1914.

NEW ZEALAND.

FIRE BRIGADES OF THE DOMINION

(REPORT ON THE), BY THE INSPECTOR OF FIRE BRIGADES, FOR THE YEAR ENDED 30TH JUNE, 1914.

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.

SIR,— Office of Inspector of Fire Brigades, Wellington, 1st July, 1914.

Herewith I have the honour to lay before you my sixth annual report, for the year ended 30th June, 1914, relative to the working of the Fire Brigades Act, and including matters in connection therewith.

There is now 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-eight 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—15th and 17th December, 1913; 11th and 13th May, 1914.
Arch Hill—15th December, 1913.
Grey Lynn—14th May, 1914.
Christchurch—2nd and 3rd December, 1913; 12th and 13th March, 1914.
Dannevirke—16th October, 1913; 6th April, 1914.
Dunedin—25th and 27th October, 1913; 14th and 16th February, 1914.
South Dunedin—17th February, 1914.
Roslyn—25th October, 1913; 16th February, 1914.
Caversham—17th February, 1914.
Feilding—17th November, 1913; 26th May, 1914.
Gisborne—7th and 8th January, 1914; 1st July, 1914.
Greymouth—4th December, 1913; 21st April, 1914.
Hamilton—20th January, 1913; 7th May, 1914.
Hastings—15th October, 1913; 7th April, 1914.
Hawera—7th October, 1913; 3rd February, 1914.
Hokitika—5th December, 1913; 22nd April, 1914.
Lawrence—23rd October, 1913; 12th February, 1914.
Maori Hill—24th October, 1913; 13th February, 1914.
Masterton—27th November, 1913; 25th June, 1914.
Milton—22nd October, 1913; 11th February, 1914.
New Plymouth—8th October, 1913; 4th February, 1914.
Fitzroy—9th October, 1913.

Oamaru—21st October, 1913; 10th February, 1914.
Palmerston North—18th November, 1913; 25th May, 1914.
Petone—18th June, 1914.
Rotorua—18th December, 1913; 6th May, 1914.
Timaru—28th and 29th October, 1913; 24th and 25th April, 1914.
Whangarei—13th December, 1913; 12th May, 1914.

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 requests received from various local and other bodies, as follows:—

Petone—12th August, 1913: Consultation with Board.
Masterton—11th September, 1913: Conference with Board concerning motor tenders, &c.
Christchurch—25th September, 1913: Opening of the new central fire-station.
Timaru—26th September, 1913; Conference with Board concerning new site and plans for new fire-station.
Otahuhu—16th December, 1913: Conference, Borough Council, report on water-supply, fire-brigade equipment, &c.
Ruakura—21st January, 1914: Inspection fire equipment.
Devonport—22nd and 23rd January, 1914: Conference with Borough Council, report on water-supply, fire-brigade equipment, &c.
Woolston—6th and 7th March, 1914: Inspection and report upon a scheme of fire protection for the borough.
Akaroa—9th to 11th March, 1914: Annual Conference of the United Fire Brigades Association.
Hawera—25th March, 1914: Testing and report upon the new water-tower pressure and supply.
Devonport—9th and 13th May, 1914: Conference, plans of new fire-station, &c.
Christchurch—9th June, 1914: Consultation, Fire Board in connection with motor tenders.
Geraldine—10th June, 1914: Inspection of borough and report upon the water-supply, fire-brigade equipment, &c.
Temuka—11th June, 1914: Inspection of borough and report upon the water-supply, fire-brigade equipment, &c.
Timaru—12th June, 1914: Conference with Board in connection with motor tenders.

In all, sixty-five personal visits have been made, and advice given by correspondence to local bodies and others in relation to fire risks and protection, purchase of fire appliances, supervision exercised over the manufacture of new plant, &c. As usual, instructional addresses were given at the conclusion of inspection drills, with particular attention to the various ways in which every member of a volunteer fire brigade who takes an interest in the subject can, whilst going about his ordinary daily work, do something towards reducing the excessive number of fires occurring in the Dominion, and which in many cases are due to ignorance and sheer carelessness.

Following upon the invitation received from the executive officers of the United Fire Brigades Association I attended their annual Conference held at Akaroa in March last and delivered an address to the delegates. I was pleased to observe that the forward movement in favour of the adoption of more up-to-date methods in connection with the biennial competitions is producing practical results.

About the usual number of accidents have occurred to firemen in the execution of their duty, but the only one of a serious nature took place in Auckland, when a fireman was thrown off a motor hose tender whilst proceeding to a fire. He sustained an injury to his back, but has since quite recovered.

Superintendents of brigades have reported the following casualties to citizens (five fatal) as having happened in their respective districts:—

Auckland—24th July, 1913: Fire in a factory in Swanson Street caused by an explosion of gas from distilling plant. An employee, W. Massey, was blown from top of tank and subsequently died from the injuries received. 5th April, 1914: Fire in private dwelling, 33 Upper Queen Street. Mrs. Annie Davis, widow, aged 70, burned to death.
Christchurch—27th May, 1914: Fire in private dwelling, 105 Brougham Street. An occupant, Mrs. Isles, badly cut in escaping through window; removed to Hospital for treatment, and since recovered.
Dunedin—31st July, 1913: Private dwelling, Vire Street. Walter Mills, aged 9, sustained burns on face and hands due to explosion of kerosene when lighting fire; was removed to Hospital for treatment. 12th September, 1913: Painter's shop, Great King Street. The proprietor, E. W. Gillams, burned on hands and face. Fire due to ignition of turpentine.
Hokitika—17th May, 1914: Fire in private dwelling, Beach Street. An occupant, James Ferguson, suffocated prior to arrival of brigade.
Masterton—6th September, 1913: Fire in private dwelling, Tararua Street. Occupier, H. Robinson, severely burned about arms and face; was removed to Hospital for treatment, and has since recovered.
Palmerston North—6th September, 1913: Official in charge of gas plant at railway-station burned about hands and face.
Oamaru—21st January, 1914: Fire in private dwelling. Occupant, Miss M. Duggan, an elderly spinster, burned to death. 14th June, 1914: Fire in private dwelling, Tweed Street. Mrs. M. A. Cormack, an elderly woman, burned to death.

The principal improvements in equipment effected or in course of being carried out are as follows :—

New central station in Christchurch, which was officially opened on the 25th September, 1913. Commodious accommodation for all purposes is provided, and in addition to four sets of married officers' quarters in the main building six cottages for married firemen have been erected at the rear of the station, each having its own private yard and small garden attached.

A new central station is being erected in Timaru, and is now approaching completion.

Two new 40 h.p. motor hose tenders have been put in commission in Auckland, and one 20 h.p. motor hose tender in New Plymouth.

Fifteen circuits having 100 alarm boxes thereon have been added to the street fire-alarm installations. Three more automatic fire-alarm systems have been installed in Christchurch, and one more in Dunedin.

New motor fire appliances are on order—for Timaru, one 65 h.p. hose, ladder, and turbine pump machine; Masterton, one 60 h.p. hose, ladder, and reciprocating pump machine; Whangarei, one 50 h.p. hose, ladder, and first-aid pump machine; Christchurch, one 40 h.p. hose and turbine pump machine.

Considerable use is being made of the patterns recently imported by the Government for the benefit of the fire services in general, and a number of orders have been placed by brigades for the smaller appliances made in accordance therewith.

The total number of calls received by the brigades throughout the various fire districts was 777, as against 678 for the previous year, an increase of 99. As compared with 1912–13 there has been a decrease of 16 in the number of bush and grass fires—48 as against 64; but an increase under all other headings—viz., chimney fires, 70 (60), increase 10; out-of-district fires, 44 (30), increase 14; false alarms, 160 (127), increase 33; actual fires, 455 (397), increase 58. Of the 455 fires 13 are reported as due to incendiarism, 24 as having occurred on unoccupied premises, and 144 origin unknown. As in previous years, analysis of the reports show a number of cases of over or excessive insurance.

Losses throughout the Fire Districts.—The total fire loss for the year amounted to £84,367, comparing with the previous year as follows :—

	Insured. £	Uninsured. £	Totals. £
1912–13	102,661	18,993	121,654
1913–14	70,522	13,845	84,367
Decrease	32,139	5,148	37,287

Losses throughout the Dominion.—The insured loss throughout the Dominion for the year ended 31st December, 1913 (probably underestimated), was £484,462, and compares as follows :—

	£		£
Year ending 31/12/12 ..	431,896	Average 9 years ending 31/12/12	426,332
Year ending 31/12/13 ..	484,462	Loss year ending 31/12/13 ..	484,462
Increase	£52,566	Increase	£58,130

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, 1913, is thus shown to be £645,949, an increase of £70,088 as compared with 1912, but an increase of £77,506 when compared with the average for the nine preceding years.

The losses quoted above for the fire districts and for the Dominion are each for twelve months respectively, but ending at different periods of the year; and the insured loss for the simultaneous twelve months ending 31st December, 1913, is—for the Dominion, £484,462; and for the fire districts, £96,949; or 20·01 per cent. of the total, with the inhabitants of the fire districts comprising 25 per cent. of the whole population of New Zealand, and with probably a very much higher percentage of insured property at risk.

The figures quoted under the heading "Losses throughout the Fire Districts" show a reduction in the fire loss for the year of £37,287 as compared with the previous year, and that notwithstanding there are twenty-two fire districts as against only twenty in 1912–13, also an increase of fifty-eight in the number of fires. The average loss per fire is considerably lower than in any previous year since the establishment of the Fire Board system of control. In my annual report for 1912–13, when commenting upon the very large decrease (£95,384) in the loss for the year throughout the fire districts as compared with that for 1911–12, and in face of a considerable increase in the number of fires, I state, "Although a large portion of the reduction is no doubt due to fortunate circumstances, a fair percentage thereof must certainly be set down to improved equipment, greater efficiency, and a better knowledge of fire-extinction work now prevalent amongst the officers and members of the brigades." I consider the results for 1913–14 are further proof that the greater all-round efficiency is producing a very tangible return, as also is the fact that the highest ratio of loss has occurred in those districts wherein the equipment generally has not been brought up to any efficient standard, and the results of the last two years' working should be gratifying to those Fire Boards who have gone to the expense of properly equipping their brigades. But it must be remembered there is all the time present the danger of the "late call," one of the worst, if not absolutely the worst feature in connection with fire-brigade work, and particularly dangerous when occurring in the case of outbreaks in large warehouses, department stores, &c.; for then, no matter how efficient the brigade and its equipment may be, too often the result is a disastrous fire with heavy losses, wiping out for years the average of good work performed by the brigade.

There is a well-established remedy in the automatic or "auto-detector" system of fire-alarms in direct communication with the fire-stations, of which there are some sixty installations now in New Zealand; but a great many more are required. Unfortunately, fire brigade authorities have no jurisdiction in this matter; and, for the following reasons—first, protection of life; second, elimination of the "late call" condition which very often causes extensive loss to property other than that in which the fire originates; third, as an appreciable step towards a reduction of the excessive fire waste in the Dominion—I would respectfully suggest that the Government might well, in the common interest, consider the advisability of introducing legislation making it compulsory to install "auto-detectors" in certain classes of buildings. For some time past there has been a movement in Great Britain with the object of inducing the Government to make compulsory the installation of automatic alarms, and in Sydney "new building regulations render compulsory the installation of automatic fire-detectors." The reliability of auto-detector installations generally is beyond doubt. "Experience has proved that, including the risk of late calls in the early days of the auto-detector industry, 97 per cent. of auto-detector calls to actual outbreaks have resulted in fires being extinguished before more than merely nominal damage was done. The other 3 per cent. is accounted for by the fact that although auto-detectors gave the calls in good time there were hitches in answering to the warnings, hitches which were not in any way due to the detectors." "After some ten years' working the automatic fire-alarm companies are able to show that the losses sustained by the insurance companies on detector-protected risks are less than 5 per cent. of the premiums paid, as against the average loss ratio of 53 per cent. in respect of unprotected property."

