1913.

NEW ZEALAND.

FIRE BRIGADES OF THE DOMINION

(REPORT ON THE), BY THE INSPECTOR OF FIRE BRIGADES, FOR THE YEAR ENDED 30TH JUNE, 1913.

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

The INSPECTOR OF FIRE BRIGADES to the Hon. the MINISTER OF INTERNAL AFFAIRS.

Department of Internal Affairs (Office of Inspector of Fire Brigades),
Wellington, 1st July, 1913.

SIR,—

Herewith I have the honour to lay before you my fifth annual report for the year ended 30th June, 1913, relative to the working of the Fire Brigades Act, and including matters in connection therewith.

During the course of the year two more boroughs have been constituted fire districts under the Act—Timaru on the 15th April and Hamilton on the 31st May—thus making a total number of twenty-two proclaimed fire districts—viz., Auckland, Christchurch, Dannevirke, Dunedin, Feilding, Gisborne, Greymouth, Hamilton, Hastings, Hawera, Hokitika, Lawrence, Maori Hill, Masterton, Milton, New Plymouth, Oamaru, Palmerston North, Petone, Rotorua, Timaru, and Whangarei.

There are twenty-seven fire brigades and two fire-police corps working under the control of Fire Boards, and I have officially inspected the brigades, their stations and equipments, &c., as follows:—

Auckland—December 14 and 16, 1912; May 26 and 27, 1913.
Parnell—May 28, 1913.
Arch Hill—May 28, 1913.
Christchurch—December 20 and 21, 1912; April 11, 1913.
Dunedin—September 18, 19, and 26, 1912; February 8 and 10, 1913.
South Dunedin—September 25, 1912; February 11, 1913.
Caversham—September 25, 1912; February 11, 1913.
Roslyn—February 10, 1913.
Feilding—November 21, 1912; May 7, 1913.
Gisborne—October 10 and 11, 1912; April 23 and 24, 1913.
Greymouth—October 24, 1912; March 5, 1913.
Hastings—November 6, 1912; April 21, 1913.
Hawera—August 26 to 28, 1912; January 21, 1913.
Hokitika—October 23, 1912; March 6, 1913.
Lawrence—September 24, 1912; February 6, 1913.
Maori Hill—September 20, 1912; February 17, 1913.
Masterton—November 7, 1912; March 27, 1913.
Milton—September 23, 1912; February 5, 1913.
New Plymouth—November 19, 1912; May 6, 1913.
Fitzroy—November 20, 1912.
Oamaru—September 17 and 18, 1912; February 4, 1913.
Palmerston North—November 28, 1912; April 10, 1913.
Petone—January 3, 1913; June 30, 1913.
Rotorua—December 6, 1912; May 19, 1913.
Timaru—June 10 to 12, 1913.
Whangarei—December 10 and 11, 1912; May 22 and 23, 1913.

At the conclusion of the inspection drills any faults shown whilst carrying out the work or any defects in the appliances used were pointed out, and in nearly all cases an address dealing with matters in connection with fire-protection and brigade-work was delivered.

In addition to the statutory inspections, visits were paid for special purposes, as also were a number of visits sanctioned by the Minister of Internal Affairs in accordance with the request of various local bodies and others, as follows:—

Masterton—August 1, 1912: Annual meeting.
New Plymouth—August 29, 1912: Conference with Fire Board in the matter of new fire-stations, appliances, &c.
Gisborne—January 8, 1913: Inspection and trial of new motor machine, practical instructions in use of chemical engine, &c.
Mangaweka—January 9 and 10, 1913: Conference with Borough Council, formation of a fire brigade, purchase of appliances, &c.
Masterton—January 17, 1913: Board meeting, consideration of tenders for motor pump and hose-car, &c.
New Plymouth—January 22 and 23, 1913: Conference with Board, consideration of tenders for motor pump and hose-car, &c.
Inglewood—January 24 and 25, 1913: Inspections of brigade and equipment, &c.
Wanganui—February 15 to 22, 1913: Annual conference and demonstration of the United Fire Brigades Association.
Cambridge—May 16 and 17, 1913: Conference with Borough Council in reference to fire-protection and brigade matters.
Ruakura Experimental Farm—May 20, 1913: Inspection of fire equipment.
Lower Hutt—June 5, 1913: Inspection and report upon suitability of motor-cars for brigade purposes.
Tauranga—June 23 and 24, 1913: Inspection and report to Borough Council upon the water-supply, equipment of the brigade, &c.
Experimental Farm, Tauranga—June 24, 1913: Inspection and report upon fire-protection equipment.
Rotorua—June 25, 1913: Opening of new station, &c.

In all sixty-three personal visits have been made, and advice has been given by correspondence to local bodies and others outside the fire district in relation to fire protection, purchase of fire appliances, and other matters.

As in previous years, following upon an invitation received from the executive officers of the United Fire Brigades Association, I attended their annual conference and demonstration held at Wanganui in February last, and delivered an address to the delegates relating to fire-brigade work in general. I was pleased to observe during the progress of the conference that there is a decided forward movement, as evidenced in particular by the passing of a resolution in favour of standardizing the fire appliances in use throughout the Dominion, as also in the competitions, wherein some of the events are being drawn up on more practical lines than hitherto—although the principal item in that connection was not framed in an altogether satisfactory manner.

About the usual number of accidents (none of a serious nature) have been sustained by firemen in the execution of their duty.

The following casualties to citizens have been reported by Superintendents of Brigades as having occurred in their respective districts:—

Auckland.—October 9, 1912: St. Mary's Road, explosion of oil-engine in workshop detached from private dwelling. The owner, W. Crawford, was severely burnt about the hands and face. November 5, 1912: Queen Street, fire in private hotel. S. J. Howard jumped from first-floor window, and died subsequently from injuries received. May 19, 1913: Hobson Street, fire in boardinghouse. William Smith, an elderly boarder, was burned to death. The proprietor, A. Morton, was severely burnt about the feet in trying to rescue the above.

Greymouth—March 29, 1913: Doyle Street, Blaketown, five-roomed dwelling totally destroyed by fire. After the fire was out a charred body was found, subsequently identified as that of A. J. Williams, aged 37, a tally clerk, and not in any way connected with the occupant or house.

The principal improvements in equipment that have been effected, or are in course of being carried out, are as follows: New central stations have been erected and occupied in Dannevirke, Greymouth, Petone, and Rotorua respectively. A new central station is being erected in Christchurch, and is now approaching completion. The buildings additional to the central fire-station, Auckland, have been completed, and comprise three sets of married quarters and accommodation for twenty-four single men; a lookout tower is also included. The building of the proposed new central stations in New Plymouth and Gisborne respectively is still in abeyance, as is also the substation in South Dunedin. New motor appliances are in service in—Auckland, 55 h.p. hose tender; Palmerston North, 50 h.p. hose, ladder, and pump machine; Gisborne, 50 h.p. hose and chemical machine; Dunedin, 15 h.p. hose tender. A new system of street fire-alarms has been installed in the Arch Hill district of Auckland, and a new system of street alarms is being installed in Dunedin; also, I understand the order has been placed for an 80 ft. electric turntable ladder for the latter city.

I am pleased to report that there has been a substantial addition to the number of automatic fire-alarms installed in the larger or more dangerous risks, and there is now a total of fifty-nine, as against forty-four last year, an increase of fifteen, made up as follows: Auckland, seven; Christchurch, six; Dunedin, two. This is a movement in the right direction, for as one means to the prevention of large losses the automatic fire-alarm system cannot be too highly commended, and it is to be hoped that many more will be installed.

With the object of assisting in the standardizing of at least the smaller appliances, the Government has imported a set of patterns of various-sized nozzles ranging from ½ in. to 1½ in. in diameter, also of V thread 2½ in. couplings and branches. Drawings were made of these, blue prints were taken off, and are now available to the whole of the fire service of the Dominion. Several of the Boards, the executive of the United Fire Brigades Association, and various firms of fire-appliance manufacturers have applied for and been granted the loan of a print, and already a number of orders have been placed for appliances to be made in accordance with the Government patterns.

A number of amendments to the Fire Brigades Act are at present under consideration by the Government.

A matter to which I consider it proper to direct attention is the want of interest in the actual well-being of the brigade shown by resident members in some of the smaller fire districts. Not only has this come directly under my own notice, but I have heard it commented upon by the officers and members of various brigades, and where this lack of interest is so palpably exhibited in connection with volunteer or partially paid brigades it must have a detrimental effect upon their efficiency as a whole. Also, several instances have occurred wherein local fire brigades have made injudicious purchases of comparatively expensive appliances wholly or in part unsuitable for their purposes, thus causing unnecessary expense and even absolute loss that probably would have been avoided had I been consulted in the first place.

It is much to be regretted that some of the smaller boroughs, when installing a water-supply system in their respective towns, are not better advised as to the adequacy, for fire-protection purposes, of the proposed scheme, both for the time being and with a view to future requirements. Several instances have come under my observation wherein serious mistakes, economic as well as utilitarian, have been made in that direction, and as an illustration in point I would mention the case of a growing town that I was asked to inspect and report upon very recently. A gravitation system had been installed only within the last four years, and, although there is a sufficient head and an ample supply of water is available at the headworks, the carrying-main for a distance of nine miles had been laid down in such a manner and of such diameters that the output at the borough boundary is computed to be only 275 gallons per minute—a quite insufficient volume; and, further, the larger portion of the reticulation consists of 3 in. piping. To increase the output the cost means to this small town a most serious matter indeed, whereas in comparison a small increase in the initial cost of installation would have provided an ample supply for all purposes for years to come.

A total number of 678 calls were received by the brigades throughout the fire district, as against 686 for the previous year, a decrease of 8. As compared with 1912 there has been a large reduction in the number of false alarms, 127 as against 238, a decrease of 111, but an increase under all other headings—viz., chimney fires, 60 (45), increase 15; bush, rubbish, &c., fires, 64 (42), increase 22; out-of-districts fires, 30 (14), increase 16; and particularly in the number of actual fires, 397 (347), an increase of 50.

Of the 397 fires, 17 have been returned as due to incendiarism or suspected incendiarism, 13 have occurred in unoccupied premises, and 144 origin unknown. As in previous years, an analysis of the reports sent in show that over or excessive insurance is still very prevalent.

Losses throughout the Fire Districts.—The total fire loss for the year was £121,654, and compares with the previous year as follows:—

	Insured.	Uninsured.	Totals.
	£	£	£
1911–12	174,651	42,387	217,038
1912–13	102,661	18,993	121,654
Decrease	71,990	23,394	95,384

So that, notwithstanding the substantial increase of fifty in the number of actual fires, there is a reduction in the value of property destroyed by fires to the very large amount of £95,384. Of the twenty-two proclaimed fire districts the administration of eighteen has now been under the control of Fire Boards for a period of a little over five years, one for four years, and one for one year, with the remaining two just recently proclaimed. While the majority of the Boards have made great improvements, more or less as requisite, in the housing and equipment of their respective brigades, there are two or three that up to the present have done very little in that respect. The said improvements, for financial and various other reasons, could be carried out only very gradually, and it was to be expected that some considerable time must elapse before the new system of administration under the Fire Brigades Act could prove its real value, and the time is only now arriving when results to any appreciable extent can be looked for, and in that connection, although a large portion of the reduction in loss (£95,384) is no doubt due to purely fortunate circumstances, a fair percentage thereof must most certainly be set down to improved equipment, a greater efficiency, and the better knowledge of practical fire-extinction work now prevalent amongst the officers and members of the brigades.

Losses throughout the Dominion.—The insured loss throughout the Dominion for the year ended 31st December, 1912, probably underestimated, amounted to £431,896, and compares as follows:—

Year ending 31/12/11	£456,489	Average 8 years ending 31/12/11	£425,636
Year ending 31/12/12	£431,896	Loss, year ending 31/12/12 ..	£431,896
Decrease ..	£24,593	Increase	£6,260

Following the same line of deduction as adopted in previous years, and adding 33⅓ per cent. to the insured loss so as to arrive at the approximate fire waste, the total loss for the year ended 31st December, 1912, is shown to be £575,861, a decrease of £32,791 as compared with 1912, but an increase of £8,346 when compared with the average of the eight preceding years.

In this connection an interesting comparison is afforded in a return issued by the Fire Brigade Committee of the London County Council, wherein the monetary loss caused by fires in the County of London during 1912 is stated to have amounted to £421,909, apparently showing that the fire loss throughout New Zealand for 1912 was approximately 38 per cent. more than that incurred in London over an area containing a population of 4,525,000, or four times greater than the Dominion.

Appended are the following tables:—

1. Summary of calls attended by each brigade.
2. Fire loss in each district.
3. Annual cost of each brigade.
4. Summary of the causes of fires in each district.
5. Personnel and equipment of each brigade.

Also detailed reports dealing with each fire district.

I have, &c.,
THOS. T. HUGO,
Inspector of Fire Brigades.

