where there are two steps?—You would require to box in there.

1051. Then, as these footings are shown on all the foundations from end to end, you would infer that he had to put boxing in the trenches?—Wherever the trenches were to receive a footing, when the footing decreases in the height of the foundation, then it would require to be boxed in.

1052. Then the plan simply shows that boxing was necessary?—According to that.

1053. *The Chairman.*] According to the contract-plan?—Yes.

1054. *Mr. Blair.*] And if you were tendering for that work as a contractor you would provide for boxing, would you not?—I would require to do so.

1055. You said something about the quality of the concrete—not very much. Did I understand from you—my notes are not very clear—that you saw the foundation bared at the bay-window at the northern front gate?—Yes.

1056. Your impression was that the concrete was put in 3ft. by 3ft. at this bay-window?—No: I said ——

1057. That the concrete was all right?—The quality of the concrete correct.

1058. Can you speak as to the dimensions of it?—I have the dimensions here. The front wall and bay-window (north), 3ft. by 2ft. 6in.; 3ft. being the depth of it.

1059. From your recollection of that do you think the concrete was put in in a proper way?—I could see nothing wrong.

1060. This is a section taken of this place.

Mr. Gore: The "one-sided" section.

1061. *Mr. Blair.*] The one-sided section. It is a section of the front part of it, in which it shows the brickwork overhangs?—I did not see the brickwork on it. I have never been up to Seacliff since. I have never seen any of the brickwork in connection with this north wing at all. There was nothing but the concrete foundation in when I left.

1062. You said you saw no scamping at all?—No.

1063. And you were asked whether your attention had been directed to faulty work?—No; I cannot say my attention was directed to faulty work: in fact, I had very little conversation all the time I was up there.

1064. Is it likely your attention would be directed to faulty work if you were there as the representative of the contractor?—I did not look. I did not go up for that purpose.

1065. You said, with reference to these same plans, that, if these plans were produced to you to take the quantities off, that you would assume they were given to you to lead you astray?—I could not take it.

1066. But, supposing these plans were simply brought to you as evidence of the front part of the foundation of the building, would you consider they were sufficient?

Mr. Gore: I submit we have no evidence of that at all, but quite the reverse. I think the calculation of the foundations made on it.

The Chairman: Mr. Blair simply puts a question which, I think, is fair enough. As far as those sections show, he asks for his opinion.

Mr. Gore: I say the plan is false on the face of it.

The Chairman: That plan only indicates in hard lines what has actually been measured, I understand?

Mr. Blair: Yes.

Mr. Gore: Mr. Blair has brought evidence to show what the bearing-strain of this concrete is.

The Chairman: That is not in question now.

Mr. Gore: He says that is a perfect plan, because he brought Mr. Hay forward, who never measured the foundations, and he is brought to swear that the foundation, as shown on the plan,

will not carry the bearing-weight, and Mr. Forrest said he could not possibly arrive at any conclusion from that plan.

1067. *Mr. Blair.*] I am merely asking you if that plan would show you the state of the front part of the concrete?—That plan shows that.

1068. Does it purport to show that?—Yes, it purports to show that; but of course you could make no calculation from that as to the quantity of concrete in the foundation.

1069. Here is a section which shows the wall with the concrete flush with the front wall—section No. 9A; there is another section, 17B; another section, 18; another section, 10: if you found that the brickwork was simply built flush with the concrete, and you only saw the front wall, would you assume that the balance of the concrete was left as a large footing inside?—I could not say that: it is quite possible.

1070. Suppose that you could not get inside without tearing up the floors and spoiling the building, and you found the brickwork overhanging or flush with the concrete on the outside, would you assume that the balance of 3ft. was on the inside of the wall?—Well, I could not say anything as to that unless you got behind the wall.

1071. In measuring this concrete did you deduct anything for faulty work?—There were deductions.

1072. For faulty work?—I could not say for faulty work: there were deductions.

1073. Did not you hear of deductions being made for faulty work?—Not to my knowledge.

1074. Nothing about one fifty yards being put in in defiance of the Inspector?—I do not know.

1075. Now, coming to the question of these cracks, can you really, as a professional man, profess to give any opinion as to what the settlement is due to, or what is the nature of the settlement, without a close inspection of the building?—I only gave my opinion of what I saw on the plans. I would not give an opinion without seeing the building.

1076. Would you like, as a professional man of some little standing, to give a deliberate opinion as to the cause of this damage on the facts placed before you by Mr. Lawson and Mr. Gore?—No.

1077. Then we are to assume that this opinion of yours is very provisional indeed?—Just what I consider the result would be of the sinkage.

1078. In dealing with this question of the slip, I gathered from you that you were assuming that the pressure came upon this north-west corner?—Yes.

1079. If you were told or assured that there was no evidence of any undue pressure, settlement, or movement of any kind at that corner, would that affect your opinion?—There seems to have something moved.

1080. But if you were told that there is no evidence whatever, or very little evidence, of movement at the north-west gable, but ample evidence of it along the ambulatory, would you still assume that the pressure had come from that corner?—It could act from no other part to bring the building forward 16in.

1081. Then, are you satisfied it is possible that the building came forward 16in.?—Satisfied if the hill moves.

1082. Without seeing any cracks of magnitude anywhere except here in the south end of the north ambulatory?—It would show cracks all over.

1083. If you were told there were no cracks worth mentioning from, at any rate, the first stack of chimneys, would you still assume that the building had moved 16in.?—Yes.

1084. You would?—Yes. I know a building in Dunedin that has gone down bodily 3in., and it does not show a crack from one end to the other.

1085. You were asked to give an opinion on the question as to how to account for the back slipping or moving 3in. more than the south front, and your answer was that it was possible for this to be taken up by the building—crushed into the building?—Yes.

1086. Would your opinion, then, of that be modified if you were told there were no cracks at that place?—Then I would assume that it had gone in the opening at the north portion of the ambulatory.

1087. Would you assume that the two walls of the ambulatory were compressed?—Yes, to the extent of 3in.

1088. If we find the ambulatory at its full width there, and that it is actually compressed in the middle, would that affect your conclusion?—Well, I could not account for it—or, I may modify that, and say it is quite possible this building may have been 3in. less in measurement.

1089. Now, you first assume and say it is possible for the building to slip forward, as on a huge sledge, like the launching of the "Great Eastern"—to slip forward 16in.—and then you assume that the front part of the building slipped forward 13in.?—I cannot account for that 3in. at all.

1090. Then you withdraw what you stated with reference to it?—No. I endeavoured to explain the reason; but if the walls are rigid and show the same measurement——

1091. Very well; I will take it another way. You say it is possible for the front of the building to have gone forward 13in.?—Yes.

1092. Then, you were told that the front part went 13in. and the back part 16in. We must assume, then, that the whole building went forward first the 13in. Is not that so?—Yes.

1093. Then, in order to bring this compression theory into operation, we must assume the front part of the building has settled, stopped?—Remained stationary.

1094. Then the back part of the building came down 3in. further and squeezed it up?—Yes.

1095. And the front part of the building, after moving—well, by some process unknown to physics, had got anchored down to the rock below?—I do not know that. I was asked what I would consider the cause of the difference between the 16in. and the 13in., and the only cause I could see would be the compression.

1096. Now, supposing you went out there, and found one block of the building 16in. downhil

and another 12in. uphill, would you assume the second block had gone uphill?—Oh! I would not like to give an opinion on that at all. I know nothing about the position of the building.

1097. You would not assume the one had gone uphill?—It would be something extraordinary to see a building go uphill.

1098. If you found that the ambulatory was not in line—that some part of it was out of line uphill, and other part out of line downhill, would you assume that the part out of line uphill had gone uphill?—No; I should assume one part had gone quicker than the other.

1099. Suppose we find it out of line uphill?—If the north block moves downhill this will move at a quicker rate than the part south of the ambulatory; so, therefore, this part will be further up the hill and this part further down.

1100. Supposing this building moved 16in. downhill, as you are told it did, and that this other block remained stationary, or that it remained stationary up to that point, by No. 3 wall, along that ambulatory, what would be the effect at this point, between the stationary portion and the moving portion?—It would show the cracks all through.

1101. You would expect to find big cracks there?—Yes.

1102. If you found no crack there at all would your theory be that it was compressed up?—I do not know whether it is compressed. Of course one would require to look for other causes. I do not know the nature of the ground throughout.

1103. Suppose you built one wall upon pillars and another wall a solid wall, and that they sank equally, would the effect on both walls be the same?

Mr. Gore: That is supposing a case that does not exist: this is pure fancy.

Mr. Blair: I am putting my question in my own way, and I submit, in cross-examination, this is perfectly fair. Mr. Forrest has come as an expert.

Mr. Gore: You are asking him upon a point which does not exist.

1104. *Mr. Blair.*] I am saying, supposing a building is erected, as hundreds are—supposing one part of the building is put on pillars and another on a solid wall, and they sink the same, will the effect on the superstructure be the same?—They are bound to be the same.

1105. If you take away a pillar from the end of a wall, or if you only lower it over a small portion of the wall, will the effect be the same as subsidence over the whole?—No: you are taking your bearing-power away at a certain point, and therefore it would not be equal.

1106. You said, if I recollect aright, that if these pillars settled down ½in. that would show a crack of ¼in. at one end and ¼in. at the other?—Yes.

1107. Well, we will assume that this is a vertical section of a column—a column 10ft. wide and 40ft. high. Suppose the front of the column settles down ½in., what will the effect of that be upon the 40ft. wall?—Do you mean in the length?

1108. In the height?—It would be 2in. out of plumb.

1109. If you found there was evidence of a slip away behind the building, here, and it was supposed to exert pressure upon the building here—that is, the colonnade portion of the north block—these three walls being parallel—if you applied pressure to these walls horizontally, what would the effect be?—You would bring them all forward.

1110. Would the back wall be pressed against the other walls?—The two walls, the back and the middle wall, would come equally the same as the one wall.

1111. They would come the same, being tied together. What would the result, then, be between the back wall and the front wall, where there are no ties?—They would all be brought forward. These are all concrete, and, being all concrete, these are all tied together. The whole four would go together.

1112. Then there would be evidence of compressive strains at the junction of the back wall with the cross-walls, or the cross-walls with the middle wall?—There would be compressive strains there.

1113. If, instead of compressive strains, you found large cracks between the partitions and the back wall?—I should expect to find them, because this has come forward 16½in., and the whole affair is twisted.

1114. That is a different question. It is not your theory that I am working upon. These three walls being parallel, you say the back wall and the middle wall would be pressed against the front wall?—I consider they would all go together.

1115. And you distinctly stated there would be evidence of compressive strains at the junction of the cross-walls with the others?—Yes.

1116. Suppose you found at the junction of the cross-walls, the back walls a large open crack, getting wider as you got to the top, what would you say?—I should say it was just the action of the slip.

1117. Leaving that out altogether: it is not your theory I am working on. I want to get from you, as an expert, evidence for or against certain theories that have been propounded. Leave your own theory. If you find this crack there, would you still say that the back wall had been pressed on the front?—If the cracks remain at the junction of the cross-walls with the back wall, then the pressure is taken off the cross-walls.

1118. How could these tension-cracks result from compressive strains?—I cannot account for that.

1119. You cannot account for it?—No.

1120. Supposing you take three parallel walls, and find the back wall cracked, and a crack existing between the back wall and the other walls, you would still attribute that to pressure from behind against the back wall?—I would attribute it to some moving action that has taken place out of sight, and I cannot account for it till I know what that is. If this north wing has moved bodily forward, and the other remains stationary, it is evident that something is working that we know nothing about, and what that something is I do not know.

1121. Suppose these walls were pulled away by a force from outside from the back wall, would

they show a split at the back wall?—They would show nothing at all, because they would be all away.

1122. If they were pulled 1in. away from the back wall, would it show?—Yes, if one wall remained stationary, and the other was drawn away, it would be bound to show.

1123. Would you assume that the back wall moved uphill?—No.

1124. You say that the settlement would give certain cracks of ¼in. at each end of the corridor. Suppose we find that the under part of the wall altogether was out about 2in., how do you account for that?—I could not say that.

1125. Suppose we find a bulge in the wall 2in.?—I could not account for it.

1126. Would you account for it by pressure coming in diagonally from the north?—When a building moves bodily forward you cannot tell where the strain will come.

1127. You stated that you did not take the clay into consideration in giving an opinion as to the carrying-capacity of the wall?—No.

1128. If you were designing a building, and found the foundation defective, would not you put in more foundation?—I should put them in sufficient.

1129. Would you consider the clay under these circumstances?—If I got upon a soft formation I should see what it would carry, and suit my foundation to the superstructure.

1130. If the foundation was specified to go down 4ft. 6in., and the foundation was only put down 3ft., would the one bear as much as the other?—It depends on the nature of the ground.

1131. In soft ground would one bear as much as the other?—The same area?

1132. No, of different areas. Say one foundation was to go down 4ft. 6in., and had footings 9in., and instead of that it was put down 3ft. and no footings, would the latter one carry as much on soft ground as the original one?—If the area of the footing was the same it would carry the same.

1133. I am saying that the area is less?—If the area is less it would carry less.

1134. Then would not it carry less, even if the area was not reduced, if it did not go down deep enough?—If the area was not reduced, and it did not go deep enough, if the clay was of the same nature it would carry the same.

1135. Take ordinary clay: if, instead of going down 6ft., you cut off at 4ft., is the superstructure as safe as if held by 6ft.?—Just the same if the clay will support the same.

1136. Why go down for foundations?—There is no necessity to go down for foundations if you get the same bearing-power.

1137. Is clay at the surface not subject to effects from rain and from other causes—atmospheric causes?—It would depend greatly upon the nature of the clay.

1138. Is there no rule acknowledged in the profession by which a minimum depth must be gone to in order to get out of atmospheric and meteorological influences?—No. It depends upon the nature of the material.

1139. Then you allow nothing whatever for friction in the bearing-surface in a very deep foundation. You allow nothing for friction against the sides?—No, nothing whatever.

1140. Is that an invariable practice amongst architects?—I do not know what the invariable practice is—it is what I do myself.

1141. *Mr. Gore.*] You have a plan showing some of the buttresses supposed to strengthen the foundation. You stated that if the back wall comes forward you would expect all three walls to go together?—Yes.

1142. If you were told that this concrete floor had been forced bodily over, and had overlapped, would that lead you to believe that the back wall had gone forward and not the front one?—

1143. If the back wall was moving forward from pressure of the earth or water at the back, and a large buttress was put here, as shown there, and afterwards you were told this wall had stopped moving, what conclusion would you come to?—The conclusion I would come to is that this buttress had stopped the pressure at the back.

1144. Would that buttress, as built there, take the weight off that wall?—It would not take the vertical weight, but the pressure from behind.

1145. It would not stop vertical settlement?—No; it would rather increase it, because you have extra weight cast upon the footing.

1146. In putting the concrete in casing, as Mr. Blair put it, or in boxing, do you leave the boxing on the ground, supposing you put it underneath the ground?—No.

1147. Then, if any was found in the ground it would be simply for the reason that it could not be got at?—Yes, or not worth while to take it out.

1148. In putting in stone packing do you consider 7in. or 9in. apart too near or too far?—I generally specify 4in.

1149. You say you took Mr. Brindley's measurement for the foundations. Do you mean that you did that in his office, or that you went round the building with him?—I went round the building with him. We went and measured part of it together, where I was not certain of the foundations.

1150. *The Chairman.*] I think the witness stated that he did not measure the depth or width. He may have measured the length?—There were some I took myself, and Mr. Brindley went all through, and whatever was wrong we eliminated from the quantities. They are all shown here.

1151. Then I understand you went round with Mr. Brindley, and where you could measure it you did, and where you could not you took his figures?—Yes.

1152. *Mr. Lawson.*] May I ask him a question? Dr. Hector's report——

The Chairman: It is not put in.

1153. *Mr. Lawson.*] Well, I will formally give in a copy. [Copy of Dr. Hector's report put in, and marked "16."] Read from No. 3 forwards?—Yes.

1154. It says, "The north end of the building and part of the foundations of the central

portions already laid are on the unstable portion C, the movement of which, owing to the shape of the under-surface, will be towards the north-east." Does that give you any enlightenment as to the movement, then, of the north wing?—It gives you the movement forward of this altogether.

1155. If it came to your knowledge, as an architect, before commencing a building that such a thing was possible, would not you consider it your duty to advise those who employed you that certain particular things required to be done to guard against that?—Yes: in fact, I would stop the work until it was done.

1156. Looking at that report further down, it says, "Unless the foundations are carried through to the solid, or otherwise completely isolated from the general mass of formation C on the hill-side, there is danger that, however strongly they may be laid, the northern end of the building will be insecure." Would cutting a trench and leaving it open, isolating the ground on which the building was to be erected, be of assistance?—It would have a tendency to help it.

1157. Would cutting an open trench, and isolating the portion on which the building was placed from the remainder of the moving mass, be a thing that you would suggest to do?—Yes.

1158. To isolate the site?—Yes.

1159. What would be the effect of that?—That would cut off the water from the site of the building, and give the building a better chance of standing.

1160. In what way would it have a better chance?—Because you take the water away from it.

1161. What would be the result on the isolated portion?—It would give it more solidity.

1162. Would it harden it?—Yes, it would harden it.

1163. If you recommended the proprietor to do that, and no attention was paid to your recommendation, what would you think of the proprietor?—I think he would require to stand the consequences.

1164. *Mr. Blair.*] If there was boxing put in the foundation, would there be evidence of it now?—Not unless it was left in.

1165. Would it not be smoother with boxing than if it was just thrown in the rough drain?—More even.

1166. Could you, on examining the foundation, know whether boxes had been put in or not?—Yes, you could tell that.

1167. You were asked, if you were architect of a building, and that you advised the proprietor to drain the ground, and he did not drain the ground—[*Mr. Lawson:* I did not ask that.]—would the responsibility rest upon the proprietor?—I would consider so.

1168. But, supposing the proprietor drained the ground according to the architect's own plans, then upon whom would the responsibility be?—Then I should consider myself responsible.

1169. Supposing the whole hill-side was moving as suggested, would an open drain remain open?—No, unless precautions were taken for it to remain open.

1170. You will find in the same report, if you will read the last clause of Mr. Cox's report—would you mind reading the first clause of the last paragraph, beginning, "If proper precautions are taken"?—"If proper precautions are taken to thoroughly drain the new site, which is also situated in such a manner that a very slight rise takes place immediately beyond the front of the building, and substantial foundations put in, I do not think much danger exists of another slip taking place."

1171. After that warning would you see, if you were the architect, that substantial foundations were put in—would you pay particular attention to the foundations?—I would see that the foundations were strong enough; but this would require, not a foundation, but a retaining-wall.

1172. I merely referred to this clause to ask, if your attention was directed to the necessity for substantial foundations, would you see that substantial foundations were put in?—I should see that the foundations were put in strong enough to carry the building.

1173. *Mr. Lawson.*] I would ask another question or two: Supposing you have a building erected on confessedly soft ground—say it is a building 40ft. high in the wall—would you recommend as a good thing to be done that a tunnel 3½ft. by 2ft. or so should be sunk within 12ft. of its foundations—remembering always that it is soft ground—and carried right along two sides of the building only, and then above that another tunnel or gallery about the same size, still within 8ft. or 10ft. of the building, or 12ft., or 14ft., or 15ft. of it? Do you think that would be conducive to the stability of the building?—No, I should say not.

1174. Do you think you would recommend it to be done in any case?—Not in moving ground.

1175. Or on ground that there is even a supposition of moving?—No.

1176. And if you knew a certain hill-side was famed for moving, would you still say it would be a most ridiculous thing to do?—No; I should prefer to put a tunnel behind to cut off the water.

1177. Put at a sufficient distance back from the building?—Yes.

1178. How far back do you think, to give the building a fair chance?—You would require to go back from the building so that it would not have a tendency for the weight of the building to carry the stuff to it.

1179. How far back?—That depends on the nature of the material.

1180. In the case of the Seacliff building here—look at its size—how far back do you think on the hill above it would it be fair to the building to put in a trench to intercept the waterflow? I speak of the whole building, not of the wing?—I could not say the distance back, but should like it pretty well clear of it.

1181. Supposing the building was 40ft. high, as in this instance, and a drain has been put within 16ft. and 12ft., and carried down 17ft. below the foundation, and another 12ft. above that—that is, 3ft. below the foundation—carried along the west and the north ends of the building, do you consider that a safe thing to do?—No; I would not like to go within 12ft. of the building.

1182. It could not possibly do the building any good?—No, it would do no good to go within 12ft.

1183. Would it have a tendency to make it settle?—Taking away support would always have that.

1184. *Mr. Blair.*] Supposing the building moved away from the drain?—Then, that is worse and worse.

1185. Would it have a tendency to make it go back?—It could not go back.

1186. You said this buttress, or counterpart, or whatever it is called, would go down here?—No, I do not say that.

1187. Do you say it did not?—It would not take the vertical pressure.

1188. But would it not if toothed in this fashion, with rails in the middle of the walls?—The weight would then go upon the foundation.

1189. Suppose there was no question of any slips here at all, and you went and found one block of the building 1ft. downhill and another 1ft. uphill, what would you say?—I could not account for it.

1190. Would you say it was built that way?—I could not say it was built that way.

1191. Supposing you had no information whatever about the building, and you go out and find it one block uphill and another downhill, and you have no information how it was set out, no centre-line, no base-line, what would be the conclusion?—The conclusion that there was something wrong.

1192. But supposing there were no cracks there?—Then, if there were no cracks there it would have been built that way.

GEORGE CRONK sworn and examined.

1193. *Mr. Gore.*] What are you?—A labourer.

1194. Did you work at Seacliff Asylum?—Yes.

1195. How long were you employed there?—I should say about fifteen or sixteen months.

1196. Did you assist to put the concrete into the trenches?—I put in a portion of it.

1197. Will you state how it was put in—but first of all tell the Commissioners how it was mixed?—It was mixed with metal and cement. It was mixed in a concrete-board erected for the purpose.

1198. Was it measured at all?—Yes, in a box; but in what proportions I cannot thoroughly say. By the size of the box, if my memory serves me, it would be 5 or 6 to 1—according to the size of the box.

1199. It was measured in boxes, you say—the stone and cement were both measured?—Yes, the stone was measured. Of course the cement was put out of a cask.

1200. How was it placed in the trenches?—It was wheeled in barrows, shot out of the barrows, and levelled by the men in the trench.

1201. Did you notice how the stone packing was put in?—The stone packing I did myself. I suppose that the spaces were 7in., 8in., or 9in. apart, and it was kept well away from the edges.

1202. Was the concrete rammed with rammers?—I think it was.

1203. How do you mean, you think it was?—At the portion I saw it was.

1204. Have you had much to do with concrete-work?—Yes. I think in the building I am at present working at there are some thousands of yards of it.

1205. What building is that?—The Australian Mutual Provident Society's new building.

1206. That is in Princes Street?—Yes. I have worked with Mr. Small for a good long time. He has had a lot of concreting to do.

1207. From what you know of concrete do you consider that the concrete which was put into the asylum at Seacliff was good or bad concrete?—I should consider that it was good.

1208. Do you consider it was good concrete?—I do.

1209. *The Chairman.*] Will you describe to us what was the size of the stones that were put in the packing?—Some might be 10in. and some 12in. square. They were boulders broken up—got out of the ground—good, clean, hard bluestone; and the metal was of the same quality.

1210. What size were the stones generally?—About 10in. or 12in. square; but some might be a little larger.

1211. *Mr. Skinner.*] Were any very large?—Not to my knowledge. I do not recollect seeing any very large ones put in.

1212. *Mr. Mountfort.*] You mean to say that you mixed the cement with the stones or broken metal?—After the metal was measured.

1213. After measuring it what did you do?—We mixed it once dry with the metal, then wetted it, turned it twice, then put it into barrows, and then into the trenches.

1214. Was there no sand?—I did not see any sand there.

1215. You saw no sand used?—I did not see any used.

Mr. Gore: I would call your attention, gentlemen, to the fact that it is five years since this witness was employed on the work, and his memory may have failed him since that time.

GEORGE WATKINS sworn and examined.

1216. *Mr. Gore.*] What are you?—A labourer.

1217. Did you work at Seacliff Asylum?—Yes.

1218. Did you assist to put in the concrete there?—Yes.

1219. Will you describe how it was put in—but first of all will you describe how it was mixed? Was it measured?—Yes, it was measured in boxes that the Inspector had made. It was put into these boxes and turned out from that.

1220. And after it was mixed?—It was put into the trench. Then boulders were put in, as nearly 8in. apart as possible, and rammed.

1221. The concrete was rammed?—Yes.
1222. Do you remember whether sand was added with it?—Yes, it was.
1223. You have had a good deal of experience with concrete, I suppose?—Yes.
1224. Would you call that concrete good or bad concrete?—I think it was very good concrete.
1225. Was Mr. Brindley present when most of the concrete was put in?—I did not put in any without him being present. He was always standing there at the trench. He was always between the trench and the mixing-board.
1226. *Mr. Skinner.*] What size boulders were put in?—I suppose they would be from 8in. to 1ft. packing.
1227. Were they broken up or put in as boulders?—Broken up. There may have been a few that were not, but no round ones were put in.
1228. Were the boulders clean when they were put in?—They were all cleaned before they were allowed to be put in.
1229. How were they cleaned?—With water.
1230. *Mr. Mountfort.*] Was the concrete put in with boards on each side of it?—In some places it was.
1231. But it was generally put in the earth?—Yes, in the earth. Where it would be loose or difficult ground boards would be always put on each side of it.
1232. You have stated that you used sand with the stones?—Yes, with the screenings.
1233. Do you recollect the proportions that you used to put in—how much sand and how much stone? We know that it was 1 of cement?—I think it was 5 to 1 altogether, but I would not be certain. Of course I was not there when the boxes were made. I know that the boxes were made to Mr. Brindley's orders, and he was always there when the concrete was measured.
1234. *Mr. Blair.*] You have said that the boulders, before they were put in, were cleaned: were they scraped or washed?—They were washed with water when they were very dirty.
1235. How did you apply the water—with a hose?—Yes.
1236. Where did you get your pressure from?—I do not know, but I know that we used a hose for it.
Mr. Gore: There was a pressure of 25ft. We could throw it over the engine-shed.

BENJAMIN BUTCHER sworn and examined.

1237. *Mr. Gore.*] You were foreman of the bricklayers at Seacliff, were you not?—Yes.
1238. Did you see the concrete that was put in?—I saw some of it.
1239. Did you see the materials measured?—Yes.
1240. The materials were mixed on a board and then put in the trenches?—Yes.
1241. Were you at work at the concrete for me at any time?—Yes; I superintended the putting of a portion of it in.
1242. From your knowledge of concrete should you consider it good or bad concrete?—It was mixed up according to specification.
1243. That was not what I asked you. From your knowledge of concrete do you consider it good or bad concrete?—I consider it was good concrete.
1244. Do you remember this part of the building [indicating on plan] before it was built? By the way, have you seen a similar plan to this before?—Yes.
1245. This is the extreme north wing and the ambulatory. Do you remember this concrete at the back wall?—Yes; that is the back wall, west.
1246. You remember this back wall of the north wing, Block 2. Do you remember, before you commenced any brickwork on that back wall, whether or not there were any cracks in it?—Yes, there was.
1247. Before any bricks were put on it?—Yes, before any bricks were put on it at all.
1248. Did Mr. Brindley call attention to it, or did you notice it yourself?—I noticed it, but I think Mr. Brindley called attention to it as well. I am almost certain that it was so.
1249. At all events, you either noticed it or Mr. Brindley called your attention to it?—Yes. I rather fancy that I called Mr. Brindley's attention to it, but I will not be certain.
1250. Was there more than one crack that you remember?—I only remember the one.
1251. Can you remember whereabouts it was?—It was somewhere here [indicating on plan], at the back of the gable.
1252. *The Chairman.*] In that recess?—Well, it is some time ago, and I cannot say exactly.
1253. *Mr. Gore.*] But you remember distinctly that there was a crack?—Yes.
1254. And that was before any brickwork was put on that wall?—Oh, yes!
1255. *The Chairman.*] I wish to ask you whether that concrete wall was filled in before any brickwork was put on?—No.
1256. The crack appeared before that was filled in?—Yes.
1257. Was the ground sloped back?—No; it was a sort of roof.
1258. The ground at the back was about 12ft. higher than this foundation?—That is a sort of bottom—that is right down to the bottom.
Mr. Gore: I may explain that the ground was a little lower than it is at the present time—there has been a little filling-in; but so far as the solid ground is concerned it rested against the wall.
1259. *Mr. Blair.*] Did the crack appear where the embankment came to the wall?—I cannot say as to that.
1260. Was the embankment made against the wall or rammed against it flat?—I cannot say as to that. All I know is that it got raggedy a little way down. This crack appears on the top and down the side.
1261. *Mr. Gore.*] You have been working for me for some time?—Yes.

1262. For how many years, can you say?—For twenty years, and over that.
1263. Do you remember working for me on any other building, except the asylum contract, which has shown signs of cracking?—No.
1264. You have been employed on a good many buildings for me?—Yes, and I have always given satisfaction to you, and I have always got satisfaction from you.
1265. You have not been working for me for the last three years?—No; it must be four years this month since I left Seacliff.
1266. *The Chairman.*] Did I understand you to say that you were working at Seacliff when the foundations were put in?—I was while portions of them were put in.
1267. Did you see the trenches cut at the north end for the concrete?—Some of them. A portion of them was in when I went there.
1268. Can you point out any particular place where you saw the foundations put in?—I think it was somewhere about this part of the north wall [indicating on plan]. There was a good portion of it in when I went there.
1269. These were open when you went there. Do you recollect if there was any water standing in them?—It was in the winter time, and there was water about, of course.
1270. To what depth was it?—Two or three inches in some parts. It was a sloppy sort of place.
1271. Did you only notice the water standing in the foundations, or in two or three places, or was it general?—The water had to be taken out of the foundations before the stuff went in.
1272. Was the water standing more or less at the end of the building?—Well, it was round and about.
1273. Then the ground was of a wet nature?—It was.
1274. *Mr. Skinner.*] Did you work on the corner of the north wing?—Yes.
1275. Can you speak as to the bond in the brickwork?—Yes, sir.
1276. Was it good?—Yes.
1277. Were you at work at the western corner of Block L?—Yes. I mean that the men under me were working there.
1278. Do you know anything of the bond in that corner?—I cannot say exactly.
1279. Can you say whether it was bonded with the corner wall or was toothed into it?—I cannot certainly say how it was. There was a toothing here and a toothing there [indicating on the plan].
1280. As to the north wall and this southern portion of it, do you know anything about the bond there?—I cannot say. It is some time ago, you see.
1281. Can you say whether it was toothed in occasionally—every 3ft.?—It was carried up regularly.
1282. You think so?—I am almost certain of it.
1283. If you turn up Drawing No. 4, you will find that the walls are marked 18in., 14in., 24in., and 2ft. 6in. in the section of the central block. How do you produce these measurements with your bricks? What are the sizes of your bricks?—I had nothing to do with the central block. There was another foreman there.
1284. *Mr. Mountfort.*] Now, as to the back wall, or what is called the back wall, which we have been talking about all this time. You say that the earth behind it was not sloped back?—It was left raggedy.
1285. It was left raggedy all along like that?—Yes.
1286. If you had seen the concrete working off from the earth, how could you say that the earth was raggedy?—I suppose, by the rain dripping on to it the raggedy earth or rough stuff would fall down.
1287. How far down was it, or was it close into the wall?—About 18in. or 2ft.
1288. What I want to know is, to what height the earth at the back stood up raggedy?—From 18in. to 2ft., but I cannot say to a few inches. It is a long time ago.
1289. You never saw any inclination of that raggedy earth to slip in?—I did not notice any.
1290. You saw it was wet ground about there?—It was damp.
1291. But you said it was wet?—I say it was damp there.
1292. Was there nothing to keep that water off—no erection or embankment in front?—It was a sort of surface-water.
1293. It was not a sort of pond?—Oh, no!

WALTER JOHN GORE sworn and examined.

1294. *Mr. Gore.*] You have been engaged in building during a number of years, have you not—Yes, since I was fourteen years of age; and I am now thirty-one years.
1295. Have you had charge of any large works?—Yes, I had sole charge of the Timaru High School.
1296. What was the amount of that contract?—About £5,800.
1297. Were you in charge at Seacliff?—I was in charge there from the 4th January, 1882, until the building was finished.
1298. Can you tell us how the concrete was put in? Just relate it in your own way. I prefer that a witness should give his evidence in his own way, rather than I should lead him. Will you please tell the Commissioners how the concrete was mixed and put in the trenches?—First of all, I had a large board laid down—what is called a concrete-mixin gboard—for keeping the concrete clear from the earth. The quantities were 5 to 1—that is to say, 5 of metal and shingle—Shag River shingle, mixed with the metal. There was 5 of combined shingle and metal to 1 of cement. It was turned once dry and once wet; then turned twice before it was laid out. As to the stone packing, that was used in the whole contract. My instructions to my men were to place the packing 9in. apart. The concrete was placed in all the trenches, and then well rammed. All the concrete

above the trenches was put in casing. I may be allowed to mention here that the "boxing" referred to in the specification of the foundations applied generally to the bases of the building. The base was originally intended to be of concrete, but Mr. Brindley ordered it to be built of brick. And one of the reasons he gave for ordering the substitution was, that we could not get plugs in it for fixing joiner's work. At all events, that was the reason he gave for substituting brickwork for concrete in the base.

1299. You say that concrete in the base was done away with, and brick and cement used instead?—Yes.

1300. At what distance apart did Mr. Brindley want the stone packing put in?—I have heard him mention several things; but 9in. to 1ft. apart seemed to be his idea of it. So long as it was placed 9in. apart he never said anything; he never made any remark. That seemed to be satisfactory to him.

1301. Do you remember the concrete being put in at the extreme south of the building?—Yes.

1302. Do you remember anything in connection with that?—Yes. What I recollect of that is this: Mr. Brindley condemned a portion of the concrete on account of the packing being too close. I may say here that it occurred entirely through Mr. Gore senior's own fault. The gangers were placing the packing exactly as I had instructed them; but Mr. Gore, sen., seemed to think that it was not close enough; in fact, he told them not to put it in more than 6in. apart.

1303. You were not there at the time that this front wall was concreted?—Yes, I was. Mr. Brindley objected to and afterwards condemned it, and it was taken out.

1304. What portion of the concrete was that? Do you remember which of these three walls it was?—From about that wall [indicating on plan] to the centre part of the south wing.

1305. Did this wall remain in for long?—It remained in for a couple of weeks.

1306. Not more than that?—I cannot say that it remained for more.

1307. Eventually it was allowed to remain in, was it not?—Some of it was allowed to remain in. We started to take it out; but it was such a hard, solid mass that Mr. Brindley stopped us from taking it out.

1308. The concrete was, in fact, good?—Yes.

1309. Do you remember if any of that concrete was kept there for months afterwards?—I believe it was—on the outside of the building.

1310. Open to inspection by any one?—Yes.

1311. When this concrete was taken out Mr. Brindley was satisfied?—He was quite satisfied, and some of it was left in.

1312. Have you heard him complain of any other portions of the concrete foundations?—I never have.

1313. You saw the building before any of the brickwork was commenced in the ambulatory of Block 2 (north)?—Yes.

1314. Do you remember any crack at the back of this concrete wall?—Distinctly.

1315. Was it at the rear of the wall?—The crack appeared before any bricks were laid on it. To the best of my recollection the crack was just behind where one of the south buttresses is erected at present.

1316. There was no weight of scaffolding, was there, to account for this crack?—None whatever.

1317. Can you give any opinion as to the cause of the crack?—Most decidedly I can.

1318. What is it?—In my opinion it is caused by a movement of the ground, and to the best of my belief it takes this direction: it goes through the northern end of the temporary asylum, down through the centre of the north ambulatory; it skirts the angle of Block 1 (north), and inclines southward in front of the central block; goes down a gully in front of the central block, and then to the Seacliff Railway-station.

1319. In your opinion, can this slip that you speak of be easily defined—I mean, of course, at the time you were out there on the work?—Yes, at that time it could be. Of course there has been a large quantity of levelling in the front part of the building done since then, and that has greatly altered the appearance of the ground.

1320. Is there any indication that this slip has affected the railway-platform?—Yes; within my own knowledge it has affected it.

1321. To what extent?—Within my own knowledge it has moved the platform 2ft. 11in. to the seaward.

1322. That is, the railway-platform itself?—Yes.

1323. Can you speak also of the ground here [indicating on plan]? Was it high, low, or good ground?—The ground at the top of the tramway, at the extreme north-east angle of the building, about 30ft. or 40ft. from the north-east angle, dipped very suddenly.

1324. Do you remember what state that ground was naturally in—was the soil a good solid or a porous clay?—It was a porous kind of clay. When exposed to the sun it would crack or open out.

1325. Would water percolate through it?— It certainly would not hold water.

1326. You remember the reservoir that the Government built?—Most distinctly.

1327. What kind of clay was it that the reservoir was puddled with?—It seemed to be very similar to the clay-formation of the main building.

1328. Did this puddle hold water?—The reservoir would not hold water when it was finished.

1329. Did it cause them much trouble or expense?—It caused a considerable amount of expense. I should say that as much was spent in making it hold water as it originally cost to build, but I do not recollect what the amount was.

1330. From the fact that this reservoir would not hold water do you conclude that the clay was porous—that the water would percolate through it?—Most decidedly. I may tell you that I went up and examined it at one time when it was empty. There seemed to be a spring, for the water

was coming into the reservoir from the west side, as nearly as I could make out as to the position of the reservoir from the bush, and ran under the front embankment.

1331. With reference to this ground here [indicating on plan], your tramway-line came up a gully here [indicated], in front of Block 1 (north), did it not?—It turned at right angles where it passed Block 2 (north).

1332. Did your tram-line pass up this gully [indicated on plan], or the northern corner of Block 2 (north)?—It skirted the edge of that gully.

1333. Did you ever notice any slip on the line of the tramway?—There was always a slip halfway down the line.

1334. Had you ever to move any of your rails, or to shift them constantly, on account of this slip?—Yes.

1335. Were you at Seacliff when the wall was put into the northern ambulatory of Block 2?—Yes.

1336. Do you remember any rubbish being packed into that wall?—Decidedly not.

1337. Do you think it possible that it could have been done without your seeing it?—Certainly not.

1338. You have heard Mr. Hunter's evidence to the effect that the hole there was bricked up on each side, and covered with a board: did you notice anything of that kind?—Mr. Brindley put in a drain there, and did it by day-labour, but I did not take any particular notice of it. I expect that it is a temporary drain that Mr. Brindley put in to drain water while he was getting in his permanent drain.

1339. Do you think it was worth your while to make a hole 2ft. by 1ft., as Mr. Ussher's letter states, for the purpose of saving expense?—It was scarcely worth while.

1340. Then it was of no advantage to the contractor?—It would be otherwise. He would lose time and money in putting in rubbish instead of concrete.

1341. While you were at Seacliff did anything occur to the floor of Block 2 (north)?—That is the crack that I have already told you of, which occurred in the centre of the northern airing-court, and which showed up through the concrete floor. If I recollect rightly it is a fracture across northward and eastward. The northern side of the fracture sailed across the south side of it, overlapping it, as it were. Mr. Brindley and I took particular notice of it, and commented upon what a peculiar thing it was.

1342. Did you interfere with that floor afterwards?—No.

1343. You do not know what was done to it afterwards?—No.

1344. Were you up there lately?—Yes; on last Tuesday week.

1345. Can you say if anything has been done since it was finished? Has the floor been relaid?—Yes; it has been torn up in lots of places, and shows very bad cracks all over, from the time that I had seen it previously, and behind Block No. 2 (north).

1346. Do you remember putting in trenches in the ambulatory of Block No. 1 (north)?—Yes. The water was always coming in from the back as fast as we baled it out. We got clean, fresh water out of it. In fact, it was so clean that you could drink it.

1347. Can you speak of your own knowledge if the contractor took every care, or ordinary care, to put these foundations in in a good and substantial manner?—Yes; I consider that they were well put in.

1348. Did you attempt anywhere to "slum" these foundations?—Not in the slightest.

1349. In any part of them?—Not in any part of them.

1350. Who gave you instructions in regard to the thickness and depth?—I took my instructions from Mr. Brindley as to the depth and thickness of the foundations. As a matter of fact he and I set out the foundations together.

1351. You declare that you and Mr. Brindley set them out?—Yes.

1352. We have a plan here showing the foundations of the ambulatory-piers, the dotted lines indicating them as on the plan: do these coloured lines show the foundations as they exist?—Certainly not.

1353. In what way are they different?—The foundations are brought up the whole width of the scarcement, being built 3ft. by 3ft.

1354. No other concrete foundations were put in as that indicates?—No; the foundations of the back wall are not built with scarcements as shown.

1355. Did you experience much trouble in getting this wall in here at the back [indicating on plan]? Did the ground slip with you at all?—Part of it came away. As far as my recollection goes, that wall in the recess of the centre gable was boxed on both sides to a certain height, on account of the ground being naturally lower on the top level. It had to be filled up afterwards.

1356. Having given you this plan of the ambulatory-piers [produced], and having called your attention to the fact that the coloured portion shows them as they were put in, and the dotted lines the foundations as they were designed, I ask you if you could take any quantities from that plan?—If asked to take the quantities of the foundations off the dotted lines, I should take them all round here [indicating on plan]—*i.e.*, the dotted portion; and if I had to take off the foundations, as this plan shows them done, I should most decidedly take them off the portion which is coloured.

1357. Could you, from this plan, calculate the bearing-strain of the foundation—could you calculate what amount of weight the foundation would carry, supposing that it was built that way?—No.

1358. That plan, you see, shows only one side of the foundation; the other is not shown?—Then you could not calculate it. You have nothing to calculate it on.

1359. You heard Mr. Hay give his evidence?—Yes.

1360. Do you know how he arrived at his calculation?—I do not.

1361. You think it is simply impossible to calculate it?—Yes.

1362. Then you do not think that Mr. Hay's calculations would be correct?—Of course, he

may have assumed certain things. I dare say he is a very good man at figures, but I say that he is not correct, according to that plan.

1363. This is a drawing [produced] showing the toothing?—Yes.

1364. Do you know what the object of that toothing was?—So far as I understood it, it was with the object of extending this block [indicating on plan] backwards to the top level on some future day.

1365. In carrying up this portion (the west gable of Block 2, north) to what thickness did you build?—It is built to the thickness shown in the drawing. Mr. Brindley gave me instructions to tooth it in here and there.

1366. You considered it a temporary gable?—Yes; it would have to come out at some future day.

1367. Is there any other portion of the building toothed in the same manner?—This angle (the extreme north of the same block, going north) is toothed also.

1368. Is any portion of the building toothed except where it is intended to make additions to it?—Oh, no!

1369. During the time that you were at Seacliff did you notice any settlement in the building? When I speak of settlement I allude, of course, to vertical settlement?—I cannot say that I did. The floors always seemed to be perfectly level, and that I take to be an indication of there being no vertical settlement. The floors would have been out of level if there had been vertical settlement.

1370. Did you notice any vertical settlement in this corridor?—There was no vertical settlement.

1371. Did you notice the condition of the superstructure above the first section of the floor?—I took notice that there was not even the sign of a crack in the wall above the piers.

1372. Did you notice any cracks through the window-sills?—Not in the front-ambulatory wall.

1373. If vertical settlement had occurred, would it not have shown in the window-sills in the first instance?—It was bound to have shown there, it being the weakest spot.

1374. And you say that there were no signs of vertical settlement and no cracks there?—Yes.

1375. No indications of cracks?—Not in the slightest.

1376. Are the windows plumb?—From some observations that I took roughly they seemed fairly plumb.

1377. You were at Seacliff when the piers were built. Do you think that it is possible that the variations in the levels spoken of by Mr. Hay have occurred—viz., ½in. in a line of 78ft.?—Well, I should call it practically correct if it were built like that.

1378. You think, then, that it is possible that these piers have been built ⅛in. out of level?—Yes, I do.

1379. Taking that into consideration, piers 1 and 7 are a dead level, are they not?—Yes.

1380. How many feet are Nos. 1 and 7 piers apart?—About 42ft.

1381. The intermediate piers between Nos. 1 and 7 are from ⅛in. to ¼in. out of level?—So Mr. Hay says.

1382. Taking that for granted, do you think that that is anything surprising in a large building like that?—I should think, as I have already said, that it is practically correct.

1383. Supposing that this building had sunk—and it was not built that way—½in. in 80ft., would that have caused this wall to bulge over?—No.

1384. I will ask you the question in another form: If this wall has sunk ½in. in 80ft. what width of crack would there be in a wall 38ft. high?—Less than ¼in.—certainly less than ½in. I have had a model made of it, and can practically illustrate it if the Commissioners like. It would be bound to crack here [indicating on plan] less than ¼in.

1385. Is there any crack in the south end of the ambulatory?—No.

1386. Would there have been a crack there if there had been any settlement?—It was bound to have occurred.

1387. Is the pressure on this back wall—the back concrete retaining-wall, I think we may call it—enough to account for these piers being thrust out of the perpendicular?—I should imagine that it is. If the ground was slipping at any depth it would certainly have a tendency to carry the foundations bodily forward.

1388. Then it is your opinion that the cracks in the ambulatory of Block No. 2 (north) are not caused by vertical settlement?—They are certainly not so caused.

1389. And that the foundation has not settled down?—It has not. If the foundations had settled down we could have seen the cracks in the concrete. We had it exposed.

1390. Do you consider that the concrete foundations are equal to carry the superstructure above them?—They are, provided that the ground is good; but if there was forty times as much concrete it would not carry the superstructure if the ground were moving.

1391. *Mr. Lawson.*] At any one time during the course of building did you ever hear Mr. Brindley say that I interfered with his free action in regard to the discharge of his duties?—No.

1392. You never heard him at any time complain that he was not supported by me?—Certainly not.

1393. *Mr. Blair.*] You say that Mr. Brindley was quite satisfied that the boulders were put in 9in. apart?—Yes.

1394. And that you gave them to him 9in. apart?—Yes.

1395. Then how do you account for these letters I read the other day, in which Mr. Brindley complained bitterly of his instructions about the packing not having been carried out?—I think he was writing complaining of the portion I have already described.

1396. Which portion was that?—The portion in the extreme south block that I have already referred to.

1397. This is what he writes: "I must again protest against the way Mr. Gore instructs his

workmen to put stone packing in concrete. He insists on the stone being put about 3in. or 4in apart," &c.?—That is not true. I never insisted on anything of the kind. I dare say he is referring to Mr. Gore, sen.

1398. He also says in that same letter, "I called attention to the matter not being satisfactory, and requested Mr. Gore's manager to remove the man." Were you manager for Mr. James Gore in October, 1882?—Yes.

1399. How do you account for this statement appearing in Mr. Brindley's letter to Mr. Lawson: "It is not the first time that he has tried to scamp work"? Do you say that Mr. Brindley had no foundation for making such a statement?—No, I do not think he had.

1400. Then that letter of his was written on entirely imaginary grounds?—I cannot say anything about that, but I do say that he had no cause for his statement that the work was "scamped."

1401. He had no cause for stating that?—He had not.

1402. You state that there is a scarcement left on the inside of these walls?—Yes, there is a scarcement of 6in., carrying the wall-plates.

1403. Are there any wall-plates in the ambulatory?—No; it is a concrete floor.

1404. Is there a scarcement shown there?—No.

1405. Is the footing there any wider, or much wider, than what the wall is?—No. I told you that the wall is carried up to the whole size of the footing shown.

1406. Is the brick wall carried up the whole size of the footing shown?—Do you mean the base of the pier?

1407. Yes?—No. They were set off to the plan.

1408. These are your sections [handing plan to witness]. This is a section of the outside wall. Is that built in accordance with the plan?—No; it is thicker than the plan by 6in.

1409. Is any part of it broader than the footing?—No; it is of the same width. It may be a bit irregular.

1410. I ask you again, is any part of that section as broad as the footing?—Not as shown on the drawings.

1411. There are five sections along the ambulatory where the damage has taken place: is the concrete shown at any place, or did it actually appear as broad as the footings in the plan?—They measured 3ft. by 3ft. generally.

1412. I am taking it off the contract-section. Is that as broad as the contract-section?—Yes.

1413. Will you swear to that?—Yes.

1414. *The Chairman.*] Is that the back wall you are alluding to?—No; the front wall.

1415. *Mr. Blair.*] I wish you to be particular about answering this. You say that the concrete there is as broad as the footings as shown on the contract-plan?—Yes.

1416. That is your statement?—Yes.

1417. Well, I will leave that matter in the hands of the Commissioners. You say that some alterations were made in the footings, and that they were done by Mr. Brindley's instructions?—Yes.

1418. You also said, if I took you down rightly, that in places where the foundations do not come out as far as the brick wall, it was put in specially by Mr. Brindley's instructions?—I did not say anything of the kind.

1419. Well, were they put in to his satisfaction?—They were.

1420. Was he quite satisfied with the places where he saw the brickwork overhanging by several inches?—He must have been, or he would never have passed it.

1421. You swear that he saw and passed it?—Yes.

1422. And you swear that he was quite satisfied with it?—Yes.

1423. You stated, or suggested—I will not be sure which—that this drain—your drain which Mr. Ussher found to be filled with rubbish—was put in by Mr. Brindley's men?—I merely suggested that his men may have done it.

1424. Did you hear the evidence given by the man who put that drain in?—Yes.

1425. Will you swear that Mr. Brindley or his men had the "notch" filled with rubbish?—I do not swear it; I merely suggest it.

1426. Then it is merely a theory of yours?—No; I merely suggested that Mr. Brindley might have put it in.

1427. You also stated, in reply to a question put by one of the Commissioners, that Mr. Brindley had given special instructions about the toothing of these walls?—Yes.

1428. The reason alleged for it being that the walls had afterwards to be connected with another wall?—At some future day.

1429. As a matter of fact, at the place where we examined the toothing, is not the wall already built?—Yes.

1430. Then why should a toothing be left if the wall is to be built at some future time?—It is bricked out here, further westward.

1431. The toothing was between the side wall and the gable-wall, the gable and side walls being already in. How, then, could a toothing be provided for a future wall, which future wall is already in?—Which toothing are you speaking about?

1432. This one [indicating on plan]?—There is no toothing between these. The toothing I am speaking about runs from east to west. I say that this wall [indicating on plan] is the same as the back gable of the south block. I repeat that I took my instructions from the Inspector.

1433. *The Chairman.*] This, you say, was treated as a temporary wall?—Yes.

Mr. Lawson: The plans were out for it.

Mr. Blair: I never heard of that, though the Public Works Department is supposed to have had to do with it.

1434. *Mr. Blair.*] You say that the back-wall crack appeared before the weight went on or the earth formed against it?—In some places it was; in others it was very solid.

1435. Did you hear one of the witnesses say that it was raggedy?—I took him to mean that the ground, being unequal in height, was irregular on the face.

1436. Are you quite clear that when the crack appeared the full pressure of the back clay was against this wall?—Not the total height of this portion. I have already said that to a certain height it was "boxed" both back and front.

1437. Then we may conclude that the whole weight of the back clay was not against the wall when these cracks appeared?—Just so.

1438. You stated that there was no evidence whatever of settlement?—There is none of vertical settlement.

1439. You swear to that?—I do.

1440. Are the floors perfectly level?—So far as I could see, they are.

1441. Was the first-floor level?—It appeared to have dragged northwards.

1442. Was it level?—I did not try it exactly.

1443. Was there not a vertical fall? Could you not feel it with your feet?—I do not think you could; neither could you have rolled a billiard-ball on it.

1444. Will you describe to me again the lay of the bad ground?—It comes from the northern end of the temporary asylum, away to the back here [indicating on plan], through the centre of the north ambulatory by the front of Block 1 (north), inclines southward, and goes down a gully in front of the central block; then it goes away down through the doctor's greenhouse and to the railway-station.

1445. About how wide is this so-called glacier of mud?—I cannot say. We tapped it at the middle of the north ambulatory, and in front of Block No. 1 (north).

1546. Did you tap it at the north end of the ambulatory?—We struck it here [indicating on plan]. This centre ambulatory was a dark-blue sort of mullock; but it seemed to be lighter across the north block in a north-eastern direction.

1447. Did you have it all along the back wall of the ambulatory?—Not all along, but generally in a north-east direction.

1448. And right at the end of the ambulatory?—Yes, but only of a lighter colour.

1449. And this bad stuff, how far did it extend? Did this moving stuff correspond with the slip behind?—I do not say that. The dark stuff extended from about the centre gable of the north wing to the centre of the northern recess.

1450. Your theory is that this is one moving stream of mud, slipping from the temporary asylum right down to the railway-station?—Well, I would not like to assert that; but I do assert that for a considerable distance behind the main building this slip is clearly traceable.

1451. Can you start to trace it from the temporary asylum?—I can. The temporary building itself shows signs of slipping.

1452. Then you recede from the position you took up at first, that the temporary-asylum slip was the same slip as this one?—I say that it is in line with this one.

1453. Do you advance that as an explanation of the hill-movement—that this is all one slip, and the cause of all the damage which has taken place?—I will not say about the slip from the temporary asylum; but I have a good knowledge of the ground above the main building and down to the railway-station.

1454. Then you leave out the upper part?—But I know this ground from personal experience. I will not, however, swear that it is connected with the main slip.

1455. What evidence have you of this?—Personal experience extending over three years, noticing the movement of the ground, my lines shifting, and the station shifting.

1456. Have you any indications between Block 2 and the doctor's paddock; and, if so, what were those indications?—The colour of the material, and the giving-way of the tramway-line between these points.

1457. I will show you a general plan of the whole ground on a small scale. [Produced.] This plan shows all these slips plainly.

Mr. Gore: It does not show the gullies.

Mr. Blair: Yes, it does.

1458. *Mr. Blair.*] Kindly tell me where the slips on the tramway-line took place?—Just immediately in line with this [indicating on plan], the doctor's greenhouse.

1459. What was the slip on the tramway like?—It must have come away from the south-west.

1460. How big was the slip?—I do not know.

1461. Was it in a cutting?—Partly in the cutting—about 5ft.

1462. How long was it?—About 1 or 1½ chains.

1463. The positions, as you have described them in your examination, are these: First, it was at the temporary asylum; next we have it at the north block; then down to the tram-line; next in the doctor's paddock; and next in the railway-station. And we are asked to assume that this wonderful stream of soft material comes down in a regular zig-zag?—I will swear on oath that I can trace this slip distinctly by the doctor's greenhouse and down to the railway-station.

1464. But this slip, according to your showing, avoided this northern block?—Not at all. I never made such a suggestion. I described it as being on the northern line of that portion of the clay which has dragged.

1465. The slip is broader than that, is it not?—I will not say anything about the width.

1466. Then you will not define the northern line of it?—No.

1467. Do you hold that this northern block is in line with the slip as well?—Yes; and I assert that it is being affected by the slip.

1468. Is there any evidence in the north-west corner of any forward movement of the ground?

Have there been any cracks in the ground during the construction of the works?—I cannot say that there were.

1469. There were no indications whatever in the north-west part of the building?—Nothing more than small cracks in the clay.

1470. *Mr. Lawson.*] Please look at this plan [produced] of this foundation where it is shown as slightly inside the lines. Can you account for that dent in the concrete?—I should account for it in this manner: if the trenches were allowed to stand overnight they would swell in as much as 3in. in some places, and we had to put on the lines and recut them before putting in the concrete.

1471. How do you account for that swelling?—Owing to the soft nature of the ground.

1472. Supposing that there were inequalities of level in the floor, could that not be caused as readily by lateral as by vertical settlement?—Yes, just as easily. It is highly probable, if the north wall had bulged, for the floor to be dragged out of level.

1473. Would it be much more likely that lateral pressure to the structure would cause the displaced levels?—Yes. It would cause the floors to buckle out of level.

1474. *Mr. Skinner.*] I suppose, from what Mr. Blair infers, that the footings were scamped in order to save expense?—I do not infer anything of the kind.

1475. Considering that the building was carried regularly up all round, would there be any saving of expense to tooth instead of bond it?—No. It costs more to form a toothing. It would have been just as easy to have carried the bond round.

1476. Then the reason that Mr. Brindley gave you for carrying up the angle which occurs here [indicated on plan] was that some future extensions were to be carried out?—Just so.

1477. *Mr. Mountfort.*] I should like to ask a question about the concrete. You have told us that certain proportions were used. Will you please state them again?—Five of metal and Shag River ballast, mixed, to one of cement.

1478. After the gravel, was there any sand used? One man has told us that there was, and another said there was none?—I can explain that. Before the first lot was put in Chain Hill sand was used in the metal; but after we got Shag River metal we did away with the sand, because the gravel is very fine.

1479. You have told us that the crack on the top of the concrete wall was seen by you before the brickwork was put on it. Can you tell us about the time when you took notice of the crack. I do not want you to say to about a fortnight, but tell us about the month and year that you noticed it?—I really cannot say. It is such a long time back that I would not like to say within a month.

1480. Was it in 1881, 1882, or 1883?—I think it would be in 1883.

1481. Then you say it was first seen in 1883?

Mr. Lawson: There is a letter of Mr. Brindley's referring to it, and I call on Mr. Blair to produce it.

Mr. Blair: I have put in all Mr. Brindley's letters. It is not in his letter-book.

1482. *The Chairman.*] Was it only one crack that you noticed?—I think there was only one crack noticed at that time.

1483. Would you infer from there being only one crack that it was caused by the pressure of earth?—I should have done so, in all probability, at that time, but not since I have seen the further damage that has been done to the building.

1484. *Mr. Mountfort.*] You have stated that Mr. Brindley ran a drain through the ambulatory in the centre of Block 2. Did he run it from west to east, or did it go here [indicating on plan]?—He ran it from the centre of the north ambulatory, carried it underneath the back wall, and brought it up into the airing-court.

1485. What became of that drain at the east end?—I am sure I do not know. I do not know whether it connected with the foul water that drained into the ocean or not.

1486. I want to know if you saw water coming out of that drain?—I do not think I ever noticed it after a storm.

1487. Did Mr. Brindley run in a corresponding drain in a similar part of the ambulatory drains further south?—I believe he did.

Mr. Lawson: It was done in each case.

1488. *Mr. Skinner.*] Do you think, if the foundations were put in as per specification, that boxing would be necessary?—Do you mean underground, sir?

1489. Yes?—No.

1490. How would you be able to make your set-off?—Just look at the drawing? If a set-off were used, most decidedly I should have used boxing above the footing course.

1491. But all through the building there is no footing-course?—Not now.

1492. If carried out per plan, you would?—Oh, yes!

1493. *The Chairman.*] Did you state in your evidence by whose instructions the footing-course was left out?—By Mr. Brindley's instructions.

1494. You received your instructions from whom?—Mr. Brindley. In fact, he and I set out the whole of the foundations together from the time I arrived on the works until the building was finished.

1495. *Mr. Gore.*] Do you remember the water overflowing the building at the back, during a time of heavy flood?—Yes.

1496. Were occurrences of that kind noted in your diary or note-book?—I should call it a rough memorandum-book in which I jotted down anything that cropped up.

1497. *The Chairman.*] Do you produce it?—I am perfectly willing to hand it in as an exhibit.

1498. *Mr. Gore.*] I would ask through you, Mr. Chairman, if the witness remembers an occasion when there was a sufficiently heavy rain to cause a "block" on the railway and to flood the building?—Yes. It was in May, 1883; I should say about the end of that month.

1499. Will you describe what effect the flood had at the south end of the building?—At the south end particularly the water came right through the building and flooded all the floors.

1500. Where did it come from?—From the top level, and from above. There was no trench at the back of the building.

1501. Then the storm-water flowed right into the building, did it?—Yes.

1502. Up to that time had there been any means of draining the water that lay in the foundations?—No; the foundations generally lay full of water.

1503. *The Chairman.*] Do you speak generally, over the whole building?—Yes.

1504. *Mr. Gore.*] Were any steps taken to drain the foundations?—No. Mr. Blair, at the time of the flood, gave me instructions to cut a drain at the back of the tradesmen's entrance, and I did cut a drain to take the water away.

1505. Did you ever receive instructions to drain this centre block?—I do not know whether instructions were received, but I did it. I do not know whether instructions came from Mr. Lawson or not, but, as I said, I put the drain in.

1506. However, some one must have given you instructions. Was the water laying in the foundations at that time?—Yes. We ran a 6in. pipe in front of the centre block afterwards.

1507. Would that water lying there have had a tendency to injure the foundations?—I think so. It must have already softened the ground.

1508. James Donald in his evidence has stated that some of the stone packing was put into the foundations, that it was tipped and not spread: is that correct?—No.

1509. Is the tower-foundation, where this witness says it is very bad, strong enough, do you think, to carry the superstructure?—I think it is the best part of the whole work.

1510. Do you infer that that foundation is as good as the rest?—I imagine that it is very good indeed.

1511. *Mr Mountfort.*] How far down did that foundation go?—I was not on the work then. That was done before my time.

1512. *Mr. Gore.*] Did you ever notice from the corridor if the building was in a straight line?—Yes; we used to pride ourselves on it being straight.

1513. By whom do you mean "we"?—Mr. Brindley and myself.

1514. Have you ever noticed any settlement on this northern corner?—No; and if there had been I should easily have noticed it.

1515. Then you have never noticed any inequality through the whole building?—No; it was very fair all through.

1516. *The Chairman.*] I ask you whether the contract does not provide for the contractor keeping the foundations clear of water at his own expense during construction?—I think not. I kept the trenches clear of water while the footings were being put in, but we had nothing to do with draining the building.

1517. Then you considered you had not to provide drainage during construction?—We drained it while putting in the concrete, and kept the trenches dry, but had to do nothing more.

1518. I ask you again if you consider drainage is provided under the contract?—You may be sure it was not, or else they would have made us do it.

1519. Under clause 21 of the General Conditions it is provided that "the contractor shall repair and make good the drains," &c. [read], "and keep the work free from injury," &c. Would you not consider that under that clause you would have to run the water out of the foundations?—As a general rule we consider that these conditions are not worth the paper they are written on.

1520. *Mr. Blair.*] You said that I gave you instructions to drain these foundations: did I give you these instructions in writing?—No; verbally.

1521. Did you charge for the drains?—Yes.

1522. Were they paid for under the final certificate?—Yes, to the best of my belief.

1523. At the time that you proved that the building was perfectly straight from end to end did you ever try it with an instrument?—No. I had no theodolite; we had a surveyor's level.

1524. Can you run lines with a surveyor's level?—No; but in taking a sight through the corridor with your eye you cannot get 3in. out.

1525. Will you swear that any of these corridor-doors are in line within an inch?—Yes, they were.

1526. That they are now?—I do not know anything about that.

1527. Will you swear that any door amongst them was in line?—I will. They were all put in to the same measure.

1528. But you have already told us that you had no instrument: how do you gain your knowledge?—Then, you think we should have had a civil engineer?

1529. How did you set out the building—from one end?—From the centre. A civil engineer from the Public Works Department gave us the centre-line of the centre block and the straight lines through the corridor at right angles with the centre block, and we worked off his pegs.

1530. *Mr. Mountfort.*] When did you give up possession of the building—that is to say, when did the authorities take charge of it?—In January, 1884.

1531. When you gave it up, then, was it entirely without flaw or fault?—It must have been, or they would not have taken it over. When I gave it up there was a slight crack through the ambulatory-floor. That was the only thing.

1532. There were no indications like what we see there now?—None whatever.

1533. All the damage has been done since?—Yes.

THURSDAY, 16TH FEBRUARY, 1888.

WALTER JOHN GORE recalled.

1534. *Mr. Mountfort.*] I think that you said, in answer to a question that I put to you yesterday, that when you gave up the building it was without flaw of any kind, and that there were no indications of the damage which afterwards occurred? Possibly you would like to hear the

reporter's record of the answer that you gave?—No, sir, I think I recollect the answer that I then gave.

1535. Mr. Blair says that before the contract was actually finished symptoms of settlement appeared in the extreme northern block, and that thereupon the District Engineer (Mr. Ussher) took steps to put in a drain behind the block. Was that drain put in before the contract was finished?—No. That is, you refer to the top drains, which have been called isolating-drains.

1536. *The Chairman.*] There were three drains?—Our contract was finished before any of those drains were started.

1537. *Mr. Mountfort.*] Mr. Blair says that before the contract was actually finished symptoms of settlement appeared; but you say that there were no such symptoms—that the building was quite perfect, otherwise it would not have been taken over?—Yes, with the exception of one crack. There was, as I have already said, one crack through the concrete wall in the ambulatory, south.

1538. *The Chairman.*] In the concrete wall?—The crack that I pointed out yesterday.

1539. *Mr. Mountfort.*] You say that the building was perfectly without flaw, except one crack. Whereabouts was that one small crack?—Through the concrete wall in the centre of the northern ambulatory.

1540. That was the original first crack?—Yes. To speak correctly, that crack occurred before any of the brickwork was put on. The other crack in the floor we noticed when we were building the laundry, but I will not swear when that was.

1541. You say that, as a matter of fact, the Seacliff contract was paid for then?—We were working at the laundry when Mr. Brindley pointed that crack in the floor out to me.

1542. Which was the drain that Mr. Ussher had put in on account of the settlement beginning?—At No. 1. But the contract was off our hands when that drain was started.

1543. *Mr. Blair.*] When was it started, do you say?—That drain was not commenced immediately on the symptoms being observed. There was some time elapsed before that drain was commenced.

1544. *Mr. Gore.*] Was there a book or account kept by you of the bricks made at Seacliff for the building?—Yes.

1545. Have you been through that account?—Yes.

1546. Can you tell me how many bricks were made at Seacliff?—Four million five hundred thousand were made on the ground.

1547. Can you tell me also how many bricks it took in the asylum building?—Less than four millions. I cannot say to a few hundreds, bnt I think less than four millions.

1548. If you were told by me that three millions five hundred thousand bricks were put in, do you think it would be wrong?—No, I think it might be that. I know it was less than four millions.

1549. Were there many bricks sent from Dunedin?—About 200,000.

1550. So that that makes 4,700,000 bricks altogether?—Yes.

1551. So that, in round numbers, there were 700,000 bricks made more than were actually used in the building?—Yes.

1552. And that you know to be correct from your books?—Yes.

1553. I may say that all my books, even my cost-price book, is open to inspection by the Commissioners. Then there were 700,000 bricks made that were never used?—There must have been. We used the 200,000 that were sent up from Dunedin.

1554. Do you know what became of that 700,000?—We sold a good few in one way and another. We also wheeled a great number over the tiphead. We wheeled over one lot on account of having found some sort of lime in the clay.

1555. With what kind of a machine were the bricks made?—The first lot were made with what is called a wire-cut machine; but latterly they were made—I dare say the majority of them were—with a Craven's patent pressing machine.

1556. Do you know the amount of pressure that that machine puts on a brick?—About ten tons pressure.

1557. On each separate brick?—Yes.

1558. The bricks were made separately, and pressed separately?—Yes, each brick is pressed separately.

1559. From such a machine as that would you expect to get a first-class brick?—Yes; it is a first-class brick. And I have no hesitation in saying that the bricks made with that machine are the best bricks that have ever been made in New Zealand. I may here call attention to the fact that this machine, which made the bricks for the asylum, also made the bricks for the laundry, which bricks, I believe, are still to be seen, as they have not been cemented, nor yet coloured in any way. It also made the bricks for one of the large goods-sheds at Dunedin. All those bricks were made by this same machine.

1560. Mr. Blair has stated that he was on the ground very frequently. Was he there very frequently while you were there?—No. I do not think I saw him there more than three times during the whole of the time I was there.

1561. During a period of how long?—Close on three years.

1562. And you say that you did not see him more than three times?—I did not.

1563. Having heard Mr. Blair's evidence, and having seen it as reported in the newspapers, do you think that that evidence could have been given from his own personal knowledge?—I should say decidedly not.

1564. Then you think it must have been hearsay?—Yes, it is hearsay, or has been gathered from his servants.

1565. *The Chairman.*] I was going to ask you how long the clay was allowed to be tempered before it was allowed to be used in the machine?—We had a gang of men constantly getting and weathering it.

1566. How long before it was used in the machine?—About a fortnight. Some of it was in the winter time, when the men could not work, and they were soaking it all the time.

1567. The number of bricks which were made, you state, was 4,500,000, and 200,000 were brought from Dunedin. Were they all burnt or simply moulded?—They were all moulded. As I have already explained, a lot—about 160,000—were wheeled over the tiphead before they were burnt.

1568. Is it not a very common thing to lose a great many batches without burning?—Of course; but that is a rather large percentage to lose. As a matter of fact, we have no bats with Craven's machine.

1569. Because they are so hard?—Yes.

1570. Can you point out in what portion of the building these pressed bricks were used?—Yes.

1571. In which part?—In Block 1 (south), in Block 2 (south), in Block 2 (north)—in fact, in nearly the whole building with the exception of the centre portion; and even in the back portion, behind the kitchen, it was all pressed bricks.

1572. That includes the north-ambulatory wing?—Yes.

1573. *Mr. Blair.*] You stated that these bricks were thrown out because the clay contained lime?—I did not say so. I stated that we wheeled them over the tiphead.

1574. Then they were condemned by yourself?—Yes.

1575. Because the clay contained lime?—Or some deleterious property.

1576. Did you use that same clay again for making bricks?—No; we carefully avoided it.

1577. How could you avoid it?—We could avoid the stuff after making a rough analysis of it.

1578. How did you analyse it?—Mr. Gore brought some of the stuff to town, and had it analysed by a chemist.

1579. Can you produce the analysis?—I do not know whether I can; but perhaps Mr. Gore, sen., will be better able to speak as to that.

1580. Was this limey clay in any one particular locality?—Yes; so far as I know of it it is.

1581. It was confined to one particular locality?—There was one streak in one particular place.

1582. Did you avoid that?—We did as much as possible.

1583. You say that you avoided that locality?—Yes.

1584. Can you point out on this plan where the place is that you avoided?—The ground has been so altered since that I would not like to swear to it. It was got in this direction: from right behind Block 2 (north), extending to the south-west, behind Block 1 (north).

1585. Did you not make any more bricks out of that clay?—No; and for a very simple reason—if we had done so the bricks would have burst.

1586. As a matter of fact, then, you made no more bricks there after you found lime in the clay?—Not from that portion of it.

1587. You state that common clay was used; again, that it was all tempered with water from a hose?—For the bricks it was.

1588. When you got that new machine was the clay sent direct into it?—With the Craven's machine, yes.

1589. That is the second machine, I understand. Was the clay not sent straight into the disintegrator, without puddling, or any weathering at all?—That is the stuff that had fallen from the face.

1590. But it was wheeled straight into the disintegrator, was it not?—Yes.

1591. *Mr. Lawson.*] You have seen Mr. Blair's statement as published?—I heard it read, and I have read part of it as published.

Mr. Lawson: I suppose Mr. Blair will allow it to be taken as correct as published.

Mr. Blair: Certainly not.

1592. *Mr. Lawson.*] You have heard that Mr. Blair states there that I was a partial architect?—Yes.

1593. Now, during the whole course of the time that you were at that building can you remember any instance in which there was a dispute between yourself and the Inspector that I sided with the Contractor? Can you recollect any instances of the kind?—I have not the slightest recollection.

1594. Of any one occasion in which there was a dispute between yourself and the Inspector, in which I sided with you?—No; I have no recollection whatever of that.

1595. I want you to be very careful in your answer. Do you know of any instance of a dispute of the kind in which I sided with the Contractor?—No, I do not know of any.

1596. Is that your answer?—Yes.

1597. Is that your deliberate answer?—Yes, it is.

1598. The instances to which I draw your attention now are those mentioned by Mr. Blair in his statement. First of all we will take the concrete. When there was a dispute arose between you and the Inspector as to what distance apart the stones were to be placed in the packing, did I side with you or with the Inspector?—So far as my recollection goes, Mr. Brindley showed me a letter he had received from you.

1599. What did it say, to the best of your recollection?—I cannot say from memory. I know it instructed him to use his own discretion about the foundations. I think it said something about the distances, but I cannot say now what it was.

1600. Do you remember whether it said it was to be 18in. or 16in. apart?—No, I cannot remember.

1601. If I can produce you that letter showing that it was to be from 16in. to 18in., would that refresh your memory on the matter?—I dare say it would.

1602. As a matter of fact, Mr. Brindley found very serious fault about a portion of the concrete?—Not with myself: that was with Mr. Gore, sen.