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 report dealing with each fire district.

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

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1. SUMMARY OF FIRE CALLS.

District.	Fires.	Chimney Fires.	Bush, Grass, and Rubbish Fires.	False Alarms.	Out of District.	Totals.
Auckland	95	17	14	57	11	194
Christchurch	95	7	12	52	9	175
Dannevirke	6	1	..	..	2	9
Dunedin	88	20	6	34	1	149
Feilding	9	3	1	..	1	14
Gisborne	22	3	3	7	10	45
Greymouth	6	1	1	1	..	9
Hamilton	5	1	3	..	..	9
Hastings	14	2	..	..	1	17
Hawera	3	1	..	..	..	4
Hokitika	9	..	..	..	..	9
Lawrence	2	..	..	..	..	2
Maori Hill	..	..	..	1	1	2
Masterton	6	7	2	..	3	18
Milton	3	..	..	..	..	3
New Plymouth	7	2	..	..	..	9
Oamaru	12	1	..	..	1	14
Palmerston North	29	1	1	4	3	38
Petone	18	..	..	3	1	22
Rotorua	4	2	2	..	..	8
Timaru	16	1	2	1	..	20
Whangarei	6	..	1	..	..	7
Totals	455	70	48	160	44	777

2. Summary of Fire Losses.

District.	Insured.	Uninsured.	Totals.
	£	£	£
Auckland	4,849	747	5,596
Christchurch	13,910	3,799	17,709
Dannevirke	145	61	206
Dunedin	11,871	1,564	13,435
Feilding	556	200	756
Gisborne	8,807	1,110	9,917
Greymouth	865	335	1,200
Hamilton	895	260	1,155
Hastings	6,182	220	6,402
Hawera	781	100	881
Hokitika	81	44	125
Lawrence	102	40	142
Maori Hill	..	..	..
Masterton	2,213	990	3,203
Milton	825	300	1,125
New Plymouth	5,383	..	5,383
Oamaru	1,176	1,485	2,661
Palmerston North	4,004	1,627	5,631
Petone	3,346	520	3,866
Rotorua	71	45	116
Timaru	3,390	2	3,392
Whangarei	1,070	396	1,466
Totals	70,552	13,845	84,367

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

As taken from the Estimates for the respective Years.

District.	Year ending 30th June, 1911.			Year ending 30th June, 1912.			Year ending 30th June, 1913.			Year ending 30th June, 1914.			Year ending 30th June, 1915.		
	£	s.	d.	£	s.	d.	£	s.	d.	£	s.	d.	£	s.	d.
Auckland	7,454	0	0	8,174	0	0	8,190	0	0	10,110	0	0	10,256	0	0
Christchurch	6,849	0	0	6,645	0	0	7,830	0	0	9,000	0	0	8,000	0	0
Dannevirke	595	11	6	592	9	4	685	6	0	881	3	5	612	6	9
Dunedin	6,000	0	0	6,500	0	0	6,500	0	0	7,000	0	0	7,000	0	0
Feilding	542	0	0	590	0	0	600	0	0	612	10	0	683	11	0
Gisborne	541	8	2	1,159	4	6	382	19	10	789	10	3	763	0	0
Greymouth	806	4	0	850	6	0	950	0	0	964	0	0	864	0	0
Hamilton	..			..			..			300	0	0	850	0	0
Hastings	756	8	6	1,096	0	0	1,051	0	0	1,146	0	0	1,105	0	0
Hawera	443	0	0	496	0	0	509	15	9	617	16	0	767	0	0
Hokitika	475	0	0	500	0	0	433	6	8	433	6	8	433	6	8
Lawrence	100	0	0	75	2	6	75	6	2	75	0	0	60	0	0
Maori Hill	255	0	0	242	0	0	225	0	0	200	0	0	200	0	0
Masterton	926	11	0	1,023	19	0	1,136	14	0	1,150	0	0	1,151	1	4
Milton	280	0	0	140	0	0	120	0	0	120	0	0	100	0	0
New Plymouth	457	5	2	559	2	0	1,058	0	3	1,098	1	3	1,098	1	3
Oamaru	500	0	0	500	0	0	360	0	0	340	0	0	370	0	0
Palmerston North	1,504	0	0	1,699	14	0	1,724	1	4	1,842	9	1	1,939	3	4
Petone	657	7	5	762	6	7	1,247	7	6	847	16	10	1,076	11	9
Rotorua	..			..			697	0	0	419	10	0	614	0	0
Timaru	..			..			..			1,500	0	0	2,825	0	0
Whangarei	250	0	0	300	0	0	550	0	0	480	0	0	600	0	0
Totals	29,392	15	9	31,905	3	11	34,325	17	6	39,927	3	6	41,368	2	1

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.	Petone.	Rotorua.	Timaru.	Whangarei.	Totals.
Ashes, live	2	2	..	7	1	..	..	..	..	..	..	1	..	..	1	..	..	..	..	1	..	..	15
Benzene in proximity to lights	2	1	..	2	..	..	..	..	..	..	..	..	..	..	..	1	..	1	1	..	..	..	8
,, vapour, in proximity to lights	1	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	2
,, cleaning clothes	2	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	2
,, upsetting, explosions	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1
Birds' nests	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1
Candles, drapery, &c., in contact	11	5	..	3	..	..	..	..	1	..	..	..	..	..	..	..	..	..	3	..	1	..	24
,, left burning	..	1	..	2	1	..	..	..	2	..	..	..	..	..	..	..	2	..	..	..	..	..	8
Clothes airing before fire	..	2	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	2	1	..	1	..	7
Defective building	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1
,, chimneys, hearths	1	4	..	10	1	..	1	..	..	1	..	..	..	1	..	1	3	2	1	1	..	..	27
Electric lighting, fusing of wires	4	1	..	2	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	7
Gas, defective fittings	4	1	1	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	7
,, explosion	2	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	2
,, jets in contact	..	1	..	1	..	..	..	1	..	..	..	..	..	..	..	..	..	..	1	..	..	..	4
,, rings, stoves	2	3	..	1	..	1	..	..	1	..	..	..	..	..	..	..	..	1	..	..	..	..	9
,, iron left standing	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1
Ignition, picture-films	1	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	2
,, carbolic vapour	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1
Incendiarism, or suspected	..	5	..	1	..	..	..	..	1	..	4	..	..	..	..	..	..	1	1	..	..	..	13
Kerosene, lamp explosions	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	..	2
,, lamps knocked over	1	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	..	1	..	4
Kerosene stoves or heaters overheated	..	2	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	1	..	..	4
Kerosene, lighting fires with	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1
Lights, naked	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Matches, in machinery	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1
,, children playing with	2	3	..	3	..	1	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	..	10
,, rats gnawing	..	..	..	..	..	1	..	..	..	..	..	..	..	1	..	..	..	..	..	..	2	..	4
,, thrown down alight	2	9	..	11	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	22
Motor, back firing	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1
Overheating, beeswax, fat, &c.	1	4	1	4	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	10
,, bearings	..	1	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	2
,, tar	3	4	..	..	1	1	1	1	..	..	..	..	..	1	..	..	..	..	..	..	..	..	12
,, wood in proximity to furnaces	..	..	..	3	..	..	..	..	..	..	1	1	..	..	..	..	..	2	1	..	..	..	8
,, wood by hot-water pipes	..	..	..	2	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	3
Smoking	..	2	..	..	..	3	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	5
,, cigarettes, butts thrown down	..	1	..	1	..	..	..	..	..	..	..	..	..	..	..	..	3	..	..	..	1	..	6
Sparks from chimneys	3	3	1	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	2	..	..	..	10
,, copper-fires	3	3	1	3	..	1	..	1	1	..	1	..	..	..	..	..	..	6	..	..	..	..	20
,, fireplaces	1	1	..	2	..	1	..	..	1	..	..	..	..	..	..	..	..	..	..	..	1	..	7
,, furnaces	..	1	..	2	..	1	..	1	..	..	..	..	..	..	..	..	1	..	1	..	..	..	7
,, machinery	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1
,, stoves, ranges	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	1
,, other fires	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	..	2
Spontaneous combustion	..	4	..	2	..	..	..	..	..	..	1	..	..	1	..	..	1	..	..	..	..	..	9
Teasing kapoc	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1
Vagrants	..	2	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	3
Unknown	46	20	2	21	3	9	3	1	7	2	2	..	..	1	2	5	2	9	6	1	9	6	157
Totals	95	95	6	88	9	22	6	5	14	3	9	2	..	6	3	7	12	29	18	4	16	6	455

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

—	Auckland.	Christchurch.	Dannevirke.	Dunedin.	Feilding.	Gisborne.	Greymouth.	Hamilton.	Hastings.	Hawera.	Hokitika.	Lawrence.
Brigades, total strength of	63	36	22	73	24	22	20	18	25	23	30	11
Fire police, total strength of	..	..	..	..	..	..	..	..	15	..	..	..
Fire-stations, residential	4	3	1	1	1	..	1	1	1	1	..	..
,, non-residential	2	..	1	3	1	4	4	..	..	1	5	1
Fire-alarms—(C) circuits, (B) boxes	24 C., 141 B.	16 C., 89 B.	..	7 C., 64 B.	..	..	..	..	..	..	..	..
,, Automatic, private	14	21	..	25	..	..	..	..	..	..	..	..
Telephones, points	9	Tel.	Tel.	Tel.	5	Tel.	4	Tel.	Tel.	5	8	..
Horses	2	..	..	3	1	..	1	..	..	..	1 on hire	..
Motors, hose-and-ladder (h.p.)	4(65,45,40,40)	1 (12)	..	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.(110)	1,450 gal. (70)	..	..	..	..	..	..	..	..	..	..
,, electric, ladder (height)	1 (87′)	..	..	..	..	..	..	..	..	..	..	..
Fire-engines, steam (gallons)	1 (450)	2 (260, 450)	..	..	..	1 (600) stationary	1 (600)	..	1 (600)	..	1 (380)	..
,, manual (gallons)	..	..	..	..	..	1 (100)	1 (60)	..	1 (80)	1	2 (80. 80)	..
Chemical engines, hand-drawn (gallons)	..	1 (120) horsed	..	..	..	..	..	..	1 (40)	1 (50)	..	..
Hose carts, reels, horse-drawn	..	..	..	2	1	..	..	..	..	..	..	..
,, ,, hand-drawn	1	2	2	5	2	2	5	2	2	3	5	2
Ladders, horse-drawn (height)	1 (60′)	1 (65′)	..	1 (80′)	..	..	2 (60′)	..	..	..	..	..
,, telescopic (height)	..	3 (60′)	..	3 (78′)	..	1 (35′)	1 (35′)	..	..	1 (28′)	..	..
,, coupling (total height)	..	19	..	16 (160′)	6 (52′)	..	..	4*(40′)	6 (66′)	3 (36′)	2 (30′)	2 (30′)
,, single lengths (total height)	8 (136′)	..	5 (105′)	..	2 (45′)	7 (135′)	3 (61′)	4 (100′)	6 (163′)	3 (85′)	3 (59′)	1 (25′)
Jumping sheets (square feet)	4 (10′ x 10′)	4 (10′ x 10′)	..	1 (12′ x 12′)	..	..	..	..	2 (12′ x 14′)	..	..	..
Smoke-jackets (J). helmets (H)	2 J. 1 H	1 J, 1 H.	..	2 J, 1 H.	..	1 H.	..	..	..	..	..	..
Hand-pumps	4	5	2	2	1	1	1	1	2	2	2	1
Hand chemical extincteurs	2	4	..	4	..	..	..	..	..	..	..	2
Stand-pipes, ratchet valves	12	1	..	9	..	..	3	1	..	1	..	1
,, double heads	..	19	5	5	5	8	6	1	6	4	5	2
,, single heads	4	..	..	..	..	2	1	4	..	2	2	..
Hose, rubber-lined (diameter)	2,000′ (3¾″)	2,140′ (2¾″)	..	..	..	..	..	..	..	..	..	..
,, unlined (diameter)	7,400′ (2¾″)	10,461′ (2¾″)	2,300′ (2½″)	9,000′ (2½″)	2,200′ (2½″)	2,700′ (2½″) G.*	4,000′ (2½″) G.	3000′ (2½″) G.	2,000′ (2½″) G.	2,500′ (2½″) G.	3,000′ (2½″) G.	1,200′ (2½″) G.
Water-supply (G = gravitation)	G.	G.	G.	G.	G.							
Pressure, average, noon–midnight	8–120	98–106	85–90	110–150	98–112	90–120	90–140	39–42	120–130	55–75	100–105	50–62

* And auxiliary pump system.