---

1. SUMMARY OF FIRE CALLS.

District.	Fires.	Chimney Fires.	Bush, Grass, and Rubbish Fires.	False Alarms.	Out of District.	Totals.
Auckland	87	18	27	32	5	167
Christchurch	86	8	8	47	10	159
Dannevirke	2	1	3	1	1	8
Dunedin	76	15	12	31	1	135
Feilding	13	3	..	..	1	17
Gisborne	28	2	3	2	6	41
Greymouth	6	..	..	..	..	6
Hamilton	..	..	..	..	..	..
Hastings	16	..	3	..	1	20
Hawera	5	2	..	1	..	8
Hokitika	2	..	..	..	..	2
Lawrence	1	..	3	..	..	4
Maori Hill	2	..	1	1	1	5
Masterton	16	7	3	3	3	32
Milton	2	..	..	..	..	2
New Plymouth	9	1	..	..	..	10
Oamaru	7	..	..	..	..	7
Palmerston North	21	3	..	4	1	29
Petone	10	..	..	5	..	15
Rotorua	4	..	3	..	..	7
Timaru	..	..	..	..	..	..
Whangarei	4	..	..	..	..	4
Totals	397	60	64	127	30	678

2. Summary of Fire Losses.

District.	Insured.	Uninsured.	Totals.
	£	£	£
Auckland	39,981	1,166	41,147
Christchurch	10,524	1,846	12,370
Dannevirke	125	23	148
Dunedin	17,526	1,046	18,572
Feilding	3,626	2,115	5,741
Gisborne	3,487	2,453	5,940
Greymouth	2,475	901	3,376
Hamilton	..	..	..
Hastings	1,894	1,314	3,208
Hawera	1,432	340	1,772
Hokitika	2	20	22
Lawrence	150	250	400
Maori Hill	27	..	27
Masterton	1,987	1,803	3,790
Milton	1,000	301	1,301
New Plymouth	11,028	2,740	13,768
Oamaru	1,931	744	2,675
Palmerston North	2,034	574	2,608
Petone	523	70	593
Rotorua	680	272	952
Timaru	..	..	..
Whangarei	2,229	1,015	3,244
Totals	102,661	18,993	121,654

3. Cost of Fire Brigades (Capital Expenditure included).

As taken from the Estimates for the respective Years.

District.	Year ending 30th June, 1910.	Year ending 30th June, 1911.	Year ending 30th June, 1912.	Year ending 30th June, 1913.	Year ending 30th June, 1914.
	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.
Auckland ..	7,276 0 0	7,454 0 0	8,174 0 0	8,190 0 0	10,110 0 0
Christchurch ..	7,547 0 0	6,849 0 0	6,645 0 0	7,830 0 0	9,000 0 0
Dannevirke ..	590 5 3	595 11 6	592 9 4	685 6 0	881 3 5
Dunedin ..	6,000 0 0	6,000 0 0	6,500 0 0	6,500 0 0	7,000 0 0
Feilding	460 0 0	542 0 0	590 0 0	600 0 0	612 10 0
Gisborne	524 8 5	541 8 2	1,159 4 6	382 19 10	789 10 3
Greymouth ..	685 10 0	806 4 0	850 6 0	950 0 0	964 0 0
Hastings ..	708 10 0	756 8 6	1,096 0 0	1,051 0 0	1,146 0 0
Hawera	450 0 0	443 0 0	496 0 0	509 15 9	617 16 0
Hokitika ..	645 0 0	475 0 0	500 0 0	433 6 8	433 6 8
Lawrence ..	100 0 0	100 0 0	75 2 6	75 6 2	75 0 0
Maori Hill ..	381 0 0	255 0 0	242 0 0	225 0 0	200 0 0
Masterton ..	1,334 14 0	926 11 0	1,023 19 0	1,136 14 0	1,150 0 0
Milton	300 0 0	280 0 0	140 0 0	120 0 0	120 0 0
New Plymouth ..	472 0 0	457 5 2	559 2 0	1,058 0 3	1,098 1 3
Oamaru	538 8 0	500 0 0	500 0 0	360 0 0	340 0 0
Palmerston North ..	1,436 13 0	1,504 0 0	1,699 14 0	1,724 1 4	1,842 9 1
Petone	915 4 11	657 7 5	762 6 7	1,247 7 6	847 16 10
Rotorua	..	..	..	697 0 0	1,426 5 0
Whangarei ..	366 0 0	250 0 0	300 0 0	550 0 0	480 0 0
Totals ..	30,730 13 7	29,392 15 9	31,905 3 11	34,325 17 6	39,133 18 6

4. Summary of Causes.

Cause.	Auckland.	Christchurch.	Dannevirke.	Dunedin.	Feilding.	Gisborne.	Greymouth.	Hamilton.	Hastings.	Hawera.	Hokitika.	Lawrence.	Maori Hill.	Masterton.	Milton.	New Plymouth.	Oamaru.	Palmerston North.	Pekone.	Rotorua.	Timaru.	Whangarei.	Totals.
Ashes, live	1	2	..	8	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	12
Benzene in proximity to lights	2	1	..	1	..	1	..	..	1	..	..	..	..	1	..	..	..	1	..	..	..	..	8
,, vapour, in proximity to lights	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1
,, upsetting, explosions	2	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	3
Birds' nests	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1
Boiling over of fat	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1
,, tar	2	4	..	..	1	3	1	..	..	..	..	..	..	..	..	..	..	2	..	..	..	..	13
Candles, drapery, &c., in contact with	7	9	1	3	..	..	..	..	..	..	..	..	..	1	..	1	..	..	1	..	..	..	23
,, left burning	..	..	..	4	..	..	..	..	2	..	..	..	..	1	..	..	..	..	1	..	..	..	8
Clothes airing before fire	3	1	..	2	..	..	..	..	..	..	..	..	1	1	..	..	..	..	..	..	..	..	8
Defective building	..	2	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	2
,, chimneys, hearths	2	4	..	6	..	1	..	..	3	1	..	..	..	1	..	2	1	2	1	1	..	..	25
Electric lighting, fusing of wires	3	2	..	2	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	8
Fire balloon falling on tent	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1
Fireworks	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1
Gas, defective fittings	3	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	4
,, explosion	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..	2
,, jet in contact	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1
,, rings, stoves	2	..	..	1	..	..	..	..	..	..	..	..	..	1	..	..	..	..	1	..	..	..	5
Ignition of picture-films	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..	2
Incendiarism, or suspected	..	10	..	2	..	1	..	..	..	..	..	..	..	..	1	1	..	2	..	..	..	..	17
Kerosene lamps, explosions, &c.	1	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	2
,, knocked over	1	2	..	..	..	..	..	..	..	..	..	1	1	..	..	..	1	..	..	..	..	..	6
Kerosene stoves or heaters overheated	2	..	..	2	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	5
Lights, naked	..	1	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	3
Matches, case falling down	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1
,, children playing with	1	1	..	1	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	4
,, rats gnawing	..	1	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	2
,, thrown down alight	4	3	1	2	..	2	..	..	..	..	..	..	..	1	..	..	..	1	..	..	..	..	14
,, trodden upon	..	2	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	2
Overheating of bearings	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1
,, timber in proximity to furnaces	..	..	..	2	..	2	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	4
Painters burning off paint	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1
Previous outbreaks	..	..	..	..	1	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	2
Refraction of sun's rays	..	2	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	2
Smoking	..	..	..	2	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	2
,, in bed	..	1	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	2
Sparks from chimneys	3	..	..	1	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	5
,, copper-fires	4	4	..	2	..	..	..	..	..	..	..	..	..	..	..	..	1	2	..	1	..	..	14
,, fireplaces	2	2	..	4	..	1	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	..	10
,, furnaces	..	3	..	4	1	..	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	..	9
,, stoves, ranges	..	..	..	1	..	..	..	..	1	..	..	..	..	1	..	..	..	..	..	..	..	..	3
,, other fires	..	3	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	3
Spirit-lamps, explosions, upsetting	2	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	3
Spontaneous combustion	..	2	..	1	..	..	..	..	..	..	1	..	..	..	..	..	..	1	..	..	..	..	5
Vagrants	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1
Vulcanizing	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	1
Unknown	37	20	..	17	8	15	4	..	7	2	1	..	..	6	1	3	4	8	5	2	..	4	144
Totals	87	86	2	76	13	28	6	..	16	5	2	1	2	16	2	9	7	21	10	4	..	4	397

5. Summary.—Personnel, Plant, and Appliances.

——	Auckland.	Christchurch.	Dannevirke.	Dunedin.	Feilding.	Gisborne.	Greymouth.	Hamilton.	Hastings.	Hawera.	Hokitika.	Lawrence.
Brigades, total strength of	90	42	22	73	24	25	20	..	27	25	30	12
Fire police, total strength of	..	..	..	..	..	..	..	..	13	..	..	..
Fire-stations, residential	3	4	1	1	1	1	1	..	1	1	..	..
,, non-residential.. ..	2	..	1	3	1	4	4	..	1	1	5	1
Fire-alarms—(C) circuits, (B) boxes ..	14 C., 97 B.	16 C., 88 B.	..	2 C., 19 B.	..	..	..	..	..	..	..	..
,, Automatic, private ..	14	18	..	24	..	1	..	..	..	..	..	..
Telephones, points	9	Tel.	Tel.	Tel.	5	Tel.	4	..	Tel.	5	3	..
Horses	2	3	..	5	1	..	1	..	..	..	1 on hire	..
Motors, hose-and-ladder (h.p.) ..	3 (60, 55, 38)	1 (10)	..	1 (15)	..	..	..	..	Motor on hire	..	..	..
,, chemical, hose-and-ladder (h.p.)	..	3 (30, 30, 14)	..	2 (55, 75)	..	1 (50)	..	..	..	..	..	..
,, pump, hose-and-ladder (h.p.) ..	1800 gal. (115)	1450 gal. (70)	..	..	..	..	..	..	..	..	..	..
Electric turn-table ladder (height) ..	1 (87′)	..	..	..	..	..	..	..	..	..	..	..
Fire-engines, steam (gallons)	1 (450)	3 (450, 350, 260)	..	..	..	1 (600) stationary	1 (600)	..	1 (600)	..	1 (380)	..
,, manual (gallons) ..	..	..	..	1 (150)	..	1 (100)	1 (60)	..	1 (80)	1	2 (80, 80)	..
Chemical engines, horse-drawn (gallons)	..	2 (80, 70)	..	..	..	..	..	..	..	..	..	..
,, hand-drawn (gallons)	..	..	..	..	..	..	..	..	1 (40)	1 (60)	..	..
Hose carts, reels, horse-drawn ..	1	..	..	5	1	..	..	..	..	..	..	..
,, ,, hand-drawn ..	4	5	2	5	2	2	3	..	2	3	5	1
Ladders, escape, horse-drawn (height)..	1 (60′)	1 (65′)	..	1 (80′)	..	..	1 (40′)	..	..	..	..	..
,, telescopic (height)	..	1 (45′)	..	3 (30′, 30′, 18′)	..	..	..	..	..	..	..	..
,, single lengths (total heights)..	12 (170′)	15 (160′)	5 (105′)	16 (160′)	7 (93′)	9 (125′)	2 (41′)	..	8 (140′)	6 (121′)	5 (95′)	2 (50′)
Jumping-sheets (square feet) ..	3 (10′ x 10′)	5 (9′ x 9′)	..	1 (12′ x 12′)	..	..	1 (10′ x 10′)	..	2 (12′ x 10′)	..	..	..
Smoke-jackets (J). helmets (H) ..	2 J. 1 H	1 J.	..	2 J.	..	1 H.	..	..	..	..	..	..
Hand-pumps	4	5	2	2	1	1	1	..	2	2	2	1
Hand chemical extincteurs	2	7	..	2	..	..	..	..	..	..	..	2
Stand-pipes, ratchet valves	12	1	..	9	..	..	..	..	..	1	..	1
,, double heads	..	18	6	5	6	5	10	..	5	4	5	2
,, single heads	2	..	..	..	..	5	1	..	..	..	2	1
Hose, rubber-lined (diameter) ..	1,500′	3,000′	..	..	..	..	..	..	..	..	..	..
,, unlined (diameter) ..	6,000′ (2¾″)	12,000′ (2¾″)	2,300′ (2½″)	7,000′ (2½″)	2,400′ (2½″)	3,000′ (2½″)	3,500′ (2½″)	..	2,500′ (2½″)	2,700′ (2½″)	3,400′ (2½″)	1,000′ (2½″)
Water-supply (G = gravitation) ..	G.	G.	G.	G.	G.	G.	G.	..	G.	G.	G.	G.
Pressure, average, noon–midnight ..	20–120	105	85–90	110–150	95–112	90–110	90–115	..	125–130	60–75	105–110	55–70

5. SUMMARY.—PERSONNEL, PLANT, AND APPLIANCES—*continued.*

—	Maori Hill.	Masterton.	Milton.	New Plymouth.	Oamaru.	Palmerston North.	Petone.	Rotorua.	Tinaru.	Whangarei.	Totals.
Brigades, total strength of	20	22	15	44	16	24	19	19	19	20	608
Fire police, total strength of	..	16	..	..	..	..	..	..	..	..	29
Fire-stations, residential	..	2	1	2	1	2	1	1	1	1	26
,, non-residential	2	1	..	3	..	1	..	1	1	2	34
Fire-alarms—(C) circuits, (B) boxes	1 C., 5 B.	5 C., 12 B.	..	..	..	..	1 C., 7 B.	..	4 C., 21 B.	..	43 C., 249 B.
,, Automatic, private	..	..	..	..	..	1	2	..	2	..	62
Telephones, points	..	Tel.	..	Tel.	Tel.	Tel.	Tel.	5	4	6	51
Horses	..	2	..	..	1	1	1	..	2	..	20
Motors, hose-and-ladder (h.p.)	..	..	..	..	..	..	..	..	..	..	6
,, chemical, hose-and-ladder (h.p.)	..	..	..	..	..	..	..	..	..	..	6
,, pump, hose-and-ladder (h.p.)	..	..	..	..	..	1,350 gal., 50 h.p., 60′ escape	..	..	..	..	3
Electric turn-table ladder (height)	..	..	..	..	..	..	..	..	..	..	1
Fire-engines, steam (gallons)	..	1 (350)	..	..	..	..	..	..	..	..	9
,, manual (gallons)	..	1	2 (25, 25)	..	..	..	1 (60)	..	1 (80)	..	12
Chemical engines, horse-drawn (gallons)	..	..	..	..	..	..	..	..	..	..	2
,, hand-drawn (gallons)	..	..	1 (25, 25)	..	..	..	..	..	..	..	3
Hose carts, reels, horse-drawn	..	..	..	..	1	2	1	..	1	..	12
,, ,, hand-drawn	3	4	..	9	2	4	2	2	4	4	68
Ladders, escape, horse-drawn (height)	..	..	..	..	..	..	..	..	..	..	4
,, telescopic (height)	1 (20′)	..	..	..	..	..	1 (35′)	..	..	1 (30′)	7
,, ,, single lengths (total heights)	2 (24′)	8 (121′)	3 (56′)	8(195′)	3 (60′)	10 (125′)	9 (98′)	5 (91′)	9	2 (30′)	146
Jumping-sheets (square feet)	..	..	..	1 (14′ x 14′)	..	1 (12′ x 12′)	..	..	1 (10′ x 10′)	..	15
Smoke-jackets (J), helmets (H)	..	..	..	..	..	..	..	..	1 H.	..	8
Hand-pumps	..	2	..	3	1	2	2	1	1	2	37
Hand chemical extincteurs	2	1	..	1	1	1	..	2	2	..	23
Stand-pipes, ratchet valves	..	2	..	1	..	..	..	1	1	..	29
,, double heads	4	2	..	8	2	5	1	..	4	4	96
,, single heads	..	4	..	4	4	4	6	3	1	2	39
Hose, rubber-lined (diameter)	..	..	..	..	..	..	..	..	..	..	4,500
,, unlined (diameter)	2,000′ (2½″)	4,000′ (2½″)	800′ (2″)	3,000′ (2½″)	2,300′ (2½″)	3,500′ (2½″)	3,314′ (2½″)	1,250′ (2½″)	2,500′ (2½″)	2,000′ (2½″)	70,464
Water-suppy (G = gravitation)	G.	G.	Wells and tanks	G.	G.	G.	G.	G.	G.	G.	..
Pressure, average, noon–midnight	118–125	50–70	..	110–120	105–109	85–115	64–68	65–70	80	105–115	..