1603. Found fault with the concrete that was put in the south wing?—Yes.
1604. Did I side with Mr. Brindley or with you in regard to the dispute about that?—You sided with Mr. Brindley, because it was condemned.
1605. Do you know whether it was at my request or Mr. Brindley's that that concrete was removed?—I believe that it was at your own request that it was removed.
1606. By me, acting on Mr. Brindley's information?—Yes. I think we had it in writing.
1607. That concrete was removed, as a matter of fact?—Yes, a portion of it was.
1608. Who stopped it being further removed?—Mr. Brindley himself.
1609. That was not done by me?—No; you were not there.
1610. As a matter of fact, you swear that the concrete found fault with was removed from the building?—A portion of it was, as I have already stated.
1611. With the exception of the portion which was retained by Mr. Brindley, it was removed?—Yes. That was hard, and Mr. Brindley thought it was good enough.
1612. We will now take the gable. You know the gables referred to there in Mr. Blair's statement are the gables in that part of the building where toothings are left out, indicating that at a future time the extensions of the building are to be continued there?—Yes.
1613. As a matter of fact, when these extensions are built these gables will be removed?—That is what I was led to believe.
1614. So that in the present portion of the building there will be a continuous space in the roof—no brickwork will be left above the line of the upper ceiling?—Yes.
1615. You concluded that you would be paid extra for that?—Yes.
1616. Did I allow you that as an extra?—I cannot say now, speaking from memory; but I know that we always claimed it.
1617. You do not know of your own knowledge that I disallowed these gables as extras?—No.
1618. But you claimed to be paid for them as extras?—Yes.
1619. You are not prepared to say that I did not disallow them as extras?—No.
1620. Or that I struck them off from your claim of extras?—I am not aware.
1621. Those are the three points which Mr. Blair has referred to in his statement—the concrete, the bricks, and the gable. In all cases when there was a dispute about bricks, did I decide with you or Mr. Brindley?—With Mr. Brindley I should imagine, because you condemned the bricks.
1622. In other words, along with Mr. Brindley I condemned them?—Yes.
1623. Is that your answer?—Yes.
1624. Were there any other disputes of any kind, or of any material kind, which ever occurred during the whole course of the works at Seacliff, so far as you remember, except these three points?—No; I think those were the lot.
1625. You say there were no others?—None that I recollect.
1626. If there were any others, I wish you to remember them, and state them now. You say that you do not know of any other disputes between Mr. Brindley and yourself?—Oh! I can recollect lots of disputes.
1627. Of any material character referring to the works?—Yes: there was one dispute as to whether we should put cement upon different heights all round the building and the ambulatory-piers.
1628. Well, we will take that point. When that matter was under discussion did I decide with you or with Mr. Brindley?—I cannot say. All I know is that the cement was done.
1629. It comes to the same thing. He wished it to be done?—Yes: to be built of cement.
1630. Are they built of cement?—Yes.
1631. *The Chairman.*] What walls do you refer to?—The ambulatory-piers and, at different levels, so many courses round the whole block.
1632. At the level of the foundations?—Right up to the top. He ordered five or six courses at a time to that height.
1633. *Mr. Lawson.*] The ambulatory-piers, you say, were one instance?—Yes. They were entirely built of cement.
1634. Throughout the whole building?—Yes.
1635. You put in layers of brick and cement throughout the whole building?—Yes.
1636. These were not specified at all?—No.
1637. Nor were they charged for as an extra?—I do not recollect, but I know that it is not specified.
1638. Was that done as additional strengthening to the building?—I expect that that was the intention.
1639. And you say that that was not included in the specification?—No, it was not.
1640. That was done throughout the building?—Yes; it was done throughout the entire building.
1641. *Mr. Blair.*] You had lots of disputes with Mr. Brindley?—Yes.
1642. Do you swear that on every occasion in which there was some question in dispute between you and Mr. Brindley, that Mr. Lawson backed up Mr. Brindley to the letter?—If it could be claimed under the specifications he did. Of course there were some disputes in which he could not side with Mr. Brindley.
1643. Then Mr. Lawson did not back up Mr. Brindley to the letter of the specification on every occasion?—He did on every occasion that Mr. Brindley was in the right.
1644. On every occasion in which there was a misunderstanding?—He always sided with Mr. Brindley in the misunderstandings when Mr. Brindley was in the right.
1645. That is not the way I want it. On every occasion in which there was a misunderstanding between you and Mr. Brindley did Mr. Lawson back up Mr. Brindley?—Yes. I have been telling you that he did.
1646. On every occasion?—On every occasion when Mr. Brindley's reading of the specifications was right. You cannot expect a man to side with what he knows to be wrong.

1647. I ask you again, did Mr. Lawson back up Mr. Brindley on every occasion?—On most occasions, I will say, if you want an answer in that way.

1648. You say that these cement-courses, which were put in at different levels, were not specified and were not paid for as an extra?—I did not say that they were not paid for as an extra. I do not recollect that.

1649. Then you do not know whether they were paid for as an extra or not?—I do not know.

1650. *Mr. Skinner.*] Do you say that this work, in which cement mortar was used, was an extra for which you received no payment?—I do not say that. I say that the cement in the parts I have described was not specified, but I do not recollect whether it was paid as an extra.

1651. Which are the parts that you have described?—The five or six courses at a time here and there to the height of the building, and entirely around it, more especially the whole of the piers in the ambulatory.

1652. Are you not aware that it is specified for every 3ft. to be the course?—That, sir, is in the hoop-iron bond; but I am speaking of five or six courses all around the building—brick and cement. The hoop-iron bond was done as well.

1653. The hoop-iron bonds were laid in cement; but you say there were other courses which were put in cement besides?—Yes.

1654. For which you were not paid as an extra?—I do not recollect whether it was paid as an extra.

1655. *The Chairman.*] I notice another item in the brickwork that is specified to be in cement—namely, "filling up all the voids." That was all put in cement, was it?—Yes.

1656. And the tops of the chimneys, above the ridging?—Yes; and mostly to the sailing-courses.

1657. In the lime mortar that you used what lime was it you made use of?—Waihola lime.

1658. Throughout?—Yes.

1659. And the sand?—Chain Hills sand.

Mr. Gore, sen.: From the south side of Dunedin.

1660. *Mr. Mountfort.*] In the sections of the building there are certain courses shown—of Oamaru stone, I suppose—which run all round the building. They are shown here in the drawing as going through the wall: was it erected like that here?—No; at every certain number of feet there is a "header," which goes three-parts through the wall.

1661. How far apart shall we find these headers?—Probably every 8ft. or 10ft.

1662. On an average, how far apart shall we find these headers?—I am speaking only from memory.

1663. You say that they go three-fourths through the wall?—Well, it is three-parts of the wall.

1664. For instance, in an 18in. wall how far would it go through?—I should say about 9in. to 12in. They were not regular in length.

1665. How would you work it?—I do not say that they were regular. Some of them were 9in. and some 12in.; while some went entirely through the wall.

1666. You think that some of them went entirely through the wall?—Yes, some of them did.

1667. At what average, speaking to the best of your recollection, are your headers put in?—They would run from 6ft. to 9ft. apart.

1668. Are any of them shown in the drawing 6in. thick, do you think?—I cannot say now; I have not measured them for five or six years.

1669. The specification does not specify how thick a header is to be?—No.

1670. *The Chairman.*] But it provides the thickness of the string-courses, which are to be not less than 6in.?—I think it is bonded here and there.

1671. *Mr. Mountfort.*] The headers ought to be found showing on the outside on an average 8ft. to 10ft. all round?—Yes.

1672. But heading-stones ought to be found every 8ft. or 10ft.?—Yes.

1673. *The Chairman.*] I asked you yesterday a question referring to the drainage of the foundations, suggesting that the General Conditions provide for the drainage during construction. In the first clause of the specifications drains are alluded to, it evidently having been intended that some drainage should be done. It reads: "Trenches for drains will be cut to required depth and fall." You see it evidently was intended that some drainage should be done?—It was done. There was one length of 6in. pipe put to the trap of each downpipe. That is what was specified.

1674. You are not under the impression that the Contractor, as Contractor, is bound to keep the water away from the foundations?—No, certainly not.

1675. Can you remember or point out what drainage you provided for in the contract?—Oh, yes! perfectly well. There was one length of drain-pipe to each downpipe—the rain-water pipes in the roof.

ARCHIBALD MORRISON sworn and examined.

1676. *Mr. Gore.*] You are a member of the firm of Anderson and Morrison, plumbers and iron-founders?—Yes.

1677. You did the plumbing at the Seacliff Asylum, did you not?—We did part of the plumbing.

1678. Which part did you do?—The internal plumbing; at least, most of it.

1679. Did you put in the soil-pipes in all the closets?—Yes.

1680. Do you remember Dr. Grabham reporting on the Seacliff Asylum on the 24th June, 1885?—Yes.

1681. Do you remember reading these words in his report—I am going to quote as it appears in the parliamentary Blue Book: "The leakage through the roof of the large hall shows greatly extended damage upon each of my successive visits, and ought to receive immediate attention. The

hot-water tanks, lined with lead, are frequently under repair, and will eventually become unserviceable, after causing much mischief to ceilings. Some of the bath-room ceilings are being destroyed by leakage from valves and waste-pipes, the former unprovided with safes, and the latter having joints made of putty instead of solder." It is to the last statement, about the joints, that I wish particularly to call your attention. Is that statement of Dr. Grabham's correct?—No, it is not.

1682. Were the joints made with putty?—No.

1683. What were they made of?—Solder.

1684. If they had been made of putty you must have felt the effects, must you not, directly you entered the building?—Yes.

1685. In what way?—By the smell.

1686. As a matter of fact, then, that statement is not true?—No, it is not.

1687. Was there any foundation of truth in it?—Not the slightest.

1688. Do you know what gave rise to that statement?—I have heard what gave rise to it.

1689. Perhaps you will kindly state to the Commissioners what you know about it?—What I heard was this: that after the job was entirely finished a carpenter put a chisel into one of the pipes, and, there being no plumber there to solder the hole he had made, he (the carpenter) put some cement—not putty—in it. Some officers of the asylum saw him do this, and from that circumstance that whole report arose.

1690. *The Chairman.*] Can you point out what part of the building this pipe was in?—I cannot. I never saw the pipe.

1691. Were you or your men engaged in making repairs after this was found out?—Oh, yes! we are employed at the asylum now in making any repairs.

1692. If there were any alterations or repairs to be made in the system of putting in the pipes your men would be employed to do it?—Yes.

1693. As a matter of fact you have not had to reconstruct any portion of it—that is to say, you have not had to pull out any of the pipes?—None of the pipes have been pulled out, though some of them may have been repaired.

1694. From previous faulty work?—No: from the pipes being choked, perhaps; but I am not aware of any pipes being taken out and replaced.

1695. If there had been any extensive repairs made since the building was finished the plumbing would have been done by your men?—Yes. There has been some alteration in the hot-water system—some copper put in instead of lead. That is the only alteration of any extent I know of that has been done in the building.

1696. *Mr. Gore.*] Is there a large quantity of these soil-pipes in this building?—Yes.

1697. Can you say how many hundreds of feet?—I cannot say from memory.

1698. But there is a very large quantity?—Yes.

1699. You would have known of your knowledge, I suppose, if it had been a fact that the joints were made of putty?—Yes. There never were any putty joints.

1700. The pipes have never had to be taken up?—Never.

1701. *The Chairman.*] Are they the same soil-pipes?—Yes.

Mr. Gore: They are heavy pipes. I may say that I have called this witness because I desired to show the absurdity of this statement of Dr. Grabham; and I infer from this that many other statements, which are equally absurd, will be made. I think Mr. Blair himself has replied to this matter completely. I have never had the opportunity of showing that it was completely unfounded.

1702. *Mr. Gore.*] With regard to the hot-water cisterns being lined with lead, did you recommend copper?—Yes, I recommended copper in the first instance.

1703. Did you give a price for the copper?—I do not think so. I believe that I gave a verbal estimate. I was asked as to the probable cost of the copper, and I said it would be about so much. It was abandoned on the score of expense,

1704. In putting up this hot-water business you had to do a great deal with Dr. Neill, did you not?—Yes.

1705. Principally with Dr. Neill?—Yes.

1706. It was outside the contract?—Yes.

1707. *The Chairman.*] The present hot-water apparatus has been put in since the building was completed?—Yes.

Mr. Blair: Mr. Gore wishes the Commission to infer from these allegations that charges were made on hearsay. He will excuse my saying that I never bring witnesses forward with that intention. The charges now made rest on a very different footing.

Mr. Gore: But there have been so many reports through the papers.

Mr. Blair: Perhaps it will settle this difficulty if Mr. Gore will read from my report what I said on this subject.

The Chairman: I do not think that this matter has anything to do with the present inquiry.

Mr. Blair: I should like you to understand that these allegations made against the building were repudiated by myself. I backed up Mr. Gore and Mr. Lawson when I thought they were right, and will do so again with the greatest pleasure; but, because I do so, it must not be held that I am backing them up in all cases.

Mr. Gore: I acknowledged a little ago that Mr. Blair himself refuted Dr. Grabham's statement.

1708. *Mr. Skinner*: Did you carry out the whole of the plumbing at the asylum?—We did most of the internal plumbing, but I had nothing to do with the roof.

1709. You had nothing to do with the eaves or downpiping?—Nothing at all.

JOHN GILSTON DICK sworn and examined.

1710. *Mr. Gore:* You were foreman at Seacliff for some time, were you not?—Yes, I was.

1711. Did you put in any portion of the concrete foundation there?—I did.

1712. Will you describe it on this plan?—It was in the central block.

1713. You say that you put concrete in a portion of the central block: will you point out which portion?—There was the back wall, there was this cross-wall, and part of the kitchen-foundations, which is not on this plan.

1714. You put in most of the concrete in the centre block?—Yes, at the back.

1715. What sort of concrete was it? First, tell me how it was mixed?—I forget the gauge now.

1716. Was it measured?—It was all gauged.

1717. All measured in boxes?—Yes.

1718. Do you consider that the concrete you put in was of good quality?—It was all of good quality.

1719. Were you discharged, or did you leave of your own accord?—I left of my own accord.

1720. What was the reason of your leaving?—I did not get on very well with the Inspector, for one thing. I felt miserable there, and I thought it would be better to leave.

1721. Then you did not get on very well with the Inspector?—No, I did not.

1722. What was the cause—what was the grievance between you?—I had no grievance with him.

1723. Then what grievance had he with you?—He was always finding fault with me; yet he had all his own way.

1724. Did he interfere with the men at all?—Yes. That was one of the things I did not care about him for.

1725. You felt that your position was so unfair to me and so miserable for yourself that you thought you would leave. Would that express what you meant?—Yes, and I told you so in these words.

1726. Did Mr. Brindley want you to leave?—He did not say so, but it appeared to be so from the way that he was going on.

1727. Then you left on your own accord?—I did.

1728. Can you speak of the work generally—of the manner in which it was constructed, whether it was good or bad? What class of work was it while you were there as foreman?—All the work I saw done was of first-class workmanship. So long as I was there, and as far as I could see, it was so.

1729. I am only asking you to speak from your own knowledge. Have you had a good deal of experience in building?—Yes, a good deal.

1730. Are you satisfied that the work was carried out according to the intention and meaning of the plans and specifications?—Oh, yes! Of course I kept an account of all the differences between the plans and what was done. I gave you the record of that.

1731. Have you seen these figures [handing document to witness] before?—Yes.

1732. Whose figures are they?—They are mine.

1733. Did you take the measurements?—I measured them as the work went on.

1734. What do these figures purport to be?—Well, it shows the extra work that was done. It shows the difference between what is shown on the plan and what was really done.

1735. Between the concrete as it was carried out and as shown on the plan?—That is it.

1736. Will you please look at the bottom of that paper. It is certified by Mr. Brindley as being correct, is it not?—That is the extra, in excess of the plan.

1737. That is the concrete done—all by measurement?—Certainly.

1738. During the time that this concrete was being done did you see any packing tipped in by the barrowful and allowed to remain so?—No; and I was there all the time.

1739. Were you likely to have seen it if it had occurred?—Yes.

1740. Was Mr. Brindley about the foundations when the packing was being put in?—He was always there. Both of us were there all the time. He was there, and saw every bit of concrete that I put in.

Mr. Gore: I may explain that this was the exhibit which was handed to Mr. Forrest to assist him in making up his quantities along with Mr. Brindley.

1741. *The Chairman.*] I would like to know if these figures are the witness's?—Yes, sir; these are my own figures, just as I put them down.

1742. At the bottom I notice that they have been examined by Mr. Brindley—initialled by him, I think—and there is the date?—I do not know anything about that.

1743. It says, "Examined, A. T. B., 13/6/82." Do you know for what purpose these measurements were made?—Yes: for the sake of seeing what amount of concrete was put in.

1744. How often were they measured?—Continually; every wall as we went on.

1745. The extra size you measured?—Yes.

1746. I suppose that monthly progress-payments were made. There must be some measurements in order to arrive at what work was done?—Mr. Brindley attended to that.

1747. Then this was simply kept as a record of the amount of work done during a month?—I kept it as a record for Mr. Gore's guidance.

The Chairman: I would like that put a little more definitely. May it not be inferred that the measurements were simply for monthly payments? What I want to get at is, whether these measurements were in any way proof that the work was done by measurement?

Mr. Gore: These figures would extend over two or three months; therefore they could not be progress-payments.

Witness: Mr. Brindley kept an account himself, and I kept an account myself. These figures show the amount of extra work done, over and above what is shown on the plan.

The Chairman: But he does not say that it is correct.

Mr. Gore: Mr. Brindley examined them all; and the witness has already said that the measurements were taken with Mr. Brindley for the purpose of making payment—final payment and not progress-payment.

1748. *Mr. Gore.*] Do you say that these measurements were taken for the purpose of making final payment?—Yes.

1749. Were you on the work when the final payment was made?—No.

Mr. Gore: I may say that Mr. Dick is an expert in figures, and his figures may be depended on. The other foreman, who came afterwards, could not be depended on so well, so measurements were not taken by him. As I have already said, Mr. Dick's measurements were taken for the purpose of the final payment, because they extend over a considerable time.

The Chairman: It is a matter for explanation, and we shall find out from Mr. Brindley why these measurements were made.

Mr. Gore: Whether the final statement was based on them.

Witness: There were some portions shown in the plan—for instance, this back wall, at the back of the centre block, is shown as a 2ft. wall, but this portion was made 2ft. 6in. All those sort of extras we kept account of, in case there was any dispute afterwards. Mr. Brindley and I each kept accounts; and it appeared afterwards that his account tallied with mine. That is the reason why he initialled that account of mine.

1750. *The Chairman.*] I understand you to say that you were not employed on the northern ambulatory?—No; I was employed on this central block.

1751. We have not examined the foundations of that portion of the building. Let us know if there are any footings put in that portion of the work that you had to do?—Yes; they were all put in under Mr. Brindley's supervision.

1752. You say that there is a footing at the base of the wall?—There is a footing in there.

1753. There is a footing under the central block? You say that it has been put in as shown on the plan?—I cannot say for it being exactly as shown in the drawing. If there was any difference it was a lower footing. The top of the footing may be the same size as the other, but I do not recollect about that. I know that all the footings are in, and that Mr. Brindley was very particular about having them in.

1754. The footings were put in like that?—Just like that.

1755. Was timber and boxing used?—Oh, yes! that was all boxed.

1756. Does that apply to all the foundations that you put in?—I think in a portion of the back wall here [indicating on plan] there was some alteration—this was filled with loose stones in some way.

1757. Were you employed at any of the side ambulatories, either north or south?—No.

1758. Were any drains put in under the concrete wall while you were there?—No.

1759. Were any arrangements made for carrying off the drainage?—None, except these stones. The ground was slipping and the back was filled in with loose stones. The foundations were pretty deep—down on the rock in there.

1760. Down to the rock, you say?—Yes.

1761. What sort of rock?—A sort of green-like rock; like what you get down near the beach.

1762. Was it papa—a soft rock?—It is something like the natural Caversham stone.

1763. Who set the foundations out?—Mr. Brindley and myself. Every foundation I set out Mr. Brindley set them off in conjunction with me.

1764. Who instructed you as to the depth of the foundations?—Mr. Brindley. He brought the sections. We had all the plans there. He had them all drawn out. He took the levels and gave them to us.

1765. Did you work to his instructions both as to level and dimensions?—Yes. Whenever there was any difference we kept an account of it; such as that account there.

1766. *Mr. Mountfort.*] Did you superintend the brickwork in the centre block?—A portion of it.

1767. How high did you go do you think?—Up to the dining-hall. I came from the back of the centre of the building up to here [indicating on plan]; nearly up to the eaves. I recollect putting in this part [pointing out on plan].

1768. Who superintended the underneath work before you began?—I think Mr. Gore had it in his own hands.

1769. What sort of bond did you use?—I think it was an English bond.

1770. You think it was an English bond?—It was just according to the specification.

1771. You say you think it was an English bond?—I think so. It was done according to what was specified, but it is so long ago that I do not recollect exactly.

1772. Of course, you do not know what was the original bond?—Mr. Brindley always said English.

1773. You ordered either English or Flemish bonds?—English.

1774. The work having been in progress before you went there, you found it so, I suppose, and continued it; and you think it was an English bond?—I think so. There is an hoop-iron bond—two feet or something.

1775. Do you recollect anything about cement courses?—There is a cement bond.

1776. Whereabouts was that cement bond?—I think at each floor; at all events, right round.

1777. Were there any other bonds, except those at the floor lines?—I think there was.

1778. I mean any cement course bonds. For instance, there would be one there [indicating on plan]; at the next floor do you put in another cement floor bond?—My recollection does not bring me to that.

1779. Your work went to a very good height?—I think cement was used where the hoop-iron bonds came in. There was a lot of cement used; I know that.

1780. All the hoop-iron bonds have been done, I understand you to say, according to specification?—It was, every bit of it.

1781. *Mr. Skinner:* Will you look at the plan and say if the walls of the central portion were carried up as figured?—I cannot detect any difference,

1782. There is 14in., 18in., 2ft. and 2ft. 6in. work?—Yes. The brickwork here [indicating on the plan] as shown is 2ft., but I think it is 2ft. 3in. as done, if I recollect rightly.

1783. How can you make the wall 2ft. thick? Can you say whether you carried out these figures, or made them thicker?—These walls were carried 2ft. 3in., as I have mentioned, where they are shown as 2ft.

1784. That is three bricks?—Yes.

1785. Was that an extra to the contract?—I would consider it ought to have been, but I do not know whether it was or not.

1786. Did you measure it as an extra?—Well, it will be shown in these papers if I did. I do not know whether I included that as an extra, or whether it was arranged before I went down. That was how the work was set off when I went there. I recollect now observing that it was 3in. thicker than what was shown.

1787. But you do not know whether it was charged for as an extra?—I do not recollect. I had nothing to do with the final settling-up.

1788. Who gave you orders to alter the thickness of the walls from 2ft. to 2ft. 3in.?—I do not know. The work was set off when I went there.

1789. Was any of the 2ft. portion set off?—Yes. There was one storey done.

1790. Was that 2ft.?—Yes. All here [indicating on plan] on the side walls.

1791. The part that you made 2ft. 3in. was marked 2ft. on the plan, but was set out 2ft. 3in. when you went on the ground?—Yes; that was so.

1792. *Mr. Mountfort.*] What was the lower storey when you came on the ground?—2ft. 6in.

1793. How can you make a 2ft. 6in. wall out of that?—I do not know. That is a projection.

1794. *Mr. Lawson.*] As a matter of fact, the wall that is marked on the contract-plan as 2ft. is actually 2ft. 3in.?—Yes.

1795. And you are not aware of its being charged as an extra?—I am not aware. I do not recollect now if it was.

1796. To the best of your recollection, you did not measure it as an extra?—No. If I did it will be shown in the papers I left with Mr. Gore.

1797. Do you remember particularly about the foundations of the tower?—I did not put them in, but I noticed the foundations of the tower.

1798. What was the nature of the concrete that was put in?—It is one solid block right round. It is larger than what is shown in the plan.

1799. During the time that you were on the ground there was there any particular dispute between you and Mr. Brindley?—There were several.

1800. Can you remember any of them?—I mind a great dispute about bricks.

1801. In that dispute did I take the side of Mr. Brindley or of the contractor?—I do not know, but you came out and condemned about 200,000 bricks on us.

1802. I did?—Yes.

1803. You do not know, do you, of any instances of any kind of disputes—no matter what they were; I do not care what they were, while you were there on the ground—in which I sided with Mr. Gore against Mr. Brindley?—No; I do not recollect of any.

1804. I want you to be particular in answering this question. Think carefully, and try and call to your recollection, if you can, any circumstance in which a dispute arose where—I do not care how trifling the instance was—I sided with Mr. Gore against Mr. Brindley?—No; I cannot recollect anything except the case of the bricks. There was lime or something in the clay; at all events, I supposed that that was the cause. Mr. Brindley objected, and condemned them all.

1805. How long were you on the ground?—About six months.

1806. And during the whole of that time you say that you do not know of any such instance of a dispute in which I sided with Mr. Gore against Mr. Brindley?—No, I do not.

1807. Not even about any simple or trifling thing?—No; I cannot recollect of anything in dispute which you came up about, except the matter of the bricks.

1808. *Mr. Blair.*] How often was Mr. Lawson on the ground during those six months?—I cannot say how often, but he was pretty often out.

1809. You state that you do not know about Mr. Lawson siding with the contractors in the matter of disputes. As a matter of fact, do you really know anything about it?—I really know nothing about his siding with the contractor in any dispute. I thought it was really the other way.

1810. Did you know of your own knowledge that it was the other way?—No; except that instance I have been referring to—the matter of the bricks.

1811. You left the works, you say, because Mr. Brindley was always finding fault with you?—Yes.

1812. Continuously finding fault?—Yes.

1813. Did Mr. Lawson back him up in these fault-findings: in every one of them?—I do not know whether he did or not.

JAMES GORE sworn and examined.

Witness: I will state to you, gentlemen, what I know about the concrete. That seems to me to be the principal thing in dispute, so far as I am concerned.

1814. *The Chairman.*] You are the principal contractor?—I am the only contractor. I will state what I know about the concrete. As I just stated that, I presume, is the principal thing affecting me. The concrete in the foundations of this central block was put in before Mr. Dick (the foreman) went out there—that is these outside walls. I was not there the whole time, but I believe that Mr. Brindley was. He (Mr. Brindley) set out the foundations himself, having done so as a favour to myself. I was going backwards and forwards while the foundations were being put in, but,

with the exception of one particular place, I never heard Mr. Brindley complain on the subject. He wanted stone packing from 18in. to 2ft. apart, which I was unwilling to give him, as we differed in our interpretation of the specification. I alluded to what I had done in other places in regard to stone packing, where I had put it 3in. or 4in. apart, but I was quite willing to concede him 9in., which I did. As a matter of fact, there never has been any dispute as to the quantity of concrete, because the metal was always measured in a box made to Mr. Brindley's own dimensions. I forget what the exact proportions of metal to cement were, but I think they were either 5 or 6 to 1. At first Chain Hills sand was mixed with the metal, but afterwards I got a good supply of gravel from Shag River brought down by the Railway Department; then sand was stopped being used. With the exception I have mentioned, I never heard any complaint from Mr. Brindley about the cement; there was no complaint beyond the stone packing, and that was with reference to the distances apart at which it should be put. The exception I have already alluded to is the centre wall in the extreme south wing. I was at Seacliff one afternoon, and coming down the back of the south wing I noticed Mr Brindley, from the embankment, was standing over the man who was working there packing the trench. I went down and inquired what was the matter, and found that the man had been packing the stones 9in. apart, but Mr. Brindley had ordered them to be altered and put 18in. apart. I ordered the man to put the stones back 9in. apart, the trench being a narrow and shallow one. Mr. Brindley, being a bit hot tempered, the same as myself, got his back up at this, and he walked straight away. It is only a narrow wall, I may say; but the wall was finished. Mr. Brindley, however, refused to allow the bricklayers to work on it, and he stopped them. I saw Mr. Lawson in town, and explained the matter to him, and he said that it would have to come out. It stood some three weeks, and then part of it was taken out. I was there while it was being taken out. It was a very slow process indeed removing it, because it was as hard as bluestone. The part taken out measured, perhaps, 4yds. or 5yds. I kept that concrete lying there for months open to the inspection of any one. There was no concealment about its quality. Mr. Brindley, seeing how hard the concrete stood, admitted it was good; well, I should not, perhaps, say admitted, but he stopped it being taken out, and said there was no need for any more being taken out. The foundations were then made good, and there was no more said about it. The correspondence that has been read is dated at about the time that occurred. Mr. Brindley wrote that I was setting him at defiance, and all that; and he wanted the man who had done this work to be discharged. I do not think I can tell you anything more about the concrete. Respecting the friction between Mr. Brindley and myself, there can be no doubt that his letters confirm it; but that friction occurred, as you have heard from the last witness, through Mr. Brindley interfering with the men; in fact, it went on to such an extent that my foreman had to leave, as he has told you—the foreman who directly carried on the whole of the work in this central block and part of the north ambulatory. This man, I may tell you, had been with me for very many years. He was foreman at the Union Bank, at Watson's, and other buildings I have erected; and I had to discharge him for that reason. That foreman left, and another took his place. I may state that I always had count kept of the number of bricks we made and used, so that we knew when a man was doing a fair or honest day's work. We used to set on the average, when I inspected the work, which I mostly did at the outset, 800 bricks per man per day; but afterwards we found there was a falling off to 500 bricks per man per day. When it came to that I had to discharge that foreman. I told Mr. Brindley on many occasions that he must not interfere with my workmen; that I was losing all control of them; that if he wanted anything done he had only to apply to myself or the foreman, and it should be attended to. That was the real and principal cause of the friction between us. There were several other things that did not tend to make the feeling any more amicable. For instance, in the front central block all the columns were built in cement, but I did not object to that, because I knew that they had a very great weight to carry—had a very heavy gable upon them. Then he had cement bonds put round; I do not allude to cement when the hoop-iron was set in cement; it was a bond of 18in. of brickwork; these were five or six courses of brickwork set in cement. In fact, there was such a considerable quantity of cement ordered by him that I objected, and wanted to know if all this cement was to be paid for. He said no. Hence further friction. But I was not even then inclined to interfere; indeed, I conceded to Mr. Brindley what must have cost me a considerable sum of money. Mr. Brindley was not fond of having concrete above ground; as a matter of fact I do not think that there is much concrete above ground. The base of this centre block is shown in concrete, but it is carried up in cement brickwork, and is 2ft. 6in. Mr. Brindley wanted this plinth from the ground carried up in brickwork and cement, and I conceded that to him. Each course—that is, of brickwork, must have cost me considerably more than concrete would, because, while we had the bluestone for concrete on the ground, we had a difficulty about making the bricks and in getting sand from a distance. Yet I conceded that and never grumbled. But when this cement was going in right and left in different parts of the building, without any payment being made to me for it, you can quite understand that I grumbled, and that will account for the irritation between us. Certainly after that I seldom went near Mr. Brindley nor he near me. I never had any words with him; we just agreed to differ. I left him in the end with a very good feeling, which I believe he has towards myself. I may say, speaking of the building generally, and from my own knowledge of buildings, I believe that the Seacliffe Asylum is about as faithfully-erected building as any in New Zealand. I do not know any part of the building which has been "slummed"—certainly there was no intention on my part to slum; on the contrary, very far from it; I had a price sufficient to make good work of it. In regard to the concrete, it has been insinuated that I have reduced the thickness of the foundation in order to save money for myself. Now, as a matter of fact—as I think I have pretty well shown, and Mr. Brindley can substantiate it—all the foundations were measured as per plan—measured as they were put in the ground, and the difference either added or deducted, as the case might be, and the result was a total of 700yds. extra work. You have seen that the schedule-price is £2 5s. for concrete in

trenches where no boxing is required, and £2 10s. where boxing is put in. At those prices, having the bluestone on the ground, broken by a stone-crusher and steam-power, and having a large quantity to do, it must be self-evident that the more I could put in the better it would be for me; and rather than reduce the foundations one inch it would have been to my interest to have increased them to 10ft., seeing that I was making a very considerable profit out of the concrete. So far as this crack is concerned, Mr. Brindley himself called attention to it before a brick was set on the wall. My own impression—but I am not prepared to be positive about it—is that the crack is about here [indicating on plan], in the centre of the north ambulatory No. 2. I have a very strong impression that it was there, but perhaps Mr. Brindley, who took more notice of it than I did, will say more definitely. I have also an impression that there was another crack a few feet away—perhaps 15ft. or 20ft., but I will not speak positively. I am, however, under the impression that there were two cracks, and that Mr. Brindley called my attention to it. It has been said that there were no cracks up to the time that the building was taken off my hands —if I remember aright the building was finished in January or February, 1884. At that time this crack had shown to a very slight extent after the plaster was on, but I am sure that neither Mr. Brindley nor I gave much consideration to it. We thought that the weight of the superstructure would consolidate and bind it, and that the weight would prevent the back-thrust from throwing the wall down or cracking the wall. The crack in the floor, it appears, was not seen until after the laundry was commenced, and that I had no connection with. It was not noticed till after then, and the question may arise whether I had not really got clear of this building before that crack was seen. Pehaps I may be pardoned for making a statement that is hardly relevant to this inquiry. But there have been so many statements in reference to the Seacliff Asylum that I wish to refer to some of them. For instance, in one of the newspapers of the 11th instant, it has been stated that I did not receive any payment for extra work until after I had been elected a member of the House of Representatives. That is totally untrue. I never received from the Public Works Department, either directly or indirectly, one halfpenny since I was nominated to the House. This is, perhaps, digressing, but I wish this statement to appear in the evidence, as the statement I have been referring to has been made in the public Press. As to this toothing which has been spoken of, I remember it quite distinctly. It was so ordered by Mr. Brindley, and his reason for ordering it was that it was intended at some future time to extend the building at the north and south end. This gable was only a temporary one, and it was put in so that it could be easily taken out again without interfering with the side walls. You can quite understand that it was not a saving to the contractor to tooth it, because it was carried up with the side walls. You have heard of this temporary gable on the top, but if you refer to the plans and specifications you will not find one single word said about it. I could have taken this ground safely: that I had nothing whatever to do with it, as it is neither shown nor specified. Instead of that I built the gable in 9in. brickwork, and consider it ample for all the purposes required. Mr. Brindley took great offence at it, and wrote a great many letters on the subject.

Mr. Lawson: There is no elevation in that part.

Mr. Gore: It is neither shown nor specified.

Mr. Lawson: It is filled in to the gable.

The Chairman: Where the ragged ends are left to the wall.

Mr. Gore: I do not know, gentlemen, that there is any more information that I can give you. Perhaps Mr. Blair would like some information on points that I have not touched on. If so, I shall be very glad to give it.

1815. *Mr. Lawson:* I merely wish to ask you the same question that I put to the other witnesses. Whether, in the disputes between Mr. Brindley and yourself, I coincided with Mr. Brindley or with you?—I think that on several occasions you agreed with me, so far as I remember, more particularly towards the last part of the work.

1816. Can you specify the things?—No; I cannot. But I can tell you what you disagreed with me about. You compelled me to take some concrete out; and you also condemned our bricks, regardless whether they were all good or all bad. If you will refer to that book you will find that there was a considerable quantity of good bricks amongst them. I wished the good bricks to be put on one side, but, on Mr. Brindley's representations, your yourself condemned them in a mass. As a matter of fact, I do not know that very many disputes of that kind occurred. I do not remember them. The disputes were more between Mr. Brindley and myself, and were as to his interfering with the men, and as to the packing. Mr. Brindley seemed to be under the impression that he had power to interfere with the men, and to tell them to do this, that, or the other, and that they had to do it. But I as contractor, knowing perfectly well that divided power cannot exist without someone losing, and that I would be the one on whom serious loss would fall, I would not submit to it.

1817. *Mr. Skinner.*] Why was the foundation put in by the yard and not as in the original contract?—Because the site was altered, and the foundations were materially altered. The foundations were put in entirely new ground. It was a different section of ground. There was not a piece of ground the size of this table that was level then. Where the kitchen is now there was a large hill. Whenever I was out as Seacliff when concrete was being put in, I do not remember Mr. Brindley not being present in the trenches. While the concrete was going on he almost lived in the trenches. I believe that every trench was set out by Mr. Brindley in conjunction with the foreman for the time being.

1818. Were there any deductions in the final account?—No, not in the concrete. There was an increase in the quantity, in the final certificate of 700yds.

Mr. Blair: I will not put in the final certificate just now.

Witness: Mr. Lawson has it here. The total amount of money paid for extra concrete was £1,764 3s. 9d.

1819. *Mr. Skinner.*] How much per yard is it there?—At schedule-rates. That would be about 700yds.

1820. Why did you not adhere to the original plans in regard to footing?—That I cannot explain. I know that in one part Mr. Brindley did not do so, because the ground was continually coming away. It was in the winter, and the weather was exceedingly bad. You could not possibly get underneath the bank without taking away a large quantity of earth; therefore Mr. Brindley decided not to take the earth away, but to cut off the footing. So far as my memory serves me, where the footings were cut away the bulk of the cement was adhered to.

1821. It was Mr. Brindley, you say, who ordered the footings to be cut away?—Yes. The foundations were put in to Mr. Brindley's orders in every respect. I had nothing whatever to do with the alteration of width or depth. In fact the contractor was simply a machine to do as he was told.

1822. Where did you obtain detailed drawings from?—I do not know that I ever had many; I do not remember having any. For the mason, for instance, Mr. Brindley generally marked them off on the zinc, and the mason cut the moulds out. For the stonework, I think most of it was done in that way. I do not remember any details.

1823. Did you carry out the whole of that work without any details?—Oh, no! All I say is that I do not remember receiving details from Mr. Brindley. As I have told you, he marked out the details for the mason—every little detail that was required, even to the chimney-tops and those kind of things; he actually set the moulds out for the mason. He was very good indeed in that way. For the carpenters' work he had large drawing-boards made; whoever drew them I cannot say. I believe Mr. Brindley moulded it and put them to the full size in the drawing-board. The details for the tower I remember seeing set out on the floor of the concert room, full size. It was drawn by Mr. Brindley and Mr. Walter Gore.

1824. When you tendered for the asylum there were no detailed drawings?—No.

1825. Is it not usual to have detailed drawings?—Not in Dunedin. I have often wished it was, however.

1826. Can you say where Mr. Brindley was engaged in getting out his detailed drawings?—I have frequently seen him drawing at his own place.

1827. What do you mean?—He had a room in his cottage, where he had a drawing-board and all the requisites.

1828. On the ground; he lived out there then?—Yes. I have seen him getting out details.

1829. While he was getting out details he would not be attending to his other duties?—I do not think that he ever neglected his duties. I will say this, that Mr. Brindley was a most attentive Clerk of Works in every respect. And I must certainly say that, as far as my experience goes, he gives himself far more labour than there is any occasion for him to give. For instance, in the front section, for the side-walls, for the centre blocks, and also for the other blocks, he prepared a 1½in. scale-drawing so that everything could be measured off to $\frac{1}{16}$in. No doubt it was very useful, but it was not required in a building like that. It was very seldom that I had it to work from.

1830. Whose duty do you think it was to prepare detailed drawings?—I have always received them from the architect.

1831. Can you tell me why the sections and dimensions of the downpipes were altered from the original contract? Please turn up the specifications and you will see at page 10 that "at all open eaves 6in. by 5in. moulded eaves gutters will be placed, with all requisite and usual outlets and sloped ends, elbows, and shoots, into ornamental cast-iron water-heads, thickness of gutter-iron not being less than $\frac{1}{8}$in.; gutters carefully secured by screws to the plate provided for that purpose. Water to be carried to the traps at ground-level by the necessary number of 5in. by 4in. rectangular cast-iron pipes with moulded sockets and slips, and all well secured to wall and fitted with all necessary bends and shoes complete." That is according to the contract. When the Commissioners were out there they found that the area for carrying off the water was considerably less—nearly one-half in round numbers, and that the pipes were not of the same form?—If I remember aright they are a D-shaped pipe. I have some recollection of more downpipes being put in than is shown, but I have no recollection of any alteration.

1832. Perhaps this may be of a little assistance to you.—Will you show me where the downpipes are?

1833. *The Chairman.*] There are two sizes of downpipes?—Yes; I think so.

1834. *Mr. Skinner.*] One is larger than the other?—Yes.

1835. The largest do not in any way come up to the specification?—I cannot tell you why the alteration was made. They were to be a 5in. by 4in., D-shaped pipe.

1836. They were specified to be 5in. by 4in. rectangular. The shape is of very little moment; the only question is whether they would carry off the water?—I cannot say why they were altered, unless that half-round pipes would look neater.

1837. Do you consider that the pipes, as they now exist, are sufficient to carry off the water?—My impression at the time was that they were ample. I may say that we had some exceedingly heavy rains—one has already been referred to in the evidence—and the pipes were quite equal to carrying the water off.

1838. Were you there when this heavy rain came down?—I passed through that afternoon and I went up specially the day afterwards in order to see to the drainage. I certainly never heard that it overflowed the gutters; and it would have made the building damp and plain to be seen.

1839. I have not seen the construction of the gutters, but I hardly think so?—Surely it would make the walls damp.

1840. I am now referring to the cast-iron spouting which was to have been 6in.?—It is more than that, it is 6in. by 5in.

1841. That is what you have got?—The spouting was made according to the detailed drawing. Part was made in Melbourne, and afterwards I found I could get it cast in Dunedin, and got them made by Shacklock.

1842. With the overflowing of these it was not necessary that the water should get into the building?—Certainly not. I was thinking of the internal gutters. Still, I think if it had done so I should have heard of it, but I never heard or saw anything about it.

1843. *Mr. Mountfort.*] I suppose you worked to this specification?—Yes.

1844. Then, about this boulder-packing business: Where do you find in the specification that you were to use boulder packing in the concrete?—Stone packing, sir.

1845. Well, stone packing. Where do you find that in the specification?—I have not seen the specification for a very long while.

Mr. Blair: I think, sir, you will find it is in the last line of the first paragraph of the specification.

1846. *Mr. Mountfort.*] I see now that stone packing may be used?—Yes; the stones have been described as boulders. I will explain how that is.

1847. Do you call them packing?—The word boulder is accounted for in this way: All the stones at Seacliff are boulders. For instance, I broke out a boulder that was 7ft. across, and it cut out 4 cubic yards. It is really spalled stone, and a splendid stone it was for building.

1848. How came the Commissioners to find on excavating a part of the foundation a boulder that was half in the concrete and half out of it?—I should say that that was an accident. It had no business there, and was never intended to be there.

1849. But one-half of it was in the earth. How do you account for that?—I cannot account for it. It certainly should not have been put in that way.

1850. Then the trench at that part could not have been cut out square?—In that case, no.

1851. Another point, please. You say that in the centre of the building it was to have been concrete up to the window-sill, or thereabouts?—It is clearly shown here [on plan].

1952. And for that you substituted brickwork in order to please Mr. Brindley?—Yes. In fact, so far as my impression goes, the whole bases were put in brick and cement.

1853. I want to ask you a question about this particular base on which you gave evidence before. You say it cost considerably more to put in brickwork and cement. Now, your concrete was £2 10s. per yard?—Yes.

1854. Did you ever run that price out at per foot?—That is not the view I am taking of it.

1855. Please answer my question. What is the cost per foot if the price is £2 10s. per cubic yard?—About 1s. 10d.

1856. I have worked it out. It is 1s. 10d. and a little more?—Yes.

1857. It is cemented brickwork. I was under the impression that it was mortar cement brickwork. At £31 per rod that will be 2s. and a fraction per foot, will it not?—Yes.

1858. So that the actual difference in the cost will be 2d. per foot?—Yes; but allow me to explain. That is as far as the schedule-prices are concerned; but bear in mind that the brickwork actually cost considerably more than stone. The alteration did not affect my price at all. If you take the actual cost of brick and cement, and then concrete, you will find that the putting in of brick and cement was, in fact, a considerable loss to me; for this reason: The stone was on the ground, it was broken by machinery, and could be put in in large quantities. On the other hand, the bricks had to be made on the ground at considerable expense—for that I will give you my reasons presently—or had to be brought from Dunedin, also at considerable expense. So that the concrete would have given me a considerably higher price than the brickwork would have done.

1859. *The Chairman.*] Mr. Gore means that there was more profit in the concrete than in the brickwork?—Exactly. Price had nothing to do with it, because it is in bulk. I wish to give this reason for saying that the bricks were made on the ground at very considerable expense. During the whole course of construction my desire was to give the best brick that could possibly be made. In the first place, I began with a wire machine, but the clay was unsuitable, and the machine did not press it hard enough. I then went to the expense of importing one of Carver's patents, costing upwards of £500, to put it in position on the work. My son has stated that this machine gave a pressure equal to 10 tons per brick, but I know more about the machine than he does, and I am prepared to say that its pressure was 30 tons per brick; consequently we gave a more solid brick and a better article. You will thus see that I did all in my power to get as good an article as it was possible to make. Of course, this is an expensive machine, and added materially to the cost of the bricks.

1860. Another question I have to ask is about the gable at the north end. You say that it was intended to be of a temporary character, and to have it taken down some day?—Yes; I always understood so. This [indicating on plan] is to be taken away too, because it forms a continuation of the corridor, as the case may be. For instance, if the building is continued here [indicating on plan], this wall will be done away with.

1861. The north wing is continued westward. If that is so, as we will suppose, you will have a room to be done away with and a staircase to be done away with. You cannot take out that northern wall there without leaving that room and that staircase all exposed?—My own impression was that that room was to be done away with, but I do not know whether the stair was to be.

1862. You think that all the way down from the top to the bottom of this western wall was to have been taken away at some time or other?—Evidently.

1863. And therefore it was not bonded in?—Evidently Mr. Brindley thought so, or he would not have ordered it to be done. It was done by the order of the Clerk of Works.

1864. I would like to ask you the same question that I put to Mr. Gore, jun., but to which I do not think he gave a very satisfactory answer. It is about the General Conditions. Did you consider, according to the contract, that you would be expected to drain the work during the progress of the contract? I think in clause 19 there is a special clause that works must be effectually secured during construction, which means, of course, that they must be effectually secured by the contractor?—No doubt, sir. I think that you will find that a length of drainpipe was put to each downpipe. I realise that I had to keep the roof and the foundations clear, as far as I had control over them; but you must bear in mind that in this special case there was a large quantity of earth excavated both in front and back. It was beyond my control, and I should not be put to the expense, necessitated by other people's work, of draining it.

1865. Were the excavations all carried out by you?—That was a separate contract altogether: the one was under the General Government and the other under Mr. Lawson.

1866. We have never heard of that before. You had, I understand, a separate contract for the excavation?—Yes; and I will give you a proof that it was so. My schedule-price for excavation was 1s. 6d. per yard, but Mr. Blair cut down the price to 1s. 4d. In that matter he has "had" me very nicely to the extent of several hundred pounds.

1867. Do we understand that the whole of that excavation, except the trenches for the foundations, were carried out under a separate contract?—Yes.

1868. Then this is not a part of that at all?—No.

1869. What you mean is that the site will be levelled by the proprietors?—By the Government. You will see that there is a contract price for excavation. I think it is a complete contract. As I said just now, my schedule-price for excavation is 1s. 6d. per yard. If it had been done under the contract I should have had 1s. 6d., whereas I actually received only 1s. 4d. I may say, in continuing my answer to your question, that at the time this flood occurred the back-wing drainage was done by another party there excavating beside myself—a Mr. McCoombe, of Oamaru—who was making a road. It would be impossible to hold me responsible for that.

1870. While you were carrying on the work, was any question about the drainage raised by anybody?—Nobody but myself and Mr. Brindley.

1871. You never received any orders about carrying out the drains?—Not for a considerable time—at all events, not for many months—when we received orders to put in a drain in the centre block. We put in a 6in. pipe, and the water was running for some hours.

1872. Was that after the masonry work had been taken up to some height?—After the roofing was on.

1873. During the progress of the work what did you do?—As far as I could I kept open drains, but they got filled up. In the first place, I put in a box-drain at my own expense.

1874. *Mr. Mountfort.*] Were you aware of any settlement in the building in February, 1882?—Are you speaking of a vertical settlement?

1875. Yes?—I am not aware that even up to the present moment there has been any vertical settlement.

1876. I am now going to ask you where the end gable is. I have got a memorandum on my notes that the end gable has steadily shown slight settlement. I wish you to show me that end gable in 1882?—It is this gable [indicating on plan]—the turret. There was a slight settlement there.

1877. That is where?—The upper part of the building.

1878. Precisely. Then it was a movement in 1882?—Yes; but I cannot say the exact date. But it was not in the foundation; it was, in fact, a sort of spreading. There were some iron bolts put in to check that.

1879. *Mr. Blair.*] You say, Mr. Gore, that it has been insinuated that the concrete was reduced for your benefit?—Yes. I infer that, from what has been said in Parliament, and from the way the matter was spoken of in the House of Representatives by the Hon. Mr. Mitchelson, who, speaking as the head of the Public Works Department, said that if the foundations are found defective, the Government would hold the contractor—that is me—legally liable. I infer that that is the intention; it is even a direct threat to me. At all events, I look upon it as such.

1880. But that is an inference?—It is not an inference; it is a direct threat.

1881. Have I insinuated anything of the kind in my statement?—No. I am not alluding to you, but to what the Hon. Mr. Mitchelson stated in the Assembly.

1882. I thought you wished the Commissioners to understand that I insinuated it?—If it is tantamount to saying that you have a personal *animus* against me, then I say that I do not think you have.

1883. Now, with reference to this overflow of water: Do you remember on one occasion my meeting you on the Waitati Railway-station, when you were going out and I was coming in, and my making a remark to you about that same drain?—I have met you on one or two occasions.

1884. Do you remember the animated discussion we had about that overflow of water into the foundations?—I remember coming down in the train and that we got out at the station. It was the same afternoon that you had been at Seacliff. I had been away to Timaru.

1885. Do you remember our having an animated, not to say warm, discussion?—Yes.

1886. Did I say that you had failed in your duty as contractor, in not keeping that back drain open?—Yes.

1887. I said that the foundations had to be drained, did I not?—Yes.

1888. Was there anything said by me as to paying for that drain?—You said that if I made the drain I would be paid; that you would pay it out of your own pocket if no one else paid it.

1889. Have you ever charged me with it?—I did not.

1890. Have you made out your bill of extras without making a claim for that? I may ask, first, are you in the habit of doing extras without making a claim for them?—I have done so, often.

I did not charge for those cement-bonds, which run into a considerable sum of money. There has been a great deal of cement put into that building for which I have not been paid. I have not been paid one penny for the cement in the front.

1891. Did you get any written order from me in reference to that drainage?—No.

1892. Can you fix the date of McCoombes' contract?—No, I cannot.

1893. McCoombs' contract was for making a road behind the asylum. He had to excavate partly to make a road there, had he not?—This road came to where the butcher's shop has been erected.

1894. Was that excavation made for any purpose whatever, except to make that road?—I cannot say. That road drained the ground at the back. I know he had to put in culverts in order to drain it.

1895. Do you know that the road was in progress at the time that that flood occurred?—I believe it was, but I cannot speak positively. My impression is, however, that Mr. McCoombs was working there at the time, because the building was getting very well on towards completion then.

1896. You stated that while you had one contract for excavating trenches with Mr. Lawson, the other contract was with the General Government?—Yes.

1897. You do not recognise Mr. Lawson as separate?—I do not recognise Mr. Lawson in the earthwork.

1898. But you recognised him in the building?—Yes; and in proof of that there is extra excavation of the site, that was originally intended to be done by the Government, but which was carried out by the contractor. There it is in the final certificate, £2,604.

1899. Was this excavation not considered as purely an extra?—I never considered it so, or I should have claimed it at 1s. 6d. per yard.

1900. Was it not paid for in the final certificate?—There was always a separate certificate.

1901. Was it paid as an extra in the contract?—I never recognised it as that.

1902. But, as a matter of fact, was it not paid?—That is one of my claims that I may yet have to bring into Court. I did not get possession of the ground as contractor for a very considerable time, and was consequently delayed. I looked on it as two separate contracts, and hold them to be two separate things.

1903. But you may have a claim against the contractor for the earthwork——

1904. *The Chairman.*] Do I understand from you, Mr. Gore, that you had a contract for excavation before you signed the other contract?—No; but before I commenced the building.

1905. You were then already contractor for the building?—Yes; the price was fixed by agreement. I wanted 1s. 6d., and Mr Blair thought 1s. 6d. was too much; and eventually we fixed it at 1s. 4d. The amount of the earthwork was 39,630yds, and that quantity, at 1s. 4d., has been charged in the contract. Allow me now to give you an explanation in regard to that excavation. Some seven or eight months had elapsed after the signing of the contract for the building before I got to work at this excavation. I was getting so wearied on account of the delay, and consequent expense I was incurring, that I was glad to do anything to get possession of the ground; so I took this offer in order to facilitate getting on with my own work. But I always looked on them as two separate and distinct matters. There may be a legal point about it yet. I still hold that I was entitled to be paid the amount I should have received as under my contract. If it had been a losing price Mr. Blair would not have considered me in the matter; and if it was a big price he had no right to cut me down to 1s. 4d. I hold that it has nothing in the world to do with the building contract.

Mr. Blair: That price was for the excavation of the trenches, which, as we all know, is a very different thing from simple excavation.

The Chairman: That amount includes filling and ramming; that does not allude to simple excavation.

Mr. Blair: As a matter of fact, sir, he got too much for it.

Mr. Gore: What about the stumps? You did not act squarely with me over this.

1906. *Mr. Skinner.*] Do you consider that the present defects in the building at the northern end arose from the want of deeper foundations?—I should hardly like to give an opinion.

1907. Whether they arose from the want of deeper foundations, or from the slippery character of the ground, or from the want of proper draining?—Perhaps a man would want to be a geologist before he could give an answer to that; but I do not think that the depth of the foundations had anything to do with the slips, unless you had gone down to the bed-rock; and even then I do not know whether you would have stopped it. My own impression is—but I have not seen the building for four years—that the wall has not moved so much at the bottom as that the ground had moved in a north-easterly direction. That is my impression of it—hence accounting for these cracks.

1908. But that is all supposition?—Yes; I am not a geologist, and, therefore, can know nothing about it.

1909. Do you think that if the foundations were taken down to the bed-rock the defects might have been prevented?—It might. But I do not think it is a vertical settlement at all.

1910. Do you consider that it arises from the slippery character of the ground?—If they had taken the foundations down to the bed-rock I still believe that they would have had to put drainage in.

1911. Do you attribute it to the slippery character of the ground?—I do. I know that the ground at the back here [indicating on plan] was very slippery indeed. Why, I had to put a slope on it. I forget now what it was, but perhaps Mr Ussher will give it. My impression is that it was 1½ to 1; certainly it would not stand at 1 to 1. This ground is very loose. There is no doubt of it having been an old watercourse; there is, in fact, every indication of it. Mr. James Donald has described it as coming down here [indicating on plan], but my impression is that it did not come so

close to this wing in front of No. 1 Block as he says; it turned round to the right in front of No. 1, and went down a gully, almost in front of the centre block. There was very deep ground there. There is a good deal of filling up now; but it was very deep then.

1912. Do you think that if the footings had been drained at the time that they were put in—that is, if proper drains had been put round the footings, would the slippings have been stopped?—Mr. Brindley kept that part as well drained as it was possible to do.

1913. There are no proper drains running round the bases of the footings?—Not that I am aware of. I saw that foundation put in; at least I think so. [Ambulatory No. 2 (north)].

1914. *Mr. Mountfort.*] There are a good many windows in the building, consequently a large amount of glass has been used?—A great quantity, indeed.

1915. Are you aware whether the specification as to the kind of glass was adhered to or abandoned?—It was not adhered to.

1916. Not what?—You are alluding now, I presume, to the thickness of the glass?

1917. Yes.—Well, it could not be got here.

1918. However, it was not used. Was there any deduction made for that?—I cannot say. There was some score of deductions; every possible thing that could be deducted was deducted, even the air-flues in the brick-walls were deducted.

1919. *The Chairman.*] Your reply to that is that the glass was not put in because it could not be procured in the market?—It is not imported.

1920. It is 24oz.?—Yes. That is not imported here. It is 16oz., 18oz., 21oz., 26oz., and 28oz. that is imported.

1921. *Mr. Mountfort.*] You had a long time in which to do the work; could you not have imported the glass?—You would have had to give a special order to get it made.

1922. But you had a long time in which to do the work: sufficient time to have got the glass from England?—I do not think that any question was ever raised about it. There was never any dispute about that.

1923. It was a tolerably large item?—Now that you have called attention to it, I remember the circumstance, but I do not think it has ever been called in question.

1924. *Mr. Skinner.*] I suppose that 21oz. was used in the place of the other?—Yes.

1925. *Mr. Mountfort.*] You could not get 20oz. glass then?—I do not think so. It is 21oz. The glass was sent up in cases, in the original packages.

1926. *Mr. Blair.*] You said just now that Mr. Brindley kept the footings as well drained as it was possible to do?—I believe he attended to that part the same as he did to any other part of the building: but I cannot speak positively.

1927. Did he have men on to do it?—No, it was done by my own men.

1928. Did he say that you were to keep it drained?—He never spoke to me particularly, but I noticed the drain.

1929. Did you charge that as an extra?—No.

1930. Then it is part of your contract?—No.

1931. If you do not charge for it?—I did not charge for every little thing we did. Contractors are not so bad as you try to make them out.

1932. There was one other remark made by you, and that was in reference to the footings. You led us to understand that they were left out because it was difficult to get them in, owing to the ground being bad?—So far as I remember I said I thought that that was the reason Mr. Brindley had for it.

1933. The difficulty of getting them in?—On account of the ground above slipping into them. I do not know that that was his motive, but I have some recollection of him saying so. I would not, however, be positive about that.

Mr. Blair: I will put in the final certificate [document No. 17], and, if the Commissioners refer to it, they will find that there are sheets of deductions: but I cannot say if this glass has been deducted.

Mr. Gore: There is one large deduction, which does not appear there. It is a deduction of £500.

The Chairman: What for?

Mr. Gore: Money I consider I was robbed of.

The Chairman: Have you only just recollected that?

Mr. Gore: No. But if Mr. Blair is putting in an exhibit showing deductions, it should be mentioned that there is one deduction of £500 that has been omitted.

1934. *Mr. Lawson.*] We have it in evidence, as you know—it is the evidence of Mr. Hay on this point—that at the northern angle of No. 2, northern ambulatory, the building has slipped in 16½in., corresponding, or nearly corresponding, with the movement apparent in front of the same wing?—You mean to say, taking a straight line, that it is down 16½in. at the present time.

1935. Beyond what it was when you gave up the building? We have had that in evidence.—I have heard it.

1936. You have sworn that it was straight when you left it——

The Chairman: It is his opinion.

Mr. Lawson: I do not think it is an opinion; it is evidence.

The Chairman: It was by his eyesight. I did not catch the whole of Mr. Hay's evidence, because he spoke in a low tone; but I did not understand him to say that this part was 16½in. out of line with the corridor.

1937. *Mr. Lawson:* If, as you say, this wall from end to end was built straight, while the ambulatory-wall——

1938. *The Chairman.*] But does Mr. Gore swear that it was perfectly straight?—I cannot swear within a ¼in. or ½in. in a particular door-jamb in the corridor. But I have repeatedly looked along the corridor and remarked how remarkably straight it was. I knew that Mr. Brindley prided him-

self on setting out that building. If it had been 13½in out there, it could not have been avoided being noticed.

1939. *Mr. Lawson.*] But Mr. Hay says it is 16½in. out?—Then it must have been plainly seen.

1940. Suppose we now describe it at that very point as being down 16½in., what should you say has caused it?—There can be only one cause.

1941. And what is that?—It has gone down hill.

1942. By main force?—By pressure at the back; by the ground and water—more especially the water—pressing in at the back.

1943. Supposing that you had also known that in the same block a similar distance had been sunk or had moved along laterally, what would you say then with regard to the whole block?—That it must have slipped bodily down.

1944. Now with regard to detailed drawings, do you know of your own knowledge who prepared those drawings?—The only drawing that I can swear to as having been prepared by one particular person was this 1½in. scale-drawing, and that was prepared by Mr. Brindley; but as to who prepared the others, I cannot speak positively.

1945. As a matter of fact, he retained the detailed drawings in his own possession, and simply allowed you to obtain information concerning them?—He allowed me to see them whenever I wanted them; but, as a matter of fact, I did not want to see them, because Mr. Brindley had marked out the moulds for the mason.

1946. Did you ask him to do that?—No. I will say this of him: as a matter of fact, he was most attentive, and went to far more trouble than there was any occasion.

1947. As a matter of fact, then, you do not know whether the detailed drawings are prepared in my office or not?—I know that some were prepared in your own office. I rather think that we had some drawings of the turret from your office. These were projections carried in the tower.

1948. *The Chairman.*] Are there cracks in the tower?—No; and that they say is where my bad concrete is.

1949. *Mr. Lawson.*] Were you ever at any time detained for the want of detailed drawings; if so, why and for what time?—At this tower here, we were stopped for a considerable time for the want not so much of detailed drawings as of instructions as to how it was to be constructed.

1950. How long do you think you were detained?—I believe fully two or three months. That is the only case I can remember.

1951. When these drawings were finished, do you know whose they were?—I believe that they were yours. I believe also that you gave me instructions in your own office. There is no section showing the tower. We were pretty high up with the tower when you instructed me to put railway iron round the tower. I think it was a verbal order.

1952. That iron was put in?—Yes.

1953. Might not that be the reason of the stoppage?—It was the reason. I was prepared to go on. It was one of those times when Mr. Brindley got his back up. There was, moreover, an alteration in the tower. When it was carried up a certain height, a set-off was made; and after building it, Mr. Brindley had it pulled down some 2ft. or 3ft.

1954. And brought to the full thickness?—Yes.

1955. Nothing was charged for that?—Nothing.

1956. *Mr. Blair.*] You stopped first of all for three months for want of detailed drawings for the tower?—It might have been two or three months. I cannot say it was for want of the drawings. It was more for the want of instructions how to construct it.

1957. You also attribute delay for the want of iron rails?—No.

1958. Whose duty was it to inform you?—I have always applied to the Clerk of Works, and he has generally given me my instructions, except on special occasions, when Mr. Lawson has ordered things, when he was there; but as a general rule Mr. Brindley gave me instructions.

1959. You believe that the building was faithfully built to the line and the levels?—Yes, as nearly as that length of building would allow.

1960. If you found that the block was out of line downhill you would attribute it to the slipping?—I fancy so. If, as Mr. Lawson described it, in this length of building it is 13½in. out of line, then this ground must have moved.

1961. Have you found any block that is as much as that uphill?—It is impossible to have the slip uphill.

1962. If you found it out of line uphill how would you account for it?—Allow me to understand your question. I know what you mean. If you mean that this wing is here [indicating on plan] one foot short, it was built that way.

1963. There has been no evidence of that?—But Mr. Brindley will give you evidence of that.

1964. You think that the building can only be out of line?—I admit it out of line.

1965. You can only account for it by assuming that the building has gone downhill?—That is what I assume; but it is only an opinion. I say that if it is out of line 16½in. it must have gone downhill.

1966. Do you think that a building so many feet long, say, 140ft., would slip endways; that if the hill went down the building would go with it? Do you think it is possible for a building to have gone down without showing serious symptoms of distress?—It is possible for a building to slip bodily without showing much symptoms of distress. If you ask me about the ground I tell you that I know that the ground did slip in a north-east direction.

1967. Then you would expect the building to slip in a north-east direction?—Yes.

1968. But if you do not find it slipping in that direction will you modify your opinion?—If the building is 16½in. out of line, and it was not so when I saw it four years ago, there must be a reason for it; and the reason I give is that the ground is slipping.

1969. We have it in evidence that the building was out of line 13½in. in front and 16in. behind

—that is 2½in difference by compression. Would it be possible, do you think, to so compress a wall without it showing signs of great distress?—It would show somewhere; but you might compress a building to a great extent without it showing signs of distress.

1970. Did you ever hear of such a thing?—Never. But if it slipped down bodily like this one did there would be a cause for it.

1971. Suppose that this building had moved this much downhill, and had turned upon this point—say the division between 10 and 11 in Block 2. If it had moved down here such a large distance, would there not show a break here [indicating on plan]?—It ought to do. If it sprung round there some part of this wall ought to show it.

1972. Can you form an idea as to what width the crack should be there?—I do not profess to give an opinion of that at all.

1973. Would it be about 5in.?—It might be 6in.

1974. Between 10 and 11 there is a hinge or sheer, because we have it in evidence that there is no symptom of cracks south of that line. Supposing that the whole thing were moving uphill, would not the sheer be across?—Inevitably.

1975. Or the sheer across the wall would show it if it is moving?—Yes. But brickwork is very tenacious, and a broad wall will bear a great deal without showing.

1976. If it were moving towards the south the whole point is on the hinge; if it is moving eastward, parallel to the building, towards where the sheer occurs?—If this part stood without moving there would be a crack.

1977. The two would come past each other?—That does not follow.

1978. But if it moves as on a hinge the effect would be something like this [indicating on plan]?—If it moves bodily as you describe the effect would be for the wall to open.

1979. What would be the size of the opening?—That I cannot tell you.

1980. If it moves in that direction, you suggest a north-east movement?—I do not say that the building did move north-east. I have told you already that I have not seen the building for four years.

A plan [document No. 18] showing the present position of the building was here handed it.

TUESDAY, 21ST FEBRUARY, 1888.

Mr. Lawson: Perhaps, Mr. Chairman, I may state that having found myself somewhat at a loss as to forms of procedure in matters of this kind—this is totally a new experience to me, I may say—and I feel myself to a great extent at a disadvantage, as Mr. Blair, who is conducting the inquiry on the other side, is accustomed to this sort of thing. I feel it necessary to myself to employ a solicitor, and he is here present now.

Mr. F. R. Chapman: I was just going to say that I have simply to apply in the first instance on Mr. Lawson's behalf, for leave to attend the inquiry as his counsel.

Mr. Blair: I beg to read the correspondence that has taken place between Mr. Lawson and myself on this subject. On Saturday I got the following letter: "As I am informed that you have been employing a solicitor to assist you at the Seacliff inquiry, I now write to inform you that I intend to do so also, and that he will be present during the remainder of the inquiry.—R. A. LAWSON." I replied to that on Monday morning: "Replying to yours to hand of the 18th instant, you have been misinformed as to my employing a solicitor to assist me. I have not employed a solicitor, nor have I received legal assistance or advice in any shape or form." This reply was sent to Mr. Lawson. The grounds on which he stated that he was going to employ a solicitor have no existence, because I am not employing a solicitor, nor have I taken any legal advice or assistance whatever. He has now departed from the grounds he first stated, and says he now wishes for professional assistance—on account of my superior legal training, I suppose. He wishes to have Mr. Chapman. I strongly object to Mr. Chapman or any other solicitor appearing. Before the inquiry began I pointedly asked Mr. Lawson and Mr. Gore if they were going to appear by counsel, and they both said "No." Then I said I will not appear by counsel. The inquiry has gone on so far that my view of the matter is about two-thirds finished. I have nearly done, and it would be unfair to me, I submit, that counsel should now appear. I cannot pretend to cope with a lawyer like Mr. Chapman, or with any other lawyer that Mr. Lawson might bring here. I will not undertake to cope with him. If he has a lawyer, I must have one too; and if I have a lawyer on my side, we must begin again *de novo*. Mr. Lawson's case has not begun, so that any lawyer can take it up, but my case is two-thirds through, so that no lawyer could take it up, and both myself and my lawyer would be at a disadvantage.

Mr. Chapman: I submit there is really nothing in Mr. Blair's objection.

Mr. Blair: Is Mr. Chapman appearing now?

Mr. Chapman: The fact of the matter is, that in these inquiries it has been usual—certainly in those conducted in Dunedin—in every case almost that I have known of here counsel have appeared. In the late Seacliff inquiry I applied to the Commissioners, and they at once granted permission, stating at the same time that they considered the matter one within their own discretion, which I admitted at once. In former inquiries—the high school, for instance—I was admitted, and in the recent school inquiry counsel were admitted, and so at the great gaol inquiry some years ago; in fact, counsel were admitted in almost every inquiry. The only different circumstance here is that the inquiry has commenced. Now the circumstance that Mr. Lawson asks leave to have the inquiry continued with counsel at a late stage is certainly not to Mr. Blair's disadvantage, far from it Mr. Lawson may have put himself at considerable disadvantage through not making the application at the outset; but that cannot tell to Mr. Blair's disadvantage. I confess I should find myself under considerable disadvantage in working into the matter now, because I know nothing of the evidence that has already gone, and I should not ask the Commissioners for any delay or concessions. I

should have to pick up the case as best I could, getting permission to read over the evidence so far as it has been transcribed, and making my way with the case without in any way delaying the Commission. And I venture to say that the employment of counsel does not have the effect of delaying or retarding these matters, but rather accelerates them. I submit if the application had been made at the outset, it would have been made almost as a matter of course, and that no reason has been shown why it should not be allowed now. Mr. Blair would be in a position to employ counsel himself if he thought fit, and his counsel would certainly start under no considerable disadvantage—not anything like the disadvantage that I should start under, because practically I know very little of the matter as yet, except what I have been able to gather in conversation with Mr. Lawson, and from reading the correspondence. The evidence I have not read yet.

Mr. Blair: Perhaps I might be allowed to state that the cases which Mr. Chapman has cited, in which counsel were allowed to appear, are cases in which the application was made at the beginning of the inquiry. Had that been so here, I certainly should have raised no objection. On the contrary, I gave every opportunity to have the question raised. I then asked both Mr. Gore and Mr. Lawson if they were going to appear by counsel, and they both said "No."

Mr. Lawson: I may say, as a further reason, that this whole inquiry has taken me by surprise. I did not know, until the information was obtained by yourself and through yourself, what was to be said in this whole matter. I was in perfect ignorance of the charges that were to be made against the building, myself, the Inspector, and the contractor, and all concerned. I did not know that, and I endeavoured to know it. I did my best to find out. I made inquiry at the Public Works Department in Wellington to find out, and I have evidence here to show that nothing was formulated in that office before this inquiry came into being—nothing.

Mr. Blair: Then there was nothing to tell you.

Mr. Lawson: I have the evidence of Mr. O'Connor the Under-Secretary of the department, that nothing was formulated, and here I come to hear a whole cloud of charges brought against myself, the Inspector, the contractor, and the building, and I submit that, under these cirsumstances, I ought to have some consideration.

The Chairman: I should like to ask Mr. Lawson what the object in introducing counsel now is; whether it be to cross-examine witnesses or simply to take notes for your benefit or advise you?

Mr. Lawson: Simply to promote the advancement of truth.

The Chairman: In that case would your counsel cross-examine witnesses?

Mr. Lawson: That would be, I presume, at your discretion, according to what I understand.

Mr. Chapman: It would be a matter for himself to consider what he is to do.

Mr. Blair: I have not the slightest objection that Mr. Lawson should have counsel outside to advise him at every step, or that he should come down with half a hundredweight of law books every morning to quote points of law; but I object to having counsel at this stage. If he has one I must have one, and it would be unfair to my counsel to have to take up my case at this point, when it has gone so far. I do not object to him having a solicitor to advise him.

Mr. Chapman: I may say, in answer, that, so far as my merely coming and sitting beside Mr. Lawson and advising him is concerned, I take it that I scarcely need ask permission for that. It is a public inquiry, and any one may sit here, I suppose. What I should include in asking leave is that I should be permitted to cross-examine witnesses; if necessary to call, and very shortly to examine, those who have been already examined; but if they have been regularly cross-examined I should not claim that privilege, and then to examine witnesses called on Mr. Lawson's behalf.

Mr. Blair: That means beginning over again.

Mr. Chapman: No, it does not.

The Chairman: I may state that the Commissioners have already considered the subject. They got an idea of what was going to take place and the matter has been thoroughly talked over, and they have come to the conclusion that it would be unfair to admit legal talent at this stage of the proceedings. It was talked over before, when we commenced, and the understanding was that no legal talent should be introduced; and, as far as the scope of the inquiry is concerned, the Commissioners did not consider that any legal advice at the inquiry would be necessary.

Mr. Chapman: So far as matters of law are concerned it is not necessary. I admit at once that it is merely a matter of procedure of the conduct of the case, and if you decide not to hear counsel it simply means that I must do the best I can in assisting Mr. Lawson. It cannot be suggested that there would be any delay in my actually formally appearing, because I shall have to sit by Mr. Lawson's side and practically undertake the direction of his case, and constantly, to use a common phrase, "coach" him in the proceedings.

The Chairman: The Commissioners have no objection to your attending as one of the public and advising Mr. Lawson as you like.

Mr. Chapman: I submit, in fairness to Mr. Lawson, he should have the privilege of counsel here to conduct his case.

The Chairman: The Commissioners have decided that that would not be fair, and they do not consider it necessary. There are no legal points; it is simply a matter of elucidating the facts to enable them to report, and that is all they wish.

Mr. Chapman: That is the sole reason for which Mr. Lawson wishes counsel to see that the facts are elucidated. That is his desire.

The Chairman: Of course I understand, Mr. Lawson, you intend to employ Mr. Chapman to advise you throughout the proceedings; but he could not appear to cross-examine and take any part in the proceedings beyond advising you. We wish to give you every benefit we can.

Mr. Lawson: I bow to your decision; but nevertheless I state, and that very strongly, that I myself am put to a very great disadvantage.

The Chairman: You should have said so at first.

Mr. Lawson: I was totally unacquainted with what would happen. Mr. Blair knew every-

thing: he was entirely acquainted with what the whole thing was to be: I did not know it. That is a good reason why I should have assistance now; but I again say I submit to your ruling, and I shall open my case and do the best I can.

Mr. Blair: I should not like that remark to go uncontradicted. As I stated at the beginning of the inquiry, this inquiry was not promoted or asked for by the Public Works Department; but so far as the Public Works Department and——

The Chairman: We have already talked that matter out. It is no use going over it again.

Mr. Blair: I wished to mention it, or a wrong impression might go abroad.

Mr. Gore: Before Mr. Lawson commences I should like to ask if the evidence of Mr. Hay has been copied out. I took some notes of it, the accuracy of which Mr. Hay disputes, and I have no means of ascertaining their correctness. I should like to know if they are written out and if I can get them.

The Chairman: We have no objection to your seeing the evidence which has been written out. It has not been corrected.

Mr. Gore: I should like to see it as taken down by the shorthand writers, because if portions are to be deleted then my notes, of course, will not be correct.

The Chairman: You have nothing to do but to inquire whether certain evidence has been taken down.

Mr. Gore: A witness cannot blow hot and cold at the same time. If he stated in a prior examination a certain thing and he wants to give different evidence now, I want to know which statement is right. I submit that I should have a copy of Mr. Hay's evidence before he is re-examined.

The Chairman: Mr. Hay's evidence, as far as it has been copied out, is here, and you are at liberty to go through it.

Mr. Lawson: Is it understood that as the evidence goes on it will be written out and available for inspection?

The Chairman: It will be open for inspection here.

Mr. Lawson: And that it will be written out as soon as possible?

The Chairman: Yes.

Mr. Blair: As Mr. Chapman is going to remain alongside Mr. Lawson's elbow I presume I may have a lawyer alongside of mine.

The Chairman: Yes, a dozen if you like.

Mr. Lawson: I understand that Mr. Blair has finished—that this is all the evidence he is going to bring.

Mr. Blair: No, I stated that I was two-thirds through. The understanding was this: As Mr. Lawson was not prepared to go on with his case I went on with mine. It was understood that I should go on as far as I could without Mr. Brindley; and this I did. Then Mr. Lawson was to go on with his case and finish. I have rebutting evidence to bring when I hear what Mr. Lawson says.

Mr. Lawson: I mean to confine myself to what Mr. Blair has already stated.