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

——	Maori Hill.	Masterton.	Milton.	New Plymouth.	Oamaru.	Palmerston North.	Petone.	Rotorua.	Timaru.	Whangarei.	Totals.
Brigades, total strength of	18	23	15	36	16	25	22	19	19	20	580
Fire police, total strength of	..	14	..	..	..	..	..	..	..	..	29
Fire-stations, residential	..	2	1	2	1	2	1	1	1	1	26
,, non-residential	2	1	..	5	..	1	..	2	1	2	36
Fire-alarms—(C) circuits, (B) boxes ..	1 C., 5 B.	5 C., 12 B.	..	..	..	..	1 C., 7 B.	..	5 C., 21 B.	..	59 C., 339 B.
,, Automatic, private ..	..	..	..	..	..	1	2	..	1	..	64
Telephones, points	Tel.	Tel.	..	Tel.	Tel.	Tel.	..	5	4	6	57
Horses	..	2	..	..	1	1	1	..	2	..	15
Motors, hose-and-ladder (h.p.) ..	..	..	..	1 (20)	..	..	..	Motor on hire	..	..	9
,, chemical, hose-and-ladder (h.p.)	..	..	..	..	..	..	..	..	..	..	6
,, pump, hose-and-ladder (h.p.) ..	..	..	..	..	..	1,350 gal. (50)	..	..	..	..	3
,, electric, ladder (height) ..	..	..	..	..	..	..	..	..	..	..	1
Fire-engines, steam (gallons)	..	1 (350)	..	..	..	..	..	..	..	..	8
,, manual (gallons) ..	..	1 (60)	2 (25, 25)	..	..	..	..	..	..	..	9
Chemical engines, hand-drawn (gallons)	..	..	1 (50)	..	..	..	..	..	..	..	4
Hose carts, reels, horse-drawn ..	..	..	..	..	1	2	1	..	1	..	8
,, ,, hand-drawn ..	3	4	1	9	1	4	2	3	3	4	67
Ladders, horse-drawn (height) ..	..	..	..	..	..	..	..	..	..	..	4
,, telescopic (height)	1 (16′)	..	..	1 (40′)	1 (20′)	1 (60′)	1 (30′)	1	..	1 (30′)	16
,, coupling (total height) ..	2 (14′)	4 (40′)	2 (31′)	3 (32′)	..	8 (80′)	8 (70′)	..	..	..	85
,, single lengths (total height) ..	2 (45′)	2 (43′)	1 (25′)	3 (60′)	2 (41′)	2 (37′)	..	3 (61′)	7 (185′)	2 (22′)	66
Jumping-sheets (square feet)	..	..	..	1 (12′ x 12′)	..	1 (12′ x 12′)	..	1 (10′ dia.)	1 (10′ x 10′)	..	15
Smoke-jackets (J), helmets (H) ..	..	..	..	..	1	..	..	..	1 H.	..	11
Hand-pumps	..	2	1	3	1	2	2	1	1	2	39
Hand chemical extincteurs	2	1	2	3	1	1	..	2	2	..	26
Stand-pipes, ratchet valves ..	2	2	..	1	..	..	..	1	1	..	35
,, double heads	2	2	..	10	5	5	1	..	3	3	97
,, single heads	..	4	..	1	3	3	6	5	2	1	40
Hose, rubber-lined (diameter) ..	..	..	..	..	..	..	..	..	..	..	4,140
,, unlined (diameter)	1,500′ (2½″)	4,000′ (2½″)	500′ (2″)	3,000′ (2½″)	3,800′ (2½″)	5,000′ (2½″)	2,900′ (2½″)	1,200′ (2½″)	3,000′ (2½″)	2,000′ (2½″)	76,841
Water-suppy (G = gravitation) ..	G.	G.	Wells and tanks	G.	G.	G.	G.	G.	G.	G.	..
Pressure, average, noon–midnight ..	120–130	50–70	..	115–125	100–140	80–100	60–70	45–49	70–80	100–120	..

AUCKLAND.

Two inspections of the Auckland Fire Brigade, its stations and equipment, have been made—viz., on the 15th and 17th December, and the 11th and 13th May.

At the first inspection the turnouts at the different stations were carried out smartly and in quick time, and the various drills performed in an efficient manner. The second inspection in May is covered by the following report, forwarded to the secretary of the Board :—

SIR,— 2nd June, 1914.

An inspection of the Auckland Fire Brigade, its stations and equipment, was made on the 11th and 13th ultimo.

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

I note the marking of the street fire-hydrants is still in a most unsatisfactory condition.

In company with the Superintendent an inspection was made with a view to formulating a comprehensive scheme for the proper protection of the largely increased district, due to the more or less recent incorporation with the city of the Boroughs of Parnell, Grey Lynn, and Arch Hill, and that has nearly doubled the area now under the jurisdiction of the Auckland Fire Board. The inspection included also the Remuera Road District; that apparently will shortly be also incorporated with the city.

The conditions call for the erection and equipment of a new station in Grey Lynn. Unless that is done, when the Ponsonby section of the brigade attend a city call, as it must continue to do, it leaves for the time being Ponsonby, Grey Lynn, and Arch Hill entirely unprotected; and even were that condition not present, local topography (intervening gullies, &c.) makes it impossible to afford efficient protection from the existing stations.

The proposed site for the new station in Manukau Road, Parnell, is a very suitable one, and is so situated that protection can be extended to Newmarket when that borough is united with the city, as eventually it must be. This station is urgently required, and the building should be proceeded with with as little delay as possible.

Remuera—approximate greatest length two miles and three-quarters by something over two miles and a quarter at its widest part—is altogether too large a district to be efficiently protected from outside its own boundaries, and when incorporation with the city takes place it will be necessary to make self-contained provision for its protection. I have, &c.,

THOS. T. HUGO,
Inspector of Fire Brigades.

It was found necessary to replace the auxiliary brigade operating in the Parnell district by permanent firemen, and a street fire-alarm system consisting of seven circuits having twenty-eight call-points has been installed; also a 40 h.p. motor hose-tender has been stationed there. An extension of the street fire-alarm system has been made in the Grey Lynn district.

The Borough of Grey Lynn has been incorporated with the city, and negotiations are now proceeding with the view of amalgamating the Remuera Road District; also, there is a movement having as its purpose the incorporation with the city of several of the suburban districts, altogether making at the present time the question of efficient protection for the Auckland Fire District a very complicated one.

During the year the brigade received 194 calls, of which ninety-five proved to be actual fires occurring within the district, eight more than during the previous year.

The fire loss amounted to £5,596, as against £41,147 for 1913, a decrease of £35,551. This, notwithstanding the annual increase in the number of fires, is the lowest fire loss in Auckland for the last six years—that is, since the proclamation of the Auckland Fire District.

The estimated cost of the brigade for the year 1914–15 is £10,256, as compared with £10,110 for 1913–14, an increase of £146.

CHRISTCHURCH.

Two inspections of the Christchurch Fire Brigade, its stations and equipment, have been made—the 2nd and 3rd December, 1913, and the 12th and 13th March, 1914; also two special visits have been paid—viz., the 25th September, official opening of the new central station; and the 9th June, attendance at Board meeting in connection with tenders for the supply of a new motor machine. Both inspections are covered by the following reports forwarded to the secretary of the Board :—

SIR,— 24th December, 1913.

An inspection of the Christchurch Fire Brigade and its equipment was held on the 3rd instant. During the course of the inspection the motor-pump was taken down to the river at Chester Street, and there got to work with certain results, the particulars of which have no doubt already been laid before your Board by the Superintendent.

I have to direct attention to the urgent necessity for the provision of an additional motor appliance. All the motors now at the central station are, and of necessity under present conditions when running to fires, loaded up with both men and gear to a greater degree than is consistent with safe and reliable working; and with these conditions in view I would suggest to your Board the advisability of not running any of the appliances to fires outside the Christchurch Fire District until such time as an additional motor is available. Also, I have again to call attention to the necessity of providing new branches and nozzles to replace the defective ones now in use.

I have, &c.,

THOS. T. HUGO,
Inspector of Fire Brigades.

SIR,— 19th March, 1914.

Following upon my inspection of the Christchurch Fire Brigade, its stations and equipment, held on the 12th and 13th instant, herewith I have the honour to submit a report for the consideration of your Board.

At the inspection muster held at the central station at 7.30 p.m. on the 12th there were present the Superintendent, Deputy, and twenty-three firemen, or twenty-five all told. Instructions were given to turn out as for a city call with the supposition that the old central fire-station in Lichfield Street was well alight. The appliances turned out included the turbine motor, hose and chemical motor, and the small first-aid motor towing the ladder and water-tower. All the apparatus was got to work in a smart and satisfactory manner, but some of the nozzles used were of a defective nature.

Next morning the motor turbine pump was got to work from the river for experimental purposes, and with very satisfactory results. The substations at Sydenham and St. Albans were inspected on the 13th, and the stations and appliances found to be in good order and condition.

During the course of the inspection drill the loss of time and labour involved in working the present fire-ladder as in comparison with those of more recent type was very marked indeed, and your Board should take into consideration the matter of purchasing a ladder of modern design.

I note that the work of placing the street fire-hydrant indicators has not yet been completed. I notice also that the recently renewed block tires on the turbine motor are wearing very badly.

I observe that the concrete reservoir in Cathedral Square has finally been filled in, and understand the question of doing away with others has been mooted, and I would recommend your Board should enter a strong protest with the City Council against any such action; in fact, more reservoirs should be provided, instead of doing away with the very few existing ones.

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

The boundaries of the Christchurch Fire District have been further extended by the inclusion of North Richmond, having an area of 220 acres.

The new central fire-station was officially opened on the 25th September, the staff and plant having been previously removed from both the Lichfield and Chester Street stations to the new premises. The new buildings contain ten sets of married quarters, each self-contained and fitted with every convenience. Accommodation is provided for twenty-seven single men. The engine-house measures 56 ft. by 48 ft., social hall 35 ft. by 48 ft., gymnasium 21 ft. by 35 ft. These last two are divided by folding doors only, and when occasion requires can be thrown into one. A Board room and secretary's office are also included, and generally the new station provides for all that goes to the making on modern lines of a well-designed fire-station.

A new and very complete combined fire-alarm cabinet and telephone switchboard has been installed, fitted with twenty-four circuit indicators making provision for some two hundred call-points. The electric current for the street fire-alarm system and for other purposes is obtained by means of an engine and dynamo installed on the premises.

