

vessels carrying pressure. Altogether 587 plans have been submitted for the Department's ruling. Many of these required alterations and additions. The practice now adopted of submitting plans for approval prior to construction has done much to secure uniformity throughout the Dominion. This is recognized as a step in the right direction, as it avoids alterations after the work has been commenced.

Altogether 7,011 boilers have been inspected. Certificates have been issued for these. The fees for these inspections amount to £7,969.

GOVERNMENT BOILERS AND MACHINERY.

During the year 210 Government boilers and machinery were examined. Of this number, 129 were boilers, 14 lifts, 23 oil-engines, 10 gas-engines, 31 electric motors, and 3 turbines. Repairs were made to several of them, and certificates were issued for each inspection.

DEFECTIVE BOILERS AND FITTINGS.

Quite a number of defects in boilers and their fittings are set out in Return No. 2. The total defects discovered number 1,239. Of this number, 33 were very dangerous. Several of these defects are due to shortness of water in the boiler. Glass-tube gauges are now generally used to ascertain the water-level in boilers, and, as much depends on them, care should be taken to provide good and reliable fittings, and to keep them in good working-order. Accidents through shortness of water in boilers would be reduced in number if the attendants, instead of merely opening the drain-cocks of water-gauges, were to test them several times daily in the following manner to ensure that both the steam and the water passages were perfectly clear: (1) Shut top cock; (2) open drain-cock (a full blow of water shows that the water-passage is clear); (3) shut bottom cock; (4) open top cock (a full blow of steam shows that the steam-passage is clear); (5) shut the drain-cock; (6) open the bottom cock (the water should not be sluggish in returning to the glass). These operations involve a certain amount of trouble, but they ensure that the glasses will indicate the water-level correctly, and also that the cocks are workable should a glass break.

To prevent accidents from bursting glasses they should be of good quality, the fittings should be in line, and each glass should have a suitable protector. The renewal of glasses every six months, instead of waiting till they break, is very good practice.

NEW BOILERS.

During the year 587 new boilers have been registered and added to the books of the Department. Their total horse-power amounts to 6,649. Of the total number, 356 were built in the Dominion and 231 imported.

The following table shows the number and horse-power of the new boilers and the districts to which they have gone:—

District.	Local.		Imported.		Total.	
	Number.	Horse-power.	Number.	Horse-power.	Number.	Horse-power.
Auckland	41	745	37	1,546½	78	2,291½
Auckland South	42	607	30	248	72	855
Hawke's Bay	31	286	13	252	44	538
Taranaki	37	389½	25	322¼	62	711¾
Wellington North	27	263	8	32	35	295
Wellington	38	260	29	62½	67	322½
Marlborough	3	11½	6	26	9	37½
Nelson North	7	94½	3	12	10	106½
Nelson South	2	73	4	12½	6	85½
Westland	19	218	5	209½	24	427½
Canterbury	45	164½	23	177½	68	342
Canterbury South	2	6½	8	52	10	58½
Otago	36	163½	21	77¼	57	240¾
Southland	26	155½	19	181½	45	337
Totals	356	3,437½	231	3,211½	587	6,649

GAS-, WATER-, AND ELECTRIC-DRIVEN MACHINERY.—LIFTS AND MACHINERY INSPECTIONS.

The total number of inspections made during the year was 8,185. Of this number, 1,531 were gas-engines, 2,794 oil-engines, 3,802 lifts and motors (which include water and electric motors), and 58 steam machinery.

FENCING OF MACHINERY.

The guarding of machinery in motion for the protection of those who have to work at or near it has been attended to where required. Attention has been necessary, particularly in the case of oil-engines which have been installed at many places during the year, and which are usually in the hands of those unused to machinery in motion.

Return No. 4 gives full particulars of the guarding done.