AUCKLAND.

Two inspections of the Auckland Fire Brigade, its stations and equipment, have been made—viz., on the 14th and 16th December, 1912, and the 26th and 27th May, 1913. An inspection of the equipment in the Parnell and Arch Hill districts was made on the 28th May.

The various turnouts and drills were carried out smartly and in an efficient manner. The electric turntable ladder was taken out and got to work upon each occasion. This ladder has already proved upon several occasions to be a most valuable addition to the equipment of the brigade.

The buildings additional to the central station have been completed and are now in occupation. They comprise three sets of married quarters, accommodation for twenty-four single men, commodious watch-tower, a drying-room, and all necessary conveniences are included. A new 55 h.p. motor hose-tender has been added to the equipment.

The boundaries of the city have been enlarged (in October last) by the inclusion of the Arch Hill district, and by the incorporation of the Parnell Borough in December, 1912. At present the two established brigades are being retained as auxiliary brigades in their respective districts. The effective protection of the increased area will require in the near future a corresponding increase in the amount of annual maintenance and capital expenditure, particularly in Parnell, where a new station is absolutely necessary; as also the provision of a motor appliance and a street fire-alarm system. A system of inexpensive street fire-alarms suited to local conditions has already been installed in the Arch Hill district.

The City Council are now expending a considerable sum of money in the improvement of the water-supply, which hitherto, from a fire-protection point of view, has been more or less unsatisfactory over a large portion of the borough.

The Water Department should be asked to pay particular attention to keeping the street hydrants clear of obstruction. I noticed some in the outlying streets that would be very difficult to pick up on a dark night; also, I could see no indicators in some cases.

During the year just ended the brigade received 167 calls, three more than during 1912. The number of actual fires was eighty-seven—an increase of ten.

The fire loss amounted to £41,147 for the year, as compared with £121,715—a decrease of £80,568.

The estimated cost of the brigade for the year 1913–14 is £10,110, as against £8,190 for 1912–13—an increase of £1,920, almost entirely due to additions to the staff and provision for increase of salaries and wages.

CHRISTCHURCH.

Two inspections of the Christchurch Fire Brigade, its stations and equipment, have been made—viz., on the 21st and 22nd December, 1912, and the 12th and 13th June, 1913.

The two following reports, forwarded to the secretary of the Board, dated 6th January and 19th June, cover the respective inspections :—

SIR,— 6th January, 1913.

In connection with my inspection of the Christchurch Fire Brigade, its stations and equipment, on the 20th and 21st ultimo, I have the honour to forward the following report for the consideration of your Board :—

After the inspection muster held at the central station instructions were given for the brigade to get to work on a three-story building in Bedford Row, with the supposition that it was well alight on the top floor. Deliveries were got to work from the street mains by means of the 45 ft. ladder and the 64 ft. horse escape; deliveries were also got to work from the motor turbine pump. This pump was afterwards taken to Latimer Square, where experiments were carried out with various deliveries and different sizes of nozzles. Rescue drills were also carried out. The required work was performed in a smart and efficient maner.

Later in the night a false alarm of fire was given from the box at the corner of Hereford and Manchester Streets, and was responded to by the two motors and the horsed fire-escape from Lichfield Street and by the horsed chemical from Chester Street. The first motor arrived in 1 minute 40 seconds from the time the alarm was given, the second motor arrived two seconds later —a smart response. The substations at Sydenham and St. Albans were found in good order, and the turnout was performed in a satisfactory manner, as was also the turnout at the Chester Street station.

When the new central station now in course of erection is completed it should enable the remaining horses to be disposed of, and with that object in view certain modifications might be carried out in the new building, as suggested to the Chairman of your Board at the time of my visit, such as doing away with the outside loose boxes, manure-pit, rearrangement of the carpenter's and paint shops, &c.

The next work that should receive the attention of your Board is the provision of married quarters at the St. Albans substation, which work should be carried out as soon as ever finances permit.

I have, &c.,

THOS. T. HUGO,
Inspector of Fire Brigades.

SIR,— Office of Inspector of Fire Brigades, Wellington, 19th June, 1913.

Following upon my recent inspection of the Christchurch Fire Brigade and its equipment, herewith I have the honour to forward the following report for the consideration of your Board.

An inspection muster of the brigade was held at the central station at 8 p.m. on the 12th instant, when there were present the Superintendent, Deputy, and twenty firemen. A false alarm was subsequently given from the Choral Hall alarm-box. The alarm was responded to by one motor from the central station and one from the Chester Street station. Three deliveries were got to work into Latimer Square. For experimental purposes the four-wheeled escape ladder was taken out and towed, with occasional stops and starts, by the small motor, with very satisfactory results. The ladder was afterwards got to work and physical drill was carried out in the station. The false alarm was responded to in quick time, and the required drill carried out smartly and in an efficient manner.

Next morning the motor pump was got to work from the river near the Chester Street station, and some of the new hose satisfactorily tested at the same time. The motor and pump has now been in service some three years and requires a thorough overhaul; both the rear wheels and the cooling circulation in particular require immediate attention.

Whilst in Christchurch I was given to understand that the question of doing away with the tank reservoir in Cathedral Square was under consideration. I am strongly of opinion that it would be a most unwise action to do such a thing, particularly in view of the dearth of street hydrants in that neighbourhood; and in reference to the last matter I would again direct attention to the necessity of laying down more street or pillar hydrants in the congested part of the town.

Some new branches and nozzles are required. As demonstrated at the central station, the gauges vary considerably, and they should as far as possible be made uniform.

I have, &c.,
THOS. T. HUGO,
Inspector of Fire Brigades.

I have again, as in past years, to call attention to the necessity of laying down more street hydrants in the congested parts of the city, and particularly in the vicinity of the more hazardous risks.

The new central station now being erected in Lichfield Street is approaching completion, and should be ready for occupation within the course of a few weeks from now.

There is a decrease of 103 in the number of false alarms for the year—47 as compared with 150 for 1912—of which 18 are returned as maliciously given, as against 44 for 1912, and 121 for 1911. This large decrease in the number of false alarms maliciously given is principally due to the fixing of gongs on the alarm-posts in the streets.

During the past year the brigade has received 159 calls, which included eighty-six actual fires—a decrease of seven fires as compared with the previous year.

The fire loss for the year amounted to £12,370, as against £9,345 for last year—an increase of £3,025.

The estimated cost of the brigade for the year 1913–14 is £9,000, as against £7,830 for 1912–13—an increase of £1,170, due to the erection and furnishing of the new central fire-station

---

DANNEVIRKE.

Two inspections of the Dannevirke Fire Brigade and its equipment have been made, on the 5th November, 1912, and 11th April, 1913. The two following reports cover the respective inspections:—

SIR,— 15th November, 1912.

An inspection of the Dannevirke Fire Brigade and its equipment was made on the 5th instant, and herewith I have the honour to submit in that connection the following report for the consideration of your Board.

At the inspection muster there were present the Superintendent, Deputy, fourteen firemen, and one messenger: these, with three on leave, accounted for twenty out of a total of twenty-one then on the roll—a satisfactory attendance.

Various drills, wet and dry, were carried out generally in a satisfactory manner, though more practice is required in shipping the stand-pipes.

The plant and appliances are in good order and condition.

I would recommend to your Board that when the new horsed hose-and-ladder cart is obtained the hand hose-reel at present in the central station should be stationed in the old reel-house, provided satisfactory arrangement can be made for its housing there, where it would be convenient to the large risks of the town, with a downhill run all the way.

In reference to our conversation concerning the stability of the particular model proposed for the new horsed hose-and-ladder cart, in my letter bearing on that subject addressed to you and dated 2nd October, 1911, occurs the following: "One modification I would suggest is that the body should be built lower on the carriage and the driver's seat reduced somewhat in height: this for the purpose of giving increased stability." I would again endorse that suggestion.

I have, &c.,
THOS. T. HUGO,
Inspector of Fire Brigades.

SIR,— 18th April, 1913.

An inspection of the Dannevirke Fire Brigade and its equipment was held on the 11th instant, and in connection therewith I have the honour to forward the following for the consideration of your Board:—

At this inspection muster there were present the Superintendent, Deputy, and ten firemen, that with two on duty and one on leave accounted for only fifteen out of the twenty then on the roll. This was not a satisfactory attendance.

Various drills were carried out, and during their progress it became apparent how unevenly the hydrants on the footpath in High Street have been laid down; as, for instance, in a space between Allardyce and Gordon Street, a distance of some 300 ft., there are three hydrants; the seat of the first is 7 in. below the level of the pavement, the seat of the second is 5½ in., and that of the third 16 in.; and there are, I believe, others about the town as deep-seated as the last mentioned. One of the stand-pipes is too short to ship properly in the deeper-seated hydrants, and the shank should be lengthened to 20 in.

I have, &c.,
THOS. T. HUGO,
Inspector of Fire Brigades.

The new central station in Allardyce Street was officially opened on the 18th September last. The building is of brick construction, two stories in height, and contains—on the ground floor, engine-house (27 ft. by 36 ft), watch-room, stables, set of married quarters, and all necessary conveniences; on the first floor, large social hall, and four bedrooms for single firemen.

In March last the Board decided they would purchase a second-hand motor, and a car was bought accordingly, but after going to certain further expenses for overhaul, alterations, &c., it was found the machine was entirely unsuited for the purpose, and it is to be disposed of—this result notwithstanding that prior to its purchase the car was inspected and approved of by three members of the Board, and in addition a report was obtained from a motor expert. I was not consulted at all in the matter, and consider the Board made a serious mistake in not doing so.

During the past year two fires have occurred in the district, or five less than during the previous year. The attendance of members of the brigade at eight calls averaged sixteen per call, or 72·7 per cent. of the total strength.

The fire loss amounted to £148, as compared with £916 for 1912, a decrease of £768.

The estimated cost of the brigade for 1913–14 is £881 3s. 5d., as against £685 6s. for 1912, an increase of £195 17s. 5d.

DUNEDIN.

Inspections of the Dunedin fire brigades, their stations and equipment, &c., have been made as follows: Dunedin City—18th, 19th, and 26th September, 1912; 8th and 10th February, 1913; South Dunedin—25th September and 11th February; Caversham—25th September and 11th February; Roslyn district—10th February.

The two following reports, forwarded to the secretary of the Board, cover most points of the inspections:—

SIR,— Office of Inspector of Fire Brigades, Wellington, 17th October, 1912.

In connection with my inspection of the Dunedin and its subsidiary brigades, with their equipments, in September last, I have the honour to submit the following report for the consideration of your Board:—

A false alarm of fire was given from the box situated at the corner of Cumberland and St. Andrew Streets at 8 p.m. on the evening of the 26th ultimo. In response to the call the horses, hose, and ladder-cart arrived at 8.1.30 p.m.; and the motor-car at 8.1.40 p.m. Two deliveries were got to work in St. Andrew Street, and water from both shown at 8.3.51 p.m.: this result may be considered satisfactory. Ladder and other drills and experiments were carried out, but the course of the inspection-work was interrupted owing to two malicious false alarms being sent in.

At the inspection muster there were present the Superintendent, Deputy Superintendent, thirteen permanent and seven auxiliary firemen: these, with three permanent and one auxiliary firemen on leave, and one permanent fireman on the sick-list, accounted for the full strength—twenty-seven—of the central section then on the roll, one less than the authorized number.

In company with the Chairman of the Board and the Superintendent an inspection of the South Dunedin section of the brigade was held on the evening of the 25th ultimo, when there were present the Captain, Lieutenant, and eleven firemen: that, with one on leave, accounted for the full strength. Various wet drills were efficiently carried out, and this section of the brigade acquitted themselves in the satisfactory manner usual to them. A reading of the gauge gave a pressure of slightly over 150 lb. in the 4 in. main in St. Andrew Street.

The Caversham section was inspected later the same evening, when there were present the Captain, Lieutenant, and nine firemen: these, with one on leave, accounted for twelve out of a total strength of fifteen on the roll. Here one delivery was got to work. In doing so some little delay was caused owing to a difficulty in opening up the hydrant, but on the whole there are signs of improvement when compared with previous inspections. The pressure on the 9 in. main was 133 lb. Both these sections of the brigade should be provided with suitable hand-pumps, and new branches and nozzles are required at Caversham.