Three more private automatic fire-alarms have been installed, making twenty-one in all.

The Board has decided to purchase another motor hose, ladder, and turbine pump machine.

An object-lesson very much to the point as to the inadvisability of doing away with the underground tanks (see report dated the 19th March) was afforded in Christchurch in March last, when, owing to a break in the 15 in. main, the supply from the gravitation reservoir had to be cut off, and for some time the city was dependent for its protection upon what water could be made available by means of pumping from the river and from the underground tanks in question. This accident was a forcible illustration of the necessity of laying down a duplicate carrying-main from the reservoir and connecting with the city reticulation system. Also, there are portions of districts within the city boundaries not yet reticulated, and wherein no water is available for fire-protection purposes, and this matter should receive prompt attention.

During the year 175 calls were received, of which ninety-five proved to be actual fires occurring within the district, or nine more than during the preceding year.

The fire loss amounted to £17,709, as against £12,370 for 1913, an increase of £5,339.

The estimated cost of the brigade for 1914-15 is £8,000, as compared with £9,000 for 1913-14, a decrease of £1,000.

DANNEVIRKE.

Two inspections of the Dannevirke Brigade, its stations and equipment, have been made—viz., 16th October, 1913, and 6th April, 1914.

At the first inspection there were present the Superintendent, Deputy, and fifteen firemen: these, with two on duty and two on leave, accounted for twenty-one out of a full strength of twenty-two then on the roll.

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

As pointed out at the time, a number of the couplings required putting in a lathe and the threads turning down to the regulation size.

The second inspection is covered by the following report forwarded to the secretary of the Board:—

SIR,— 15th April, 1914.

Following upon my inspection of the Dannevirke Fire Brigade and its equipment held on the 6th instant, herewith I beg to submit the following report for the consideration of your Board:—

At the inspection muster there were present the Superintendent, Deputy, and twelve firemen: these, with three on leave, accounted for seventeen out of a total of eighteen then on the roll. The membership of the brigade is at present four short of the authorized strength of twenty-two.

Immediately prior to the muster the brigade was called out. The alarm was caused by some fat that was being rendered down in a gas-stove catching alight in a dwelling some little distance from

the station; very little damage was done. Upon the return of the men to the station various drills were carried out in a fairly satisfactory manner.

I have to recommend that the question of transporting the men and appliances to fires should receive the early attention of your Board, as at present, with only a hand-drawn reel, the brigade arrive at a fire with only a portion of the requisite appliances—no ladders, hand chemicals, and other necessary gear can be carried on the reel, in addition to the fact that the men arrive on the scene of action in an exhausted state not fit to carry out the strenuous work usually required at such times. When the question of transport is settled the brigade should be provided with a 35 ft. extension ladder; also, the installing of a street fire-alarm system should be taken into consideration. The brigade should have not less than 2,000 ft. of first-class working-hose always available.

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

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

During the year nine calls were received, of which six proved to be actual fires within the district four more than during the preceding year. The attendance of members of the brigade at the nine calls averaged sixteen per call, or 72·7 per cent. of the total strength.

The fire loss amounted to £206, as against £148 for the previous year, an increase of £58.

The estimated cost of the brigade for the year 1914–15 is £612 6s. 9d., as compared with £881 3s. 5d. for 1913–14, a decrease of £268 16s. 8d.

DUNEDIN.

Inspections of the Dunedin Fire Brigades, their stations and equipment, have been made as follows: Dunedin City, 27th October and 14th and 16th February; South Dunedin, 17th February; Roslyn, 25th October and 16th February; Caversham, 17th February.

At my first inspections in October there were present at the inspection musters—City Brigade, the Superintendent, Deputy, thirteen permanent and six auxiliary firemen; Roslyn section, the Captain and seven firemen, or eight out of a total strength of fifteen; but as this inspection was held at very short notice and on a Saturday night the attendance may be regarded as fairly satisfactory.

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

SIR,— 2nd March, 1914.

An inspection of the Dunedin City Fire Brigade and its equipment was made on the 16th ultimo. There were in attendance the Superintendent, Deputy, fourteen permanent and nine auxiliary firemen: these, with three permanent men on leave, accounted for the full strength of the central station portion of the brigade. A surprise false alarm of fire was given from the street box at the Terminus Hotel at 8.58 p.m. In response two motors arrived from the central station at 8.59.17 p.m., and the first water was shown at 9.0.35 p.m., or 2 minutes 35 seconds from the time the alarm was given—a satisfactory result. The station, appliances, and gear are in good order and condition.

The auxiliary sections of the brigade were inspected as follows:—

Roslyn: At the Roslyn Woollen-mills, at 7.30 p.m. on the 16th. There were present the Captain, Lieutenant, and nine firemen, or eleven out of a total strength of fifteen. Various wet drills were carried out on the mill premises from the city main and from the private fire service.

South Dunedin: At the reel-station, at 7.30 p.m. on the 17th. There were present the Captain, Lieutenant, and twelve firemen, which, with one absent, accounted for the full strength. An ordinary wet-drill practice was carried out in a satisfactory manner.

Caversham: At the reel-station. Present, the Captain, Lieutenant, and thirteen firemen, these representing the full strength. The ordinary practice or drill as performed here was not of a satisfactory description, but to some extent there is an excuse for the members of this section of the brigade insomuch that the local conditions are not such as to encourage them to maintain any great degree of efficiency: and the conditions in question, together with other cogent reasons, serve to illustrate the urgent necessity of erecting and equipping the prospective new substation to serve both the Caversham and South Dunedin districts.

Several defective nozzles were in evidence during the progress of the various wet drills, and they should be replaced by others of better design.

The fire connections on the water-mains, as also the hose, of the Roslyn Mills fire service are only 2 in. in diameter, and I would suggest your Board should represent to the proprietors the advantage of replacing the standpipes with screwed-outlet 2½ in. waterway ground hydrants, and the 2 in. with 2½ in. hose. I would also recommend to the consideration of your Board the question of replacing or converting the standpipes, couplings, and branches now in use in Dunedin, and which are of smaller waterway, to the 2½ in. standard gauge, corresponding to the present Roslyn equipment, or convert the whole to the round-thread or one of the approved instantaneous patterns.

A number of tests with the hydrant flow gauge were made in various parts of the city, and served to show that the scraping and cleaning of the mains has substantially increased the flow of water in pipes wherein the waterway proved to be seriously obstructed at the time when the previous tests were made in February, 1912; but the recent tests also disclosed some deficiencies in the reticulation—as, for instance, in Lancefield Street, Caversham, where there is a 2 in. main laid down to which standpipes are fixed having only 1½ in. risers to the hose-connections, with the result that at the top standpipe, although a pressure of 40 lb. was registered, the flow was practically useless. I understand it is proposed to replace the present 2½ in. main in Leith Street with one of 4 in., and in that connection I have to strongly recommend that the replacement should be with 6 in. piping, and further that any new mains laid down or replacements made in the business or congested portions of the city should never in any case be less than 6 in. in diameter.

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

As in my annual report for last year, I have again to call attention to the necessity for the better protection of the South Dunedin and Caversham portions of the city, and now that the Board have been empowered by an amendment to the Fire Brigades Act to raise a further loan this matter should receive attention at the earliest possible moment.

I understand that negotiations are now in progress with the object of providing adequate protection for the Harbour Board's property and waterfront. The installation of the new system of street fire-alarms has been completed throughout the city proper, and is working very satisfactorily.

The electric motor escape-ladder that has been on order for over twelve months has not yet been supplied by the manufacturer.

During the year 149 calls were received, of which eighty-eight proved to be actual fires occurring within the district, or twelve more than during the previous twelve months.

The fire loss amounted to £13,435, as against £18,572 for 1913, a decrease of £5,137.

The estimated cost of the brigade for 1914–15 is £7,000, the same amount as for 1913–14.

FEILDING.

Two inspections of the Feilding Fire Brigade and its equipment have been made; the first, on the 17th November, is covered by the following report forwarded to the secretary of the Board:—

SIR,— 25th November, 1913.

An inspection of the Feilding Fire Brigade and its equipment was made on the 17th instant, when there were present the Superintendent, Deputy, and nineteen firemen: these, with one on duty and two on leave, accounted for the full strength of the brigade—a satisfactory attendance.

Various drills were carried out in a satisfactory manner.

An analysis of the attendance of members of the brigade at fires throughout the year ended the 30th June last show that the average is not by any means a satisfactory one. After making a number of inquiries, I consider the result due in a great measure to the unsatisfactory nature of the alarm given. This fault will no doubt be remedied to some extent by the provision of a mechanical system of ringing the central station fire-bell. I understand the Board are in course of installing some such system, but I would again strongly recommend (see report dated the 27th December, 1912) that the bell in Manchester Street—practically useless where it is at present—should at once be removed and re-erected at the corner of Camden and Manchester Streets, or somewhere in that vicinity.

None of the ladders with which the brigade is at present equipped will reach the roofs of a number of the buildings in Feilding, and I would recommend that another 10 ft. 6 in. coupling ladder, of the same pattern as the three already in the possession of the brigade, should be obtained.

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

The second inspection was held on the 26th May, and at the inspection muster there were present the Superintendent, Deputy, and eighteen firemen: these, with one on duty and two on leave, accounted for twenty-three out of a total strength of twenty-four—a satisfactory attendance. Various reel, hose, and ladder drills were carried out in a fairly satisfactory manner. I noticed that some of the street hydrants were completely covered over with vegetation. More attention should be paid to keeping the hydrants clear. 500 ft. of new hose should be provided.

A turbine, working from the town pressure, has been installed for ringing the fire-bell at the central station, and is, I understand, working satisfactorily.

The brigade received fourteen calls, nine of which proved to be actual fires occurring within the district, or four less than during the previous twelve months. The attendance of members of the brigade at thirteen calls, No. 7 omitted, averaged 14·15 per call, or 63·1 per cent. of the total strength.

The fire loss for the year amounted to £756, as against £5,741 for the preceding year, a decrease of £4,985.

The estimated cost of the brigade for 1914–15 is £683 11s., as compared with £612 10s. for 1913–14, an increase of £71 1s.

GISBORNE.

Two inspections of the Gisborne Fire Brigade and its equipment have been made—viz., the 7th and 8th January, and the 1st July.

The following reports, forwarded to the secretary of the Board, cover both inspections—

SIR,— 14th January, 1914.

An inspection of the Gisborne Fire Brigade and its equipment was made on the 7th and 8th instant. At the muster held on the evening of the 8th there were present the Superintendent, Deputy, and nineteen firemen, these accounting for twenty-one out of a full strength of twenty-two then on the roll

I am pleased to report that the motor appliance is now being maintained in first-class order, and the inspection turnout and subsequent run was highly satisfactory, with the exception that where the car stands in the engine-house the floor has a slope downward and backward from the door; also the weight of the car causes the back wheels to sink into the asphalt, thus throwing a very heavy initial pull on the engine. This should be remedied in the manner explained.

When getting a delivery to work opposite the English Church in Palmerston Road it took the members of the brigade some nine minutes to locate the street hydrant; there was a thick layer of dust covering the street, and it was ultimately discovered that some person had shifted the hydrant-indicator to a point 10 ft. out of line. This is a dangerous proceeding, and your Board should take some action in the matter.

Practice with the chemical engine was carried out satisfactorily, and instruction was given in the use of the new telescopic ladder, and in this last connection I note that at present the ladder cannot be carried on the motor owing to the engine-house door being too low.