The Chairman: As far as Mr. Brindley is concerned, is his evidence going to be taken now, or when?

Mr. Blair: No; he is not ready to give evidence now. The distinct understanding was—you will find it put down in my statement, and agreed to by yourself—that I was to have the privilege of recalling any witness I wanted after Mr. Lawson had stated his case, because I was only anticipating Mr. Lawson's case.

The Chairman: Not to repeat former evidence.

Mr. Blair: No; I am not going to repeat, but I distinctly claim the right to rebut.

Mr. Lawson: He claimed the right to refer to the evidence—to make a speech; that is all he claimed, so far as I know: and then he said that Mr. Gore and I might go on talking for hours if we liked. He simply claimed the right of review, which I at once conceded, although he opened it.

The Chairman: I think, so far as the Commissioners are concerned, they are anxious to get as much evidence as they possibly can, and they will not refuse any request to bring forward evidence that will help them either on one side or the other.

Mr. Blair: I have certainly some evidence to bring forward.

The Chairman: We are not bound by strict forms.

Mr. Gore: I told you I had produced all the evidence I could do, but I understand that in the event of new evidence cropping up I shall have the privilege of bringing other witnesses.

The Chairman: If it is not refused to the one it will not be refused to the other.

Mr. Lawson: Is it to be understood we are all to have the same right in the matter?

The Chairman: I suppose the Commissioners will have power to bring it to an end some time or other.

ROBERT ARTHUR LAWSON sworn and examined.

Mr. Lawson: It was my intention to enter fully into a statement as to the initiation of this present inquiry, but I will not do so now. Suffice it to say that after much difficulty it has been obtained, and certainly not too soon, through my agency, and I am glad that the opportunity is now given, and before a competent tribunal, to ascertain the cause of the injury done, and even now progressing, at the north wing of the Seacliff Lunatic Asylum. This cause I hope to be able to establish by testimony of the clearest and most indisputable character, and in doing so wholly to separate from it the multiplicity of subjects which have been needlessly but somewhat skilfully and systematically grouped round it, evidently with the object of screening it from view and so warping the judgment sought for in the whole matter. I shall further follow step by step the sworn statement of Mr. W. N. Blair, as given before this Commission, and show by testimony that cannot be disputed that all the charges he therein makes, so far, at least, as I am concerned, are

totally groundless and unjust, and that it is, to say the least of it, extremely discreditable to a gentleman occupying his position, and having access to the very documents which prove my case, that he should make such a statement as he has done. That is all I have to say as a preliminary. This letter, which is dated the 23rd October, 1879, may be said to be the first step in this inquiry. I will read it. It is addressed to W. N. Blair, Esq., and says: "Sir,—My attention having been called to the moving of the foundations of the temporary lunatic-asylum buildings, Seacliff, lately erected, I have to state that it is urgently necessary, in order to prevent, if possible, further damage to the building, that drainage-trenches be sunk behind the same so as to intercept the under-current of ground-drainage which is causing the movement referred to. At the site of the permanent building I would also advise that similar but more extensive drainage-trenches be formed, so as to isolate the site and prevent any similar movement, which would be most disastrous to the proposed new building. I think this of such importance that no delay should take place in the prosecution of the work. While on the ground I pointed out the nature of the required work, and that it would be better to keep the trenches referred to open and to sink them as deep as possible, so as to obtain the result required. I hope steps will be taken to secure that this work is gone on with and completed as soon as possible." That was the 23rd October, 1879. With reference to the first part of it, that was attended to.

The Chairman: The temporary asylum?

Mr. Lawson: Yes. With reference to the second part of it I have had no reply, nor any reference from Mr. W. N. Blair until this day, as regards a reply to this letter. On the 16th January, 1880, I again addressed Mr. Blair: "I have again to draw attention to the urgent necessity for more speedy action being taken as to the preliminary work at the site on the new permanent buildings. You are aware that, through a slip of ground which has taken place where the new temporary building is erected, much injury has resulted, and may yet result, and in order to prevent the possibility of such a serious matter occurring at the new permanent building, the site should be much more widely cleared of timber, and all the excavations made, as well as drains inserted to prevent undercurrents, which might cause such slips as those referred to. It was intended that the excavation and levelling of site, as well as the clearing of same, was to be done by patients from the asylum; but it will now be seen by the ample trial of this system that sufficiently rapid progress cannot be made—in other words, that should it be continued it will be to the hindrance of the works, and probably much more serious results afterwards. I therefore now request you to be good enough to bring this matter before the Minister of Works, that it may be remedied by making arrangements with the contractor, under due restrictions, to proceed with these preliminary works with that necessary speed which their urgency calls for." That is the second letter referring to the slip. No reference was made to the latter portion—the portion that refers to the preparation of the ground—so far as the drain goes; no reply was ever received by me from Mr. Blair regarding it, by word or by deed. On the 29th June, 1880, I again addressed Mr. Blair: "I have the honour to acknowledge your memorandum of 23rd instant, numbered as on margin, with the accompanying reports of Dr. Hector, and correspondence, also indorsement to the Minister of Works, suggesting that work at the new building should be suspended meanwhile. With reference to the whole matter referred to I have the honour to report as under. First, regarding the slip of ground which took place at the temporary building, I have to state that it is now entirely stopped, and has been for several months, the building having been placed back in its original position, in which position it was when Dr. Hector, yourself, Mr. Hume, and myself visited the site on the 2nd instant. On the slip taking place a drain was cut down to the bed-rock, and partially into same, which had the effect of isolating the ground occupied by the building and draining it, and so causing an entire stoppage of the slip, so far as it affects the building. So far back as the 23rd October, 1879, I requested that this work of drainage should be attended to." And then I quote from the former letter, which I need not read. "At that time drainage-schemes and formation-works were carried on by the labour of patients under direction of an inspector—this being the system directed by the then Minister of Works—and it was months before the necessary drainage was accomplished, and then, ultimately, other labour had to be employed; but through this delay (a delay of a few months' notice) the greater part of the damage was accomplished. I would point out also that the site of the temporary building is all on one uniform slope, and that the ground also, in front as well as behind, has the same continuous gradient; whereas the site for the permanent buildings occupy comparatively a level plateau, having spurs or ridges spreading in front of same to a considerable extent, the ground having also a back-fall from line of proposed building. Second, having special reference to site of permanent building: it was selected after very careful survey and consideration of all requirements; and it is satisfactory to know that Dr. Hector reports that Mr. Cox, who thoroughly examined the reserve, considers it 'the best site that could be got within the reserve.' With regard to the steps intended to be taken to secure this site from any similar occurrence as that which took place at the temporary site—although, from its different position and structure, I do not think it liable to same—on the 16th January, 1880, I sent the following letter to the Public Works office: [which I have already read]. Upon this, as I understand, action was taken which resulted in the clearing and excavation of site being let by tender to the present contractor for the building; and, although not yet commenced, the drainage of the whole area to be occupied by the building was my chief object in writing the letter referred to, and this with the object as stated in Dr. Hector's report, part 4—namely, 'to cut off the formation from surrounding clay-formation, and isolate it from the effect of any motion to which that formation is subject.' (See sketch.) The plan indicates roughly the proposed main isolating-drain which has all along been contemplated by me, and if possible I would prefer if it could be so constructed as to be an open drain, well sloped on sides, so as to be rather a good feature in the general formation of the surroundings of the buildings; but if the depth should render this impracticable, then a tunnel might be driven at parts as might be

necessary; but in any case I would carry down the drain so as effectually to intercept the underground drainage and so as to be under the level of the deepest foundations of the building, as indicated on rough section, which gives a general idea of the surface-outline, &c., at A B. The part from W to drain on section gives also a general idea of the slope on which the temporary building stands as compared with the site on which the permanent buildings are to be erected, as shown by rough sketch on section. The drain shown on sketch would have a fall both to the north and south, and good facilities are given by the formation of the site for its construction. With regard to Dr. Hector's recommendation: when on the site the trenches for the tower were being cut, and I followed out his advice in cutting down the whole area of the tower to a lower level, the portion of greensand which occurred near this point proving only to be an isolated quantity of not more than a few barrow-loads, and no flow of water nor indications of such was visible after the rain-water which was then in the trenches was removed. The foundation of tower is now on hard blue clay-marl, and a solid bed of concrete from this upwards. A shaft is also being sunk at the north-east part of the central building, as suggested by Dr. Hector; and as soon as the thickness of clay and boulder-formation is found we will be able to know at what cost the underpinning of walls can be done; and, if it should still be considered necessary, to have this done also; although I am inclined to think that it would not be requisite if the back main isolating-drain is carried out as intended, and as soon as the further extension of the clearing of the ground will enable it to be gone on with. As to altering the plans so as to turn the south wing down the spur, and face north, I am distinctly of opinion it would not be advisable, nor would it tend to give further stability to that already provided for; because you will notice that on the plan cross wings of considerable extent are already contemplated to be carried down from the main line of the building in the direction referred to, and the general arrangements of the building would not be so satisfactory in successive steps as in uniform levels. Then, as to cutting down back portion to uniform level with front, the extent of excavation renders this most unadvisable, and the back building would be too much buried and damp. The kitchen wing, which is the main back wing, is only two stories in height—in part only one—and by the present plan is arranged level with the dining-room floor, and the whole of the basement portion of the main central portion of building is used as an open corridor. The tower is to be the clock-tower of the whole building, and also can be used for observation purposes, as it is the only point from which surveillance can be exercised into the various portions of the yards and airing-courts. I look upon the tower not as an architectural feature, but as a necessity in all such buildings; and the position and foundation of the tower, as now carried out, is, I consider, the most secure of any one point in the whole area. I have taken upon me to delay giving immediate orders for the stoppage of the works as a whole until I hear from you in reply to this; but, if the Minister of Works should still think it advisable, I shall do so, and in which case please inform me by telegram. I feel it my duty at the same time to point out that by suspending the works the contractor may have a claim for compensation, and it is chiefly for this reason that I have not given him written notice so far. Also, the work now going on does not interfere with anything which may be decided, the only works progressing being levelling up concrete bearings, making of bricks, and clearance of site. The plans as prepared were designed to suit the site, and after surveys and sections of the ground were furnished me from the Public Works offices. So far as I am concerned I have no objection to prepare fresh plans, but I am still of opinion, as from the first I understand you also have been, that the arrangement of the building on the site available was the best, taking into view all the requirements of the building and drainage, &c. I trust I have been explicit enough in my statement, but if there is any point I have overlooked or have not referred to, I shall be glad to give any further information in my power.—Waiting your further instructions, I remain yours respectfully, R. A. Lawson." I am still waiting those further instructions. I have never had a reply to that letter. On the 29th March, 1881, I again wrote Mr. Blair, in a letter referring to other matters as well. I need not read what was said about the other matters, but I will note what were referred to. The letter refers to the water-supply, isolating-drain, and accommodation for patients. These are the three items, and I will read the portion referring to the isolating-drain: "I would further press the expediency of proceeding with the main back drainage, which has been deemed essential in order to isolate the whole of the block or site of the permanent buildings, so as to prevent any chance of ground-slips. The present dry season gives every facility for this work being done, but should heavy rain set in without the principal portion of this work being accomplished the ground around the principal portion of the building will be rendered impassable, and damage may result to the foundations of work already done. Dr. Hector in his report laid much stress on the necessity for isolating the site. I therefore deem it more urgent on my part to press the matter on your attention." I received no notice of the receipt of this letter whatever—no reference whatever to the ground-slip. That was in March, 1881—the 29th of March. In a letter to Mr. Brindley, dated the 24th April, 1884, and referring to other matters, but I will read the whole letter—because it is entirely about Seacliff. Addressing Mr. Brindley, I say: "Dr. Brindley,—I send you enclosed Gore's final account just to hand, by which you will notice he has managed to raise his amount from £5,976 to £8,480." There are three dashes after that. "It will be better for you to have an opportunity to study it before coming in to go over the whole matter. Let me know what day will suit you best to come in, and I will arrange to have Gore here to go into the accounts once for all. Perhaps it will be better for you to come in at night, so as to get the following day, and at the same time bring enclosed account with you. Also please remember items of expenditure over contract outside of Gore, such as drains, yards, cottages, &c., for making up my own account. Mr. Ussher was to have a look at the movement showing at the north wing, and see whether a drain behind would be necessary." At this time—the 24th April, 1884—they were only beginning to discover that it might be necessary. "I wish they had carried out my original proposal of isolating the whole site by cutting the main drain. They may have to do it yet after mischief is done." And they will.

Mr. Blair: May I ask if Mr. Lawson has read the whole letter?

Mr. Lawson: I have read the whole of it: I have nothing to conceal. On the 12th May, 1884, I wrote on this same subject. This is in reply to a report from Dr. Grabham, now, alas! not here. It is about the dampness of the walls. It is to Mr. Ussher: "That the dampness of the walls observed by Dr. Grabham, chiefly observable on the female wing, arises in part from the fact that at this part of the ground there existed an old watercourse, but mainly because the drains around the building have so recently been laid, and that one of them is now only in the course of completion. The dampness will now gradually disappear. I have, however, to remind you that as far back as the 23rd of October, 1879, and especially and more explicitly in my letter to Mr. Blair of the 29th June, 1880, I urged that a main drain should be cut round the permanent building, isolating it and preventing all underground movement; but that no action has been taken in this matter up to date." On the 26th May, 1885, on another of Dr. Grabham's reports, and also addressed to Mr. Ussher, I say: "At that part of the report underlined blue and marked 'A' in the margin Dr. Grabham says: 'I have again to draw attention to the structural defects mentioned in my former report. The movement continues to take place in the foundation of the female wing, &c.' Now, with regard to this item it must be clearly seen, and as clearly understood by any sane man, that the movement taking place in the strata at or near or under the foundation of any building can by no figure of speech be construed into a structural defect of such building. Such movement is entirely outside the building, and, however much it may affect it, can by no critic, however severe, be placed to the credit or debit of the building or its architect. The fracture in the wall caused by the movement of strata referred to is in no way serious, and, so far as I am aware, has not enlarged or extended since a trench was sunk intercepting the underflow of water-drainage twelve months ago, under the direction of the Public Works Department." This is the first mention of drain No. 1. "As regards structural defects in the building, it is only necessary for me to state that it has a contour or outline-measurement of considerably over half a mile—namely, 2,850ft.—of largely varying heights and solidity, and that, in spite of the nature and irregularities of the ground on which it is erected, not one settlement has taken place from end to end of the building." And, gentlemen, I say so now. I can say the same at this day with pride to all concerned, myself, the Contractor, and the Inspector. That is the fact. "I cannot leave the subject, however, without drawing attention again to the fact that ever since October, 1887, I have not ceased to urge in my reports from time to time (having in view the movement of strata which affected the temporary building) that a main back cutting or drain should be constructed so as to isolate the site of the main building, and so intercept the underground drainage. Nothing of this sort has, however, been done, so as to secure the whole building and prevent movements of strata in future causing fractures similar to those under remark." That isolating-drain is not yet done. Then, on the 6th July, 1885, I wrote to Mr. Ussher: "In reply to your memorandum stating that you were requested by Mr. Blair to obtain my report as to cracks and movement on the north side of the Seacliff, the same having been referred to in Dr. Grabham's report, I have now the honour to inform you that from measurements recently taken on the spot I am in a position to state that no movement nor further extension of cracks in wall have taken place since, in company with Mr. Blair and yourself, I visited the building and examined the same. In other words, my former report as to this matter, of date 24th May last, is absolutely correct—namely, 'That the fracture in the wall caused by the movement in the strata has not enlarged or extended since the trench was sunk intercepting the water-drainage twelve months ago, under the direction of the Public Works Department.' The trench hereinbefore referred to is shown on Drawing No. 2 accompanying Mr. Ussher's late report on this matter, headed 'Cross-section at Slip, Seacliff Asylum.' This work is in the direction of the main trench or drain advised by me from the first; but I would still urge that one further back, deeper, and continued right across the whole distance, as also shown on Mr. Ussher's drawing"—I do not know whether it is there yet; I should like to see that drawing—"as also shown on Mr. Ussher's drawing, should be formed, and so thoroughly complete the isolation and solidification of the whole site." Do I understand that that drawing will be produced?

Mr. Blair: It was here the other day.

Mr. Lawson: Then there is one of the 2nd February, 1886. It is headed, "My dear Blair," because it is not written in the usual official style, but as it refers to public documents it can in no sense be called a private letter. I did not mark it private. "As you will have heard from Mr. Turnbull, our efforts to secure his report officially were baulked. As I told you in my last of 14th January, I got Mr. Stout to forward my letter to Buckley; but he evidently did not think it necessary, and made the excuse at the time that he wanted to consult with Richardson. Subsequently, on Mr. Stout's return from Wellington, I again saw him while Mr. Turnbull was here, and got him to telegraph to Richardson and Buckley on the matter, &c. However, Buckley, happening to meet Stout, had a chat on the matter, when he said that if I called he would give me a letter to Dr. Neill, asking him to show Turnbull over the buildings. I therefore called and got this, and, along with Turnbull and Wales, we together drove out to Seacliff. Dr. Neill happened to be in town that day, and I saw him and asked him to go out with us; but he declined, but promised to telephone out that we were coming: and so he did. So they were expecting us, and we were shown over the now famous north wing—which was, however, in decent garb, being all plastered up and looking quite innocent; but I will leave Turnbull to speak for himself as to the whole matter. But now I must tell you that from careful observation I am convinced that there has been extended movement since I was there last, and I am satisfied that the isolation from back ground and drainage is not complete. I can only say that I am very sorry that this is the case, but cannot blame myself in the matter, seeing that I wrote so strongly on the matter so long ago." See letters of date 23rd October, 1879; 16th January, 1880; and 29th June, 1880. "The southern half and central portion is already secured by natural formation and drainage, and, as it is my conviction that further trouble awaits the northern portion of the building unless

effective steps are taken to prevent movement, I feel it my duty to emphasize what I have already stated to you on this point, and there meanwhile I must leave it. You may think you have suffered in this whole matter. All I can say is, it is my opinion that I have had the heaviest burden to bear in the same, while feeling thoroughly clear and innocent throughout, whatever others may think or say; and for this I am truly thankful." And so ends the personal correspondence as regards this slip-movement. As proving that the department were well aware that there was a slip in this ground, I will read three letters that I got from Mr. Ussher, headed respectively 26th May, 11th June, and 11th September, and I shall also ask that the correspondence between Mr. Blair and Mr. Ussher on this subject be produced.

Mr. Blair: We shall be very glad to produce it.

Mr. Lawson: The first is the 26th May: "A few days ago I received a private telegram from Mr. Blair asking me to request you to report on the slip now damaging Seacliff Asylum." Mr. Blair says there is no slip. "Quite forgot to ask you, but will now be obliged if you will favour me with a report as early as you can find it convenient, as I have just received another telegram from Mr. Blair inquiring about your report."

Mr. Blair: Did I use the word "slip"?

Mr. Lawson: I am reading Mr. Ussher's letters. On the 11th of June he says—this is also addressed to me from Mr. Ussher—"*Re* cracks and movement on north side Seacliff Asylum, I am particularly requested by Mr. Blair to obtain a report from you on the above matter. On the 26th ultimo I wrote requesting you to report thereon, and you replied that as I had seen the building recently I was better able to do so. I beg to say that I have done so from time to time, and am now endeavouring by means of boring and sinking shafts to find out the cause of the slip. I think it is absolutely necessary that you should visit the asylum and make an inspection for yourself, and report thereon as early as possible. I consider the matter a very serious one." Yes, it is, and has been before this. On the 11th September, also addressed to myself from Mr. Ussher: "*Re* Seacliff Asylum: Will you please kindly supply me with a detailed drawing of the foundation on section-line I J of the Seacliff Asylum, or, better still, a drawing of that portion of the building now affected by the cracks. I beg to say that I particularly wish this drawing, to obtain information therefrom to enable me to report more fully upon the movement of the ground." The movement of the ground is what he is to report upon. "The drawings of the building are on such a small scale that the depth, width, &c., cannot be accurately obtained therefrom; hence my reason for troubling you. I will be much obliged if you will let me have the drawing at your very earliest convenience, as the matter is very urgent." These are the letters that refer to the slip and to the movement of the ground.

Mr. Blair: Did you answer that letter?

Mr. Lawson: I answered it personally; but I could not answer it because I could not give drawings of a thing that did not exist.

Mr. Blair: You did not answer the letter?

Mr. Lawson: I tell you it is noted, "I saw Mr. Ussher personally on this matter." That is noted on the letter. These letters shall be handed in. There are twelve of them. [Letters marked A, B, and C were here handed in (Exhibit 19).]

The Chairman: Will you put in your letter-book now?

Mr. Lawson: I can put it formally now. It is my own letters that I go upon; I do not give any hearsay evidence. My letter-book contains every scrap of correspondence relative to my business, and I place it freely at your disposal, gentlemen. [Letter-book handed in, and Mr. Lawson proceeded to read, in the order of date given, the letters annexed and marked Exhibit 20, and, having done so, continued.] And here I most emphatically deny that up to that time, or that I ever, resiled from the position I originally took up—viz., that it was a matter of urgency that this main isolating-drain should be constructed. It has never yet been constructed. All sorts of things have been done, but not that. No. 1 drain is confessedly—it is so admitted by Mr. Blair himself—not low or deep enough. It is not an open drain. It is simply a burrow filled with stones and manuka scrub, which may be filled up within a year or two, and possibly is so now. Nos. 2 and 3 drains are both the same, and are most dangerous to the structure nevertheless. Instead of constructing a drain further up, as I requested should have been done, and as common-sense and prudence suggested should have been done—instead of making an isolating-drain by making it as open as possible, so as to see where these slips (if any) took place—they went underneath the foundation to a depth of 17ft., thus causing possibly a line of fracture at an angle of 45° all around the building. Not satisfied with that they came right over here [indicating on plan] and constructed what has been called No. 3 drain or gallery—of the same construction as the other drains—trying apparently to bring down the building. I had more common-sense than to do such a thing. What was done was done entirely without my knowledge. I never knew it was there, and I can assure you that I was very much astonished when I learned it was there: this also confessedly in soft ground—apparently the softest ground in the neighbourhood of the building. Mr. Blair has stated that he gave more drains than I asked for. In that he has stated what is quite true. He has given me these drains Nos. 2 and 3 more than I asked for—there is no question about that—and perhaps there will be more than the country will yet ask for. I urged that it was necessary that there should be a comprehensive system of drainage for the building. It was for the building alone I was speaking at the time; and that particular scheme would comprehend rain- and soil-water—the surface-drainage running in the immediate neighbourhood of the building. That was the comprehensive scheme I referred to. But that I resiled from my position of asking for an isolating-drain for the site of the building when I asked for the absolutely necessary drainage of the building itself, is simply ridiculous. The two things are perfectly distinct, and I am glad of the opportunity of speaking to those who can understand this matter. I am now prepared,

taking Mr. Blair's statement for my text, to go thoroughly into the whole of the matters that he has brought up. I do not, however, know that there is anything else I can say in regard to this slip; I think I have already explained everything in regard to that: and, as regards the construction of the drains, I have gone fully enough into it. I have said that the drain should be an open one as far as practicable; even if it were tunnelled it might be left open. The site of the building, as you know, admits of drains being formed most easily. As I have said, the southern portion is protected by this natural creek, which acts in the same manner towards that portion, so that this isolating-drain would have protected the northern portion had it been placed there. The site of that drain I am still prepared to point out, as I did eight years ago, and I am also prepared to see it constructed, if necessary, so that the ground may be prevented from doing further injury. If you refer to my letter you will notice that I refer in it to Dr. Hector's report. That report will repay reading: it should be read through, and the public should read it also. I shall read you a few passages from that report, and I desire to call your particular attention to them: "Memorandum *re* the Seacliff Asylum site.—June 10th, 1880.—In compliance with instructions I visited the site of the new lunatic asylum at Seacliff on the 2nd instant, accompanied by Messrs. Lawson, Blair, and Hume, by whom the plans of the building and the position and extent of the foundations were fully explained to me on the ground." After describing the general structure of the locality and the site of the temporary building Sir James (then Dr.) Hector thus described the site of the new asylum: "The position of this site is analogous to that of temporary building, but the spur is wider and flatter, and formation appears to present a large area at the surface and front of the building, thus giving material support in that direction. Mr. Cox, who thoroughly examined the reserve, and had a better opportunity of forming an opinion than I had, considers it the best site that could be got within the reserve; but it has some serious defects, which should be thoroughly investigated and provided against before the building is proceeded with." You will observe that this was before the building was proceeded with. It was on account of the reasons there given by Dr. Hector that I was so urgent in asking that these drainage-works should be done in 1881. Confessedly Mr. Blair comes here now and proves that nothing was done till the building was completed. Dr. Hector goes on to say: "The south end of the main building will stand on formation A, as in the former case, but with a further complication of greensand, which occurs interstratified with the clay-marls and carries water, and will require special arrangements for drainage. The north end of the building and part of the foundations of the central portions already laid are on the unstable portion C, the movement of which, owing to the shape of the under-surface, will be towards the north-east, and, unless the foundations are carried through to the solid, or otherwise completely isolated from the general mass of formation C on the hill-side, there is the danger that, however strongly they may be laid, the northern end of the building will be insecure. There is to be a back portion of the building on a different level—about 10ft. above that of the front part—the foundation for which was only commenced, but to all appearances it will also be partly on the unstable formation C." Nothing could have been more prophetic. The danger that was apprehended by him was real, and the results are as truly described by him as if he had described the ground to-day. As I have stated in my report, on receiving this report of Dr. Hector's I determined to ascertain what was the nature of the foundations there, and I went down till I reached the bed-rock, as Mr. Blair knows, and then I erected that bold tower, and there it stands to-day without a move in it. The report goes on to make these recommendations: "The true nature of the subsoil formation should be thoroughly ascertained by sinking a pit somewhere towards the north-east part of the central building now in progress. If it is found that the clay and boulder-formation is of moderate thickness the building should be underpinned round the north-east and north-west corner and on the north face, and the deep-trench excavation for this purpose would also facilitate the thorough drainage of the foundation." I do not remember the exact depth of that shaft, but I think Mr. Brindley will bear me out in saying, speaking from memory, that it was about 40ft. down.

The Chairman: Where do you mean?

Mr. Lawson: At the north-east angle. It was manifestly useless to think of constructing underpinning-walls 40ft. down. I certainly did not think of it. Dr. Hector further says: "The object in this suggestion is to cut off the foundation from surrounding clay-formation, and isolate it from the effect of any motion to which that formation is subject. . . . If it is possible now to alter the plans I think it would be desirable to avoid having the building on excavation-sites of different levels. If the complete excavation at the back would be too expensive, might not the south wing be carried out by an irregular addition in an easterly direction, down that part of the spur, which is more likely to afford secure foundation? In fact, if the nature of the site had been known in time the building might better have been planned facing the north, with its length up and down the spur, building up the foundation on tc the solid in successive steps." I do not think it necessary to read any further. I submitted the whole thing to Mr. Blair and asked for instructions in the matter, which I have never got to this hour. Mr. O'Connor's report refers also to the steps, but more particularly to the state of the ground at the upper building. I do not think it is necessary to go into that matter very fully, because you have the evidence clearly before you of what was looked for from the site, and we have the results before our eyes of what has happened. I maintain that the one is as easily pictured as the other. The views of Dr. Hector were clearly prophetic. And need I say that we have plenty of instances not far from our own doors of how the ground has moved. Along George Street and in Queen Street the bank has come down in one mass for I do not know how many yards, and they tried the very things that the Public Works Department has been trying at Seacliff. They put in these drains and filled them up with stones. What was the result? It made the thing worse. The cure was worse than the disease, because there was no isolation. I will tell you what happened. The Corporation, in their wisdom, in proceeding with the work, decided to cut Queen Street, thus isolating one portion of the hill from the other. Since that time there has been no slipping; the movement ceased, and there

has been no movement of any consequence since. That is a simple instance which I give you of the effect this isolating-drain would have had at Seacliff if it had been put in as I recommended. The site of the building would gradually have consolidated and hardened, the ground would not have slipped, and there never would have been any great quantity of water flowing to the site itself. It is for the want of this ground-drainage that the water takes a course downhill, sweeping all before it, working day and night, and, accelerated by storms every now and again, caused the slip, and so produced all the damage that has occurred. I put it to you, gentlemen, is it not much more reasonable, is it not more consonant with common-sense, to say that that is the cause than that a man should come here and tell us, as practical men, that the only thing he can find to account for it is a deflection of ½in. in 72ft. Now, at these points—pillars 1 to 7—the building is literally level; there was no evidence of sinkage: and it is reasonable to assume that the difference of from ½in. to ⅝in. was due to rough workmanship by the plasterers. Yet this witness told us that the whole of the damage to the building was caused by subsidence, when there is no subsidence at all, when we know that the hill is moving—know it by the testimony of our eyes, as well as by measurement. I do not say that the small local slip which was referred to by Mr. Blair has caused all the damage, but I do say that it is an indication that a power is at work which is out of sight, and that unless some action such as I have suggested is taken to prevent it, by isolating the part which is doing the injury, the consequences will be serious indeed. I might here remind you that from the very commencement of this inquiry I have insisted that, in justice to Mr. Brindley, he should have been here at the beginning of it and throughout the whole inquiry. It was not fair to him to have gone on with it in his absence, because he was equally with myself and the Contractor named in the remit from the Governor appointing you gentlemen to make this inquiry. Mr. Brindley was a party whose name was expressly inserted in the remit.

Mr. Blair: No.

Mr. Lawson: He is not personally named, but he is named therein as the Inspector, and I am glad that even part of the inquiry is going on in his presence. I shall begin with his appointment. Mr. Blair has endeavoured to make it appear that Mr. Brindley was a creature of mine.

Mr. Blair: I deny that.

Mr. Lawson: That is exactly what you made of it.

Mr. Blair: I deny that also.

Mr. Lawson: We all have it down so.

Mr. Blair: Such an inference could never be drawn from any remark that I made.

Mr. Lawson: But that was exactly what you meant.

Mr. Blair: I neither meant nor said it.

Mr. Lawson: You made him out to be my servant, and not the servant of the Government.

Mr. Blair: Oh, yes!

Mr. Lawson: I deny that. I say that Mr. Brindley was the servant of the Government: he was the Government's Inspector of Works. As such I always looked on him; and as such he always behaved in an upright, honourable way. I never found him to be otherwise. He was in my own office, and I had found him to be an efficient assistant. I should be very glad indeed to have retained him were I in a position to do so so; but, knowing him, as I have said, to be thoroughly efficient, I recommended him for this appointment. I should not have recommended him unless I had thought him to be efficient, honourable, and upright; and he has proved himself to be so. As showing the feeling I had towards him when he left my employment I will read a letter, which indicates what I thought of him. It is dated the 17th October 1884. [Exhibit 21.]

Mr. Brindley: It is a private communication, and I would rather you did not read it, Mr. Lawson.

Mr. Lawson: I wish to read it.

Mr. Mountfort: On what occasion was it written?

Mr. Lawson: On his leaving the works, and the day before he left for New South Wales. It shows what I considered was my relationship towards Mr. Brindley; that is all. I wish it read as showing the position I always understood him to be in on the works.

Mr. Skinner: You wish it put in as part of your evidence?

Mr. Lawson: I do. "October 17, 1884.—To Mr. A. T. Brindley.—I have much pleasure in stating that I have known the bearer, Mr. Alfred T. Brindley, for the last ten years, and that he was for a considerable time in my office as chief assistant, and left my office to accept an appointment as Inspector of Works on behalf of the Government of New Zealand, which position he has creditably occupied for a period of five years.—R. A. Lawson." You will see from that letter that I regarded him as the Government Inspector of Works; and in that position I have always treated him. The matter of the slip at the temporary building has already been referred to; and I need say nothing more about it. As to the change of the site of the building, I will read a letter which I wrote to Mr. Ussher on the 1st March 1880: "March 1, 1880.—*Re* lunatic asylum building, Seacliff.—E. R. Ussher, Esq., Resident Engineer, Public Works Office, Dunedin.—Sir,—After the survey of the proposed site of the new building at Seacliff, since the clearing of ground, and having obtained the additional sectional lines, having also in view the nature and configuration of the ground generally, I would advise that the site be moved southward by 5 chains or so, so that the centre line of the building will fall at sectional line 0, instead of at 10, on the original survey. This alteration will save a considerable amount of cutting, besides placing the building clear of the broken ground towards the northern portion of the site. From the general lie of the ground it has been found impracticable to alter the bearing-line of the buildings as referred to by Dr. Skae.—I have the honour to be, sir, your obedient servant, R. A. Lawson." The object of that recommendation was to get rid, if possible, of the bad ground; and I decided to carry the building five or six chains towards the south. We could not go much further on account of the district road there. If I had

thought a little more I should in all probability have decided to go still further south, and it would have been a very good thing for us all if that had been done. By that alteration the foundation sections were of course made useless, and accordingly they are not shown on the contract-drawings as they now are, because the shifting 5 chains south made it a different thing altogether. These drawings having consequently become useless, it became necessary that the whole of the foundation-work should be measured; and that was done. I have a letter which shows this. I may also mention that the foundations were also under consideration, and were altered somewhat on this account. As you will note, what is the central wall of the building now was then understood to be the main back wall. It was on that account that it was not necessary to make it of the exact thickness shown on the section and also on the contract-plan. The back wall of what is now the main building was not intended to be carried down at all points to the full depth, but to be stepped to the bank, as indicated by the dotted lines on the contract plans. But now that that wall has become the main back wall of the building it has been thickened all the way down, so that there is a far greater amount of concrete put into the work than was originally intended. The result, so far as the foundations are concerned, is that the contractor has already received by way of extras the sum of £1,764 3s. 9d. You will therefore see that a much larger amount of concrete has been supplied than there would have been if the building had remained on its original site, and if it had been carried out exactly as shown on the plan. In confirmation of this statement I will read you a letter which I wrote on the 8th December, 1881, and which refers to another matter, which I shall have to touch on later on: "Dunedin, 8th December, 1881.—Mr. A. T. Brindley, Inspector of Works, Seacliff Asylum.—Dear Sir,—I had your last report, of the 2nd instant, along with certificates to Contractor, and I am preparing details for seats, and haffets of gallery, although I do not suppose these will be required immediately. As to the depth, &c., of foundations, I previously informed you that must depend solely on the nature of the ground, and you, being on the spot, must be able better to decide than I can possibly be. In every case, if you have any doubt, rather err on the safe side on this matter, and go down till you feel thoroughly secure; and, again, on the other hand, there is no necessity of going to any extra depth where cuttings are already on good solid bearings. This is a matter which must be left to your own discretion, with above general directions. The concrete item throughout must be kept by itself, and extras on account of same must be charged to change of site and necessity for additional precautions because of Dr. Hector's report. I cannot get up this week, but will be in beginning of next, if I can possibly so arrange.—Yours truly, R. A. Lawson." I do not think, if I had been writing instructions to-day, I could have been more explicit in order that I might secure firm and good foundations for this Seacliff building. That letter proves conclusively my position as to the foundations, and to the necessity of their being taken by measurement on account of the change in site. There therefore could be no object in Mr. Brindley or in Mr. Gore doing anything to "slum" the foundations, as has been spoken of. There can, I think, be no doubt on that point. I leave myself entirely in your hands, gentlemen, in respect to that matter. I suppose that I had better now take the items in Mr. Blair's statement as they come. First, then, as to the concrete. I think I had better read most of the letters that passed between Mr. Brindley and myself, because they will indicate generally the tone that existed between us, and will show clearly that there was no friction whatever between us during the whole course of the building at Seacliff. I repeat that there was no friction whatever between us. We began in good spirits and ended, as I have already shown, in good spirits. There was no friction other than what honest men will necessarily have. On the 2nd December, 1882, he wrote [letter read], and I looked upon that letter as indicating that he had his eyes open all round the building. With regard to the concrete, I will read you a letter he wrote on the 13th December, 1882.

Mr. Blair: Did you answer that letter?

Mr. Lawson: Yes; I always answered his letters.

Mr. Blair: Did you answer that one?

Mr. Lawson: Yes; I replied on the 8th December, and I have read that letter to you already.

Mr. Blair: There is no reference in your letter of the 8th December to the cheap men.

Mr. Lawson: I did not need to answer every item in Mr. Brindley's letter.

Mr. Gore: All I can say is that they were 14s.-a-day men, if that is cheap.

The Chairman: You are not going to read the whole of the letters, Mr. Lawson?

Mr. Lawson: No, sir; I will spare you that. I will only read these letters that have reference to the points touched on in Mr. Blair's statement.

The Chairman: Just read those portions of the letters that you wish to call attention to.

Mr. Lawson: I shall read nothing but what is relevant to Mr. Blair's statement. Perhaps my reply to that letter of Mr. Brindley's will be sufficient: "13th December, 1881.—*Re* Seacliff Lunatic Asylum contract.—Mr. A. T. Brindley, Inspector of Works.—Sir,—Referring to your letter of this date, asking for information as to stone packings in concrete walls, I have to state that in no case should such packing bear a proportion of more than, say, one-third of the whole walling. They should not be placed closer together than 12in. from edge to edge, nor should they be so large as to show outwardly, or too thin a crust; otherwise the walls would be weakened by their insertion. The word 'may' has been used in the specification simply to provide that too much of this packing should not be inserted, and you will be good enough to see that the specification in this matter is faithfully carried out. I hope to be up some morning this week.—Yours truly, R. A. Lawson." My letters show that I was attentive to the building. Now, as to detailed drawings, Mr. Blair has made an assertion that I got Mr. Brindley to do the work of preparing detailed drawings, to the injury of the building—that, in fact, he was kept so much at that work that he was unable attend to his proper work. I totally and emphatically deny that statement. I never asked Mr. Brindley, except once, to prepare me a detailed drawing in connection with the Seacliff Lunatic Asylum, and I have his reply in writing refusing to do so.

Mr. Blair: Read it, please.

Mr. Lawson: Yes, I will do so. It is true that Mr. Brindley made many details, but he did not do so at my request. All the details in connection with the building were my own, and I have them in my office now. I knew Mr. Brindley to be a good assistant, and he was of far more use to me than an ordinary inspector throughout the whole of the building; and I was thankful to him for his assistance, and he knows that. He never once complained to me that he was kept at work at or copying my details, nor has he ever asked me for any consideration for having done so; neither has he at any time made any claim in connection therewith, or mentioned them, that I know of or remember. I again emphatically deny that I ever asked him to take my place on the building, or in any way to prepare details. As a matter of fact, I always keep the preparation of my details in my own hands. I should thank no inspector who prepared my details; indeed, I would not look on the building as my own were he to do so. Of course, I know that Mr. Brindley did prepare details from time to time, but I repeat that they were not done at my request. I will only say that I am grateful to him for what he did do, and always said so to him. Now, as to the bricks. We have been told that great complaints were made about the bricks. I know that there was great slaughter amongst them; that kiln after kiln was condemned, and the bricks cast aside. It is also true, as has been stated by Mr. Gore, that he wrote to me asking to be allowed to pick the bricks out of the kilns, he alleging that there were plenty of good bricks thrown away along with the bad ones. But, in order to secure that no bad bricks should be smuggled in along with the good ones, I condemned the lot. That is a fact, and Mr. Brindley will bear me out in that statement. The whole lot were condemned unreservedly, and Mr. Brindley's letters, if the Commissioners read them, will show that. It may be said that Mr. Brindley and I consented to what may be called inferior work rather than stop the works; but that was towards the end of the building, when there was a great hurry to get possession of the building. Mr. Brindley knows—and here his letters will also bear me out—that rather than stop the building we allowed some bricks that were not so good as the others that had been generally used. But we only allowed these bricks to be used for a very little while, and they were put in under Mr. Brindley's superintendence and care. That was the nearest approach to anything like bad material that was permitted to go into Seacliff building from the pinnacle of the tower to the deepest depth of the foundation. Another matter that had been referred to was the gables; and here was the nearest point of there being any friction between Mr. Brindley and myself during the whole building. As a matter of fact, the gable was erected 9in. thick by Mr. Gore against Mr. Brindley's protest. Well, I will not say that he protested, but he formally complained to me that Mr. Gore was doing the work after he had found fault with it, and that Mr. Gore would not do it for him as he wanted it done. I replied to that complaint to the effect that I left Mr. Gore and him to settle the matter between themselves; that I would not come up this time to settle it, but left him (Mr. Brindley) to exercise his authority. Apparently they managed to settle it, for it was put in and charged by Mr. Gore as an extra. I, however, decided that it was a necessary part of the building, and would not allow it as an extra. I thought 9in. in the position where it was was sufficient; and there it remained. Now, as to the concrete. I omitted to refer to that part of it which was objected to by Mr. Brindley and condemned. As a matter of fact, Mr. Brindley and I condemned it together; we both insisted that it should come out; and out it came, so far as I was concerned. Of course, I did not stay there to see it taken out. There is another part of Mr. Blair's statement that I must refer to. In one passage there is a very peculiar insinuation regarding the position I assumed towards Mr. Brindley in connection with the building. Mr. Blair as much as infers that I recommended Mr. Brindley to side with Mr. Gore, and pass bad work. I repudiate such an insinuation.

Mr. Blair: I do not remember anything of the sort.

Mr. Lawson: I will prove that you said so. You said in your statement that I recommended Mr. Brindley to work amicably with the Contractor, and the construction you put on that phrase of mine was that I had recommended Mr. Brindley to work amicably with the Contractor—in other words, to pass bad work. I will read you a letter which refers to this very matter: "30th October, 1882.—*Re* Seacliff Lunatic Asylum.—Mr. A. T. Brindley.—Dear Sir,—Referring to your late reports of the 5th to the 28th October, inclusive, I have to reply as under: First, as to stone packing: I could not write more distinctly than I have already done in my letter of the 13th December, 1881, to which I now refer you. Second, as to lathing of ambulatory and plaster finish: As this is clearly within the specifications it must be done, and I have already told Mr. Gore this. Third, as to raking-out of joints previous to cementing: When I saw you lately this, it was agreed, would not in general be an advantage, so that it need not be insisted on. Fourth, as to gas: I have forwarded, through the Engineer-in-Chief, particulars for same; and he informs me that the matter is under consideration as between ordinary gas and electric lighting. Fifth: The hot-water arrangements have now been agreed upon, providing for constant supply from a central boiler, instead of saddle-boilers at each bath, as per original specification (this I have told you of already). This work includes one 'multitubular boiler, 14ft. long by 3ft. 8in. diameter, with Lemnon plates; six furnace 21ft. 3¼in., tubes, smoke-box, furnace-doors, bars and bearers, safety and check valves, blow-off cock, water-gauge and test-cock, and pressure gauge, built in complete; five forty-gallon steam-jacketed steam copper pans; valves and complete; four 1½in. copper steam coils; four 300-gallon cisterns, lined with 8lb. lead; four small cold-water cisterns, with ball-cocks and ventilating-pipes and waste complete; six steam-traps; all requisite steam-pipes and valves, and all hot, cold, and waste-pipes required.' This, I think, disposes of all the points referred to in your letters, and I hope that you will be able to get all that is necessary attended to satisfactorily. And I do not see why you should not work amicably with the Contractor also. I always get contractors to do as I wish best by treating them in a quiet, and friendly, and firm manner; and I would not resort to any extreme measures, such as delaying or lessening certificates, unless for very important and serious reasons.—Yours truly, R. A. LAWSON." That has always been my position.

I do not get into a pucker or do anything in haste or anger. I make up my mind as to what is to be done, and then I insist on it being done, quietly and firmly. Mark my words, gentlemen: "I always get contractors to do as I wish best by treating them in a quiet, friendly, and firm manner. I would not recommend any extreme measures, which should only be resorted to for important and serious reasons." And that, gentlemen, is, I think, a very proper thing to do. Is there anything in that letter which justifies the base insinuations which Mr. Blair hurls at me, or in endeavouring to take away my honest name, and to impeach my conduct of my business as an architect? There is a very small point which I think it only right I should insist on being brought under the notice of this Commission. In finishing up this contract Mr. Ussher cut off some three items off my account for work done and passed under my certificates. I claim that this money should be paid now to me, with interest from date of withholding.

Mr. Blair: It was not Mr. Ussher. I did it myself.

Mr. Lawson: He was acting, I presume, on behalf of the Government, and Mr. Blair should have been prepared to see justice done to me. However, the fact remains that those three items were cut off unjustly. They were struck off my account when I sent it in, and they remain unpaid to this hour.

Mr. Blair: Why did not you protest?

Mr. Lawson: I did protest. I am a man of peace, and do not go to extremes if I can avoid it at all. However, I shall say no more on that point. Now, gentlemen, at the very outset of this inquiry I asked Mr. Blair a question to which I did not get an answer—at all events, not a proper answer. I asked him if he could put his finger on any one point throughout the whole of the foundations of Seacliff building where there has occurred 1in. of vertical settlement. He has not done it, and he cannot do it. There is none, in fact. I challenge any one to point it out here to-day. I have challenged and still challenge the department to point to any vertical settlement at the foundations to-day. Strange to say, we have been told by Mr. Hay, the expert, that the cause of all the damage to the building is a deflection of $\frac{3}{4}$in. I defy that statement also to be challenged by him. Are we sitting here as practical business men to be told such an absurd thing, when we have before our eyes the cause of it in that slip? Dr. Hector predicted what has actually occurred, and Mr. Hay by measurement has proved it to have occurred by showing that the north wing has gone bodily in the direction indicated by Dr. Hector—it has gone 16½in. in an easterly direction downhill.

Mr. Blair: I submit that Mr. Hay showed nothing of the kind.

Mr. Lawson: It is stated in his own measurement. We did not require Mr. Hay in the matter. We have got his own measurements to prove it. They are indisputable, and cannot be denied by him. I dare say Mr. Blair is very sorry that the information has come out.

Mr. Blair: Nothing of the sort. I am very glad of it.

Mr. Lawson: He has taken good care that it did not, and it would not he could have avoided it.

Mr. Blair: I protest against such a statement.

Mr. Lawson: At all events he kept that paper back till the very last, and it was only when I insisted on it being produced and laid on the table that it was brought in and laid on the table. Gentlemen, is that fair treatment? As to my statements, I challenge any one of them to be denied. Now as to the calculations made by Mr. Hay. He comes into this Court of inquiry and produces a set of plans showing only one face, and on them he bases his calculations, showing what this wall and this foundation can do and what it cannot do. He may assume anything he likes, but his wonderfully-built-up calculations and assumptions are all based on that one-faced plan; they do not prove the measurements that we must rely on.

THURSDAY, 23RD FEBRUARY, 1888.

Mr. LAWSON'S address continued.

Mr. Lawson: I just want to say a few words about the appointment of Mr. Brindley—as to how it came about. On one occasion—I do not remember now whether I was sent for by Mr. Blair or not—I had a conversation with him about this matter of the appointment of an Inspector, and at his request I wrote a private and confidential letter, dated the 15th July, 1879, on this subject. This letter will give you the key to the appointment of Mr. Brindley. It was written, as I have just said, at Mr. Blair's request and after conference with him. It was not dictated by him word for word, but he intimated what I should say; and the reason for it will be shown on the face of the letter itself. I therefore need say no more about that. "*Private and confidential.*—Dunedin, 15th July, 1879.—W. N. Blair, Esq., Engineer in Charge, Middle Island.—Dear Sir,—With reference to the appointment of a Clerk of Works at the present lunatic asylum buildings, Seacliff, I feel called upon to suggest that the Inspector of the temporary building now just completed (Mr. Alexander Cairns) should not be appointed, my reasons for this being that his knowledge of the several works is not sufficient, and that from my experience of him I would have no confidence in leaving him to deal with the Contractor in my absence. In the temporary building just completed extras have been incurred and authorised by him amounting to over 10 per cent. on the contract sum, although, from the beginning of the works and throughout, I have strictly charged him to authorise none. In a large contract such as is proposed such conduct would lead to inextricable confusion and annoyance. As there will be a large amount of clearing, earthworks, and fencing, and formation of ground generally required to be done by the patients on the grounds, Mr. Cairns would be in a far more suitable position directing such works, or any other that may be undertaken by the patients in connection with the buildings and grounds, than in that of Inspector of Works, for which he is practically unsuited. I have felt it my duty to mention this matter, with no wish to injure Mr. Cairns, who is otherwise a faithful workman, and hope this communication will be

kept private.—Yours truly, R. A. LAWSON." As to the north-ambulatory wall being the cause of all the damage, as has been stated by the experts produced by Mr. Blair, it is somewhat remarkable that that particular wall was the only wall that the Commissioners took special notice of as standing right at the time that we first visited the building together. It is somewhat singular—not only singular, indeed, but striking—that that wall, which their experts say has caused all the damage, is, as a matter of fact, the wall which one of the Commissioners himself plumbed, and tested its accuracy in that respect. Yet we are assured by the expert I have referred to that the deflection there—the tilting of the northward top of that wall—has "bucked" the main north wall out at the top. That is in evidence, while we have it as a fact that the wall was plumbed on the spot by one of the Commissioners, who found it to be plumb. Mr. Hay has, however, distinctly stated that the north wall of the building in its foundations has not subsided, that it was perfectly right, and that there was no vertical settlement there—no more than anywhere else throughout the building. Mr. Hay also proved by figures, which I can refer to, because they are of the greatest importance, that the whole of that north wing had moved towards the east 16½in. at one point and 13½in. at another. I ask you again, what can cause that but the movement of the strata and the building going with it? No other adequate cause has been shown, and none other can be. As regards the building, I state here, and reiterate, that there may be imperfections in it—indeed, I know there are—but I never yet put up a building that was free from them, nor do I suppose have any of you gentlemen; but I assert there is good honest work throughout the whole of that building. I look with perfect confidence on the judgment that you will form on this matter, and will say no more about it. The truth is best, and I hope that you will find it. The whole of Mr. Blair's contention as to defective foundations falls to the ground, because the experts he brought forward proved that there is no subsidence anywhere in the building, that there is no vertical settlement at any one point. The only thing which shows defective foundations, I again declare—and I am glad that experts have been called to speak to this matter—is vertical settlement. That is the only way you can prove defective foundations. There is no other sufficient cause to explain the position of the building in the north wing, there is not the shadow of one, except the movement of the ground. Of course, the movement has been irregular: it was more rapid in some parts of the surface than at others, and has taken the building down some 16in. As to the other idea suggested by Mr. Blair, that one portion of the building has gone uphill, we shall have that explained very definitely by Mr. Brindley, who was present when it was erected. Now, I wish to say, before entering on this matter, that the charge made by Mr. Blair is one of "scamping." I ask you, gentlemen, to consider what the term "scamping" includes—what it really infers. Does it not infer that the workmen, the Inspector, the Contractor, and I are accused of downright, barefaced robbery? That is what I take to be the meaning of "scamping", and that is what it means if the word has any meaning at all—that there has been collusion between the parties in order to defeat the public, by putting in improper work. Does Mr. Blair mean to say that such was the case? because the word "scamping" can be explained in no other way. There are Mr. Brindley, the Inspector, who was always on the spot, faithful to his duty by day and by night, the Contractor, and myself; and it is alleged that we combined together in order to defeat justice. I hurl the insinuation back on him who uttered it, and it will yet come back on his own head. As this is a matter which touches my name, my professional character and probity, and therefore my life, I have to claim from the Commissioners some latitude, but at the same time I do not wish to overstep the bounds of prudence in further addressing myself to the evidence. I may inform you that all that I have prepared for this Commission has been prepared solely by myself, and entirely without legal solicitation. That may perhaps console Mr. Blair. I can also tell him, and I am glad to have the opportunity of saying so, that I have one friend, at any rate, who has placed Mr. Chapman at my side. I am very glad to be able to make public acknowledgment of that fact. On commencing my evidence I stated that it was with considerable difficulty that I had been able to obtain the present inquiry. I wish now to show the Commissioners that I have been kept totally in the dark as to any defects or supposed deficiencies existing at the Seacliff building up till the meeting of the Commission. There is this remarkable circumstance: that I never knew that there was anything wrong with the building until Mr. Blair took it into his head just now to say that there was. Therefore I have been taken completely by surprise in this whole matter by those in the Public Works Department who are responsible for it. For years accusations have appeared from time to time in the public Press of a disquieting nature regarding the Seacliff building. All sorts of accusations have been hinted at, and hurled indiscriminately at all in any way connected with it, until, in fact, it had become a sort of by-word and word of offence, and until the name of Seacliff was synonymous with the offence of scamping or something of that sort, as public rumour had it. No wonder, then, that the reports of inspectors (general and local) seemed to vie with each other in their broad descriptions of the state of the building. I will now read you an extract from the latest report, which was made by Mr. W. P. Street, as Deputy Inspector of Lunatic Asylums. I am quoting from the *Daily Times* of the 14th November, 1887; but the letter itself is dated the 29th October. It is as follows: "I inspected both the upper and lower buildings to-day minutely, and saw all the patients. A large number of the men were employed in outdoor work. I paid particular attention to-day to the dilapidation of the building referred to in my last report. In the female division, in a recess, refractory ward, there is a serious crack right across the ceiling, a part of it being a further extension of the old crack, which has been plastered up. The cracks in the wall are again yawning, and the wall bulging. The plaster on the ceiling of the recess ought to be knocked down at once, for fear of injuring the patients. In a room adjoining, the bricks are exposed, separated, and cracked. The cracks here are larger than formerly. The plaster on the ceiling of this room should also be taken down. The shutters to the windows are quite immovable. The next room is in a bad state: brickwork exposed and ceiling cracked. The cracks also extend to the mess-room. In the vestibule of this ward some of the plaster fell to-day. I found that some of the cracks extend right through to the outside of the building. In the basement of No. 3 Ward the concrete floor is broken." Can you

wonder, gentlemen, that the public were amazed that this thing was allowed to go on, or can you wonder at the public speaking out and forcing themselves to be heard in the public Press? Mr. Street goes on to say: "This part of the building has gone so bad lately that many of the doors have had to be taken off, and about 1½in. taken off the bottom. Notwithstanding the filling-in of the archways and doorways in the verandah of the courtyard with brickwork, it is quite evident that the building is subsiding. The plaster-work in the ceiling of the verandah is decidedly dangerous. The walls of Nos. 2 and 3 wards are bulging outwards. In a bed-room over the mess-room in No. 2 Ward part of the wall appears to be falling inwards. In the upper corridor of No. 2 Ward the cracks in the ceilings and wall still gape. In No. 1 Ward, in Attendant Janet Paterson's room, the cracks are again showing. This ward is at right-angles to No. 2 Ward. I understand that the Public Works Department have these matters under consideration, and I trust the Government will see that something is done towards remedying this serious state of things?" Is it to be wondered at, I again ask, that the public should demand some sort of inquiry into this thing? I have a letter here which I wrote in answer to a letter that was published in the *Evening Star*, but I shall not trouble you by reading it.

Mr. Blair: Read it.

Mr. Lawson: I will read it if you like. It is dated the 6th December, and is as follows: "I do not wonder at 'Publico' writing as he does after reading the report of W. P. Street, Esq., the Deputy Inspector of Lunatic Asylums, as it appeared abridged in the *Times* of the 14th ultimo, because, while Mr. Street may describe therein quite correctly the condition of the part of the north wing of the building, as caused by the movement or slip of ground at that part, it still remains to be stated that the condition of the building so described is solely attributable to the movement or slip of ground referred to; and, further, that, with the exception of the portion of the building so affected, which, after all, is not more in proportion than the one-fiftieth part of the whole, the Seacliff Asylum building stands as firm and solid, and without any sign of settlement or movement throughout to-day, and is as likely so to stand, as any building in New Zealand. This statement I challenge any Inspector, Deputy Inspector, or, in fact, any other man, to contradict, who has eyes to see and head to comprehend what he sees. The reason why the movement of ground has occurred, causing the injury to the portion of the building so often referred to and commented on, is a matter worth looking into. All I will say meanwhile is that I personally endeavoured, but hitherto without success, to obtain a thorough examination both of the Seacliff buildings and surroundings. There have also been reasons for my silence hitherto which I trust all honourable men will understand and appreciate; but the time has come when I must guard my 'own honour and reputation,' as friend 'Publico' puts it, and in a few days I intend publishing a few letters which I trust will, at least, convince all those who are worth convincing that I, at least, have clean hands with regard to the 'serious state of things' at Seacilff referred to by the Deputy Inspector of Lunatic Asylums in his latest report." That is a letter which I should send again to-day if it were necessary to do so. Again I ask you, gentlemen, can you wonder that my long forbearance should yield to action, and that by publishing my letters as I did I took the first step which has led to the present inquiry? [*Mr. Blair:* Hear, hear.] I repeat that "Hear." I say that I published these letters in the teeth of Mr. Blair's private letter urging me not to do so. [*Mr. Blair:* Hear, hear, again.] He still wanted to smother it up.

Mr. Blair: Read that private letter.

Mr. Lawson: Certainly, if you wish me to do so. It is dated the 5th December, and is as follows: "*Re* Seacliff: I have not the slightest objection personally to the publication of the correspondence; but any official correspondence can only be published with the consent of the Minister, and the answers must go with the letters. I cannot, however, find any record of the letters you mention. Were they addressed to Mr. Ussher or myself? I cannot suppose they are private letters, for, of course, you would not think of publishing them. Not that I care much; but if they are published my answers must go along with them, and if I have not answered any of them I will do so now. Kindly send me copies of the letters you refer to before doing anything further in the matter." You will see from that, gentlemen, that I had had the politeness to inform Mr. Blair what I was going to do with these letters, and did not wish to take him by surprise. I knew perfectly well that there were no replies in existence. This is a very peculiar thing. Mr. Blair writes: "As an old friend, I would recommend you not to publish anything at present. You have already written Hislop on the subject, and you will possibly have another opportunity of 'saying your say.' Circumstances have arisen since I wrote my previous report of 1885, which had they been known then would have made the report as regards 'movement in foundations' a very different thing." I now come to what I think is the key to the whole thing. Mr. Blair proceeds: "You once wrote me a private letter *re* Seacliff, which I never answered. One reason for my silence was the 'circumstances' above alluded to. I thought we could cope with the difficulties, and so close up the matter for ever. If, however, we have to bring the matter up afresh it will all be brought up, and for old friendship's sake I should deeply regret it." Having read that letter, I shall have to read my reply to it. I did not intend to disturb the Commissioners with this private correspondence, as I do not see the necessity of its introduction.

Mr. Blair: As you have already published private letters of mine, you may as well publish the whole of them.

Mr. Lawson: There is no necessity for that. However, so far as my private letters are concerned, my letter-book is already before you. I have placed it unreservedly in your hands, and you can look all through it. I have nothing to conceal. I replied on the 8th December as follows, and sent him a copy of my published letters next day: "Dunedin, 8th December, 1887.—W. N. Blair, Esq., Assistant Engineer-in-Chief, Middle Island.—Dear Sir,—I have your favour of the 5th instant, and in reply have to state that the letters I proposed to publish are not private letters, and to none of them have I ever received a reply from you. You inform me Mr. Hislop has acquainted you that I have written to him regarding Seacliff. The reason why I did so was because of Mr. Street's

report on Seacliff appearing abridged in the *Daily Times* of the 14th ultimo. This caused great talk in Dunedin, and I was stuck up at every street-corner about it and blamed for the whole thing. I therefore resolved that I would publish my letter, and wrote you accordingly, also Hislop; and I see no reason for, but many reasons against, further delay. I shall be only too glad if this should have the result of 'bringing the whole matter up afresh.' I have nothing to lose but everything to gain in the truth being widely known. The building is there to speak for itself, and I know it to be the best building of the kind in New Zealand, in spite of the childish tittle-tattle fault-finding there has been about it in one quarter, and the damage done to it through ground-slip in another. As soon as the letters are published I will forward you a copy.—Yours truly, R. A. Lawson. P.S.—The letters are addressed to yourself and not to Mr. Ussher.—R. A. L." "Dunedin, 9th December, 1887.—W. N. Blair, Esq.—Dear Sir,—As promised, by same mail I forward you published copy of letters *re* ground-slip, Seacliff, originals of which were forwarded to you on dates of same. You do not inform me of the circumstances which have arisen since you wrote your report in 1885; but, whatever they may be, I do not suppose they have quite reversed the position, and I think it will be found to be rather a difficult undertaking to prove that the foundations have been the means of causing the ground to slip at the north wing of the Seacliff Asylum and neighbourhood. I have no doubt your own common-sense will lead you to take the right course in this whole matter now, and I am glad that in the present Government there are men who have practical knowledge as well as firmness and judgment, and I shall have no fear as to the ultimate result for good.—Yours truly, R. A. Lawson. P.S.—I have no desire further in this whole matter than that a right understanding should exist as to the true position of affairs, and that the necessary work should be done to secure the building.—R. A. L." You will notice, gentlemen, that in this letter of the 5th Mr. Blair tells me in one breath that there is not the slightest objection to the publication.

Mr. Blair: Not personally.

Mr. Lawson: The correspondence is here and speaks for itself. While he says that even were it printed he does not care much, yet on the other hand he recommends me not to publish anything at present, while he holds over me an implied threat, as the closing paragraph of the letter shows: "If, however, we have to bring the matter up afresh, it will all be brought up, and for old friendship's sake I should deeply regret it." Gentlemen, I want the truth, and I care not how long we may stay here if we arrive at that. As if there were some skeleton in the cupboard at Seacliff which is to be brought out in order to scare me into silence! I value Mr. Blair's friendship, and have always done so, but I value yet more my own good name and my good conscience, and if the one stands in the way of the other, then Mr. Blair will have to give way, as far as I am concerned. I will defend my rights and my good conscience, no matter what the result may be to Mr. Blair. I learnt also from this letter of Mr. Blair's the one patent fact that he does not even yet realise the vast importance of the agencies at work in the damage done and doing at the Seacliff building, so graphically but truly and forcibly described in Dr. Hector's report, who, when referring to the smaller slip at the temporary building, says that "the northern part of it is constantly moving forward with an irresistible strain." Dr. Hector, in his report, prophesied, in fact, that this northern part would move constantly forward with an irresistible strain unless carefully provided against; and my recommendation of what should be done was founded on that report. How strange the contrast between those words of Dr. Hector, which described so truly and prophetically the work of damage even now progressing night and day at Seacliff, and those of Mr. Blair, where he says, "I thought we could cope with the difficulty, and so close up the matter for ever"! As if it were some trifling matter! But it is not a trivial matter that we are dealing with: it is a very serious matter, affecting a building which has cost close on £200,000, and which is becoming daily more and more dangerous in consequence of the moving ground. It is not a trifling matter, as Mr. Blair alleges, which can be covered up, as it were, by taking a shovel and spreading a few handfuls of earth over it. I say, shame on Mr. Blair, who can make light of the present dangerous condition of the building at Seacliff, where there are hundreds of poor helpless creatures closed in night and day; and he a public servant, placed in his high position by the public to take charge of and guard all the buildings under his control. So, realising the urgency of the position, I resolved, in the face of Mr. Blair's implied threat, to publish my correspondence, which I have done; and it is now before you, gentlemen. When these letters were under discussion in Parliament certain statements were first publicly made as to the defective, or alleged defective, foundations of the building; and on learning this I wrote to the Hon. the Colonial Secretary on the 20th January, 1888, as follows: "Dunedin, 20th January, 1888.—Hon. T. W. Hislop.—Sir,—I have not yet received any particulars of information as to the statements made by Mr. Blair or Public Works Department as to the Seacliff Asylum, in Parliament or to the Government. I also understand that an official from Wellington has been visiting the building and taking measurements; and, as it is only fair that I should know of any accusations which are to be brought forward, I respectfully request that full particulars and all information be forwarded to me through you on this matter. In a case of this kind, where my professional character and reputation are at stake, I trust you will see the reasonableness of my request. I shall also feel obliged if you will be good enough to forward me an order to the officer in charge at the Seacliff Asylum, so that I may obtain access to the building, &c., for myself and such others as I may desire to take there for the purpose of inspecting it, with the view of giving evidence at the inquiry should such be necessary.—I have the honour to be yours truly, R. A. Lawson, Architect.—Colonial Secretary, Wellington." I received from the Hon. the Colonial Secretary the following reply by telegram: "Have asked Works Department to write you *re* particulars asked for. I have telegraphed to Dr. King to permit inspection by you or your nominees." This prompt and courteous reply was not, however, followed up by the Public Works Department. I never did receive that information from them, although it appears that the Colonial Secretary had himself requested that it should be handed to me. As I have just said, they have not done so, and I only saw the information when it was laid on this table before you, gentlemen.

You therefore can see how much I have been kept in the dark in the whole matter. I again wrote to the Colonial Secretary as follows: [Letter read.] I, however, received a telegram from the Public Works Department on the 31st January "(Telegram.)—Wellington, 31st January, 1888.—Seacliff Asylum: Your letter of the 20th instant and telegram of to-day having been forwarded by Mr. Hislop to Hon. M. Mitchelson, I am directed reply that, as Commission has now been appointed to make full inquiry into the matter, Government does not think it desirable to anticipate their investigations in any way, and would therefore prefer laying such evidence as is procurable before Commissioners when they meet; but Commissioners have been asked to give you every facility for acquainting yourself w th all facts which may be brought before them.—C. Y. O'Connor." I also received a letter on the same date, which I shall read: "Public Works Department, Wellington, 31st January, 1888.—*Re* Seacliff Asylum.—Sir,—I am directed by the Minister for Public Works to acknowledge the receipt, through Hon. Mr. Hislop, of your letter of the 20th instant, in which you request that you may be furnished with particulars of any accusation which may be brought forward in the matter of the Seacliff Ayslum. In reply I am to state that, although some investigations have been made into the condition of the building, they are not as yet completed and formulated, and will not be for some little time; and as, in the meantime, a Commission has been appointed to inquire into the whole circumstances of the case, the Government does not think it desirable to anticipate their investigations in any way, and would therefore prefer laying such evidence as is procurable before the Commissioners when they meet. Hon. Mr. Mitchelson, however, has no doubt that the Commissioners will give you every facility for acquainting yourself with all facts which may be brought before them, and he has specially requested the Commissioners to do this. —I have, &c., C. Y. O'Connor, Under-Secretary for Public Works." Gentlemen, I wish to draw your particular attention to this passage in Mr. O'Connor's letter: "Although some investigations have been made into the condition of the building, they are not as yet completed and formulated, and will not be for some little time." To that letter I sent a further and final one on the 3rd February, as follows: "*Re* Seacliff Asylum.—Dunedin, 3rd February, 1888.—C. Y. O'Connor, Esq.—Sir,—I have the honour to acknowledge the receipt of your favour of number as per margin, in which you acknowledge my letter to the Hon. Mr. Hislop of the 20th January. I have also telegram of the 31st January referring to same and my telegram of even date. I cannot help expressing surprise at the terms of your letter, in which I am informed 'that, although some investigations have been made into the condition of the building, they are not as yet completed and formulated, and will not be for some little time,' &c. Whereas, as a matter of history and fact, statements were made publicly in Parliament in December last as from the Public Works Department, and of such a nature as to cause the Hon. the Minister of Public Works to say, referring to same, that if they were found to be correct the Contractor would be held responsible for the consequences, &c. It was, as you well know, with reference specially to these that I requested information, as per the first portion of my letter to the Hon. the Colonial Secretary of the 20th January. In reply to your previous telegram I wrote under date 1st February to the Hon. the Colonial Secretary, and now await the meeting of Commissioners; although up to date I have received no intimation whatever as to their meeting, &c.—I have the honour to be yours truly, R. A. Lawson, Architect.—Under-Secretary for Public Works." That brings us up to the present time. You will thus see that the Public Works Department, as such, had not even formulated or completed its investigations on the 31st January, 1888; in other words, the department had no accusations whatever against the building at that date. We have the evidence of the Under-Secretary of the department himself—there is the fact before you; there is his letter proving it—that up to the end of January of this year nothing whatever had been formulated against the building. How has it all come out now? The mystery is indeed great. And we have Mr. Blair, here present, affirming in his sworn statement that he became aware of "scamping" work in connection with the foundations and other deficiencies to the building as far back as the middle of 1885. Gentlemen, is there not a strange peculiarity in this. Is it not very mysterious that Mr. Blair should be in possession of this information, and that the department knew nothing of it in January, 1888. I shall leave Mr. Blair to reconcile these two statements. I will now shortly refer to some small discrepancies which occur in Mr. Blair's statement as to certain letters said to have passed between his department and Mr. Brindley. In one part he states that there were only eight of these letters, and he specifies their subjects; but, apparently forgetting what he had said, he a little further on refers to other one or two letters in addition to those formerly mentioned by him as having been the only letters written by Mr. Brindley. I also leave Mr. Blair to reconcile that statement. One of the matters which I omitted to notice in my evidence yesterday was the cement. It will be remembered that this was a thing trotted out by Mr. Blair as if it were an attempted act of wrongdoing on the part of the Contractor and myself. Now, the clause in the specifications referring to cement says, "All concrete to be made use of in foundations, &c., to be mixed in proportion of five parts of broken metal of, say, 2in. gauge and clean shingle mixed together to one part of Portland cement—say White's, Knight Bevan's, or other approved brand." And again: "When cement is used in place of mortar same to be not less in mixture than one of approved cement," &c. You will thus notice that the cement may be of any brand, only it must be first approved. What was done in this case? I will read to you a letter referring to this subject that I wrote to Mr. Brindley: "Seacliff Lunatic Asylum, Dunedin, 5th July, 1881.—A. T. Brindley, Esq., Inspector of Works.—Dear Sir,—I have yours of the 1st instant reporting progress as to works, and asking what is to be done with over-projecting corbels. I have to direct your attention to the clause of specification referring to same, under 'stone bearings,' where it distinctly states that 'projected work is to be carried on stone-bearings and built in cement, also parapets and finishings.' Of course, I would not insist on the whole depth of projection being stone-finished, but the exposed portion must be so. Your letter to Mr. Ussher has been forwarded to me, and in reply thereto, first, as to machinery, &c., it will be better to have the whole revalued, and include that now forwarded; and, second, as to cement, as the brand is not known and has not been approved, let it be forwarded to the

Engineer to be tested, when, if reported on favourably, it will be used, but not otherwise. I have not yet got your items of reductions from contract, so as to place same against additions in 'contingency.' Be good enough to carefully make up same at your early convenience, and also make no further deviation from contract at any point without obtaining my written order.—Yours truly, R. A. Lawson." I wish you, gentlemen, to specially note my direction to Mr. Brindley as to any deviation from the contract, in the latter part of that letter. From that time no deviation from the contract was to be made at any point without my written order. I think that that was careful enough on my part.

Mr. Blair: But the contract had then been going on for three years.

Mr. Gore: If you, gentlemen, think proper, I will put in letters on the same subject. I have copies of them.

Mr. Lawson: As to roughness and irregularities in foundations, Mr. Brindley will speak with authority, and I leave that to his tender mercies. Certainly I never was made aware of any such thing, or that the brickwork overhung the concrete in any part of the foundations. As a matter of fact, I was never made aware of it until I saw it along with the Commissioners. If I had been aware of it I should have taken immediate steps to rectify it. Mr. Brindley should have known of it if it existed at the time; and he will speak for himself in that matter. If he knew it, he failed in his duty by not informing me of it. I deny emphatically that, as asserted in Mr. Blair's statement, I was informed at any time by Mr. Brindley that barrow-loads of dirty stones were at any time tipped into the trenches.

Mr. Blair remarked that Mr. Lawson was not correctly quoting him. He had stated that Mr. Brindley had made such a statement to Mr. Ussher.

The Chairman: Was that in the original statement of Mr. Blair?

Mr. Lawson: It may not be in it now, but I certainly have it noted as having been said by Mr. Blair.

Mr. Blair: I shall call for the production of the reporter's notes. I think I said that Mr. Brindley had told Mr. Ussher that such had taken place, and that he drew your attention to the fact.

Mr. Lawson: Your statement was that he had informed me that barrow-loads of dirty stones were wheeled into the trenches.

Mr. Lawson: I have to complain that Mr. Blair has been coaching up Mr. Brindley all through.

Mr. Lawson: I never spoke to Mr. Brindley but once, and I consider the position you have taken towards him is a wrong one.

Mr. Blair: That is quite immaterial, sir, and outside the question.

Mr. Lawson: It is a very material point. Mr. Blair is coaching up Mr. Brindley I say.

Mr. Blair: I deny the charge.

Mr. Brindley: I also deny it.

Mr. Lawson: It is Mr. Blair I am speaking about.

The Chairman: Well, never mind, Mr. Lawson.

Mr. Lawson: I think it is a very tyrannous thing for the Public Service to have acted as they have done towards Mr. Brindley ever since his arrival here.

Mr. Blair: These are matters the department are ignorant of.

Mr. Lawson: Are you not the department here? Who is the representative of the Public Works Department at this inquiry?

Mr. Blair: I represent the department.

Mr. Gore (sen.): That is just what we have wanted to get at.

The Chairman: These are the reporter's notes: "The quality of the concrete was also anything but what it should be, as the Commissioners saw for themselves large stones were put in to save the cement all through it. Sometimes these stones, instead of being a foot or two apart, were actually in nests; and I shall bring evidence to show that in some cases they were put in by the barrow load." (To Mr. Lawson): This is the portion to which I think you allude?—No.

Mr. Lawson: You will also find the statement that barrow-loads of dirty stones were thrown in.

Mr. Blair: There is nothing there about Mr. Brindley having told Mr. Lawson.

Mr. Lawson: Yes, that is the part of it I took notice of.

Mr. Blair: Oh, yes! I beg your pardon, that is all right; we will come to that.

Mr. Lawson: I here and now emphatically deny it. Mr. Brindley is not a man to simply tell me of a thing of that kind; he would tell me in writing, as he did everything else. He found plenty of faults; it is the duty of an Inspector to find faults.

The Chairman: Well, Mr. Lawson, we are not getting on by this controversy, nor will it lead to anything.

Mr. Lawson: It leads to a great deal, sir.

[Mr. Skinner read the words used by Mr. Blair from the reporter's notes as follows: "Mr. Ussher will give evidence in support of this memorandum of Mr. O'Conor; and he will also show that Mr. Brindley told him that the Contractor tipped barrow-loads of dirty boulders from the excavation behind the building into the trenches in lieu of the material specified; that the architect's attention was drawn to the fact, but that the Inspector received no satisfaction from him."]