In reference to the trial run on the new chemical and hose motor-car, I consider the car is in every way well adapted and suitable to your requirements, but would suggest, for the reasons men-

tioned at the time, that the small horn should be placed in a position more convenient for the driver.

As the water reticulation has now been extended over the greater portion of the North-east Valley district, I would recommend your Board should erect a small shed in some central position just sufficiently large to house a light reel; equipment to consist of, say, reel, hose, stand-pipe, couple of light scaling-ladders, &c., and a bell. Four to six men residing in the vicinity should be enrolled as auxiliary firemen.

The 80 ft. horsed escape is, I believe, unstable when extended to anything approaching its full height; also, it is very heavy in traction and slow in manipulation—altogether of very little actual service in its present condition—and I would recommend that the second extension ladder be taken off and the fly ladder fixed to the first extension: this should then lighten the moving parts of the escape sufficiently to allow of taking out the intermediate hoisting gear and probably the elevating intermediate gear also. If that were done the result should provide a serviceable, reliable ladder, fairly light and quick-working, available to a height of about 60 ft.

I have, &c.,
THOS. T. HUGO,
Inspector of Fire Brigades.

SIR,— 27th February, 1913.

In connection with my recent visit of inspection, I have the honour to forward the following for the consideration of your Board.

A parade of the city section of the Dunedin Fire Brigade was held on the evening of the 10th instant, when there were present three officers and twenty firemen; these, with three on leave, accounted for the full strength of the brigade then on the roll.

Various practice drills were carried out during the course of the inspection.

An inspection of the Caversham and South Dunedin substations showed that some minor details, as mentioned to your Superintendent, required attention.

Following upon the amalgamation of the Roslyn Borough with Dunedin City, and seeing that the protection from fire of that district now devolves upon your Board, I would recommend, when finances will permit, that a permanent fire-station be erected at or about the site of the engine-shed at present occupied by the Roslyn Volunteer Brigade; the building to include married quarters and accommodation for, say, five or six single firemen, with provision for future enlargement, also a motor appliance to be stationed there. That section of the brigade would then, in addition to protecting the Roslyn district, be quickly available in the case of any serious fire in the city. The suggested site, or one in its immediate neighbourhood, would also be a central and very suitable one in the case of further amalgamations with the city—events that in the natural order of things must be expected in the not distant future.

I have, &c.,
THOS. T. HUGO,
Inspector of Fire Brigades

Early in the year the Roslyn Borough become incorporated with the city, adding 2,000 acres to its area. That now comprises some 9,300 acres in all.

Improvements in the water-service have been carried out in the way of scraping the mains and laying down larger-sized pipes in various parts of the borough. A tender has been accepted for the installation of a new system of street fire-alarms that will comprise twelve circuits having eighty call-points, and considerable progress has been made with the work. A 15 h.p. motor hose-tender has been added to the equipment, and I understand the order has been placed for an 80 ft. electric turntable ladder.

Very little improvement has so far been made in the fire protection of the South Dunedin and Caversham portions of the city, this no doubt due in a very large degree to the difficulty of finding money for the purpose; but seeing, according to the returns, that one-third of the whole fire loss for the year occurred in the said districts, this part of the scheme should receive the earliest possible attention. In view of the increase in value of the Harbour Board property and the extent to which any disastrous fire taking place there must affect the city itself, it is to be regretted that the suggestions in reference thereto contained in my report to the Fire Board dated 22nd February, 1911, have not yet been acted upon.

During the year just ended 135 calls have been received by the brigades: these included seventy-five actual fires, or twenty-six more fires than during the previous year.

The fire loss amounted to £18,572, as compared with £22,782 for 1912, a decrease of £4,210.

The estimated cost of the brigade for the year 1913–14 is £7,000, as against £6,500 for 1912–13, an increase of £500, due to purchase of Roslyn plant, part provision for purchase of electric ladder, &c.

FEILDING.

Two inspections of the Feilding Fire Brigade and its equipment have been made—viz., 21st November, 1912, and 7th May, 1913. The two following reports forwarded to the secretary of the Board cover the respective inspections:—

SIR,— 27th November, 1912.

In connection with my recent inspection of the Feilding Fire Brigade and its equipment, I have the honour to forward the following report for the consideration of your Board:—

At the inspection muster held at 8 p.m. on the 21st instant there were present the Superintendent, Deputy, fourteen firemen, and one messenger, a total of seventeen out of the full strength of twenty-four then on the roll. Of the seven who were absent, three were on leave and one was sick, leaving three unaccounted for: these latter should be required to explain their absence.

Various drills were carried out, and it was evident that more practice is required in shipping the stand-pipes; also, the first stand-pipe sunk in Gray Street was leaking badly and requires attending to.

The bell at present in Manchester Street is now too close to the central-station bell. It should be repaired—similar cracks have been very successfully treated by means of the new welding process—and re-erected where it is likely to be of more service, say, at the corner of Manchester and Camden Streets, or somewhere in that vicinity.

Should a fire break out in the Makino district there is at present no means of summoning those firemen residing in that district. As all three live within a very short distance from where the hose-reel is housed, a comparatively small bell should suffice. As the firemen in question are absent from the district during the daytime, it would be advisable for the Superintendent to instruct some of the butter-factory employees in getting the reel to work in case of fire.

There are at present no fire-hydrants for some distance on the town side before reaching the bridge on the 10 in. main in Kimbolton Road, and, as there are a number of dwellings along that stretch, hydrants should be laid down there immediately.

I would recommend that, to the extent possible, arrangements should be made with the owners of private telephones for their use for fire-alarm purposes on the lines as suggested to the Chairman of your Board and yourself at the time of my visit.

I have, &c.,
THOS. T. HUGO,
Inspector of Fire Brigades.

SIR,— 14th May, 1913.

An inspection of the Feilding Fire Brigade and its equipment was made on the 7th and 8th instant, and following is a report thereon forwarded for the consideration of your Board.

At the inspection muster there were present the Superintendent, Deputy, ten firemen, and one messenger, a total of eleven out of a strength of twenty-three then on the roll. Of the ten who were absent one was on duty, two were sick, three were on leave, and four unaccounted for. As at my previous inspection, the attendance was very unsatisfactory; six of the same men were absent on both occasions. During the progress of the subsequent drills it was again apparent that the men required more practice in shipping the stand-pipe.

Some new 1 in. and $\frac{7}{8}$ in. nozzles and two branches are required: these should be made in accordance with the standard patterns.

The street hydrant-indicators are in a very unsatisfactory condition, as at present they are of different sizes and patterns, painted different colours, and in a number of cases are not opposite the hydrants, and some missing altogether. They should be uniform in pattern and colour, and fixed in a direct line with every hydrant, otherwise they are of little real service, and the time lost in hunting for the indicator might as well be spent searching for the hydrants in the first place. Also, the hydrants should be systematically inspected, the boxes cleared of mud and stones, and the covers kept clean of road-metal, grass, &c. In one case I noticed that whilst the indicator was visible I could not find the hydrant itself, and that in broad daylight.

I have, &c.,
THOS. T. HUGO,
Inspector of Fire Brigades.

Hydrants have been fixed on the 10 in. main in Kimbolton Road as recommended. The cracked fire-bell in Manchester Street has been replaced by a new one, but it ought to have been placed in a more suitable position; at present, as previously pointed out, it is situated too close to the central-station bell, and should be removed to a more advantageous site.

Thirteen fires have occurred in the district, or six more than during the previous year. Seventeen calls were received, and the average attendance of members of the brigade at fifteen (Nos. 4 and 10 omitted) was 13·5 per call, or 56 per cent. of the total membership.

The fire loss for the year amounted to £5,741, as compared with £3,706 for last year, an increase of £2,035.

The estimated cost of the brigade for the year 1913–14 is £612 10s., as against £600 for 1912–13, an increase of £12 10s.

GISBORNE.

Two inspections of the Gisborne Fire Brigade and its equipment have been made—viz., 10th and 11th October, 1912, and 23rd and 24th April, 1913; also, a special visit in connection with the arrival of the new hose, ladder, and chemical car was paid on the 8th January last.

The following reports forwarded to the secretary of the Board cover the respective visits:—

SIR,— 21st October, 1912.

In connection with my recent visit to Gisborne and my inspection of the fire brigade and its equipment on the 10th and 11th instant, I have the honour to submit the following report for the consideration of your Board.

An inspection muster was held at 7.35 p.m. on the 11th, when there were present the Superintendent, Deputy, twenty-one firemen, and one cadet: these, with two on leave, accounted for the full strength of the brigade—a satisfactory attendance.

As had been advertised, the fire-bell was rung at 7 p.m. for the purpose of testing, in its new position, to what extent it is audible to the members of the brigade whilst in their own homes. Four members reported not having heard it ring, but it was more or less distinctly audible to all the remainder, and, taking everything into consideration, the result may be considered satisfactory.

The fire was lit under the stationary fire-engine boiler at 7.48 p.m., and there was a pressure of 65 lb. on the steam-gauge at 7.59 p.m. The engine was then started to fill the salt-water mains, and two good deliveries were shown in Peel Street, the first at 8.4 p.m., the second at 8.6 p.m.—a good result.

Various experiments were carried out on the high-pressure system, mostly with the object of illustrating the use of the two-into-one breeching for obtaining deliveries with the maximum pressure and volume for use at large fires. In view of the arrival of the new chemical engine, verbal instructions as to its use, &c., were given.

It was obvious to me during the performance of the inspection drills that a better system of control is necessary.

The bell-ropes are becoming considerably oxidized, causing much friction when running over the pulleys, and they will require renewing in the near future.

A word of warning is necessary in regard to the new motor fire-car shortly to arrive, and in that connection it is unfortunate that the proposed new central fire-station will not be ready for its reception. The favourable results to be obtained from such an appliance are very much bound up with its suitable housing, &c.—such, for instance, as fireman residing and sleeping on the premises, ready to get away immediately an alarm is received, &c.—and it is to be hoped the erection of the new station will be proceeded with at the earliest possible moment.

The machine in question is of necessity of a heavy character, and as the borough roads are in a very bad condition indeed very great care will have to be exercised when proceeding to fires. In being ready for instantaneous use lies a large share of the utility of the car, and more than ordinary vigilance is required in its daily maintenance, in seeing that everything is in running-order at all times, and the engine should be started up several times during each twenty-four hours.

Before removing or disconnecting the stationary fire-engine from the present well everything should be ready for immediately connecting up to the second well, so that the auxiliary salt-water system will be at once available in case of an accident to the town water-supply.

I have, &c.,
THOS. T. HUGO,
Inspector of Fire Brigades.

SIR,— 16th January, 1913.

Herewith I have the honour to forward a report for the consideration of your Board in connection with my inspection on the 8th instant of the recently acquired hose, ladder, and chemical motor-car.

The damage done in transit to the telescopic ladder I find is very serious. The standing or main frame is completely fractured on both sides, some 6 ft. from the bottom. One side of the frame of the sliding section shows a slight fracture, and the whole ladder is very badly buckled, so much so as to require an entirely new frame, and I have to recommend that whoever is responsible for the damage should be called upon to replace the ladder with a new one.

The chemical engine part of the equipment worked in a highly satisfactory manner, and it is my opinion the engine and car will, if properly looked after and properly handled, entirely fulfil its specifications; but here it is necessary to again (see report prior to arrival of car, dated 21st October, 1912, and of which apparently very little notice has been taken) give some words of warning as to the care and management of the motor fire-car.

To carry the requisite loading these fire-motors are of necessity of much heavier build than the ordinary car, and in turning corners the side stress on the wheels is very great, and the danger in your case is increased owing to the necessity, due to the bad state of your roads, of raising the load line for the purpose of obtaining a reasonably high road-clearance, therefore the absolute necessity of slowing down very considerably when turning corners. No fire-motors are built to withstand such a strain as your car was subjected to when turning out of Gladstone Road into Herbert Street, and it is fortunate nothing further occurred than a leaf of the off-side front spring jumping the slot. A driver may be most expert in handling the ordinary touring-car, but without preliminary and thorough practice in driving a motor-car he does not realize, or is apt to forget, the weight he has under him—in your case well over 3 tons when fully loaded. Every driver should have such practice, with particular attention to letting in the clutch—yours, by the way, was quite too fierce—changing speeds, &c., before being allowed to drive to fires. The speed of the car, whilst taking a little more risk in proceeding to a fire, must be modified in accordance with the condition of the road. The car is specified to carry eight men in all, and that number must on no account be exceeded when going to a fire, and not more than ten at any other time. Presumably the minor adjustments pointed out at the time have been attended to.

Having in view the extremely bad state of your roads, I have to recommend that strong spiral springs be fixed in a vertical position between the main frame and the carriage springs, directly over the axles, for the purpose of taking some of the shock. While standing in the station the back wheels should stand upon wedge-shaped blocks of wood so as to give the car an easy start. The engine should be started and run for a couple of minutes four times daily; also, the accumulators should be tested daily.

In conclusion I have to reiterate, if the running of the car as a fire appliance is to be a success, the absolute necessity of proper and methodical care, the prompt attention to major and minor adjustments, that up to the time of my visit it had not received, and the learning and careful driving of the machine; and to that end also the sooner the car is suitably housed, with the men residing on the premises ready for an immediate response to an alarm of fire, the sooner a result adequate to the cost of the machine may be looked for.

I have, &c.,
THOS. T. HUGO,
Inspector of Fire Brigades.

SIR,— 1st May, 1913.

In connection with my visit to Gisborne on the 23rd and 25th ultimo, I have the honour to forward the following report for the consideration of your Board:—

At the inspection muster there were present the Superintendent, Deputy, and eighteen firemen: these, with three on leave, accounted for twenty-three out of a total strength of twenty-five then on the roll. Certain parts of the uniform of the men on parade, as commented upon at the time, were not in a creditable condition. The motor hose and chemical car was taken for a quick run along Gladstone Road as far as Roebuck Road and back, and the chemical engine subsequently got to work.