The new couplings are not in accordance with the Government patterns, but this, I believe, was due to a misunderstanding I tested three 100 ft. lengths out of the 1,000 ft. of new hose, and, although the water-pressure available for the test, after shutting off the Whataupoko supply, only amounted to 102 lb., the result was very unsatisfactory, and it is to be regretted that your Board did not follow my recommendation in the matter (see report dated the 1st May).

I would recommend your Board should make arrangements with private persons for the use of their telephones for fire-alarm purposes on the lines as fully explained to the Chairman of the Board, Superintendent, &c., whilst I was in Gisborne. By adopting this suggestion a fairly good substitute will be provided at a very small cost until such time as an up-to-date fire-alarm system can be installed.

Readings of the gauge at the fire-brigade station show a very low average pressure throughout the daytime. I note the Borough Council have since prohibited the watering of gardens with hose, &c., but careful arrangements are necessary for the prompt concentration of pressure in case of fire.

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

SIR,— 1st July, 1914.

An inspection of the Gisborne Fire Brigade and its equipment was made on the 1st instant, and following is my report in that connection.

At the inspection muster there were present the Superintendent, Deputy, sixteen firemen, and one cadet: these, with three on leave, accounting for twenty-two out of a total strength of twenty-three on the roll.

A series of wet and dry motor, ladder, and hose drills were carried out in a satisfactory manner, but it was apparent that the motor-driver requires more practice in the handling of the motor-machine.

The motor-car and other plant is being maintained in good order and condition.

The brigade should be provided with another hand-pump fitted with leather hose.

I note there is a substantial increase in the water-pressure, the gauge registering 130 lb. at 8 p.m. on the 1st, and the same again at 11 a.m. on the 2nd.

I would again direct the attention of your Board to the urgent necessity of erecting a new fire-station. As pointed out on several previous occasions, the brigade cannot be expected to obtain efficient results under the present unsatisfactory conditions.

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

The fire loss in Gisborne for the past year is high, and in comparison with the other fire districts comes fifth in order in respect to the number of fires, and third in order in the fire loss. In my opinion, the higher ratio of loss is not due to any laxity or inefficiency on the part of the personnel of the brigade, but to the want of better equipment, and particularly due to the long-delayed erection of a new central fire-station providing accommodation for men to sleep on the premises, and also to the want of means for calling the brigade in case of fire. In respect to this last steps are now being taken, by means of utilizing the telephone system, that will to some extent overcome the difficulty until such time as the Board can see their way to install a proper street fire-alarm system.

During the year the brigade received forty-five calls, of which twenty-two proved to be actual fires within their district, six less than during the previous twelve months. The attendance of members of the brigade at forty-two general alarms average 17·74 per alarm, or 79·7 per cent. of the full strength.

The fire loss amounted to £9,917, as against £5,940 for 1913, an increase of £3,977.

The estimated cost of the brigade for 1914–15 is £763, as compared with £789 10s. 3d. for 1913–14, a decrease of £26 10s. 3d.

GREYMOUTH.

Two inspections of the Greymouth Fire Brigade, its stations and equipment, have been made—viz., the 4th December, 1913, and the 21st April, 1914.

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

Various drills were carried out, and the steam fire-engine was taken to the Cowper Street Bridge; the suction-hose having been put in good order, it worked satisfactorily.

The second inspection is covered by the following report forwarded to the secretary of the Board:—

SIR,— 1st May, 1914.

An inspection of the Greymouth Fire Brigade and its equipment was made on the 21st ultimo, and following is my report in that connection:—

At the inspection muster there were present the Superintendent, Deputy, and fourteen firemen these, with three on leave, accounting for nineteen out of a total strength of twenty then on the roll.

Various drills were carried out in a fairly satisfactory manner.

The new branches and nozzles as previously recommended should be supplied have not yet been obtained, and 600 ft. of new hose with couplings are required. A night light is required in front of the station, and should be placed immediately over the fire-alarm; also, the brigade should be provided with a plan of the water-reticulation, corrected up to date, and hung up in the station.

If the 4 in. main were extended from Swift Street along Blake Street to its northern extremity it would provide a fair amount of protection for the greater portion of the property in the Blaketown district that at present is entirely without any protection, and I would suggest the Borough Council should be urged to carry out that work.

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

The attendance at both inspections was very satisfactory, and the stations and plant are maintained in good order.

A 4 in. main has been laid out to the extremity of Preston Road. A small reel-shed has been built and equipped with hose, standpipe, &c., for use in that neighbourhood.

During the year nine calls were received, of which six proved to be actual fires, the same number as occurred during the previous year. The attendance of members of the brigade at eight calls, No. 7 omitted, average 13·75 per call, or 68·75 per cent. of the total brigade strength.

The fire loss for the year amounted to £1,200, as against £3,376 for 1913, a decrease of £2,176.

The estimated cost of the brigade for 1914–15 is £864, as compared with £964 for 1913-14, a reduction of £100.

HAMILTON.

Two inspections of the Hamilton Fire Brigade and its equipment have been made—viz., 20th January, 1913, and 7th May, 1914.

The following reports, forwarded to the secretary of the Board, cover both inspections:—

SIR,— 29th January, 1914.

An inspection of the Hamilton Fire Brigade and its equipment was made on the 20th instant, when there was present the Superintendent, Deputy, fifteen firemen, and one messenger, or eighteen all told, these representing the full strength of the brigade. I noted that some of the men were without uniform and helmets, and others had no axes and pouches.

Various tests of the water-pressure were carried out, and on the 6 in. main in Victoria Street a standing pressure of 39 lb. was recorded. With 100 ft. of hose and a $\frac{7}{8}$ in. nozzle the flowing pressure registered at the stand-pipe was 25 lb., and at the nozzle 20 lb. The various tests proved that the volume, and in particular the pressure, are quite inadequate for the efficient fire-protection of the town; but in reference to the volume, I understand, an 8 in. main is shortly to be laid down from the reservoir and along Victoria Street.

I have generally to confirm my previous report, addressed to the Town Clerk, but now in the possession of your Board, dealing with the fire-protection of Hamilton, the main features of which, with some small variations set out below, are as follows:—

Fire-stations.—The proposed site in Garden Place should at once be acquired, and the erection of a central station proceeded with, the building to contain, as a minimum, engine-house, watch-room, recreation or social hall, workshop, one set of married quarters, sleeping-accommodation for six firemen, and combined kitchen and dining-room; also a combined skeleton-framed bell, hose-drying and drill tower should be erected. With the provision of a motor appliance the previously suggested substation at the junction of Victoria, Ulster, and Liverpool Streets will not be required, but it will still be necessary to provide a substation for the better protection of the Hamilton East - Claudland district.

Equipment.—A combined hose, ladder, and pump motor fire appliance to be provided for the central station. Ladder to be of the two-wheeled trussed type, to reach, say, a perpendicular height of 50 ft. when fully extended, and fitted with instantaneous detachable gear. Pump to have a capacity of 300 to 400 gallons per minute, and capable of pumping up to and maintaining a pressure of 180 lb. A light-running hand-drawn hose-reel to be placed in the suggested substation. A street fire-alarm system to be installed.

Brigade.—The numerical strength of the brigade to be increased to twenty-two—viz., sixteen to be attached to the central-station district and six to the Hamilton East district. Also, a permanent man to be appointed who would reside at the central station, act as caretaker, keep the gear and appliances in good order, and drive the proposed motor appliances.

Detailed information in reference to any of the foregoing recommendations will be furnished when required.

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

SIR,— 30th May, 1914.

An inspection of the Hamilton Fire Brigade and its equipment was made on the 7th instant.

At the inspection muster there were present the Superintendent, Deputy, twelve firemen, and one messenger: these, with two on leave, accounted for seventeen out of the total strength of eighteen.

A series of reel and hose drills were performed under the direct supervision of the Superintendent, on the lines as carried out at the ordinary monthly practises, and the methods adopted might be

considerably improved, as pointed out at the time, and particularly in the way of conducting the practises in different parts of the town, thus familiarizing the members of the brigade with the various localities, buildings, positions of the street fire-hydrants, &c.

I noticed that whilst in general throughout the borough the hydrant-indicators are mostly in place, and maintained in good order; they are entirely missing along the business portion of Victoria Street, and should be put in place.

Some of the branches require placing on a mandril and straightening.

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

A site in Garden Place for the erection of a new central fire-station has been purchased from the Borough Council, and tenders have been invited for the supply of a combined hose-ladder and pump motor fire appliance.

Since the 7th August, 1913, on which date the Fire Board came into existence, the brigade has received nine calls, of which five proved to be for actual fires. The attendance of members of the brigade at eight calls, No. 8, omitted, averaged 9·25 per call, or 51·4 per cent. of the total strength.

The fire loss amounted to £1,155.

The estimated cost of the brigade for the year 1914–15 is £850, as compared with £300 for a portion of the year 1913–14, an increase of £550.

HASTINGS.

Two inspections of the Hastings Fire Brigade and of the Fire Police Corps, with their equipments, have been made—viz., 15th October, 1913, and 7th April, 1914. The two following reports cover the respective inspections:—

SIR,— 6th November, 1913.

An inspection of the Hastings Fire Brigade and of the Fire Police Corps was held on the 15th ultimo, when there were present: Fire brigade—Superintendent, Deputy, seventeen firemen, and two messengers; these, with four on leave, accounted for the full strength of the brigade. Fire police corps—Captain, two Lieutenants, and eight constables, which, with three on leave, accounted for fourteen out of a total strength of fifteen then on the roll.

Various drills, wet and dry, were carried out by the brigade in a satisfactory manner, as also were those performed by the fire police corps.

With a view of stopping corrosion of the fire-engine boiler, as suggested by the Superintendent, the water should be run out and the air allowed to circulate; but arrangements should be made so that the boiler can be quickly refilled in case of emergency, such as anything going wrong with the high-pressure water-supply or in the event of a dangerous outbreak of fire.

The annunciator relay in the watch-room requires fitting with a close-fitting cover to protect it from dust and prevent interference.

The glass in the alarm-box is too thick: 16 oz. glass is quite heavy enough for the purpose.

Notices should be posted in the watch-room and engine-house strictly prohibiting any one other than the authorized persons touching any of the appliances, particularly the electrical fittings.

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

SIR,— 17th April, 1914.

Following upon my inspection of the Hastings Fire Brigade and the Fire Police Corps, with their equipments, on the 7th instant, herewith I have the honour to submit the following report for the consideration of your Board.

At the inspection muster there was present: Fire brigade—Superintendent, Deputy, eighteen firemen, and two messengers; these, with two on leave, accounting for the full strength of the brigade. fire police corps—Captain, two Lieutenants, and ten constables; these, with two on leave, accounted for the full strength of the corps. Satisfactory attendances in both cases.

Instructions were given for the brigade to get three deliveries to work in Eastbourne Street, and all three jets were at work in 1 minute 57 seconds from the time the call was given. Various other drills were carried out by both bodies in a satisfactory manner.

In view of the fact that the high-pressure water-supply is practically dependent upon the one carrying-main, I consider the Borough Council have committed a most injudicious action in filling up the manholes from which the water-supply for the fire-engine was obtained. The greater the static head the more the reticulation is liable to accidents, and a fracture might occur at any time, particularly with a pressure ranging as high as 140 lb., leaving the town unprotected for an indefinite period. As an instance very much in point I enclose cuttings from Christchurch papers, which please return to me when finished with. I have to suggest that your Board should make a strong protest in this matter, and request the Borough Council to reopen the manholes, or, at the very least, two of them, the one at the railway-crossing and the other at the junction of Heretaunga and Warren Streets.