Mr. Lawson: Even had it been, I would have had it in writing, like all the other statements. It was of too much importance, a thing of that kind, to have been spoken of by word of mouth. The only occasion on which a fault was strongly urged by the Inspector has already been referred to: as to the concrete, and that was in writing; and as it has already been stated also, the concrete referred to was first condemned by Mr. Brindley. I supported him in this condemnation, and it was removed under his own supervision. A question also was raised about the downpipes. You will see by my letter of the 18th January, 1882, when I referred to these. This is addressed to Mr. Brindley: "I have yours of this date *re*

spouting, and in reply to same, have to state that the spouting of which I approved at Messrs. Clarke and Thompson's was 5in. by 4in., D-shaped, or 4½in by 3½in. inside. I preferred its being D-shaped to square; but the interior size was, at the least, 3½in., not 2½in. as you state those now delivered on ground. They are too small, and must not be used. I have just gone over to Clarke and Thompson's, and verified the correctness of measurement; if the heads are too small to get in between corbels, they will do secured under as per your sketch." . . . . That shows clearly enough about that. I gave these instructions: they were to be of the size specified; also that I preferred them D-shaped instead of rectangular, for the reason that the D-shaped, when placed in position, would offer less opportunity for the inmates to handle them or injure themselves by coming in contact with them, and they have always proved themselves amply sufficient in that respect. I wish specially to call to your notice that all the matters I have referred to, I have given testimony concerning—written testimony. I do not depend upon hearsay from this, that, or the other friend or person. These are the records of the building as it went, and which cannot be gainsaid—no getting over them whatever. No matters of opinion I am giving you, but facts, which have come before me, I say, as the building progressed, and they are now placed before you in the books. And now, and finally, I come to a rather peculiar portion of Mr. Blair's statement—namely, Mr. Blair's knowledge of what he calls "scamped foundations" in June, 1885—in June, remember, 1885. I have again to ask at this stage whether the letters I asked for yesterday have been placed before you? The letters—namely, between Mr. Blair and Mr. Ussher, on or about that date.

The Chairman: No.

Mr. Lawson: I wish them to be produced now.

The Chairman: We have none put in.

Mr. Blair: What date?

Mr. Lawson: They were referred to yesterday—three of them, and on that subject.

The Chairman: We have a letter from Mr. Ussher to the Engineer-in-Chief, but we have no letters whatever from the Engineer-in-Chief to Mr. Ussher.

Mr. Lawson: Well, those are the letters I want to have handed in. I wish all the correspondence about that produced. I am determined that they shall be produced, and I shall not go further until every letter is produced.

Mr. Blair: If you will mention the letters between two certain dates I will put them all in.

Mr. Lawson: I have put all my private letters in for the last ten years. I am not afraid to expose my letters to the world.

[Mr. Blair handed in letters from the Assistant Engineer-in-Chief to Mr. Ussher. (Exhibit No. 23.) Also a plan which Mr. Lawson asked for yesterday, of "cross-section at slip, Seacliff Asylum." (No. 24.)]

Mr. Lawson: That is the one on which I reported before the issue of Mr. Blair's published report of August, 1885. I reported, and he quoted part of it.

The Chairman: The tracing was sent to the Engineer-in-Chief in April, 1885.

Mr. Lawson: I say about it the trench herein referred to is shown in Drawing No. 2, cross-section of slip, Seacliff Asylum. You see it is admitted clearly in public documents that there is a slip; there it is, as far back as 1885, and Mr. Blair comes here to-day and tells us that there is no slip—that there was no movement in the foundations at all; that is the main part of the statement, that everything is caused by the deflection of ½in. in 72ft. That is the reason I want to produce that document. As far back as June, 1885, Mr. Blair gives us his sworn statement that he became aware the foundations were defective, and that it would be difficult to find a more flagrant example of scamping than such a discovery afforded him; that was in 1885. What, I ask, was Mr. Blair's plain duty with such a discovery before him, as a responsible public servant receiving Government emoluments, and in charge of so important a trust?—surely not to screen the scampers and their scamping; but, as a faithful public servant, to expose them as they deserved to be exposed. Does he do this? No. He walks about from 1885 to 1888 with it, so far even as his department is concerned, hidden away apparently. Gentlemen, you have the documents before you to prove that. There is Mr. O'Connor's letter to-day placed before you, which states that up to January of this present year nothing was formulated in this office as to Seacliff. Nay, more. Three months after this same June Mr. Blair publishes a report, which was laid on the table of the House, dated the 17th August, 1885. If you have not got it, here is a copy for each of you. In that you will find that he poohpoohs the importance of the slip; the whole thing at Seacliff was nothing except for the injury to the work at one point. He publishes that report, and he says there is not any deviation: and, amongst other things worthy of the notice of this Commission under the circumstances, he says it is quite clear that the movement in the ground has stopped altogether. You see he admits the movement, which he said at that stage had become so small as to be harmless; but still it is there.

Mr. Blair: That was on the authority of Mr. Lawson.

Mr. Lawson: No. You read the latter portion of this report.

Mr. Blair: Well, just read it.

Mr. Lawson: I was not going to read it, but I have no objection to doing so. I shall only quote clause 6 of the report, as it is the only portion which refers to this matter. Extracts from Dr. Grabham's reports are quoted. In November, 1884, he says, "I was sorry to notice that movement of the soil is still progressing beneath the female wing, as evidenced by cracked walls, falling plaster, and broken concrete pavement. This movement is evidently promoted by soakage of water from high ground at the rear of the building. It is highly desirable to provide against this soakage by laying down tar-pavement in the airing-courts for a width of at least 12ft. from the walls, and by providing proper drainage to carry away the rainfall from them." You will notice that this is Dr. Grabham's clear statement about the building—"the movement of the soil is still progressing." You see we have evidence of this from all quarters. Then the next extract is, "I have again to draw your attention to the structural defects mentioned in my former reports. Move-

ment continues to take place in the foundations of the female wing, in which a rent exists from roof to basement. Plaster is constantly falling, and alarming noises are at times heard in the timbers of the roof." (Inspector's report, May, 1885.) Now, Mr. Blair goes on to say, "this is the only matter connected with the asylum that might have assumed a serious aspect. As there is a good deal of slipping ground in the neighbourhood fears were at first entertained that the whole slope of the hill was on the move. I am glad to say these fears are groundless; there is general movement of the land——

Mr. Blair: That is a mistake.

Mr. Lawson: Oh! I beg your pardon, it is "there is clearly no general movement of the land." "The total length of the building is 570ft., and out of this there is only some 20ft. or 25ft., where the ground is not quite solid. After a careful examination of the building and ground, I came to the conclusion that, even in the small area affected, there is no great movement in any particular direction. The injury to the building is no more than might have been caused by irregular settlement in the foundations." You see he says they "might have been caused," not has been caused. "That being the case there will be no difficulty in preventing further damage. The impression, however, is that the movement has stopped. Dr. Neill, himself, thinks so, and Mr. Lawson, reporting to Mr. Ussher, the District Engineer, on the 6th July, 1885, says, 'I have now the honour to inform you that, from measurements recently taken on the spot, I am in a position to state that no movement nor further extension of cracks in wall have taken place since, in company with Mr. Blair and yourself, I visited the building and examined the same; in other words my former report as to this matter, of date 26th May last, is absolutely correct, namely, that the fracture in the wall, caused by movement of strata, has not enlarged or extended since a trench was sunk intercepting under-flow of water-drainage, twelve months since, under direction of Public Works Department.' Mr. Ussher, himself, under date 14th instant, says: 'From observations during the past few months, I have come to the conclusion that the cracks in the building have increased but slightly, if at all, during the past year, and I have no doubt the stone drain in its present position has been effective.' As there is an erroneous impression abroad on the subject, I may explain that the damage done to the building by the settlement is very small, not nearly as much as in several large buildings in Dunedin, of which no notice is taken. The north wing is not in any way affected, the whole of the damage being confined to about 25ft. of the ambulatory, between the north and second wings and the rooms overhead. I saw a good many cracks, both in the walls and plaster, but none right through the walls, and, although conspicuous enough on the plaster inside, no one walking past the building would notice the cracks. I cannot, therefore, understand on what grounds the Inspector makes the statement that 'a rent exists from roof to basement.' If such a rent exists, how comes it that I found this part of the building occupied by patients? And so far as I can ascertain, it was so occupied when the report was made. That the Inspector does not really consider the movement in the building serious, is shown by the simple remedy he proposes: 'putting down tar-pavements in the airing-court, and carrying away the rainfall from them.' It is quite clear that the movement in the ground has stopped altogether, or become so small as to be harmless. It would, therefore, be unnecessary to do anything further beyond repairing the cracks, were it not that recent borings show the ground to be soft. The drain put in at the back of the building is not deep enough to intercept all the water. Under these circumstances it is desirable, as a preventative to future settlement, to lower the drain. I think this is all that is required to give security."

The Chairman: Mr. Blair, who is the Inspector referred to—Dr. Grabham?

Mr. Blair: Yes.

Mr. Lawson: He says then, "It is clear that the movement in the ground has stopped altogether, or has become so small as to be harmless;" and he says, "all the repairs necessary could be done for £30."

Mr. Blair: That is perfectly wrong; it is a statement which has appeared in the papers, but it is entirely incorrect and false.

Mr. Lawson: I understood it was here.

Mr. Blair: No; it is not there.

Mr. Lawson: Very well; I beg your pardon. I withdraw the statement. I withdraw the statement altogether. In his report Mr. Blair admits that there was a movement in the ground. which he now denies. He further admits, inferentially, in 1885, that the drain put in at the back of the building, that is No. 1 drain, is not deep enough to intercept all the water; and, therefore, that it should be deepened; there is water there you see; and I ask now has he deepened this drain? Instead of deepening it, as he himself said in his report should be done, he permits the water—the very underground drainage which is causing all the damage—to pass along down the hill and by Nos. 2 and 3 drains directs it under the building, close to the foundations of the very building he proposes to save. I do not claim to be an engineer, but I claim to have a fair share of common-sense, for which I am grateful; and I do protest against this undermining of the walls of the Seacliff Asylum, which has been carried out under the direction of the Public Works Department of New Zealand, and that, too, without the knowledge and consent of myself as architect of that building, whose name and fame are connected with it. Gentlemen, you are architects yourselves, you are professional men; is it fair that to such a work with which your name and fame are identified, a thing of this sort should be done against your wishes and without your knowledge or consent. If some day the results consequent upon it should be felt, I am glad I have been able here and now to make my public protest. But, coming back again to the point, when, in June 1885, Mr. Blair became aware of the statements made here of defective foundations, and discovered that they had been scamped, I again ask what was his manifest duty in that case as a responsible public official? Certainly to report it to his department and bring the guilty parties, if there were any, to punishment as they deserved; but, no, he continues in friendly intercourse apparently with the very men who alone could be guilty of the scamping, if any ever existed, which I here and now deny. Mr. Brindley is here, a conscientious man, to speak for himself. I know I could take my

oath, for that matter, that Mr. Brindley would not pass defective work if he knew of it. He is not the man to do it; he would not, I know him too well. I have had ten years' acquaintance with the man, and honestly and truly has he served me while he was with me, and truly and honestly I believe he has served the Government. But Mr. Blair remains steadily untrue to his public duty; he is before you now to explain for himself how he came to obtain this knowledge so carefully hidden away in the stores of his secure Wellington quarters. If Mr. Blair believes what he now swears, he is manifestly incapable as a professional in the public service. But I do not think Mr. Blair does believe what he has stated. I am charitable enough to suppose that, being placed in a serious dilemma through his total neglect of repeated warnings, he finds it necessary to change his whole tactics and front as to Seacliff after he and all others in the Public Works Department who had any knowledge of the site had acknowledged that there has been a ground-slip and movement there; and, as a proof, I have shown to you it has been expressed clearly and forcibly in letters and documents, but much more forcibly still in pit after pit, trench after trench, and tunnel after tunnel, which have been put in there, and so undermining the building as I have already stated. No; I do not think Mr. Blair thought so much as he now says he did as to the scamping of the work; this is a new feature which has come up with him, he being placed in the dilemma I mentioned, and seeking a way of escape for himself, he now turns round and, after the manner of a well-known maritime creature which I shall not name, discharges a series of miscellaneous accusations against its architect, inspector, builders, and workmen generally, as if all had combined in one vast conspiracy to defraud the Government and the country, in the hope that in the midst of all this, with security, he might himself escape. I will not conclude at this time, as did Mr. Blair, by saying that he would offer no suggestion as to what further should be done at Seacliff. But I will conclude by urging most earnestly and respectfully that with all possible despatch the open or isolating drain or cutting—call it by what name you may—be executed, which I recommended eight years ago, and before the Seacliff building came into existence at all, and which, had it then been executed, would have prevented our meeting here to-day.

1981. *Mr. Blair.*] I wish to ask Mr. Lawson some questions. Mr. Lawson said that no reply had been received to his letters "by word or deed"; I took his words down?—No; I certainly admit that one part had been attended to.

1982. Now you withdraw it slightly. Do you say that no action was taken in consequence of these letters?—I say that action has been taken in the letters themselves.

1983. You say you have received no written reply whatever; but it would not be fair to put that question, for I have documentary evidence to prove it?—No official reply, sir. No.

1984. Did not Dr. Hector send you a reply to that main letter embodying the other two?—I have no recollection of it at all.

1985. You will not swear that he did not make a rejoinder?—I never saw it; he may have written a report and sent it to the Governor.

1986. The whole of Dr. Hector's report was a rejoinder practically, which rejoinder was duly forwarded him, and that rejoinder is duly acknowledged by Mr. Lawson in the papers?—I do not deny that at all: I am speaking of a reply from Mr. Blair. I addressed Mr. Blair, and no one else.

1987. Did not I send you back a reply to that?—I have no recollection of it. If I had such a document I should have remembered it. You may have sent the document, but I never had it in my possession.

1988. Do you deny your own signature?—I say I had no reply from Mr. Blair, and I say what I mean. Dr. Hector has nothing to do with it.

1989. Then you withdraw the statement in your evidence?—I say that I received no reply to my letter to Mr. Blair.

1990. I will ask you another question. Was that principal report of yours, that letter of yours which embodies the other two, with reference to the isolating drain, was that written of your own motion? I mean this report of 29th June, 1880?—So far as I know.

1991. Do you say that at that time you had nothing to do with Dr. Hector?—Yes, he was with me on the spot.

1992. I will ask this question: was this written on your own motion, or was it a reply?—I state in the opening paragraph.

1993. Was it a reply to Dr. Hector's report?—I did not look upon it as a reply to Dr. Hector's report.

1994. Was it a reply to Dr. Hector's report?—No, it was not a reply to Dr. Hector's report; it was written of my own motion.

1995. Then why did you acknowledge the receipt of my memorandum to you? What did that memorandum do?—I do not know.

1996. Did not that memorandum cover a report from Dr. Hector?—I presume it did.

1997. Did you initiate the correspondence at that time?—It was initiated before Dr. Hector came on the scene.

1998. That has nothing to do with it. On the 29th June, 1880, you wrote me a letter; did that letter arise out of previous correspondence?—You are merely trying to trap me.

1999. Was that letter a reply to Dr. Hector's report?—I see your trap, and I am not going to be trapped by you, my boy.

2000. If you see it there is no occasion to be afraid of it?—That is all the more reason why I should be afraid of it. The letter speaks for itself.

2001. I never can get a direct answer from Mr. Lawson. This is a question which can be answered, "Yes" or "No." I simply ask him again, so that it may be put on the records. Was that letter of Mr. Lawson's, of yours, sent in reply to a report of Dr. Hector's?—It was sent to you when you wrote enclosing me a report; the reason is there. I can give you no better answer. The letter speaks for itself plainly.

2002. Now we come to the letter which I call a private letter, but which you call an official letter, of the 2nd February, 1886. You say that that was an official letter?—Just as you like to take it.

Mr. Blair: Mr. Chairman, I really call your attention to the fact that I cannot get direct answers from Mr. Lawson.

The Chairman: I think you might give an answer, "Yes" or "No," to that.

Witness: What I said in my evidence was very distinct. I say that these official matters referred to in it lifted it out of the groove of its being a private letter.

2003. *Mr. Blair.*] I ask was it an official letter?—I maintain that it was not a private letter in the strict sense of the word.

2004. *The Chairman.*] What was your intention in writing it?—My intention was to draw his attention to that very thing.

2005. *Mr. Blair.*] Then why did you put it in the shape of a private letter?—Because there were other matters referred to in it.

2006. Was it intended that it should go on the file of the Public Works Department?—It would not have mattered to me.

2007. Why did you not publish the whole of that letter?—There is a blank which refers to other things.

2008. Was not the balance of that letter simply Dunedin gossip and news?—Yes.

2009. Would it have been right and proper to have put it on the records of the Public Works Department, and was that your intention?—I did not have any intention about it at all. I simply wrote the letter. Whether you classified it as a private document or a public document did not distress me at all. It makes very little difference whether you call it public or private so far as I am concerned.

2010. You said quite recently, with reference to this matter, that upon getting my answer to that letter you decided to publish the correspondence?—It was about that time.

2011. Did you not lead us to infer that the matter was open until you got my letter?—No; it could not be, as a matter of fact.

2012. Were these letters not actually printed in the Press before you wrote to me?—Certainly. I told you I intended to publish them, and I sent you them forthwith; and anything you said afterwards did not stay my hand. I do not stay my hand because you ask me.

2013. You referred a little while ago to a private and confidential letter; it had reference to Mr. Brindley's appointment. Was the object of that letter to say that a certain other person whom you and I thought incompetent and unsuitable should not be appointed? Had it anything to do with Mr. Brindley?—It had to do with Mr. Brindley. It was with the object of obtaining him as an Inspector.

2014. Was Mr. Brindley suggested by me as Inspector?—I do not know; I would not say.

2015. Mr. Brindley has been frequently referred to by you as a Government Inspector. Do you look upon him as acting independently to you?—Certainly; quite independently.

2016. And who then was his superior officer? Was I?—Certainly.

2017. Would you have allowed me to interfere with Mr. Brindley?—I never saw you do so.

2018. Would you have repudiated any interference on my part?—I knew very well you would not do such a thing.

2019. Did I or Mr. Ussher, or any other officer of the Department, have anything to do with him?—I do not say the Department interfered with him in any way.

2020. Do you say Mr. Brindley was acting independently of you?—Yes; because he was a Government Inspector.

2021. Could he reject work without your permission?—I do not say he could.

2022. Could he order extra work without your permission?—No, certainly not.

2023. In what way could he act independently of you? I want to know if he could act independently to you; would you kindly tell us in what way he could do so?—I do not intend to tell you.

2024. What were his functions independent of you?—As an Inspector of Government Works, of course.

2025. It is impossible to get answers to my questions. Will you kindly read your letter to Mr. Brindley of 5th June, 1884?—[The witness read as follows]:—"Dunedin, 5th June, 1884. Mr. A. T. Brindley.—Dear Sir,—Mr. Ussher has shown me your telegram *re* cement; he has made inquiries, and states that that in use by Mr. Gore is quite equal, if not superior, to White's or Knight Bevan's, and sees no reason why it should be objected to. I indorse this view. Please be good enough to remember that it is to me, and not to Mr. Ussher, you are to address any letters or communications as to the contract.—In haste, yours, &c., R. A. LAWSON."

2026. It is not with reference to the cement; it is the latter part of the letter I wish to refer to. [Letter handed in by Mr. Blair (Exhibit No. 26, 5th June, 1884).]—It does not need to be sent in; it is in the book. There are no letters of mine that are astray.

2027. You said that I informed the Commissioners that Mr. Brindley was a creature of yours?—No, I did not say you informed. I say you inferred.

2028. Will you kindly state what words they are, in my statement, you refer to?—If you read you will refer to them and see. I would like that portion of his statement to be read.

Mr. Blair read clause in his statement, as follows: "After the contract was entered into, Mr. Lawson applied to have a clerk of works appointed, to live on the ground and superintend the erection of the building in the usual way; but as the building was of so much importance, Mr. Lawson recommended that, instead of having an ordinary tradesman, such as is usually appointed, we should appoint a man of higher standing. He therefore recommended and named Mr. Alfred Brindley, who was his assistant in his own office, and who, I understand, had prepared the most of the plans for the asylum. Mr. Brindley was duly appointed. Mr. Brindley was paid by the Govern-

ment, but he was from first to last, in the matter of the building, entirely under the direction of Mr. Lawson, the architect. The Public Works Department paid his salary monthly, and as a matter of convenience, to avoid circumlocution, he sent in to the District Engineer, monthly, a short progress report, stating what work had been done during the previous month; but beyond that there was not communication of any kind whatever between the Public Works Department and Mr. Brindley regarding the building of the asylum; in fact, the thing is put in a very positive way in the specifications by Mr. Lawson himself. The last clause in the specifications reads: 'The whole works in all their departments to be completed to the entire satisfaction of Mr. R. A. Lawson, Architect, Dunedin, or to that of duly appointed inspector under same.' I wish particularly to direct attention to this, because it has been alleged that Mr. Brindley was acting, or had acted, under the direction of the Public Works Department, which is altogether incorrect. In a very voluminous correspondence, there were only eight letters from the department to Mr. Brindley. One is with reference to his employment, and another as to the transference of the laundry contract from Mr. Gore to Messrs. Gore, juns. The other six letters refer to excavation and drainage; there is no allusion whatever to the building. I have a list of these letters here, and they can be produced if required. As I have already stated and shown, the Public Works Department had nothing whatever to do with the carrying out of the works, or in giving directions to Mr. Brindley, or to the contractors, or to anybody else, except Mr. Lawson."

2029. *Mr. Blair.*] Where is the inference there? These are the exact words that were used?—It was an insinuation that I had put Mr. Brindley there to do my will.

2030. Is this a correct inference: does it infer that Mr. Brindley was a creature of yours? Do you now consider that as a fair inference?—A fair inference, but perhaps strong.

2031. Not a fair inference?—Perhaps a person is occasionally inclined to use strong words in a case of this kind.

2032. I now come to this point. You say that you resolved to publish the correspondence in spite of Mr. Blair's warning. You did not resolve to publish Mr. Blair's warning?—I wrote to you informing you, and your warning was of no avail whatever. I was not afraid of it. I have told you the circumstances under which it was published very distinctly—under provocation very strong. If you had a sense of right and wrong, you should know that.

2033. You stated distinctly, to refer to the letters again, that you received no answer. You said, "No reply has been received to any of the foregoing letters"—No, not a reply from Mr. Blair.

2034. Did I get the letter? Would you have taken a letter from Mr. Ussher as a reply?—No, I would not have taken it as a reply from Mr. Blair. I expect the man I communicate with to answer me.

2035. If you addressed a letter to the Minister, would he send you a reply?—That is a different case. I would not expect him to reply.

2036. Was not Dr. Hector's report a distinct commentary on your letters?—In my letters I asked for instructions, and these instructions never came. This I insist upon.

2037. You wrote me with reference to the isolating-drain on the 29th March, 1881. The letter has been put in, I think. Would you mind reading that letter? [The witness read as follows: "Sir,—On my recent visit to Seacliff building, now in progress, I find the work of brickmaking suspended in consequence of scarcity of water-supply; and, as this is a most important matter in connection with the buildings generally, I feel called upon to direct your attention to it without delay, so that the necessary steps may be taken for the storage of water at a sufficient elevation to command the whole building, as originally contemplated. I would further press the expediency of proceeding with the main back-drainage, which has been deemed essential, in order to isolate the whole block or site of the permanent building, so as to prevent any chance of ground-slips. The present dry season gives every facility for this work being done, but should heavy rains set in, without the principal portion of this work being accomplished, the ground around the new portion of the building will be rendered almost impassable, and damage may result to the foundations of work already done. Dr. Hector, in his report, laid much stress on the necessity for isolating the site. Therefore, I deem it the more urgent on my part to press the matter on your attention. The contract for the central block being now considerably advanced, I desire to remind you that it does not contain accommodation for any patients, but consists of reception-rooms, dining and recreation halls, kitchens, stores, and general offices, which are absolutely necessary for any of the wings which may be built for accommodation of patients. The requirements of the institution are very pressing. . . . . R. A. Lawson."]

2038. Would you mind reading the published introduction to these letters; here it is, you will see if it is correct. It is dated 3rd December, 1887. Mr. Lawson says: "Two years before the portion of the building affected by the ground-slip was erected I urged the necessity of drainage-works being carried out in order to prevent the said slip or movement, and pointed out what would occur if such matters were not done. At every available opportunity since I have called attention to this matter, and, although a partial stoppage of the movement was caused for over twelve months by a small portion of drainage-works being carried out, I still urged that the whole work was necessary for the security of the building; and, having previously proved the complete success of similar protective works at the temporary asylum on similar ground adjoining, I have the utmost confidence in asserting that nothing else will save the portion of the permanent building affected from further disaster."

2039. Did you get an answer to this letter of the 29th March?—I am not aware of it.

2040. Did you communicate with me on the subject of the isolating-drain, any time, until the cracks appeared in the building?—I do not remember at this moment.

2041. Have you any idea of having communicated with me at that time; have you any notion of having done so, because it is scarcely possible to have been silent for three years?—No.

2042. And no further attention was directed to the whole thing?—No.

2043. You wrote to me on the 29th March, and no action was taken. Was it not your duty to

appeal to me as a public officer, if you felt so strongly upon this?—I had spoken as strongly as I could have done, and had received no answer. Did you expect me always to be hunting you after the way I had been treated? Do you think I was going to insult myself?

2044. Did you ever complain that you had no answer to your letters until you published this correspondence; did you ever complain to me officially or privately?—It is sufficient. I had good cause for complaint that you gave me no——

The Chairman.] I think if you adhered to the matter and replied "Yes" or "No."

2045. *Mr. Blair:* I ask this question, did you ever, officially or privately, complain to me of not having got answers to these letters?—I do not know that I did. I do not know that it was necessary.

2046. You say you felt insulted?—I felt as any other man, who having written strongly on a subject, and received no answer, would have done; it was not his place to run after the man and hunt him.

2047. You confess that you were always in private communication with me. Would it not, if you were a friend of mine, be a natural thing to say I have not got answers to those letters?—I did not suppose it was necessary to tell you that.

2048. You say you felt strongly on the subject?—I did feel strongly on the subject.

2049. And you cherished this in your bosom, this rankling sore, and still you did not speak a word of it to me?—You were away in Wellington most part of the time.

2050. Can you prove that I was away in Wellington?—That has nothing to do with the slip in any way.

2051. Now, did you give any communication, privately or officially, to the Department or myself, for three years, of your views with reference to the isolating-drain?—I did not, and for a very good reason.

The Chairman.] Well, never mind, Mr. Lawson; we shall never get on at all if this kind of thing goes on.

2052. *Mr. Blair:* Did you suppose I would have taken offence if you had said to me that that drain should have been put in?—What more could I have said?

2053. Do you think I would have taken offence if you had suggested to me that the drain was necessary?—I do not know whether you would or not. I did my duty, and that is where I left it.

2054. And you were silent for three years?—Yes, I was silent, and suffering too.

2055. Doing the martyr?—Yes, and the public knows it.

2056. Did you write that letter of the 25th April, 1882—that was in the three years' silence—commencing "I desire to bring under your notice," &c. Did you write me that letter?—Yes.

2057. Did you then apprehend damage?—Yes.

2058. Do you consider that that comprehensive drainage-scheme would cure or prevent these indications of unequal settlement?—Yes; by removing the water from the foundations.

2059. Will you please to read my answer to that letter dated 19th May, 1882?—[The witness read as follows: "The full purport of your remarks on the question of drainage did not strike me till this moment, otherwise I would have sent a special reply sooner. I do not concur in the position you now take up in the event of a comprehensive drainage-scheme not being carried out, for you have repeatedly informed me that any indications of unequal settlement were not attributable to the slips or want of drainage; and, furthermore, I understood that both you and Dr. Hector were now quite satisfied of the suitability of the ground. Arrangements have been made for laying a pipe to take away sewage; but, as you pointed out when I was reporting on Dr. Neill's memorandum, it would not be advisable to put any drains round a building till it is finished. Keeping the foundations free of water during the erection of the building, if that is what you allude to, is clearly a matter for yourself and the Contractor. I shall be glad to get from you further particulars of what you want done."]

2060. That was an urgent matter when you wrote me?—It was in regard to the foundations; the centre building was then complete, I believe.

2061. It was an urgent matter; the terms of your letter to me implied urgency. It was an urgent matter?—Yes.

2062. In the last clause you say you would not be responsible for the consequences, and that unequal settlements were taking place. That was an urgent matter?—Yes; a matter to be attended to.

2063. Then I answered it after the usual official delay. You will find that in the last part of the letter. I said I shall be glad to get particulars of what was to be done: did you give particulars of what was to be done? Did you ever answer that letter?—I know I answered it.

2064. When did you answer it?—I do not know that I specially answered that letter.

2065. Have you any idea that you answered that letter?—I do not know whether I answered it or not.

2066. You will not swear whether you answered that letter or not, although the matter was urgent. Then, when did you practically answer my question as to what was to be done? When did you bring the matter up again?—I could not say at this moment. I know the complaints were initiated and begun by myself.

2067. That letter was dated the 19th May, 1882. Did you communicate with me with reference to the drainage between that and the 20th March, 1883?—I could not say. I may have communicated with Mr. Brindley.

2068. Did you answer this letter, in which I repudiated all responsibility, and asked you what you wanted done? Did you answer that?—No: that was referring to the comprehensive drainage-scheme wholly and solely.

2069. Did you have any communication with Dr. Hector on or about that time, or have you any recollection of an interview between Dr. Hector and yourself?—No, not at this moment; until my memory is refreshed, I have none.

2070. You said you had never resiled from the original position taken up with reference to the isolating drain: can you explain the cause of your silence during the three years?—Because there was no motion taking place, and nothing directed my attention to it; I was done with my work; I had reported to Mr. Blair, and I considered my duty was done; it was on his shoulders then to act, not mine.

2071. Now, during the whole of that three years, as I said before, did you in any shape or form either in innuendo or insinuation, did you suggest the isolating-drain?—I communicated with many others; I may not have to you. I thought I gave you quite sufficient warning.

2072. Then your silence was due to the discourteous treatment received from me?—Did you think I was going to hunt you with letters? I say that there has been no alteration in my position in regard to the drain, not to this hour.

2073. Are you prepared to say that this silence was not caused through an interview with Dr. Hector?—There was no interview.

2074. Then the silence was simply in consequence of your desire not to offend me?—To a large extent it was, and because I had previously given you plenty of warning.

2075. Will you swear that that was the reason?—I had given you sufficient warning—that is what I say. I am not obliged to hunt you with letters.

2076. Do you swear that the fact of your not getting letters had anything to do with it?—I do, most decidedly.

2077. Did you think it was *infra dig.*?—I say that I gave you repeated warnings, and you took no notice of them.

2078. There have been other matters brought up. You have been in daily communication with me almost, or every week: was it right for you to have this rankling in your bosom, and pretending you were my friend all the time?—There was no rankling about it. It might have turned out that there was no great need for it.

2079. Then that idea crossed your mind?—No, not to any extent. I was always afraid of that same thing.

2080. And although it was so strong in your mind you kept it to yourself. You say I poohpoohed the whole thing?—Your report poohpoohs it very clearly.

2081. Did I poohpooh the isolating-drain?—No, I am not saying so. You never mentioned it. I am saying you poohpoohed the movement as a whole.

2082. I will not ask you the question, but I do not think you ever mentioned the isolating-drain to me. Did you ever mention the drain to me for those three years?—I cannot tell you.

The Chairman: I do not know what Mr. Blair wants to elicit from the witness.

Mr. Blair: If he will not answer me, how can I get it?

2083. *Mr. Blair.*] Would you mind looking at that plan of the building that was put in just now, No. 2? That is the section of drain, the present one put in; is that put in in accordance with your sketch?—No.

2084. Show us the difference?—The ground was not filled in.

2085. Did you not contemplate the possibility of its being filled in?—No.

2086. Did you not say anything about a tunnel?—Yes.

2087. How are you to keep the tunnel: with brick?—Yes; anything you like.

2088. If you bricked this tunnel, you say it was to be left open: will you tell us how you purpose to provide for the drainage and keep the tunnel open?—You will construct the tunnel and let the water through.

2089. How will you let the water through?—You can have plenty of weep-holes.

2090. Is that the only difference between it and this one?—I will not say that.

2091. Will you look at your sketch?—It is only a rough sketch.

2092. You state that the trench herein referred to [it is a letter to Mr. Ussher] is shown on Drawing No. 2 accompanying Mr. Ussher's late report on this matter, and headed "Cross-section at slip, Seacliff Asylum." "This work is in the direction of the main trench or drain advised by me from the first." I suppose that is correct as far as it goes?—Yes.

2093. In that same letter you still urge one deeper and further back?—Yes, as is shown here.

2094. You mean as shown in Mr. Ussher's plan?—Which Mr. Ussher showed at the time. I only saw this plan for a very few minutes.

2095. How far did that drain go behind the building—that is, the plan that Mr. Ussher sent in his report, and which you refer to in this report?—I do not remember.

2096. Can you tell us how far it went past the building—this one now shown on Mr. Ussher's plan: the one that has been put in?—I could not tell you. If this is intended to be indicated by the blue line, the section is the one I recognise. I do not know any other: it simply went further back.

2097. Does the section tell you how far the isolating-drain goes?—No.

2098. Was it intended to be taken the whole length of the building?—I do not know.

2099. How can you give an opinion if you do not know?—Because it was further back. I suppose it was to be continuously further back. I did not think it was to come near to the building.

2100. Would you kindly tell us the depth of that drain from the top?—I do not know what is the scale.

2101. Twenty feet to the inch?—The excavation would be 45ft. deep—not to the bottom, but to the solid.

2102. Did you ever calculate what the cost of that work would be?—I do not know.

2103. You spoke about cuttings in Queen and George Streets: would this be as big as the Queen and George Street cuttings?—It might be; I could not tell you.

2104. If these cracks had not appeared, would you have revived the question of the isolating-drain?—I do not suppose there would have been any necessity for it. No, not in that case.

2105. Having been revived, and as the isolating-drain is carried out very much in the way you originally proposed——?—Which isolating-drain? There are two drains shown here on this plan, but none of them are carried out in the way I proposed.

2106. You said this first one is carried out?—I mean that it goes towards or somewhat in the direction of.

2107. If that had been carried along the building, do you think it would have stopped the slip?—I do not.

2108. If your drain had been put in, do you think it would have stopped the slip?—I do, firmly.

2109. Do you think the other drains are doing any good?—No; I think they are doing harm.

2110. How?—Because they attract the water to the building through being too close in to it.

2111. Do you not think they lead the water away? Where does the water come from?—From the whole strata above and behind. In the first instance they draw it to the building.

2112. To the building—up hill?—They draw it to the building from the drains being too close.

2113. Does this water cross to the building in such a way as to do injury to the foundations?—Very likely it does.

2114. Do you submit that as a professional opinion?—I say bringing the water so close to the building is apt to slop the ground. The water will come in at one side and flow across that drain and rise.

2115. Do you say that the water will be attracted by that drain, and will cross the drain and rise 20ft. up to the building?—I never did believe anything about it.

2116. Then will you explain your previous answer?—I say that by placing the drain so close to the building the land is still influenced by the wet. You attract all the water to that one point, and therefore there is a danger of that softening the ground and causing a fracture at that point.

2117. Have you ever seen such a thing?—I have seen it often.

2118. Do you tell us now, really and candidly, that the water really crossed the drain? You say that the water is attracted to that drain?—I say that the water is attracted to that drain, and so influences the foundations, which are 17ft. above it. I say it should not have been placed so close to the building at all.

The Chairman: I think we have had enough on that subject.

Witness: Yes. Well, of course it is only a matter of opinion.

2119. *Mr. Blair.*] Are you aware that there is any settlement?—No, there has none been proved.

2120. Will you swear that that building has not settled down in any place in the foundations?—No; to my knowledge there is no subsidence in the foundations of that building. I take the opinion from my experience.

2121. You rely on your experience?—Yes.

2122. Why do you take it on one point and not on another? You do not know of your own knowledge that the building has subsided?—No, I am not aware of my own knowledge whether there is settlement in the foundations.

2123. Can you swear that it has not settled?—To the best of my belief it has not.

2124. Did you take levels yourself?—No, Mr. Brindley did so. I believe I was with him at the time.

2125. Did you do it yourself?—I cannot swear that. We were together. I believe Mr. Brindley did so. Mr. Brindley will be able to say that.

2126. You consider, according to this printed memorandum of yours, that it was necessary to carry this isolating-drain all round the building?—Yes.

2127. Did you think so in December, 1887?—Yes.

2128. How do you reconcile the fact in this private letter of yours to me?—I thought you understood I was referring to my report.

2129. You state in the introduction to your published letters of the 3rd December, 1887: "At every available opportunity since I have called attention to this matter, and although a partial stoppage of the movement was caused for over twelve months by a small portion of drainage-works being carried out, I still urged that the whole work was necessary for the security of the building, and having previously proved the complete success of similar protective works at the temporary asylum on similar ground adjoining, I have the utmost confidence that nothing else will save the portion of the permanent building affected from further disaster." Does that imply carrying out the whole scheme of the isolating-drain?—Yes.

2130. Does it say the whole or portion of the building was to be secured? You do not say nothing else will save the building. You were not talking of the whole scheme that was necessary, but the whole scheme as originally proposed by you?—As far as I know of it. You must remember the whole of it was under heavy bush at the time.

2131. It was under heavy bush in 1887 as well. Do I understand from you that you attribute the whole damage to the movement of the north wing?—Yes.

2132. Do you believe that the north wing has moved forward 16in.?—I believe according to the measurement of your experts and from their statements.

2133. Do you believe the wing has moved 16in.?—I do.

2134. Do you think it was possible for a building 150ft. long to go 16in. without showing big cracks?—I do.

2135. Will you cite a case of a building moving forward 16in.?—I cannot tell you. I know buildings have been reported on.

2136. Can you cite any similar case in any part of the world?—No, I cannot.

2137. Is there no record of it in any engineering works?—I do not know—I have not studied the matter. I have not access to engineering works, but I quite believe it possible.

2138. Do you believe that if a large sum of money was placed at your disposal you could take that building forward without showing more cracks than are shown there now?—Yes, in the course of time.

2139. How long has it been going on thus?—From the time the cracks appeared. I do not know how long; it has been years.

2140. Do you believe that that building is moving steadily forward now?—I do.

2141. Do you suppose this ambulatory was moving forward? Will you explain how this building is moving forward?—How can I explain?

2142. Will you explain the direction of the movement?—I do not wish to explain that. Your experts should explain it.

2143. But can you explain the direction of the movement?—I never surveyed it, nor did I ever measure it.

2144. Is this movement parallel with the building?—I will not take upon myself to answer that.

2145. Is it possible for it to move downhill without showing a very large crack where the other parts of the building are standing still?—Quite possible.

2146. How?—The building explains it. It explains itself by cracks and distortions being distributed here and there all over the north wing.

2147. Could you pull down this wall to the middle of the ambulatory-wall at the north end, and not show a large fracture?—Certainly you could.

2148. Do you give that as a deliberate professional opinion?—I say that the cracks could be distributed all over the surface of the wall.

2149. Then the cracks would appear in a regular curve? How do you account for the large cleft that shows in the curve between the back wall and the middle wall?—A wrench.

2150. What is the cause of the wrench and of the cracks?—My dear sir, if I could tell you that I would have the power of the Almighty. I say that your experts assert it, and I believe them.

2151. Well, now, do you know there is a line of water-pipes behind this building?—I suppose there is.

2152. Would it be possible to move down these water-pipes that are under high pressure without causing a leak?—No; I could not tell you that.

2153. Have you had any experience in that kind of thing?—No.

2154. There is a line of drain-pipes all along the front: if you found that these down-pipes were quite intact, and had never leaked, would it be possible for them to have gone down 16in. in the ground?—Yes.

2155. Is there any indication in the ground of a forward movement?—Yes; as in the north-west angle.

2156. How much is it?—About 4in.

2157. The drain-pipes are immediately behind that? Will you not admit that they are behind it?—If you say so.

2158. In this movement in the building, is there any indication to show where it begins and where it ends? Can you say where it begins?—No, I would not say where it begins.

2159. Is there any indication to show where it ends?—No; it is beyond my power.

2160. If I bring an expert here to show that the building has moved 1in. since 1884, would that upset your theories?—No.

2161. If I bring experts. If I prove to you that that building has not moved, what would be your theory then?—A movement in the ground.

2162. If I proved that that building is exactly where it was, what will you say to that?—I say it is a movement in the ground.

2163. But it is not a forward movement in the building?—I will not say that. Have you proved it was there in 1884?

[Mr. Blair put in a plan showing the cracks as they appeared on the 17th February, 1885. (Exhibit No. 27.)]

2164. I should like to ask you, with reference to the details, did I understand from you that all the main details were prepared by yourself?—Yes.

2165. I think you said by your own hand?—Chiefly by my own hand, yes.

2166. And you said you would not look on the building as your own if you did not do so?—Yes.

2167. Have you any idea how many sheets of details yon prepared?—I could not say that; I suppose about—I could not remember them.

2168. You prepared one of the towers?—Yes.

2169. Is there any other one that you prepared?—Oh, yes!

2170. Can you give us any idea—was there a dozen or half-a-dozen?—Yes, fifty.

2171. You prepared fifty?—Yes, I think so. I will not swear to the number.

2172. Somewhere about fifty?—I should say so.

2173. Did you send these to Mr. Brindley?—Yes, usually.

2174. Are you aware that Mr. Brindley prepared a great many?—I am quite sure he did; I said so.

2175. Have you any idea how many?—No.

2176. Can you give us the particulars of those that you prepared, what they were?—Oh, yes!

2177. You can?—Yes.

2178. Will you furnish them?—Yes, I will bring them along if you like; but I will not say these are all I did prepare for all that.

2179. Is this plan, the original contract drawings, sufficient to lay off the foundations by?—Yes.

2180. It is?—Yes.

2181. Was it not necessary to make another drawing?—Not that I am aware of.
2182. Could you lay off the building from that plan?—Yes.
2183. Without any further plan than that?—Yes.
2184. Footings and everything else?—Footings and everything else. I never was asked for any other to do it by anyhow.
2185. Would you mind showing me the letter of the 5th July. 1881, to Mr. Brindley? [Letter produced.] "Be good enough to carefully make up same at earliest convenience, and also make no further deviation from contract at any point without obtaining my written authority." That is your instruction given to Mr. Brindley in July, 1881?—Yes.
2186. But on the 8th December, 1881, you practically leave the whole matter of the footings in his hands. You say, "This is a matter which must be left to your own discretion, with above general directions." You then leave the whole matter to his discretion?—Yes, certainly; because I was not on the spot: I could not see the foundations put in.
2187. This is a very important building to have erected—an enormously important building; I should like to know how often you were there?—I could not tell. As often as I was required.
2188. Were you on the ground once a month on the average?—More than that.
2189. If I have evidence to show that you were not there nine times in one year, what will you say?—I should say that was simply absurd, unless the works had been standing still in that year, or something of that sort, so that there was nothing doing. My letters and the general tone of them will show anyone that I was attentive to the work. There would very soon have been some words of it if I had not been.
2190. In the matter of these foundations is it usual to give such large discretionary powers to the Inspector?—It is most necessary when he is on the spot and the architect is absent.
2191. Is it not the practice in architecture, as well as in engineering, that in the matter of putting in foundations the highest authority available is always consulted?—Yes, certainly. I expected Mr. Brindley, if he was in any doubt, to consult me.
2192. Were you consulted about these foundations to be put in?—Not that I am specially aware of.
2193. Was your attention not directed by letter?—If it was it will appear. Give me the date of the letter, and I will soon see.
2194. This is the letter of the 13th December, 1881. Did Mr. Brindley not direct your attention to the foundations of the north wing not being right?—Yes. "Seeing that there is a question of the foundations of the north wing not being right, would it not be as well that some arrangement be made to do away with the packing altogether?"
2195. Read the rest of it.—Replied to same day.
2196. He says, "Mr. Gore wants the stone put in about 3in. apart, which is simply ridiculous, and that too with 2in. metal?"—Yes.
2197. He directed your attention to that foundation?—I read the reply, I think.
2198. Yes, you read that reply. You replied to this letter the same day, but you gave no specific answer with reference to this question about the foundations being bad?—That part of the letter you mean?
2199. Yes?—No; it does not seem to have attracted my notice here.
2200. Then Mr. Brindley wrote directing your attention to this bad foundation, and you did not take any notice?—No, he did not say bad foundation; he said simply the question of the foundation not being right.
2201. He directed your attention to it?—Yes. I may have taken notice of it, but I have not anything in writing about it, so far as I know in this letter.
2202. Although you answered it the same day?—Yes. I may have spoken to himself about it personally; evidently I did not refer to it in the letter. I cannot tell you whether I did or not. I am unable to say. But I do not look upon the packing not being properly put in as a source of weakness at all.
2203. In this letter you allow the packing to be a third of the whole walling?—Yes.
2204. Do you consider that sufficient?—I think that is a fair average.
2205. A third in thin walls?—That is speaking of the walls we were dealing with.
2206. You think that sufficient?—It is a fair average.
2207. Do you think it sufficient in a place where the Inspector directed your attention to the foundations being bad?—Yes.
2208. Quite sufficient where the foundations were bad?—A fair average.
2209. As you relied on the Inspector's judgment in the matter of the foundations, why did not you accept his suggestion to do away with the packing?—Because I had a judgment as well as he had.
2210. And you thought in this case his judgment was at fault?—I did not say that. Every man has a right to his own opinion.
2211. But you did not accept his opinion?—Not in that case. I will not say, for I do not know whether I answered it or not. You asked me whether I answered it, and I say I evidently did not do so in writing the same day.
2212. Now, with reference to this question of scamping, you were rather severe upon me in saying that I was guilty of a dereliction of duty in not bringing the matter of scamping before the public and before you when it was first discovered in 1885: will you point to the part of my statement which alludes to the scamping at that date?—You say you first became aware of the defection in the foundations at date; that is what I mean.
2213. But did I say anything about scamping at that date?—It followed immediately on that.
2214. Did I make any reference to scamping at all except in connection with the foundations under the front windows?—It was the foundations I meant; that is what I referred to.
2215. You say I concealed this thing—carried it about in my bosom for three years. Did Mr.

Ussher, when this difference was found out in the footings—the discrepancy between the contract and the work as actually carried out—did Mr. Ussher not communicate with you on the subject? —Of course. I read the letters Mr. Ussher wrote me.

2216. Very well then, did that look as if I carried the secret in my bosom for about three years?—I do not know. It was not me you told anything about it.

2217. The Department has been accused of concealing, and I am anxious to remove that?—I cannot do it; you will be able to do that yourself.

2218. I want to ask Mr. Lawson whether this was concealing when he was at once informed of it?—I was not informed of it.

2219. Did Mr. Ussher not communicate with you?—No, not about that.

2220. I will put Mr. Ussher's letter in?—I put the letters in; they are in now.

2221. The letter in which he states there is a step which causes a reduction of some inches from the depth of the concrete shown on the plan. We at once communicated with you on the subject?

Mr. Gore: Will you kindly say which you mean?

2222. *Mr. Blair:* The ambulatory walls. I wish to show that we informed Mr. Lawson whenever we discovered it?—The letters I received from Mr. Brindley I put in and read, and they show nothing about it.

2223. This is not Mr. Brindley's, it is Mr. Ussher's; in 1885 we communicated with the architect on the subject. With reference to the so-called scamping, do you consider the concrete at the bow-windows in accordance with the contract?—No, I do not.

2224. What would you call that—scamping?—No, I would not.

2225. What would you call it?—I should call it a misadventure, from the look of it. I will explain what I mean. These trenches were cut and left, say, during the night, and in the morning the workmen would begin putting in the concrete, probably without looking to see whether the trenches had swelled in the wet anywhere. Mr. Brindley might not have been present just at that moment, and they might have gone on putting in the concrete without noticing it, and the bulge in the clay is represented by the hollow in the concrete now. That is what I should say it was, and it is the most likely thing I can think of.

2226. That is the probable cause?—The most likely and probable cause.

2227. Would it not be very strange to find the same bulge in both windows?—I do not know that it is. They are jutting pieces that probably would not be looked at with so much care as the main walls. It might happen in five minutes' absence, and no one ever have the opportunity of seeing it. Mr. Brindley will be able to answer the question. That is my explanation; I have not asked any one about it.

2228. Is that the kind of work you intend to get by treating contractors in a quiet, kindly, but firm manner?—You need not ask that question; that is simply silly. I am not here to reply to nonsense.

2229. Did you notice a big boulder lying in the concrete of the north ambulatory: we all saw it?—Yes.

2230. Would you consider that in accordance with the contract?—I cannot say my attention was directed to it. I heard you speaking of it afterwards, but I did not notice it.

2231. Suppose we found a boulder 15in. in diameter lying in the concrete, would you consider that in accordance with the contract?—It would altogether depend. It might be such a large boulder that it would be very injudicious to remove it. I do not remember about the thing. Mr. Brindley will explain that also, I have no doubt.

2232. In connection with this north wall and the bad foundation?—Which north wall?

2233. The north ambulatory. Did Mr. Brindley ever suggest to you the building up of the arches in the ambulatory in order to make a better job?—Not that I remember. He may have done it. I would not say he did not, but I have no remembrance of it.

2234. Did Mr. Brindley, with the object of making these pillars in the ambulatory stronger so that they would carry a heavier weight, get them built in cement instead of lime-mortar?—It was done.

2235. Was it done upon your suggestion or Mr. Brindley's?—I do not know whether it was done at Mr. Brindley's suggestion or my own, but it is specified that any part that was required should be so done.

2236. Is that specified?—Any part that is necessary.

2237. Could you under the contract have had all this done in cement instead of lime-mortar?—You must carry out things in reason.

2238. Could you under the contract have ordered the Contractor to do any portion you liked? —If Mr. Brindley or myself considered it essential that it should be done.

2239. Would you kindly point out the clause of the specification?—It says "portions of the building may be built in cement." You know it says it, do you not?

2240. No, I do not?—Well, it says it then.

2241. Will you kindly point it out?—I do not notice it. Anyhow, it was our understanding in the matter.

2242. Your understanding?—Yes, and from the terms of the specification.

2243. It was a very large item to have simply an understanding on?—Oh, no! I do not think so, because we were not unreasonable in the matter. Any parts specially requiring cement and additional strengthening. At any rate, it was done. I would not say, nor can I say, that it was done at Mr. Brindley's suggestion or mine. I believe Mr. Brindley did suggest it.

Mr. Skinner: It appears in the specification under the heading "Grates and ranges."

2244. *Mr. Blair.*] Could you under that insist upon the Contractor building the pillars of the colonnade in cement?—I may say, that these headings I am not responsible for at all; they were put in in a different way from what I intended.

2245. Who put them in?—I do not know.
2246. Who signs the specifications?—I remember, that at the time the thing was not quite arranged in a manner that I was pleased with.
2247. Are you not responsible for the headings?—The headings I do not remember arranging in this way.
2248. Are you not responsible for the headings?—I have to be now, seeing that my name is at the foot of it. "The upper portions of the and particular parts of the work to be built in cement-mortar as specified." I do not say that the specifications are perfect, any more than my plans. I have never been able to make perfect plans yet.
2249. Did I understand from you that the back wall—the dotted line—was under the contract not to be carried out?—Not to be carried out throughout where not necessary.
2250. Will you show how that can be from the plans?—You will see from the plan itself, the one turned over.
2251. This dotted line?—Yes.
2252. Is that wall not shown on the cross-section?—At points it is shown it would have to go down.
2253. And not in other points?—I do not say that at all.
2254. Could you build that wall upon the edge of a cliff like that?—No; I think not. I should never have thought of it.
2255. You say here in a letter to Mr. Brindley "The back wall that is shown by a dotted line on the plan must be reckoned to have been in this category." That is a letter of the 28th April, 1882?—Read the whole letter. [Letter read.]
2256. Did you intend to pay for that back wall as an extra?—No, certainly not—not all of it; the sections shown there would go down at these points.
2257. Very well; you asked Mr. Hay a question with reference to that back wall; you asked him what was the meaning of this dotted line along the back elevation?—I did.
2258. Now, I ask you the same question: what is the meaning of it?—It shows the probable depth of the foundations.
2259. All along?—Yes.
2260. One uniform depth?—Yes, the probable depth—the average depth.
2261. Take this cross-section "I J?"—That is the one referred to.
2262. That line, I understand, corresponds with this line here, the dotted line in the back elevation?—I am not aware whether it does.
2263. Will you tell me whether it is so?—I cannot; you can tell by measurement,
2264. Can you tell by measurement whether that line corresponds with this one?—There is not a great deal of difference.
2265. They are practically the same?—Apparently they are.
2266. That line is the depth of the foundation at the back wing—that also corresponds with the back elevation?—Apparently so.
2267. Then, where are those bricks shown?—What bricks?
2268. In the foundation here, in the elevation section line "I J" in the back elevation, the footings are shown level there; would that be correct as regards the portion of the building where there are no projections?—The section would guide that.
2269. The back elevation would not be correct?—Not as regards that portion.
2270. You said in your evidence that in consequence of the change of site it was necessary to measure the foundations?—Yes.
2271. Could they not have been plotted on the new sections?—The new sections of the ground, so far as I know, were not taken.
2272. They were taken?—At any rate they were measured as they went on.
2273. But they might have been plotted upon the fresh sections?—I dare say they might have been.
2274. There was something said about plenty of good bricks being condemned, and occasionally second-class bricks allowed?—I do not know much of the second-class bricks being allowed. The bricks Mr. Brindley referred to I should look upon as average good bricks, as good bricks as were used generally in Dunedin. They were pressed bricks, and they were as good, and perhaps better than the ordinary hand-made bricks made in Dunedin, but not so good as the others that were there: the first-class pressed bricks put in the building.
2275. Are you aware of large quantities of bricks having been taken away by train or cart from the building—700,000?
Mr. Gore: What was said was that 4,700,000 bricks were made on the ground, and that about four million were used on the building.
Mr. Blair: Then the balance were disposed of otherwise?
Mr. Gore: Yes.
2276. *Mr. Blair.*] Do you know, Mr. Lawson, of your own knowledge, how much was condemned?—I could not tell the number. They were condemned by the kiln chiefly I think. As I said, there was slaughter amongst the bricks, and no mistake.
2277. Now the question has come up of your not backing up the Inspector?—You said that: nobody else has said that that I know of.
2278. I will ask you to read this letter—a letter from Mr. James Gore to Mr. Brindley: "I saw Mr. Lawson to-day, and asked him about the bricks, and he said that at the time he thought some of them would do, but did not say anything before Mr. Blair, but thought to leave it to you. He says you may let them use the best burnt of them, and I am to get the other kiln burnt as soon as possible. So you will please let them pick out the best of them, and I will be out on Tuesday.—W. J. Gore." I will put in the letter?—That has nothing to do with me.
The Chairman: What is it supposed to show?

Mr. Blair: It shows that the Contractor was in the habit of getting Mr. Lawson to pass what Mr. Brindley would not do.

Mr. Gore: Has the evidence Mr. Blair is now extracting anything whatever to do with the object of the Commission? As I understand, the business of the Commission is to inquire into the cause of the cracking of the building. That, I understand, is attributed to the sinking of the foundations. I do not know the object of this.

The Chairman: It is a question as to the quality of the bricks.

Mr. Lawson: Mr. Gore may imagine what he likes, and write what he likes: I am not responsible for that. [Letter, Gore to Brindley, put in and marked "28."]

2279. *Mr. Blair.*] There is just one question or two more. Reverting to the big-slip theory: you said you believed the whole damage was caused by a big slip?—I am not going to say a big slip. I say a big slip or movement of the ground.

2280. That is, carrying the whole building with it?—Apparently not the whole building.

2281. The whole of the north wing?—I cannot say even the whole of the north wing, but apparently.

2282. That is because one part objects to go. You do not hold that the whole of the north wing is going?—It has moved apparently. I am simply looking at the thing as it stands, the same as you do. I am not going to make an assertion that it is so inevitably.

2283. You made a very strong assertion?—So I do as far as my judgment carries me.

2284. You said the whole building moved?—No; not the whole building.

2285. The whole of the north wing, is not that the case?

The Chairman: I understood the witness to say the north wing had moved bodily.

Witness: That is, a portion I mean of the north wing, or the cross-block of the north wing.

2286. *Mr. Blair.*] Do you believe the whole of the north wing is moving bodily downhill?—It appears to have done so. I would not say that all is moving at an equally rapid rate.

2287. If that moved would not cracks appear in the north wing so soon as the movement began?—I have already said it is quite possible the hill could move without showing these signs. I have already said so.

2288. You said in your evidence that I had held the view that it was a ground-slip?—It is your reports I go by.

2289. What statement—what report?—The report for 1885.

2290. Is that the only one?—That is the only one I can put my finger on. I can only take your words for it.

2291. Do I say in that report it was a ground-slip?—You refer to it certainly as a ground-slip.

2292. No, I do not refer it as a ground-slip?—"Movement of the ground"—it is the same thing.

Mr. Blair: Mr. Lawson is putting words into my mouth.

Witness: I am not wanting to do that. I am only quoting your own words.

Mr. Blair: The words I used were——

Witness: I have quoted from your own report.

2293. *Mr. Blair.*] The words I used were: "After careful examination of the building and the ground I came to the conclusion that even in the small area affected there is no great movement in any particular direction. The injury to the building is no more than may have been caused by irregular settlement in the foundations?"—I am quite satisfied with that: I do not want to say any more.

2294. And before that I said: "I am glad to say these fears are groundless, as there is no general movement of the land." From that report how could you arrive at the conclusion that I said there was a ground slip?—From your own words. I have quoted your words.

2295. From the last clause, "It is quite clear that the movement of the ground has stopped altogether." There is movement of the ground I admit?—That is all I say.

2296. The building could not be injured without movement of the ground; what I say is that it is not horizontal movement?—I only want you to admit your own words. I do not want to put words into your mouth, and if I did I did not mean to do so.

2297. You quoted Dr. Grabham's evidence in support of movement?—It is there now.

2298. Why did not you take Dr. Grabham's evidence about putty-joints?—That was so ridiculous I did not think it worth while taking notice of.

2299. Is it not possible the other is equally ridiculous?—You can judge for yourselves.

2300. There is just one other point I want to ask you about. You said that you had difficulty in getting particulars of the charges made against you?—Yes; I gave the evidence of that.

2301. And that I behaved unfairly?—I did not say you specially.

2302. Or the department?—Yes, the department.

2303. Is it usual on the eve of an inquiry like this to give evidence in support of one's case to the person who asks for the inquiry?—I do not know what is usual in these inquiries. To tell the truth this is the first time I have had anything to do with such things, and I hope it will be the last.

2304. I think you might consult Mr. Chapman as to whether I am right in saying that he who asserts, proves?—What I asked for was to get information about what had been said in Parliament, and that is not before the inquiry; that was said in a public place, and I thought I had the right to know what that was.

2305. You wanted to know what you were charged with?—I wanted to know what was said in Parliament.

2306. Was there anything said about asking for what had been said in Parliament in that letter you wrote to the Minister? Did you ask after what had been said in Parliament when you wrote that letter?—Yes; I re-read it here to-day.

2307. Will you point it out in the letter you wrote to the Minister?—Yes; here it it: "I have not yet received any particulars or information as to statements made by Mr. Blair or Public Works Department as to the Seacliff Asylum in Parliament."

2308. I am not yet in Parliament, thank God?—I said I asked for these statements that were made up by you or by the Public Works Department as to the Seacliff Asylum in Parliament. I do not say by you, but by the Public Works Department.

2309. What date is that?—The 20th January, 1888. The information I sought for was what was made public in Wellington, and I wanted it to be given to me here.

2310. You ask for certain reports?—I asked simply for what was said about the building in Parliament. It was publicly said there in Wellington, and I could not get to know it here in Dunedin; and I thought that was unfair, and I think so still.

2311. You said there were insinuations against the building, the architect, and everybody else in the public Press. Were these insinuations prompted by the Public Works Department?—I cannot tell where they came from. They seemed to come from the sky above, and from the earth beneath, and from the waters under the earth.

2312. You wrote a letter to the *Evening Star* with reference to this building a year or so ago?—I do not know.

2313. You have not got it?—No.

2314. Did you write to the *Evening Star* in ambiguous terms, alluding to a Government Inspector being at Seacliff, and the work being carried out under him?—I cannot understand what you mean.

2315. Did you write to the evening papers here on one occasion, referring to the works at Seacliff having been carried out under a Government Inspector?—If I did, it was true. I do not remember.

2316. Can you produce that letter?—No.

2317. Have you any recollection of that letter leaving it to be inferred that the Public Works Department had the conduct of the building?—No, I have not.

2318. Did you see articles in the paper stating that the Public Works Department were altogether responsible for the building?—I do not think I did at any time. I wrote only one or two letters to the papers altogether about the whole thing. I suffered in silence. I did not write in ambiguous terms. I like to make things plain when I write.

2319. *Mr. Gore.*] I should like to ask Mr. Lawson if he has known of other buildings than the Seacliff Asylum that have had stone packing put in the concrete foundations?—Oh, yes! plenty.

2320. Are there any in Dunedin?—Yes.

2321. Can you mention one?—The last I put up is that down on the flat.

2322. You mean on the reclaimed land?—On the reclaimed land, for Mr. James McDonald.

2323. How far apart was the packing put in the foundation?—Nearly close.

2324. Has the building shown any indications of settlement?—Not so far as I know, to any extent. There may be a little.

2325. What is the concrete in Mr. McDonald's building composed of?—It is lime-concrete.

2326. Do you know other buildings where packing has been placed nearly close?—Yes, I know of other buildings.

2327. Have they shown any signs of settlement?—No, not that I know of.

2328. *Mr. Skinner:* Mr. Lawson, I suppose the building was finished to your entire satisfaction?—Yes; there were one or two small items left to be done, but they were mere trifles. Towards the end I may say the thing was hurried most fearfully to get possession of it. They nearly kicked us out. It was as much as we could do to get done.

Mr. R. A. Lawson recalled.

2329. *Mr. Blair.*] Did you ever consult me, or speak to me as to dispensing with Mr. Brindley's services because he was not getting on with the Contractor?—Not to my knowledge.

2330. If I swear you did, will you deny it?—Yes; I will distinctly. I never did such a thing to my knowledge. Mr. Brindley from first to last had my confidence. The only fault I had to find with Mr. Brindley was his petulant temper. I speak it to his face; that was all. I never had any other fault to find with Mr. Brindley, and I say it before his face, and that is the reason I asked him to work amicably with the Contractor.

Alfred Thomas Brindley, sworn and examined.

2331. *Mr. Blair.*] Were you Inspector at the Seacliff Asylum?—Yes.

2332. From first to last?—From first to last; from the 13th of October, 1879, to the 30th of September, 1884.

2333. Had any work been done towards the building when you went out?—A certain portion of the excavation had been prepared by the patients under Mr. Hume's charge, and portions of the bush had been cleared: about three and a half acres. The sections lines of the levels were all pegged out.

2334. What were your principal duties?—To superintend the work under Mr. Lawson's instructions. I was given to understand I was under Mr. Lawson's instructions.

2335. Did you get any instructions from the Public Works Department with reference to the building?—No; not direct. I got the letter of appointment, which I have here. [Mr. Lawson asked that the letter of appointment should be produced, which was done].

2336. *The Chairman:* Is this the formal letter of appointment? It reads quite differently from what was the intention of it. Mr. Low writes: "Referring to your application of the 7th of July, and to subsequent conversations on the subject, I now beg to inform you that I am authorised to employ you as Inspector of the new lunatic asylum about to be erected at Seacliff."

Mr. Blair: He was authorised to employ him on behalf of the Government.

The Chairman: It does not say anything here about whom he was supposed to take his instructions from.

2337. *Mr. Blair.*] Did you prepare many of the detailed drawings for this asylum?—With regard to the detailed drawings there must have been a bit of a mistake. These are what I call working drawings. The scale of the contract-drawings was $\frac{1}{16}$in. to 1ft. Well, when I first went up there was nothing much to do. It took three or four months to get cement and materials, and I started and made some plans; I will produce them, they are all in the office. It was something to keep me employed when I started, but I did not intend to go on from beginning to end; but when I started I went on from beginning to end and made them all. By the plans of so small a scale, for instance, the no centres were given for doors or windows, and if the thing had not been set out without figures the building would have been put up "higgledy-piggledy."

2338. In addition to the ordinary details, did you make what are called "working plans?"—Yes.

2339. *Mr. Lawson.*] I thought you said you did not prepare details?—They were details on 1½in scale. [Plans prepared by Mr. Brindley put in and marked "29."]

2340. *Mr. Blair.*] What were the plans you got from Mr. Lawson's office?—The contract plans.

2341. Did you get any other plans at all from him?—I have had one or two details. There was a detail of the main block (that is the centre block) of the turrets; these turrets on the end of the front of it; I daresay you may have noticed them. At the time I got that they were shown projecting out, and I suggested that they should be carried in, and a detail was sent up to ½in. scale, bringing them inside. Well we found, when the thing came up, that no consideration had been taken of the windows, and that it would have blocked the adjoining window up. That was one of the things I had up. I made an enlarged detail of it and submitted it to Mr. Lawson at the time, and it was carried out according to that detail.

2342. *The Chairman.*] What with regard to the other turret?—There was another detail I had of the front. On the front there was a coat of arms or something on the top, and I got that about a month after the thing was built. Then I had another quarter-scale detail of the tower; that was altered. Owing to the large opening for the clock the turrets were brought in so as not to have any overhanging weight at the angle.

2343. I noticed these turrets were brought in?—Yes; they were brought in on that account. The fact is I funked on it; the plan forwarded by Mr. Lawson would not bring it in.

2344. *Mr. Blair.*] Did you trace this drawing for the foreman?—I traced one of the foundations. There was two or three days' work in it, and I did it for the benefit of Mr. Dick.

2345. Why was that?—He was not good at figures.

2346. You had to make him a fresh plan?—I made him a tracing of it, and I believe Mr. Gore got it.

2347. You made a special tracing for Mr. Dick?—Yes; that is of the centre block. He was only up there for a few months.

2348. Did he insist upon having a special plan for himself?—Yes, he did.

2349. Did you supply as many plans as you could in setting out the foundations?—Yes, I did. They were always in the office if anybody wanted to see them. I never objected to anybody coming there.

2350. Were the original drawings complete enough to work from in setting out foundations and other works?—I did not consider they were.

2351. Could an ordinary building foreman set them out from those drawings?—If he did he would have to be inside nearly half his time making calculations as to the positions of different things.

2352. What scale were they on?—One-sixteenth of an inch to the foot. There were some eighth scale sections. One thing I should like to mention is that, according to the specifications, ventilation had to be provided. Each of the cells and dormitories were to have an inlet flow and an outlet-flow, and the specifications mention it. I cannot call the exact word, but the meaning is that these flues were to be in each room and carried up to the line of the eaves and discharge there. There were to be 6in. earthenware pipes in the walls. I forget the quantity of them.

2353. *The Chairman.*] Exhaust-openings?—Exhaust-openings, inlet-openings too. There is an enormous quantity of them—somewhere between two and three thousand running feet of them.

2354. *Mr. Blair.*] Did this involve a lot of labour, the setting out of these?—I had to set them out. There is such a multiplicity of them, and there is nothing on the plans showing them. Unless I had set them out myself nobody else could understand them.

2355. Could you calculate the dimensions on the ground unless you made the working drawings you have made?—No, I could not. Speaking either as a tradesman or a professional man I could not. Not to go and stand there and make a calculation as to the position of every window on a job of that size, and set them out too. I mean, take for instance, a place like this. There is a series of beams coming across, and unless the windows are divided out according to the length of the room we should never get the place to look ship-shape at all. You could not scale them from the plans.

2356. With reference to the drainage-plan we came across there, how did you come to have to do with that?—The drainage-plans?

2357. Yes?—That is the water and sewage?

2358. Yes?—Mr. Lawson wrote to me and asked me to make this plan. The whole block was going on at the time, and I felt that I was handicapped and could not do them, and I wrote to the effect that I could not do them.

2359. Did he send you a plan out?—Yes; that is the one which is produced.

2360. Was that plan workable?—It was unworkable owing to the things on the ground. Mr.

Gore would have had to pull down his kilns and rebuild them, and this plan was rearranged. Then there were no figures or anything on the plan. We had to start in all manner of places, and I calculated up the depths and falls.

2361. Was the plan set out according to the ground line?—No. The way it was set out it could not be kept to in its integrity.

2362. Did you make the plan that was carried out?—I made a record plan of what was carried out. You have it in the office. I returned it to the office when I left New Zealand.

2363. Did you set out the foundations?—I assisted in setting them out.

2364. Were these foundations set out with 6in. off-set on the outside?—Yes. They were all set out with 6in. off-set in each case beyond the base-line outside. The wall was 18in. thick, the base projected 3in. and there would be 6in. off-set to the concrete outside that, and on the inside there would be the projection of the wall plate, which would be about 4½in., and it would be 6in. beyond that again on the inside. That is the section that was intended. A question may perhaps arise about that. I see it has in some of the evidence, about why the concrete was not carried up to the top of the base as shown in some of the sections. I think it shows on the plan that the concrete should be carried up to the top of the base. Well, that was altered by arrangement with Mr. Gore. The concrete was left out, and, for a certain height, brick and cement was substituted, and for the rest brick and mortar. It was arranged.

2365. Had you any difficulty in getting good concrete in a position like that?—I may say I was never satisfied from beginning to end with the concrete.

2366. The footings shown on the plan were done away with at the bottom, and a set-off put at the top instead?—The foundations, as shown on the plan, you will see were to be carried up straight plumb with the base with 12in. thick footings at the bottom. There arose a question at the time about what these footings scaled in width—whether they projected on each side 6in. or 9in., or what? Anyhow, after a great deal of argument, it was arranged that they should represent only 6in. projection on each side.

2367. The footings?—Yes. Well, I objected on account of the quality of the concrete to putting footings like that. Not being satisfied with this, I thought it best to bring up the off-set, to bring up the 6in. of the footing and to have a solid abutment against the soil so that they could ram as hard as they liked and could not press anything out, whereas they could not do that in boxes. The stone metal was supposed to be 2in., but the stone was crushed in a crusher that was worn out, and it was a broad imagination to suppose that it was 2in. in some cases.

2368. Were these alterations you made in the footings sanctioned or approved by Mr. Lawson or objected to by him?—Well, they were never objected to by him. Of course there was an amount of discretion left to me. I was to use my own discretion that possibly any ordinary Inspector would never have had to do, and as to the distance they went in, as far as my experience goes, I was perfectly satisfied that the depth and width shown would carry the building that was on top of it.

2369. Could you get the concrete properly rammed in the boxes?—That I have just explained.

2370. That you could not?—That was the reason it was done the other way. I objected to it on account of not being able to ram it in the boxes. When the stone packing was put in, no matter what Mr. Gore says about instructing the men to put in 4in., 5in., or 6in. apart, they never did it, and never would do it.

2371. *The Chairman.*] What distance were they apart?—I used to get so disgusted that it was heartbreaking to stop on the place. With regard to the stone-packing I always did object right through, as some of my letters show. I could not be on the place every minute as it were; the building was some 500ft. long, and they were working at both ends at the same time; and if there are nests of stones found in some of the concrete, as I read in some of the evidence as being so, I should not be at all surprised.

2372. *Mr. Blair.*] How do you account for those portions of the building in which we find the brickwork to overhang the footings. I think that is so in some of them?—Yes, at the bays. I cannot account for that. The only way in which I can account for it is this, that at this point the tramway from the station came round with a curve, as you might see on one of the other block plans, and it came so close that they had to shift the tramway. When these trenches were cut it was very wet weather—in fact, it was always wet there I might say, and the horses in coming round actually got on the top of the concrete. Something of that sort might account for breaking down the edges of this bank, and also for breaking away the concrete. But they were set out in all cases with 6in. of offset on both sides, the width shown on the record plan.

2373. Were the ambulatories set out 3ft. wide?—Yes, and 3ft. deep. The foundations were in most cases 5ft., 7ft., and 12ft. below the natural surface of the ground. According to my way of looking at it if we had gone down 20ft. more we should have got just the same clay to build upon; the only thing we might have got was transverse strength.

2374. The back wall of the ambulatory was not laid off with footings?—No, it was not.

2375. Was it straight from the top to the bottom?—It was built plumb.

2376. What was the reason of that wall being carried up straight?—I hardly understand that question.

2377. Was there any difficulty about supporting the bank at the back to get in the footings?—There was a question arose about the interpretation of these drawings at that time. From first to last I maintained that the wall at the back was to go right away through, but I was overruled in the matter.

2378. *Mr. Lawson.*] It has gone down?—Yes, but there were two concrete walls, the front and returns to back wall are built in brick and mortar. I kicked against it from beginning to end, insisting that it was not an extra.

2379. *Mr. Skinner.*] Was it paid for as an extra?—I think so. Mr. Gore can say for himself, he knows. At the settlement of accounts I felt myself insulted, and cleared out for a week.

2380. *Mr. Blair.*] With reference to this stone-packing, did you object to it?—Yes, I did. It was never satisfactory.

2381. You saw the letters that have been put in, your own letters, with reference to the stone-packing; do they represent the state of affairs as it then stood?—Yes, that is so.

2382. They did when you wrote those letters?—Yes, there is no doubt about that. Some of them might have been written in a moment of very great wrath, but even then they did not show what I felt at the time.

2383. With reference to this stone-packing, did Mr. Gore practically put you at defiance in the matter?—Yes, he did on several occasions. Speaking about that I see there is the evidence of James McDonald; he speaks about the way they were putting the concrete in the trenches. He was a very decent man. I never had anything to say to him about not putting the work in properly, except with regard to this concrete. I said to him one day that he was putting the packing 3in. or 4in. apart, and I maintain that he never put it further apart than that. The evidence is that he says it is 6in., 7in., and 8in. apart. That is not correct. He said to me, "I must do as I am instructed." What his instructions were he did not say, but the proof was the way in which h put the stone in.

2384. Did they sometimes put it in improperly when you were standing by?—Yes; there was one man who put it in improperly when I was standing by. That is the man I asked should be dismissed.