I find the motor-car is still being very much neglected. There is no systematic supervision, and evidently very little attention is being paid to either my reports or verbal recommendations in that connection. Whilst running along Gladstone Road at a fast speed the siren proved to be out of adjustment, and all the lights went out, due to the accumulators having run down—this in face of the fact that in my report, dated the 16th January, appears the following recommendation: "The accumulators should be tested daily." Had this been acted upon such a dangerous occurrence would not have happened. Up to noon of the next day nothing had been done to remedy the fault. The clips for the front springs, supposed to be ready in January last, had not been placed in position. The covers of the oil-cups over the front springs, that had been knocked off some little time previously, had not been replaced. The engine-starting arrangements are still unsatisfactory, and a priming-tank, connected with the induction-pipe, should be fixed on the dashboard, also a lever connected with the air-valve. The special buffer springs, the subject of a previous recommendation, should be fitted on the front axle. Opening the hose-box I saw nine lengths of roughly coiled hose therein, and found that there is not sufficient hose in reserve to recharge the car when required, and 1,000 ft. of new hose and ten pairs of new couplings are required immediately. The box should be charged with hose to the amount and flaked down in the manner as fully explained, and spare coils of 50 ft. lengths of hose carried in the side boxes.

The caretaker working under present arrangements has not sufficient time at his disposal to attend to the brigade plant and appliances in a proper manner, and he should be allowed more time for that purpose.

Altogether matters generally, in an administrative sense, are in an unsatisfactory state, and in my opinion the occupation by one person of the dual position of Chairman of the Board and Superintendent of the brigade is not conducive to the efficiency and discipline of the service. After most careful consideration, other and more detailed reasons for my decision were given to members of your Board at the meeting held on the 25th ultimo, I consider it my duty to strongly recommend that the Chairman of your Board should relinquish the position of Superintendent of your Board's brigades.

I have, &c.,
THOS. T. HUGO,
Inspector of Fire Brigades.

The brigade received forty-one calls during the last year, of which twenty-eight proved to be actual fires, as against twenty-two fires for the previous year, an increase of six. The attendance of members of the brigade averaged 17·7 per call, or 70·6 per cent. of the total strength.

The fire loss for the year amounted to £5,940, compared with £5,860 for 1912, an increase of £80.

The estimated cost of the brigade for 1913–14 is £789 10s. 3d., as against £382 19s. 10d. for 1912–13, an increase of £406 10s. 5d.

GREYMOUTH.

Two inspections of the Greymouth Fire Brigade, its stations and equipment, have been made—viz., 24th October and 5th March. The following two reports, forwarded to the secretary of the Board, cover the respective inspections:—

SIR,— 1st November, 1912.

In connection with my recent inspection of the Greymouth Fire Brigade and its equipment, I have the honour to forward report for the consideration of your Board:—

Arrangements were made for the members of the brigade to be at their respective homes at 7.15 p.m. on the evening of the 24th ultimo, when the bell recently hung in the newly erected tower at the central fire-station was rung for the purpose of testing to what extent the bell is audible in different parts of the town. The subsequent reports made were not very favourable; but I am of opinion that if the swinging of the bell is stopped, and the top pulleys shifted, as pointed out at the time, more favourable results will be obtained.

At the muster held at 8 p.m. the same evening there were present the Superintendent, Deputy Superintendent, and seventeen firemen: these, with one on leave, accounted for the full strength of the brigade—a satisfactory attendance.

The steamer was got to work from the suction-pipes on the wharf opposite Tainui Street. The fire was lit at 8.4 p.m., and 100 lb. of steam was registered on the pressure-gauge at 8.15.15 p.m. The engine was then started, and two good jets of water, from one 1 in. and one $\frac{7}{8}$ in. nozzle, was shown at 8.16 p.m.—a good result.

An electric 6 in. trembler bell and relay shutter should be fixed in the engine-house, and a push-button enclosed in a small box with a glass front fixed outside, all placed in the positions as indicated; the box to be lighted at night-time by means of a small gas-jet, and lettered as follows: "In case of fire, break glass and press button."

Stops are required at the foot of the main doors to relieve the jar on the traveller-bar when they are swung back.

The floor-opening for the sliding-pole in the social hall is too small, and the men must be cautioned not to throw their heads backwards when descending the pole, otherwise a serious accident may occur.

I have, &c.,
THOS. T. HUGO,
Inspector of Fire Brigades.

SIR,— 13th March, 1913.

Following upon my inspection of the Greymouth Fire Brigade and its equipments, I have the honour to forward the following reports for the consideration of your Board:—

At the inspection muster there were present the Superintendent, Deputy, and fourteen firemen: these, with four on leave, accounted for the full strength of the brigade.

The steam-engine was taken to the Cowper Street Bridge for practice purposes, but some difficulty was experienced in getting to work, principally due to leakage in the suction-hose. The defective length was replaced, and subsequent examination, after stripping off the outside canvas covering, showed a crack some inches in length across the hose a little distance from the coupling, also that the rubber was more or less perished. The short piece should be cut out, the coupling turned in again, and the whole length covered with new canvas carefully sewn on, and then given a couple of coats of very thin white-lead paint. The other two lengths of suction should be stripped of the old outside canvas covering and treated in the same way. This requires immediate attention. Also, another matter requiring attention is the axle and back wheels of the ladder-carriage, that are in a very defective condition. The off-side wheel in particular has developed a dangerous dish.

I have, &c.,
THOS. T. HUGO,
Inspector of Fire Brigades.

The stations and equipment are maintained in good order and condition. The new central station was officially opened on the 17th July, 1912. It is of brick construction, and contains engine-house (30 ft. by 40 ft.), Board room (14 ft. by 14 ft.), recreation-room (25 ft. by 33 ft.), married quarters for Superintendent, sleeping-accommodation for six single men, detached stables, and all necessary conveniences. A new iron-framed bell and drill-tower has also been erected.

Again, as in previous years, I have occasion to call attention to the unprotected state of the Preston Road and Blaketown districts. (See also annual reports for the years 1911 and 1912 dealing with this subject.)

During the year just closed six fires have occurred in the district—two more than during the previous year.

The average attendance of the brigadesmen at fires was 17·33, or 86·65 per cent. of the total strength.

The fire loss amounted to £3,376, as compared with £1,100, an increase of £2,276.

The estimated cost of the brigade for the year 1913–14 is £964, as against £950 for 1912–13, an increase of £14; but an amount of £250 has been set down for "redemption of loan," as against £100 set down for this same purpose in the previous year's estimate.

HASTINGS.

Two inspections of the Hastings Fire Brigade and its equipment have been made—viz., 6th November, 1912, and 21st April, 1913. The following two reports cover the respective inspections:—

SIR,— Office of Inspector of Fire Brigades, Wellington, 13th November, 1912.

In connection with my recent visit to Hastings for the purpose of inspecting the fire brigade and Fire Police Corps and their equipments, I have the honour to forward the following report for the consideration of your Board:—

At the inspection muster held at 8 p.m. on the 6th instant there were present, of the brigade, the Superintendent, twenty-two firemen, and two messengers: these, with the Deputy and one messenger on leave, accounted for the full strength of twenty-seven then on the roll—a satisfactory attendance.

There was no attendance of any members of the fire police, and by reference to my previous report it will be seen that upon one occasion only during the past three years has there been a satisfactory attendance of this body of men at any of my inspections, and if these conditions are to be taken as a criterion of their attendance at fires and ordinary practices it is a question as to whether they justify their existence as a body.

Various drills were carried out by the members of the fire brigades, and, seeing the high-pressure system has only recently been available, in a satisfactory manner on the whole.

I would recommend that a loud-sounding electric bell and relay shutter should be fixed in the engine-house, and a push-button, enclosed in a small box having a glass front, fixed on the street frontage of the watch-room, all placed about the positions as indicated at the time of my visit, the interior of the box to be lighted at night and lettered as follows: "In case of fire, break glass and press button."

I have, &c.,
THOS. T. HUGO,
Inspector of Fire Brigades.

SIR,— Office of Inspector of Fire Brigades, Wellington, 3rd May, 1913.

Following upon an inspection of the Hastings Fire Brigade and the Fire Police Corps, with their equipments, held on the 21st ultimo, I have the honour to forward the following report for the consideration of your Board:—

At the inspection muster there were present—Fire brigade: The Superintendent, Deputy, sixteen firemen, and two messengers; these, with four on leave, accounted for twenty-four out of the total strength of twenty-six then on the roll. Fire Police Corps: The Captain, one Lieutenant, and eight constables, with two on leave and one unaccounted for—a much better attendance than has been the case for some time past.

An ordinary monthly wet drill was carried out, during the course of which, with the pressure on the station gauge registering 132 lb., a length of new hose burst rather badly, and I was informed that more lengths of the same brand of new hose had burst very badly whilst in use at a recent fire. Some members of the brigade require more instruction and practice in the use of the stand-pipes.

The station alarm-bell and relay has been installed in such a manner as to be of very little service to the public, for which purpose it was supposed to be obtained. This should be altered, and fitted up in the manner as suggested in the first instance.

Whilst in the station on the morning of the 22nd I noticed there was no pressure of water registering on the gauge, and I understand that upon more than one occasion the water has been shut off, leaving the mains empty, and no notice has been sent to the central station. The brigade should be notified upon all occasions when the water is to be shut off throughout the town or any section thereof.

I would recommend to your Board the advisability of completing the equipment of the brigade to the extent of providing a motor-car appliance and installing a street fire-alarm system. An economical and at the same time efficient method would be to purchase a new chassis (30 h.p. R.A.C.) and have the body built locally, at the same time mounting on the car the chemical cylinder at present in possession of the brigade. I estimate the recommendation could be carried out, both motor-car and alarm system, for about £1,000. Failing the installation of a street alarm system at present I would suggest the utilization of private telephones, on the lines as explained at the time of my visit.

I have, &c.,
THOS. T. HUGO,
Inspector of Fire Brigades.

The newly installed high-pressure water system is now available for fire-extinction purposes over the larger portion of the town, and a pressure of 130 lb.—a little over at times—is registered on the station gauge.

During the past year sixteen fires have occurred in the district, four more than during the previous year. The brigade received twenty calls, and the attendance of brigadesmen at nineteen (No. 9 omitted) averaged 17·6 per call, or 65·2 per cent. of the full strength.

The fire loss amounted to £3,208, compared with £2,809 for the previous year, an increase of £399.

The estimated cost of the brigade for the year 1913–14 is £1,146, as against £1,051 for 1912–13, an increase of £95, accounted for by provision for new hose, uniforms, motor for ringing fire-bell, &c.

HAWERA.

Two visits have been paid to Hawera, the first on the 26th to the 28th August, for the purpose of holding an inquiry into the circumstances attending the fire that occurred on the premises of the Central Hotel and McGruer, Bone, and Co. in that town.

On the 27th experiments were carried out with the purpose of illustrating the actual pressure and flow of water available under different conditions. A series of pressure-readings was taken from a hydrant fixed on the 6 in. main opposite to the Borough Chambers, between the hours of 10 a.m. and noon. The initial pressure registered was 53 lb. The turbine pump, working off the supply main, was then turned on, when the reading fell to 42 lb., a drop of 11 lb. The pump was stopped and the pressure rose again to 54 lb. The pressure recorded throughout averaged 53 lb. A comparison between my gauge and the one at the Council Chambers showed the latter was weak to the extent of registering 3 lb. more than it should do. At 7.45 p.m. the pressure recorded from a hydrant fixed on the 6 in. main in High Street, opposite McGruer-Bone's premises, was 60 lb. All subsequent readings were taken at this point. Following the procedure as carried out during the fire, up to the time of the partial concentration of the water, a delivery having a $\frac{7}{8}$ in. nozzle was got to work from Union Street, when the pressure dropped to 42 in. A second delivery was got to work from High Street: this caused the pressure to drop to 27 lb. To observe the effect produced by a proper concentration, and following the lines adopted as during my previous visit to Hawera, both deliveries were shut off, and at 8.8 p.m. orders were given to shut off the turbine pump. At 8.12.38 p.m. the pressure had risen from 60 lb. to 73 lb.; at 8.16 p.m. orders were given to shut down certain valves, and at 8.28 p.m. the pressure had risen to 89 lb. Three deliveries, one $\frac{7}{8}$ in. and two $\frac{3}{4}$ in. nozzles, were then got to work, and a remaining pressure of 34 lb. recorded.

The experiments, that agree with those previously carried out by me, and in connection with which certain advice and cautions were given (see report dated 26th January, 1912), show that with a proper system of working a pressure of over 70 lb. can be made available in High Street within four minutes of an alarm of fire being received, and with a reliable system of concentration carried out immediately upon an alarm being sounded there is no reason why the maximum

pressure of 88 lb. to 89 lb. should not be available within ten minutes or less from the time the alarm is given. The weakest part of the water-supply is the volume, which the above experiments proved to be quite inadequate to successfully deal with a fire of any magnitude. The Borough Council should be urged to push on with the intended improvements. I note the later suggestions of the Borough Engineer increase the storage-capacity of the elevated tanks to 150,000 gallons. During the course of the above-mentioned experiments two double-headed stand-pipes only recently purchased became disabled, the head of one being completely blown off the shank, and the other splitting about half-way up the shank.

The chemical engine then just recently purchased is not, either in design or construction, suited to the local requirements, and the price paid was excessive. I consider an error was made in the purchase of the machine in question, particularly in view of my letter dated 7th October, wherein I reported that a number of these engines had been manufactured in the Dominion that compared equally well both in construction and price with the best of the imported articles, and they had for years given every satisfaction to the purchasers, giving at the same time, for reference purposes, the names of eight brigades then using them.

The following report deals with my second visit:—

SIR,— 29th January, 1913.