Also, I have to recommend that your Board should give early consideration to the following matters: First, the appointment of a permanent man to act as caretaker and motor-driver. The cottage at the rear of the station might be repaired and let rent-free to one of the married firemen in consideration of his acting as a relief to the permanent man. Second, the provision of a properly-constructed motor fire appliance. It must by now be apparent to your Board that the present system of hiring a motor to attend at the station when an alarm is given is not satisfactory. Third, the installation of a street fire-alarm system.

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

The following letter, forwarded to the secretary of the Board, explains itself:—

SIR,— 22nd December, 1913.

I am in receipt of a circular issued on behalf of the Hastings Fire Board wherein they offer for sale their steam fire-engine.

I wish to respectfully inform your Board that in disposing of the said engine they are committing a most injudicious action, and quite opposed to the recognized system of fire-protection generally adopted for towns wherein local conditions are similar to those prevailing in Hastings.

I would strongly recommend your Board to reconsider their decision in the above respect and to retain the engine as a stand-by. In any case, I do not think they will be able to obtain anything like the price they are asking for it. I have, &c.,

THOS. F. HUGO,
Inspector of Fire Brigades.

In reply to the above letter, the secretary informed me that the Borough Council had filled in the street manholes at which it was usual to get the engine to work, and consequently the engine was of very little further use to them. The Board have since made two applications to the Council to reopen the manholes, but up to the present with no result.

The brigade received seventeen calls, of which fourteen proved to be actual fires within the district, or two less fires than during the previous twelve months. The attendance of members of the brigade at sixteen calls, No. 9 omitted, averaged 18·8 per call, or 75·2 per cent. of the full strength. The attendance of the fire police at fifteen calls, Nos. 5 and 9 omitted, averaged 7·73 per call, or 51·5 per cent. of their total number.

The fire loss amounted to £6,402, as against £3,208 for 1913, an increase of £3,194.

The estimated cost of the brigade for 1914-15 is £1,105, as compared with £1,146 for 1913-14, a decrease of £41.

HAWERA.

Three visits have been paid to Hawera—viz., two fire inspections of the brigade and its equipment, 7th October, 1913, and 3rd February, 1914, respectively; and on the 25th March, 1914, for the purpose of testing the improved water supply and pressure as provided by the newly erected water-tower. The following reports, forwarded to the secretary of the Board, respectively cover the three visits:—

SIR,— 26th February, 1914.

An inspection of the Hawera Fire Brigade and its equipment was made on the 3rd instant.

At the inspection muster there were present the Deputy Superintendent, fourteen firemen, and two messengers, or seventeen out of the total strength of twenty-six. Of the remainder, three were on leave, and the Superintendent, with five men, was attending the Auckland Fire Brigades competitions. I found that arrangements had been made for other firemen to sleep at the fire-station in the place of those temporarily absent in Auckland.

Various drills were carried out in a fairly satisfactory manner, but more attention should be given to the "washering" of the various appliances, such as the stand-pipes, branches, &c. Neglect to this detail has the result of lessening the water-pressure (which at present is not too satisfactory), and in some cases seriously so.

The second hand-pump should be carried on the Wilson Street hose-reel. I noticed that some of the street fire-hydrants are without indicators.

The members of the brigade should be provided with hand-axes and pouches.

I have, &c.,

THOS. T. HUGO,
Inspector of Fire Brigades.

SIR,— 2nd April, 1914.

Herewith I have the honour to submit for the consideration of your Board my report in connection with the testing, on the 25th ultimo, of the now completed scheme as carried out by the Hawera Borough Council for the provision of a more efficient water-supply for fire-protection purposes.

The principal features of the scheme as completed are—A water-tower with an upper reservoir having a storage capacity of 100,000 gallons of water, and a lower reservoir with a capacity of 50,000 gallons; an electrically driven direct-coupled pump having a pumping-capacity of 300 gallons per minute delivering into the upper reservoir, with suction connections to the lower reservoir, the town reticulation, and also, as a reserve supply, to the public baths containing 110,000 gallons of water; a 10 in. main for fire purposes only laid from the tower along High Street as far as Victoria Street, and connected at several points with the borough reticulation. The altitude of the upper reservoir floor above the tower base-level is 131 ft. = 56·74 lb. The reservoir when full has a depth of 21 ft. of water, or 152 ft. = 65·84 lb., giving a mean static head of 141·5 ft. = 61·27 lb.

The various deliveries were got to work from different points in High and Princes Streets, the gravitation supply having been previously concentrated in the centre section of the town, and the readings for the first test were taken from gauges on a standpipe shipped on the 10 in. main in High Street opposite the Council Chambers.

The first column of pressures is taken as from the gravitation supply only, the second column with the water-tower supply turned on. Standing pressures: Gravitation only, 58 lb.; with tower supply on, 66 lb. Pressures taken during flow of water: first delivery, 100 ft. hose and 1 in. nozzle—gravitation, 36 lb.; with tower supply, 52 lb.: second delivery, 200 ft. hose and ¾ in. nozzle—

ravitation, 26 lb.; with tower supply, 51 lb.: third delivery, 100 ft. hose and ¾ in. nozzle—gravitation, 21 lb.; with tower supply, 51 lb.: fourth delivery, 250 ft. hose and ¾ in. nozzle—gravitation 18 lb.; with tower supply, 51 lb. Two more deliveries with ⅝ in. nozzles each were got to work with the tower supply on and made very little difference in the readings.

The second test was carried out as follows: The standing pressure was taken on the 6 in. main in High Street nearly opposite Union Street, and registered 57 lb. The signal was then given to turn on the tower supply, and in 70 seconds the standing pressure had risen to 64 lb. Deliveries were then got to work, the first 100 ft. of hose and 1 in. nozzle off the 6 in. in High Street, the second 100 ft. hose and ¾ in. nozzle off the 4 in. in Union Street, the third 100 ft. hose and ¾ in. nozzle off the 10 in. in High Street, and the fourth 100 ft. hose and ¾ in. nozzle off the 10 in. in High Street. The pressure was taken as each delivery was got to work, and from each stand-pipe whilst all four were at work, with the result that with the four deliveries discharging an aggregate quantity of 443 gallons per minute the lowest pressure recorded was 58 lb.

As recommended in my report, dated the 12th June, 1912, a reflux valve should be fixed on the supplying-main at a point in Glover Road; then, in the event of a break in the ten-mile length of the 10 in. carrying-main, and should a fire occur at the same time, the whole of the water stored in the town would be available as follows: Storage in upper reservoir of tower, 100,000 gallons; in lower reservoir, 50,000 gallons; in public baths, 110,000 gallons: total, 260,000 gallons, but allowing 10,000 gallons for defective suction, &c., say a total of 250,000 gallons. With the pump delivering into the upper reservoir 300 gallons per minute from the reserve storage of 160,000 gallons, and with the four deliveries previously mentioned discharging an aggregate of 443 gallons per minute, or, allowing 57 gallons for loss by leakage, &c., say 500 gallons, the 100,000 gallons in the upper reservoir would be depleting at the rate of 200 gallons per minute; but a supply discharging at the rate of 500 gallons per minute would be maintained for over eight hours at a mean static pressure of 61·27 lb., with a minimum pressure of 56·74 lb. Should it be necessary to get two more deliveries to work, say, with a ⅝ in. nozzle each, the six deliveries would then be discharging an aggregate of approximately 600 gallons per minute, and the supply would be maintained for seven hours.

With the fixing of the reflux valve as recommended I am of opinion that the scheme as completed will provide a reasonably efficient and reliable water-supply for fire-protection purposes under the existing local conditions in Hawera.

A matter to which I consider it necessary to direct the attention of your Board is the necessity of making absolutely reliable arrangements with the Borough Council whereby immediately an alarm of fire is given the water-tower supply shall at once be made available.

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

As will be seen in the report dated 2nd April, the Borough Council have practically completed their scheme for the improvement of the water-supply and pressure for fire-protection purposes, and under present local conditions have made reasonably safe provision in that direction.

The Board have under consideration the purchase of a motor-car and the installation of a street fire-alarm system.

Four calls were received, of which three proved to be actual fires—one less than last year. The attendance of brigadesmen at three calls, No. 1 omitted, averaged nineteen per call, or 80·16 per cent. of the total membership.

The fire loss for the year amounted to £881, as against £1,772 for the preceding year, a decrease of £891.

The estimated cost of the brigade for this year, 1914–15, is £767, as compared with £617 16s. for 1913–14, an increase of £149 4s., due to making provision towards the purchase of a motor appliance.

HOKITIKA.

Two visits were paid to Hokitika—viz., 5th December, 1913, and 22nd April, 1914.

At my first visit in December an inspection of the stations and equipment was made, when everything was found to be in good order. The boiler of the fire-engine was then down for inspection purposes, and certain repairs required by the Government inspecting officer were in course of being effected.

At the second inspection muster there were present the Superintendent, Deputy, and seventeen firemen; these, with six on leave, accounting for twenty-five out of a total strength of twenty-seven then on the roll.

Various hose, reel, and ladder drills, both wet and dry, were carried out in a satisfactory manner.

During the year nine calls were received, seven more than during the previous twelve months, all proving to be actual fires, and of which number no less than four were set down as due to incendiarism. The attendance of members of the brigade at eight calls, No. 3 omitted, averaged 21·38 per call, or 73·7 per cent. of the full strength.

The fire loss for the year amounted to £125, as against £22 for 1913, an increase of £103.

The estimated cost of the brigade for 1914–15 is £433 6s. 8d., the same amount as for 1913–14.

LAWRENCE.

Two inspections of the Lawrence Fire Brigade and its equipment have been made—viz., 23rd October, 1913, and 12th February, 1914.

At my first inspection in October there were present the Superintendent, Deputy, and six firemen: these, with one on leave, representing the total number then on the roll.

Various wet and dry drills were carried out in a satisfactory manner. The station and appliances are maintained in good order.

The second inspection is covered by the following report, forwarded to the secretary of the Board:—

SIR,— 26th February, 1914.

An inspection of the Lawrence Fire Brigade and its equipment was made on the 12th instant.

At the inspection muster there were present the foreman and seven firemen, which with the Superintendent and Deputy on leave, accounted for the full strength of the brigade.

Various experiments were carried out along Irvine Street, with the object of finding out what pressure and flow was to be obtained from the 3 in. water-main there. It was found at the last hydrant, with 100 ft. of hose and a § in. nozzle, that the jet was projected only some 12 ft.—useless for fire-extinction work. The flow gradually increased on approaching Ross Place, and there is no doubt that the waterway of this main along Irvine Street is badly obstructed either by the formation of nodules or silt, or both, and it should be scraped and scrubbed, or, as it is old and only 3 in. in diameter, replaced with 4 in. piping and branches therefrom laid up Carlisle and Anan Streets, and where at present there is no protection for a number of dwellings.

I have also to recommend that a two-cylinder (25 gallons each) chemical engine be purchased, a small shed erected on the crest of the hill in Peel Street just above the junction of Lismore and Oban Streets, and the engine stationed there. From that position there is a downhill run in every direction, and, there being no water available on the higher levels, consequently no protection for the numerous houses situated thereon, a chemical engine should prove of valuable assistance.

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

During the year two fires have occurred, one more than during the previous twelve months. The attendance of members of the brigade at the two fires average 5·5 per call or 50 per cent. of the full strength.

The fire loss amounted to £142, as against £400 for 1913, a decrease of £258.

The estimated cost of the brigade for 1914–15 is £60, as compared with £75 for 1913–14, a decrease of £15.

MAORI HILL.

Two inspections of the Maori Hill Fire Brigade, its stations and equipment, have been made—viz., 24th October, 1913, and 13th February, 1914.