2385. Was he dismissed?—I believe he was.

2386. Was this matter of concrete a matter on which there was continual dispute?—Yes, there was always bickering going on. It was never satisfactory from beginning to end to myself. One thing is that sand was worth 7s. 6d. a load landed on the ground. There was nothing said in the specifications about the quantity of sand. It simply says, "stone and a sufficient quantity of shingle," and there was no shingle brought on the ground till the concrete of the north wall was put in. It was always mixed up with sand.

2387. Was it mixed with sand and broken stone?—Yes.

2388. Were those stones washed before being put in the packing?—I never saw them washed, or very seldom. They might have been once or twice. The stone was brought from the bush, or as it came out of the excavation. Sometimes it was spalled, sometimes it was not; but there was no attempt at washing. It was dumped down at the side of the bank or else in the trench, and just hand-placed. It was put on the bank, and as I said before the place was always mud; you could never do anything there without jack-boots on, and if it was put there you may guess what sort of binding there would be with the concrete, with, as I said before, 2in. metal.

2389. If you had been acting in the way ordinary Inspectors do would you have taken upon yourself to determine anything about the concrete foundations?—No, I should not; though I am perfectly satisfied, with regard to the depth of the foundations, that they would carry all the weight that is on them; that is, if they were put in properly.

2390. Did Mr. Lawson practically leave the whole conduct of the thing in your hands?—Yes.

2391. Except backing you up, we will say?—You may say practically he did. He placed that confidence in me. He knew my abilities, but I do not consider that he backed me up to the letter of it in certain things.

2392. Did he back you up as regards that concrete in the way that in your opinion you ought to have been backed up?—You are referring to——

2393. The packing?—Only in writing that letter he backed me up to a certain extent, and with regard to some that was removed, that had been put in by that man who was discharged, We had some taken out. It was two or three weeks before it was taken out; before the thing was actually settled. I think I wrote a letter, but did not get any answer to it for six or seven days. It is now in the letter-book.

2294. As to the preparation of this pile of plans we have here, would you consider that an Inspector's duty, or the duty of a clerk of works?—No, the duty of a clerk of works is only to keep records of the work—measurement of the work. I do not think that I ought to have been called upon to make calculations of all the openings, and things of that sort, and to set the whole thing out.

2395. Do you think you ought to have had these plans prepared for you?—Yes.

2396. *Mr. Lawson.*] All these plans you have made?—The plans required for the work. I do not say all those. There are certain of them might have been done without.

2397. *Mr. Blair.*] Do you consider that you should have been supplied by the architect with all the plans required for the supervision and setting-out of the work?—Yes, most decidedly. Of course, there might be drawings, scale-drawings, that the clerk of works might be supposed to do, in which there were any mouldings; but the architect likes generally to do that himself. There were not many mouldings in the building. It becomes a question of taste with regard to these things. Working-plans of the size I have made ought to be supplied.

2398. With reference to this back wall, did you object to that being treated as an extra?—Yes, right through; from beginning to end.

2399. You were in Mr. Lawson's office before the contract was let. Were the working drawings prepared in a great hurry?—I forget now exactly the time. I fancy when I went to Mr. Lawson it was somewhere about July, 1878, and I was with him nine or ten months, I think, altogether; and I think it took about four or five months to get the plans out. The sketch-plans were drawn, submitted, and altered, and that is the result there. (The contract drawings.) I would not be certain about the time, I have no data to go by; but that is my impression.

2400. In the north wing did you want the packing done away with altogether? There is a letter to that effect?—If it is in the letter-book it is correct. I have had no communication at all till I got over here about these things, and I have been away three years and a half and cannot call to

mind all that happened eight years ago; but anything in the letter-book or the letters themselves I am perfectly satisfied are correct. They would not be there if they were not.

2401. Mr. Lawson read this letter—this is a letter of the 13th December, 1881—and in it you say to Mr, Lawson: "Seeing that there is a question of the foundations of the north wing not being right would it not be as well some arrangement should be made to do away with the packing altogether." Do you remember that letter?—Yes, I remember it.

2402. Did you write this in consequence of the ground being worse there than in other parts of the building?—It was soft ground there. At Block No. 1, north, just in front of the bay-window there, the concrete is down somewhere, I think, about 7ft. or 8ft.: it was through black mud, black soil, and we went on till we got to the same clay that we got in the other portions, and further on in front of that there was a bit of a swamp where the engine got stuck.

2403. Did you want the packing done away with in this north wing?—I should have preferred to have had it done away with there and all through, but more particularly there.

2404. Was the concrete getting better or worse towards the end of the job?—I considered it was getting worse.

2405. The older the job got?—Yes.

2406. So that the north wing was unfortunate in having the worst concrete?—I could not exactly say.

2407. There has been a lot of evidence about the concrete in the south wing: you insisted upon a lot of it being taken out; what was the reason for that?—Simply that the concrete was not satisfactory; perhaps I had better say how the packing was put in. The trenches were opened out, and the stone was brought and dumped down on the edge of the ground, or else in the trench; the stones were then planted on the bare ground in the trenches 3in. or 4in. apart, and the concrete was mixed on boards (I have nothing to say about the quantities, &c.; the cement was always there). It was mixed and put on the stones, and whether filled in properly or not, I could not tell: it was supposed to be rammed in between the stones to the thickness of the bed of concrete. If it was 18in. thick it would be brought up in a layer, and when left perhaps it would be 16in., 12in., or 8in. thick, according to the size of packing: fresh stones were placed on top of this and filled in with concrete and brought up to a level, and that is Mr. Gore's idea of what packing ought to be.

2408. Was the policy of the Contractor all through to pay as little attention as possible to your instructions?—I think that is extremely like what it was. My reason for saying that is that after objecting to certain things on the job, they would not do it for me, and I would come down to town and get instructions that such and such things were to be done, and after that Mr. Gore would come up and totally contradict these. That is the tenor of the letter.

2409. That is the letter of the 5th October, 1882. Were you very wroth over this matter?—I was, there is no doubt about it.

2410. Did you send a copy of that letter to Mr. Ussher?—I did.

2411. You felt very strongly about it?—Yes.

2412. You felt inclined either to give up your office or not to pass the work?—Yes, at the time I did; and I most assuredly should if I had not been a married man; I would have thrown up the whole job altogether.

2413. Was that because you were not getting the work carried out to your satisfaction?—Yes.

2414. Did you consider that the bricks that were put in the building were always up to the mark?—They were not always up to the mark, and I will give you the reason for it: the bricks were all made on the ground except a certain portion of them towards the end of the job; and the first bricks that were made were made with what is called a wire-machine; they were wire-cut bricks. The first that were turned out some of them you could not have better. The clay was good, and had been standing there for some time. It had been got out by the patients, and was well tempered. The bricks came out as sound as anybody could wish. Then after the first work went on this machine had several accidents to it, and there were certain alterations made in it which cracked the bricks, and that accounts for what Mr. Gore says about the bricks going over the tip. They were never burnt. I suppose there would be about a hundred thousand of them. They were put to dry, and they all split in the middle. These are what Mr. Gore, to a certain extent, refers to as being tipped over the bank. There were other bricks made with a lot of lime in them, and they were destroyed in the burning. These bricks were used in building ovens for burning bricks in. The greater portion of the bricks were made with a Bradley and Craven's machine. After that machine came the bricks were made as a rule direct from the clay bank. The bricks were right enough so far as the making of them was concerned, and then came the question of the burning of the bricks. The bricks were burnt and run out of the kiln and on to the building. I did not consider it fair to have to pass bricks good, bad, and indifferent, to pick them out as they came out of the kiln, and that was one of the causes of bad bricks. The very men, whose interest it was to get as many bricks as they could, being paid by the thousand; they were paid from the time the bricks left the machine to when they went on the building, and they simply ran the bricks out of the kiln right straight through—good, bad, and indifferent. There were good bricks and very bad ones. I have sent specimens down to Mr. Lawson and to Mr. Ussher too.

2415. Do you know anything about this glass question?—Well, there is nothing in the glass question at all. I think it is specified that 24oz. glass shall be used. Well, 24oz. glass, so far as I know, is unknown in the market here; in fact, it is only made on special occasions. There is 21oz. and 26oz., and the Contractor was allowed the benefit of sending out 21oz.

2416. Do you know whether the glass was specially imported?—That I could not say. It came out in cases marked 21oz.

2417. *Mr. Gore.*] Original cases?—I suppose they were. Some of them came up unopened. They were marked 21oz. on the outside, and some of them were marked 26oz., but whether they were 26oz. glass or not I could not be certain.

2418. *Mr. Skinner.*] You did not have any weighed?—No.

2419. You stated that you were very dissatisfied with the settling up in connection with the extras. Would you please read that letter you wrote to Mr. Ussher on the subject. The letter is in evidence, and is dated 3rd June, 1884?—"To E. R. Ussher, Esq., District Engineer: Herewith I forward accounts of extras, &c., for final certificates of Contracts Nos. 1 and 2, Seacliff Asylum. The small sheet showing the deductions from the contract sums is allowed by Mr. Gore—namely, £1,214, and the other figures of same is in accordance with the offer made by Mr. Lawson to Mr. Gore a few days back; when going over accounts with a view to settlement of the same (such, however, is, in my opinion, more than should be given, and I hereby enter my protest against it) the deductions allowed by Mr. Gore are only about half what they should be [see summary sheet attached]; in fact, above offer is about equal to taking Gore's figures for extras and deductions, for there is no doubt in my mind that about £1,366 [as per sheet attached] was taken on Mr. Gore's original account; such amount or even more was put on to cover any deductions that might be made. As a fact, after seeing a rough draft of deductions that I had forwarded to Mr. Lawson, Mr. Gore's account made a jump from £5,976 to £8,480. I therefore forward accounts to you for perusal, and await instructions before signing and forwarding to Mr. Lawson for his signature."

2420. Do you think that Mr. Gore was too liberally dealt with?—I do with regard to that.

2421. *Mr. Lawson.*] Do I understand you to mean that after such a certificate was passed you objected to it. Is that what you mean?—Yes; I objected to the final certificate.

2422. *The Chairman.*] I should like to ask you whether you had anything to do with the ranging out of the line of the building—with the setting out of the work?—No. I was given the line pegs, the block plan being set out. We started the building from the centre-line here [indicating on plan] and these were given to me. With regard to setting out this end of the block, I also had the line given me so as to measure from it, so that when we started the building we had these points given to us.

2423. Who gave them to you?—Mr. Hay set them out and Mr. Cameron and Mr. Marshbanks, and some one from the Public Works Office gave me the others.

2424. Now with reference to the Northern Block 2—the northern end of it—and the alignment of that part in relation to the rest of the building: Do you think that it was built straight?—Yes, it was built straight, and I will tell you why. When the concrete-wall was built in to the end of Block 1—these blocks went up at different times—we stuck up a "dead man," so that we should always have a straight line to continue by.

2425. Was that done with the other blocks?—Yes; so that when the cross-walls were put through we got another straight line to go by.

2426. What I mean is that in taking out the foundations, for instance, you saw all was clear?—We had this front line to measure from.

2427. We have had it stated in evidence that Mr. Walter Gore used to range through the doors?—You could not have got a measure there. If I remember right the south block was 3in. off the straight line.

2428. I ask you this question for this particular reason: I should like to know if you think that this portion of the building was built in line with that portion [indicating on plan]?—Yes; the concrete wall went up at the one time.

2429. Will you be surprised to know that it is out of line?—Well, all I have to say is that it was not built so.

2430. Were you ever up on the roof when it was being built: when the slating was going on?—Yes.

2431. Suppose it has been stated that this portion of the building is 16½in. out of a line, would you have noticed it?—Yes.

2432. And you never did notice it?—No.

2433. Could it have occurred?—I do not think it could have been more than ½in. off the line.

2434. You are perfectly satisfied then that you took precautions to have that part of the building built in line?—Yes, I am perfectly satisfied of that.

2435. If that part was not in line you could not have helped noticing it?—Most decidedly not. One of the precautions we took was that it should be in line.

2436. Where did you put these "dead men?"—Just by the staircase. That wall does not show it. You will see it better on the next plan. This concrete-wall [indicating on plan] just by the staircase, at the northern end of ambulatory No. 2. We built that back-wall right through at the top of the concrete-wall.

2437. Anywhere else?—That was simply a straight line. When the cross-walls were put in you could not get a sight right through.

2438. There is an error in setting out the work in the middle wing of No. 1 Block?—It is 1ft. short there.

2439. Did you on any occasion range a line across the front of the building? Had you any line or pegs to go by?—Yes; we had lines given to us.

2440. Supposing that the front of the building was 16½in. out of line with the rest of the building, would you have noticed it?—I never checked it.

2441. We have it in evidence that it was out of line 16½in.?—I cannot use the theodolite, but I can use the level. There was a straight line given us, from which I aways worked. There was one special line. It was checked from the centre, so that I could set these out by it. This line [indicating on plan] was given to me by Mr. Marchbank, the other by Mr. Cameron.

2442. I have one more question. You know the airing-court at the back of the ground floor?—Yes.

2443. There is a string-course just above the level of the window sill?—Yes; there is a string-course.

2444. Is that built level?—Yes, it is. It might perhaps vary half an inch in level round the building.

2445. Do you think if it had been 1½in. out you would have noticed it?—I think I should have noticed that.

2446. Do you think that this back wing could have been built 1½in. out of level?—That is, the back wing of Block No. 1, north?

2447. It is the south side of the north airing-court?—There are some very rough stones set out there.

2448. There are no courses shown there?—I do not think that could have been built that much out.

2449. If it is proved that there was a difference of 4½in. at this point between that string-course and that window?—It could not have been built that way.

2450. There is a difference of 1½in. between this window and that window: do you think that that part could have been built in that way?—No, I do not. That could not have been done on account of the number of courses of bricks which had to be put in. We always brought work up to a level for the bedding of stone bands.

2451. But supposing that that is not the case now, what do you suppose is the cause of it?—That is a question as to my opinion as an expert, and I think should not be asked.

2452. What I want to get out is whether you were satisfied that that part was built in line?—I am quite satisfied of that.

2453. If it had been more than 1½in. out of level it would have been noticed?—Certainly.

2454. You used an ordinary measurement level?—We had the use of a small 8in. level.

Mr. Gore: We always checked the line with a bricklayer's level besides.

2455. *The Chairman.*] So far as alignment goes, you do not think that the kink in the walls from this point to that [indicating on plan] which is said to be 16in. to 18in. could have been built without it being noticed?—I do not think so.

2456. Are you surprised to hear that there is this kink in the wall?—Yes. I was surprised to find it when I went up there.

2457. Have you been up to the building lately?—Yes. I went up the other day and had a look at it.

FRIDAY, 24TH FEBRUARY, 1888.

ARTHUR THOMAS BRINDLEY recalled.

2458. *The Chairman.*] There is one more question I should like to put to Mr. Brindley: Do you know the back concrete-wall of the ambulatory?—Yes.

2459. Had any cracks shown in that before the building was completed?—Yes; one or two cracks had shown there before any brickwork was put on it at all.

2460. Was that near that recess [indicating on plan]?—On each side of it; just in the sides here. There is a letter of mine to Mr. Lawson calling attention to it before any brickwork was built on it.

2461. What was done to the cracks at that time?—I think there was some cement put into them; they were not very wide.

2462. Was that in the corners?—Near the corners. There is a letter of mine in my letter-book with a sketch showing the position of these cracks.

2463. *Mr. Mountfort.*] Your letter does not show any sketch, but it refers to it?—Yes, there is a sketch.

2464. The sketch shown relates to the angle-turret?—There is another one besides that. I do not recollect the exact date, but I have an idea that there is a letter of mine in that book about these cracks. I remember reporting the matter to Mr. Lawson. It would be about February, 1883. [Letter read.] You see there is a sketch there.

2465. Did you take notice of these cracks during the construction of the building to see whether they increased afterwards?—Yes. They did increase slightly, but not very much. We filled them up with cement, but the cracks showed again through the cement.

2466. Did any other cracks show before the building was completed?—Do you mean with regard to that block?

2467. Yes?—Towards the end there was a crack showing in the brickwork in the recess of the back wall.

2468. There is a back view of it [showing on plan]?—The crack was in the return side of this. There was also some in the cement-floor of the ambulatory underneath.

2469. In the basement?—Yes.

2470. You have seen cracks in that wall lately?—Yes.

2471. Had any of these shown up in the brickwork before you left?—No.

2472. The wall then appeared to be intact?—Yes.

2473. How long had the building been completed when you left. Was it occupied?—Yes. It must have been six months, I should think. The laundry contract went on after the patients went into that part of the building.

2474. Then there was nothing particular to be noticed before you left?—Except the crack in this return one that I am speaking of.

2475. What size of crack was that?—I should think it was about ½in. wide at the bottom. We could only get into the lower storey through the patients being in the building. If I remember rightly, it showed more on the inside then.

2476. I understand that after you have been examined you wish to make a statement in writing?—Yes, merely for my own satisfaction; but I will not give in a statement unless you like.

2477. Perhaps you had better state now what you wish to say?—There is one matter that I should like to have cleared up, and that is in regard to the dismissal of Mr. Dick. How that came

about was this wise: There was a kiln of condemned bricks carted out and stacked at the side of the main block. (I may say that Mr. Dick carried on the work till it came up to the first-floor sills of the centre block.) These bricks were standing there, and one day Mr. Dick ran a lot of them in. He put up about two rods of brickwork with these condemned bricks. They were not bricks in fact; they were bats, and were all shattered. Well, he built these rods of brickwork with the bricks that I had condemned, and when I taxed him with it he coolly turned round and said that he would do as he liked with regard to the brickwork, whether I liked it or not. That was open defiance. I asked Mr. Gore what was the meaning of it, and told him that I would not stand it; that he would have to put on another foreman or else remove Dick. When I made that remark Mr. Gore said he could not discharge him. From that it seemed to me that Mr. Dick was a partner in the contract. I referred the matter to Mr. Lawson. At the time I thought Mr. Dick was put there to look after me. I had actually to refuse a month's payment before I could get this man Dick off the place.

2478. To whom did you apply for Dick's dismissal: to Mr. Gore?—To Mr. Gore first of all. The man was acting in open defiance of me. He had told me that he would do as he liked, whether I liked it or not.

2479. You reported that to Mr. Lawson?—Yes, I reported it him afterwards.

2480. *Mr. Lawson.*] You reported to me?—Yes; I came to town afterwards to see you about it. We had a long conversation about it.

2481. *The Chairman.*] What was about the date of this occurrence?—I cannot tell you exactly; but there may be a letter about it in the book.

2482. *Mr. Gore.*] I cannot catch what the witness says. Does he say that he had to stop a certificate before he could get the man discharged?—I do. You will find that I did not pass one month's certificate till the next month. It might be a year or a year and a half after the works were started. I know we went along very slowly at first. If you look over the certificates I think you will find that there is one missed in the early part of the contract; that they will not run in consecutive months like the others do. Most of the other matters I have apparently answered from my notes. I have told you about the bricks and about the overhang of that front wall. There was one other thing in regard to Mr. Dick, to show you the sort of man I had to deal with. The stone-dressings around the windows he would insist on putting in in this manner [described on plan]. They were 9in. by 8in., and he wanted to make them angle-cut instead of square.

2483. That is to say he wanted them to cut one out of the other?—He wanted to cut them across the angle. They were small enough as it was. Did I explain yesterday how the cement brickwork at the bases came to be put in? Mr. Gore did not charge that as an extra.

Mr. Gore: I never said anything of the sort. It was never attempted to be made an extra.

2484. *Mr. Skinner.*] I suppose you have seen or had seen Dr. Hector's report before you went far on with the building?—I never saw it. I remember that he came up there one wet Sunday, but that was after the site was shifted 5 chains south. The reason for the change was apparently that there was a kind of blind gully coming right down where the centre block would have been. There was a hollow where after heavy rain the water used to pour down like a stream. On that wet Sunday that Dr. Hector came out he said to me in regard to the site—I will give his words as nearly as I can remmember them—that it was "a slithery or slippery valley;" that is what he called it. He also said that the centre and south blocks were on the solid; but he was not certain about No. 1, north, and that No. 2 was not on the solid, in his opinion. It was merely a conversation as we stood in the wet, near the engine-shed.

2485. At the time that you put in the extreme north wing you had not made yourself acquainted with Dr. Hector's report?—I never saw it.

Mr. Blair: There is a third report from Dr. Hector.

Mr. Skinner: I am referring now to the one of June, 1880.

Mr. Blair: That is the one I referred to in my own statement. There is a memorandum of Dr. Hector's dated the 4th April, which I shall put in.

2486. *Mr. Skinner.*] Were you aware of the bad state of the ground in the north wing before you put in the foundations; that is, of the slippery character of the soil?—There were indications of some movement at the back after the excavation was done; but at the time that we put these foundations in I was satisfied with the depth to which we went down. The clay bank at the back of the concrete-wall had wet slippery veins in it, and the clay would come away in lumps, the angle being about 45°, dipping to the front.

2487. Did you consider that the trenches which you dug out were of a character to carry this building?—Yes.

2488. What kind of stuff was it?—It was the same material all through, as nearly as I could judge. It was clay formation with boulders in it.

2489. You did not sink shafts?—There was a shaft put down 40ft. on north side of the centre block [indicating on plan]. I took sections of it and sent it down to Mr. Lawson; also a sample of the clay.

2490. You consider that this portion—where the north wing is—was good enough to build on with the present foundations that are in?—Yes; with the foundations as I set them out.

2491. You do not think that they ought to have been any deeper?—No; I do not think so. There are certain places where we do not go to any great depth.

2492. In the north wing?—I cannot say why we stepped it in many places. I know that in Block 1 we went down some 9ft. or 10ft., but in the majority of cases the excavation was somewhere between 8ft. and 15ft. below the natural surface of the ground.

2493. Where does that apply to?—Right along the whole site.

2494. But not in this particular place that we have been speaking about?—It was only 5ft. or 6ft. at the extreme end there. The bank will show itself there now.

2495. Reference has been made to two cracks appearing before the brickwork was erected on the concrete. Did you ascertain whether the foundations had moved at all?—I did not.

2496. You are not sure whether the foundations had shifted before the superstructure was gone on with?—I am not certain of it. I had no means of checking it.

2497. It is possible, is it not, that the basement concrete foundation may have slipped without your having noticed it?—It may.

2498. And the superstructure may have been built without your noticing any slip at all?—The only check done was this: Mr. Marchbank and Mr. Cameron gave me a line of the front of blocks to work to, and the measurements of the plans worked in right, there being nothing to take or give; in other words, the added dimensions of the building checked in with the line given and the concrete-wall.

2499. You are now referring to the new building after the foundations were in?—I mean that this wall [indicating on plan] was in: that the whole of the concrete-walls were built.

2500. Was it not possible that these two cracks may have been caused by the slipping down of this foundation towards the sea?—There was nothing of that sort. With regard to the cause, I do not know.

2501. You did not check your lines?—I had no means of doing so other than by going back.

2502. *Mr. Lawson.*] But before that you had begun to build?—Yes. If the line given to us was right and these dimensions came in, it would show that this wall had not moved.

2503. *Mr. Skinner.*] That is, of course, assuming that you carried out the dimensions which correspond with the other side?—Yes; if they correspond with the other side.

2504. There was a question asked you about raking out joints. There is something shown in the specifications about raking out. Who gave you orders that they should not be raked out?—Speaking from memory, it was simply allowed to go by.

2505. By doing that you did not get a key for the cement?—The brickwork was very rough. Another thing in regard to the specifications that I may mention is that washed sand was specified to be used right through, but none whatever was used.

2506. In the specification it refers to a bond of hoop iron. Was that carried out?—Not according to the specification; and the reason of that was owing to the immense number of flues it could not be put in. It would not have been any good. Instead of putting them every 3ft.—one course to each brick—we arranged them underneath the sills in solid work and over the lintels under the cement arches. The bond was put in double—two strips to each half brick. Mr. Gore consented to the alteration.

2507. Every course was lapped and tied or connected in a proper manner?—Yes; in the majority of cases. I am perfectly satisfied about that.

2508. What class of bond was used in the building?—I think that the specification shows five stretchers to header. In the majority of cases the brick was carried 3 and 1—three courses of stretcher and one of header. There was no English bond used except a little in the centre block.

2509. Here is a rough sketch of the brickwork at the north end of the ambulatory; it was taken by the Commissioners. [Sketch handed to witness.] Do you consider that a good bond?—I can partly explain that. There was an error there. That wall was started and carried up 9in., if I remember rightly.

2510. I mean at the extreme north end of the ambulatory?—That is how the bond came in.

2511. You have got no bond at all in the centre wall?—That is how the major portion of the wall was built.

2512. At any rate this portion that you are referring to now is a special place?—Yes, I think so. It is only a sample of the work of the men who were employed there.

2513. Do you consider that the works generally are of a first-class character, I mean according to the class of building you had to deal with?—I do not think that they were first-class; far from it.

2514. In that case the works were not finished to your satisfaction?—I would not say that *in toto*, but in certain cases they were not.

2515. Then you say that they were not finished to your satisfaction in certain cases?—Yes; I can give you several instances, if you like. They were carried out, as nearly as I could get, to the specification.

2516. At whose instigation was the downpipes ranged round the building, more especially for the eaves and gutters?—You mean with regard to the heads.

2517. The downpipes to the drains?—There was a question about these things, I think; about the size. I think there is a letter of mine on the subject.

2518. They were not put in according to specification, were they?—I cannot say from memory. What is the specified size?

2519. Five by four square. They do not carry off little more than half the contents?—They would carry more than that. I think they are a 5in. by 3in. D-shaped downpipe. It was sanctioned by Mr. Lawson that they should be altered. Where the question arose, first of all, was that the pipes which were sent up there were very flat; half-round you might call them. Those were the ones that I objected to. I think you will find some letters written by me in reference to them.

2520. On examination the Commissioners found that there was about 125ft. of spouting in the north wing—the front yard we may call it—and there is a 3in. pipe conveying the water from the eaves into the hopper-head, that representing something like 27 square feet of roofing to be carried away by this 3in. pipe. Do you think that it is enough?—I measured the swan-neck of the downpipes, which are made oval-shape, cut in the cast-iron gutter, with a lead-shoot let into it. They are mostly 5in. by 2½in. cut in the bottom of gutter, but I am not certain.

2521. Do you think that there are enough downpipes for the whole building to carry the water off?—I must at the time have thought there were, because there was no question about the number of them.

2522. Then you think a 3in. outlet sufficient to carry the water off?—No, I do not.

2523. What I want to find out is this: there is a 3in. outlet there at present that is expected to carry off 27 square feet of water. I understand that you do not think that this is sufficient?—No, I do not.

2524. *The Chairman.*] I understood you to say yesterday that the substitution of brickwork for concrete in the middle wall was made by arrangement with the Contractor?—It was. The arrangement was made by Mr. Lawson himself with the Contractor, and that gave rise to that question about the back wall. I always maintained that that back wall went down in all cases.

2525. To the same level as the others?—To the same level as is shown in the cross-section.

Mr. Gore: But that section shows only one end.

2526. *The Chairman.*] You were always of the opinion that the contract included the whole three walls to be built to the same level as is shown there?—Yes; as I have already said, it was then that the question arose about bad concrete being put in, but I was overruled.

2527. It was, however, put in in brick?—Yes.

2528. The brickwork was built with lime-mortar. Was the concrete made with Portland cement?—Yes.

2529 And the difference in price between them was considerable, was it not?—Yes; I should think it was.

2530. Was any reduction made by the substitution of brickwork?—I cannot tell from memory. That was the sticking-point right through in the settlement of accounts.

2531. Look at that wall: it shows 18in. of brickwork, and there is 13½in.?—Yes.

2532. The schedule-price for brickwork was 39s. per cubic yard or £22 per rod, and for cemented concrete 50s. per yard?—Yes.

2533. Now, £22 per rod is equal to a little less than 1s. 6d. per cubic foot; on the other hand, brickwork was considerably cheaper, it being 4d. per cubic foot?—Yes; the one is about 40s. as against 10s.

2534. What I want to find out is: was there any material reduction made in the arrangement that was come to for the substitution of brickwork for concrete? I might ask you had you anything to do with making up the final certificate?—Yes.

2535. In negotiation with Mr. Lawson?—Yes; there was a lot of correspondence of mine about it, showing what I considered to be fair deductions.

2536. There was a question about penalties. Mr. Lawson, in a letter he wrote, shows that the accrued penalties amounted to £13,600, and the allowances he recommended to be made for delays in consequence of shifting the site were equal to £100 a week, or £5,000; so deducting that there was £8,600 for accrued penalties. But, for many reasons, which he gave in his letter, he recommended the Government to remit them?—All I can say in regard to that is that is the key to a long story.

2537. I want to find out if you knew anything about it?—I knew in the first place that for that centre-block thirty months was allowed for the building of it, when that was the time intended to be allowed for the whole building.

2538. Was that the time allowed in the contract-papers for the whole building?—The whole lot was tendered for as one tender, and the time given was thirty months; and that, I take it, was the time meant for the whole lot. As a matter of fact, the thirty months were allowed for the centre block, and the whole of the works were not completed for five years. You will find several letters of mine calling attention to the slow rate at which the work was going on.

2539. In that final certificate extra allowance is made for various works that were carried out, amounting to £2,123 17s. 6d. These extras are on account of shifting the building, but are chiefly for concrete. What I want to ask you is whether all that concrete work and the shifting of the building was measured and paid for as an extra. Did you measure up the work?—That is in regard to the foundations you mean?

2540. Yes?—Mr. Dick measured them with me, but all the papers were signed by me provisionally, because I never would consider that back wall as an extra at all.

2541. Still you included it in the final certificate?—Yes; but under compulsion. In putting my signature to the final certificate I did so under protest.

2542. In measuring up the concrete in the foundations, I presume that the whole of the work as it was put in was measured, and the contract amount, based on what is there shown on the drawing, was deducted?—Yes, in accordance with Mr. Gore's reading of the plans.

2543. And payment was made for the difference as extras?—Yes.

2544. That is the way that the extra contract was arrived at?—Yes.

2545. In working that out the concrete in the middle wall was not taken notice of?—There was an allowance made for the brickwork; and, if I remember rightly, the difference between the two. was taken off. I have not the figures now, but I am not certain if I have kept them in that book.

2546. All the work on the foundations, as actually constructed, was measured from time to time, and from those measurements the final certificate was drawn up?—Yes.

2547. There have been some papers put in containing measurements of the concrete in the centre block, and you have noted in the corner "examined," and attached your initials?—Yes.

2548. Does that mean that you have been through the quantities and dimensions, and that they are correct?—Yes. There was very little difference between Mr. Dick's measurements and my own.

2549. Were you content that they were correct?—Yes, as it states it was examined by me. There was, as I have said, very little difference between us.

2550. Were these measurements [handing document to witness] made by Mr. Forrest?—Yes, these further ones were. He was getting out prices for the settlement of the contract.

2551. You went over them with Mr. Forrest?—Yes.
2552. Over the whole of them?—Yes.
2553. Did you measure the work up with him?—Yes, from our data.
2554. Did Mr. Forrest measure it?—He measured it off the plan, and also measured it off this drawing.
2555. Then he did not actually go with a tape and measure it off the work, but measured it off the plan?—Yes.
2556. He assumed, therefore, that you had put in all the dimensions?—That all the dimensions were put in as Mr. Gore and I set them out.
2557. Although you may have supposed the foundation to be 3ft. wide and 3ft. deep, would it surprise you to know that it was not put in to that?—I do not see how the discrepancy could have occurred. I was always satisfied that the foundations were properly set out.
2558. I suppose you could not be present when all the foundations were put in?—I was there when they were mostly set out.
2559. Did you examine the trenches before the concrete was put in?—Yes; I went down to see what the bottom was like.
2560. Were you always present when the concrete was put in?—I stuck to my place all the time that was at my disposal. I was very seldom away if I could help it.
2561. I suppose your other duties would at times take you away from this part of the work? Were you much away when they were putting the concrete in?—No; we were working on both sides at the one time.
2562. With regard to the north wing, which was specially examined, did you see the concrete actually put in at the bottom of the trenches?—Not all of it; but I fancy I was there while the whole of that in the front there was put in.
2563. In front of what?—In front of that block.
2564. That is under the arches?—Yes; I might almost say that I saw it put in all along the top of the tramway up to the window where it overhangs at the present time.
2565. From the nature of the ground in which the trenches were cut did you find in practice that the trenches closed up, or any bulging in them, any rising up in the bottom, or that they contracted in any way?—They did to a certain extent; but that was mostly on account of the traffic in going about the trenches. The men trod about in cutting, and a good deal of stuff came in at the ends. We had exceedingly wet weather at the time.
2566. In digging out these foundations did you allow anything for the slope? I suppose you did not take it out plumb?—No; we cut them out to a line.
2567. Was the ground wet?—I did not notice particularly. I was quite satisfied with the bottom and with the appearance of the ground right through. There was one or two places bad where it might have been soft, and in those cases we went down.
2568. If the trenches did not contain the correct quantities of concrete might they not have not been cut to the full size?—If the offset was not on the outside it should be on the inside. We were as careful as we could be in setting out the foundations at the start. We set out the main wall, and the trenches were cut, the projection of base and offset beyond; they might vary an inch or so, or the pegs might have been shifted.
2569. Did the water stand in the bottom of the trenches when the concrete was being put in?—In some cases it did.
2570. In the winter?—Yes; but, as a general rule, it was baled out.
2571. Baled out before the concrete was put in?—Yes.
2572. Was the water muddy?—Whatever water was in the trenches always showed clean after it had stood over night.
2573. Did they continue to bale the water out after the concrete was put in?—No.
2574. It was allowed to stand?—If there was any water in it would lay there. It was likely to wash the cement away if baled out after the concrete was put in.
2575. *Mr. Skinner.*] These plans [handed to witness] are your detailed drawings; and this one shows the north wing as it is built at present?—Yes.
2576. Was there at the back wall any drain provided for carrying the water away from the footings? This shows the slope of the ground where it was cut away?—Yes; there were weepers put in there.
2577. Were any proper drains formed to carry off the water?—There were in the centre block, but there were none there.
2578. Why were they not continued right up there to carry the water off the wings?—I do not know. There was an extra allowed for it in the centre block. There was some mention of it at the time, but nothing more was said about it. At all events, I never get orders about it.
2579. There seems to have been great neglect here?—I suggested at the time that something should be done, and the proof of it is that it was done in the centre block; but I never got the necessary instructions.
2580. You, however, think that there should have been a drain there?—Most decidedly, or they should not have put it in the other place.
2581. Now, as to the west gable of the north wing, which has no bond: was that intended to be a temporary wall and to be removed afterwards?—No, it was not. There was no bond in the lower storey. That wall was built 9in.; we took a portion of it down to the lower storey and up above. I think that Mr. John Gore will bear me out in that.
2582. You say that it was intended to be a permanent wall?—Yes; except the gable.
2583. But up to the gable line it was to be permanent?—Yes.
2584. Did you examine the bond?—Yes; on the outside.
2585. There is a crack coming down here [indicating on the plan]?—I saw it.

2586. Did you go up with a ladder and examine the bond?—It is not a temporary wall, except on the top part.

2587. That is the gable?—Yes. I understand you to mean the inside of it. We built it in two 9in. walls, the idea being that the outer 9in. wall would be removed and the inside 9in. one should be bonded in.

2588. You mean to say that there are two 9in. walls, and that the outer one is not bonded in?—It is not bonded in here [indicating on plan]. This one should have been. There were two 9in. walls side by side.

2589. Then you meant to shift the outer portion of it?—That was intended to be removed.

2590. It is an 18in. wall now?—Yes.

2591. Nine inches of it was of a temporary character, which need not have been bonded in?—It is toothed in, I should say, with the usual quarter-bond. It runs in about 2¼in. That was all the bonds we could get. I think that the other side was built in exactly the same way.

2592. There was no iron bond put through?—Yes, I think there was.

2593. There was in the inner, but not in the outer wall?—That I would not say at the present time. But I say again that the inner wall was intended to be a permanent one. It was done, I think, by some arrangement or instruction given at the time. This thing had almost slipped from my mind, but now something strikes me that it was in the same part of the building as these window-sills, and these piers were carried up afterwards. There is just a blind joint up there.

2594. *Mr. Gore.*] You have said that concrete was put in the footings by two gangs working at one time?—Yes; I think so.

2595. I want you to tell me what part of the concrete was put in by two gangs in one day. My object is this: I want to know if the concrete was put in more rapidly than you could inspect it; in other words, were the men trying to rush the concrete in?—In one or two cases they did. I know that on one occasion 60 yards were put in one day, when I was down in town.

2596. Put in where?—It was put into the centre block.

2597. In the front of the centre block?—Yes.

2598. And you say positively that that concrete was put in while you were in town?—Yes. I cannot exactly call to mind whether the two gangs were on then.

2599. As a matter of fact, did you see most of the concrete put into the trenches?—I saw a good portion of it.

2600. Most of it, in fact?—I was never satisfied with it, from the beginning to the end.

2601. But you saw most of it go into the trenches?—Yes.

2602. It has been stated in evidence that a boulder has been found in the foundations. Do you remember anything of it?—Yes; it stuck up out of the bottom.

2603. Can you explain why it was left there?—It was too large a boulder to dig out. Some of the boulders we came across were yards wide.

2604. Do you know why it was not removed?—I cannot tell you the reason why.

2605. I did not like to put leading questions to the witness, or I might suggest why?—It was a difficult thing to get out such a big boulder; besides, it would make a great hole; and, seeing they placed the stone packing on the bottom of the trenches, it was quite as good as the material of the foundations.

2606. *The Chairman.*] You consider, then, that the rock was as good as concrete?—I do, and a little better.

2607. *Mr. Gore.*] Did you complain at any time of the quantities of concrete that were put in?—No. You never tried to shirk the cement, except in regard to sending up qualities that were not specified. I never had anything to grumble about in regard to the quantities of the cement used.

2608. With respect to the cement not being as specified, do you know that Mr. Ussher examined and passed it?—I cannot say.

2609. Did you receive a letter from Mr. Lawson stating that it was of good quality?

2610. You did some cementing in the airing-court for the Government, did you not?—I bought some cement from you.

2611. Do you know if it was of the same brand as that you have referred to? I may tell you as a matter of fact that it was?—When the first cement was finished a German brand was sent up. There was no name on it.

2612. How does that cement-work in the airing-court which you did for the Government compare with the work done by the C ontractor?—That was for a totally different purpose. In the one case it was to make up a cement floor, in the other it was to carry the wall of a building.

2613. Then I will refer to the cement floor. How will the floor of the ambulatory compare with the floor that you put in the airing-court?—It will compare favourably.

2614. Very favourably?—Yes: a little better, I think.

2615. Do you remember putting in some drain through the ambulatory in the northern part of the building?—Yes.

2616. Do you know whether any holes were cut into the concrete-wall?—Not to put the drain through.

2617. Were not holes cut?—There was a hole left in the centre of the front ambulatory-wall in the north wing. It was to allow of a drain-pipe being put in. There were bricks placed on each side about 18in. apart and about 9in. deep, and the concrete was filled up to same. The pipe did not go through the place left, but was taken underneath.

2618. You would not conclude that this was put in by the Contractor in order to scamp the work?—No. It was not done by you, but by myself. I think if it were examined it would be found that there was one on the corrresponding side.

2619. You have already said that you had got plans showing the depths of all the foundations?—Yes.

2620. You have also said that you made a special plan for Mr. Dick at his request?—Yes.
2621. Was not that plan for the purpose of showing the depths of the foundations?—Yes.
2622. And not for the setting-out of the work?—It was for setting-out the work.
2623. It was not for Mr, Dick to figure his depths and sizes for the foundations, but for the purposes of measurement?—I do not think so, simply because he would not take the figures as I gave them to him.
2624. You know Mr. Dick?—I do.
2625. Do you know his abilities as a mechanic or artisan; do you think he is a competent man?—In a certain sense I do not.
2626. You do not?—I do not, and I will give you an instance why I do not. He tried to make ——
2627. That is not what I am asking you about. Is he a competent man as foreman?—Taking him all round he is.
2628. Do you know that he has been a Government Inspector of Works?—He may have been.
2629. Was he Inspector of the Town Hall here?—Yes.
2630. Then he has had some experience?—Yes.
2631. He is a little hot-tempered, the same as myself?—Yes.
2632. You think that Mr. Dick was trying to put you to inconvenience, for that is what I infer from what you have said?—It almost amounted to it.
2633. You have stated that you had to stop the certificate before you could get that foreman discharged?—I had.
2634. Do you not know as a matter of fact that he never was discharged?—Well, it amounted to this: he or I had to go. If he had not gone I should have left the job.
2635. You told me that afterwards on the work?—Yes.
2636. Now, was the certificate ever stopped?—It was for a month. I did not pass it.
2637. When was that?—In the early part of the job.
2638. Was that not really on account of no work being done then?—No; it was on account of Mr. Dick.
2639. Well, I have not the slightest recollection of it. I think it was simply because there was no work done, because we did not get possession of the site for the building. Did you ever know me to complain about your keeping money back from the certificate?—Oh, yes!
2640. Now, as a matter of fact, did I not receive a good deal beyond what was due under the contract in one month?—I doubt that. As a matter of fact, at the end of the job, for the size of it, up to the time of clearing up, there was very little over and above what was due under the contract.
2641. Do you not know, as a matter of fact, that in one month I received £1,000 over and above any work done by me about the building?—That may have been on account of something.
2642. Have you ever heard before the statement that your certificate amounted to £1,000 more value than all the work that was done for that month?—No, I did not. There may have perhaps been some £200 or £300 of small things in the clearing up.
2643. I will now read you a letter which I wrote to Mr. Lawson: "5th July, 1881. R. A. Lawson, Esq., Architect.—Dear Sir,—There is evidently an error in the last two certificates for Seacliff contract. I was at Seacliff on Saturday and to-day. I did not see Mr. Brindley, but left a note for him this morning requesting him to give me a copy of the quantities he has based his certificate upon. As the Clerk of the Works has not consulted me (during the last six months) in taking the measurements or inquiring the quantity of materials placed on the ground, on consideration it appears to me I have applied to the wrong party. I therefore beg to request you will be kind enough to supply me with a copy of the quantities in order that I may check the errors. I may mention in the June certificate £50 is deducted from materials and plant, whereas I can produce receipts showing the value placed on the ground exceeds the total amount of the certificate passed.—Yours faithfully, JAMES GORE."] And I ask you is that true?—I remember something of that.
2644. Do you now believe that at that date you kept back money from the certificate?—I did not do it intentionally then. If it was done, it was done unbeknown to me. But that has nothing to do with what I said about Mr. Dick.
2645. You state that the foundations of the wall under the ambulatory is built 3 by 3?—Yes.
2646. What does that plan [No. 3] purport to be?—The foundations of the ambulatory piers.
Mr. Blair: The foundations are coloured as they now exist.
2647. *Mr. Gore.*] From your knowledge of what foundations were put in can you say that that plan, as coloured, shows the foundations as they exist?—No, not as they were set out.
2648. You do not think that they were put in in that way?—I do not think that they could have been put in like that.
2649. What does it show?—It shows only a projection of 2in. beyond the line of the base.
2650. What dimensions does it show?—About 3ft. deep.
2651. From that plan, supposing that you did not know the thickness of the wall, could you calculate the cubic contents of the concrete? Mr. Hay has, however, sworn that this wall will only bear half the weight of that design, but he also had to admit, or did admit, that he never measured the thickness of the wall. Under these circumstances could you take the cubic contents of the wall?—Decidedly not.
2652. If you only have two dimensions?—That would only give you the superficial area.
2653. If it only gave you the superficial area could you calculate from it the number of cubic yards in it? Could you tell from that the breaking strain?—Most decidedly not.
2654. Then from that plan you could not calculate what the crushing strain of the concrete is?—Certainly not.
2655. If I told you that I had measured that plan, calculated from it the contents of the con-

crete, and ascertained that the wall would only carry one-half of what is shown on the general plan, would you believe me?—No, because you cannot do it. I cannot do it myself, at all events.

2656. In fact, it is impossible to take measurements off that plan?—So far as thickness and depth are concerned.

2657. You say that you cannot get the cubical contents from it?—You cannot.

2658. You have always contended that that back wall went down?—Yes.

2659. So that that wall has been measured and paid for as an extra; yet Mr. Blair says that it was not?—According to Mr. Lawson's instructions it was measured up as an extra.

2660. Here are your quantities [hands the document to witness]. Can you find in any part of these quantities where it is charged as an extra?—These are not my quantities, they are Mr. Forrest's.

2661. But they are initialed and signed by you. You will find the wall there?—The quantities were examined by me, as I said already. With regard to this wall, I maintain that it was measured as an extra by me along with Mr. Forrest, who insisted that the cross walls should be stepped up the bank and back wall taken as about 2ft. 6in. deep.

2662. But what I am asking you is this: Was that wall paid for as an extra? Did the Contractor receive payment for it as an extra?—I maintain that he did.

2663. Can you show me in your quantities where it was so paid for?—Not at the present time I cannot. It is some four years ago now.

2664. But it is a permanent thing, so that you can hardly forget it?—The reason why I put "examined" was because I would not say that the quantities were correct. That would have been committing myself to what I had objected to all through.

2665. Then, it only shows that you were satisfied that the figures were correct?—Yes.

2666. And that you were not satisfied with the principal measurements?—If I had been I should have said, "Examined and found correct." Mr. Forrest wanted me to do that, but I would not. While I was perfectly satisfied at the time that they were accurate I would not say more than that.

2667. Will you please give a reply to my question afterwards if you cannot do so now. My desire is to have a reply for a very important reason connected with this inquiry?—It is nearly six years ago, which is too long a time to ask me to recollect figures.

2668. You said that you were not sure that the foundations of the north ambulatory-wall—the back wall of the north ambulatory, I should say—shifted before the brickwork began?—We had no means of checking it.

2669. In noticing the crack, did it appear to be larger at the top than at the bottom, or was there any difference?—I could not see a very material difference.

2670. It was not a very large crack?—No. When I reported it it was $\frac{1}{8}$in to $\frac{3}{16}$in.

2671. You said that you were not satisfied with the concrete all through. Was not your dissatisfaction, in reality, to stone-packing being put in in any shape or form?—Yes; I do object to stone-packing, but I also objected to the manner in which it was put in just there.

2672. Did you not object to stone-packing being put in in the concrete all through?—That is making out that I am biassed. If in anything I had to do with myself I should object to stone-packing being put in.

2673. At any distance apart?—Yes, especially in 2in. metal.

2674. Now the question has been brought up about penalties: do you know how long it was after the first contract was signed before the Contractor could get possession of the back portion of the centre block?—That was a matter purely your own. You undertook the excavation, but you wanted the clay for your brickmaking, and therefore did not excavate.

2675. For the back of the centre block?—Yes. You used it all through at the back of the centre and south blocks.

2676. Can you tell me how long it was before the Contractor got possession of the site at the back of the centre block—can you tell me approximately? Would it be two or three years, or how long?—You had the whole of the site after the patients knocked off excavating.

2677. I will put it to you in another way: how long was it before the back portion centre block was commenced?—That I cannot tell you.

2678. Well, I am not particular to a month or two; was it two years?—It was a very long time after the front portion was done.

2679. Will you be surprised if I tell you that it was two years?—I should not, knowing the way that the work was going on.

2680. The site of the building was moved, was it not?—Yes.

2681. Which necessitated the moving of all the machinery and of the shed covering it?—Yes.

2682. Do you know if the water supply was ever stopped? Was the water cut off by Dr. Neill? But before you answer these questions I will read to you a letter which I wrote. "28th February, 1882. R. A. Lawson, Esq.—Dear Sir,—I was at Seacliff yesterday, and found the work stopped for want of water. I wrote you on the 7th of last month that the water had been diverted from my dam to the temporary asylum. On inspecting the creek I found they had cut a trench right through and under the bed of the creek to a depth of about 6ft., effectually cutting off the only supply of water I have. The money I have spent in providing a water-supply is now wasted. Every week I have been increasing the number of men and had the work in full swing, and it is now a considerable loss to me, especially at this season of the year, to have the work stopped. I shall certainly expect the Government to hold me free from any loss.—Yours faithfully, James Gore." Is there anything wrong in that letter?—I remember that letter and the circumstances of it. I think there is a letter of mine to Mr. Ussher, with a sketch showing what was done with that creek.

2683. Do you produce it?—I may say that they wanted some water for the temporary building, as it is called, and they sunk a hole in the creek, filled it up with stones, and put in a pipe; a little reservoir was formed about 16ft. square, and pipes taken from same to supply temporary build-

ing; there was very little water in the creek at the time. Mr. Gore's reservoir would not hold water, being a very rough affair; the water ran out nearly as fast as it came in.

2684. Did I not go to considerable expense and trouble in putting in pipes and making a dam?—Yes.

2685. What pressure had we in the pipes at the building?—It would take it a little over the first floor. It used to run very poorly at the top of the bank.

2686. How high would that be?—15ft. or 16ft.

2687. You say that English bond is used in the centre block?—Only on a small portion of it—the base.

2688. In that case the Contractor exceeded the specification, did he not?—Yes. It is certainly better than the 3-to-1 bond, in my opinion. The 3-to-1 colonial bond, if the proper portion of headers in the filling-in be used, is far better than Flemish bond.

2689. You also said that the sand was not washed?—It was not.

2690. As a matter of fact, do you not know that Fern Hill sand contains a considerable amount of silica, and therefore does not require to be washed?—I do not know how to answer that.

2691. Well, I will put it this way: will washing improve Fern Hill sand, or do it harm?—I do not think it will improve it.

2692. Will it do it harm?—I do not think it will improve it at all. Chain Hill sand is good enough. The only case where it would be necessary to wash it would be outside work for cement rendering.

2693. Do you remember the drain at the back? I think it was put in at the far end of the building. Did you complain to me that you could not get men to finish that drain?—What drain are you referring to?

2694. One of the main drains at the back of the building?—I had nothing to do with the isolating-drain.

2695. Were you not there when it was put in?—I was; but it was done by Mr. Hunter.

2696. Did you not complain about it being stopped?—I do not think so, because I had nothing to do with it.

2697. Do you remember a man being caught in that drain?—Yes; I remember that.

2698. There has been a little difference of opinion here as to which side of the drain slipped. Which side do you think slipped?—The side from the building.

2699. That is, the side next the building?—Yes; the side next the building, I should say. It was not a very big slip. It caught him on the hip.

2700. It was pretty solid ground, was it not? As a matter of fact, was not the ground above it excavated?—Yes; the levels will show that.

2701. Do you remember, in making the excavations at the back, making one of the batters 1½ to 1 immediately at the northern ambulatory, or a little south of that ambulatory?—I think that was what was specified.

2702. But there was no specification?—I think so. That was after the other was excavated.

2703. No; it was while it was being excavated?—All the excavation that was done was allowed for.

2704. Did you ever notice any settlement coming from the banks or from the clay?—It was always damp there.

2705. After heavy rains have you noticed sediments or washing away of the clay formation round about it?—I cannot say that there was more than ordinary, but there was water lying about there. The water lay stagnant—in pools—and a kind of ground scum formed on it.

2706. What I mean is: was the foot of the bank or the clay drawn up or washed out to a depth of 3in., 5in., or 9in.?—It was washed off from the top.

2707. From the top or from the sides?—Well, it was a steep bank.

2708. You have noticed sediment washed down from that bank?—I have seen that. I have seen the same kind of thing in the banks at Oamaru.

2709. I have one more question to ask you. I have some diffidence in putting it, but necessity compels me to do so. Did you ever, directly or indirectly, in money, goods, or in any shape or form, receive a bribe from me to pass any work?—No.

2710. You never did?—No.

2711. Then if anyone told you that you had received £200, you would characterise that statement by a very strong term, I suppose?—I should. I would not allow Mr. Gore or anybody else to say that I had ever received a bribe of any kind.

Mr. Gore: I may say that I asked this question, because I have heard it stated that I paid Mr. Brindley £200, and that Mr. Lawson paid him £50.

The Chairman: I suppose that the man in the street is your authority.

Mr. Blair: I have heard a lot, but I never heard that. I hope Mr. Gore will not believe that the Public Works Department ever said such a thing.

Mr. Gore: Certainly not.

2712. *Mr. Lawson.*] You state that for a considerable time after you went on the ground you had not much to do in the way of attending to work?—Yes.

2713. And that during that time you were employed in preparing drawings?—For the centre block.

2714. I suppose that the time you put in that way would be from seven to eight months?—Yes; it would be about that time.

2715. Were any of these drawings which you have produced here asked for by me from you?—Not directly.

2716. I ask you definitely: was any one of those drawings, prepared and exhibited by you, asked for by me?—Yes. That one of the front turrets was; and this one also.

2717. Then there were two drawings asked for by me?—Yes; the turret end and details of the windows.

2718. Now, did I ask you to prepare them?—It was inferred.

2719. I do not want any inferences. Did I ask you by word or in writing to prepare these plans?—No, not in writing.

2720. Then by word?—I know you did for the tower.

2721. That is the only one you know of?—They were all submitted to you, more or less, whenever you came up there. You have seen them dozens of times.

2722. That is quite true, for they were in your own house. I do not deny that. But certainly I have not seen all these plans before yesterday. I ask you again: have I, in writing or by word, asked you to prepare them?—You asked me to prepare all the turrets I have spoken of.

2723. These two alone, then, I asked you to prepare?—Yes. There was one about the drains, but that I did not do.

2724. I know I asked you about that: Do you know the reason I asked you?—I do not.

2725. Did I not state the reason: was it not in writing?—Yes. If I remember rightly, you said something about being on the ground.

2726. Did you not write certain opinions on it? Do you remember what they were?—I cannot remember. The best way will be to refer to the letter.

2727. Did I not simply ask you to prepare a sketch-plan showing the position of the outcoming drains—of the sewage-pipes and rain-water drains?—They were not in at that time.

2728. Where they were to come when the building was completed. We could not begin to prepare drainage-plans without knowing the outcoming downpipes' positions?—That was not what I understood by your letter: it implied that I was to prepare a drainage-plan.

2729. Well, that was not my intention?—I am satisfied that your letter implied that I was to prepare a drainage-plan.

2730. That was the only time, was it not, that I ever wrote to you asking for a plan?—Yes; there was another plan that I call to mind now; it was about the ovens. I came to town and measured several ovens, and sent a plan of them down to you; it was, however, lost.

2731. You are quite right. But, with these two exceptions, I did not ask you in writing to prepare any plans; you did them of your own volition?—No.

2732. I will ask you now to say distinctly if, except on the occasion you have referred to, I have ever asked you in writing to prepare plans in connection with the whole Seacliff building?—So far as writing goes, no; but the inference is the other way. There were certain cases in which I asked for details, and they came up after the work was done.

2733. The building was going on for a long time—four or five years would it not be?—It was a very long time.

2734. Now you have said that if there were "nests" of stone found in the concrete you would not be at all surprised: do you really mean that?—I do.

Mr. Lawson: That is a very improper statement for you to make.

Mr. Gore: I say it is a scandalous statement.

2735. *Mr. Lawson.*] Remember that you were the inspector of that building?—I know that.

2736. Keeping that fact in view, you state that. Do you really mean to infer that that is the truth?—I do. If during my absence "nests" of stones were found there I should not be at all surprised. That was my opinion all through.

2737. Did you ever inform me of that?—I must have done. I am almost certain that I did.

2738. Remember, now, that this is a very serious thing?—I know it is. But that has been my feeling all through.

2739. You corresponded with me frequently, and even recently?—Yes.

2740. If you had entertained such a suspicion, why did you not inform me of it?—I did. Read my letters, and you will see that some of them are very strong.

2741. But in none of them did you speak about "nests" of stone. You know that yourself?—I did not say that they do.

2742. But now you go far beyond your own letters, strong as they sometimes were. Do you think that that is a proper thing to do?—I am speaking from my own convictions.

2743. Manifestly you had that conviction at that time?—Yes. I must have told you of it.

2744. You must have told me of it, you say?—Yes. I must have.

2745. Where is there any proof of it in all the conferences or correspondence that have passed between us. Do you not think that it is very unfair to me that such a statement should have been made at the present time?—In what way?

2746. You ask in what way. Because it is an inference that improper work exists to a very large extent?—Well, it is almost getting too personal now. However, I have made the statement; and I would make it again, and stick to it. There is proof positive of it, because some of the concrete had to be shifted.

2747. I say again that it is a very improper statement for any Inspector to make?—If it was done in that case it may have been done in other cases. These men put it in front of my very eyes, and if they would do that when I was there, what would they do when I was away?

2748. If that fact was within your own knowledge at the time you ought to have put it in writing and sent it to me?—I think I have put it in writing strongly enough.

2749. So they are strong, but they do not contain such a statement. You were perfectly satisfied with the depths of the foundations, and that they would carry the weight they were designed to carry; also, that they were put in properly?—I am perfectly satisfied.

2750. Whose duty was it to see that they were put in properly?—It was my duty.

2751. You have stated also that, from end to end of the building, you are sure it was in line at the main back wall when you commenced to build the brickwork?—Yes; taking it right through.

2752. That was by measurement?—I believe that the south block was about 3in. or so off a straight line.

2753. But you say that it was straight when you began to build?—Yes, so far as I know it was.

2754. If it had been 16½in. out of line you would certainly have seen it?—I should certainly have seen that.

2755. You have told us that you had a conversation with Dr. Hector in reference to this blind creek. Did it not exist just about where the north wing now is?—No; further north.

2756. You escaped that blind creek?—Yes; we are out of it.

2757. You escaped it by moving 5 chains south?—Yes.

2758. You think that moving 5 chains south at my request was a very wise thing?—Most decidedly.

2759. Do you not think it is a pity that we did not manage to get 2½ chains further south still?—I could only give you my opinion.

2760. Still I value your opinion?—That is possible, but it did not come off.

2761. You say distinctly that the foundations were put in to your thorough satisfaction?—I was perfectly satisfied.

2762. And you do not think that in the north wing they should have been any deeper?—No, I do not. I was satisfied with them at the time, so far as depth and width are concerned.

2763. As to the final certificate. You admit that you took part in the negotiations about it, but your temper got the better of you, and you ran away?—No. I considered myself downright insulted.

2764. Then you did not run away?—No; I walked away. I run away from nobody.

2765. You went away and did not come back for a time?—I did not come back for a week.

2766. *Mr. Gore.*] With regard to Mr. Dick being a competent man, I wish to ask, through the Chairman, if Mr. Brindley has ever acted as a Clerk of Works before he so acted on the building at Seacliff?—No. But I have superintended my own works.

2767. What works, and where?—At Oamaru. I do not see, Mr. Chairman, why I should be asked to answer personal questions.

2768. I will not press the matter beyond asking you again if you have ever been a Clerk of Works on any building other than that at Seacliff?—Not as Clerk of Works. I have been in business for myself. Since this matter has been raised about my experience I may mention that I have been in business since 1865, and that I was nine years in London.

2769. *Mr. Mountfort.*] When you made these working detail-drawings, who did you think you were making them for—for the Government or for Mr. Lawson?—For facilitating the work.

2770. But was it for the Government or for Mr. Lawson that you thought you were making these plans?—In my opinion they should have been supplied by Mr. Lawson.

2771. You think, then, that you made them on behalf of Mr. Lawson?—They were made on own paper, and they are my own property.

2772. *Mr. Lawson.*] They were made for your own pleasure?—Not exactly for my own pleasure, or they would not have been done.

2773. *Mr. Mountfort.*] What construction did you put on those dotted lines showing the back wall on the plan? How did you begin the work?—The building could not be constructed without the walls went down to the same level as each other, as shown by the sections; there is nothing to show that the cross-walls were to be stepped up the bank.

2774. Then, you always thought that the back wall went down to the same depth as the front wall?—I maintain that the building could not have been constructed without it.

2775. Did you recommend a better way of executing the concrete?—I believe so, by leaving out the packing.

2776. By omitting the packing?—Yes.

2777. Was that attended to?—It was not.

2778. If it was not attended to, why not?—I wrote down to Mr. Lawson, but I never got an answer to my letter. Of course the work had been going on for some time when I wrote.

2779. When you came up towards the north wall, did you recommend that concrete should be laid all over that part? That is in regard to the ambulatory of the north wing?—The reason why I recommended that it should be put all over that was, that there seemed to be a kind of lagoon—or rather a mud-hole—here [indicating on plan]. It was a kind of black-clay formation: it went right from there into the wall. It was a rank-smelling stuff, and I suggested that it should be covered up.

2780. Then it was not done for the sake of the foundation, nor for securing a wider bearing?—No.

2781. Would it not have been as well to have put a little concrete over the whole surface, and have put plates on it?—That was in regard to the sleepers for joists for the inside: it had nothing to do with the walls. You see it was soft material.

2782. It was not done?—No.

2783. Was this mud removed?—It is there still.

2784. Why was it not removed?—I do not know.

2785. But you were the superintendent of the works; and if it was such a nuisance you could have got it removed, surely?—There was no answer to the suggestion in my letter; therefore it was not done.

2786. This is the drawing [handing to witness] that you prepared for the execution of these wings?—Yes.

2787. It has sloping lines behind the back wall representing your excavation?—It was cut out as straight as they could, but it could never have been like that.

2788. If you prepared that drawing of work to be executed, why was not the work executed according to it?—

2789. You would not have been able to execute that back wall if it had not been fairly laid

open from the back, I presume?—In some cases it was very nearly straight. There was just room to get upright quartering.

2790. How was the batter filled in at the back?—It was simply tipped in.

2791. What was tipped in?—Clay from the bank at the back.

2792. Were there any extra precautions made for carrying away any water which would accumulate in there by reason of its being made earth?—None other than weep-holes.

2793. There are weep-holes in every cell?—Yes, but no water ever came from them.

2794. How soon should you think after the foundations were finished were the concrete floors in the ambulatory laid?—They were not laid till the very last thing. The stone steps were not put in till the last thing—till within four or five months of finishing the job.

2795. You went away after these concrete floors was laid. Were there any signs of "crumpling up?"—Yes.

2796. Can you show on the plan, to the best of your recollection, where that was?—I fancy that the direction was somewhere about one of these piers [indicating on plan].

2797. Somewhat opposite to where you have indicated that the cracks were first seen?—It was more towards the north end. I think there is some correspondence about it.

2798. You have already told us what kind of bond was put in, and of course you know how the toothing of an English bond has to be done?—The only portion of that which is plumb is set out in English bond.

2799. Do you consider that an English bond is the best?—I most decidedly consider that it is the best. According to all standard works it is reckoned so. So far as this 3-to-1 bond is concerned, all things being equal, and it being made of whole bricks, as usual, I consider it is not quite as good as English, but it is better than Flemish bond.

2800. In doing the brickwork were the bricks used dry?—Yes.

2801. They were not wet?—No; but I have known them to come out of the kiln pretty warm and go into the building.

2802. Do you think, without using water plentifully on the bricks, that you can make first-class work with them?—My experience here is, that being a wet climate, you do not require so much water, if you have got good mortar; but if it is a hot climate I should say that the bricks should be made wet. There was nothing in specification to enforce the wetting of the bricks.

2803. But you know that all the works were to be done in a first-class manner?—It was the same with the raking-out of the joints. There was nothing I know of by which I could enforce that.

2804. *Mr. Gore.*] Raking-out of the joints is in the specification?—Yes.

2805. *Mr. Mountfort.*] Had you any trouble with the bricklayers?—I should speak of them as second-rate workmen all round. For this reason: Three men were working at opposite angles, and when they joined up they were a "course in winding." If that is the work of a first-class workman, then I do not know what a first-class workman is.

2806. In taking the cross-section through the ambulatory portion, seeing that there were three separate walls, one of which was carried upon rather small piers, was any provision made for tying that portion of the building with rods or otherwise?—There was no provision. We put joists in one length from one side to the other. There is nothing in the specification to say what we were to do it with.

2807. Did you not think, in carrying out the works, that they required something to tie that special part, seeing that the front had a great many openings?—Well, it struck me that it was a very long wall, and I suggested that some of the openings should be built up.

2808. Here are three parallel walls—at any rate, for these two walls; for about 80ft. there is no tie whatever?—Which wall?

2809. I mean between these two [indicating on plan]?—There is no tie there.

2810. What distance apart are the floor-joists?—18in. centres.

2811. Is that your usual distance?—It is the usual distance of all specifications here and the specified distance.

2812. What is the sizes of the joists throughout?—That is a question that you should ask Mr. Lawson; he is the architect. They were put in the sizes specified.

2813. But I ask you, as the Inspector of the works?—There is an enlarged drawing that will show it better.

2814. What did the flooring-joists rest on?—On wooden plates.

2815. How were they carried up? Did you take them outside of the ambulatory-wall?—They just rested on the brickwork; built in.

2816. That wall is 18in. from top to bottom, is it not?—Yes.

2817. Then as to these plates: You took so much out of the thickness of the wall all long in two storeys?—Yes.

2818. Does this [plan produced] fairly represent it, with the flooring-joists resting on them?—Yes. They would go into walls about 6in.

2819. Do you recollect the size of the plates?—I think the size specified was 4 by 3.

2820. And the joists, you say, ran in about 6in.?—Yes. The joists were 9 by 2.

2821. We will refer now to the centre of the building. Portion of this lower part [indicating on plan] was to have been done in concrete, but was afterwards built in brick?—The bases were.

2822. Was that part built with cement-mortar?—A portion of it was, and a portion with brick and lime-mortar. The foundations [indicating on plan] were carried out with a 6in. offset on each side; and above that there was a series of air-holes, and such things as fireplaces and other openings. It was arranged with Mr. Gore that that portion of it—so many courses, I think it was six or seven—should be built with brick and cement, and the other portion brick and lime-mortar; that was to make his price equal to concrete.

2823. We have it in evidence that it was carried up to the window-sills in cement and mortar?

—It was not, but only up to a certain height. Speaking from memory it was six or seven courses.

2824. You have been out at Seacliff?—Yes.

2825. Did you notice a little place here [indicating on plan], in the centre wing, near the greenhouse, where some plaster has come off?—I did not notice it, and my attention was not called to it.

2826. Why were not the joints raked out?—I have already answered that.

2827. Have you sounded the walls—the exterior plaster—at all when you were at Seacliff lately?—No.

2828. Do you think that the brickwork was sufficiently rough to warrant the joints not being raked out?—Well, I think so for the ordinary run of work there.

2829. The specifications provide that all exterior walls should be battened on their insides?—Yes; but it was not done.

2830. And lathed?—That was not done.

2831. Why?—I hardly remember now. There was a certain portion of it done.

2832. *Mr. Lawson:* It was knocked off. I do not know why, but I remember now that there was a little done in the upper portion of the central block, where there is a 14in. wall. That is here on the top storey of the kitchen portion [indicating on plan].

2833. *Mr. Mountfort.*] We find it in the specification, and one naturally wants to know why it was not done; and, if it was not done, whether it was allowed for?—That is stone-work, and the specifications provide that stones shall be laid.

2834. On its natural bed?—Yes; I know it does.

2835. Most probably these were laid in their natural bed all through?—Most of the long stones were.

2836. Were these laid in the natural bed?—In some cases they may have been, and in some cases not. All the stones were prepared at the bottom of the tramway—in the station-yard—for a great part of the time. The railway-station is about half a mile away. Part were sawn at the top of the tramway, but the greater portion was wrought by hand at the railway-station.

2837. Seeing that a great amount of brickwork is shown between here and here [indicating on plan], and is shown in long stone, do you not think it had a tendency to bring undue pressure on to these long stones?—I should say briefly that I do. The dressings were bonded in with the other work there in order to carry off or distribute the weight. That is one of the things I was objecting to, and that Dick wanted to put in angle shape.

2838. This is the main front of the centre of the building which you reported about on a certain date. Are you certain that the crack was seen there then?—Yes.

2839. Did you form any opinion as to why that crack appeared?—I did not. You are now putting to me a question that more particularly concerns experts.

2840. We have been put off from time to time, and told to put off these questions till you came, when you could answer them. Now you are here, and we naturally want to get it out of you. You have stated in your evidence that you always thought that the turrets on this wall were dangerously overhanging?—Most decidedly. That was why there was some question about bringing them in. There was another detail which I got from Mr. Lawson—it was on a piece of tracing-paper, but I do not know where it is now.

2841. In that wall which connects these two portions there is a very large arch. It is about 25ft. wide, is it not?—The span is 23ft., I think.

2842. Do you not think that some of this movement was owing to the pressure of that arch outwards, and increased the overhanging weight there?—Yes. I may tell you as a fact that the whole of that gable is hollow. There was a great thrust there before this gable was on.

2843. In estimating the weight of this wall, how much did you take out for this hollow?—We took as much weight out of the gable as we could.

2844. There is a set-off shown on your drawing?—That is the thickness of the wall from here to there [indicating on plan].

2845. You spoke just now about some doubtful foundation work hereabouts [indicating on plan]. Do you think that the foundations had anything to do with the settlement up there?—It might possibly have something to do with it. There is a fearful overhanging weight there, where the stone turret is. You will see in the specifications that iron bonds are to be used where required, but it is very ambiguously described, and a question arose about it at the time. Mr. Dick wished to corbel out with small stones. There is a letter from Mr. Ussher which bears me out in that. After a great deal of bother I got the stones cut out of large blocks, tailed in the walls, and tied down with iron rails. This big detail will show it better. These stones were tailed in without interfering with the work inside.

2846. Was this all one bluestone here [indicating on plan] in one stone?—It was too big for one stone; there were too pieces joined together and tailed into the wall.

2847. If it was owing to your explanation, as we may call it, that these turrets were drawn in, you would get a better bearing, would you not?—Yes. That was suggested at the time, when the detail come up. It blocked up this window [indicating on plan], and therefore it had to be carried out as shown on the drawing, the detail for which was prepared by me, and approved by Mr. Lawson.

2848. We will go back to your plan. In the north wing we are aware that, from the nature of things as we found them, a large part of the water which came down these down-pipes was bound to run under the floor of this northern building?—No. There was a stone trap there—I mean a stone block with a trap in it.

2849. It was arranged that this stone trap, which is higher than the air-grating, was put in; while that trap cannot carry off more than a quarter of the water which comes down the pipe?—I do not remember that, but if it has been done it was an oversight.

The Chairman: I think that was done after Mr. Brindley left.

2850. *Mr. Mountfort.*] Suppose that the water got in underneath that floor, do you think, knowing as you do the nature of the soil, that it would go away easily?—I do not think it would go away. The opinion I have always had of the stone-packing, and the materials that it was made of, was that these foundations would always stand full of water.

2851. Practically, then, you think that this water will be found running over the concrete foundations?—Yes; over the top of it. As I said just now about the trap, if it has been built like that it is evidently an oversight.

2852. Then it is not a natural one?—No; it was never intended to be like that.

2853. Then about the fan-lights and the class of glass used in the doors. We found it to be specified as ½in. glass. Was that put in?—It was not.

2854. It was ⅛in. that was used?—Yes.

2855. Was a deduction made for the ½in. glass?—I cannot tell you unless I refer to the deduction-sheet of the final certificate what arrangement was come to about the glass. I know it was sanctioned at the time by Mr Lawson, or I would never have allowed it to be done.

2856. Speaking now about the floors of the upper rooms of the building, certain of them are 20ft. wide. I see that the joists are put in running 20ft. that way. Was there no girder across these rooms?—No; but I think the joists are thicker—11 by 2.

2857. As a matter of fact there are no girders?—No. A question arose at one time about this matter, and there was some correspondence about it. There are rooms in the roof, in the north and south blocks No. 2, and ceiling joists 6 by 2 were specified. They wanted to put in 6 by 2 joists in this part of the building. It is a peculiarly constructed roof. I wanted 11 by 2 joists, and they were ultimately put in, after a good deal of argument, and some attempt was made to charge them as an extra. A good deal of these things were left to one's own discretion, the specification being so vague. I had often to write in for explanations. Mr. Lawson was not up there very often—not so often as he should have been. He would come up by the 8 o'clock train from town and go back by the 11 o'clock. I do not think he stopped up there more than two hours at any time.

2858. *Mr. Lawson.*] Did you ever complain to me about that at any time?—It was not for me to complain. I had often to come down to town to consult you.

2859. But you never did complain, as a matter of fact?—Is it to be expected that I should go begging to you to go up there, or dictate how often you should visit the works.

2860. Well, that is the first time that I have heard of it?—All I can say is that it was a subject of general remark by Mr. John Gore and myself at the time, that your visits were short and far between.

The Commissioners thought it would be as well to take advantage of the presence in Dunedin of Sir James Hector, by getting him to assist them by giving a little explanation with regard to his reports, three of which have been put in as evidence.

Sir James Hector, Director of the Geological Survey of New Zealand, sworn and examined.

2861. *The Chairman.*] You reported on these three different occasions on the site of the present Seacliff Asylum?—Yes. Do you wish the dates of the reports?

2862. We have had the dates already mentioned, and the reports are given in evidence?—I should state that I reported some years ago and that I have not a clear recollection of the circumstances; but I telegraphed to my office to-day, since you asked me to attend, and the reply tells me the dates of the three different reports that are recorded in my office. Those dates agree with the dates just read. The first is the 9th of June, 1880, to the Minister for Public Works through the Colonial Secretary; the second the 19th of June, 1880; and the third report to the Colonial Secretary is on the 4th of April, 1881. I believe there was also some evidence given before some Committee of the House; but whether it was direct or indirect I do not remember. They do not seem to have any record of it.*

Mr. Blair: I do not think it was published.

Sir James Hector: It might have been before the Public Accounts Committee. I gave evidence before a Committee, but what Committee I do not remember.

Mr. Blair: It would be in the records of the House.

2863. *The Chairman.*] In your report of the 9th June, 1880, on the site of the new asylum, which you have there, you pointed out that the position of the building as then fixed upon would have been upon two different formations: the northern end of the building upon boulder-clay, and the remainder on more solid formation?—Yes; the greensand and clay marls.

2864. I think in evidence we have ascertained that the site of the building was moved 5 chains subsequently to that, to the southward; would that still be on the boulder-clay formation?—

Mr. Lawson: Sir James Hector's report of 1880 was after the site was changed.