Herewith I have the honour to forward a report in connection with my recent inspection of the Hawera Fire Brigade and its equipment.

At the inspection muster held on the 21st ultimo there were present the Deputy Superintendent and sixteen firemen; these, with three absent on Territorial duty and four on leave, accounted for twenty-four out of a total strength of twenty-seven then on the roll.

Wet drills were carried out in a fairly satisfactory manner, but new washers are required on the stand-pipes, and the street hydrant opposite the Borough Council Chambers is out of order. Couplings should be turned into the remainder of the new hose, and to complete this six new couplings (female half only) are required.

The water-pressure is very low, during the time of my visit registering as follows: 21st January—8 p.m., 48 lb.; 9.45 p.m., 55 lb.: 22nd January—9 a.m., 40 lb.; 10.40 a.m., 47 lb.

I noticed there are a large number of garden-hoses distributed throughout the town, and, as the low water-pressure, combined with its small volume, has assumed a very serious aspect from a fire-protection point of view, I would recommend that your Board should at once suggest to the Borough Council the urgent necessity of prohibiting the use of all hoses, at any rate until such time that there is an improvement in the pressure.

I have, &c.,
THOS. T. HUGO,
Inspector of Fire Brigades.

At the time of my second visit in January last the work in connection with the improvement of the borough water-supply was in hand, and considerable progress had been made with the erection of the water-tower. Also, alterations had been made in the ringing-mechanism of the fire-bell, and more satisfactory results were being obtained.

During the year five fires occurred in the district, or one more than during the previous year. Eight calls in all were received, and the attendance of members of the brigade at seven (No. 1 omitted), averaged 19·86 per call, or 79·6 per cent. of the total strength.

The fire loss amounted to £1,772, as compared with £14,790 for 1912, a decrease of £13,018.

The estimated cost of the Brigade for the year 1913–14 is £617 16s., as against £509 15s. 9d. for 1912–13, an increase of £108 0s. 3d., due to providing for part of the cost of installing a street fire-alarm system.

HOKITIKA.

Two inspections of the Hokitika Fire Brigade, its stations, and appliances have been made—viz., 23rd October, 1912, and 6th March, 1913.

At the first inspection there were present the Superintendent and eighteen firemen: these, with five on leave, accounted for twenty-four out of a total strength of twenty-seven then on the roll. Various drills, both wet and dry, were carried out in a smart and efficient manner.

The following report, forwarded to the secretary of the Board, covers the second inspection:—

SIR,— 14th March, 1913.

An inspection of the Hokitika Fire Brigade station and equipment was held on the 6th instant, when there were present at the inspection muster the Superintendent, Deputy, and nineteen firemen: these, with six on leave, accounted for twenty-seven out of twenty-eight then on the roll.

Various practice drills were carried out in a satisfactory manner, but in one instance considerable delay was experienced in locating the street hydrant owing to its being a little below the road-level, and consequently covered with sand, dry mud, &c. I noticed that more than one of the hydrants about the town are in the same condition, and the Borough Council should be asked to give immediate attention to the matter, as such conditions might be the cause of serious loss in case of fire.

The stations and equipment are maintained in good order and condition.

I have, &c.,
THOS. T. HUGO,
Inspector of Fire Brigades.

The attendance of members of the brigade at the inspection musters and drill shows a still further and satisfactory improvement. The station and equipment were maintained in good order and condition.

During the course of the year two fires have occurred in the district, or three less than during the previous year. The strength of members of the brigade averaged 27 per fire, or 90 per cent. of the total strength.

The fire loss amounted to £22, or £54 less than during 1912.

The estimated cost of the brigade for the year 1913–14 is £433 6s. 8d., the same as for the year 1912–13.

LAWRENCE.

Two inspections of the Lawrence Fire Brigade and its equipment have been made—viz., 24th September, 1912, and 6th February, 1913. The following two reports, forwarded to the secretary of the Board, cover the respective inspections:—

SIR,— Office of Inspector of Fire Brigades, Wellington, 4th October, 1912.

An inspection of the Lawrence Fire Brigade and its equipment was held on the 24th ultimo, and in that connection I have the honour to submit the following report for the consideration of your Board:—

There were present at the inspection muster the Superintendent, Deputy, and four firemen: these, with two on leave, accounted for the full strength of the brigade then on the roll—viz., eight all told. This is four less than the authorized number, and an effort should immediately be made to bring the brigade up to its full strength.

Various wet drills were carried out in a satisfactory manner.

Whilst in Dunedin I saw a light hand-drawn hose-reel that, with the addition, to give greater rigidity, of an iron rod or frame attached to the rear end of the main frame on each side and extended overhead in a circular form, I consider would be very suitable to your requirements. Only one stand-pipe should be carried on the reel in question, and that a single-header.

In reference to the new Technical School recently erected in your town, I would recommend, seeing that the school is built on the hill at such an elevation that very little, if any, pressure of water is available, and that some little time must elapse after receiving the alarm before the brigade can possibly arrive on the scene, that your Board should suggest to the school authorities the advisability of providing two or three hand chemical extincteurs, that if used promptly in case of an outbreak of fire would probably be the means of saving the building from total destruction. I note also that although the building is so new—in fact, hardly finished—the doors are hung to open inwards.

I have, &c.,
THOS. T. HUGO,
Inspector of Fire Brigades.

SIR,— 27th February, 1913.

Following upon my inspection of the Lawrence Fire Brigade and its equipment on the 6th instant, I have the honour to forward the following report for the consideration of your Board:—

At the inspection muster there were present the Superintendent and ten firemen: these, with the Deputy on leave, accounted for the full strength of the brigade then on the roll. The various inspection drills were carried out in a satisfactory manner.

There is a space of over 600 ft. between two of the street fire-hydrants in Peel Street. Another hydrant should be fixed on the main about midway between the two in question. A hydrant fixed in the position indicated would prove of great service in case of an outbreak of fire in either Colonsay or Ailsa Streets. In the above connection I would point out that the Municipal Corporations Act requires the Council to fix fire-plugs at distances not more than 100 yards from each other.

At the time of my previous visit to Lawrence I understood that your Board had decided to provide the brigade with a light hand hose-reel for use on the higher levels. That provision I find has not yet been made, and I have to recommend that the reel should be procured with as little delay as possible.

I have, &c.,
THOS. T. HUGO,
Inspector of Fire Brigades.

A sum of £25 has been included in the estimates for the coming year for the purchase of a light reel, and it should now be procured without further delay. The present reel is altogether too heavy for the men to drag up the higher levels if they are expected to be in any condition for work when they arrive at the scene of operation.

The brigade responded to four calls during the year, of which, however, only one proved to be an actual fire—the same number as during the previous year.

The attendance of brigadesmen at three calls (No. 1 omitted) averaged 9·3 per call, or 77·5 per cent. of the strength.

The fire loss amounted to £400, as against £1 for the previous year, and increase of £399.

The estimated cost of the brigade for the year 1913–14 is £75, the same as for 1912–13.

MAORI HILL.

Two inspections of the Maori Hill Brigade, its stations and equipment, have been made—viz., 20th September, 1912, and 7th February, 1913. The following letter was sent to the secretary of the Board in connection with the first inspection :—

SIR,— Office of Inspector of Fire Brigades, Wellington, 4th October, 1912.

An inspection of the Maori Hill Fire Brigade and its equipment was held on the 18th ultimo, and I beg to submit the following report for the consideration of your Board in that connection :—

At the inspection muster there were present the Superintendent and sixteen men : these, with three on leave, accounted for the full strength of the brigade.

Various wet drills were carried out in a satisfactory manner.

The lips of two of the $\frac{7}{8}$ in. nozzles require countersinking, and the brigade should be provided with two 1 in. and one $\frac{3}{8}$ in. new nozzles.

I have, &c.,
THOS. T. HUGO,
Inspector of Fire Brigades.

At the second inspection, on 7th February, there were present the Superintendent, Deputy, and ten men; of the remaining strength, five were on leave and three absent. The notice of the inspection was not sent on to, and was not received by, the Superintendent until the evening of the 6th : this accounted for the poor attendance at the muster.

The required drills were carried out efficiently, and the stations and appliances are maintained in good order and condition.

A new light hand-drawn hose-reel has been added to the equipment, but no hand-pumps have been obtained, nor has the Superintendent yet been provided with telephonic communication.

Two fires have occurred in the district, the same number as during the previous year. The average attendance of members of the brigade at the five calls received was 8·2 per call, or 41 per cent. of the strength. Owing to the configuration of the borough the brigade is divided into two distinct sections, each operating in its own portion of the district—except, of course, in the event of a large fire; therefore the average attendance at the calls is much better than would appear at first glance.

The fire loss amounted to £27, compared with £700 for the previous year, a decrease of £673.

The estimated cost of the brigade for the year 1913–14 is £200, as against £225 for 1912–13, a decrease of £25.

MASTERTON.

Two inspections of the Masterton Fire Brigade, its stations and equipment, have been made —viz., 7th November, 1912, and 27th March, 1913; also, a special visit was paid to Masterton for the purpose of considering tenders and advising the Board as to the purchase of a combined hose, ladder, and pump motor-car.

At the inspection muster on the 7th November there were present of the fire brigade the Superintendent, Deputy, and seventeen firemen : these, with three on leave, accounted for the full strength of the brigade. Of the Fire Police Corps there were present the Captain, two Lieutenants, and thirteen constables : these, with three on leave, accounted for the full strength—a satisfactory attendance in both cases. An ordinary monthly drill was performed by both bodies, and carried out smartly and efficiently.

The following report covers the second inspection :—

SIR,— Office of Inspector of Fire Brigades, Wellington, 2nd April, 1913.

An inspection of the Masterton Fire Brigade and Fire Police Corps, with their stations and equipments, was held on the 27th ultimo, and in that connection I have the honour to forward the following report for the consideration of your Board :—

At the inspection muster there were present—Fire brigade : Superintendent, Deputy, and sixteen firemen; these, with five out of the district on leave, accounted for the full strength. Fire police : Captain, three Lieutenants, and eight constables; these, with two on leave, accounted for fourteen out of the full strength of sixteen.

For experimental purposes the steam fire-engine was taken to Hessey Street and worked from the canvas dam solely off the 3 in. main, at a pressure in the town supply varying from 22 lb. to 75 lb. In view of the large number of water-mains of small diameter in different parts of the town, and of the very low pressure prevailing at times, it is necessary the brigade should be supplied with some nozzles of small diameter—say, two $\frac{1}{2}$ in. and two $\frac{5}{8}$ in.—and I would suggest they be made in accordance with the patterns purchased by the Government and shortly to arrive.

The accumulators in use on the fire-alarm circuits are at present, as for some little time past, working very unsatisfactorily. After returning to the station upon testing the lines the caretaker discovered the current had suddenly dropped below the safe working voltage, necessitating the immediate changing of the batteries. I would recommend that a small engine and generator should be obtained. One of sufficient power for the purpose, run with either gas or oil, and that would also light the station if considered expedient, could be purchased for about £45. Of course, fittings and fixing up would be extra to that amount.

The fire-alarm aerial-wire circuits should be tested to see there is no undue leakage.

I have, &c.,
THOS. T. HUGO,
Inspector of Fire Brigades.

The stations and equipment are maintained in good order and condition.

The supply of water for fire-protection purposes in Masterton has been unsatisfactory for years past, and at times this position becomes absolutely dangerous, owing to the very low pressure prevailing at the time, combined with the always-existing insufficient flow or volume of water; and in that connection I found it necessary to write as follows to the secretary of the Board :—

SIR,— Masterton, 17th January, 1913.

Shortly after 9 o'clock last night I proceeded to the central fire-station with the intention of giving a surprise false alarm, but upon looking at the water-gauge only 32 lb. was registering. As that was not sufficient pressure to ring the bell I did not proceed with my intention. Again this morning at 9.30 only 35 lb. was on the gauge, and upon making inquiries I was informed the pressure had been as low, intermittently, for some little time. This is a most serious position, and as a partial remedy I would recommend that your Board should at once suggest to the Borough Council the urgent necessity of forthwith prohibiting the use of water for watering gardens, and taking immediate steps to enforce the prohibition until the pressure resumes the normal.

The accumulators used for the fire-alarm system are not in good order, and your Board should take immediate steps to remedy this. I have, &c.,

THOS. T. HUGO,
Inspector of Fire Brigades.

As far as I have been able to learn, the fault is due, firstly, to the inadequate size of the supply main carrying the water from the reservoir to the town; secondly, to the small size of the reticulating-pipes laid down throughout the borough; and, thirdly, to the number of dead-ends or non-completed circuits throughout the reticulation system. I understand the Borough Council have now under consideration a scheme for the purpose of remedying the present defects, and whilst doing so it would be wise to look forward and make ample provision for the future—an economic policy that has proved to be sound in many cases when dealing with such matters as the water-supply of growing towns.

During the past year the brigade attended thirty-two calls, that included sixteen actual fires, an increase of seven fires as compared with the previous year. The attendance of brigadesmen at nineteen general calls averaged 16·2 per call, or 73·5 per cent. of the total strength.

The fire loss amounted to £3,790, as compared with £5,462 for 1912, a decrease of £1,672.

The estimated cost of the brigade for the year 1913–14 is £1,150, as against £1,136 14s. for 1912–13, an increase of £13 6s.

MILTON.

Two inspections of the Milton Fire Brigade have been held—viz., 23rd September and 7th February. The following report, forwarded to the secretary of the Board, covers the first inspection :—

SIR,— 5th October, 1912.

An inspection of the Milton Fire Brigade and its appliances was held on the 23rd ultimo, and in connection therewith I have the honour to submit the following report for the consideration of your Board :—

There were present at the inspection muster the Superintendent, Deputy, ten firemen, and one messenger: these, with two out of the district on leave, accounted for the full strength of the brigade now on the roll. I would again direct the attention of your Board to the numerical weakness of the brigade, that in your town is a matter of much importance owing to local conditions, inasmuch that any water available for fire purposes must be pumped by the manual labour of the members of the brigade, plus such outside assistance as may be obtainable at the time.

