

The CHIEF INSPECTOR OF MACHINERY AND CHIEF SURVEYOR OF SHIPS to the SECRETARY OF THE
MARINE AND INSPECTION OF MACHINERY DEPARTMENT.

Sir,—

Head Office, Customs Building, Wellington, 2nd July, 1919.

I have the honour to submit herewith the annual report of the operations of the Inspectors of Machinery and Surveyors of Ships during the twelve months which ended on 31st March, 1919.

I have pleasure in reporting another successful year of the work of the Department. The officers of the Department have had a very strenuous year trying to keep pace with the great increase of new land machinery that has been introduced during the year. At the end of the year, however, there were a great many inspections overdue, but with additional assistance which has been promised I am hopeful of picking up most of the arrears next year. Several special trips were made to suit clients who had installed new machinery and who wished to have everything safe before starting. In some cases the expenses were paid by the owners of such plants.

Freezing-works owners have also asked for special treatment, with their stores full of meat and produce. This year they could not close down as usual to have their inspections made at one time. Several visits had to be paid to inspect their different appliances so as to avoid interfering with the freezing operations. These works are now more numerous than ever before, and the capacities of most of them have been doubled of late years. We have met all obligations to assist them, but it has taken up a great deal of the Inspectors' time.

The equipping and surveying of transports and work connected with the Admiralty has all been attended to. In some cases this has meant the services of some of our Surveyors for weeks, as the work was mostly of a very urgent and pressing nature. The Naval Adviser has commended us for the services rendered and for the practical help given.

I visited nearly all the district offices during the year, and also called on a great number of the shipowners and engineering firms. The latter have been well employed during the year with additions to freezing-works, machinery, &c., and, had material been procurable, might have done more. Skilled labour has, of course, been scarce, but next year should see a marked improvement, with things coming back again to normal conditions.

Our work generally has been well maintained during the year, and all calls made on the Department have been met as far as possible.

For convenience of reference this report is set out in divisions, as follows :—

1. Inspection of boilers.
2. New boilers inspected.
3. Inspection of machinery.
4. Fencing and guarding of machinery.
5. Survey of steamships and auxiliary-powered vessels.
6. Survey of ships for seaworthiness.
7. Survey of Government vessels.
8. Additional steamers and auxiliary-powered vessels surveyed for the first time.
9. Survey of sailing-vessels.
10. Issue of explosive permits.
11. Examination of marine engineers.
12. Examination of land engineers and engine-drivers.
13. Examination of electric-tram drivers.
14. Board of Examiners.
15. Districts and Inspectors.

1. Inspection of Boilers.

The number of boilers inspected during the year was 7,005. There were at the end of the year a large number not inspected. No boiler-explosions occurred during the year. There has been no trouble with the steam-owners, though a great many repairs were found necessary, and in numerous cases a reduction in pressure was made.

The good feeling existing between the various Inspectors and their clients is very marked. I have met a great many steam-users during the year, and they in almost all cases were pleased for the advice and attention given at the annual inspections.

Long distances are now covered by most of those engaged in this inspecting-work, and great risks are run with horses, motors, and bad roads. This year, however, there have been few accidents to report while Inspectors were on their rounds.

Boilers at Government institutions were examined as desired, and, where required, repairs effected.

There were in all 800 defects discovered in boilers, and of this number 262 were considered very dangerous. If these defects had not been discovered and remedied no doubt disastrous results would have followed. Compulsory inspection, therefore, has proved its usefulness on many occasions.

2. New Boilers inspected.

Of the new boilers inspected the greater number were pressure vessels such as digestors, manure-driers, wool-driers, jacketed pans, vulcanizers, &c. Very few new portable- and traction-engine boilers were inspected. New boilers of this class, including road-roller boilers, were fairly numerous before the war.

The number of new multitubular and vertical boilers inspected is greater than that of any other type; the water-tube class comes third, but in point of aggregate horse-power it probably comes first. These boilers range in nominal horse-power from 70 to 140, and have been installed in large works such as meat-freezing works, dairy factories, sugar-refining mills, and tramway power-houses.