2865. *The Chairman.*] Well, I was not quite sure of that. Then, in that case, the north-east portion of the building would still remain on the boulder-clay formation. In paragraph 4 of your report you recommend that certain works should be done with a view of cutting off the unstable portion of the ground from the hill and draining it?—Yes.

2866. Well, certain works have been done there. They are shown upon that plan No. 2, perhaps it would be just as well to ask you to look at them. [The plan was here examined.] From the examination you made of the place at the time, you were under the impression that it was unstable ground, I suppose?—Yes; the northern part. Where the northern part was proposed to be made it was very unsafe ground, I thought.

2867. Was it liable to slip?—Liable to slip; liable to continual motion. I think I expressed myself in this, or in a subsequent report, that the motion is not due to water alone but to seasonal

* Since giving my evidence a still earlier record has been found in my office, dated the 3rd April, 1880, and which formed the basis of the instructions given to Mr. Cox, and referred to in his report, and which is also referred to in my own report of the 9th June, 1880. I attach copy of this earlier report.

alternations of dry and damp, because the clay acts like pug, and such motion as is well known would have a forward direction, because the cohesiveness of the clay would not draw itself uphill again, but extend in one downhill direction.

2868. Supposing the water to be drained out of that would not that stop it?—I cannot speak from an engineering point of view, but, speaking as a mineralogist, I do not think you can drain water out of clay.

2869. Do you think you can drain water out of clay?—You can gradually dry clay if you put all the drains right down to the surface of the under-ground, so as to cut off all access of water to the clay, but putting drains into clay soil without ploughing it or digging it is notoriously of no use.

2870. Supposing the surface-water had access to the foundation-trenches—trenches of the foundation—would that, in your opinion, render the ground more unstable to carry a weight?—I think so; it would get the clay into a more plastic condition.

2871. I asked that question because, in digging the trenches, we found the water standing half way up the foundation-walls?—The foundation-walls should have had drainage right at the bottom. The clay should have been taken out I should have said. As far as I can trust my memory the instability arose from the fact that the clay is liable to extension and contraction, owing to the alternate moistening and drying—never drying perfectly, and never getting saturated, and that this clay was resting upon an unequal slope of the under-ground of greensand formation, which, as it is a water-bearing bed, would tend to bleed in this line of junction, and therefore keep it in a condition favourable for slipping, and then the alternate extension and contraction of the clay, loaded as it is with large boulder stones, would in the end most certainly have an onward progression down the slope at the junction surface.

2872. Do you think a movement sufficient to move the building 16in.—for that is one of the theories put forward, to move it bodily 16in.—could occur without being visible on the surface in the shape of a crack?—I expect there would be no surface cracks in the clay any more than in moist pug. It would move like any other plastic stuff; it would move almost with molecular motion—certainly what might be termed an interstatial motion, motion of particle on particle. Of course it might make cracks, but I do not think they would be a necessary result of the motion.

2873. Of course that is one of the theories put forward, that the ground has slipped and carried the building with it. The bulk of the building is standing apparently where it was built, and on the surface there is nothing particular to be seen?—Not in the building even?

The Chairman: In the building of course there are cracks, but there is no shearing; the one portion has not moved forward in advance of the other.

Mr. Lawson: It would be of great advantage that Sir James Hector should see it. I think in the interests of his science alone it would be advisable that he should see this building. Having propounded a theory of such a nature as this, as he has done, it would be a most interesting thing for himself now to see what the results of that theory which he propounded are, and how his original report has worked out.

2874. *The Chairman.*] That is a view of the front part of that portion of the building. The red marks show the cracks?—Whereabouts is the tower?

2875. That is only a narrow portion where the ambulatory is. I will not ask you for an opinion as to what the cause of the cracks was?—It would take some time to study this.

Mr. Lawson: I really think that, under the circumstances, Sir James Hector should have an opportunity of seeing the building for himself.

2876. *The Chairman.*] We do not intend to ask Dr. Hector the cause of these cracks, because he has not had time to go into the matter. We wanted to get a little information as to what the nature of this boulder-clay was, and what the effect of draining it would be?—The suggestion of a deep-trench excavation round the back of the building was to cut off the foundation from the surrounding clay formation, and isolate it from the effect of any motion to which that formation is subject. This is stated in my report.

2877. In that case an open trench would be liable to fill up?—I take it that by the clause following; by an open trench, I meant that it must be cut from the surface through the boulder-clay, because I say, "The trench and the drain would, of course, be filled with coarse rubble," as such rubble would not transmit the motion—at least, that was the idea at the time. I may have been mistaken, though I do not think so. It is clear I had not only drainage in my mind at the time.

2878. *Mr. Skinner.*] Sir James, would you give us an idea how far down the stratum, or the upper stratum, is likely to be, and if it is on the upper stratum that the building would be likely to move. That [document produced] is a bit of a sketch which has been put in?—Is this the pit I saw put in?

2879. *Mr. Blair.*] No; that is another pit that has been put down. The one you saw was near the tower; that pit is put down opposite the middle of the north wing?—I suppose by papa-clay is meant the greensand.

Mr. Blair: No, rock.

Sir James Hector: "Caversham sandstone?" It is not really Caversham sand; it is a lower stratum, but looks like it. That is the bottom rock. It is all right, except that it has layers of marl in it, that will shoot water; the line of greatest motion will be on the top of this brick, or where it joins the blue clay. There is a curious feature in this section. Do these black lines show stones and blue clay, as it almost looks as if this blue clay was from a lower formation? Here is drawn a distinct line of unconformity, indicating that this bed has been excavated out, and fresh material deposited in the place of it. All this boulder-clay, as it is called—it is really decomposed bluestone and clay arising from the decomposition. That is laid in layer after layer. It is a sub-aerial formation, and can hardly, I think, have during its deposit erroded the surface of any previous deposit of the same age. At any rate, that is very unlikely, and I have never seen any evidence of it. If these lines had been carried out it would have led me to suspect that these

lower beds really belonged to the lower stratum. However, I could not venture to express an opinion upon that point merely from the drawing submitted.

2880. *Mr. Blair.*] This shaft was sunk behind the building?—Looking at it merely as a geologist, I should say [indicating on plan] that this formation and that were the same, and that this was a portion of the same, although differing, and that the junction line was along this line which I indicate on the plan. In each case the line of greatest motion would be at that depth in the shaft. This isolated mass has taken down where the ground is being torn and rent by the motion of this gutter of clay and stone.

2881. I understand from your remark, Sir James, that the object of the drain was to cut off the access of the water?—You mean the remark in the report?

2882. Yes?—The object of the suggestion was "to cut off the foundation from the surrounding clay formation, and to isolate it from the effect of that motion to which that formation is subject."

2883. Would this drain with the top gallery and connecting shafts cut off?—I understand this is not an open drain. It is a tunnel, is it not?

2884. Yes; but you will see shafts here filled with stones at short intervals?—I do not think a tunnel and shafts would isolate it from motion in the same way as what I had in my mind at the time.

2885. Not if the shafts were at intervals of about half a chain?—Supposing this was clay, my idea was that this clay was resting upon a slippy bottom, like a ship upon skids, ready to slide. What you have got to do is to cut that clean through to control the motion. If you filled in rubble it would simply mean that the rubble would be crushed, and you could watch it and replace it; but this sliding onward seasonal motion would not be transmitted past an open cut.

2886. Would it not have the same effect if you put two cuts into it at different levels, and connected them with these vertical shafts, which are also shown to be filled with rubble?—It might if it thoroughly dried the clay. If it was found from experience that such tapping would thoroughly dry the whole mass of that clay along that line, it might have that effect; but I would not expect it to do so.

2887. *Mr. Lawson.*] May I ask did you ever at any time depart from the terms of your report of the 10th June, 1880, or give Mr. Blair to understand that you had done so?—Well, I have only made the three reports. I have not looked at them for years.

2888. I ask you that question distinctly and simply. Did you ever at any time depart from the terms of your report of the 10th June, 1880, or give Mr. Blair to understand that you had done so?—I do not remember doing so, nor I do not think it likely. Of course, it is such a very general way to put the question that I can hardly tell.

Mr. Lawson: I do not want to be more particular than that. That is quite a satisfactory answer.

Report by Dr. Hector to the Colonial Secretary, dated the 3rd April, 1880.

I am acquainted with the general structure of the sloping hills facing the sea at Seacliff, between Blueskin Bay and Waikouaiti; but have not particularly examined the proposed site of the new asylum. The hills are composed of tough clay-marl and greensands in stratified masses, dipping seawards. The top of the range is formed by a capping of bluestone or basalt resting on the marls. This bluestone decomposes readily, and has broken away in extensive landslips during the gradual erosion of the soft underlying strata, and these landslips extend right down to the water's edge, facing the hill-side with an irregular deposit of yellow clay and boulders as expressed in the following section. [Section not in letter-book.] This superficial deposit is continually on the move. A good example of similar surface-motion on a wooden building is to be seen on the seaward slope of Saddle Hill, on the road to Brighton. There are, no doubt, portions of the hill-face where the clay-marls come to the surface, and where a secure foundation may be obtained, just as on *roches moutonnées* projecting through a glacier; but I cannot say, without a special survey, if the site chosen for the asylum is such a favourable exception. Building on the slope-deposit of boulder-clay would be obviously unsafe. To cut through it on to the underlying clay-marl would only lead to the more rapid descent of the mass above, and unless the drainage were very perfect no retaining-wall could be built to resist the pressure of such a deep cutting as is contemplated. I think that Dr. Skae's suggestion that the surface should be cleared over a considerable area should be adopted, and in the course of the present month Mr. Cox, the Assistant-Geologist, will make a survey of the locality so as to enable me to give a definite opinion when I return from Sydney early in May. I have fully instructed Mr. Cox as to the nature of the survey he is to undertake.

Alfred Thomas Brindley re-called and further examined.

2889. *Mr. Blair.*] Can you tell us if the foundations of the corridor, Block I. north, were put in before those of the north wing?—That is to say the ambulatory-walls?

2890. Yes. Were they put in before those of the north wing?—No; my impression is that they were put in somewhere about the same time.

2891. How long did these ambulatory-walls stand—the concrete-walls—before the brickwork was put on them?—Roughly speaking I should think they might have stood a year or eighteen months, perhaps two years. Because this part was put in [indicating on map], and this was carried along, and they were five years doing the work. Anyhow, at least, they were standing a year. Some of my references perhaps will show when these blocks were started, but I cannot say from memory. I could easily find out.

2892. Was the ambulatory floor broken up before you left?—That was answered before.

2893. Was it replaced by the Contractor?—No, it was left as it was.

2894. Was the back wall of the ambulatory out of line after the concrete floor was replaced?—It was never taken up in my time.

2895. If the back wall of the ambulatory was built straight, how do you explain the variation in the width of the concrete floor? It is 12ft. wide at No. 4 pillar from the south end of the colonnades, and 11ft. 9in. at No. 5 pillar?—That is going into things as they now stand. When I left them I can affirm they were parallel.

2896. Do you know they were parallel when you left?—I should say they were when I left.

2897. And how do you explain this difference in the width in the concrete now?—It has happened since I left. I cannot explain that unless I give my own opinion of it. It is asking a question as to something that occurred after I left.

2898. You have been asked several questions about the slip. How do you explain the tilting of the partitions away from the back concrete-wall?—I submit it is not fair to ask me things that happened since I left. I cannot answer them.

2899. You say you do not know and cannot explain?—I cannot explain. Anyhow, the building, as I saw it the other day, is not the same as I left it.

2900. *The Chairman.*] Not in the same state?—No, a long way from it.

2901. *Mr. Blair.*] Can you explain how the back wall in the north recess at the back can be cracked by a slip when the concrete-wall is sound below?—That is going into expert evidence. Since I left the building I have had no communication about it till I came down.

Mr. Lawson: No, you never had.

2902. *Mr. Blair.*] You told us that you had set out this wall straight—the ambulatory from the central block northwards: is that so?—Yes; that was set out straight. The brickwork of this block went on for a considerable time; but I think I explained that before. We continued our line along here as near as we could get it, and set these things, what I call the "dead men," on this wall here, so that it would be straight.

2903. I gather from you that No. 2 block was set out from No. 1?—The brick wall on the top of the concrete was set out in continuation here, so that we should have a point to start from to have a straight line.

2904. You believed these two blocks were quite straight?—To the best of my belief they were perfectly straight.

2905. Do you believe that these blocks were in line with the southern blocks?—That I could not say. As I said, I did not understand a theodolite, and there was no sight taken.

2906. Then it is only from the central block northwards you speak of as true?—Yes.

2907. You are not positive as to this northern block being in line with the southern block?—I take it that they would be. I know certainly as near as we could check it. When we measured it on the line given here, we found it was about 3in. down in the length; from there the line struck on the walls here.

2908. There was a difference of 3in. in the southern end?—Yes, it was not a very definite thing the way it was checked.

2909. And have you any proof that there was not 3in. or more in the northern wing?—I have no proof of it other than that we set these things.

2910. You did not use the theodolite?—No.

2911. I think there was a question asked you about the levels by one of the Commissioners, about one of the window-sills being 4½in. out: did you believe that those were correct originally?—Yes, they were pretty near correct—I would not say to ½in.

2912. But you believe they were not 4½in. out?—They could not be 4½in. out.

2913. Then if you find that the central projection in the northern ambulatory is 4½in. lower—that is, the window-sill—than the window-sill in cell No. 11, we will say, what would you attribute that to, settlement or movement?—That is going on this thing again. It was not built that way.

2914. It was built level?—It was built level to the best of my belief. I would not say for ½in. or so, but not for an amount like that; it could not have been built so.

2915. I merely wish to show the uncertainty of these levels. If it is shown that there is a drop of 1½in. in the window sills between cell 11 and cell 16, would you still think that it was built level?—It was not built that way.

2916. And so on with all the other levels?—I know this for a fact, that I stood here when the scaffolds were up. There are certain bands of stone at the level of the floor, round the floor line, for instance; these bands here run right round the building at one level and one place; that you could stand here and drop the eye down and check them, and that they would "bone" in the distance with the eye almost level. With the levels I used they boned pretty level. For all practical purposes it was level to the length of the building.

2917. I have a note that you suggested a drain in the back wall at this block 2, seeing that a similar drain had been put in the central block?—That is along here. An extra was allowed for filling in along here with loose stones so as to form a drain.

2918. And you suggested that the same thing should be done at the northern block?—I believe it was suggested. I fancy there was something taken through here.

2919. But it was not put in?—There was nothing put in behind; the only thing was that these weeping-holes were put in. I think they show now.

2920. You were asked a question by Mr. Gore as to whether the concrete was going on in different parts of the building at the same time, in the trenches. Was there any other work that required your attendance going on at the same time as the concrete?—The whole of the work was going on in different blocks—going on together at different times. There was inside and outside work, for instance. The concrete might be going on here, and they would be doing brickwork over here in this part. I cannot say what were going on at any particular time, but I know that other works were going on besides the concrete.

2921. There was something said about a blind creek: would you kindly describe where that blind creek came?—Are you referring to the old site?

2922. No, to this site?—It was here, the front of the intermediate wing, north portion. That

is where we went down, I think 9ft., and got on to the usual clay here. We went down till we got on to the same quality of material as here. The direction of it seemed to be from the centre of the northern ambulatory towards the front of the central block. The same sort of formation showed at the back.

2923. Was there any dry stone put behind this wall?—No dry stone was put behind.

2924. There has been a lot said with reference to these plans. You said Mr. Lawson gave you no plans except the two or three we produced yesterday. Is that so?—What we have there are what I have had; but there may have been one or two others that are not there. One I know, for certain, is not there, that is the one with reference to these turrets.

2925. Did Mr. Lawson know you had provided these plans?—I suppose he did. He must have known, because he saw them.

2926. Were these plans necessary for the carrying out of the works?—I considered they were necessary.

2927. Are they such plans as are usually given?—Not in Dunedin they are not.

2928. But are the details required in carrying out a big work of this kind?—Yes.

2929. Then, if you had not provided these details, would they have been provided at all as the matter stood: that is, were duplicates provided? Did Mr. Lawson also provide plans?—No; there was nothing else provided.

2930. *Mr Lawson.*]—I would ask you, Mr. Brindley, did Mr. Gore consult these plans you refer to?—I believe he did.

2931. You believe he did—did he, "Yes" or "No"?—Yes, he did.

2932. If Mr Gore says he never saw them, would you swear he did?—I should say he was saying an untruth.

2933. Do you mean to say, as a matter of fact, that these plans were consulted by Mr. Gore?—Either by Mr. Gore or his foreman for the time being.

2934. Do you mean to say the plans were not provided for your own satisfaction?—It was for the satisfaction of carrying the work out.

2935. Not your own satisfaction, Mr. Brindley?—No.

2936. Not for the Contractor, not required for the building, but made for your own satisfaction?—That is what I have answered. They were provided for the satisfaction of carrying out the building properly.

2937. No; they were provided for your own satisfaction; they were never seen by anybody but yourself. You had them as pictures for your house yourself; you had them hung up on the walls to look at them?—They were always available for whoever wanted them. There is a proof of it in the fact that Mr. Dick asked for a copy.

2938. That was the foundation-plan you told us that you gave Mr. Dick—that was a special plan. But these beautiful pictures, with all the colours and beautiful shading, is that the usual thing?—That part of it was done in my own time afterwards; but the main things, the record plans, were done in the other time.

2939. That is all I want—for your own satisfaction.

2940. *Mr. Blair.*] Was the colouring and touching up given in your own time?—Yes; as I say the parts that are coloured were done in my own time, and when I first went up there. For about nine months there was little to do.

2941. The rest of the work was done in Government time?—I take it it would be done in the Government time.

DAVID REID sworn and examined.

2942. *Mr. Blair.*] What are you?—A carpenter.

2943. Carpenter at the Seacliff Asylum?—Yes.

2944. How long have you been there?—About sixteen years, from first to last. I mean in the asylum service.

2945. Did you go out to the asylum at Seacliff so soon as the patients took possession of it?—The new building you mean?

2946. Yes?—Not exactly, but shortly after. I went out in October, 1883, for good. Previous to that, I went between Dunedin and Seacliff as required.

2947. Do you remember when the settlement began in this north wing?—Yes, it commenced shortly after we went there. In fact, I believe it was a little settled before we took possession of it, until at last the crack began to show slightly.

2948. What appearance did the movement have? You have been watching this from time to time, have you not?—Well, I have had to watch it because I had the doors to keep in order, and they told the tale quick.

2949. What was the nature of the settlement in this north ambulatory? Was it a crushing inwards, or outwards, or collapsing?—It seemed to be crushing inward and outward.

2950. Did it crush in towards the door openings?—Yes, here it did, below in the large opening; down below it was crushed in. The reason I observed that was this: there was a stringer put across to keep up the concrete underneath the portico, and it bent up-hill in the centre. Inside the cellars was not cemented, and outside the porch underneath was cemented, and this was, I understand, to keep it from falling back—to form a kerbing to the concrete floor.

2951. Till the strengthening was put in, how did the damage extend?—Well, it was most confined to the central portion of the colonnade, and forward on to the pillars.

2952. Before the strengthening was put in, was the damage confined between the first cell of south central projection, and the second of the north central projection—was the damage confined between these points?—I believe it extended further towards the north, if anything.

2953. But not further towards the south?—It certainly came more out here (towards the sea), and at first all the pillars were pretty plumb both ways, I should say. They might not have been

exactly plumb, but taking them by the eye they were pretty plumb. When the movement took place the cement floor commenced to bulge in the centre and gradually commenced to force the pillars out of plumb, this way and that way. The pillars of the colonnade commenced, I should say, from the centre to crush on the top towards the north. They opened on the north side of the pillars, and inclined northwards at top, and opened at base of pillars on south side.

2954. *Mr Gore.*] I understand they inclined towards the north and towards the sea as well?—In the foot they did, from their original position. I do not say from the plumb.

2955. *Mr. Blair.*] Did you have any trouble with any of the doors in the north wing before the strengthening was put in at any time?—Yes, a good deal of trouble with the doors along here.

2956. I refer to this portion of the building, the north wing?—No, never had any trouble to speak of there. One or two doors here, about cell 25, I think, had to be touched up a little. In fact, I am touching them up every day.

2957. Have you had to alter or touch any of the doors towards the front of this wing?—No.

2958. Not in the slightest degree?—Well, I believe there is a door leading in here. I believe I have had to touch it. The door leading to the lavatories was down a shade.

2959. When did that occur?—That is a considerable time since.

2960. Is that the only movement you have seen in the north wing?—Yes, the only movement. I know there is a shake down here, a sort of shiver down this gable.

2961. But as far as the doors are concerned?—Yes, that is all that I have had to do down there. I think I did touch them slightly, but not to any extent.

2962. Was the middle wall of the ambulatory ever straight to your knowledge?—Well, I can not say exactly straight, but nearly.

2963. When did you first notice any irregularity in the alignment of the colonnade pillars?—Shortly after this pushing and rising up here. I could not give any dates for it.

2964. Is it a long time since?—It must be three years ago nearly, I should say.

2965. Have you been in the habit of watching this building carefully all over from end to end?—Yes, I have had to.

2966. Is it part of your duties?—Yes.

2967. Have you charge of the whole building?—I have charge of keeping it in order—keeping doors and everything in working order.

2968. Did you ever get a site through the corridor from end to end of the building?—Never until lately.

2969. Were you in the habit of looking to see whether the front of the building was straight?—Well, I have taken to look at it after the cracks showed at the back. I thought it might be some slip, and I have looked at the front.

2970. Very well, you looked at it in connection with the cracks?—That was what drew my attention to it at first.

2971. Have you looked at it since?—Yes, I have observed it lately.

2972. Can you tell, from looking at the southern end of the building, whether the north wing of the building is exactly in the position in which it was when you first looked at it when the cracks appeared?—I believe it is very much the same.

2973. Have you been in the habit of aligning it from the south end, looking at it from the south?—Yes; looking at it from the south towards the north.

2974. And it is now in the same position?—I should say nearly. I did not look at it to take any particular notice.

2975. You looked at it for this purpose?—Yes, in connection with the thing slipping, because I had had trouble with the other building slipping.

2976. You looked at it in connection with this very thing?—Yes.

2977. And to the best of your belief the front part of the north wing is now in the position it was when you first saw it?—I should say much the same, so far as I could judge.

2978. Might it be down 16in., or 18in., or 2ft. without your noticing it?—I do not think it could. I should be apt to notice it.

2979. Where are the water-supply pipes along the back of this building, are they not close?—They come, I should say, I do not know what distance from the back of the building, but just at the back of the airing-yards—close to them.

2980. *The Chairman.*] Outside the airing-courts?—Yes.

2981. *Mr. Blair.*] Are they 10ft. outside the airing-courts?—No; scarcely 10ft.—not at the corner, at any rate, because we had occasion to repair them up there.

2982. Have you ever found these pipes to leak from any slip in the ground?—No; there was only one leak, to my knowledge.

2983. What was the cause of that?—The small pipe was tapped into the large pipe. The pipes were very hard, and I think there had been a flaw.

2984. The leak was not through displacement of the pipes?—I think not.

2985. Have there been any other leaks anywhere?—Not to my knowledge.

2986. Now, there is a line of drain-pipes along the front of the building; the main drain runs along the front of the building; the sewage-drain parallel with the building?—Yes.

2987. About 10ft. away, or more?—Well, we had occasion to put a trap into it, and I have a good idea where it is. We had to put a trap into it the day before yesterday.

2988. How far are they?—They are outside the front of the central portion. There is where we opened it, down there [indicating on plan.]

2989. Has that drain ever been broken through a slip in the ground?—Not to my knowledge. I have never known it to be, and I should most likely have known if it had been. It was broken into, as I tell you, to run another drain into it.

2990. *The Chairman.*] Did you see these water-pipes laid?—No; I was not there at the time they were laid. They were there before I went out in October.

2991. Did you see the drain-pipes laid in front?—No; I was about there very little at the time of the construction of the building.

2992. You say you are always easing the doors in the north wing?—Along this line mostly.

2993. Can you point out what doors you have had to ease? Take these three cells there—20, 21, and 22?—Well, I have had to strip the tops of them. I have had to take it off the left-hand top corner, looking at the door from the passage. I have had to cut some doors on the bottom as well.

2994. You do not recollect which door?—No. On this side of the recess—the south side of the projection—the day-room doors were eased in the opposite corners.

2995. The doors leading in the north wing?—There is a door I had to alter to-day. There is that door—the door of cell 18. I had to file the bottom of the striking-plate post-head on the bottom side to let the bolt of the lock get in. The large door leading into the day-room, in the north from the ambulatory, on the ground floor, it got jammed on the top on the north side, and I had to take a hammer to knock it out, and I had to cut an inch off it. The step was bulged up, and I had to plane a bit off it.

2996. Have you often to go up on the roof?—Well, I have been up.

2997. You were up there the other day. Have you ever looked along the ridge of the roof before?—Yes. The other ridge is pretty correct, but you know it is a little up. Where the building on this side—the south side—stood splendidly it is not even straight; it has gone a little up in the centre.

2998. When you first went up, did you notice that?—No; I did not take any particular notice then, not up there.

2999. *Mr. Gore.*] This stringer you spoke of as being put across here and bulged inwards—if this wall was pressing down-hill and pressing this stringer against the concrete floor, would that have the effect of bulging it as you describe it?—It was crushing in. The pressure was endways of the board.

3000. With the crushing-in and bending inwards did it leave the cement of the concrete floor?—Yes, certainly.

3001. It went away from the concrete?—Yes; in there, not here. It kept to the concrete here, and bulged it up.

3002. How long was it after you took possession of the building before you had to ease any of the doors?—Very shortly after we went into it.

3003. How long: Six months or three months?—Less than three months after the patients went into it. Of course, before that I had nothing to do with it.

3004. Can you give us about the date?—No; I took no particular note of that.

3005. Can you not say whether it was at the beginning of 1884, or at the end, or when?—Shortly after the patients went in, I know. I could not say more particularly than that.

3006. *The Chairman.*] How many weeks or months after?—It might have been three months. I could not say with any accuracy.

3007. *Mr. Gore.*] You say it is three years ago since you first noticed these ambulatory piers going out of plumb?—It was somewhere thereabouts, because they were pretty straight when we went there first.

3008. Can you tell what was the cause of their going out of plumb, whether vertical settlement or pressure at the back?—I think vertical settlement. I think there was vertical settlement here [pointing to plan]; and I am sure there was there.

3009. Have you levelled it?—I can see the way the floors run. You can see without a level that it is a trifle forward, and that it has left that back wall.

3010. If you were told, Mr. Reid, that this ambulatory which is 80ft. long, only started ½in. from end to end, from one end to the other, would you think that that ½in. of vertical settlement would cause the piers to be thrown out of plumb?—I think it would, and I can give my reasons for thinking so. One ½in. of settlement means far more of push. It means ½in. on each space. It communicated the force from one pillar to the next, and the next, as it has done, and as I have noticed it right along. In the first place the settlement came gradually on, and came to the north end of the colonnade.

3011. This colonnade is 80ft. 6in. from end to end, and if it settled ½in. at this end in the whole 80ft., would that account for the piers?—If it was one arch it would affect it very little indeed.

3012. If you were told that pier No. 1 and pier No. 7 are the same level exactly, how then would you account for the piers being out of level?—I should still stay it was vertical settlement.

3013. How do you account for that push otherwise? The building is crushed right up to the south?—I said, or meant to say, that this—meaning the north-east wing—must have crushed to the south (not the whole building); that was provided you did not accept vertical settlement.

3014. It is crushed to the south?—If you do not accept the settlement theory.

3015. Then we will say that we do not accept the settlement theory?—Then I cannot account for it otherwise.

3016. Then, if it is pushed to the south, how do you account for having to ease the doors at the south end?—Because the force might have been greater there. It will have the same effect. I may say that ½in. means equal to ½in. of outward pressure to each of the arches you have there. It has evidently done that, because this pier is not so far off plumb as the next, and so on. I would not be convinced of anything else, at any rate.

JAMES MARCHBANKS sworn and examined.

3017. *Mr. Blair.*] What are you?—Assistant-Engineer in the Public Works Department.

3018. Are you an authorised surveyor?—Yes, an authorised and licensed surveyor.

3019. Were you making a survey on Seacliff in 1884?—Yes.

3020. In what month?—February.

3021. Did you fix the bearing of the front part of the building?—I did.
3022. Have you since checked your survey?—I did on the 20th February, 1888.
3023. Did you take it by independent lines?—Yes; I ran independent lines to the building.
3024. Did you find your original survey correct?—I found it to be correct within less than one minute.
3025. What did that make on the total length of the building?—About 1½in.
3026. Then you found the building to be exactly where it was in February, 1884?—Practically so. The bearing was the same within less than a minute.
3027. *Mr. Lawson.*] Your measurement was taken solely as to levels?—No; as to bearing.
3028. What bearing?—The bearing in relation to the meridian, that is all.
3029. Do you mean to say, in fact, that the building shows only a variation of 1½in.?—According to my work, that is so.
3030. How did you measure it?—I set off a line from the south and from the north. I had a fixed traverse from a sub-trig. in the school reserve, Block, III., Waikouaiti, and I took the bearing right along a line about 560ft. long, and in checking it I ran an independent line up from the same sub-trig., and came up this end, taking the same point there.
3031. Are you sure the trig. was the same?—To the best of my knowledge: I do not know of any difference.
3032. It might have slipped?—Not unless the whole front of the building had slipped parallel to that bearing.
3033. If another surveyor were to come and prove that the north wing had varied 13½in. from what it was at the date you are speaking of, would you say he was wrong?—I would stick to my own work.
3034. Is it usual that a variation of 13½in. occurs between the measurement of two experts?—I could not say. Of course, in survey work, there is a certain limit of error.
3035. But is that not a large limit from end to end of that building?—No; for the bearing would not affect the distance at all. If the building moved forward as a whole mass, the bearing would be still the same; that is if it moved parallel so many feet or inches at each end.
3036. And you found the only variation to be 1½in.?—Equal to 1½in.: one minute of arc.
3037. From end to end of the building?—Yes.
3038. *The Chairman.*] What was the object of your first traverse?—I have had a lot to do with the surveys round about Seacliff, and the object was to fix the line of building at the time. That was in February, 1884.
3039. That was after it was completed?—I think there was work going on at the time.
3040. What was the object of your running the line?—There was a traverse up here from the pipes in here, that went up by the side of the building, and I fixed the position of the building, and showed it on the same plan.
3041. Simply to show it on the plan?—Yes.
3042. When you checked it the other day—on the 20th of February—you ran a traverse up in another direction?—Quite independently: in two lines I ran it up.
3043. When you showed the building on your plan as previously made, it was simply with that object. There was no necessity to be accurate?—I showed it as accurately as I could. Of course there was no question of the building moving. I just showed the building as part of my work.
3044. What was the plan for?—It was a general plan; there was a lot of work about Seacliff, land surveying.
3045. You took the bearings pretty carefully in order to show the building pretty accurately in its position?—Oh, yes! I had an ordinary 5in. instrument.
3046. You were satisfied that your work was correct?—Yes.
3047. And the second traverse you ran convinced you?—It comes in almost exactly the same as it was before, that is all I could say. I could not say any more.
3048. What sub-trig. was this?—A sub-trig. at the school reserve, Block III., Waikouaiti.
3049. That is close to the station?—No; about fifteen chains below where the road goes up; and from trig. D D at Warrington, about two miles and a half below Seacliff station on the line to Blueskin.
3050. *Mr. Blair.*] Did you take the bearings from that trig. at Warrington?—Yes; to this point of the school reserve, and from there up to the building.
3051. *The Chairman.*] In fixing the line of this building when you took the bearing of it, what part of the building did you measure to?—The line that I laid off in preparing a petty contract here for Mathesons. I measured 8ft. from the concrete at the extreme bay-window here and 8ft. from the concrete at the bay-window at the extreme north.
3052. You took the two extreme points?—Yes.
3053. I was wondering whether you had taken some part of the building?—No; that is what I took.
3054. *Mr. Skinner.*] Was the concrete exposed when you took it?—I had to dig round there.
3055. *The Chairman.*] You measured from the same points at your last survey.—Yes.
3056. And you say an error of a minute would only make 1½in.?—Yes.
3057. In the length of the building?—No; in about 560ft.
3058. Of course you did not work out what error 16in. would make—how many minutes?—No; I worked out an error of 13in. and it made over seven minutes.
3059. In the length of the building?—No; in the distance I took from here to here.
3060. *Mr. Skinner.*] Where the 1½in. was shown?—A minute one way or the other here would mean the deflection of 1½in.
Mr. Blair: That is the only evidence I have to bring; but if I had understood the other

side were not going to bring expert evidence, I would have brought experts to prove that any movement, such as 16in. or very much less, would have been the means of dislocating these drain-pipes, and causing an extensive leak. I presume I may leave that matter in the hands of the Commission.

The Chairman: You would be only loading the evidence.

PETER SEATON HAY recalled and further examined.

3061. *Mr. Blair.*] Have you taken any more levels round the building since we have been here, Mr. Hay?—I took some levels at the direction of the Commissioners: the Commissioners have the notes of them.

3062. Do you remember any of the differences—have you the notes of them yourself?—We levelled from the window-sill of the window in the extreme north wing backwards along the back airing-court. The reading of this first window of the attendants' room was 0·36ft., then it dropped to 0·41ft.—that is, $\frac{5}{8}$in.

3063. In room 22?—Yes. Then, in room 21 it was 0·43ft., and in room 20 0·46ft.; and this room 20 was the lowest.

3064. What is the fall at room 20 from where you first started?—One and a half inches. Then they gradually rise and rise all round at a pretty even grade right up to this window in room 11, in Block 1 (north), and the reading there was 0·11ft.—that is, 0·35ft., and that is about 4$\frac{1}{4}$in. of difference.

3065. Four and a quarter inches in the window-sills?—Barely 4$\frac{1}{4}$in. in the window-sills.

3066. Which is the lowest?—Room 20; and they rise gradually round all the way in this north wall. In the back of Block 1 the fall is 1$\frac{5}{8}$in., 0·13ft.—that is, in the portion of this which is assumed never to have moved.

3067. *The Chairman.*] Have you been out at the asylum lately, within the last week, since the Commissioners were there?—I was out with Mr. Brindley since you were there, showing him over the place.

3068. Have you taken any further measurements through the corridors and ambulatories to verify your previous work as to its being correct?—No, I have not taken any further measurements other than I gave you, except that I measured one doorway to the edge of the door, which gave the same measurement as you have made it—that is all.

3069. *Mr. Gore.*] You have just stated that you did not check your levels of the foundation-piers in the ambulatory?—I did not say I did not check them.

3070. You said in your evidence before that you found the end of the colonnade the general cause of damage, and that there is about 20 per cent. less cement in them than is shown on the contract-drawings?—I did not say cement, but concrete.

3071. Well, concrete. How do you arrive at that conclusion?—I scaled off the drawings what it ought to be.

3072. Off the original drawings?—Off the contract-drawings. That comes to about 10 square feet per lineal foot, or a little over, of concrete, and what I saw I do not think had more than 8 square feet in the section.

3073. If I remember aright, you said you had not seen the back of it?—I saw the back at one place.

3074. You did not measure it: I mean the foundations under the ambulatory-wall?—I did—three sections outside, and one inside.

3075. You say you took the measurements from the original plan and from that plan (No. 3)?—Yes.

3076. How could you take the measurements from that plan?—I have one section inside and some outside.

3077. Where are they?—There they are. You have not looked at the plan, evidently. Three sections were taken from the outside and one from the inside, and I did not find it any better on the inside than it was on the outside.

3078. You said in your evidence before that you had not measured it?—I must have measured it to give you these sections.

3079. Kindly show me where this is. I fail to see it even now. Perhaps it is my obtuseness. Perhaps you will be kind enough to explain it to me? [Witness pointed out matter referred to on the plan.]

3080. Is that the only one you measured inside?—That is the only one I took on the inside. It was the same as the outside, and, as foundations ought to be the same on both sides, I did not think it was necessary to tear the place up.

3081. It has been stated in evidence that the foundations are 3ft. thick: are you prepared to contradict that?—I never found them 3ft. thick.

3082. They are not 3ft.?—Not where I saw them.

3083. You stated also in your evidence that the footings had been left off?—I never saw any footings.

3084. You said they had been left out?—Well, they are not there.

3085. Is it not a fact that the footings were brought up straight in place of being set off—brought up straight as a solid mass?—You will find some places where there is no footing, and some places where there is no offset. It goes straight down.

3086. I am referring to the foundations of the ambulatory?—Well, there are no footings in the ambulatory.

3087. Do you mean to say there is no set-off?—Yes.

3088. Did you not find the footings brought up without a set-off, solid?—No. On the plan that we have it scales 3ft. 4in. in width, and there is no 3ft. 4in. to be found there in width.

3089. I think if you will look at the plan you will find it is figured 3ft.?—No, I have never found it.

3090. They were supposed to be 3ft.?—They scale 3ft. 4in. at least.

3091. What do these ambulatory-walls measure where the footings are indicated on the original plans—what does the foundation as put in measure?—You can get it on my plan; I have it there.

3092. You only show one side?—I take the outside and the inside to be the same.

3093. But I want to know what it is?—It is given there.

3094. The point is this: I want to get from Mr. Hay how he has made his calculation. You have had it in evidence from three individuals that they could not possibly take measurements from this plan. I want to know how it was arrived at?—I have taken the average of these sections given.

3095. You have not taken the wall as it is?—I have taken it as shown there; I did not expose the whole wall and measure every foot of it.

3096. You said before you did not measure the thickness of the walls?—I have given you sections on the two sides.

3097. No, you did not give a section on that side at the same pier—not exactly at the same place. Then how can you arrive at the thickness, supposing there are irregularities in the wall?—There has no business to be irregularities in it.

3098. I am not asking you what the business is; but, supposing there is, can you possibly from your section get the thickness of the wall? It would guide me a good deal.—You could not measure it every 6in.

3099. You say you have two sections, one showing the one side, and the other the other side at different places?—Very near hand.

3100. Very many feet from one another. You have only taken four measurements in 81ft.?—That is quite enough.

3101. You have taken one at the extreme end, and two equidistant. I ask you again, if you put this plan into the hands of any man who had not taken the measurements himself, could he get the cubic contents of that foundation from it?—Yes, if he understood a plan.

3102. Well, I have been used to taking measures all my life, and I could not?—Very likely you did not want to in this case.

3103. I do not think it is right for you to say so. I think that is an unjustifiable remark of yours. I am simply wanting to arrive at the truth, not to put you in a false position; and I think the remark most uncalled-for and insulting—very insulting. You have no right to suppose that I am here to speak anything but the truth, as I give you credit for doing. Then, Mr. Hay, you cannot tell me how a stranger not acquainted with this plan, a man who had never seen the plan before—can you tell me how he could take the cubic contents of this wall from it?—The man would know that the thing would be the same on both sides, or that it ought to be the same on both sides.

3104. Well, leave it there. You told me you did not measure the thickness of the back wall?—No; Mr. Hunter measured the thickness of the back wall.

3105. Did he give that thickness to you?—He told me of it.

3106. You said the back wall would not carry the weight of the superstructure, and that you did not allude to the concrete, but to the clay underneath?—Yes, the clay underneath.

3107. Would you be very much surprised if that wall cracked before any weight was put on it at all?—I have seen since from your evidence that it did crack.

3108. If I were to tell you that Mr. Brindley says so—putting myself out of the question, as I am not supposed to speak the truth—that Mr. Brindley said it cracked, that the foreman said it cracked, and that James Gore said it cracked before bricks were put on the wall, would that alter your opinion?—No.

3109. Before any weight was on the wall you say the foundation settled of its own weight?—It depends upon the condition the clay was in at the time. I do not know how the wall was. This wall [pointing to plan] seems to have stood for a considerable time.

3110. You said it would not carry the superstructure?—No; I said that it was dangerously loaded.

3111. It has been proved in evidence that there was a crack in this wall before there was one ounce of weight put upon it: will you still say that the clay was not sufficient to carry the superstructure?—Yes; I still think the clay was dangerously loaded. The expression I used was that the clay foundation was dangerously loaded. I explained that before.

3112. You also said it had the advantage of having earth at the back, which assisted the foundation?—The friction of the earth at the back.

3113. Provided the earth at the back was shown to be of a loose and porous kind of material—clay, or whatever it might be composed of—carrying large quantities of water, would you still think that would be a support to the wall?—It would be a support, but in a less degree.

3114. You think it would support it?—It would be some support.

3115. Do you not think that the back-pressure of this clay, with water percolating through it to a very considerable extent, would have a tendency to throw the wall over instead of supporting it?—I know that quite well, but that is a different thing: the friction would also prevent it from sinking.

3116. But would there be much friction in a clay-bank soaked with water?—No; but some.

3117. You think that would have a tendency to keep the foundation up?—It would, especially if dovetailed in with a few boulders.

3118. You are supposing a thing?—I have seen it in other parts of the foundation.

3119. You have seen boulders dovetailed into the concrete. Will you be kind enough to say where, please? However, there is no use in following that up. Do you say this clay-bank at the back of the north-ambulatory wall, with this water percolating through it to a great degree, would not rather have the tendency to throw the wall over than to support it?—It would have a tendency to throw the wall over; but remember that throwing over and sinking are two different things.

3120. I am not talking about sinking?—Yes; that is just what you are doing.

3121. You say it would support it from sinking. It cannot sink without causing friction against the bank at the back, and that would help it a little. Then, it would have a tendency to support the wall from sinking vertically, and it would have a tendency to throw it over as well?—The earth-pressure would.

3122. You have shown in your evidence—and I have every reason to believe that your theodolite is perfectly correct—that from pier 1 to pier 8 there is little more than ½in. out of level—⅝in. Supposing that has sunk ⅝in., are you prepared to say that that will account for all of the cracks in the building, or for a majority of the cracks in the building, or for half of them—would it account for half of them?—It would account for a great many of them. That and the sinking of the middle wall and of the partitions, as I said, accounted for all the cracks.

3123. Would that account for the cracks in the pier at the north end of No. 2 Block, at the north-west angle of Block No. 2 (north)? Would it account for these and for its being out of the perpendicular?—Yes, before the entrance-door. The thrust from the colonnade-wall has bulged that out.

3124. To what extent has that been bulged out?—That I can hardly say unless you tell me what state it was in when it was built.

3125. I want to know what it was when you measured it?—I gave you all these measurements before: 2⅜in., and 2¼in., and 2⅜in. is the greatest overhang there.

3126. Very well, then: if there was a settlement of ½in. in 80ft., would that cause the north wall to bulge out 2⅜in.?—It has caused it, in my opinion. I have not the slightest doubt about it.

3127. Say there is a wall 80ft. long and 40ft. high, and it sinks ½in., how far——?—It is not 40ft. high; it is only 26ft. high.

3128. Supposing a case. If it sinks only ½in. in 80ft., how much out of plumb will it be at 40ft. at a right angle?—I never worked that out.

3129. Do you not know that if it sinks ½in. in a length of 80ft. it can only be ¼in. out in a height of 40ft.? How much do you say that it would throw it out from being plumb at the top?—I do not know how the building was, to begin with. I know it has been crushed back at the north end, and that the effect of that has been multiplied by the height of the wall. The thrust has pushed the wall out, and whatever its effect it has been multiplied by about at least three times at the top; but I do not say that the wall was plumb, to begin with.

3130. But you also said in your former evidence that all the cracks in the north wall of the north wing are due to bulging rather than to settlement?—I think so. There are only a few cracks over there, where the wall has bulged out.

3131. And you think this ½in. of settlement in 80ft. caused this?—It may have been more than ½in. I do not know how much it may be; they may all have gone down for all I know. There is that difference of ½in. now between the pillars.

3132. You said in your former evidence that you wondered the building had not sunk more?—Yes, I did.

3133. What was your reason?—Because the foundations are so narrow.

3134. And still they have only settled ½in. in 80ft.?—I told you I did not know how much they had settled absolutely.

3135. There is now only ½in. difference in 80ft.?—Not in 80ft. Between No. 1 and No. 7 pillars they sank ½in.

3136. But you show a variation of the pillars all through. Do you not think, instead of this ½in. of settlement accounting for the cracks, that it is more likely to be a movement of the earth that caused them?—A movement of the earth in which direction?

3137. From the north-east?—That would give a tension in the colonnade-wall, and this is a thrust.

3138. Do you not think that the theory that this ground moved in that direction would account for the cracks easier than the theory of this having settled ½in. in 80ft.?—I do not think it would, because there is a severe thrust at the south end of the colonnade—that there can be no doubt of—and the movement you describe would give no thrust there.

3139. You said in your evidence previously that this colonnade was 16½in. out of being in line with the ambulatory of No. 1 ward —I think 16¼in.

3140. If you were told that it was built perfectly straight how would you account for its being 16½in. out now?—I should doubt the accuracy of the statement that it was built straight. It is a much easier thing to make a mistake in setting out than for a whole building to slip without injury all that distance.

3141. If Mr. Brindley who set out the work, was to tell you, as he has told the Commissioners, that he set out the place, before the brickwork was erected, that he worked to a line, and could not possibly be out more than 1½in.—supposing he were to say he was satisfied of that, how would you account for the 16½in.?—It is impossible to account for them—the two are irreconcilable; but I do not believe it, all the asme.

MONDAY, 27TH FEBRUARY, 1888.

Mr. A. T. BRINDLEY recalled and further examined.

Mr. Gore said that he should like to bring forward another witness, who would be in a position to substantiate what he was about to say; or perhaps, if there is no objection, he would make the statement and throw the onus on the Public Works Department or on Mr. Brindley of bringing forward the witness in question, whose name and residence he would give to them, or of disproving what he (Mr. Gore) intended to say. He suggested this course simply in order to save time.

Mr. Blair: I understood that no new evidence was to be brought forward. The case was really closed on Saturday, and we are to-day simply for the purpose of commenting upon the evidence that has been given.

The Chairman: Why was not this evidence produced before?

Mr. Gore: I am not asking to bring forward any fresh evidence. I am simply putting it in the way I did in order to save time. The statement I am about to make to the Commissioners did not come to my knowledge till Saturday night. If Mr. Blair, after hearing the statement I am about to make, should think proper to produce evidence to controvert it, or should produce the witness, I shall certainly not object, nor do I think that Mr. Lawson will object.

The Chairman: To what effect will your statement be?

Mr. Gore: That I shall probably state presently.

The Chairman: It may lead to a reopening of the case.

Mr. Gore: No. It is with respect to these letters of Mr. Brindley's, and I shall endeavour to prove that the letters he wrote were written with a bias.

The Chairman: Why did you not prove that before?

Mr. Gore: Because I was not in a position to state this fact which, as I have already said, did not come to my knowledge till Saturday night. Mr. Brindley, in the course of his evidence, stated that "nests" of stones were put in the trenches.

Mr. Brindley: I did not say anything of the kind. I said I should not be surprised if "nests" of stones were found there.

Mr. Gore: I thought it was an improper statement for Mr. Brindley to have made, and said so at the time it was made. Mr. Brindley saw all the work as it was put in there, yet he never informed me of anything of the kind having taken place.

The Chairman: What Mr. Brindley stated, if I remember rightly, was that he would not be surprised if stones were found in nests. He did not say that they were actually in nests.

Mr. Lawson: It is a curious thing, I think, that the Inspector of Works, after having certified to the works all through, should make such a statement as Mr. Brindley has done. Any statement that Mr. Gore now makes will not be evidence unless it is substantiated.

Mr. Gore: I shall make the statement for what it is worth, though I really do not think it has anything to do with the case of the building slipping. But certain letters—very strong letters—of Mr. Brindley's have been read, and they contain statements which, you will admit, if true, I should be put somewhere else. I want now to show that these letters were written with a bias, and I think that in fairness to myself it is only right that I should be allowed to make this statement, though I do not think that it will make any difference to your decision. However, I am quite ready to go on.

3141A. *Mr. Skinner.*] Before Mr. Gore goes on any further I should like to ask Mr. Brindley a question or two. With reference to the thickness of the walls in the central portion of the building, it has been given in evidence that these walls were built 2ft. 3in., while on the drawing here they are marked 1ft. 10½in.?—That is the upper floor of the pier.

3142. On the original plan they were marked 2ft. 3in.?—Yes.

3143. Was it carried 2ft. 3in. or 1ft. 10½in.?—It was 2ft. 3in. here [indicating on plan].

3144. That is the upper storey?—The piers were 1ft. 10½in.; eighteen inches above that the walls were 2ft. 3in.

3145. I presume that this is the plan you worked to, and that the lower storey you mean over the dining-room?—In the dining-room.

3146. From that it is 1ft. 10½in.?—It is about 2ft. broad at these piers [indicating on plan]. It is the same there as figured on the drawing.

Mr. Blair: There is a small matter that occurred on Saturday which, Mr. Chairman, you will perhaps allow me to refer to. Mr. Gore then asked Mr. Brindley a question as to a rumour about his having offered him (Mr. Brindley) a bribe. I asked Mr. Gore across this table if he blamed the Public Works Department for circulating that report, and he replied at once that he did nothing of the kind; I therefore did not ask any questions on the subject; but seeing that the matter has appeared in the public Press I think it would be as well if my question, and Mr. Gore's reply to it, were recorded.

Mr. Gore: I never for a moment thought that such an insinuation could come from the Public Works Department.

The Chairman: With regard to Mr. Gore wanting to call further evidence in order to prove that Mr. Brindley was biassed, I may state that the Commissioners are quite aware that Mr. Brindley is biassed. From the position he held he cannot help being biassed. He must of necessity be biassed, because he was put there in antagonism to you, Mr. Gore, and your whole staff—to watch over your work, in fact; and naturally he cannot hold the same opinions as you.

Mr. Gore: But I will go further, and say that he was biassed against me personally after the contract was finished, when he ought not to have had any bias.

3147. *The Chairman.*] There is another question which one of the Commissioners is desirous of asking Mr. Brindley, and it is this: under whose direction did you consider you were working while you were on the work?—Under Mr. Lawson.

3148. Then did you consider that Mr. Lawson had given you power to conduct the work as you thought fit with regard to making necessary alterations?—As a rule, if any alterations were to be made I submitted them to Mr. Lawson. With regard to the foundations I had to use my own discretion.

3149. With regard to the thickness of the walls, for instance?—That was one of the questions that cropped up.

3150. Had you power to make alterations without reference to Mr. Lawson?—No, I had not, except under very exceptional circumstances. In the majority of cases if anything arose I referred to him.

3151. Did you, in point of fact, when you found that there was any necessity for making alterations, refer the matter to Mr. Lawson together with your own recommendation?—Yes; anything I considered necessary I referred to him. For instance, there was the reference of the matter of the piers being built with cement.

3152. Did you approve of that?—I think so.

3153. Then you recommended it?—Yes.

3154. And with regard to the central portion of the building where the walls were strengthened by iron rails being put in and tied back?—I came down to town specially to see Mr. Lawson about that. The specification was very vague in regard to bond ties.

3155. *Mr. Lawson.*] Does it specify that iron bonds and ties are required throughout the building?—Yes.

3156. *Mr. Skinner.*] When this turret was drawn out, before it was constructed, were you of opinion that it was strong enough—was tied back enough into the work from its position?—Well, I made the best I could of it.

3157. Was this the drawing [produced] which was worked to?—Yes.

3158. But I ask you at the time that it was constructed were you of opinion that the pillars were strong enough to carry the weight of the overhang?—I was not.

3159. Did you call Mr. Lawson's attention to that?—Yes; that is why I suggested to bring it in.

3160. He brought in the turret afterwards. I noticed that they did not project so much?—They were brought in afterwards.

3161. *Mr. Lawson.*] Did you never see a turret built like that before?—Yes; I have seen specimens of them.

3162. *Mr. Mountfort.*] After Mr. Lawson had told you that great power rested in your discretion, did you think that you had full authority to make any structural alterations without reference to Mr. Lawson?—Most decidedly not.

3163. *The Chairman.*] Then you thought all along that you were acting for Mr. Lawson?—Yes.

3164. *Mr. Mountfort.*] Did you ever look on yourself as acting independently of Mr. Lawson?—No.

3165. Did you ever look on Mr. Blair as being your superior officer?—Most decidedly not.

3166. If anything went wrong constructionally, you did not think that you were responsible?—I did not.

3167. Of course I mean that you were following orders?—Exactly.

Mr. James Gore's Statement.

Mr. Gore: At the commencement of this inquiry it was with a very considerable amount of diffidence that I expressed a desire to review the evidence at its close; but now that all the evidence has been taken, I find that my task is a very easy one. I do not need to go outside of Mr. Blair's witnesses—by that I mean, of course, the witnesses of the Public Works Department—in order to clear myself of all the charges that have been brought against me. Let me, at the outset, state briefly what I take to be my position in regard to this inquiry. In the House of Representatives, on the 17th December last, the Hon. Mr. Mitchelson, in replying to a question that had been put to him, used the words:—" . . . . The drawings of the engineer sent down to report on the building showed very clearly that the specifications had not been carried out. He had the plans in front of him, and any honourable member might see that there was a very large discrepancy throughout the whole of the foundations. It was his intention to cause an inquiry to be made, and if it was found that the Contractor was legally liable to make the work good, the Government would take action. The stability of the building was endangered by the foundations having been laid so badly. An inquiry would be made at once." I may say that on reading that I felt a little indignant, and I wrote to the *Evening Star* a letter on the subject of the Seacliff building. That is the first and only letter I have written about it, and it was signed with my own name. In that letter I stated that one of two things must have occurred: either Mr. Mitchelson must have given his answer in reply to the manner in which the question was put, or his reply was inspired by the Public Works Department; there can be no doubt now that the answer was inspired by the Public Works Department; for we have heard from Mr. Blair himself that, so far as this inquiry is concerned, he is the Public Works Department; so I naturally look on it that that answer was inspired by himself. From the reply which the Minister gave, and from the evidence which has been taken here, it appears to me that the charges brought against me are these: First, that I have scamped the foundations; second, that I have reduced the quantity of concrete in the foundations in order to benefit myself; and, third, that by these means damage has been caused to the building; for which I am to be held responsible. Before this Commission sat, I had no knowledge whatever that any specific charges were to be brought against me. I did not know it, in fact, until after Mr. Blair had given his evidence—if it can be called evidence; for, at best, it amounted to nothing more than hearsay statements, of which he personally could not know anything about. No doubt Mr. Blair was guided by what his witnesses told him that they could prove, and, therefore, I quite exonerate him from wilfully wishing to mislead this Commission. I have known him for a great many years, and I do not think that he would do such a thing: but what a difference is there between his statement of what he professed to bring witnesses to prove and what he has actually proved! I say that he has failed most lamentably in proving what he undertook to prove. He said on oath: "This piece was bared afresh for the inspection of the Commissioners; so also was the adjoining window, which had never been opened before, and I might perhaps be permitted to say that it would be difficult to find a more flagrant example of scamping." When I heard that statement I was very much astonished; indeed I began to doubt my identity—to doubt whether I was the James Gore who had built this lunatic asylum; whether, in fact, I had ever seen the building on which I had passed so many anxious weeks and months in endeavouring to carry out my contract faithfully, and with satisfaction to all concerned—for I was virtually told that I am a swindler; as that is what in plain English it amounts to. And that is said of me, who has lived in this city of Dunedin for twenty-five years; who has during twelve years of that time occupied public positions, lived in good repute with my fellow-men, and believed to be an honest and honourable man. I am to be told that I

have been guilty of this infamous thing. Why, gentlemen, at the very time when, according to Mr. Blair's statement, I was perpetrating this swindle, the citizens of Dunedin had conferred on me the highest honour in their gift, and had elected me the Chief Magistrate of this city. If this statement of Mr. Blair be true, gentlemen, imagine the hypocrisy and deceit that I practised in order to gain their confidence. I know of no language strong enough to characterise this charge—nothing can excuse it, and nothing in the world can justify it, except the fact that it is and can be proved. Personally, I value the good opinion of every man, but I have sufficient independence of spirit to cause me to care for no man. So far as my position as a contractor is concerned this statement can do me no harm. I have erected in this city too many monuments of my integrity as a builder to have it imperilled by a vague statement of this kind. Commencing in 1863 I erected what was then the Roman Catholic Church in Darling Street. At that time there was very great difficulty experienced in getting anything approaching good materials. I have no hesitation in saying that if the bricks we used in that building had been used at Seacliff, Mr. Lawson, instead of condemning 125,000 as he did there, would have condemned the whole of those we used in the church at one fell swoop. Yet that church stands to-day almost as good as when it was built. Need I name the bridges, jetty-works, churches, theatres, banks, warehouses, hotels—in fact every sort of building except a gaol where, if Mr. Blair's statement is true, I ought to be in now. Before reviewing the evidence which was taken in regard to the special charges that have been laid against me, I shall endeavour to clear away some of the side issues which have been raised, and which I contend are really outside of the scope of this inquiry. First as to the bricks: I for one state that taking them all round they were very good bricks—indeed I will go further, and say that in Seacliff Asylum there are as good bricks as have ever been made in New Zealand. We made an immense quantity of them. You have it in evidence that 4,700,000 in all were made, and that less than 4,000,000 were used. Surely 700,000 bricks should be sufficient to satisfy any one; at all events, I know to my cost that a great many bricks were rejected and unused, and that I am sorry to say represented to me a loss of several hundreds of pounds. I deny emphatically that any bad bricks were put into that building. I can say further, of my own knowledge, that among the 175,000 bricks that were condemned by Mr. Brindley and Mr. Lawson were many thousands that were fairly good bricks. Some of them I quite admit were not good bricks, and those were rightly rejected. In the special circumstances of a difficulty in getting bricks we may have put in a few bricks that were not A 1, but on the whole the bricks that we did use were the best that could be made. Then, as to the cement which has been spoken of: I think I need say very little about that. Mr. Lawson has put in a letter which shows that he approved of the cement that was used at the north end of the building. That was used for plasterers' work, and could not affect the foundations in any shape or form. At the time that this substituted cement was used Knight and Bevan's could not be obtained in Dunedin. I used exactly the same cement in the Bank of New Zealand. As the work at Seacliff was at a standstill practically I had to get this cement from Christchurch, but it was only a small quantity; some fifty casks. This lead has also been called in question, but that occurred, if I remember aright, in September, 1884. I had no connection whatever with the Government in regard to Seacliff at that time. As a matter of fact I was in Wellington attending to my parliamentary duties there, and had nothing in the world to do with the works at Seacliff. Now, as to the boxing: I cannot say in how many of the trenches boxing was used, but I remember that in the central block the foundations were set out a little wrong. I thought they were in proper position, but Mr. Brindley differed, and we had to put in some more boxing. It is there to this day, for the simple reason that we could not get it out without breaking away the concrete. Having cleared away the red herrings which have been trailed across the real question, I now came to charge No. 1, which is the gravest charge that I have to answer—viz., that I "scamped" the foundations. The first witness whom Mr. Blair brought to prove this charge was James Donald who, to the best of my belief, is a reliable witness; at all events he is a workman that I used to think a great deal of. He was with me and left of his own accord, partly through Mr. Brindley. He certainly was not discharged by me from Seacliff, for he worked afterwards on the excavation. He never saw any sticks going into the foundations; he was told to put the stone-packing 7in. to 9in. apart, and did so. When asked if the stone-packing was put in in "nests"—I think that was the question that was asked him—he said not in the trenches, but he believed that a barrowfull or two were put into the tower foundations. Now, gentlemen, you have Dr. Hector's report, and Mr. Lawson was questioned about the foundations of the tower; and you know from the plans that these foundations have an enormous weight of superstructure to carry—the tower is nearly as high as the tower of the First Church in Dunedin, but of far heavier material. Yet it is alleged that I endeavoured to "scamp" my work here by emptying a few barrow-loads of stones, which would amount perhaps to ten shillings, into the foundations! Why, the idea is simply preposterous. I can speak of this from my own knowledge, for I was there when these foundations were put in. Mr. Brindley also saw the concrete put in in the foundation of the tower. What is the result? After standing for four years, and bearing the enormous weight that I have already described to you, there is not a crack in it, and that foundation is as good to-day as when it was put in. That, I contend, is the best evidence you can have of the quality of the concrete. Then we have the evidence of Mr. James Hunter. I have known him for a great many years, and know him to be a thoroughly practical man; I can therefore take his word, and am quite willing to accept his version of the drain. Personally, I know nothing whatever about it; Mr. W. J. Gore was the manager of the works, and knows all about them. Mr. Hunter says it was a contractor's drain; that it was built on both sides with brickwork, and that boards were placed over it. Very naturally he thought it was a contractor's drain, from the way he has described it, but it was Mr. Brindley, who in the first instance had this drain put in. Bricks would naturally form the side of the drain; boards would be the superstructure, and concrete would rest on it. That accounts for the "mare's-nest" which has been discovered by Mr. Blair—this scandalous charge which has been brought against me. This charge is utterly false,

and there is not a vestige of truth in it. Gentlemen, if I speak warmly on this, it is because I feel warmly. There is one point which did not strike me at the time: I am not so apt to seize on "points" as Mr. Chapman is. I asked the question myself when Mr. Hunter was under examination, and it was why he was not asked as to the thickness of the walls or the quality of the concrete. Mr. Hunter is a man who knows the importance of the question, and was silent about it. He had the width of the walls, and must have known the quality of the concrete; but I would call your attention to the fact that not one question was put to him as to the quality of the concrete. I now come to Mr. Brindley's evidence as to the quality of the concrete. Mr. Brindley has stated in his evidence that he had no complaint as to the quantity of cement that was put into the work. Well, gentlemen, I concur with him as to that, but it is the principal factor in determining the quality of the concrete. There was no stinting of the cement. I have not had time to run through my books, or I would have given you the actual quantities of cement used, and I think you would then have been much astonished to learn the large quantity of cement that has been used in that building at Seacliff. Mr. Brindley's principal objection—and, as I gather from his evidence, his only objection all through—has been to the stone-packing. He has stated frankly that he objects altogether to stone-packing in concrete, and that fact, I think, accounts for his objection. He does not believe in packing in any shape or form, and if he had his way would do away with it, whether it was 6in., 9in., 12in., or 18in. apart. You, gentlemen, know that a contractor does not go into a work merely for the sake of the work, but with the object of making money out of it; and it goes without saying that that was the object with which I undertook the construction of the largest building in New Zealand. Now, it is specified that the concrete is to have packing, as I have shown. I believed that the stone-packing was sufficient distance apart to make a good bed between the joints—quite as good, in fact, as if it had been 18in. apart. However, Mr. Brindley thought differently, and it was put 9in. apart. That, I think, disposes of his objection to the stone-packing. No doubt he did ask me to do away with the stone-packing in the north block, and I said that I was perfectly willing to do so. We had many conversations on the subject, but I always said that I would not do it unless I got an addition to my price for it. Why should I tender in open competition with all New Zealand for this building, and, after undertaking to provide a certain quality of work, be asked to give better work than what I was paid for? That was one of the causes of friction between Mr. Brindley and myself. Therefore I brought several witnesses here to prove the quality of the cement that was used; and you have heard from them how the metal was measured and afterwards mixed with cement—once dry and twice wet—and then placed in the trenches, and was good concrete. Watkins, and Butcher (the foreman bricklayer) both testify that the concrete was good. Then there is Mr. Forrest, who is certainly an observant man besides being an expert. He saw the concrete after it was in, he having measured the foundations, and he gave it as his opinion—I am not laying great stress on his evidence in this respect—that it was a good article. I now come to charge No. 2: that I reduced the concrete to benefit myself. That charge, I think, has virtually failed. Mr. Brindley has sworn that he set the foundations out, and that he was satisfied that they would carry the superstructure; he also said that it was done by measurement. Mr. Lawson has also stated, as has Mr. Brindley, that it was done by measurement and paid for by measurement. Mr. Marchbanks has run out some fignres here to show what would be the cost-price of the concrete, taking the cement at £1 per cask and allowing 1½ casks to the cubic yard. But you will find that my price, considering that the stone was on the ground for cutting, that it was surface-stone, and that there was very little expense needed for cutting it, gave me a very handsome profit indeed. Why should I stint the foundations under these circumstances, when for every cubic yard of concrete that I put in I had a big price for it? Is it reasonable to suggest that under these circumstances a contractor would reduce the concrete? On the contrary, I would put concrete all over the building, fill up every room with concrete, if they had asked me, and made a fortune out of it. Every yard of concrete that was reduced was a loss to me, and was it likely, after the expense I had gone to in making a tramway, &c., that I was going to reduce the amount of concrete work to be done, especially, as I have shown, as it was such a paying thing to me? I think I need say no more about the reduction of the concrete. Now, respecting Mr. Hay's plans, which he said were the same plans, with the exception of some slight alterations, that had been placed before the House of Representatives: Mr. Hay has stated that the cause of the cracking of the building was owing to the foundations of the north ambulatory-wall. He said it was the principal but not the sole cause, and he went into calculations in order to show that the foundations as put in are not equal to carrying half the weight that the original plan showed. Now, I tried to ascertain from Mr. Hay, but was unsuccessful, how he made his calculation, as it appeared to me—and I am quite satisfied of this in my own mind, though I have had many years' experience in taking off quantities, having been trained to the work in an office in the Old Country—that he cannot take the quantities off his plan. How can you get the cubical contents if only two dimensions are given to you? I say it is impossible from that plan to make such a calculation. I need say no more about it than this: that I think it was wrong for a member of the Public Works Department to have laid such a one-sided plan before ninety-four members of Parliament, not a man of whom, excepting perhaps half a dozen, can read a plan, much less tell what is indicated by a plan like this, if it can be called such. Then Mr. Hay gave us his opinion, and went into calculations in regard to the ambulatory back wall. How did he take the measure of that wall? His plan is not correct, and he has admitted that he never measured the thickness of that wall. How then, in the world, is he to arrive at a calculation? I think I need say no more on that subject. Mr. Brindley has stated that he was perfectly satisfied with the foundations, and that they would carry the superstructure. Regarding the nature of the clay at the north ambulatory-wall—where the damage has been done—I may say that to all appearance it is quite as sound and as good as the other clay, with the exception of the part which Dr. Hector describes as having a marl—that is, a limy kind of clay, and that is what did all the injury to our bricks. If you expose it to the surface it will swell up like stone lime. It may have had something to do with the foundations or

with the shifting of the ground; I do not say that it has, however. I have not seen the building for four years; I am, therefore, not competent to give an opinion. One more word about this plan and these calculations of Mr. Hay: I must ask you, gentlemen, in all seriousness to discard the plan and calculations from your consideration, because the plan is unreliable and, for the reason I have given, it is impossible to base his calculations on it. When he found that his witness was put in a corner, Mr. Blair said that he had told Mr. Hay the thickness of the foundations. Then, if he had so told Mr. Hay, why did not the plan show it? Another point about this plan is—I do not know whether it purports to show the ambulatory-wall; but, if it does, there is no doubt that the wall is not built that way—the footings are brought up to the full width; where the set-off should be there is solid concrete [indicating on plan]. That was done by Mr. Brindley's orders, in order to give greater strength to the foundations. This plan is not a truthful one, inasmuch as it does not show the foundations as they exist: the other one is worthless and misleading, and one that never should have been laid before the Minister for Public Works. I now come to charge No. 3: that by "scamping" the work and reducing the size of the foundations I have caused the damage to the building. I have no doubt that, with the exceptions I have pointed out, Mr. Hay's calculations may be taken as perfectly correct. But I say that his theories are all wrong: not one of them is correct. For instance, he says that the principal cause of the cracking is the settlement of the ambulatory-wall, and he gave you the variation of level at the different piers. The result is this: that the ambulatory-wall is 80ft. long, and that along that line there is only a settlement of ¼in. I asked Mr. Hay this question when he was under examination: if the building is 40ft. high, and the ambulatory-wall is 80ft. long, what would be the width of the crack; but he would not answer me till I told him that it would be exactly ¼in. Now, in this particular place where we ought to have had a crack, we have it in evidence that there is no crack whatever. In fact, the front of the airing-court is true, as it should be. You, as practical men, know that the first signs of settlement would show at the window-sills and heads; but these were in line and plumb. How does that agree with Mr. Hay's theory that the ambulatory-wall has caused all this mischief? Again, Mr. Hay goes into calculations as to the earth at the back of the wall; and I have no doubt that his calculation, on the basis that he made it, is correct. But he has entirely left out of consideration the important factor of the pressure and percolation of the water through this tank. You have the evidence of Donald that the water was percolating through there—that, as he put it, the water was "seeping" through the bank. Mr. Hay has never taken that factor into account, though it is a principal one. If I were compelled to give evidence—though I have not seen the building for four years—I should say that the pressure of water at the back has moved and is moving the ground. I do not mean to say that the whole of the foundation has been pushed—probably it has; but I do say that the top of the foundation has been pushed over without the bottom moving. What I think is a most wonderful thing is that Mr. Hay has never yet tried the base of the foundations; therefore, I must again ask you to disregard his evidence as valueless. You have seen his plans and heard his evidence; I do not know how you regard his calculations, but I certainly can place no reliance whatever on them. As I have already said, there is no doubt whatever about his measurements being correct, but I affirm that his theories are all wrong. Then Mr. Blair has produced a plan showing the buttresses, and he said that this buttress [indicating on plan], after it was put in, had almost effectually stopped that part of the building from cracking. How in the world can the buttress support the structure, as he alleges; it is supporting the thrust of water and clay at the back wall? To an extent it did effect the stoppage of the cracking, but if the foundations are sinking then the largest of these buttresses is going down with it. We have it in evidence that when the first drain was put in it had the effect of stopping the cracking, but that the cracking started again. A second drain was put in, and exactly the same thing happened, as it did when a third drain was put in. We have it in evidence that one drain stopped the cracking for nearly two years; that is to say, there was no fresh cracking. What can be clearer than this proof of the cause of this slipping? If this drain stopped the cracking for two years, is it not reasonable to suppose that that drain carried off the water during that time, and that when the cracks showed again after the lapse of a considerable time the drains had got choked? That is the only and proper theory that can be adopted. There is a matter that I felt very much inclined to ask Mr. Lawson a question about, but I felt ashamed to do so then. However, I can do so in my statement now, and I am prepared to do so. I have known Mr. Lawson for a great many years, I am proud to have known him, not only as an architect, but as a friend; but during the whole of that time Mr. Lawson has never received from me one shilling as "tip," though I have drawn thousands of pounds through his certificate. I have paid him nothing beyond his ordinary percentage of plans, which every contractor pays to every architect. I am prepared to say further, that never in my life have I offered a shilling to any man as "tip," and Mr. Lawson is the last man I should think of insulting by doing so. That is one of the insinuations that has been spread broadcast about town in connection with this work. But if a swindle was worked, necessarily Mr. Brindley, Mr. Lawson and I must all have been in it. I could not have done it myself. I now come to the unfortunate disputes between Mr. Brindley and myself, which account for the letters he wrote. There can be no doubt that Mr. Brindley has written some very severe letters, and there can be doubt either that there was a good deal of friction between us. I have already explained in several ways how that occurred. He said, for instance, that he had kept a certificate back until Dick was discharged. Now, I never discharged Dick, nor did any one else, because no one else had the power to do so. It has been stated in evidence that Dick was never discharged, but left of his own accord under a sense of injustice, as he himself described it, and on that account could not stay on the work any longer. Mr. Dick stated—I did not care to prompt him with leading questions—that he left because he felt that Mr. Brindley's action was an injustice to myself, and making him very uncomfortable. Mr. Brindley spoke to me several times and tried to get me to discharge Dick, and on one occasion he did go the length of saying that, unless I did discharge him, he (Brindley) would not stay on the work. As Dick has stated in his evidence, Mr. Brindley has had it all his own way. I might mention that on one occasion Mr. Dick was not quite satisfied,

as a servant of mine, that he had obtained the right quantities, so he wanted measurements for myself in order to return them to the office. Quite right too, and a request that no reasonable inspector of works could have objected to, but it was only after a very great deal of trouble that he obtained it. That is the kind of interference with my men by Mr. Brindley which caused the friction between us. Another foreman bricklayer—he is not in Dunedin now—has told me that on one occasion—Mr. Brindley can deny the statement if he thinks proper—Mr. Brindley said to him that "he (Brindley) would make it hot for Mr. Gore before the work was done." I had to discharge that man for the reason that I have already given in evidence. I had no real control over the men, whose work was falling off very much. There is no question that Mr. Brindley had occasion to find fault occasionally. I cannot see how a large building like that is to be carried on without differences of opinion arising. He must, however, bear me out in this: that I repeatedly told him that if he had any complaint to make if he intimated to me or to my foreman-in-charge, if I were not present, that it would be remedied at once. As to the condemned 175,000 bricks, I say again there were among them many bricks that were quite fit for this building, and I did feel annoyed at the Inspector of Works condemning them in a mass. It has been insinuated that Mr. Lawson did not indorse Mr. Brindley's authority. Now, in reference to these very bricks, I wrote to Mr. Lawson, asking that I should be allowed to pick out the good ones, and suggesting that Mr. Brindley should himself pick them out if he would not trust my men to do so; but Mr. Lawson's reply was that they must all go away, and away they all went accordingly, Can you wonder in the circumstances at my feeling annoyed, when at this very time we did not know what to do for bricks—we could not make them fast enough—and it almost became a question of stopping the works if these bricks were condemned? In reference to Mr. Brindley's letter in regard to the cement, you know the circumstances under which another brand was used; and there is a letter of Mr. Lawson to Mr. Ussher, who passed it. I have already told you the circumstances under which that letter came to be written, and I shall not take up your time by reading it. There was no attempt to gain any point about the cement. The simple fact was we had to take some other brand or go without. This cement, I must again point out, was not used in the concrete but put in the plaster for the internal and external walls. I now come to the last of Mr. Brindley's letters, wherein he says that concrete was put in while he was absent. Now, there was a day's concreting put in in the centre block while he was away; but I do not think that there is any question about the stability of that block. If Mr. Brindley had expressed a desire that no concrete should have been put in whilst he was not there it would not have been done. That is the only occasion I know of, or that we have any evidence of him being absent when the concrete was put in. On the other hand, he was a man who stayed almost entirely at his work; and at this time there was very little reason for him going to town, as the work had just been commenced. When, in giving his evidence on Friday, Mr. Brindley said if the stones had been put in in "nests" while he was away he should not be surprised—for that was his opinion—I ejaculated the remark that it was a scandalous statement. Mr. Brindley then "piled on the agony" by saying: "I have made it; I will make it again, and stick to it." He went on to mention about some of the concrete having to be shifted, and added: "If it was done when I was there—if that was done in front of me, what would they have done in the other courts when I was not there?" Gentlemen, that is not true. The latter part of Mr. Brindley's statement is untrue—wholly untrue. No concrete was ever put in "nests" before his face. You have it in evidence that at this particular place I stopped a man who was putting in the packing; and that at this very foundation Mr. Brindley is alluding to he ordered a portion of the concrete to be taken out; but only a small portion of it was taken out, Mr. Brindley himself having stopped any more being taken out because he was quite satisfied that the concrete could carry the weight it had to carry. The statement he made on Friday is not true, and he knows that it is untrue. I would like to mention here a matter that concerns Mr. Brindley and myself. It happened through a man reading in Friday night's *Star* the report of what Mr. Brindley had said in his evidence. This person said he thought it was a very unfair remark for Mr. Brindley to make, because he (Brindley) was biassed against me; that he would tell me why, and that I could make whatever use of his information I liked. He said that Mr. Brindley had told him—it took place in Donaldson's Shades Hotel the day before Mr. Brindley left for Sydney, and after the Seacliff Asylum was finished—that, conversing in a jocular manner with a friend, the latter had said, "Did Gore give you nothing?" and that he (Brindley) had replied: "No, he did not; but if I ever get the opportunity I will punish him." Does not that look as if Mr. Brindley wanted "tip." Does it not show that he had animus against me? The person who told me this is Councillor Henderson, of South Dunedin; and he is prepared, if you summon him, to go into the witness-box and swear to the truth of his statement, which you may take for what it is worth. But does it not account for the strong letters that Mr. Brindley wrote, and the presumption is that they were written without a cause. I have only this to say in conclusion: I leave myself in your hands with confidence. I submit, with all due respect, that there is no case against me; and that it has been shown in evidence that the great "mare's-nest" which the Public Works Department has found has ended in smoke—that there was nothing in it; that the contract was not "scamped;" and that I did not reduce the size of the foundations in order to make a profit for myself. Now, it has been clearly shown in evidence that reducing the foundations was a loss and not a gain to me, and that the more concrete I put in the more money I made. If you acquit me of these two charges, the third one must of necessity fall to the ground. As I have already said, I can safely leave myself in your hands, feeling satisfied that I shall have every fair play and every justice, and that by your decision my character will be vindicated. Gentlemen, I am sorry to have taken up so much of your time.