During the course of the inspection wet drills it was found to be necessary, before the pump would lift the water from a comparatively shallow depth, to prime the pump by means of water from buckets, and I understand the same thing occurred at the previous wet practice, as also during the course of the large fires in March last—this notwithstanding everything possible has been done by the officers of the brigade to maintain the pumps in good working-order, and it tends to prove that they have become worn out. In any case these small semi-rotary brake pumps are of a very low grade of efficiency for fire-extinction work.

The actual provision of a water-supply for your town appears to me to be just as far in the distance as it was, say, three years ago. Whilst in Milton I was assured by both the present and late Superintendents of the brigade that they considered there would be no difficulty in obtaining sufficient help to work a small manual engine in case of need, and with that assurance in view I would recommend your Board should purchase the 80-gallons manual engine from the Dunedin Fire Board, that can, I believe, be obtained at a very reasonable price. To properly equip the engine it will be necessary to purchase in addition branches, nozzles, and, say, 800 ft. of 2½ in. canvas hose.

Should your Board, owing to a doubt as to whether sufficient help is available to efficiently work the said engine, consider it not advisable to adopt the above-suggested scheme, I would point out that there are a number of patterns of small portable steam fire-engines, oil-engines, also manual engines, both rotary and brake action, suitable to your purpose on the market, of which I shall be pleased to furnish particulars if desired; but in any case, under present conditions your town is quite inadequately protected, and a more efficient equipment should be provided with as little delay as possible. I have, &c.,

THOS. T. HUGO,
Inspector of Fire Brigades.

At the second inspection there were present the Superintendent, Deputy, and eleven firemen: these, with one on leave, accounted for the full strength of the brigade then on the roll—a satisfactory attendance.

A new semi-rotary manual pump, having a capacity of about 25 gallons per minute, had recently been purchased. This was got to work, but proved to be but little better than the older ones; and in fact, owing to the very small results obtained from the exhaustive work required, it is comparatively useless as a fire-brigade appliance. Notwithstanding the heavy fire loss of last year, up to the time of my last visit, beyond the purchase of the inadequate pump mentioned above, nothing had been done towards providing the brigade with any better means of extinguishing fires, although I understand the Borough Council then had under consideration a scheme for the installation of a water-supply by means of a pumping high-pressure system. No hand-pumps have yet been provided.

Two fires have occurred in the district during the past year, the same number as during the previous year.

The average attendance of the brigade at fires was fourteen, or 93·3 per cent. of the strength.

The fire loss amounted to £1,301, as against £14,891.

The estimated cost of the brigade for the year 1913–14 is £120, the same as for 1912–13.

NEW PLYMOUTH.

Three inspections of the New Plymouth brigades, their stations and equipment, have been made—viz., New Plymouth on 19th November, 1912, and 6th May, 1913; Fitzroy section on 20th November, 1912; also a special visit was made to New Plymouth on the 12th August.

At the first inspection there were present the Superintendent, Deputy, and twenty-six men: these, with one absent, accounted for the full strength. Second inspection, present—Superintendent, Deputy, and twenty-two men: these, with one on duty and one on leave, accounted for twenty-six out of twenty-eight then on the roll. At the inspection of the Fitzroy section there were present the Captain, Lieutenant, and thirteen firemen; with one on leave this accounted for the full strength. The attendance at all musters and drills was very satisfactory.

Various hose, reel, and ladder drills, both wet and dry, were carried out in an efficient manner, and the stations and appliances are maintained in good order and condition.

At each of my visits a conference has been held with the Board, chiefly in reference to the suggested scheme for the fire protection of Greater New Plymouth, such as the erection of new stations upon the sites already acquired, the purchase of motor and other appliances, &c. (see annual report for 1912); but up to the present, beyond preparing of station plans and obtaining tenders for motor machines, nothing further has been done, stated to be consequent upon the difficulty of obtaining loan-money for the purpose of carrying out the proposed scheme.

The number of fires that occurred in the district was nine, or three more than during the previous year. The brigade received ten calls, and the attendance of members averaged 19·2 per call, or 68·2 per cent. of the total strength.

The fire loss amounted to £13,768, as compared with £760 for the previous year, an increase of £13,008.

The estimated cost of the brigade for the year 1913–14 is £1,098 1s. 3d., as against £1,058 0s. 3d., an increase of £40 1s. The estimates include a sum of £307 18s. 7d. to provide for the installation of street fire-alarm system.

OAMARU.

Two inspections of the Oamaru Brigade and its equipment have been made—viz., 17th and 18th September, 1912, and 4th February, 1913. The following report, forwarded to the secretary of the Board, covers the first inspection:—

SIR,— Office of Inspector of Fire Brigades, Wellington, 4th October, 1912.

An inspection of the Oamaru Fire Brigade and its equipment, &c., was made on the 17th and 18th ultimo, and I have the honour to submit the following report for the consideration of your Board in connection therewith:—

There were present at the inspection muster the Superintendent, Deputy, and eleven firemen: these, with three on leave, accounted for the full strength of the brigade.

A turnout was effected and various exercises carried out in a satisfactory manner.

A series of readings was taken of the standing pressure in the 10 in. water-main in Thames Street and the 4 in. main in Wear Street, and the comparisons made showed that the new gauge purchased for the brigade is correct, but that the gauge in the Borough Council Chambers is weak to the extent of registering 8 lb. above the actual pressure. Whilst the above-mentioned readings were being taken several of the street hydrants were found to be in a defective condition.

The new nozzles recently obtained are unnecessarily heavy in construction and not of the best design; one in particular is very defective, and I purpose having it replaced.

I would again bring under the notice of your Board the necessity of erecting a small hose-reel shed and bell towards the north end of Thames Street—a reel with hose, branch, stand-pipe, and ladders to be placed there; also, it will be presently necessary to provide a similar equipment at some position on the hills to the southward of the central fire-station.

I have, &c.,

THOS. T. HUGO,
Inspector of Fire Brigades.

At the second inspection there were present the Superintendent and thirteen firemen: these, with one on leave, accounted for the full strength of the brigade—a satisfactory attendance.

Various drills, both wet and dry, were carried out in the vicinity of the Crown Roller-mills, and the required work was performed in an efficient manner. The station and equipment is maintained in good order and condition.

No provision has yet been made for the better protection of the northern portion of the town.

Seven fires have occurred in the district, or two more than during the previous year. The attendance of members of the brigade averaged 12·9 per fire, or 80·4 per cent. of the total strength.

The fire loss amounted to £2,675, as compared with £784 for 1912, an increase of £1,891.

The estimated cost of the brigade for the year 1913–14 is £340, as against £360 for the year 1912–13, a decrease of £20.

PALMERSTON NORTH.

Two inspections of the Palmerston North Fire Brigade and its equipment have been made —viz., 28th November, 1912, and 10th April, 1913. The two following reports, forwarded to the secretary of the Board, cover the respective inspections:—

SIR,— Office of Inspector of Fire Brigades, Wellington, 3rd December, 1912.

Following upon my recent inspection of the Palmerston North Fire Brigade and its equipment, I have the honour to forward the following report for the consideration of your Board:—

At the inspection muster held at 7.30 p.m. on the 28th ultimo there were present the Superintendent, Deputy, and eighteen firemen: these, with five on leave, accounted for twenty-five out of the total strength of twenty-six then on the roll.

Some wet practice and rescue drill was carried out in a very satisfactory manner, but more exercise is required in the picking-up drill.

An inexpensive ambulance-box containing the requisite materials for first aid in the accidents common to fire-brigade work should be provided, furnished with, say, the following: Friar's balsam; medicated cotton-wool for first-aid dressing of burns, and carefully wrapped in oiled silk to prevent septic contamination; lint; triangular and rolled bandaging; sticking-plaster, safety-pins, and a pair of scissors. A few splints might also be carried.

Comprising such a large area as your borough does, a system of fire-alarms is urgently required, and if a return adequate to the expenditure on the new fire-station and on the fire-motor shortly to arrive is looked for the need for alarms is further accentuated. Taking advantage of the private telephones by adopting the suggestions as already explained to the Chairman and other members of your Board, a fairly good substitute at a very small cost will be provided that will serve until such time that your Board's finances will allow of the installation of an up-to-date street fire-alarm system.

I have, &c.,
THOS. T. HUGO,
Inspector of Fire Brigades.

SIR,— 18th April, 1913.

An inspection of the Palmerston Fire Brigade and its equipment was made on the 10th instant, and in that connection I have the honour to forward the following report for the consideration of your Board:—

During the afternoon the new combination hose, pump, and ladder motor-car was taken out for a trial run, that proved very satisfactory.

At the inspection muster there were present the Superintendent, Deputy, and nineteen firemen: these, with one on duty and four on leave, accounted for the full strength of twenty-six then on the roll.

The motor-car was taken to a position near the corner of Rangitikei Street and the Square, where the motor fire-pump was got to work direct from the town mains, first with one delivery, then with two deliveries, and with various-sized nozzles, and pressures varying from 160 lb. to 200 lb. were maintained. The ladder was pitched over the Clarendon Hotel, and a delivery got to work from the roof of that building. The motor was then taken into Cuba Street, opposite the fire-station, and further drills carried out with the ladder. Taking into consideration the comparatively short space of time the motor-car appliance has been in the possession of the brigade, the ladder, pump, and the car itself were handled in a highly satisfactory and efficient manner.

Two nozzles of larger diameter, one 1¼ in. and one 1⅝ in. diameter, also one two-into-one breeching-piece, are required for the more efficient working of the motor pump.

I have, &c.,
THOS. T. HUGO,
Inspector of Fire Brigades.

The newly acquired 50 h.p. combined hose, pump, and ladder motor-car machine has now been in active service for some six months. It has been run in response to a number of calls, is giving every satisfaction, and has proved a valuable addition to the brigade's equipment. At first the engine was a little slow in starting, but, as suggested, a small priming-tank connected with the induction-pipe was fitted on the dash-board, and the Superintendent reports that it has proved successful. There is a still further improvement in the borough water-pressure; that now averages 85 lb. during the day and 115 lb. at night.

The brigade attended twenty-nine calls, which included twenty-one actual fires within the district, as against nineteen fires during the previous year, an increase of two. The average attendance of members of the brigade at twenty-six calls (Nos. 1, 4, and 24 omitted) was 19·3 per call, or 86·2 per cent. of the strength.

The fire loss amounted to £2,608, as compared with £3,877, a decrease of £1,269.

The estimated cost of the brigade for the year 1913–14 is £1,842 9s. 1d., as against £1,724 1s. 4d., an increase of £118 7s. 9d., due to the appointment of an additional permanent fireman.

PETONE.

Two inspections of the Petone Fire Brigade and its equipment have been made—viz., 3rd January and 30th June. The two following reports, forwarded to the secretary of the Board, cover the respective inspections:—

SIR,— 16th January, 1913.

In connection with my visit to Petone on the 3rd instant for the purpose of inspecting the fire brigade and its equipment, I have the honour to forward the following report for the consideration of your Board:—

At the inspection muster there were present only the Superintendent, Deputy, five firemen, and one messenger. The holiday season not having terminated was given as the principal reason for the small attendance, a number of the men being absent from the town.

The horse hose-reel was turned out and the new telescopic ladder was got to work, but on account of the small muster any further practice was postponed until a later date.

The new horse appears to me to be a little light for the work it will be called upon to perform.

The four-wheeled hose-cart has, in my opinion, always been somewhat top-heavy, and now that the new telescopic ladder has been mounted at a considerable height above this body it has still further increased the unsuitability of the vehicle, therefore great care must be exercised when driving to fires, particularly when rounding corners, otherwise a bad accident will be the result.

For various reasons, and particularly that of liability to accident, I consider the fire-alarm indicator and electrical fittings are placed in a very unsuitable position; the watch-room is the proper place for them.

The maximum water-pressure registered during my visit was 64 lb.

I have, &c.,
THOS. T. HUGO,
Inspector of Fire Brigades.

SIR,— Office of Inspector of Fire Brigades, Wellington, 1st July, 1913.

I have the honour to inform you that I held an inspection of the Petone Fire Brigade and its equipment on the evening of the 30th ultimo, and following is a report thereon forwarded for consideration of your Board:—

At the inspection muster there were present the Superintendent, Deputy, thirteen firemen, and two messengers: these, with two on leave, accounted for the full strength of the brigade—viz., nineteen all told.

Instructions were given for the brigade to get to work at a two-story building in Jackson Street. Considerable time was lost in showing water on the first delivery, caused to some extent by difficulty in locating and opening the street-hydrant; but in any case the system of getting to work that requires the laying-out of some 300 ft. of hose, instead of picking up and using a hydrant on the same-sized main that is within 70 ft. of the supposedly burning building, is wrong in practice, and should be altered. Not only is there loss of time in laying out extra hose, but consequent loss of pressure, and that in Petone is a serious matter, and in this particular instance was accentuated by some very leaky couplings; also, the two branches used are of faulty construction and leaked badly.

In order to test what length of time was required to secure the extra water-pressure, the turncock at the reservoir was rung up at 9.9 p.m. and instructed to give all the available pressure. At that time the gauge at the central station was registering 69 lb., at 9.19 p.m. the pressure rose to 71 lb., but at 9.55 p.m., forty-six minutes after the instructions were given, the pressure had not risen to more than 72 lb.

In reference to the hose and ladder wagon, the lowering of the body, in the way of decreasing the height between the axles and the load-line, to the extent you mention in your letter of the 25th ultimo, must result in a very considerable gain in stability in a vehicle of that particular description, but great care must be exercised in carrying out the necessary alterations.

I have, &c.,
THOS. T. HUGO,
Inspector of Fire Brigades.