At the first inspection there were present the Superintendent, Deputy, and eight firemen: these, with two on duty and three on leave, accounted for only fifteen out of a total strength of nineteen. There was present at the second inspection Superintendent, Deputy, and thirteen firemen; and these, with one on duty and three on leave, accounted for the full strength of the brigade.

On both occasions various wet and dry drills were carried out in a satisfactory manner.

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

During the time of my first visit the street fire-alarm circuit was out of order for about seven minutes, the indicator repeatedly showing "open circuit."

No fires occurred in the district during the past year. Two calls were received and attended by the brigade; one proved to be for a fire outside the district, and the other was a malicious false alarm.

The estimated cost of the brigade for the year 1914–15 is £200, the same amount as for the year 1913–14.

MASTERTON.

Two inspections of the Masterton Fire Brigade and Fire Police Corps, their stations and equipment, have been made—viz., 27th November, 1913, and 25th June, 1914.

At the first inspection in November there were present: Fire brigade—Superintendent, Deputy, and eighteen firemen, these representing the then total strength; fire police—Captain, two lieutenants, and seven constables: these, with three on leave, accounting for thirteen out of a total strength of fifteen. Various drills were carried out by both bodies in a satisfactory manner.

The second inspection is covered by the following report forwarded to the secretary of the Board:—

SIR,— 1st July, 1914.

An inspection of the Masterton Fire Brigade and of the Fire Police Corps, with their respective equipments, was held on the 25th ultimo, and following is my report in that connection:—

At the inspection muster there were present: Fire brigade—Superintendent, Deputy, and nineteen firemen: these, with one on leave, accounted for the full strength of the brigade. Fire police—Captain, three lieutenants, and seven constables: these, with two on leave, accounted for thirteen out of a total strength of fourteen. Satisfactory attendance in both cases.

A series of wet and dry drills was carried out by the brigade in a satisfactory manner, except that steam was got up very slowly on the fire-engine, and considerable difficulty was experienced in maintaining a sufficient working-head of steam. This was due to the use of a bad quality of coal.

The fire police carried out a number of ambulance and rescue exercises in a satisfactory manner.

The station and plant are maintained in good order. The brigade requires 500 ft. of new hose.

I have, &c.,

THOS. T. HUGO,

Inspector of Fire Brigades.

A special visit was paid to Masterton on the 11th September, for the purpose of conferring with the Board in connection with the tenders for the supply of a motor fire appliance. At the request of the Board a report bearing upon the proposed improvement of the borough water-supply was furnished, as follows:—

SIR,— 17th September, 1914.

In compliance with the request contained in your letter dated the 12th instant, and in accordance with the sanction of the Minister of Internal Affairs thereto, I have the honour to forward herewith a report relating to the proposed scheme for the improvement of the water-supply for fire purposes in your borough.

I have carefully considered the scheme as set out in a copy of the *Wairarapa Age* dated the 16th July last, together with certain modifications of the proposal as explained to me by His Worship the Mayor during my visit to Masterton on the 11th instant. Briefly stated, the suggested improvements, as I understand them, are as follows: First, the laying-down a second carrying-main 12 in. diameter from the reservoir to the junction of Renall and Pownall Streets. Second, to lay an 8 in. (reducing to 6 in.) main from Renall Street southward to Short Street, thence along High Street, and connecting with the 6 in. in Queen Street; to lay an 8 in. main from Renall Street northward along Pownall Street to Cole Street, thence continuing with a 6 in. along Villa, Wrigley, and King Streets, and connect with 6 in. in Queen Street. Third, to replace present 3 in. with 4 in. mains. Fourth, connecting up dead-ends and completing circuits. Fifth, giving a constant pressure of 80 lb. in Queen Street.

At first sight the 6 in. main in Queen Street would not appear to afford sufficient protection for the larger risks there; but as there is on the one side Chapel Street, having a 6 in. main that runs parallel at a distance of only 5 chains, with ample means of through communication, and on the other side, at the same distance, Dixon Street, having a 4 in. main, and as an auxiliary water-supply for the engine is available from the different wells, the provision may be considered sufficient at present.

Sooner or later large business premises will be erected in the neighbourhood of the railway-station and along Pine Street, and both in view of present conditions and future developments I would strongly recommend that the proposed new 8 in. main to run north should be of 10 in. in diameter instead, from Renall Street along Pownall Street and Villa Street as far as Lincoln Road; thence a 6 in. continuance, as suggested, to Wrigley and King Streets. The proposed scheme would then, in my opinion, in conjunction with the provision by your Board of a motor pump, provide reasonable protection for a considerable time to come, and in such a manner that will allow of future extension or laying-down in certain localities of pipes of larger diameter at comparatively small cost.

I have, &c.,

THOS. T. HUGO,

Inspector of Fire Brigades.

A motor fire appliance is now on order. The accepted tender provides for a 60 h.p. machine fitted with a pump having a delivery capacity of 400 gallons per minute, and to carry a 40 ft. extension ladder.

The Board have decided to amalgamate the fire brigade and fire police corps in one body, and arrangements are now being made to give effect to that direction.

During the year eighteen calls were received, of which number six proved to be actual fires within the district. The attendance of members of the brigade at the nine calls for which a general alarm was sounded averaged fifteen per call, or 65·2 per cent. of the full strength. The attendance of fire police average nine per call, or 64·3 per cent. of the total strength.

The fire loss for the year amounted to £3,203, as against £3,790 for 1913, a decrease of £587.

The estimated cost of the brigade for 1914–15 is £1,151 1s. 4d., as compared with £1,150 for 1913–14, an increase of £1 1s. 4d.

MILTON.

Two inspections of the Milton Fire Brigade and its equipment have been made—viz., 22nd October, 1913, and 11th February, 1914.

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

SIR,— 13th November, 1913.

An inspection of the Milton Fire Brigade and its equipment was made on the 22nd ultimo, when there were present the Superintendent, Deputy, and twelve firemen: these, with one on leave, accounted for the full strength of the brigade—a satisfactory attendance.

It was stated that, on account of some unascertained fault, it had been found that the manual labour involved in working the recently purchased semi-rotary pump was so severe that it would be impossible to utilize, at a fire, the said pump to any extent, if at all. The pump was taken to the trough, where it worked in a satisfactory manner. As a further test it was then taken to the stream at the rear of the woollen-mills, and it worked satisfactorily for the first few minutes, but the action

gradually seized until it became almost impossible to move the brakes. An examination at the station afterwards showed that the slides had become clogged with sand and grease. Certain suggestions were made to the Superintendent, and it was arranged that he should make a further trial of the pump at a later date. Should your Board decide, in the event of the said trial proving unsatisfactory, to purchase a further pumping appliance, I enclose herewith catalogues illustrating a number of different patterns of small-capacity manual fire-pumps, some of them obtainable at very reasonable cost. I shall be glad if you will return the catalogues when finished with. In the meantime the brigade should be provided with a couple of hand-pumps, London Fire Brigade pattern.

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

At the second inspection there were present the Superintendent, Deputy, seven firemen, and one messenger: these, with one on leave, accounting for eleven out of a total strength of twelve then on the roll.

The chemical-engine was got to work with satisfactory results: the manual pump was also got to work. In reference to the defective pump mentioned in my report dated 13th November, after further inquiry I consider the seizing of the pump is most probably due to foreign matter getting into and heating the working parts, thus causing unequal expansion of the metal.

No improvement has yet been made in the supply of water for fire-extinction purposes in the borough.

The station and plant is maintained in good order.

Three fires have occurred in the district, one more than during the previous year. The attendance of brigadesmen at three calls averaged 8·7 per call, or 58 per cent. of the full strength.

The fire loss amounted to £1,125, as against £1,301 for 1913, a decrease of £176.

The estimated cost of the brigade for 1914–15 is £100, as compared with £120 for 1913–14, a decrease of £20.

NEW PLYMOUTH.

Two inspections of the New Plymouth Fire Brigade, its stations and equipment, have been made —viz., 8th October and 4th February; also an inspection of the Fitzroy section of the brigade was held on the 9th October.

At the first inspection there were present the Superintendent, Deputy, and twenty firemen: these, with one on leave, accounted for twenty-three out of the twenty-four then on the roll. At the inspection of the Fitzroy section there were present the Captain, Lieutenant, and fourteen firemen, these representing the full authorized strength; both musters showing a very satisfactory attendance.

In both cases a series of ordinary monthly drills, wet and dry, were carried out in a satisfactory manner. The following report, forwarded to the secretary of the Board, covers the second inspection:—

SIR,— 26th February, 1914.

An inspection of the New Plymouth Fire Brigade and its equipment was made on the 4th instant.

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

Various drills were carried out in a satisfactory manner.

I have to recommend that a system of private telephone fire-alarms be adopted, on the lines as fully explained to the Superintendent, &c., at the time of my visit. The proposed system can be established at a very small cost, and will in the meantime serve as a substitute for and until conditions allow of the installation of a proper street fire-alarm system.

Whilst in New Plymouth I saw the motor-car recently purchased for the use of the brigade. The car was then still in the hands of the body-builders, and I had no opportunity of testing its efficiency. Whilst I cannot say that the car, lightly loaded and with careful competent handling, will not to some extent prove satisfactory, I consider your Board has made a mistake—this referring to engine-power only and not to any particular make or pattern of machinery—in not purchasing a more powerful car—that is, one of 30 h.p., as previously suggested. The fact of having provided the brigade with the light car in question should not be the cause of any delay in procuring a more suitable fire brigade motor appliance, and in that connection I have to recommend that fresh tenders be called for: those received are now too old for acceptation.

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

Satisfactory financial arrangements having at last been made, tenders have now been invited for the erection of the first portion of a new central station.

During the year nine calls were received, of which seven proved to be actual fires, or two less than during the previous year. The attendance of members of the New Plymouth section of the brigade at eight calls, No. 8 omitted, averaged 17·12 per call, or 68·48 per cent. of the full membership.

The fire loss amounted to £5,383, as against £13,768 for 1913, a decrease of £8,385.

The estimated cost of the brigade for 1914–15 is £1,098 1s. 3d., the same amount as for 1913–14.

OAMARU.

Two inspections of the Oamaru Fire Brigade, its station and equipment, have been made—viz., 21st October, 1913, and 10th February, 1914.

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

SIR,— 6th November, 1913.

An inspection of the Oamaru Fire Brigade and its equipment was made on the 21st ultimo, when there was in attendance the Superintendent and nine firemen: these, with three on duty and three on leave, accounted for the full strength of the brigade then on the roll.

Various drills were carried out in a satisfactory manner.

For the better protection of the large risk known as the Crown Roller Flour-mill the Borough Council should be requested to place a fire-hydrant on the 3 in. main in the right-of-way leading to Meek's Bridge, off Thames Street. By doing so it will on one delivery save nearly 200 ft. of hose, with the consequent large loss in pressure due to friction in unlined canvas hose.

I would again bring under the notice of your Board the necessity for erecting a small hose-reel shed and bell towards the north end of Thames Street, with an equipment to consist of a reel, hose, branch, stand-pipe, and hand-pump; also, a ladder should be placed there.

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

SIR,— 27th February, 1914.

An inspection of the Oamaru Fire Brigade and its equipment was made on the 10th instant. At the inspection muster there were present the Superintendent, Deputy, and fourteen firemen, these representing the full strength of the brigade.

Various wet drills were carried out in a satisfactory manner.

The time has now arrived for the appointment of a permanent caretaker at the central station. The appointment should be made on the lines as previously fully explained to the Chairman and other members of your Board.

I have again to bring under the notice of your Board the advisability of erecting and equipping a small hose-reel station somewhere in the neighbourhood of the north end of Thames Street, and when established some of the residents in the vicinity should be given instructions by one of the officers of the brigade in the first use of the appliances placed there.