Mr. Blair's Reply.

Mr. Blair: Mr. Chairman,—In my opening statement I was scrupulously careful in avoiding personalities and in avoiding attributing motives. I am sorry to find that my example was not

followed. I will not, however, retaliate, neither shall I indulge in flights of rhetoric. I think personalities and rhetoric are alike out of place in this inquiry. I must, however, in self-defence, crave your permission to reply to some of the personal charges and misstatements that have been made. I would not have troubled you with an answer to the misstatements and personal attacks had the inquiry been in private—they answer themselves; but as they have been made in public, and appeared in the public prints, they should be publicly refuted. In his opening remarks Mr. Lawson accused me of grouping round the cause of injury to the building a multiplicity of subjects, with a view of screening it from view, and so warping the judgment sought for; and he further says that, to my discredit, I did so in the face of documents in my possession which would prove his contention. In reply, I need scarcely say that the statement is absolutely incorrect in every particular. You yourselves will judge as to whether I have attempted to involve the question, or to throw dust in your eyes in any way. In fact, I have Mr. Gore's admission to the contrary in his address. I have endeavoured to submit my views as clearly as it was possible to do so, and every scrap of information in the possession of the department has been laid before the Commission. It has been placed at Mr. Lawson's disposal, to take from it whatever he might think would support his case. All the information we have has been placed unreservedly before you irrespective of the question as to whether it supports my contention or Mr. Lawson's. Mr. Lawson says that, as a public servant, I have been guilty of a grave dereliction of duty in concealing for three years the fact of the foundations not being carried out in accordance with the contract. This, I may say, is simply untrue. As shown by the letters put in, the question was first mooted by Mr. Ussher on the 9th September, 1885. On the 11th of that month, the very day I got the letter, I telegraphed to Mr. Ussher to see Mr. Lawson on the subject, which was done, and the correspondence shows it quite clearly. Instead, then, of concealing it as a secret for three years, the fact was at once communicated to the party most concerned—the architect of the building. Notwithstanding this simple fact, Mr. Lawson pours a torrent of invective on my devoted head, as a public servant receiving Government emolument and in charge of an important trust, for my dereliction in duty in carrying about this guilty secret for three years. He also states that three months after I obtained the knowledge with reference to the defective foundations, I published an official report poohpoohing the importance of the slip. As the report referred to was dated 17th August, 1885, and as the first intimation I got of the defective foundations is dated on the 9th of September, 1885, Mr. Lawson's statement, as usual, is not borne out by the facts. Then, as for the extent of the discrepancy between the foundations now existing and those shown on the contract plan, this the department did not become aware of until after Mr. Hay's inspection in November last. Mr. Lawson next complained of unfairness in not being supplied with all the information in the possession of the department, and of the accusations proposed to be brought against him, when he applied for it on the 20th of last month. As has been repeatedly stated by Mr. Lawson, the inquiry is the result of an agitation on his behalf. The department had no accusation to make against Mr. Lawson or anybody else; they were really the defendants; and to give information in an incomplete state, and on the eve of the inquiry, to help Mr. Lawson in his case, is an assumption of innocence refreshing to behold. Mr. Lawson further accuses me of trying to steal his good name. I think it will be found that I have really defended it, and that to my prejudice. It has been clearly shown that the present controversy is not of my seeking—quite the other way. The statement that I have now changed my tactics to get out of a dilemma, with the offensive comparison that accompanied it, is alike untrue, unjust, and ungenerous. I am sorry to have to put it so bluntly. Mr. Lawson said that in my published report of 1885 I poohpoohed the importance of the slip, saying that the movement of the ground had stopped altogether, or had become so small as to be harmless. I interrupted him with the remark that this was done on his own authority, and Mr. Lawson then and there emphatically denied that he had ever given any authority for such statement. I shall settle this point by reading two extracts from Mr. Lawson's letters. On the 25th May, 1885, he says, "that the fracture in the wall, caused by the movement of the strata referred to, is nothing very serious, and so far as I am aware, has not enlarged or extended since the drain was sunk intercepting the overflow of drainage-water twelve months ago, under the direction of the Public Works Department." Again, on the 6th July, 1885, Mr. Lawson says: "My former report as to this matter, of date 25th May last, is absolutely correct—viz., that the fracture in the wall caused by the movement of the strata has not enlarged or extended since the drain was sunk intercepting the overflow of the drainage-water twelve months ago, under the direction of the Public Works Department." So much for the accuracy of Mr. Lawson's statement. Mr. Lawson, in his address, stated that I had at one time admitted, clearly and distinctly, that there was a movement in the ground, which I now deny. This is absolutely and unqualifiedly a misstatement. I never had but one idea and opinion on the subject, and the ground on which Mr. Lawson makes his statement can only be characterised as a miserable quibble. In the report Mr. Lawson quotes, I distinctly say: "As there is a good deal of slipping ground in the neighbourhood, fears were at first entertained that the whole slope of the hill was on the move, but I am glad to say that these fears were groundless; that there is clearly no general movement of the land." Further on in the report I say: "After a careful examination of the building and ground I came to the conclusion that even in the small area affected there is no great movement in any particular direction. The injury to the building is no more than might have been caused by irregular settlement in the foundation." Yet, because a few paragraphs further on I use the phrase "movement of the ground," Mr. Lawson chooses to assume, from this simple phrase, that I admitted the movement in the whole hillside, and that I have now departed from that position. It is scarcely necessary for me to point out the disingenuousness of this statement; it is a refinement in the use of language that is altogether beyond everyday usage. In connection with this point, it has been frequently said outside that my action in now showing up defects is inconsistent with my report of 1885, which made light of them. Mr. Lawson himself touched on the point, but when I protested he withdrew his remarks. In 1885 certain charges—ten in all—were made against the building by Dr. Grabham. I investigated the matter and found them to

be to all intents and purposes groundless. I exonerated Mr. Lawson, and under similar circumstances would do so again. The settlement of the foundations was one of the matters dealt with in my report, but at that time the question had not assumed much importance, and we all thought (Mr. Lawson himself being the most positive) that the settlement had ceased altogether, or become so small as to be harmless. And I have already shown that at the time my report was written no one in the Public Works Department had the least idea that the foundations were not according to contract. The publication of my report in 1885 was unfortunate in one respect. From that date Mr. Lawson has systematically sheltered himself behind my shield. He says in effect, if not in words, "the fight is Blair's—not mine." I might enlarge on the sentiments that dictated this course, but will not do so. I do not think that any one will commend them, more particularly when we consider that, as a public servant, I could not fight at all. No matter how unjust the accusations or extravagant the statements that were made against me in the public prints, they had to go unanswered. Let me give you another instance of this disingenuousness of Mr. Lawson in the conduct of this case. Referring to the appointment of Mr. Brindley, he stated Mr. Brindley's appointment was made after a conference with me, and that the matter was put in writing in a private and confidential letter to me, dated the 5th July, 1879. As I brought out in Mr. Lawson's cross-examination, that private letter did not contain a single reference, directly or indirectly, to Mr. Brindley. I may state here that the private letter was written with a view to preventing the appointment of another man who, it was supposed, might be a candidate for the position, and who was not considered suitable. No reference whatever to Mr. Brindley is made in this letter, yet Mr. Lawson brings the subject up in such a way as to lead to the inference that Mr. Brindley was appointed at my request. There is yet another personal statement that I wish to reply to. Mr. Lawson says that I insinuated that Mr. Brindley was a creature of his. I think that it is unnecessary for me to reply to this further than to point out than in my opening statement, I said that there was a considerable friction between Mr. Lawson and Mr. Brindley; and I could scarcely insinuate that Mr. Brindley was a creature of Mr. Lawson's if I believed that there was friction between them. Mr. Lawson also stated that a charge had been made that work had been "scamped," and that the inference from this charge was that the workmen, the Contractor, the Inspector, and himself had been guilty of barefaced robbery; that, he said, was the meaning of "scamping"—"collusion for the purpose of defrauding the public." I am quoting from the published reports. If my opening statement is read, it will be seen that I was particularly careful in abstaining from attributing motives for the deviation from the contract that we found in the foundations. The only use I made of this fact was to show that the bearing-surface of the building had been reduced to a serious extent. I did not hint or insinuate that any one had benefited by this reduction. As to the question of bad workmanship, it is unnecessary for me to tell practical men, who have had charge of works, that with the best contractor under the sun, bad work and "scamping" are acknowledged facts. No contractor that I ever came across would ever expend money in making an extra good job while he could save money in making a bad one; and on the best-conducted works in the world it may be possible to find things that are not up to the mark, without the faintest suspicion of collusion between those who are supervising and those who are carrying out the works. Another insinuation that I would wish very much to answer, is the remark by Mr. Lawson that I coached Mr. Brindley. Mr. Brindley was summoned by me from New South Wales, and I naturally "precognosed" him, that is, I found out beforehand what evidence he had to give for the purpose of saving time in the examination, in doing which I simply followed the usual practice. I found out what he had to say, and I wrote it down, and asked questions upon it. To say that I coached Mr. Brindley is an insinuation of a most reprehensible character, both as regards the witness and myself. It is quite unnecessary for me to say that it is absolutely and entirely without foundation. The last point of this class to which I will refer is the publication of that private letter of mine, and the statement made by Mr. Lawson that the published letters had not been answered. When I pressed Mr. Lawson as to whether he considered the private letter an official one, I could not get a decided answer from him. He, however, admitted that the latter part of the letter (not published, which was purely Dunedin news and gossip), was not official. How then can he consider that the rest of this letter was official? Was I to place a letter containing private and trivial matter—gossip, in fact—on the files of the Public Works Department, to be kept among the public records as an important State document? The thing is altogether too absurd to be further commented on. With reference to the answering of the letters, I pressed Mr. Lawson hard respecting his statement that he had not got an answer to that long report of his, which embodied the other two; and when I showed him his own handwriting acknowledging the receipt of Dr. Hector's commentary on the letter, his only refuge was: "I did not get an answer from Mr. Blair, to whom the letter was addressed." Now, this position is equally absurd. To think that no one can delegate the answering of a letter to a third party is simply the height of nonsense; it would interrupt the whole course of business, public and private, if the man to whom a letter was addressed, had always to answer it. Mr. Lawson says that if he wrote me, and got a letter in reply from Mr. Ussher, he would not consider that a reply at all. Now this is the height of absurdity. Are we for a moment to suppose that if I write a letter to the Commission, and the Secretary answers, that I can stand up in the witness-box and swear that I did not get a letter from the Commission? Taking it, however, another way, Mr. Lawson's letter, was, as I have shown, a letter replying to Dr. Hector's report. Dr. Hector's report reached Mr. Lawson through me, and the reply went back through me to Dr. Hector. It would have been quite competent for Mr. Lawson to have replied direct to Dr. Hector, but that in order that I might know what was going on he sent the reply to me. Dr. Hector then sent another memorandum through me to Mr. Lawson, which was duly acknowledged. The correspondence is therefore complete. That is all I have to state in reply to the personal attacks and misstatements that have been made. I shall now proceed shortly to review the evidence that has been given. At the outset I laid down certain conclusions which I undertook to prove. I shall take these conclusions

seriatim, so that the Commission can follow the subject readily. First, I stated that all the building operations were absolutely under the control of the Architect, Mr. Lawson, and that the Inspector of Works was absolutely and entirely under his control and direction. In support of this I pointed out the clause in the specifications, putting the matter beyond doubt. I also showed that the Public Works Department had no official communication whatever with Mr. Brindley with reference to the works; and I have also now, since Mr. Brindley's arrival, produced a letter in which Mr. Lawson reproves Mr. Brindley for having written to Mr. Ussher with reference to the quality of the cement. In that letter Mr. Lawson says: "Please remember that it is to me, and not to Mr. Ussher, to whom you are to address any letters with reference to the contract." In cross-examining Mr. Lawson, he insisted upon stating that Mr. Brindley was independent of him, and that he could act independently; whether he could pass work or make alterations or deductions without his authority, Mr. Lawson admitted that Mr. Brindley could not do so. He would not specify any point upon which Mr. Brindley could act independently; and he stated that, as a matter of fact, the department had not interfered with the building in any way. Mr. Lawson says that for the time being I was his superior. At the beginning of the inquiry I asked him whether he was in the habit of referring Mr. Brindley's letters to the department, and he replied, "No." Now, if Mr. Brindley had been my subordinate, with Mr. Lawson as the link between us, all the more important letters would be referred to me. As a matter of fact, no letters were so referred. Mr. Lawson dealt with them himself. He never consulted the department in any way; and, as he himself admits, the department never interfered with the work. I therefore submit, without fear of contradiction, that the first conclusion has been proved to be correct—that all the building operations were absolutely under the control of Mr. Lawson, the Architect, and that the Inspector of Works was absolutely and entirely under his control and direction. The next conclusion that I arrived at was that all the drains required by Mr. Lawson were put in, and very many more besides, and that they had little or no effect in stopping the damage to the building. I think it is scarcely necessary for me to point out that this conclusion has been amply verified. The plans that we have produced show that the ground at the back of the injured portion of the building has been cut up by drains in every possible way. There is not any part of the suspected ground which is not perforated at close intervals, either horizontally or vertically, by stone drains; so that, if the cause of damage was the overflow of water from the higher ground, that cause has been removed. That these drains have had no effect in stopping the damage to the building is, of course, apparent, for the damage is still going on. In connection with this part, I have shown that Mr. Lawson got all the drains that he asked for. Up to March, 1881, he asked for the isolating-drain; and after March, 1881, for three years he was perfectly silent on the subject of the isolating-drain; but in the meantime he asked for and got the surface-drainage, according to his own plans. Mr. Lawson's ideas changed after Dr. Hector's visit to Dunedin at the end of March, 1881; and this is borne out by Dr. Hector's statement in his report and his telegram to the Minister, which have been put in. As Mr. Lawson has repeatedly stated that he was unremitting in his attempts to have this isolating-drain, I pressed him for reasons why he should be silent on the subject from March, 1881, to May, 1884. I could get no answer from him for a very long time, and he ultimately retreated upon the position that the reason he did not bring the subject up again was because he did not want to offend me—that he felt indignant at not having received an answer to his letters (which, by the way, I have shown were answered); so that this reason vanishes amongst others. Now, is it possible that Mr. Lawson should meet me in friendly intercourse every week, frequently every day, for three years, with such a feeling rankling in his breast, without giving me some hint of it? I had no personal feeling in the matter whatever, and if Mr. Lawson had simply stated that he would not be responsible if this isolating-drain were not put in, it would have been done. Years after he now wishes us to believe that all this time he considered this drain necessary for the safety of the building. If that were the case, his clear position was to write to the Government and say, "Unless you give me an indemnity under the hand of the Minister I will not proceed with this building until the isolating-drain is put in." Mr Lawson. did nothing of the kind; he only went about for three years with this secret rankling in his breast, cherishing this feeling of resentment towards me; meeting me every day, and yet not allowing me to know of it. The position is altogether too absurd to be considered. It shows Mr. Lawson himself, to say the least of it, in a very ridiculous light. In no place and at no time did Mr. Lawson demand the construction of this drain. The only conclusion we can come to, and it was to some extent admitted by Mr. Lawson in his cross-examination, is that Mr. Lawson during these three years thought that it was highly probable that the isolating-drain would not be required, and therefore he said nothing more about it till the cracks appeared; but when they appeared he wished to throw the responsibility from his own shoulders on to the shoulders of some one else, and then he revived this long-lost story. Had the cracks never appeared we would never have heard anything of the isolating-drain, and Mr. Lawson would take the credit of having erected a handsome and substantial structure. From this I think that there is no doubt of the correctness of my conclusion, that all the drains required by Mr. Lawson were put in, and many more besides, and that they have had little effect, or no effect, in stopping the damage to the building. The next conclusion that I came to was that the damage to the building is not in consequence of a general movement of the hillside towards the sea, or from slips that have occurred in the neighbourhood, but that it is due to irregular settlement in soft ground. Mr. Lawson attributes the whole damage to the forward movement of the north wing, and he believes that it has moved 13in. at the front and 16in. at the back, and that it is still moving steadily forward. Now, I shall first take the evidence on Mr. Lawson's side. Notwithstanding the fact that he accuses the Public Works Department of suppressing information, he bases the most of his conclusions with reference to this big slip on the information given by the department. Mr. Hay found that the north wing was 13in. further down the hill than the southern portion of the building. In referring to this Mr. Lawson reiterated the statement that Mr. Hay

found that it had gone down. I wish particularly to say that Mr. Hay did nothing of the kind. Mr. Hay found that one wing of the building was out of line with the other portions of the building; but he did not once say, or insinuate, or admit, that the building had moved down, his evidence being altogether in the opposite direction. When we found that the second wing was a foot uphill Mr. Lawson and Mr. Gore admitted at once that it was a mistake in setting out; but when we found that the north wing itself was a similar distance down-hill they would not admit the possibility of a mistake in that quarter. Now, the evidence on which they founded their case was simply this: that Mr. Gore stated that the building was correctly laid out in the first instance, and that he and Mr. Brindley took pride in the accuracy of the setting out. He also stated that they saw through the corridors from end to end. Although Mr. Brindley was summoned by me, and although I am accused of "coaching" him, apparently I could not coach him up to this point, for Mr. Brindley's evidence is against my contention. This I at once admit. Mr. Brindley states that he believes that blocks 1 and 2 were laid off in line. He does not assert that the north end of the building was in line with the south end of the building, but merely believes that the two northern blocks were in line. He also admits that there was a mistake of some 3in. in the south end of the building. On the other hand, he distinctly swears that he never saw through the corridor from end to end as alleged by Mr. Gore, junior. The north end of the building was not finished until the other blocks were occupied by the patients, so that they could not at any time see from end to end of the building; in fact, the officials who are in the building never saw through it until the other day, when Mr. Hay got the doors open right through. This is the evidence upon which Mr. Lawson believes that the whole building has gone down 13in. When cross-examined Mr. Brindley admitted that he did not use an instrument; that he could not use a theodolite; that he had no means of verifying the position of the building in the exact way that engineers or surveyors do. He also admitted that he did not know whether the back-wall had shifted down before the brickwork was built. Mr. Brindley, who had a level and could use it, though he had not a theodolite, was very much surprised when he found that the portions of the building which he believed to be perfectly level were very much out of level, so that in the matter in which Mr. Brindley was, presumably, in a position to talk with precision, we found that he was not correct, or that his setting-out was not followed. It is, therefore, fair to assume that in the other case, where his less exact methods were adopted, the same result might have ensued. That is all the evidence on the opposite side in favour of the big-slip theory. I shall now take the evidence against the big-slip theory. First, let us take the negative evidence. If the Commissioners would only take time to walk to Cargill Street, they will find there a remarkable instance of a big slip. About 100ft. of the hillside has moved just in the manner that this one is supposed to have done. The slip comes straight across the street, and the pavement is dislocated about 9in. at one end and 1ft. at the other, and the dislocation is as clear and as straight and as well marked as if it were done by an artificial mechanical force. We could not have a movement in this large building without seeing similar dislocations. There is one point on the plans in the ambulatory where all are agreed that the motion has commenced. This would be the point of dislocation; and at this point, instead of showing a break or displacement of 13in. or 16in., there is no evidence of cracking whatever. The same thing can be said of the water- and drain-pipes. The water-main runs along close behind the airing-court. It is under a high pressure—70lb. or 80lb. to the square inch—so that the slightest dislocation or movement in the strata would at once cause a leak. There has been no leak, and that fact of itself would, in my opinion, be sufficient to answer the whole question. There is also in front of the building a 12in. drain-pipe laid in cement-mortar. That drain-pipe, which is so easily broken, has not been broken and has given no indication whatever of any movement. It would have been utterly impossible to move that drain-pipe by a mere fraction of 13in. without at once breaking it and stopping it. Both the drain-pipe and the water-pipe were put in as the building was finishing. Another evidence against this big-slip theory is the fact that the north wing has shown no appearance of the movement, and that it would be utterly impossible to move a building 130ft. long endways without distinctly showing serious fractures. In fact, there is no force known in Nature that would give such a phenomenal result, and there is nothing on record that would lead to the supposition of the existence of such a force. So much as to what may be called the negative evidence against the big-slip theory. The positive evidence is equally clear. First, we have the evidence of Mr. Reid. Mr. Reid has particular charge of the building. His duty is to examine the building and keep himself informed as to what goes on in reference to it. He has been there from the very first, and, as you could see from the way he gave his evidence, Mr. Reid is a man who makes good use of his eyes. Mr. Reid, from the very first, had his attention drawn to this north wing, and he observed that the north wing was out of line. This was shortly after he went to live at Seacliff, and he went there in October, 1883. Mr. Reid has frequently looked at this part of the building with this special object, and he now swears that the building is in the same position it was when he first examined it. Now, the last proof that I have that the building has not moved is the best of all—Mr. Marchbanks' evidence. Fortunately, in February, 1884, Mr. Marchbanks made a survey in front of the building; he took bearings along this building, and he checked those bearings coming up from the opposite side on the 20th of this month. It was the most delicate test that could be applied, for he did not start from any point where there was the least likelihood of movement. He started from the triangulation of the country, his bearings being taken from the trig. station, down near Warrington, some miles away from the building. Mr. Marchbanks found that his new bearings corresponded with his old ones to less than a minute, and thus made the position of the north wing within 1½in. of what he had made in 1884, and this was made by an entirely independent set of observations coming over different ground, and from different points. It is impossible to get a more reliable and delicate test than this. We may therefore, once and for all, and absolutely, disregard the theory of the big slip. I stated in this conclusion to which I am now alluding, that the damage was due to irregular settlement in soft ground. I have proved that the damage was not due to a general movement of the

building, consequently it must be due to irregular settlement in soft ground. I will not follow the whole of the evidence in this case. You have the plans before you, which show the bearings of the foundations; you have Mr. Hay's reports and evidence, and you have seen the matter for yourselves. I will, however, refer to Mr. Reid's evidence, which was given last. Mr. Lawson repeats over and over again the statement made by Mr. Hay, that he only found a depression of ½in. in the ambulatory. Mr. Hay has shown that the ½in. is sufficient to account for the damage. At the same time, we have no evidence whatever that there is not more than a depression of ½in., because we have no evidence, first, that the building was correctly set out; and, secondly, that it was built to the pegs or levels given by the Inspector. Mr. Lawson has over and over again defied us to produce evidence of settlement beyond this ½in.; but, if we assume, as he is assuming, that Mr. Brindley's levels were absolutely correct in the first instance, and that they were correctly worked to, we have a settlement of 4¼in. between the west end of No. 2 block and the central portion of the ambulatory. Mr. Reid, in his evidence, has distinctly told us that a settlement has taken place, and shows clearly how it took place. There is one very remarkable fact in his evidence: he shows that in cutting away the doors, those on the one side of the centre of the ambulatory had to be cut the one way, and those on the other side to be cut the opposite way; thus showing that the building was settling in the centre more than in any other place. I think this point is absolutely clear. The plan that I submitted—the plan showing the first cracks at the back part of the building, and which cracks have not now enlarged—also shows dislocations and cracks that can be directly attributed to vertical settlement. And, even if we had no other evidence to rely upon, the thrust at each end of the ambulatory is amply sufficient to show that the colonnade has sunk vertically. Another strong point is the cracks that have appeared in the cellar-partition walls of the ambulatory. There is a distinct cleft here between the cross-walls and back-walls, and this crack widens upwards —the walls have separated to a considerable extent. We can only account for this by assuming that the back wall has gone uphill away from the cross-walls, or that the cross-walls have gone away from the back wall. We may disregard the first explanation, so are forced to fall back on the second one, and assume that the front and central walls of the ambulatory have gone away from the back one. If the movement were due to a thrust from behind, this result could not possibly have occurred. Instead of separating, as they have done, the walls would have been pressed together. As stated in my opening remarks, it is quite possible that the settlement may be aggravated by overflow from the rain-water pipes. We have seen that the gratings will only take in a mere fraction of what comes down the pipes, and the balance must necessarily have found its way into the foundations. I believe there has been a small settlement at the new High School, which can be traced to a similar cause. From the evidence produced I claim that my previous conclusion is correct, that the damage to the building is not in consequence of a general movement of the hillside towards the sea, nor from the slips that have occurred in the neighbourhood, but that it is due to irregular settlement on soft ground. My fourth conclusion was that, instead of being widened over the soft ground, the foundations were actually reduced to a very serious extent, thereby increasing the risk of settlement and damage. This has been the subject of ocular demonstration. The foundations have been bared, and you have seen them for yourselves. The foundations have been reduced to a very serious extent; and no one will or can deny that this increases the risk of settlement and damage. Now, these reductions in this ground were not done without warning. Dr. Hector, in his reports, warned the Architect that the ground was bad. Mr. Brindley wanted drains put in because the ground was bad; and he also wanted the packing left out of the concrete for the same reason. Yet the Architect (Mr. Lawson) took no steps whatever to increase the width of the foundations as any responsible professional man under the circumstances ought to have done. He did not even put dry stone behind the wall to help the drainage. The foundations were thrown down haphazard; and it would simply have been a marvel if what has happened had not happened. Not only were the foundations altered from the original drawings, but the foundations have been altered from the altered drawing. Mr. Brindley, in his evidence, tells us that he made an off-set of 6in. on the top of the wall, intending it to be carried right down. We have seen that in many places there is practically no offset whatever; that the wall is to all intents and purposes carried down plumb; and in no case did we get either the contract-section or the altered section. That is what I have to say in support of my contention that, instead of being widened over the soft ground, the foundations were actually reduced to a very serious extent, thereby increasing the risk of settlement and damage. Instead of using snow-shoes in the soft ground the building has been placed on stilts. I have now come to my fifth and last conclusion: that the foundations throughout the damaged portions of the building are all defective; that they are much smaller than shown on the contract-drawings, and that the work and material are both faulty in the extreme. I have already shown that the foundations are defective, by the plans put in, the evidence given, and the statement I have just made. The foundations are not only smaller than shown on the contract, but smaller than shown on the altered plans furnished by Mr. Brindley. The evidence as to faulty work is also clear. The correspondence shows that the stone-packing was put in contrary to the Inspector's wishes, and, in fact, in defiance of his orders. Mr. James Donald gave evidence as to the way in which the boulders were "chucked in," and Mr. Brindley stated that he was quite prepared to find that stones had been put in in "nests." Mr. Lawson remarked that this was a very improper statement for the witness to make, and Mr. Gore characterised it as "scandalous." Mr. Brindley, however, said that he would stick to it, and added, "If it was done as it was done when I was there—put in in front of me—what may have been done in other cases when I was not there?" Mr. Brindley further told us distinctly, that were it not that he had given hostages to fortune, he would have thrown up his situation altogether, so much was he disgusted with the way things were going on. The only point in connection with the defective foundations about which there can be any doubt, is the small "notch" which was found in the centre-wall of the ambulatory. About this, the evidence is somewhat conflicting; but the point is unimportant. Mr. Brindley's recollection of it is that the "notch" had been cut under his direction; but the foreman who put in all the drains swears that he did not cut it. The

point is quite unimportant, and I laid no stress on it either way. I mentioned it, however, because it is the only point in which my evidence has even the appearance of being incomplete. As to the statement made by me—"scamping bricks:" I come to the relations between the Architect, the Contractor, and the Inspector. The evidence and the correspondence all through bear out my statement that the Inspector had not been properly backed up, As Mr. Brindley, in one of his letters, puts it, the system in vogue was clearly that of "arrangement," or "this was understood," or "that was intended." There was far too much of this system in connection with the work. The bad work seems to have been done either in open defiance of Mr. Brindley or during his absence, when he could not be present at that particular point of the work; and when work that was not up to the mark was so carried, the Architect clearly did not insist on Mr. Brindley's views being adhered to or his position properly recognised. Mr. Brindley states in his evidence that, beyond these mild letters which were written to him by Mr. Lawson, he was not backed up by him. That letter of Mr. Gore, junior's, to Mr. Brindley touches off the position very nicely. After an ostensible condemnation of bricks in the presence of myself, Mr. Gore seems to have interviewed the Architect, and claims to have got a remission of the sentence. I will read the letter, which runs thus: "I saw Mr. Lawson to-day, and asked him about the bricks, and he said that he thought at the time that some of them would do, but did not say anything before Mr. Blair, but thought to leave that to you. He says you may let them use the best burnt of them, and I am to get the other kiln burnt as soon as possible. So you will please let them pick out the best of them." I may add that the only satisfactory point in connection with it—and that is of a personal nature—is that the shadow of Mr. Blair, even at a distance, had a slightly deterring influence. That Mr. Lawson unduly favoured or was unduly lenient with the Contractor is shown in the final "squaring-up." I do not for a moment say that contractors should not be dealt with liberally in the settling-up of a contract and the payment of any extras that have been incurred; I think they should have the benefit of the doubt. But, according to Mr. Brindley, there was not any doubt in this case. The position taken up by Mr. Brindley was very strong; he left the interview in a rage, because Mr. Lawson was conceding too much to Mr. Gore; and not only did he verbally protest against the amount given to Mr. Gore in the final certificate, but he also protested in writing. That letter is before the Commissioners. Mr. Brindley says in it: "Lunatic Asylum Building, Seacliff, 3rd June, 1884.—. . . . The summary-sheet, showing deductions from contract sums, as allowed by Mr. Gore, viz., £1,214, and other figures of same is in accordance with an offer made by Mr. Lawson to Mr. Gore a few days back, when going over account with a view to settlement of same. Such offer is, in my opinion, more than should be given, and I hereby enter my protest against it. The deductions allowed by Mr. Gore are only about half what they should be [see summary-sheet attached]. In fact, above offer is about equal to taking Gore's figures for extras and deductions; for there is no doubt in my mind that though £1,366 [as per sheet 9 attached] was taken off Mr. Gore's original account, such amount, or even more, was put on to cover any deductions that might be made. As a fact, after seeing a rough draft of deductions that I had forwarded to Mr. Lawson, Mr. Gore's account made a jump from £5,976 to £8,480!" I shall now refer under this head to the position of the Architect and the Inspector. Instead of confining the Inspector's duty to inspection, as ought to have been done—the duty for which he was employed—Mr. Lawson seems to have placed him in the position of both Architect and Inspector; to have thrown the whole thing into his hands, and to have interfered as little as he could. In fact, we have it in evidence that Mr. Lawson seldom visited the works, and that when he did visit the works his stay was only in the interval between two of the trains, seldom over the whole day. I have also clearly shown that Mr. Brindley's time was largely occupied in preparing working drawings that ought to have been prepared by Mr. Lawson. Mr. Lawson, when I cross-examined him, said that he had prepared some fifty detailed drawings. I asked him to produce them, but nothing has been produced, except these three or four little scraps in Mr. Brindley's possession; whereas Mr. Brindley has produced a perfect sheaf of them—some twenty-five sheets of elaborate drawings—made by himself; in fact, practically Mr. Lawson prepared no detailed drawings whatever, and as the contract-drawings were on such a small scale and so indefinite and contradictory, Mr. Brindley had not only to prepare detailed drawings, but he had to prepare what he calls "working-drawings"—drawings to a larger scale than those supplied him. Mr. Lawson's statement with reference to these detailed drawings was most positive. He said that he would allow no Inspector to prepare detailed drawings for him; yet he did not produce or show that he had prepared any details, except these two or three scraps that Mr. Brindley produced and which Mr. Brindley says had not been worked to, or could not be worked to. It seems to me perfectly clear that the time occupied by Mr. Brindley in preparing these drawings should not have been paid for by the Government; and not only did the Government lose Mr. Brindley's time, which is a small matter, but they lost his services whilst he was so engaged preparing these drawings—they lost his time in inspecting the works: a matter of far graver importance. The Seacliff Asylum is one of the most important buildings ever erected by the Government. The Public Works Department employed an architect of high repute to design and carry out this work, and he was paid the highest commission ever paid in the colony. In going so far, the department did the best thing that could be done. But, unfortunately, the Architect did not follow up this principle, nor fulfil what was expected of him. Instead of devoting a large portion of his time to the work, he left practically the whole matter in the hands of an Inspector, who already had too much to do. Instead of acting on the warnings he had received about the necessity for extra good foundations in the north wing, he left the thing to chance; and when the Inspector complained of the difficulty of getting good work he practically did nothing beyond asking the Inspector to work amicably with the Contractor. It was the Architect's duty—his clear duty—under these circumstances to have had more Inspectors put on. He would have got them for the asking, but he never made a sign. I claim that my fifth contention is established, that the foundations throughout the damaged portion of the building are all defective; that they are much smaller than shown on the contract; and that the work and material are faulty in the

extreme. To this I would add that these defects are due in a great measure to the fact that the time of the Inspector, which should have been devoted entirely to his work of inspection, was taken up in doing work which should have been done by the Architect. At the outset I stated that one of my main objects would be to show that the damage to the asylum building was not the result of default or neglect on the part of the Public Works Department, or its officers, and this I have amply proved. Whether the responsibility has to be apportioned between the Architect, Inspector, and Contractor, and in what proportions, are questions which do not directly affect the department. The department and the Government only recognise one man in the matter, and that man is the Architect, Mr. Lawson.

MR. R. A. LAWSON'S ADDRESS.

Mr. Lawson: It has been sought to saddle me, as you have just heard, with the sole and entire responsibility in connection with the carrying out of the works at the Seacliff Asylum, and with any and all of the results following from the carrying out of those works, in the way and manner in which they have been carried out from their commencement in 1879 until to-day. But this responsibility is manifestly too heavy for me to carry, and I decline to take it up. I would ask you, Mr. Chairman and gentlemen of this Commission, to disengage your minds for a little from the cloud of foreign dust, as I may call it, which has been raised around this special subject of responsibility, and to go back with me to the period of my appointment as Architect for this building. That appointment was read to you at first by Mr. Blair and its terms, and no one questions either one or the other. I was appointed by and under Mr. Blair himself, who confesses himself, for the purpose of this inquiry, to be the Public Works Department. It has also been clearly placed before you, and admitted on all sides—though at first his appointment was sought by Mr. Blair to be saddled on me—that Mr. Brindley was also duly appointed by the Public Works Department, and that he acted all along on the works at Seacliff as their appointed Inspector, not mine. Here I would desire to draw your attention, and your particular attention also, to the General Conditions under which the whole works were begun and carried out, and which are duly signed by the several parties thereto. In these General Conditions, clause 1, these words occur. I will read the clause over—it is termed the interpretation clause of the whole contract. Mr. Brindley's opinion as to what he was, Mr. Blair's as to what he was, and mine as to what I was, are all governed by the contract itself. This is the clause: "In these conditions of contract, and in the specifications the word 'Minister' shall mean the Minister for Public Works appointed under 'the Public Works Act, 1876,' or any Minister or person for the time being acting for him; the words 'Engineer in Charge' shall mean Engineer in Charge of the Middle Island Railways; the words 'Resident Engineer' shall mean the person who from time to time shall be notified to the Contractor by or on behalf of the Minister for Public Works as the Engineer for the time being having principal local charge of the works; and the words 'Assistant Engineer or Overseer' shall mean any person or persons who may from time to time be duly appointed to supervise the works." That is all the reference there is. Now, I did not draw up this contract—the Public Works Department drew it up, and they are the parties to it.

Mr. Blair: No.

Mr. Lawson: They did, or their lawyer. I never did, and that Mr. Blair knows right well. This was drawn up for the Public Works Department by Mr. Haggitt, I believe. I do not know that for certain, but I know that I never drew them up, that I never touched these conditions.

Mr. Blair: I admit they are the usual Public Works conditions. The reason these conditions were attached was because Mr. Lawson had no conditions of his own, and we thought they would answer.

Mr. Lawson: I beg pardon, I was never asked for conditions to be attached to this contract. They did it without my knowledge, and handed me the conditions as my whole guide in the matter. It is not for me to assign myself now a position in the contract, nor for Mr. Brindley, nor Mr. Blair to do so. We were assigned our positions in the contract itself, and I ask you to keep within that position, and not to be swayed by any questions asked of Mr. Brindley as to what he thought he was, or by what I think I am—here are our positions definite and clearly for me, for Mr. Brindley, and for Mr. Blair too. Under these conditions of contract the word "Minister" shall mean "Minister for Public Works appointed," &c. Now then here there are four parties mentioned who are in charge of the works: First, the Minister; second, the Engineer, who is described as the Engineer in Charge of the Middle Island Railways; third, the Resident Engineer; and fourth, the Assistant Engineer or Overseer. My name is not in it.

Mr. Blair: Read the last clause of the specifications.

Mr. Lawson: I am speaking of the General Conditions of the contract which you yourself placed there. I say this: that I have been kept out, apparently designedly at this time, of the whole thing. For the purposes of the inquiry, Mr. Blair informs us that he assumes the position of Minister as well as that of Engineer in Charge.

Mr. Blair: No: the position of the Public Works Department.

Mr. Lawson: Does that not include the Minister—the head and the tail both? If you adopt the position of being the department, surely you must be both the head and the tail, and what comes between too; the whole includes all the parts. The department be it—the department has a head, and he is called the Minister; so that I am right, after all. Well, then we have here in clause 1 of the General Conditions, which governs the whole contract, four individuals mentioned who are manifestly the responsible persons under the contract, and I am not amongst them. As I have said, the only occasion on which I am mentioned in any contract-document is in one clause of the specifications dated the 19th May, 1879, and then only appended in a memorandum, in which it is stated that the whole of the works in all their departments are to be completed to the entire satisfaction of R. A. Lawson, Architect, Dunedin, or to that of duly-appointed Inspectors under the same. Was I allowed to appoint an Inspector, or was I asked to do so? Never. The Public Works Department appointed the Inspector, at my recommendation, I admit, because I thought him a thoroughly com-

petent man, as I have already stated. Here then is the only portion of authority appointed to me under the whole contract, and the responsibility attaching to that authority I am called upon to accept and do accept, and am here now ready to answer for it; but I decline to take up and to carry the responsibility of the Minister, the Engineer in Charge, the Resident Engineer, or the Overseer—all must answer for themselves, It may be said that these individuals never came forward and took their places and their proper position. That was their fault, not mine. Their duties were appointed them under the contract, and if they have neglected their duties they dare not blame me for it. It may be said, as I have said, that these individuals never came forward and took that position; but we have had evidence and indications at this inquiry that there has been a good deal of underhand and behind-board interference, of which we are only beginning to learn now. We have, at least, letters sworn to as having passed, and I do not know how many more there may have been, nor how many conferences between several of these parties; and so we can fix their identity with those described in the interpretation clause of the General Conditions, and we can see that they have been acting, often surreptitiously, in connection with this contract. Their's is the responsibility, therefore, and it must always remain with them. It must: I cannot take it, and I refuse to take it. If they did not discharge their duties, but allowed bad work to go on, and allowed all this that has been asserted by Mr. Blair—not by me—then upon them must be the responsibility, and not upon me. I will take what is due, the responsibility that falls upon me, and shall not shirk it either. They were placed in authority in terms of the contract, and that they neglected to exercise that authority is certainly not in their favour, and especially as to the construction of the isolating-drain sought for by myself from the first. Now, as to the plans and specifications: I desire especially to point out to the Commissioners that the inquiry is, in a large measure, to ascertain whether the plans and specifications, as prepared by me as Architect, have been faithfully carried out; whether, in other words, the damage to the building arises, as in the words of the Commission itself, "from the Architect's plans and specifications not having been adhered to in the execution of the works." Now, it is to be distinctly understood and noted that it is not ideal plans and specifications which are to guide you in this inquiry, but those very same plans and specifications now before you—the very same—not ideal ones. If called upon to-day to prepare others, I trust that I should be able to prepare and place before you far better ones—nay, in looking over them I see many points where I should be able to improve upon them, more especially after having heard the remarks—the judicious remarks, too, in a great many instances—and the criticisms of the gentlemen of the Commission with regard to them. But that is not the point, and I desire respectfully to remind you, gentlemen, that you must shut out from your minds those ideal plans that you may have been conceiving in your own minds as to this matter, and which are apt to intrude themselves, and that you are to judge this matter from the plans and specifications before you, and from no other. As to the design, I chose the Scotch Baronial because, for a large building of the kind, I thought it extremely suitable, and because of the fact that it can be erected in the plainest possible manner, and yet has a boldness of effect suited to its purpose in every respect. I think from end to end of the building there are few mouldings of any kind, and only a touch here and there of anything like ornament introduced; the grouping of the parts of the building and its distinctive style, rather than any other attempt at ornament, conducing to its whole effect, and which effect, I was pleased to learn from the Commissioners themselves when on the ground, was satisfactory and pleasing to them. With regard to the angle turrets which always form a conspicuous feature in the Scotch Baronial style, it is evident that Mr. Brindley had previously no experience of them as I had, having the privilege of being a Scotchman and educated for my profession chiefly in the queen of cities, old Edinburgh itself, where these angle turrets are to be seen on every hand, and no Scotchman is afraid to walk under them. I never heard any one talk about them as Mr. Brindley did when he said he was afraid to walk under them. I hold in my hand here—although, of course to you, gentlemen, it is superfluous—a specimen in a book published by Robert Kerr, F.R.I.B.A., of London. Here, at page 376, is a sketch of the Scotch Baronial style. It is only a little one, the only one I had at hand, and in it you will see these turrets exactly as they have been produced and built at Seacliff. These turrets are plentifully distributed all over France, Germany and the Continent. You will there see these projecting angle-turrets exactly as they are at Seacliff. And you have also mounted to the roof of the building through the spiral stone staircase of the Seacliff turrets, and you can testify it was safe to do so, for you have got back safe, even though you may not be Scotchmen. As I have previously stated, I do not profess to have produced at Seacliff a perfect building. I never did produce a perfect building. I am striving for it day after day, and am getting a little nearer to it, but do not look for perfection in that building. If I had to erect it to-day I might put more binding into it, as some have justly remarked, and I think judiciously, and I might introduce here and there a little perfection I did not notice at the time I was getting this into order. I quite admit all that, but I rely upon you, gentlemen, to bear me out in this maintenance, that the building is one which, when thoroughly completed and protected by the isolating cutting, the country will be pleased to look upon, and that, too, in the words of Dr. McGregor, the General Superintendent of Lunatic Asylums in New Zealand, when writing to me in reference to it, "with a sober satisfaction." Now, as to the evidence of Mr Ussher: I will touch very lightly upon all the evidence. Mr Ussher's evidence was given in a manner characteristic of the man; and, like an honest man, he was careful not to commit himself unguardedly. It would have been well if his superior officer had been as guarded in his statements from first to last in this matter. From this witness we learn that he was unable to put his hand on any one point around all the foundations of the Seacliff building—in extent, as I have shown elsewhere, of fully half a mile, and erected confessedly on varying and, at parts, shifting ground—and say that a vertical settlement existed there. The department, in the person of Mr. Blair, has accused the building of having defective foundations, and does so now, openly and boldly, and Mr. Ussher does not bear him out in this—though he is his right-hand man; his chief witness in the whole concern. How are we to reconcile these things? Mr. Ussher was brought to curse us and he has blessed us

exceedingly, and no one has been brought to show that there is any vertical settlement in the Seacliff foundations, which is the only proof of weakness as to these foundations or any foundations. The foundations persist in standing in this respect firm and sure; and, although bodily a portion of the whole building has been thrust 16½in. towards the sea, the foundations are stubborn, and in spite of having been maligned, even in the Parliament of the country, are to-day there to testify to their sufficiency. I shall also very shortly deal with the evidence given by Mr. Peter Seaton Hay: The evidence of this expert, who was introduced to the Commission with such a flourish of trumpets by Mr. Blair, was of the most peculiar kind, to say the least of it. He it is who has produced before us the famous set of one-sided plans of which so much has been said, and who ventured the opinion that the deflection of ⅜in. in the full length of the ambulatory floor of the north wing of the asylum had been the fertile source of all the damage which had occurred thereabouts, including the twistings and contortions, cracks and general torturings of the structure; also, that the front wall of the said ambulatory had so behaved and demeaned itself that it had bucked out the whole of the north wall of the building several inches at the top, while, strange to say, itself had persisted in remaining plumb, and is there plumb to-day. That is one of the theories—the remarkable theories referred to by Mr. Gore—that is brought here to be believed by us. This witness also flatly contradicts Sir James Hector's theory, and denies that there could be a possibility of the whole of No. 2 north block moving towards the eastward, while himself producing the very figures and measurements which establish the absolute correctness of that theory. What are we to think of this man, and of his evidence, and of the worth of it? Gentlemen, I trust, whatever else we may be, we have all got some common-sense, and I trust, also, that we will take common-sense with us when we give evidence on such a point. There is not much of it here in Mr. Hay's evidence, I am sorry to say. I also say he also came to curse us, and behold he has blessed us exceedingly, even more exceedingly than Mr. Ussher. Mr. Blair, seeing himself thus cornered, as it were, by his own two chief witnesses, what does he do after the inquiry is nearly over? He rushes out Mr. Marchbanks to the scene, and he comes in with a report. Well, gentlemen, I prefer to take the report of a man who has measured the building on the site, not that of a man who took a flying survey over the country, to guide us as to this building. He brought Mr. Marchbanks to produce another prophecy of smooth things, if he could do so, on his behalf; but, for uniqueness and general applicability, I trust that the Commissioners will value the efforts of Mr. Hay more than those of Mr. Marchbanks. The mention of this whole ground in the entire neighbourhood of Seacliff, even down to the trig. station that he has mentioned as the starting point, is of so deceitful a character that it may be possible that this same trig. station that Mr. Marchbanks started from at Warrington may be down to the sea before very long for all that we know, and the bank on which it stands may be marching there now for all that we know. Now, as to the cause of the damage—the real cause of the damage—we have Dr. Hector's remarks when he was here. I take it that it has been conclusively proved, and that from the evidence of Mr. Blair's own special expert, Mr. P. S. Hay, that the cross portion of the north wing of the asylum known as No. 2 has moved in an easterly direction 16½in. at one point and 13½in. at another; and, whatever reason may be assigned for this by the department, it is only clearly in keeping with the whole tenour and scope of Sir James Hector's reports of 1881, and also in keeping with his clear and definite evidence given before the Commissioners on this occasion. Mr. Blair in his opening statement endeavoured to make it appear that both Sir James Hector and myself had fallen from the idea of the isolating-drain being a necessity. Most conclusively, however, it has been proved before you that his statements in this respect are entirely wrong, and I emphatically again reiterate my statement that I never did resile from requiring to have this isolating-drain made, and in the very document he quotes I refer to it, asking to have the drain further and deeper, and in accordance with No. 2 plan, which has been produced before you, made. That is the same isolating-drain I referred to at that time, and if I was silent for a time you cannot much wonder at it, considering the way in which my communications were treated. Sir James Hector has stated before you his opinion that the motion of the strata corresponds exactly with the movement which has been shown to have taken place at the north wing of the Seacliff building, and he has also stated very distinctly that the drains inserted by the Public Works Department are not such as he approves of, or that he has in his mind now; and that, in fact, such ground cannot be drained so as to cure or cut off the movement except by isolation—isolation—the very isolation he suggests in his report in 1881, and which I urgently asked should be then done, and which has not been done yet. As to Mr. Brindley's evidence, the Inspector of Works, and keeping in view his onerous and responsible position, I cannot characterise it as satisfactory, I am sorry to say, either in one way or another, for while he condemns in the one breath he excuses in the other, as to the whole works throughout, and I feel inclined to sum up the whole of his evidence by quoting the old adage that "It's an ill bird that fouls its own nest." He has done this, and I am sorry for it. I am very sorry that Mr. Brindley has placed himself in such a humiliating position as he has done. In the absence of others, he himself admits he had the sole responsibility as to the proper conduct of the works, as, indeed, he was on the works having the double authority of the appointment under the Public Works Department, and also the deputed authority of the Architect. From month to month for years he made up and passed certificates for progress-payments to the Contractor, and yet what does he do? He comes forward now and gives evidence which, if true, should have stayed his hand in issuing these, and made it his imperative duty to report differently from what he did at the time on the works in progress. But I attribute the colour now given to his evidence as greatly attributable to his position. Brought here, as we are informed by Mr. Blair or the department, as a servant of that department involuntarily, his evidence now is moulded to the position. I say involuntarily, and by his nature, I believe. All Mr. Brindley's correspondence is open to the Commission, and it will be seen that any fault-finding of his, duly reported at the time, had ample attention from me, and where necessary satisfactory redress was afforded him and support. There are several points, however, in which Mr. Brindley's evidence is very decided. He evidently

accepted the responsibility as to the depth and thickness of the foundations, and followed up my instructions to the best of his ability as to erring on the safe side in that matter; but, according to his own statement, he was perfectly satisfied himself that they were deep enough and thick enough at all parts, including the very north wing now under chief review, and that they were all perfectly sufficient to carry all the weight they had to carry, if they were properly put in, as he said, and this, he also admits, it was his duty to see done. He conclusively proved that the superstructure of the brickwork on the concrete foundations at the north wing were in correct line with the rest of the building when it first began to be erected, and that if they had shifted 16½in. towards the sea at the extreme north end of the ambulatory-wall, he must have detected it, which he did not. He also conclusively proved, along with others, that two cracks appeared on the concrete foundations before any brickwork was erected on the north wing at all, thus indicating movement in the strata as the only probable cause of these cracks, this also being indicated by these cracks showing more on the eastern or inward side than on the western or outward side from where the pressure was descending upon it. Now, with regard to the large-sized drawings prepared by Mr. Brindley during the course of the work, during the time—the many months that he was not fully occupied. He has admitted that, with the exception of one or two of these, which he prepared for his own use, and to fill up his time, and they remained in his office; and we have only to look at them to see that the majority of these are highly-coloured drawings; that they are pictures that is all, not detailed drawings. One or two of them may be classified under that name; but only one or two—the majority of these highly-coloured and extensive drawings—were for the purpose of occupying his time during the eight months he was at the building, when, as he said, there was nothing else to do, and not, as Mr. Blair has stated, that they were done during the course of the actual progress of the works, but before the works were begun. He has also proved what I stated myself: that once, and only once, as Architect of the building, did I ask him to make a drawing for me, and that that very once he refused. Does that look as if I had kept him in drawing for me, or that I had asked him to do such a thing? I only asked him once, and that is in writing, and surely there would have been evidence, plenty of evidence of it, if I had asked him in other ways. But I deny it. I never asked Mr. Brindley at any time to prepare drawings for that building; whatever, therefore, he prepared were entirely and wholly of his own volition; and that Mr. Brindley, I am sure, is not prepared to deny—he is too much of a man of honour for that. What becomes then of his being kept from the works by preparing these drawings? I have not produced here any detailed drawings, but I could do it: proper detailed drawings, full-sized drawings, from which builders can make moulds and shape their actual work. That is what I call actual detailed drawings, not fancy pictures such as we have had displayed before us. These drawings I have still in my office, but I have acted on a different plan from Mr. Blair: I have produced nothing. There is not a thing I have produced before you. I have chosen this course, and I was sure I was right, because I believed I could prove my case without bringing a single document before you. Not one have I brought before you except my letters, that is all; and I am certain and confident that the result of this inquiry will be to clear me wholly from the foul aspersions that have been sought to be cast upon me and upon my professional reputation. The drawing that I asked Mr. Brindley to furnish me with was simply an outline-drawing of the whole building dotted or marked to show where the outlet-drains or drain-pipes were, so as to enable me to prepare a scheme of drainage. The whole and sole reason why my original plans were departed from was because the scheme itself was departed from. In the way it was first initiated by me it was intended to have the clear-water system of drainage entirely separated from the sewage drainage, and to save the rain-water in two large tanks in front of the building. That was not carried out because another system of water-supply was adopted—that was having a high-level dam to supply the whole building. That was the reason my first plan was departed from, and not because it was impracticable and could not be worked from. That was the sole reason, and yet it has been said it was because they were not fit to be worked from; but that is the true reason of it, there can be no question about that. You can look at the plans yourself, and you will see there are two schemes there, one showing the clear water going to these two tanks and the other showing the sewage taken away by itself. That is not done now; the whole thing is taken down one drain, hence the departure from my drawings. Mr. Ussher and Mr. Brindley can bear me out in this. What I am contending for is that the plans clearly show that at the southern end of the building there was to be a large tank and at the northern end of the building another large tank, and that the rain-water was to be diverted from half the building into one and from half the building into the other, and now the clean and foul water is taken away at one point, I understand, and in the same direction. I understand they were ultimately conveyed in the same drain. That is the difference, and the change was made simply because they changed their procedure, though they now wish to say the plan I prepared was unworkable. Is it fair, is it gentlemanly, to do such a thing as that, when they must have known the reason the plans were not used was that the scheme had been departed from? All the details proper, that is to say, all the full-sized details, mouldings, and such like, work requiring that kind of thing from which workmen could make moulds, were therefore prepared by myself. This is evident, because there is not one of them in all the drawings Mr. Brindley has brought; for many as they are, and nicely coloured as they are, there is not one full-sized drawing amongst them.

Mr. Brindley: I never had a full-sized drawing from you.

Mr. Lawson: If you did not get them the Contractor did. I have them in the office, and copies must have been taken. The work will speak for itself, there is no fear of that. Every moulding in that building was from my own hand. Insignificant as it may seem to Mr. Blair, I look upon these full-sized details as the expression of the building, which give it life and vitality as a design, and the whole character of the building can be altered, as the professional gentlemen before me can well understand, by the kind of full-sized details that are given. There is no question of that. The whole character and conduct of Mr. Brindley may be fairly judged from his own

statement given in evidence before you, that on coming to meet Mr. Gore and myself in my own office in order to discuss the final settlement of accounts, he allowed his temper to get so much the better of him as to cause him to walk away and to remain away, presumably in the sulks.

Mr. Brindley: Indignant.

Mr. Lawson: You can call it that now if you like, but I call it nothing but sulks. The Commissioners can put their own construction on it; I will not say what it was. I do not want to be too hard on Mr. Brindley. Having dealt point by point with the whole of the evidence, it now remains for me to reply to the last and final accusations brought forward by Mr. W. N. Blair, and he will pardon me if I decline to accept him as the representative in any way of the Public Works Department of New Zealand in this connection. I have proved to you, gentlemen, and can prove still if you wish it, from Mr. O'Connor's letter, that up to the commencement of this inquiry no accusations whatever were formulated against the asylum; and we have it in evidence on Mr. Blair's own statement—although he denied it before to-day—that it was in June, 1885, not September or August, but June, 1885, that he first became aware of the defective foundations.

Mr. Blair: Where did I state that?

Mr. Lawson: In the first statement you made here. I call for the words recorded by the reporter in the report itself, not as they appear in this printed document, but as they were taken down by the reporter. Do you deny that you said that it was in June, 1885, when you first became aware of it? I ask you to say whether you did or not?

Mr. Blair: I say I did not.

Mr. Lawson: I say you did, and I call for the report.

Mr. Blair: I put Mr. Ussher's report in.

Mr. Lawson: What I am speaking of is what Mr. Blair himself stated in the opening of the inquiry that it was in June, 1885, he first became aware of the defective foundations.

Mr. Blair: Yes, you are right, but that was a mistake; Mr. Ussher's letter is put in, and that puts the matter right.

Mr. Lawson: There it is in his own report, and yet he dares to contradict me.

Mr. Blair: I withdraw the remark.

Mr. Lawson: He has corrected the report because he sees that in his own report on the damage to the building he says that it could be repaired for £50, though he said he did not.

Mr. Blair: You withdrew it.

Mr. Lawson: Yes, like a gentleman. I am proving that you called yourself in question and asked me to withdraw what you had said in this report. Gentlemen, how can you believe such a man as this, who dares to come before you and ask me to withdraw the words of his own statement? Like a gentleman, at the moment, I did it, but I discovered afterwards that I was right after all.

Mr. Blair: The word "June" should have been "September," that is the whole thing. There is the letter.

Mr. Lawson: He has gone from a portion of his previous statement, and I do not think it is necessary for me to repeat anything with reference to this, because I think I have been distinct enough in my previous statement, and anything I have said will be borne out by written documents. Does it not manifest a peculiar spirit on the part of Mr. Blair that he should twice during the same inquiry have called me to account for quoting his very reports, and have stated that they were untrue—his own words. In none of the letters that I wrote referring to this isolating-drain, nor in any other letter, did I ever resile from the position I first took up with regard to it, and I defy Mr. Blair to show anything else. I have always looked upon it as a necessity in the case. I will refer shortly, and very shortly, to the position that Mr. Blair has taken towards Mr. Brindley. He himself admits that he sent for him, that he was in conference with him, and that he knew what evidence he would give before he gave it, and they had arranged, apparently, what evidence should be given. Is that a proper attitude to take? I maintain that it is not, and I maintain that Mr. Brindley was and is a principal in this matter; he is no mere witness, and that he may find out to his cost. In this matter His Excellency the Governor has included him as one of the parties who may be to blame in it, and Mr. Blair had no right to take that man into his charge when he came here or to deal with him as he has done in this inquiry and during this inquiry. Mr. Brindley should have been more careful in this matter, and he also may find that out to his cost. Mr. Blair has tried to make it appear that he has replied to me through Dr. Hector as to this report. He maintains that, because I noted a report from Dr. Hector—a second report, as he says—it was that, therefore, he (Mr. Blair) answered my letters. Was ever such a preposterous thing mentioned? You have only to look at the character of the letter I wrote to Mr. Blair to see that that could be no possible answer to it. I wound up that letter by asking for special instructions—very urgent instructions, because I referred there to the telegram that it would be necessary to send in connection with that letter. Neither letter, nor telegram, nor instructions of any kind, as I have said before, have I ever received from Mr. Blair in connection with that letter. An answer to that letter would be a very different thing from handing me a report of Dr. Hector's, which I perused and noted to be attended to—a very different thing, and I think it is rather asking that you should be imposed upon to ask you to think that Mr. Blair could possibly answer a letter of mine asking for special instructions on a very special subject by a report of Dr. Hector's being handed to me simply to peruse and to hand back. As to the position of responsibility that I occupy as between Mr. Blair and Mr. Brindley, I think I have clearly enough defined that position; in fact it is not for me to define it, it is defined for us all under the contract, and you dare not, gentlemen, you dare not go beyond that. That is your position. I dare not go beyond it; I am bound by it, as every other party named therein is bound by it. It is no fault of mine if the contract is drawn up wrongly, and the special conditions attached thereto are drawn up wrongly. I am not responsible for that. I never drew them up; they were drawn up by the Public Works Department, as I have already stated. Mr. Blair has said that irregular settlement in soft ground accounts for the whole of the disturbance there. Irregular settlement in soft ground

—that is a peculiar way of putting it. That may even include a slip. Irregular settlement in soft ground may include the whole country-side in a slip. Possibly Mr. Blair means that. I do not know, but these are his own words. Irregular settlement in soft ground will, I maintain, include a slip if correctly read, and it may include a very extensive slip. I maintain, too, that it is not for me to define that slip. Dr. Hector has done that very clearly, I think, in his evidence before us on this inquiry, and there I leave it. Now, gentlemen, I shall conclude, having, as I think, conclusively proved to you, as I promised to do at the outset of this inquiry, the causes of the injuries done and even now progressing at the Seacliff building. I claim at your hands that verdict which is according to the evidence laid before you, and no other. Elsewhere I have said, and have repeated before you during this inquiry by the reading of the letter in which it occurred, that my hands are clean in this whole matter; and I confidently look for you, in your report to His Excellency the Governor, at the close of your deliberations, to bear out this assertion, this hope which has sustained me during the whole course of this inquiry, and which does sustain me. You will notice that I have called no witnesses, have asked no one personally to appear on my behalf, or to give any evidence of any kind, but throughout I have relied alone on God and my right. Yes, I have, I am thankful to say. It remains now for me simply to thank you, gentlemen, for the forbearance and the courtesy which you have displayed towards me during this inquiry, and for the marked attention which you have given to anything I have said, and, I confess, that sometimes very imperfectly and perhaps tediously. I conclude by expressing my thankfulness that I have at last, after all these years of silent suffering in this matter, and under the basest insinuations, been afforded this opportunity of clearing myself from all these, and that I also see the near prospect of quite necessary work being done which will save and secure the Seacliff Asylum building from further harm. I have one thing more, by the way, which I have to do. Mr. Blair made an insinuation here as to the settling-up. Yes, the settling-up of accounts with Mr. Gore. He made the insinuation—at least it was implied, in the way it was said—that I had favoured Mr. Gore in the settlement. What was the position of things, gentlemen?

Mr. Gore: I was very near not taking the settlement at all as a matter of fact.

Mr. Lawson: I know you refused it for a long time. I ask you to consider the position I was left in by Mr. Brindley; this man, instead of standing to his duty, took the sulks and walked away, and remained away for a week. Was I to neglect my duty because he went away? What I did, gentlemen, was, I think, the most correct and proper thing I could have done under the circumstances. I went to Mr. T. B. Low, who was in the Public Works Department then, and the head of the architectural department here in Dunedin, and consulting with him there we fixed up the very settlement that Mr. Blair refers to. It is not on me therefore but on Mr. T. B. Low, who is now in a better country, that he casts insinuations when he casts insinuations as to that settlement favouring Mr. Gore. Gentlemen, there is Mr. T. B. Low's handwriting, and I will put it in.

Mr. Blair: You cannot put it in now.

Mr. Lawson: You cannot deny it.

Mr. Blair: No, I cannot.

Mr. Lawson: The inquiry is not completed.

Mr. Blair: It ought to have been put in before.

Mr. Lawson: It can be compared word for word, letter by letter, figure by figure, with what is in Mr. T. B. Low's handwriting, which I simply transcribed. If there has been unfairness it must be ascribed to that man who is now in heaven, and not to me. Gentlemen, I hope Mr. Blair will not breathe an insinuation in this matter.

Mr. Blair: Mr. Low did not know anything about it. He was paymaster, that was all. He drew up that from information.

Mr. Lawson: He wrote the accompanying letterpress also, with the exception of a few additional words, which I put in. It is all there also in Mr. T. B. Low's handwriting. You will not dare deny that.

Mr. Blair: He had no personal information of it at all.

Mr. Lawson: Yes, he had, for he had it from myself.

Mr. Blair: Oh, yes! he had it from you.

Mr. Lawson: He had my documents and Mr. Brindley's too.

Mr. Blair: He drew it up so that you might have it in proper form; and I think it is mean, now that he is in his grave at the bottom of the ocean, that there should appear to be an insinuation against him.

Mr. Lawson: I say it is.

Mr. Blair: Mr. Low simply drew up that so that it might be in proper form: he had nothing whatever to do with it beyond that.

Mr. Lawson: That is what you say. Is that not in his handwriting?

Mr. Blair: Yes.

Mr. Lawson: That is all I say.

The Chairman: I think you ought to have put it in before.

Mr. Lawson: You can keep it out if you like.

Mr. Blair: We have no explanation of what it is.

Mr. Lawson: It does not need it. It expresses itself—the letterpress does.

Mr. Blair: Had Mr. Low any personal knowledge of what is expressed there?

Mr. Lawson: Of course he had.

Mr. Blair: Did he measure one of them?

Mr. Lawson: Did I?

Mr. Blair: There is no insinuation about Mr. Low.

Mr. Lawson: But there is.

Mr. Blair: Mr. Low had no more to do with it than the Chairman of the Commission: Mr. Low simply drew it up.

The Chairman: This is drawn up in your name?
Mr. Lawson: Yes.
The Chairman: Then there is no use in putting this in.
Mr. Lawson: This is entirely Mr. Low's own dictation and his own handwriting. Why should I dictate to him what he was to write?
Mr. Blair: Mr. Low knew what form to put the final certificate and the accompanying memorandum in, and he did it to oblige you; and to insinuate now that Mr. Low is responsible for it is most reprehensible.
Mr. Lawson: Yes; I think it is on your part. Well, I am to be refused this being put in.
The Chairman: I do not see the use of it.
Mr. Lawson: The use of it is this——
The Chairman: It is your document?
Mr. Lawson: No more than that I copied it.
The Chairman: It is signed by you?
Mr. Lawson: Yes; I was asked to put my name to it.
The Chairman: We do not know that it is not a copy from one of yours.
Mr. Lawson: It is admitted to be in Mr. Low's handwriting.
The Chairman: We have no evidence that it was drawn up by Mr. Low. It is signed in your name.
Mr. Lawson: That is Mr. Low's own handwriting.
The Chairman: It is "certified correct, 'R. A. L.'"
Mr. Lawson: That is not my writing.
The Chairman: But who is "R. A. L.?"
Mr. Lawson: I am "R. A. L." The writing is by Mr. Low, every word of it; not dictated by me.
Mr. Ussher: Mr. Lawson was unacquainted with the way of making out a final certificate, and Mr. Low assisted him.
The Chairman: Very well, we will let it in.
Mr. Blair: Will you take it with the statement that Mr. Low had nothing whatever to do with the work?
Mr. Lawson: I desire to assert that it is his own handwriting and his own dictation, not mine. As to my visitations to Seacliff and my attention to my duties, there is no proof whatever brought forward that I did not attend in every way to my duties. The letters before you to the number of 433 speak as to my attention to my duties. It is to be presumed that if these letters passed that there was much more of ordinary correspondence, conferences, and visitations throughout all the working of this building. Gentlemen, I repudiate the statement made by Mr. Blair that I was inattentive to my duties. I never am inattentive to my duties, and I trust I have too much pride in my profession to be so. I have again to thank you, gentlemen, for the courtesy shown to myself, and to say that I rest confidently on your returning a verdict which will show, as I have said, to the public that I have sought to do my duty in this whole matter [Document marked 31, and put in—copy of final settlement in Mr. Low's handwriting]. It is not so much the figures as the reading which I ask you to look at, dictated by Mr. Low.
Mr. Ussher: Mr. Lawson was unacquainted with the form of making out a final certificate, and Mr. Low assisted him.
The Chairman: We fully understand that.
Mr. Lawson: I admit that. I do not deny that at all.
After the luncheon adjournment,
Mr. Lawson asked that there should be produced the correspondence between Messrs. Blair and Ussher which had led to Mr. Ussher writing the letters of the 26th May, 11th June, and 11th September, 1885, which had been put in in evidence, Mr. Lawson contending that this correspondence would disclose that he had received information as to the foundations being alleged to be defective prior to his report of the 17th August.
[The preceding paragraph is the substance of a conversational discussion the Commissioners considered it unnecessary to have recorded in full.]
Mr. Blair: I wish to give it on oath that when I wrote that report, which was presented to Parliament, dated the 17th August, 1885, I was not aware of any defects in the foundation, and that I had no suspicion of them of any kind whatever; and I think Mr. Ussher will say the same thing.
Mr. Lawson: I wish it also to be noted at this stage that Mr. Blair's first statement at the opening of this inquiry was given on oath and voluntarily.
Mr. Ussher: My letter in September speaks for itself. It is the only letter that passed in reference to the defects spoken of by Dr. Grabham.
Mr. Blair: That was the first intimation I had. Mr. Ussher's letter of the 9th September was the first intimation I had of it.
Mr. Lawson: I have only to state that Mr. Blair distinctly said that he first became aware of the defective foundations in June, 1885.
Mr. Blair: I did not say that.
Mr. Lawson: You contradict me again. I take your own words out of the report.
Mr. Blair: I say I made a mistake in dictating it, or the reporter made a mistake in recording it.
The Chairman: I have looked through both these files, and there are no such letters or telegrams.
Mr. Lawson: I simply submit it to the Commission to say whether there is not clearly on the face of these letters—at least one telegram and one letter—connecting them with Mr. Blair.
The Chairman: Yes; but there is nothing to lead us to suppose that they refer to the foundations.

Mr. Lawson: I have reason to believe they do.

Mr. Blair: I will swear that those letters do not refer to it.

Mr. Lawson: They exist. Why are they not produced?

Mr. Blair: They may have been private letters, and do not exist. We do not keep private letters. All the letters we have are produced.

Mr. Lawson: What is the meaning of this—"private telegrams and correspondence?"

Mr. Blair: I have faith in Mr. Ussher, and he in me.

The Chairman: I think we have threshed this matter out. I think we shall get no further information on the subject.

Mr. Blair: I wish to refer to the last thing that occurred before we went out, and to put it on record that Mr. Lawson stated that after he could not settle the final certificate with Mr. Brindley, who left in a rage, thinking that Mr. Lawson was dealing too leniently—after he could not settle the final certificate with Mr. Brindley, he went to Mr. Low, an officer in the Public Works Department, and that he settled it up with Mr. Low. That is what he wished you to understand: that, although Mr. Brindley would not make the concessions, Mr. Low did. Mr. Low is now dead; and I consider that insinuation to be of the most despicable character imaginable. It is a vile insinuation that ought not to come from any man who has the slightest pretence to being an honourable man. Mr. Low had no more to do with the settling of the final certificate than you had, and to suggest that he had is one of the meanest and most despicable things that any man could try to do —to bring dishonour on a man who is in his grave.

Mr. Lawson: Mr. Chairman and gentlemen of the Commission, I do not want to say more about this. I simply put in the documents I laid before you for consideration. There it contains Mr. Low's handwriting, which cannot be denied by Mr. Blair or by any of the department. I did not dictate the document to him; it was a voluntary statement written by him. As stated by Mr. Ussher, I did not know the form in which they wished to pass the final certificate, and Mr. Low put it in order for me, and he also wrote the comments connecting the whole thing voluntarily and by himself, not dictated by me. That is all I say about this whole matter. I do not implicate Mr. Low in it: I simply produce that as the views of the department at the time.

Mr. Blair: It is the most despicable act I ever knew.

Mr. Lawson: The department is despicable that——

Mr. Skinner: We are gaining nothing by this talk.

Mr. Lawson: He brought on himself. It is not my statement. I never would have mentioned the matter about the settlement had it not been for Mr. Blair's own insinuation at the beginning; that is what brought the whole thing up. I never intended to bring the matter up, and was taken by surprise when he brought it up. That is the whole thing; and if I have said a few words about it that were not very connected, I withdraw them.

Mr. Brindley: There is the question about the concrete wall at the back. Mr. Gore asked me to answer the question as to whether that had been paid for as an extra. On looking over these figures, they are not all here. I find that when we measured up the work that was done, and what was represented by the plan, Mr. Forrest insisted upon the back wall being measured as 2ft. deep, and the middle wall, as shown on the ground plan, being called the retaining wall. That was his measurement of the work as shown on the contract plans, which I say and maintain was not shown on the contract plans. I signed the sheets provisionally; they were correct as far as quantities were concerned, but I would not sign them as being correct, as I considered there was not as much concrete put in the place as was shown on the contract drawings.

The Chairman: Then I understand from what you say that the concrete on the back wall was not included in the measurements as work expected under the contract?

Mr. Brindley: Not according to his figures.

The Chairman: It was paid for as an extra?

Mr. Brindley: The middle wall was taken as the back wall, and the partition walls were stepped up with a certain grade to the ground, but where the present back wall is now it was only carried down 2ft., and when the other was put in the other was taken as brickwork; therefore I maintain it was paid for extra, and that it should not have been according to the section.

The Chairman: Can you find your measurement where that is recorded?

Mr. Brindley: They are not all here, but that is the reason for its coming to be put "examined" and initialed by myself.

Mr. Gore: The question I want answered is this: was the back wall measured and paid for as an extra?

Mr. Brindley: That is the only explanation I can give of it. I take it that it was.

Mr. Gore: I want to know exactly whether it was or was not?

Mr. Brindley: If the quantities as represented by the plan——

Mr. Gore: My question is a simple one; was the concrete of the back wall measured and paid for as an extra regardless of whether you call it an extra or not. Was it paid for as an extra?

Mr. Brindley: I could only give the same explanation that I have given before, that when Mr. Forrest measured up, what he considered the back wall represented the middle wall, and was stepped up, and the back wall was taken as 2ft. down—the footings. That was what he considered as shown by the drawings.

Mr. Skinner: In the settling up was this measured?

Mr. Brindley: These were measured, and there was the brickwork and cement.

Mr. Skinner: Perhaps you would like to take a little time to see your figures.