There is sleeping-accommodation provided at the central station for six single men, but at the time of my last visit only two were sleeping on the premises, though it is hoped to remedy this shortly. A 35 ft. telescopic ladder, carried on the horsed hose-wagon, has been added to the equipment. The Board have decided to appoint a second permanent man, and also to connect the houses of the non-resident firemen with the central station by means of electric call-bells—a good system when carried out with discrimination and under a suitable agreement or regulations, otherwise a source of continual expense, as proved in a number of cases. There is no improvement in the pressure of water available for fire purposes. A message was sent (see report above, dated 1st July) to the turncock at the reservoir requesting him to turn on the reserve pressure, and after waiting forty-six minutes there was a rise of only 3 lb. on the gauge.

The average attendance of brigadesmen at fourteen calls (No. 12 omitted) was 12·6 per call, or 66·2 per cent. of the full strength.

The brigade has attended fifteen calls, that included ten actual fires—the same number of fires as during last year.

The fire loss amounted to £593, as against £3,209, a decrease of £2,616.

The estimated cost of the brigade for 1913–14 is £847 16s. 10d., compared with £1,247 7s. 6d. for 1912–13, a decrease of £399 10s. 8d.

ROTORUA.

Two inspections of the Rotorua Fire Brigade and its equipment have been made—viz., 6th December, 1912, and 19th May, 1913. The following reports, forwarded to the secretary of the Board, cover both inspections :—

SIR,— 6th January, 1913.

Herewith I have the honour to forward a report in connection with my recent inspection of the Rotorua Fire Brigade and its equipment.

At the inspection muster held at 8 p.m. on the 6th ultimo there were present the Superintendent, Deputy, twelve firemen, and three probationers: these, with two firemen on leave, accounted for seventeen out of a total strength of nineteen then on roll.

Various drills, wet and dry, were carried out in a fairly satisfactory manner, but more attention should be given to the rescue drills.

A number of the couplings were leaking badly, and the washers required attending to. A considerable amount of pressure is lost from that cause.

Some minor alterations to the plans, as pointed out at the time, would improve the utility of the proposed new fire-station.

No improvements had been made at Ohinemutu: the shed and plant there were still in the same neglected condition as at the time of my previous visit.

Hand-pumps cannot be obtained here, and none are being imported, therefore your original order will have to stand good.

I have, &c.,
THOS. T. HUGO,
Inspector of Fire Brigades.

SIR,— 5th June, 1913.

An inspection of the Rotorua Fire Brigade and its equipment was held on Monday, the 19th ultimo, and in that connection I have the honour to forward the following report for the consideration of your Board :—

At the inspection muster there were present the Superintendent, Deputy, and fifteen firemen: these, with two on leave, accounted for the full strength of the brigade.

The hand-reel was taken into Tutanekai Street, and hose drill, wet and dry, was carried out. The new fire-bell with its turbine ringing-attachments was tested with very satisfactory results.

With respect to the proposed motor fire machine for your town, on the lines as discussed with certain members of your Board, I have to recommend that tenders be called for a motor-car to carry six men, with engine guaranteed to develop 30 h.p., and geared to, say, 35 m.p.h., fitted with box to carry 1,000 ft. of hose, and accommodation for the smaller fire appliances, &c.: tenders to state extra cost for fitting car for and supplying one 35 ft. telescopic ladder; also extra cost for fitting car with and supplying two CO_2 chemical cylinders, 30 gallons each, with hydraulic reel, 180 ft. special hose. The above is an outline only; detailed specifications can be prepared when your Board has finally decided as to the general requirements.

I have, &c.,
THOS. T. HUGO,
Inspector of Fire Brigades.

The new central fire-station in Haupapa Street was officially opened on the 25th June last. The building is of wood, with concrete foundations, two stories in height, well designed and fitted up. It contains an engine-house (36 ft. by 22 ft.), watch-room, kitchen, large social hall, five bedrooms, having sleeping-accommodation for seven single men and all necessary conveniences. A skeleton iron bell-tower has also been erected; the bell is rung by means of a water turbine controlled both from the watch-room and outside the station.

The first complete year of operations by the brigade since coming under the control of a Fire Board terminated on the 30th ultimo, and during the year seven calls were received, four of which were actual fires. The remaining three proved to be scrub on fire.

The attendance of brigadesmen averaged 14·4 per call, or 75·8 per cent. of the total strength.

The fire loss for the year amounted to £952.

The estimated cost of the brigade for the year 1913–14 is £1,426 5s., as against £697 for the year 1912–13, an increase of £729 5s., due to expenditure over the estimate for 1912–13 in respect of the new station, also to provision for the purchase of a motor fire appliance.

TIMARU.

The Borough of Timaru was constituted a fire district on the 15th April, 1913. An inspection of the district, fire brigade and its equipment, water-supply, &c., was made on the 10th and 11th June, and the following report addressed to the members of the Timaru Fire Board covers the various matters in connection therewith :—

GENTLEMEN,— 19th June, 1913.

On the 10th and 11th instant I inspected the Timaru Fire Brigade and its equipment, the water-supply of the borough as available for fire-extinction purposes, the general risks of the town, &c., and in those connections have the honour to forward the following report for the consideration of your Board :—

Brigade.—An inspection of the brigade was held on the evening of the 11th instant, when there were present the Superintendent, Deputy Superintendent, and fourteen firemen: these, with two on leave, accounted for the full strength (eighteen) then on the roll. The members of the brigade present are to all appearances a smart, active body of men, of good physique, and under good discipline.

A false alarm of fire was given at 7.42 p.m. from an alarm-box in Stafford Street, and was responded to by the horsed hose-reel arriving at 7.43.10 p.m., and the first water was shown at 7.44.10 p.m.—a satisfactory result.

Central Station.—Whilst the position is an excellent one in regard to the risks of the town, the site itself is altogether too small, even for present requirements, without taking into consideration the need for future extension. The internal arrangements of the building are unsuitable: the ground-floor studs are too low, and would require raising at least 2 ft., with a corresponding raising of the roof; also, the timber appears to be badly worm-eaten in a number of places.

Plant.—The two-horsed hose-reel is a good appliance, and the horses a good stamp of animal, altogether suitable for the work hitherto; but the machine has served its purpose, and, as recommended below, it should be replaced. The stock of good hose is inadequate, and the brigade has no suitable fire-ladder.

Water Reticulation, Pressure, &c.—The reservoir storage, 20,000,000 gallons, is an ample provision. The static head, owing to many irregular levels, varies considerably throughout the borough. The head available on the lower levels, about 196 ft. (= 85 lb.) is not an adequate pressure under local conditions, particularly in view of the undersized and faulty reticulation. There is at present no connected or comprehensive plan of the water-mains as laid down, and no really reliable information either; and in company with the Borough Engineer, Superintendent of the brigade, &c., tests were made of the pressure and flow in various parts of the town, which tended to show in instances the flow was not what it should be, and in one case at least, provided the pipe is of the stated size, there is some serious obstruction. The supply-mains leading from the reservoir are of good size, the diameter of that along the Wai-iti Road being 18 in., 12 in., and 10 in., and the one along North Street 14 in., 12 in., and 10 in.; but practically the whole of the reticulation therefrom is inadequate in size, and a portion of the piping along Stafford Street North that completes the circuit between the two supply-mains is only 4 in. in diameter. The only water at present available for the protection of the wool, grain, and other large stores, &c., on the harbour side of the railway-line is by means of a 4 in. pipe from Strathallan Street, and that runs only a short distance along Hayes Street. This is a very serious position, and calls for some immediate remedy. There is a large number of 3 in. pipes included in the reticulation, and the laying-down of that size of pipe has been generally recognized for years past to be a mistake both as regards utility and economy. The street hydrants are spaced at an average of 100 yards apart, and are kept fairly clear. The hydrant-indicators are of two patterns, and some are missing.

Recommendations.—Brigade: The brigade is weak numerically. The authorized strength should be raised from twenty-one to twenty-eight, and endeavour should be made to have not less than twenty-five available at all times.

Central station: A new site should be purchased. There are several available in very suitable positions, particularly the one in Barnard Street, and that, I understand, can be obtained at a reasonable figure. The new station should contain at least one set of married quarters, and sleeping-accommodation for from six to eight single men, &c.

Plant: The horsed reel should be replaced with a motor machine to carry six to eight men, having an engine capable of developing, say, 60 h.p.; hose-box large enough to contain 1,200 ft. of flaked hose; fitted with a pump having a capacity of 300 to 400 gallons per minute, and a 50 ft. or 60 ft. wheeled fire-ladder. 1,000 ft. of new hose should be obtained at once, and some new branches and nozzles are required.

Water: The Borough Council should be requested to improve the circuit between the two supply-mains by laying down along Stafford Street at least an 8 in. pipe in place of the 7 in., 5 in., and 4 in. pipes at present there; to lay down an 8 in. pipe to the harbour side of the railway-line, making with it a complete circuit round Hayes Street; and generally to improve the reticulation, as, for instance, in Turnbull Street and Cain's Terrace. More street hydrants should be interspaced between those already down in the more congested parts of the town, and the same pattern of covers as the hydrant-covers should not be used for other purposes. One pattern of hydrant-indicator should be adopted and adhered to.

I have, &c.,

THOS. T. HUGO,

Inspector of Fire Brigades.

WHANGAREI.

Two inspections of the Whangarei Fire Brigade and its equipment has been made—viz., 10th and 11th December and 22nd and 23rd May. The following two reports, forwarded to the secretary of the Board, covers both inspections:—

SIR,— 6th January, 1913.

In connection with my recent inspection of the Whangarei Fire Brigade and its equipment I have the honour to forward the following report for the consideration of your Board:—

At the inspection muster held at 8 p.m. on the 11th ultimo there were present the Superintendent, Deputy, and fourteen firemen: these, with one on duty and two on leave, accounted for the full strength of the brigade—viz., nineteen all told—a satisfactory attendance.

Various drills, wet and dry, were carried out in a satisfactory manner.

An inspection of the fire-station lately removed and re-erected on the new site at the corner of Norfolk and Dent Streets shows that the work has been carried out in a very slipshod manner, and that the fittings and furnishings are very poor and incomplete. Daylight is visible through

the outer walls in numerous places: this applies also to the internal partitions. The men's bedrooms have been supplied with practically no furniture except the beds and bedding; the bathroom fittings are poor; the oil-stove supplied is inadequate, and with no proper place to put it. A room fitted with a range or stove should have been provided. The station should have been arranged and furnished with some small degree of comfort for the purpose of encouraging the men to frequent and remain on the premises as much as possible, but that object appears not to have been considered. A further sum of, say, £50, would have made a great difference in the matter. Altogether, in my opinion, your Board has unfortunately pursued a mistaken policy of what must prove to be false economy, and one that is not in accord with the best interests of your rapidly growing town.

In view of the design of the brick building now being erected on the corner of Cameron and Bank Streets, wherein the first floor is entirely supported on three sides by bare or unprotected iron columns only, I would suggest to your Board the advisability of recommending the Borough Council to amend their by-laws in the direction of making it compulsory in the future to have all such columns fireproofed in the interests of both life and property.

I have, &c.,
THOS. T. HUGO,
Inspector of Fire Brigades.

SIR,— 6th June, 1913.

An inspection of the Whangarei Fire Brigade and its equipment was made on the 22nd and 23rd ultimo, and following is a report in that connection forwarded for the consideration of your Board:—

At the inspection muster there were present the Superintendent, Deputy, and nine firemen: these, with seven on leave, accounted for the full strength of the brigade. Satisfactory reasons were given for the absence on leave of the number stated.

Three lengths of the new hose were taken to Walton Street for testing purposes, and with a pressure of about 125 lb. two of the lengths, when capped, proved to have a considerable number of small pinholes, but the third length, in addition to the pinholes, developed two bad leaks about the centre of the length. In any case there is no reserve supply of hose, and a further quantity should be provided.

One side of the frame of the telescopic ladder was fractured at a recent fire. It should be repaired by means of clamps, but care must be exercised when using it in future: as stated previously, it is not a suitable type of ladder for fire-brigade work.

During the course of my inspection I noticed in various parts of the town a number of the street hydrants were covered over with street-metal, mud, &c; particularly was this so in Walton Street, where it took the firemen nearly ten minutes to find and open the hydrant. The Borough Council should be requested to keep the hydrants clear at all times.

I noticed in the fire reports that there was a very poor attendance of firemen at some of the calls, and upon inquiry found that with the wind in certain directions a number of the men living out in the Mairtown direction cannot hear the main fire-bell; and I recommend a telephone be placed in the house of the man residing nearest to the Mairtown bell, and he be required to ring it upon receiving a call through the telephone. A water-pressure gauge should be installed in the central fire-station.

I would again call the attention of your Board to the necessity of providing some better means of transporting the plant to fires. With widely detached buildings, spread over an area of 2,000 acres or more, by the time the firemen pulling the hose-reel arrive at the scene of the fire, in the large majority of cases, they are not in a fit condition to carry out the necessary work in the manner it should be done.

I have, &c.,
THOS. T. HUGO,
Inspector of Fire Brigades.

The central fire-station was removed and re-erected on the new site, but, as will be seen by reference to my report above dated 6th January, in a very unsatisfactory manner. Some small improvements have since been made, but this Board will be acting wisely if they make provision for the erection of a better and more suitable building in the near future.

During the past year four fires have occurred in the district, three less than during the previous year.

The average attendance of brigadesmen at four calls was 11·75 per call, or 58·75 per cent. of the total strength.

The fire loss amounted to £3,244, as compared with £4,255, a decrease of £1,011.

The estimated cost of the brigade for the year 1913–14 is £480, as compared with £550 for 1912–13, a decrease of £70.

Approximate Cost of Paper.—Preparation, not given; printing (1,500 copies), £20.

By Authority: JOHN MACKAY, Government Printer, Wellington.—1913.

Price, 9d.]