The fire that took place on board the steamer "Flora" when lying at the wharf has emphasized the necessity of making some provision for dealing with ship fires occurring in the harbour, and to that end your Board might with all propriety represent to the Harbour Board the advisability of having a 4 in. main laid to run from the main of the same size at present laid down on the railway property to the sea end of Home's Wharf. Also, they might be asked to defray half the cost of providing a smoke-helmet.

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

During the year fourteen calls were received, of which twelve proved to be actual fires within the district, or five more than occurred during the previous twelve months. The attendance of members of the brigade at the fourteen calls averaged 12·57 per call, or 78·56 per cent. of the full strength.

The fire loss for the year amounted to £2,661, as against £2,675 for 1913, a decrease of £14.

The estimated cost of the brigade for 1914–15 is £370, as compared with £340 for 1913–14, an increase of £30.

PALMERSTON NORTH.

Two inspections of the Palmerston North Brigade, its stations and equipment, have been made—viz., 18th November, 1913, and 25th May, 1914.

At the first inspection there were present the Superintendent and twenty firemen: these, with one on duty and three on leave, accounted for the full strength of the brigade.

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

The second inspection is covered by the following report:—

SIR,— 30th May, 1914.

An inspection of the Palmerston North Brigade and its equipment was made on the 25th and 26th instant.

At the inspection muster on the evening of the 25th there were present the Superintendent, Deputy, and nineteen firemen: these, with five on leave, accounted for the full strength of the brigade.

The motor was turned out, and various wet and dry hose and ladder drills were carried out in the neighbourhood of the Square and Rangitikei Street, and executed in a particularly smart and efficient manner. The next morning the motor-pump was taken down to the creek in Rangitikei Street and there got to work. With a suction lift of 11 ft. water was shown on a first delivery in 32 seconds at a pressure of 110 lb. The suction hose was then emptied, the pump again started, and water shown in 12 seconds, pressure 120 lb. The pump was stopped and allowed to stand for five minutes, again started, and water shown in $3\frac{1}{2}$ seconds. The results were very satisfactory.

The appliances are maintained in good order and condition. The station has now been in occupation for nearly four years, and nothing in the way of renovation done during that period; and the inspection of the premises showed they are badly in need of attention, particularly the residential parts. The additional living-accommodation and alterations as suggested by the Superintendent are reasonable requirements, as is also the additional glass panelling in the engine-house and front doors; there is less glazing in these doors than is usually provided.

I would again bring before your Board the necessity of installing a system of street fire-alarms. The favourable fire loss average results attained during the last (nearly) three years are liable to be upset at any moment by a "late call" entirely as the result of there being no direct means of communication with the station, and I would commend this matter to early attention.

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

The brigade received thirty-eight calls, of which twenty-nine proved to be actual fires within the district, eight more than during the preceding year.

The attendance of members of the brigade at thirty-three calls, Nos. 15, 32, 34, and 37 omitted, averaged 20·51 per call, or 81 per cent. of the total strength.

The total fire loss amounted to £5,631, as against £2,608 for the previous year, an increase of £3,023.

The estimated cost of the brigade for 1914–15 is £1,939 3s. 4d., as compared with £1,842 9s. 1d. for 1913–14, an increase of £96 14s. 3d.

PETONE.

A special visit was made to Petone on the 12th August, for the purpose of conferring with the Board in reference to various brigade matters.

An inspection of the Petone Fire Brigade, its station and equipment, was made on the 18th June, when there were present at the inspection muster the Superintendent, Deputy, fifteen firemen, and one messenger, or nineteen out of a total strength of twenty-two.

The turnout was performed smartly, and various wet and dry drills were carried out in a very satisfactory manner.

At 8 p.m. on the same date the water-pressure registered on the gauge at the central station was 67 lb., and the average available pressure is about equal to that of last year.

The fire-alarm installation is in good order, and the station and plant are maintained in good order.

During the year twenty-two calls were received, of which eighteen proved to be actual fires occurring within the district, or eight more than during the previous year. The attendance of members of the brigade at twenty-one calls, No. 4 omitted, averaged sixteen per call, or 72·7 per cent. of the full brigade strength.

The fire loss amounted to £3,866, as against £593 for 1913, an increase of £3,273.

The estimated cost of the brigade for 1914–15 is £1,076 11s. 9d., as compared with £847 16s. 10d. for 1913–14, an increase of £228 14s. 11d. The increase is due to the setting-down of sums towards the purchase of a motor appliance, and for the extension of the fire-alarm system.

ROTORUA.

Two inspections of the Rotorua Fire Brigade, its station and equipment, have been made—viz., 18th December, 1913, and 6th May, 1914.

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

SIR,— 13th January, 1914.

An inspection of the Rotorua Fire Brigade and its equipment was held on the 18th ultimo, when there were present the Superintendent, Deputy, and thirteen firemen: these, with two on leave, accounted for the full strength (seventeen) of the brigade then on the roll.

When, as under the new agreement, the reel is being towed to fires by a motor-car, care must be taken not to travel at too great a speed, and, particularly, corners should be rounded very steadily, otherwise an accident, as has already happened elsewhere, will be the result.

The water-pressure gauge in Fenton Street—a comparison with my own gauge proves it to be correct—at 8.30 on Monday, the 17th, registered 46 lb., at 10 a.m. on the 18th 45 lb., and again at 9 p.m. on the same date 45 lb. When compared with my readings taken in July, 1912, there is an average drop of from 10 lb. to 12 lb., and this available pressure is not now an adequate one for fire-protection purposes. The great discrepancy between the static head and the pressure actually available, particularly in view of the large diameter of the carrying-main and of the reticulating pipes, points to an excessive waste or leakage, and if there is no improvement in sight within the near future the brigade should be provided with an auxiliary pumping unit.

I understand there is no regular night patrol by the police in Rotorua, nor is there any night watch of any other description, and in view of local conditions that matter should receive the attention of your Board.

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

SIR,— 30th May, 1914.

An inspection of the Rotorua Fire Brigade and its equipment was made on the 6th instant.

At the inspection muster there were present the Deputy Superintendent and thirteen firemen: these, with four on leave, accounted for the full strength (eighteen) then on the roll.

A series of wet and dry hose-reel drills were carried out, and, as pointed out at the time, various matters in that connection require attention. The tarpaulin covering the hose and gear at Whakarewarewa is badly torn and requires putting in order.

A number of readings of the water-gauge taken on the 5th and 6th instant gave an average pressure throughout of 49 lb.; and whilst the average shows a slight improvement when compared with that prevailing at the time of my previous visit in January last, it is still unsatisfactory, and is not an adequate pressure for fire-protection purposes in your town.

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

The Board now have under consideration the question of the purchase of a motor fire appliance, and in that connection I have recommended that, if it is not yet definitely decided that the work of improving the water-pressure is to be taken in hand in the immediate future, a pumping unit should be included in the motor outfit.

During the past year the brigade has received eight calls, four of which proved to be actual fires, the same number as during the previous year. The attendance of members of the brigade at eight calls average 12·5 per call, or 65·8 per cent. of the full strength.

The fire loss for this year amounted to £116, as against £952 for 1913, a decrease of £836.

The estimated cost of the brigade for 1914–15 is £614, as compared with £419 10s. for 1913–14, an increase of £194 10s., due to a sum of £200 being set down for part reduction of overdraft.

TIMARU.

Two inspections of the Timaru Fire Brigade and its equipment have been made—viz., 28th and 29th October, 1913, and 24th and 25th April, 1914. Both inspections are covered by reports forwarded to the secretary of the Board, as follows:—

SIR,— 6th November, 1913.

An inspection of the Timaru Fire Brigade was held on the 28th ultimo, when there were present the Superintendent, Deputy, and fifteen firemen: these, with two on leave, accounted for the full strength of the brigade. There was also one probationer in attendance.

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

The brigade should be provided with two hand-pumps.

In all probability it will be necessary in the not-distant future to establish a small hose-reel station on a site further removed from the central station than the shed on the Wilson Street site, therefore it would not be wise to go to any great expenditure on the Wilson Street shed. There is at present a perpendicular drop of some 30 in. or more from the level of the shed-floor to the footpath, and this, particularly in the hands of strangers, might result in the smashing of the reel at any time, as the wheels of the reel stand back some 4 ft. from the door. I would recommend, as explained to the Superintendent, that a ramp the width of the reel should be cut back in the floor so to ease the reel on to the footpath. This could be done at a very small cost.

Enclosed herewith are, first, recommendations *re* specifications and tender for motor fire appliance; and, second, recommendations *re* competitive plans for the new central fire-station.

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

SIR,— 1st May, 1914.

Herewith I have the honour to submit for the consideration of your Board the following report in connection with my recent visit to Timaru.

An inspection of the brigade was held on the evening of the 24th ultimo, when there were present at the muster the Superintendent, Deputy, and thirteen firemen: these, with three on leave, accounted for eighteen out of the total strength of twenty.

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

In company with the Superintendent and the secretary of the Board I made an inspection of the new central fire-station now in course of erection, and found things in connection therewith progressing satisfactorily.

The couplings recently supplied to the brigade are not made in accordance with the Government standard pattern, as was ordered. The manufacturers of the couplings in question were supplied with a blue-print copy of the patterns in June last, and I have to recommend that the couplings be returned with the request that they be replaced with new couplings made in accordance with the order as originally given.

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

Two special visits were made to Timaru—on the 26th September, 1913, consultation with Board respecting site and plans for the proposed new central fire-station; and on the 12th June last, concerning tenders for the supply of a motor fire appliance.

A new central fire station in course of construction is now nearly completed, and a 65 h.p. motor appliance has been ordered. It is to be fitted with a turbine pump having a pumping-capacity of 400 to 450 gallons per minute, and is also fitted with a 60 ft. detachable extension ladder.

The first complete year of operations by the brigade since coming under Fire Board control terminated on the 30th ultimo, and during the year twenty calls were received, of which sixteen proved to be actual fires.

The attendance of brigadesmen at seventeen calls, Nos. 10–19 and 20 omitted, averaged 14·3 per call, or 70·5 per cent. of the total strength.

The fire loss for the year amounted to £3,392. The estimated cost of the brigade for 1914–15 is £2,825.

WHANGAREI.

Two visits have been made to Whangarei— viz., 13th December, 1913, and again on the 12th May, 1914.

At my first visit in December consultation was held with the Board, then meeting, when it was finally decided to invite tenders for the supply of a suitable motor fire appliance; later, specifications were drawn up, and tenders called for accordingly. During my second visit, on the 12th May, the local members of the Board considered the tenders received, and ultimately it was decided to accept one of them. The accepted tender provides for a 50 h.p. machine fitted with a first-aid pump and carrying a two-wheeled detachable 50 ft. extension ladder.

The station and plant was inspected upon both occasions, when the appliances were found to be in good order.

For the use of the men living at the station a kitchen has been built in the basement, which will enable the engine-room to be kept in better order than hitherto; but I consider that in place of spending money on the present unsuitable building it would be a better policy, both as to efficiency and economy in the future, to erect a new fire-station, particularly as the purchase of the new motor appliance calls for further expenditure, such as strengthening the engine-room floor, &c.

During the year seven calls were received, of which six proved to be actual fires, two more than during the previous year. The attendance of members of the brigade at seven calls averaged fifteen per call, or 75 per cent. of the full strength.

The fire loss for the year amounted to £1,466, as against £3,244 for 1913, a decrease of £1,778.

The estimated cost of the brigade for 1914–15 is £600, as compared with £480 for 1913–14, an increase of £120.

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