Mr. Brindley: At the present time I could not say.

Mr. Gore: Perhaps, though Mr. Brindley cannot answer that question, he can say that there were about 700 yards paid for as an extra on this contract.

Mr. Brindley: Yes, something of that sort.

Mr. Gore: Have you any idea how many yards there is in these two pieces of back wall, that

is the difference between these two dotted lines and what the section shows. If I were to tell you there were close on 500 yards, would you think that was included in the 700 yards of extra?

Mr. Brindley: You are trying to catch me.

Mr. Gore: What I mean is, there were 700 yards paid for. You know there was a considerable amount of extra concrete in that block and in this, and also in this?

Mr. Brindley: No, there was not.

Mr. Gore: Well, taking into consideration that these two blocks had extra concrete in them, do you think the 500 yards contained in this wall would be represented in the 700?

Mr. Brindley: What I maintain is that all through there was more concrete shown in the contract-drawings than was put in altogether.

Mr. Gore: I am only asking whether a certain portion of concrete was charged and paid for.

Mr. Brindley: According to the final certificate it was.

Mr. Gore: The final certificate does not show what part of the work the concrete was in?

Mr. Brindley: No.

The Chairman: If you had half an hour could you find it out by going through the figures. Have you any other papers connected with the building?

Mr. Brindley: Only the record of each certificate in detail: as each month's work was done it was added on and brought forward.

Mr. Skinner: In this book?

Mr. Brindley: No; those are only summaries.

Mr. Gore: I must be satisfied with the answer. Mr. Brindley cannot say whether it was paid for or not. I presume that is your answer?

Mr. Brindley: I cannot say whether it was paid for or not. I can only say the measurement as shown by the contract-drawings——

Mr. Gore: That is not the question. Was this quantity taken off and was it paid for?

Mr. Brindley: Of course it was paid for; at least as far as what was arranged with Mr. Lawson.

Mr. Gore: I suppose I must be satisfied with the answer; he really does not know.

Mr. Brindley: Mr. Lawson, I wish to ask you to withdraw an expression you used with regard to my being a dirty bird and fouling my own nest. The only way I have heard that expression made use of is in reference to domestic affairs, and I do not think you could have meant to refer to that.

Mr. Lawson: What I meant was simply this: that you, as Inspector of Works, have passed certain works, and after passing them you come here and find any amount of fault with the works you yourself had passed. That is what I mean. In other words you pick your own work to pieces—you foul your own nest.

Mr. Brindley: My nest is my home.

Mr. Lawson: It is a Scotch way of speaking, and I am a Scotchman. I am inclined to say what I mean; that is my way of speaking.

Mr. Brindley: With regard to Mr. Lawson's statement that he forwarded me enlarged plans—detailed plans—I can say that I never had them except in one or two cases, and in those cases they came up a month after the thing was built. If enlarged plans were given to the Contractor they were not given to me. As Inspector I never had them, and I think the Contractor never had them either.

Mr. Lawson: They were done, but I would not swear you got them. I say I provided them—I made them.

Mr. Gore: Allow me to say that any details I received from Mr. Lawson connected with work on the ground were taken up by me. I received other details from Mr. Lawson for shop-work, doors and sashes that were done in town—particular things that were done in town—and, of course, they never went up to Seacliff at all, but any tracings connected with the actual work on the ground were always taken up by me.

Mr. Brindley: There was one other thing; though Mr. Lawson contradicts me with regard to the visits, I affirm the same thing that Mr. Lawson at certain times only came up once a month, and sometimes less frequently. It was a common remark between Mr. Gore, junior, and myself that Mr. Lawson was not up as often as he could be. I say again that you were up there sometimes perhaps once a month. Anyhow, I was down ten times more often to see you than you were up to see me.

Mr. Lawson: Very likely; you had a pass and I had to pay my fare every time I went up.

Mr. Brindley: There is one other thing with regard to the statement as to Mr. Blair coaching me. I came here in the evening, and he put the previous evidence before me so that I could see it, and asked me what I could say; that was all. That is all I have to say.

The Chairman: Well, gentlemen, I think we have threshed the matter out.

Mr. Gore: I ask you to delete from Mr Blair's evidence on page 13 the remarks made by Mr O'Connor. Mr. O'Connor is not here to give evidence, and this is no evidence at all.

Mr. Blair: I beg to object to that. I would have called Mr. O'Connor if I had been asked.

Mr. Gore: Why did not you call him?

Mr. Blair: I may call him now.

Mr. Gore: Mr. O'Connor says that the gravel that was put in was dirty gravel. Mr. Blair knows that it was clean. It was of dark colour, and Mr. O'Connor was very likely to be deceived. I ask you to delete the evidence at the bottom of page 13 and at the top of page 14.

Mr. Blair: I object to that. I will get Mr. O'Connor, or the Commission may examine him in Wellington.

Mr. Gore: Mr. Blair got this in a roundabout way. It is not evidence at all. If proved by a witness it would be evidence, but under the present circumstances it cannot possibly be evidence.

Mr. Blair: I put it in along with other reports. I submit that it is as much evidence as the rest of the correspondence that has been put in.

Mr. Gore: Had Mr. O'Connor been here I could have questioned him as to the kind of gravel that was used. Had he known where it came from Mr. O'Connor would very likely have altered his opinion. It is a dark-looking gravel, but perfectly water-worn—perfectly clean. No doubt its dark colour led Mr. O'Connor astray. Now, I think it unfair that his letter, or whatever it may be, should be placed in evidence without Mr. O'Connor having an opportunity of correcting it if it is wrong. I submit that that is not evidence, and should be deleted.

Mr. Blair: Then I submit that the reports of Dr. Hector, which Mr. Lawson put in at an early stage, were not evidence. Those and the rest of the correspondence are in exactly the same position. This is a public report, a public document, and is put in as a public document.

The Chairman: All that I can say is that the Commissioners will consider the matter.

Mr. Gore: I am willing to leave it in your hands.

This closed the inquiry.

MR. LAWSON'S STATEMENT IN REPLY TO THE COMMISSIONERS' REPORT.

Mr. R. A. Lawson to the Hon. the Colonial Secretary.

Sir,— Dunedin, 17th April, 1888.

In the report of the Royal Commissioners on the above-mentioned building certain grave statements are made, which I most respectfully submit are not only contrary to fact and the evidence furnished at the Commission of Inquiry, but that also being so, they reflect so very injuriously and unjustly on myself personally, that I feel compelled, in the interests of truth and also in self-defence, to approach you in order that the proper and further steps may be taken as may be deemed essential in the whole matter.

I shall endeavour as briefly as possible to follow the several statements in the report, and show where my contention as above stated is borne out. The report begins by stating that—(*a*) "The Commissioners find that the Seacliff Lunatic Asylum building is in an unsatisfactory condition, partly owing to neglect in draining the site both before and after the commencement of its erection; and partly (*b*) owing to certain defects in its construction," &c.

(*a.*) The Commissioners, I submit, are right in the first portion of this finding; but their explanation is misleading, because it would indicate that my letters to the Engineer-in-Charge, commencing in October, 1879, asking that an isolating-drain should be formed to prepare the site for the permanent building, were replied to by him in May, 1882; whereas this said letter of the Engineer-in-Charge was only in reality a reply to my letter of the 25th April, 1882, and which letter referred solely to sewage and rain-water drainage, my letter as to isolating-drain not having been replied to at all by the Engineer-in-Charge at any time.

The Commissioners, on page 3 of their report, after referring to Dr. Hector's report, express their opinion that "a proper provision should have been made in the specification for dealing with the drainage of foundations." Now, these drainage works could not have been provided for in the specifications or in the contract, for the very good and sufficient reason that the formation of the ground on which the building was to stand, as well as the formation of the whole site around the buildings, was undertaken and intended to be completed by the patients, under the control of the Public Works Department, and this was clearly in evidence before the Commissioners. The Architect could not, therefore, make any provision for the work in the specification, seeing that the preparation of the ground was removed from his control; but when the preparatory works were sufficiently advanced (having ultimately been placed in hands of Contractor, so far as the immediate site was concerned), his letter of the 25th April, 1882, indicates the earliest period when it was possible to have carried out these works of drainage for the building proper. At this date the Architect urged "the pressing necessity for initiating and carrying out a comprehensive drainage scheme;" but it was fully twelve months afterwards before drainage works of any kind for the building proper were put in hand, although the urgency of the works and the danger of settlement was communicated at the date named to the Engineer-in-Charge. There is also something not only extremely contradictory, but highly disingenuous, in the finding of the Commissioners, after themselves pointing out that "the Architect had repeatedly called the attention of the Public Works Department to the necessity of drainage," yet, considering that he (the Architect) was "to blame for not assisting on such works being carried out as he thought necessary to secure the safety of the building in course of construction under his directions." As if, indeed, the Architect were the proprietor, instead of Architect only, urgently advising the agent of the proprietor who had control of the ground to be dealt with. But, as a further and complete answer to this finding, I need only give the dates of letters written, and couched in as strong language and in as urgent terms as could well have been made use of, asking at the hands of the Engineer-in-Charge of the Public Works Department that these same works should be done. The letters are—to the Engineer-in-Charge, dated the 22nd October, 1879; the 16th January, 1880; the 29th June, 1880; and the 29th March, 1881. All these letters were forwarded to the Engineer-in-Charge at their several dates, and all before the larger contract for the permanent building was begun or the contract for its construction signed; but to none of them have I received a reply up to this hour. The following letters were also written: To the District Engineer, dated the 12th May, 1884, the 26th May, 1885, and the 6th July, 1885; to W. N. Blair, Esq., dated the 2nd February, 1886. In all of these letters I urged that the

main isolating-drain should be done, as originally requested by myself and recommended by Dr. Hector; but, as is now well known, no attention was paid to these repeated requests other than making burrows under the earth after the damage began to show on the walls of the building, and after the whole contract had been completed and the works had passed out of my charge. The whole of these letters were produced before the Commissioners, each of them urgently pressing the necessity for the construction of the isolating-drain or open channel, to prepare the site and protect the building. Does it not seem, therefore, under the circumstances, not only incomprehensible, but cruel in the extreme, that the Commissioners should still conclude this portion of their report by stating that "they consider the Architect to blame for not insisting," &c.

(*b.*) As to the statement that the unsatisfactory condition of the building partly arises from "defects in its construction," I need only here and now state that it is not borne out by facts, nor was there any evidence laid before the Commissioners which could warrant them in coming to any such conclusion; besides, the Commissioners themselves know, and have stated in their report, that the injuries to the building only occur at one wing or part of a wing, and that this portion of the building injured is exactly of the same "construction" in every respect as the whole of the remaining portion which now stands thoroughly secure and uninjured! As to the instances given by the Commissioners further on in their report, they will be dealt with as they come up.

In the last paragraph of page 3 of their report the Commissioners state that there was "no evidence to show" that the Public Works Department intended to take the drainage works under its charge. I again state that there was the clearest evidence on this point. See my letters of the 16th January, 1880, and 29th June, 1880, in which it is clearly stated that the whole of the works connected with the preparation of site were to be under the Public Works Department, and therefore beyond my control. Yet all the Commissioners have to say against the department, which has all along had entire control of the site, is "that the department cannot be considered to be free from blame." Can partial judgment further go?

The first paragraph of page 4 states: "The Commissioners are not satisfied that the isolating-drain called for by the Architect, and recommended by Sir James Hector, would have remedied the defects in the excavated site, but it would have established very efficient drainage; they are, however, of opinion that, under the circumstances, it would have been a great advantage, and that the recommendation referred to should have been acted upon, as the entire separation of the site from the surrounding formation would have removed the possibility of any extensive creep of the ground being communicated to the structure." This admission on the part of the Commissioners is a full and entire confession of the correctness of my contention in this whole matter as to the cause of the injuries sustained and now in process of development at the north wing of the Seacliff building, and pointed forward to and warned against in my letters of the 23rd October, 1879, the 16th January, and the 29th June, 1880, and the 29th March, 1881. It was also clearly in evidence before the Commissioners that the "creep" they here refer to had been so powerful as to thrust forward towards the east the cross portion of the said north wing to the extent of 16in. at the northern end of the ambulatory, and 13½in. at the eastern front (see evidence of Peter Seton Hay, principal witness for Public Works Department); while both the Inspector and the Contractor also in their evidence clearly and distinctly swore that the ambulatory-wall was built originally straight and in line with the rest of the building. It is somewhat significant, and peculiar also, that no notice whatever has been taken by the Commissioners of these important measurements of the principal expert produced by the Public Works Department, which go to prove clearly and distinctly that the cross portion of north wing has been communicated with by the "creep," and that to such an extent as to cause the injuries to the building now existing, and also the difference in the position of the building now proved by him to exist. The Commissioners state on the one hand that the works recommended by Dr. Hector and myself would not have been sufficient; while on the other hand they say that "if they had been carried out they would have prevented any extensive 'creep' of the ground being communicated to the structure." Could any two statements be more contradictory in one report, and what reliance can be placed on the judgment of men who can so contradict themselves?

The Commissioners further "do not consider that the building at the present time is absolutely dangerous." In this I quite agree with them. But when they proceed further, and say that "the action causing settlement has not ceased," they again place matters in a misleading light, for it was distinctly proved, if anything at all were proved before the Commissioners, by every witness who spoke to this point, that there was no such thing as a settlement in all the building; the nearest approach to any such thing being a difference of ½in. in a distance of 72ft., as referred to in the evidence of Peter Seton Hay, and which difference may have been the result of a slight variation in the original carrying out of the work. I quite agree with the Commissioners, however, in their finding that the "action has not ceased." Nay, more: I maintain that it will not cease till the isolating-drain I first asked for in 1879 is completed; and this being the work Dr. Hector and myself combined in asking, is also the same work which the Commissioners admit, "had it been carried out," would "have prevented any extensive 'creep' being communicated to the structure." Thus proving to a demonstration that had this isolating work been carried out as first asked for by me, and especially when first asked for, the injuries to the building would never have occurred. There is no question that the injury to the building is confined to the north wing, the two exceptions mentioned by the Commissioners really not being worthy of notice here; but what would be the use of applying "remedial measures" to the building itself until the "creep" or "action" affecting it, and which they assert "has not ceased," is arrested and removed? Here the total inconsistency of the recommendations of the Commissioners is clearly apparent. Indeed, from personal observation, I can testify that the only result of the "remedial measures" which the Public Works Department has resorted to already, in placing lumps of concrete and iron rails, &c., have rather been harmful than beneficial, by making the "creep" or action more irregular, and throwing the greater strain on the northerly portion of the wing affected, where quite recently greater indica-

tions of strain and movement are showing than before these "remedial measures" were resorted to. How the Commissioners can plume themselves that they can by their "present report reassure the Government," while they also distinctly state therein that "the action causing settlement has not ceased," and also that "a close watch is necessary," is somewhat of a mystery. The fact that the injury to the building, as stated by the Commissioners and admitted on all hands, is entirely confined to the north wing, while the nature of the work as to foundations, bearing surfaces, and thickness of walls—indeed the whole work in all its parts—is exactly the same there as in all other parts of the building, is a clear and distinct proof that the cause of this injury must exist and be found outside of the building altogether.

And now with regard to the theories—First, "That a gradual movement of the surface of the ground has taken place, carrying with it the whole of the north wing of the damaged building." Second, "That the effects seen in the block now affected are from the operation of vertical settlement, and consequent action thereon."

The Commissioners say that "with regard to the alleged movement eastward, they have given every possible attention to this supposition, but they find that from the absence of any data—lines of setting-out or fixed beach-mark—there are no reliable means of checking the position on the ground of the building as finished; it has not been proved." And they make this statement: First, in the face of the sworn testimony of the Inspector of the works, who himself set out the building, and who swears that he set out the walls (now out of place) straight, and in line with, the others at the first; second, in the face of similar sworn testimony of the Contractor before themselves at the inquiry; third, in the face of the sworn testimony of the chief witness brought forward by the Public Works Department, P. S. Hay, that he had ascertained by survey and measurement immediately before the inquiry that the cross portion of the north wing was out of line to the eastward 16in. at north angle of ambulatory, and 13½in. at its eastern front; fourth, in the face of their own statement that the "action causing settlement had not ceased." Therefore, on all these grounds, the Commissioners stand convicted of having ignored the evidence tendered to them at the inquiry, and of contradicting their own formerly expressed statement that there was "action" still progressing. Over and above all this, it was in evidence before the Commissioners that a similar ground movement had taken place at the site of the temporary asylum building; indeed, that it was this similar movement which had caused the Architect in 1879 to give the first warning to the Engineer-in-Charge, and to request that an isolating-drain should be formed. The Commissioners were also personally aware, and it was in evidence, that the surface of the ground in the immediate neighbourhood in other parts was undergoing a gradual movement, this being especially noticeable at the Seacliff Railway-station, which, with the platform, had moved about 3ft. to the eastward along its entire length, excepting a small portion at its southern extremity, the length of this platform alone being considerably more than that of the whole north wing of the asylum. The lines of railway were also moved back to their old position at about the same time that the platform-kerbing was placed in its present position, so that the Public Works Department are also well aware that this more extensive movement has taken place.

As to the second theory—namely, "vertical settlement," the Commissioners seem themselves to wander in a labyrinth from which they never intelligently emerge; the only definite sentence as to this whole matter on their part being that on page 6, where they say that "the effect of the continuous action producing the vertical settlement was found by levelling to amount to 4in., as ascertained from the adjacent stable portion of the building." This difference of 4in. was discovered by the Commissioners themselves, and they value it so highly as to found a theory upon it; whereas the 16in. proved to exist in favour of the other theory is totally ignored by them. Why should this be so? Unfortunately for this vertical-settlement theory also, no evidence whatever was produced before the Commissioners which can bear it out, and this very difference of 4in. being between two points almost 65ft. apart, the one point being at an angle projecting about 50ft. from the western wall of Block 2 north, and the other on the western wall of said block, may, with far more reason, be caused by the raising of the projecting angle referred to, which stands on the higher level and directly in line of the "action" or "creep," which would be communicated to the building first at this point. There is, therefore, no proof whatever, either in this discovery of the Commissioners or from the evidence placed before them at the inquiry, that this theory of "vertical settlement" is the correct one; nor do the Commissioners in a straightforward way assert it. Further—(1.) It is unknown to Resident Engineer Ussher; see his evidence before the Commission. (2.) It is unknown to Peter Seton Hay, the only other expert witness on behalf of the Public Works Department (except in his now famous ½in. in 72ft.) (3.) It is unknown to the Contractor who erected the building. (4.) It is unknown to the Inspector of Works. (5.) It is unknown to the Architect. (6.) The building itself disowns the theory.

The Commissioners speak of an "action" producing "vertical settlement" (page 6). This clearly indicates on their part that, whatever may have been the cause of settlement, vertical or otherwise, should such exist, they do not think that it could have been caused through any defect of the building; for, while they state that the settlement has caused the extensive fractures and otherwise done the damage to the building, they further say that the settlement itself has been caused by "action;" and, as it is very well known that a building has no "action" of its own, not even a "creep," we are driven back once more on to the ground-movement as the fruitful source of the injury to the building—this movement producing a straining, dragging, and crushing effect such as they describe, in the walls, and as is evidenced to the senses at every point where it exists. As to the remarks made by the Commissioners in their report to the effect that the walls "sank" or "yielded in various degrees" vertically, no evidence of any kind exists that such was the case either in the building itself, nor was it submitted to the Commission during any of its sittings; therefore such language on their part is wholly and entirely unwarranted. While the evidence shows that from a certain period the ground on which the north wing was erected was known to be doubtful, it was never known to be in anything like a state of "plastic puddle;" that is a mere

assumption on the part of the Commissioners, the Contractor and Inspector both proving that care was always taken to clear the foundations of all water and drainage before placing of concrete; the whole of the concrete foundations standing to-day also giving full proof that they have neither "sunk" nor "yielded in various degrees" vertically at any point throughout the whole building.

There is no foundation for the statement that "the supports of each wall were rather scant," because it was clearly in evidence before the Commissioners that they were sufficient and ample in every instance, and they have also proved themselves so. The main back (or western) wall was thickened throughout its entire length; the wall under piers of ambulatory was also thickened and made continuous throughout its entire length; and, in fact, the additional concrete placed in foundations alone caused an extra of £1,764 3s. 9d. This speaks for itself. The Commissioners are rather unfortunate in selecting the ambulatory wall as a shocking example of bad construction, this wall being the only one of the three in the main building of north wing which has thoroughly-well withstood the "action" which they refer to, because by its being continued up to the top the full thickness of 18in., instead of being lessened to 14in., it has been able to resist the "action," and stands to-day almost without a fracture in comparison with the others. This is the first instance, in all my experience, that I have heard it asserted or assumed that, by reducing a wall from 18in. to 14in. in its second height, the upper or second height would be stronger or better for the reduction. The assumption also of the Commissioners, that the introduction of stone courses into the walls is a source of weakness, I deem an erroneous one, considering these courses to be a source of strength in no small degree. It is a matter of fact also that, although the walls are perforated by numerous air-flues, in no instance have these proved to be a source of weakness, because there are no fractures showing at any one of them. The opinion expressed by the Commissioners that the movement in that part of the building—the north wing—is due to unequal settlement, is manifestly contrary to all the evidence, no unequal settlement actually existing.

As to drainage, enough has already been said, and also as to foundations, both as to breadth and depth; they have proved themselves sufficient, having been strengthened, as already referred to, in view of their requirements throughout.

The brick bond has also proved itself thoroughly sufficient, and there is no doubt, but for the brickwork being thoroughly good and also iron-hoop bond plentifully used, the walls where affected could not have resisted the pressure and strain as they have actually done. The bricks, as has been testified by the Inspector and others, were in many instances condemned by the kiln, and time after time, and the Contractor was never allowed to use any of those from the condemned kilns. As a matter of fact, however, a large portion of the bricks used in the northern block—the block affected by the movement—were bricks from Dunedin; and the whole of the bricks, I state most unhesitatingly now, as before, will bear comparison with any used in Dunedin on the best works. What can be made of the statement of the Commissioners, summarised as follows: "Without going as far as to say that the material and workmanship are absolutely bad or slightly defective, they hold that they are not of a quality or description warranted by the magnitude and importance of the building, nor are they in conformity with the spirit of the specification." An unprejudiced judgment on this sentence can only be arrived at by saying that the Commissioners would fain like to be able to say that the said "material and workmanship" were bad, but that they cannot do so. It is also manifestly inconsistent on the part of the Commissioners to say in the one breath that the Inspector endeavoured to secure good work and sound construction, which was required by the spirit of the specification, but yet that he was placed at great disadvantage owing to the inexact wording of the specification, no syllable of such inexact wording having ever been tendered in evidence, nor was any complaint made or fault found with the specifications by the Public Works Department, to whom they were submitted, and by whom they were in part subdivided into headings, printed at their own cost, and presumably revised before printing. Nor was any fault found by the Inspector or Contractor, or, indeed, any difficulty of any kind in connection with them during the whole course of the works, which should be, and is, the true test and touchstone as to their character.

As to the General Conditions, and all other conditions governing the contract, they were placed there voluntarily and solely by the Public Works Department before they themselves advertised for and obtained tenders for the construction of the building; and, so far as I was concerned, I was always prepared loyally to carry out the provisions thereof, and, whenever necessary, did so.

The position of the Inspector, referred to on page 9 of report, instead of being a difficult one to understand, as stated by the Commissioners, was most clearly defined. Recommended by the Architect, appointed by the Public Works Department, he clearly had the entire confidence of both parties throughout, as was distinctly shown by the evidence placed before the Commissioners, and especially in all matters where contention with Contractor arose. As to this, see evidence as to the concrete, cement, bricks, and indeed every other contention brought to notice. All this is clearly attested by documentary evidence; and yet, in the face of such, the Commissioners themselves formulate the charge against the Architect that the Inspector was not supported by the Architect. On the contrary, the truth being that, throughout the whole works and in every particular case of difference of opinion, the Inspector was promptly and consistently supported by the Architect, voluminous correspondence to this same effect being placed in the hands of Commissioners over and above the other evidence. As to the concrete particularly referred to on page 12 of report, the material and its proportions were distinctly specified, and not left to be a matter of contention as stated; and in the proportion of packing to be used the Inspector was supported by written instructions of the Architect repeatedly. As to proportions of concrete, these were adhered to uniformly from first to last of the building, and there could therefore be no difference of quality as between the north wing and any other portion of the building, and the result has been that solid and secure foundations exist to-day throughout the whole building. As admitted by the

Commissioners themselves in their report, at bottom of page 12, "the work had set well;" and if concrete work "set well," that is ample and sufficient proof as to its good proportions and quality.

On page 13 of the report, clause 6, the Commissioners say they "are of opinion that the defects observed in the building cannot be altogether traced to the fact that either the plans or specifications were not adhered to. The Architect's plans and specifications have been generally followed, excepting in the concrete foundations, in which there has been a serious departure from the contract plans." In regard to the whole matter of foundations, it was clearly placed in evidence that special written instructions were issued by the Architect to the Inspector, in which he was requested in any case of doubt to "err on the safe side." The building being situated over twenty miles from the residence of the Architect, and the Inspector being resident on the site, it became essentially necessary that a large discretion should be allowed to him, especially as he had the confidence both of the Public Works Department and the Architect. While instructing the Inspector to "err on the safe side" as to the foundations, he was also specially instructed, and in writing (see evidence), to make no deviations from the contract plans without having the Architect's instructions in writing for the same. Although thus instructed, and although the Commissioners themselves admit that the Inspector "in construction" omitted the footings, having no written instructions to make such deviation, and certainly not with the Architect's consent as therein stated; yet, strange to say, in the face of all the actual facts, the deliverance of the Commissioners, as on page 14, clause 7, is as follows: "The Commissioners are of opinion, that the Architect is responsible for any divergence from the contract plans, as in his evidence he stated that the Inspector acted under his orders entirely, and that he (the Architect) was prepared to accept the full responsibility." In the first place they deliberately absolve the Inspector duly appointed by the department from all responsibility under the contract; and in the second saddle the Architect with all; and, further, in doing so place in his mouth a statement never made by him—namely, "that he was prepared to accept the full responsibility." (See the Architect's own evidence, where he refers to the interpretation clause of the "General Conditions of Contract.")

As to plans being on too small a scale in laying out the works, &c., this is a carping criticism which might well have been spared. So long as they were correctly drawn to scale, and clear and distinct throughout, that was the main thing. The plans were drawn to an ordinary scale for such a building, and my experience with regard to such works enables me most distinctly and emphatically to state this. But, independently of this, the whole of the plans with the specifications were submitted to the Public Works Department on completion, and were, as a matter of course, approved and adopted by them before they called for tenders, as under: "V.R. Public Works, New Zealand.—Lunatic Asylum, at Seacliff, Otago.—Contract No. 1.—Public Works Office, Dunedin, July 4, 1879. Written tenders will be received at this office up till noon on Friday, August 15, 1879, for the above contract. They are to be marked on the outside 'Tender for Lunatic Asylum at Seacliff,' and addressed to the Hon. the Minister for Public Works, Dunedin. Telegraphic tenders, similarly addressed and marked, will be received if presented at any Telegraph Office by noon on the same date; provided written tenders in due form are lodged at any District or Resident Engineer's Office by the same time. Drawings, specifications, and general conditions may be seen at the Public Works Offices, Auckland, Wellington, and Christchurch; and at the office of Mr. R. A. Lawson, Architect, Dunedin. The lowest or any tender not necessarily accepted.—By command, E. R. Ussher, District Engineer."

As to the back and cross walls, it is not correct to state that they were treated as an extra, the fact being that these walls were thickened and deepened also, as required, through removal of site and necessity for additional precautions through Dr. Hector's report (this also being clearly shown in evidence before the Commission), and absorbed a large additional quantity of concrete; and it was this additional concrete alone in connection with these walls which became an extra, and to a large extent swelled up the amount already referred to of £1,764 3s. 9d. Yet, from the Commissioners' report as to these walls, the Government or others might be led to believe that the Contractor was herein improperly allowed an extra by the Architect to which he was not entitled. Whereas such an insinuation is totally baseless. The Inspector was never interfered with in the slightest degree by the Architect in making up extra quantities, these being arranged—as was proved in evidence before the inquiry—and fixed between an expert employed by Contractor and Inspector alone, and from time to time as the work proceeded. Therefore it is totally false to state that the Inspector was "overruled" or "yielded to the Architect's views and interpretations;" the truth being that the Inspector "signed or initialled the sheets of quantities" entirely without consultation with the Architect, as was also clearly and distinctly placed before the Commissioners by the several witnesses examined as to these quantities.

As to the recommendations of the Commissioners—First, "Thorough and efficient drainage of ground." This is perfectly judicious and necessary, but should include immediate construction of isolating-drain or channel, as well as additional drainage to relieve foundations, &c. This would be in keeping also with the opinion already expressed by the Commissioners when they, on page 4 of their report, state that the recommendation as to the isolating-drain "should have been acted on," as it "would have removed the possibility of any extensive creep of the ground being communicated to the structure." It should therefore have the same effect now. Second, "Reinstatement and strengthening of the injured parts of north block." The taking down and re-erection of the longitudinal portion of block 2 north would decidedly be a most injudicious and expensive mistake on moving ground. Besides, the Commissioners themselves say it is in no way dangerous. Then why remove it, if by the construction of the isolating-drain all possibility of extensive "creep" being communicated to the structure will be secured? As to observations and the various other minor matters referred to by Commissioners, they are reasonable, right, and will no doubt receive the consideration they deserve. An asphalt pavement 8ft. wide all round the north wing, with outward slope, is a very proper recommendation, and would be equally applicable and beneficial to the

whole building. But I would further recommend a concrete and cement-finished hollow channel all round the building at ground line, connecting down-pipe outlets, and so further securing dry foundations throughout.

The only other matter claiming notice is the recommendation of the Commissioners that the characteristic stair turrets on the main front gable "be taken down, the stone staircase be taken out, and that they be re-erected with wooden stairs, and be further secured by strong iron bands." These turrets have now been erected for over seven years, and the walls under them have shown no tendency to sink or fracture further than when they were first placed in position, the slight fracture referred to by the Commissioners having existed from the first at the north angle only, this having been caused by a testing shaft having been sunk to a depth of about 40ft. adjacent to this angle, when the underpinning of walls was first suggested by Dr. Hector. The turrets are on 2ft. 6in. and 2ft. walls, built in cement, and having strong iron rails bent into work, and well tied back into walls, securing the whole thoroughly. The stone steps are also each in themselves a continuous source of strength and bond; yet these same stone steps are the very things the Commissioners recommend to be removed. In construction, position, and surroundings, these characteristic turrets of the Scotch baronial style of architecture, although apparently not meeting the approval of the Commissioners, are exactly similar to hundreds, I may say thousands, to be met with, not only in Scotland and the British Isles, but on the Continent of Europe and elsewhere, and the idea of removing them and re-erecting them with wooden stairs, I can only characterize as grotesque in the extreme.

The closing paragraph of the report of the Commissioners is of such a nature as can best be explained by narrating the circumstances leading up to it, and which I most respectfully submit furnish a key to the whole tone of their report, and its hostile character towards the Architect. In his opening statement the Engineer-in-Charge affirmed on oath that it was in the month of June, 1885, that he first became aware of what he terms defective foundations "at the place where the damage has occurred." The Architect having in his possession letters from the Resident Engineer, dated the 26th May and 11th June of same year, thereupon asked that the letters from the Resident Engineer to the Engineer-in-Charge, and those also from the Engineer-in-Charge to the Resident Engineer, referring to this whole matter and at about the dates named, should be produced. After some delay, they were produced by the Engineer-in-Charge, handed to the Chairman of the Commission, and by him classed as exhibits in the inquiry. Towards the close of the inquiry the Engineer-in-Charge, for reasons of his own, and which also are disclosed in the evidence brought before the Commission, requested that he might be allowed again to be sworn, in order that he might affirm, and he did also then affirm on oath, that either he himself or the reporters had made a mistake when it was recorded in his evidence that it was in the month of June, 1885, in which he became aware of defective foundations, and that it should be and really was the month of September. The Architect then called for the reporters' notes, which proved that the month of June was the time stated; he also requested that the letters above referred to, and handed in by the Engineer-in-Charge as exhibits, should be produced and read. With great difficulty the Chairman of the Commission could be brought to understand what letters were wanted, and the Architect had to repeat and reiterate again and again his request, and to explain that it was the letters already referred to handed in by the Engineer-in-Charge, and linked in with the letters of the 26th May and 11th June, 1885, which were required. Search was apparently made for the missing documents, the Commission being delayed for some time in consequence, but they were not forthcoming, although neither the Engineer-in-Charge nor the Chairman of the Commission affirmed at that time, to the best of my belief, that they did not exist; the fact being that they were asked for, produced, and laid on the table as exhibits at an earlier sitting, and in the presence of all the parties at that sitting. After the conclusion of the inquiry, I became aware that the Engineer-in-Charge had, during an interval between two sittings of the Commission, sent his messenger to obtain this exhibit from the clerk, and, I believe, did so obtain it. On becoming aware of the circumstance above narrated, and taking it in conjunction with its surroundings, I decided to ask the Commissioners to hold another sitting in order that the whole matter might be cleared up, and therefore wrote as follows: "Seacliff Inquiry. To the Hon. the Commissioners. Gentlemen,—Referring to a matter which took place at the last sitting of the Commission, I desire very particularly to bring under your notice that certain important things remain unexplained, and that on this account it is absolutely necessary, in the interest of truth, that there should be a further meeting of the Commissioners, so as to arrive at a correct conclusion on the matters under inquiry. Mr. Blair, in his opening statement, on oath stated that it was in June, 1885, that he first became aware of what he terms 'defective foundations' at Seacliff. On this matter being under discussion, I called for the correspondence which had passed between Mr. Ussher and Mr. Blair, and between Mr. Blair and Mr. Ussher in connection therewith at the time, and Mr. Blair passed in certain letters which he said was the correspondence referred to and asked for. On my asking for the production of this same correspondence at the closing sitting, I was informed, after some search, that they were not in the possession of the Commissioners. As I consider it absolutely necessary that the correspondence referred to herein, and also linked in with the letters of the 26th May and 11th June, 1885, and addressed to myself by Mr. Ussher should be in the possession of the Commissioners before they can possibly arrive at a correct judgment in the whole matter; I now respectfully request that a further meeting of the Commissioners be held in order to obtain the said correspondence and afford opportunity of obtaining a correct knowledge of their nature and contents. I further respectfully inform you that, unless this correspondence is produced and meeting of Commissioners held, I shall lay the matter before the Colonial Secretary and Minister of Works without delay.—I have, &c., R. A. Lawson. Dunedin, 1st March, 1888."

To the above letter I received the following reply: "Dunedin, 2nd March, 1888. Sir,—In reply to your letter dated the 1st instant, in which you request that a further meeting of the Commissioners may be held, in order that certain important matters should be explained, the

Commissioners are of opinion that any further evidence of the nature alluded to by you could not influence their report. The production of letters between Messrs. Ussher and Blair (if such exist) at the date mentioned, is quite unnecessary for the purpose of enabling the Commissioners to come to a correct conclusion. Mr. Blair stated on oath that no letters passed between Mr. Ussher and himself between the dates alluded to on the subject of the foundations of the Seacliff Asylum. The Commissioners therefore consider that a reopening of the inquiry would elicit no information that could alter their decision, and would entail unnecessary expense. Your letter on the subject will, however, be forwarded together with the report.—I have, &c., H. P. Higginson, Chairman of Commission. R. A. Lawson, Esq., Architect, Dunedin."

It will be noticed that in above letter, although as Chairman of the Commission Mr. Higginson himself received the letters referred to as exhibits in the inquiry, he yet—in parenthesis—actually questions their existence! In reply to the above letter I again wrote as follows: "Seacliff Inquiry. To the Hon. the Commissioners. Gentlemen,—I have the honour to acknowledge the receipt of your favour dated the 2nd March instant, in reply to mine of preceding day, and in which you inform me that 'the production of letters between Messrs. Ussher and Blair (if such exist) at the date mentioned (26th May, 1885, and 11th June, 1885, or thereabouts) is quite unnecessary for the purpose of enabling the Commissioners to come to a correct conclusion,' and that 'the Commissioners therefore consider that a reopening of the inquiry would elicit no information that could alter their decision.' I am, however, still distinctly of opinion that not only does the correspondence between Messrs. Ussher and Blair exist—Mr. Blair himself having passed in certain letters which he said at the time was the correspondence referred to, and asked for by me. I am also further of opinion that the correspondence bears on the matters under inquiry very materially indeed. Under these circumstances I reserve to myself the right of taking what further action may appear to me requisite in order to elicit the truth. I thank you for your courtesy in forwarding my former letter with your report, and have further to request you to extend the same courtesy towards this present letter.—I have, &c., R. A. Lawson. Dunedin, 3rd March, 1888."

To the above I received the following reply, closing correspondence: "Dunedin, 5th March, 1888. Sir,—I have the honour to acknowledge the receipt of your letter of 3rd instant, which will be forwarded (together with your former letter on the same subject) with the Commissioners' report.—I have, &c., H. P. Higginson, Chairman. R. A. Lawson, Esq., Architect, Dunedin."

I will not ask you to found upon these circumstances an opinion that there was an intention to avoid evidence which would help my position and be injurious to the Public Works Department; but I do wish you to consider whether gentlemen so careless or indifferent of what has been placed before them as to question its existence can be capable of forming a correct and unbiassed judgment. I also submit that in refusing to persist upon these letters being produced, when they might have contained potently relevant matter, shows a decided want of thoroughness in dealing with an important subject of inquiry.

For the various reasons stated and apparent herein, I respectfully ask that you may cause the proper steps to be taken to have the several matters urged by me put to test.

I have &c.,

The Hon. the Colonial Secretary. R. A. Lawson.

MEMORANDUM ON THE COMMISSIONERS' REPORT BY THE ASSISTANT ENGINEER-IN-CHIEF.

Public Works Office, Wellington, 14th May, 1888.

Memorandum for the Hon. the Minister for Public Works.

Seacliff Commission Report.

There are several points in this report on which I take the liberty of remarking, viz:—

As to not answering Letters.

The Commissioners under paragraph 1 say, "The Architect repeatedly called the attention of the Public Works Department to the fact that drainage was necessary, eliciting no reply, however, until the 29th* of May, 1882, or thirty months after his first letter on the subject was written."

There must be some misapprehension in connection herewith, for it was clearly shown in evidence that the letters were answered in writing as well as by the action taken, and in cross-examination Mr. Lawson himself admitted the fact. There were three official letters addressed to me which it was alleged were not answered—23rd October, 1879, 16th January, 1880, and 29th June, 1880. They all referred to the clearing of the site and the isolating-drain. It would not have been a serious omission had these letters never been answered in writing, for the officers of the Public Works Department were in constant communication with the Architect about this matter, and, so far as could then be done, action was at once taken.

* Should be 19th.

As will be seen by the letter of the 23rd October, 1879, I had previous to that date been with Mr. Lawson on the ground to see into the matter. Mr. Ussher also paid another visit to the ground on the 18th February, 1880, for the same purpose: he was accompanied by Mr. Lawson and Mr. Hume. It was on this occasion that the site of the building was altered. Mr. Lawson's letter of the 29th June, 1880, admits that action had been taken on his first letter in clearing and excavating the site; action was also taken in getting geologists to report on the site.

Dr. Hector made an interim report on the 3rd April, 1880; Mr. Cox, his assistant, after visiting the ground, made a report on the 5th May, 1880; and Dr. Hector himself, after visiting the ground with Mr. Lawson, Mr. Hume, and myself, on the 2nd June, 1880, made a second report dated 9th June, 1880. This visit of Dr. Hector's was in consequence of representations made by me to the Inspector of Asylums on the 20th May, 1880. Dr. Hector's report of the 9th June, 1880, was in due course referred to Mr. Lawson, and his reply is the letter of the 29th June, 1880. In this letter Mr. Lawson embodies and repeats the letters of the 23rd October, 1879, and the 16th January, 1880. The whole document was referred to Dr. Hector, who replied to it on the 19th July, 1880. Mr. Lawson acknowledges the receipt of this reply on the 31st August, 1880, by minuting the papers, "Noted, and will be attended to."

The Commissioners are therefore under a misapprehension in saying that no reply was sent to the Architect's letters about drainage "until the 19th May, 1882, or thirty months after his first letter on the subject was written." The preceding statement clearly shows that the letters were duly answered in writing as well as by the action taken.

As to Responsibility of Public Works Department.

Based on the idea that the Architect's letters were not answered for thirty months, the Commissioners in the next paragraph of their report give a decision as follows: "Whether or not it was the intention of the Public Works Department to take all drainage operations under its charge in the first instance, we have no evidence to show, but the Commissioners consider that this was the case, and therefore are of the opinion that the department cannot be considered free from blame for not paying attention to the repeated applications of the Architect and warnings of Sir James Hector on the subject."

I have just shown that the premises assumed by the Commissioners on the question of answering the Architect's letters are incorrect, consequently the conclusion based thereon falls to the ground, and the department must be held free from blame in the matter. In fact, Mr. Lawson's minute of the 31st August, 1880, shows that he had charged himself with the duty of attending to Dr. Hector's recommendations and warnings.

Cause of Misapprehension.

The misapprehension on the subject of answering letters has evidently arisen from mixing up two sets of correspondence about drainage, which are on the files. The one is about the isolating-drain, and the other about surface-drainage. Up till Dr. Hector's visit to Seacliff on the 2nd and 3rd April, 1881, Mr. Lawson advocated the "isolating-drain." Dr. Hector then thought that the isolating-drain might be postponed, but that surface-drainage was required. From that time till the 12th May, 1884, that is, after the cracks had appeared in the building, Mr. Lawson was perfectly silent on the subject of the isolating-drain. He had, however, in the meantime applied for and got surface-drainage "for preventing probable settlement," the work being carried out to his own plan. My letter of the 19th May, 1882, was an answer to one applying for surface-drainage; it had no reference whatever to the isolating-drain.

As to Opinion by Engineer.

Another result of the mixing up of the correspondence is that I am made to express an opinion adverse to the drainage of the ground generally, whereas such an idea never crossed my mind. Referring to the drainage, the Commissioners in paragraph 1 say, "the Engineer in Charge stated that in his opinion its execution should be deferred until the erection of the building was approaching completion."

Coming as it does immediately after a reference to the isolating-drain, this statement can only be read as an objection by me to that proposal. But I will show that I never made any such objection. The statement is founded solely on the following remark in my letter to Mr. Lawson of the 19th May, 1882: "As you pointed out when I was reporting on Dr. Neill's memorandum, it would not be advisable to put any drains round a building till it is nearly finished." As already stated, this letter referred entirely to surface-drainage; and the drains round the building are surface- and rain-water tile-drains that are apt to be broken by the building operations. Furthermore, my remark at the best is merely a secondhand statement of Mr. Lawson's, too casual to be recorded as an "opinion" by either of us.

My action with reference to Mr. Lawson's last letter on the subject shows clearly that I made no objection to the isolating-drain. The letter is dated the 29th March, 1881; it reached me on the 30th, and on that very day I instructed the District Engineer to put the work in hand without delay, that it "ought to be done before winter." Although it is now proved conclusively that the isolating-drain is of no effect in preventing the settlement of the building, it would have been put in at that time had the Architect's ideas not been modified by Dr. Hector's visit, which took place four days after the letter was written.

Isolating-drains and Insufficient Foundations.

The main question at issue in the inquiry was whether the damage is attributable to the want of the isolating-drain originally proposed, or to insufficient foundations. As the two sides of the question are not brought directly into contrast in the report, I beg to do so here.

It was shown in evidence that the isolating-drain was put in behind the damaged portion of the building so soon as the first cracks appeared, and that two others of a similar character were put in subsequently, but that they had little or no effect in preventing settlement. Beyond a passing reference, the Commissioners say nothing about these drains. As they are an essential feature in the case, I submit a drawing showing the original isolating-drain proposed by Mr. Lawson, and the drains actually put in by the Public Works Department, together with the dates at which the several works were executed. It will be seen therefrom that the first drain put in by the Public Works Department is almost identical in every respect with the one proposed by Mr. Lawson, and that the others are in still better positions for effectually intercepting any underflow of water from the high ground. It will also be seen from the drawing that all the ground behind the damaged portion of the building is cut into by both drains and shafts at short intervals. Far more drainage has been given than was ever contemplated under the original scheme, and yet no beneficial results have appeared—a clear proof that "isolating-drains" are not the remedy for the evil.

In contradistinction to the thoroughness of the "isolating" drainage which has been provided, I submit other drawings showing the foundation walls as intended by the contract and a they actually exist. It will be seen therefrom that the walls are in no case anything like what they should be; that they are all deficient in width, and that the most of them are deficient in depth as well, the bearing-surface being in every instance seriously reduced. It was also shown in evidence that the settlement had materially diminished or ceased altogether at certain parts of the building where the foundations had been widened. It is scarcely necessary to add that the very essence of a good foundation in bad ground is a large bearing-surface.

These facts, and a comparison between the drainage- and foundation-drawings, are alone sufficient to show that the cause of the damage is not the want of the isolating-drain, but the want of proper foundations.

Extras.

Referring to "the incompleteness of the plans attached to the contract," as regards the walls of the ambulatories, the Commissioners, in paragraph 7, say they "are of opinion that the whole were included in the contract, and that the back and cross walls should not have been treated as an extra."

I respectfully submit that the matter should not have been left at this stage, but that the Commissioners should have stated how much was overpaid on account of this and similar work, for the Inspector's evidence on the subject goes far beyond the Commissioners' finding. In giving his reasons for objecting to certify the extra sheet, the Inspector said, "I considered there was not so much concrete put in the place as was shown on the contract-drawings;" and again, in reply to Mr. Gore, he said, "What I maintain is, that all through there was more concrete shown in the contract drawings than was put in altogether."

There was nothing brought forward to refute this evidence of the Inspector, so we must assume it to be correct, in which case the Contractor has been overpaid on the concrete foundations to the extent of £1,764 3s. 9d.

Recapitulation.

I shall now, in conclusion, give an abstract of the principal points herein brought out.

1. The Commissioners are under a misapprehension in saying that certain letters from the Architect, with reference to the isolating-drain, were not answered for thirty months. It is shown that the letters were answered in writing as well as by action taken.

2. The conclusion with reference to the responsibility of the Public Works Department is based on the assumption that the letters were not answered. As the premises are proved to be incorrect, the conclusion must fall to the ground.

3. The misapprehension with reference to the answering of letters has arisen from the mixing up of two sets of correspondence, one about the isolating-drain and the other about surface-drainage.

4. Up till April, 1881, when Dr. Hector made his last visit to Seacliff, the Architect advocated the isolating-drain; he then abandoned this scheme, and went in for surface-drainage, which was carried out to his own plans. After the 29th March, 1881, no communication was received from the Architect about the isolating-drain till the 12th May, 1884, shortly after the cracks had appeared.

5. I never expressed the opinion that the construction of the isolating-drain should be deferred until the erection of the building was approaching completion.

6. The isolating-drain originally proposed was put in behind the damaged portion of the building so soon as the cracks appeared, and two other drains of a similar character were put in subsequently; but they have had little or no effect in preventing settlement, thus showing that isolating-drains are not the remedy for the evil.

7. The drawings produced show that the foundation walls at the damaged portion of the building have not been carried out according to contract, that the bearing surface has in every instance been seriously reduced. It is also in evidence that the settlement has been stopped or lessened by widening the foundations, thus showing that insufficient foundations are the cause of the damage.

8. The Commissioners find that certain of the ambulatory walls have been erroneously treated as an extra, but they do not give the value of this and other works in the same position. According to the Inspector's evidence the Contractor has been overpaid on the concrete foundations to the extent of £1,764 3s. 9d.

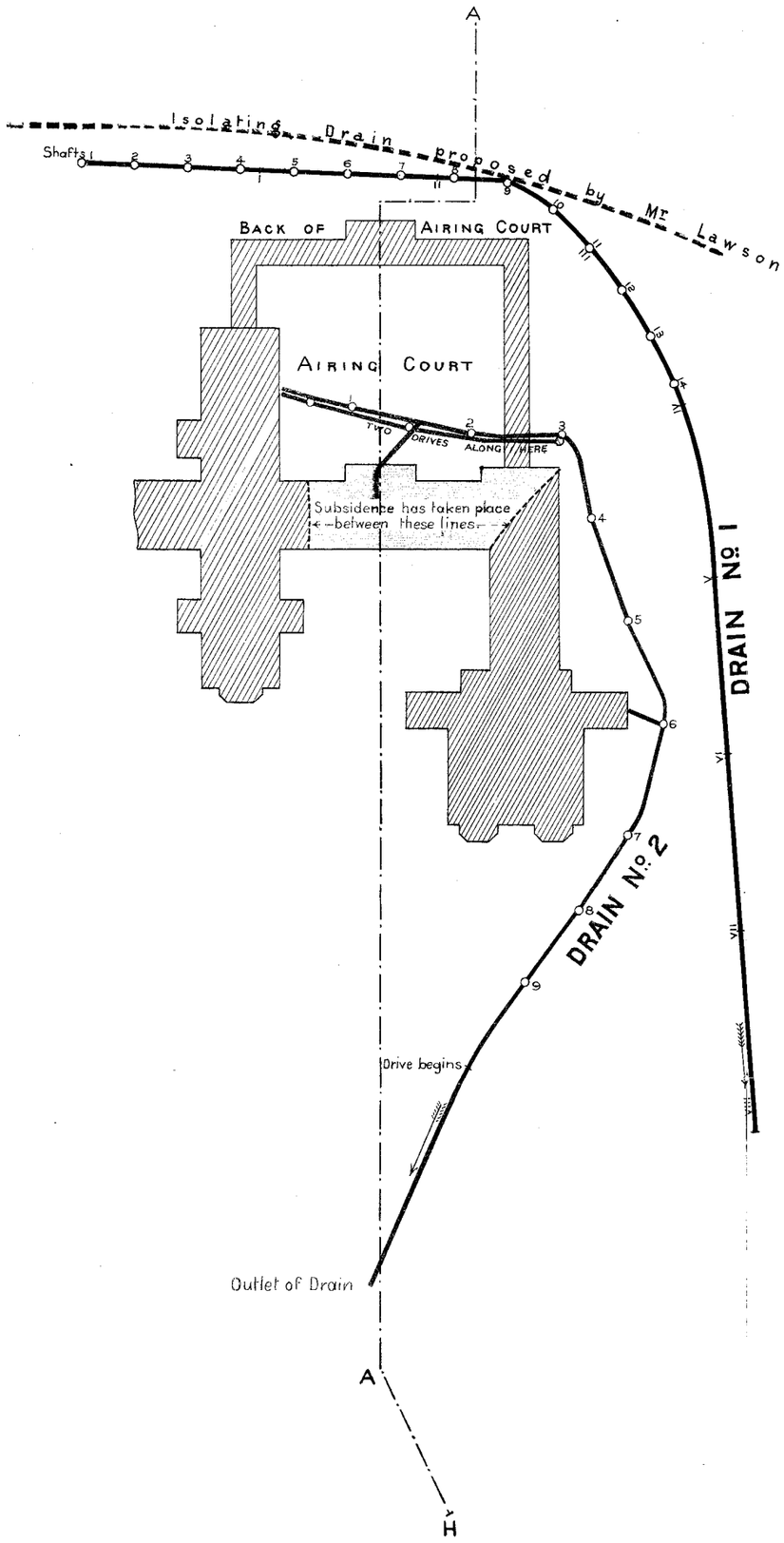
W. N. Blair,
Assistant Engineer-in-Chief.

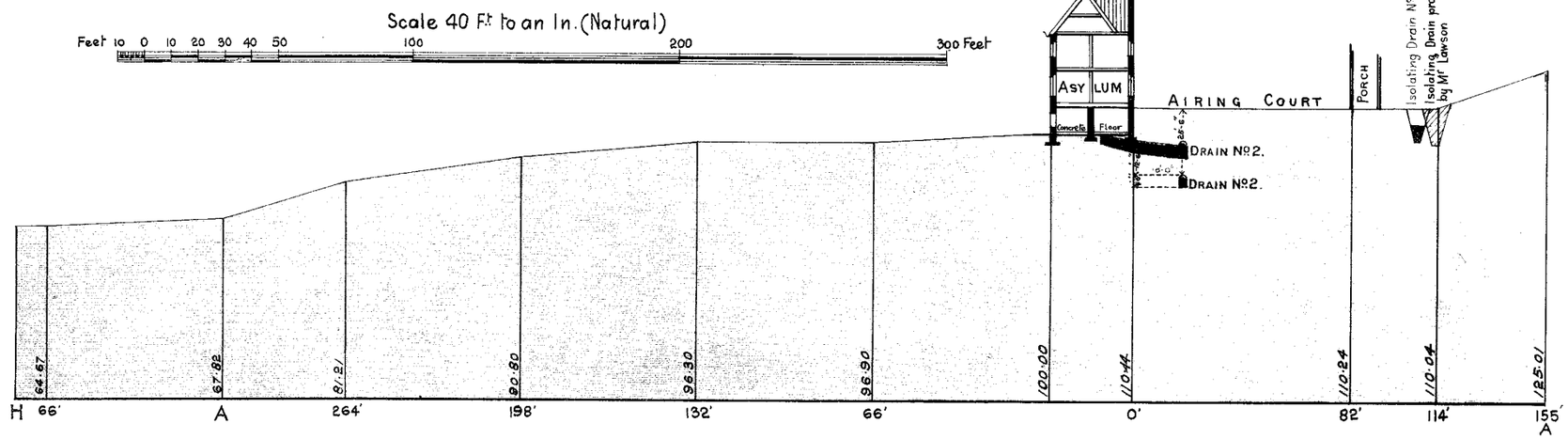
[*Approximate Cost of Paper.*—Preparation, £10; printing, exclusive of plans (1,375 copies), £126.]

By Authority: George Didsbury, Government Printer, Wellington.—1888.

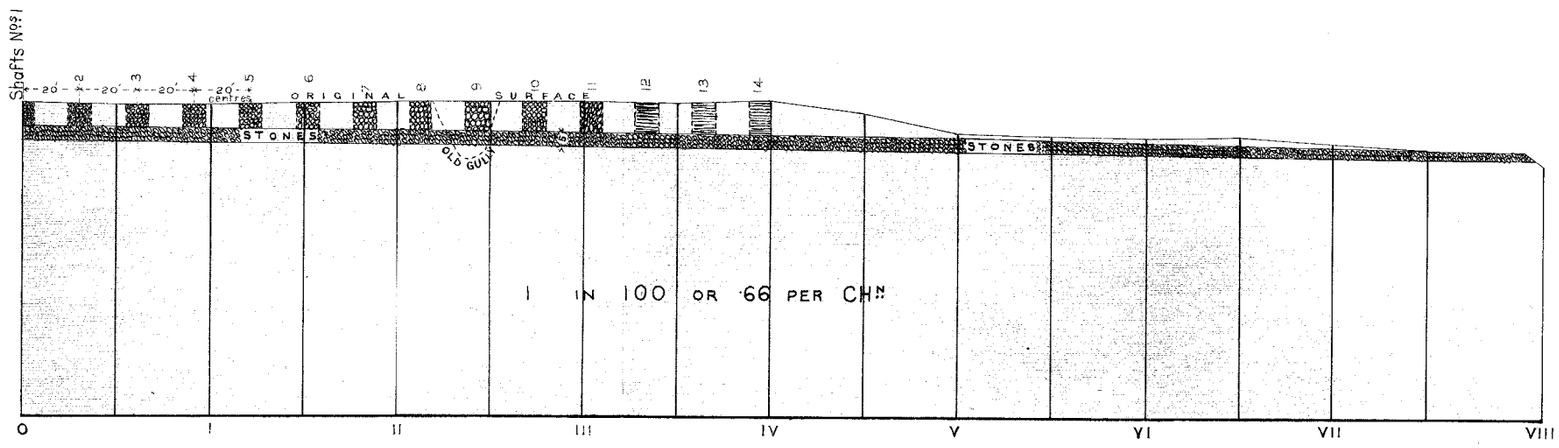
SEACLIFF LUNATIC ASYLUM

Plan Showing Isolating Drains as Proposed and Constructed



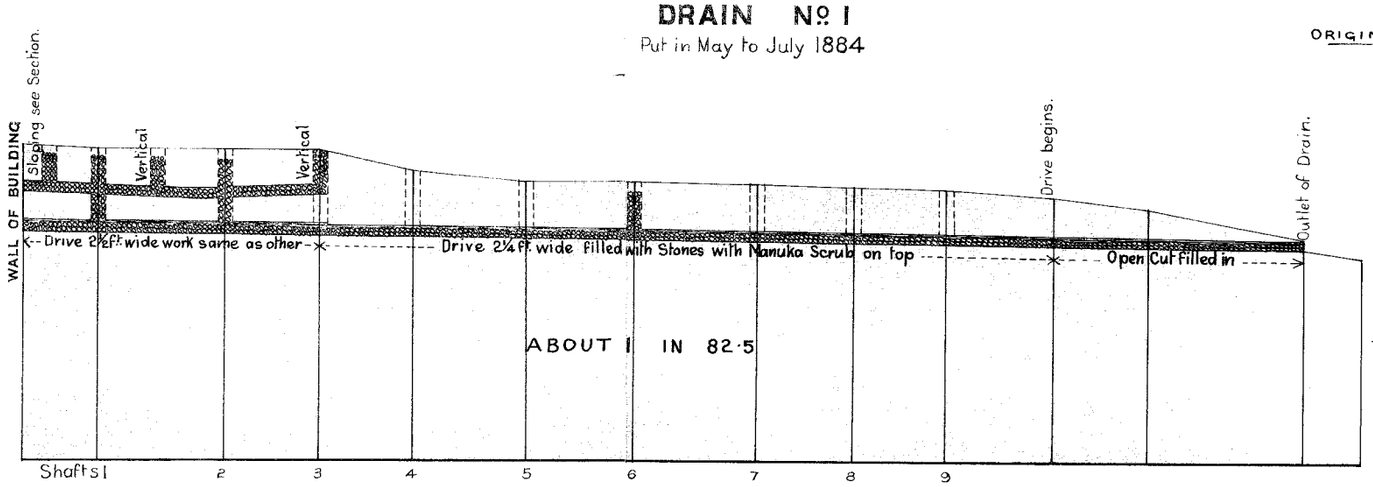


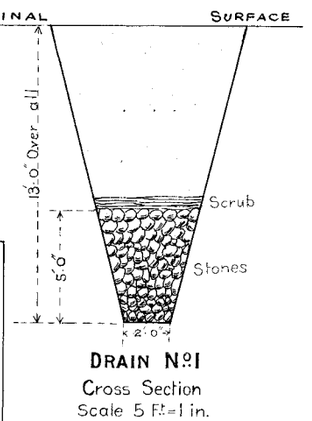
SECTION ON LINE H, A. A.



DRAIN No: 1

Put in May to July 1884





DRAIN No: 1
Cross Section
Scale 5 Ft = 1 in.

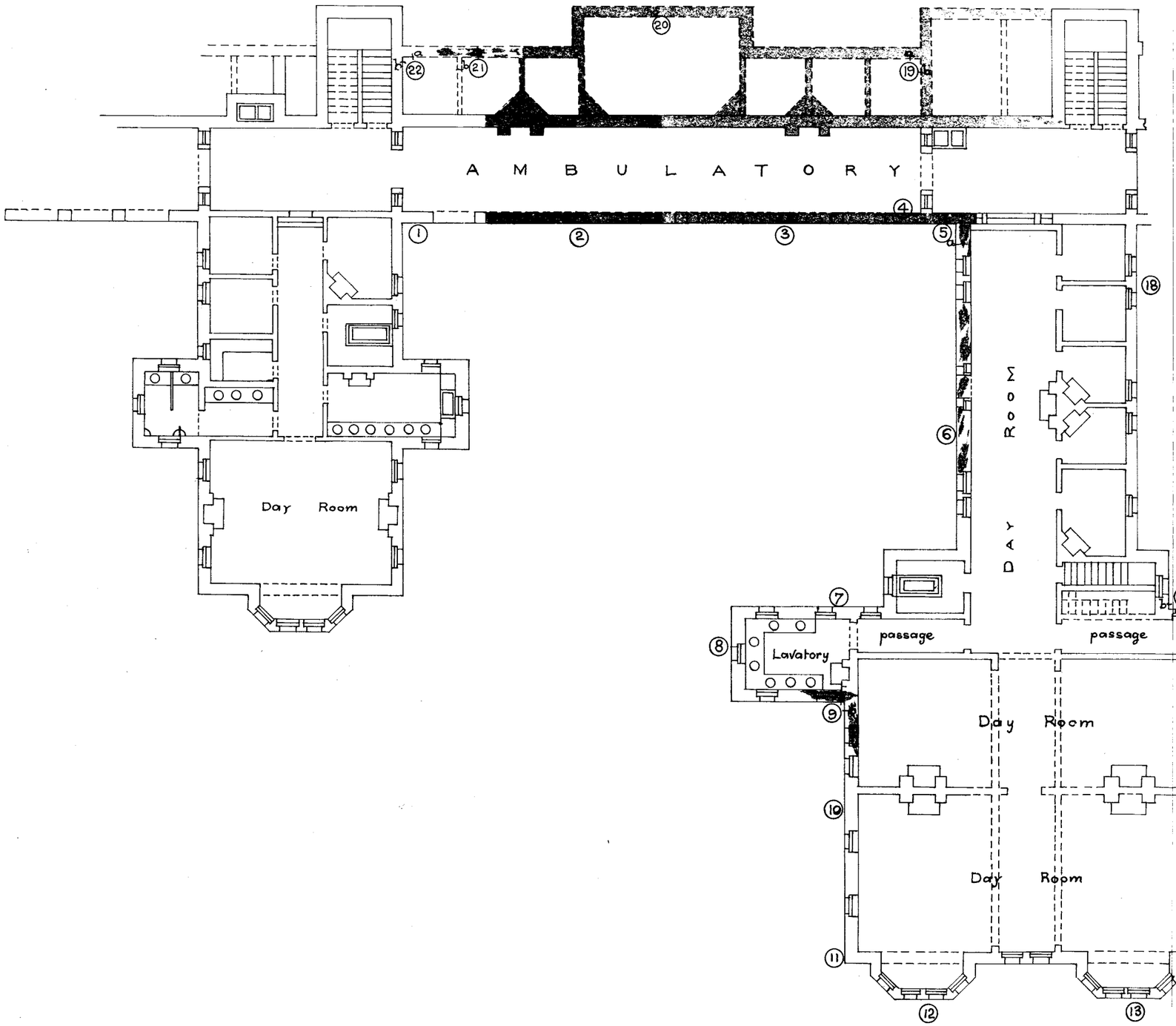
DRAIN No: 2

Lower Drive put in March to June 1886.
Upper » » » January 1887.

Note! Shafts 1, 2, & 6 are filled with stone to within about 3½ ft of the surface, all the others to the same height as the Drive & with clay up to the surface.

— SEACLIFF LUNATIC ASYLUM —

— KEY PLAN SHEWING WHERE SECTIONS OF FOUNDATIONS —
— WERE TAKEN IN BLOCK 2 NORTH END —
— SCALE 16 FT. = 1 INCH —

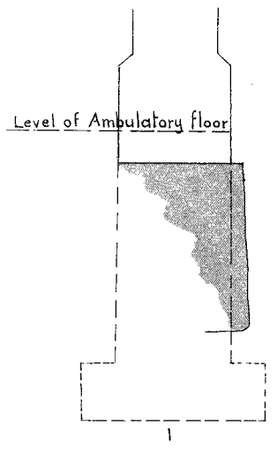


Subsidence has taken place where Walls are colored green.

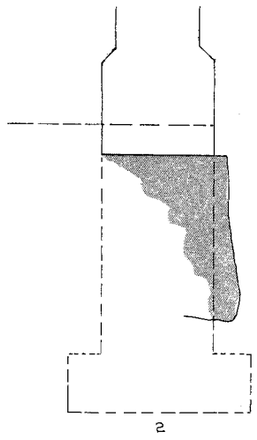
SEACLIFF LUNATIC ASYLUM

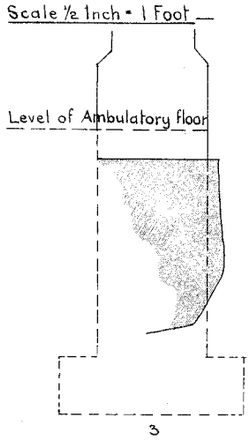
Inches 12 6 0 1 2 3 4 5 6 7 8 9 10 Feet

Scale ½ Inch = 1 Foot

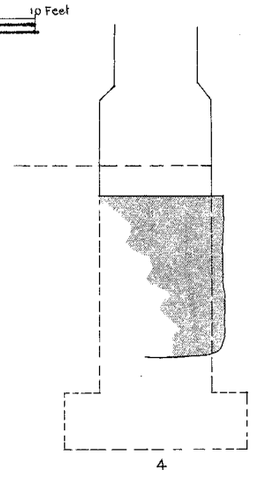


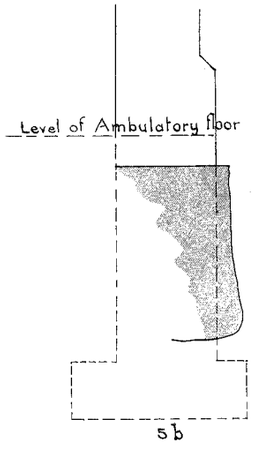
1


2



3


4



5b

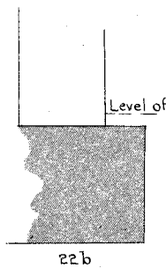
NOTES

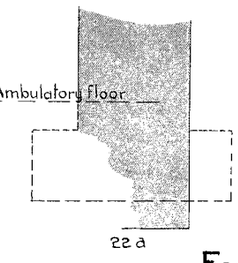
Dotted lines indicate Concrete Foundations according to Contract Drawings.

Front and bottom of Concrete Foundations as ascertained by sinking pits shewn thus.

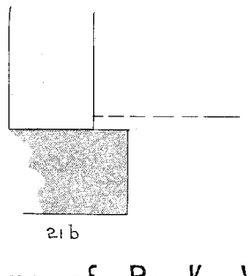
Brickwork shewn thus.

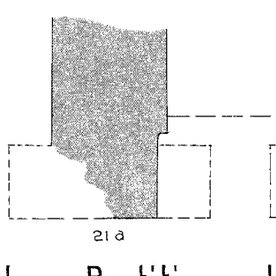
Foundations of Ambulatory Piers

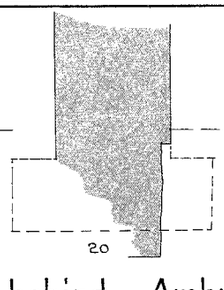

22b

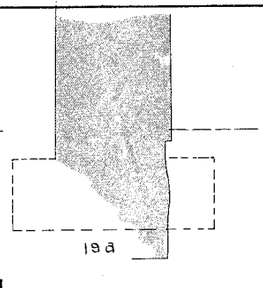


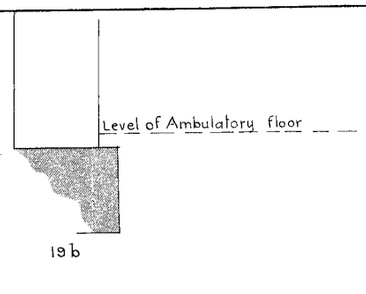
22a


21b


21a

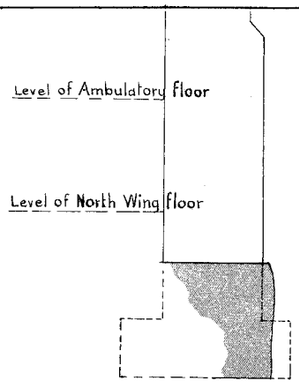

20


19a

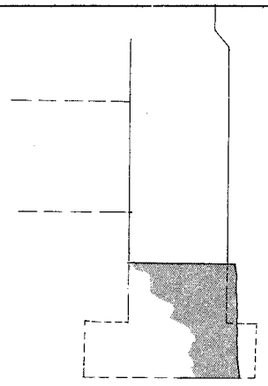


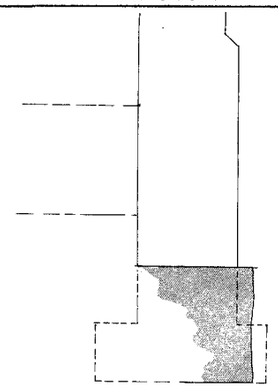
19b

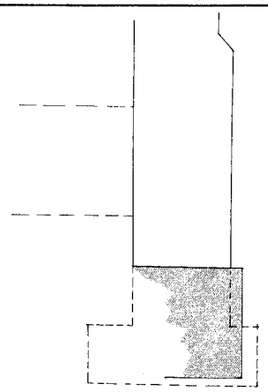
Foundations of Back Wall & Partitions behind Ambulatory

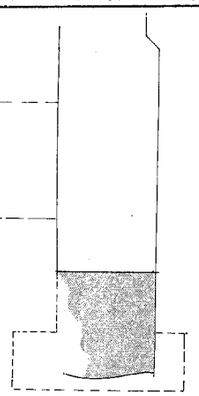


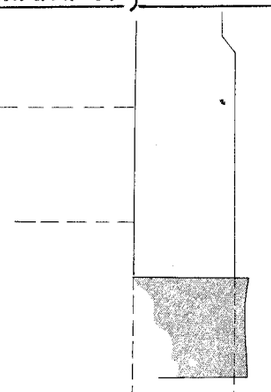
5a

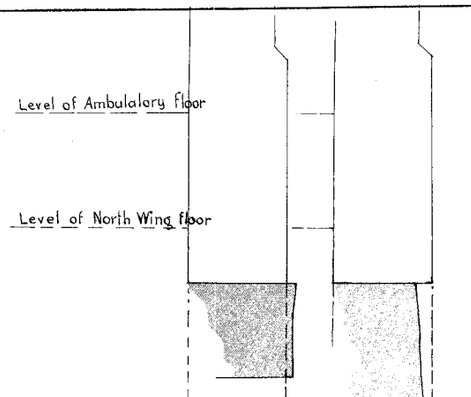

6


7

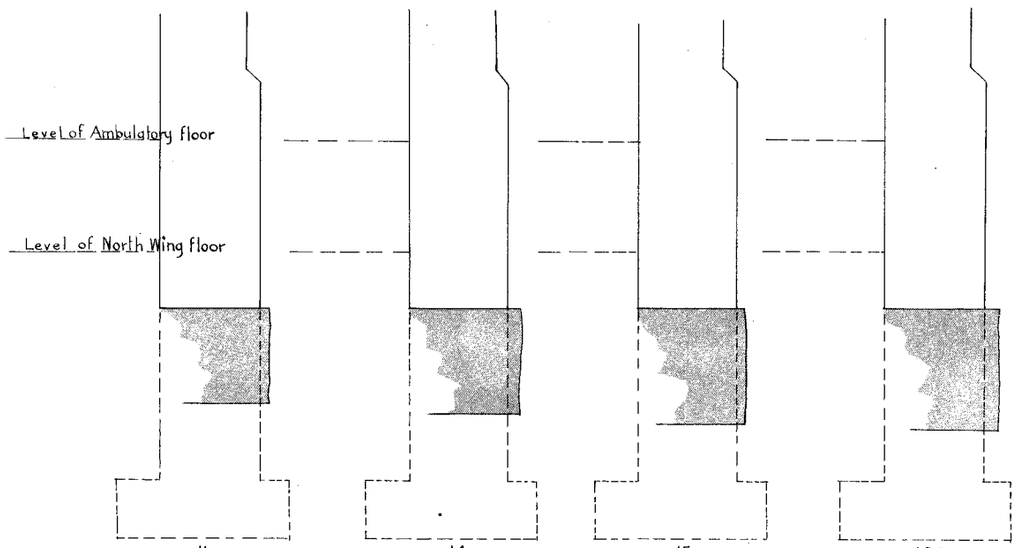

8


9a

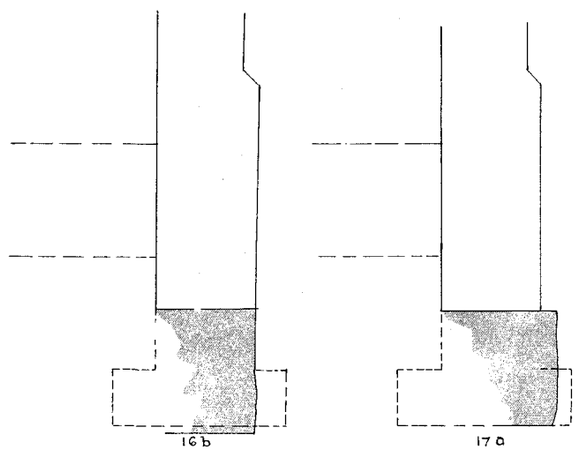

9b

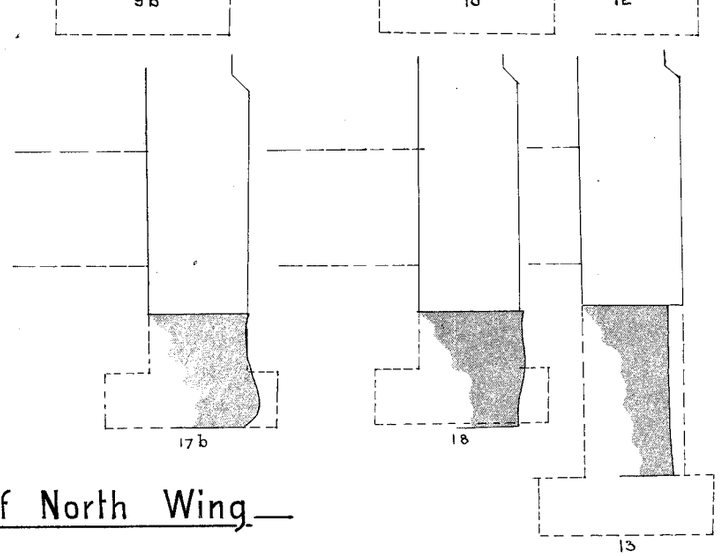


10 12



11 14 15 16a


16b 17a


17b 18 13

Foundations around Walls of North Wing