

is qualifying-time for chief. The Board of Trade have raised shop service one year, which follows our lead in New Zealand, but does not go quite far enough. A number of new elementary questions are introduced, dealing with hydraulic, freezing, and electrical machinery, which is very necessary for present-day requirements, seeing that so many modern steamers are fitted with all these latest appliances.

SURVEY OF STEAMERS.

All the work in connection with this branch of the Department has been kept up to date, and the supervision of repairs after survey has been subjected to the closest attention at the various ports. The Surveyors have also inspected vessels on several occasions between annual survey dates, at docking-times, to have a look at the hulls, and to see that the boats and equipments have been kept up to standard.

GOVERNMENT STEAMERS.

Plans and specifications for structural additions and renewals have been made for the C.G. steamers "Hinemoa," "Ellen Ballance," and "Tutanekai," and for minor repairs to several other Government vessels. The alterations to the "Hinemoa" comprise a complete new deck, new steel bulkhead at fore end of the saloon, new chart-house and bridge, new steering-gear steel house aft, electric-light installation, and general overhaul of machinery and rudder.

The annual surveys of the steamers "Tutanekai," "Hinemoa," "Ellen Ballance," "Gordon," and the torpedo-boats have also been made.

AUXILIARY MACHINERY.

Steamer surveys now take much longer, owing to the increase in the auxiliary machinery, and the appliances for saving fuel and economizing perishable stores. The responsibilities of the chief engineer of a steamer have also increased, both in the cargo and in the passenger lines, through the introduction of these scientific appliances, and it rests largely with him whether or not the ship will turn out a commercial success.

MISHAPS.

The usual mishaps have occurred to steamers, such as broken shafts, defective steam-pipes, &c. The set periodical times for shaft-sighting and steam-pipe-testing are rigidly enforced, and owners now see the necessity for it. Although the loss of time in docking for shaft-inspection may seem a monetary loss, it is better to have the flaw discovered in dock than to have the steamer disabled by it at sea. The s.s. "Monowai," of the Union Steamship Company of New Zealand, was drifting about for several days between Tasmania and New Zealand, the propeller-boss having given way. It is thought that the propeller had struck some floating wreckage, as the vessel was docked at Melbourne a short time before the mishap occurred, and at that time the propeller was carefully examined.

INCREASE AND IMPROVEMENTS IN STEAMERS.

The steam shipping has increased during the year, every new steamer having an additional improvement for the comfort of the traveller, some of the late additions to the fleet of the Union Steamship Company of New Zealand being very complete in this respect.

SURVEY OF STEAMERS RETURN.

Table No. 17 gives returns of steamers surveyed in New Zealand during the year ended 31st March, 1902, including the names of steamers, tons register, horse-power, nature of machinery and propeller.

The number of steamers surveyed was 279, and the number of surveys made was 288. The fees payable in respect of such surveys amounted to £1,494.

RETURNS.

Appended are the returns in detail, numbered from 1 to 18.

(1.) Number and class of boilers inspected and fees payable on these, the machinery inspected and the fees payable thereon, and the classes and numbers of engine-drivers' certificates issued and the fees payable therefor.

(2.) Return of defects found on inspection of boilers.

(3.) Return of notices given to repair boilers.

(4.) Return of notices given to fence dangerous parts of machinery.

(5.) Return of accidents which were not fatal.

(6.) Return of accidents which proved fatal.

(7), (8), (9), (10), (11), (12), (13), (14), (15). Names of all persons to whom land stationary certificates of service and competency have been granted during the year.

(16.) List of applicants for marine engineers' certificates, with fees paid, during the year.

(17.) Return as to vessels surveyed during the year.

(18.) Return showing sums earned or received and amount expended during the financial year for inspection of machinery, examination of engineers and engine-drivers, and survey of steamers.

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