

the mixture has been compressed is fired by electricity. As an auxiliary means of propulsion in calm weather or when nearing port for a sailing-vessel this new method of generating power will, I think, be largely used in the future. In America this class of engine is much in evidence, and if the oil industry at Taranaki prove successful we will, I think, find this a favourite means of developing power on land as well as on board ship. On my last visit to Auckland I had the pleasure of a run in a launch fitted with a 10-horse-power gasoline engine, built by the Century Motor-power Company of Auckland (and a very creditable colonial production it was), in Auckland Harbour. It only took three minutes to get under way, attaining a speed of eight miles an hour in less than five minutes, without any firing up or the long waiting for steam to be raised as in a launch fitted with a steam-boiler.

The usual amount of repairs have been executed, and some of the steam-vessels, through natural wear-and-tear, demand the closest attention of the Surveyor.

No serious mishap has occurred to any New Zealand owned steamer during the year, which speaks well for the close and rigid inspection of the Surveyors.

Steel ships we find are much more liable to decay than iron, and in Great Britain the builders are again introducing iron for the scantlings in engine and stoke-hold compartments, where oxidization is much increased by the heat from the boiler and engines.

Electricity as a light has been fitted into a great number of the coastal vessels, and adds much to the comfort of the travelling public.

Alexander McVicar was appointed an additional Engineer-Surveyor in the early part of April, 1897, and has helped to pull up the arrears of our work. He is stationed in Wellington, but has assisted in the Auckland, Canterbury, and Otago Districts when required.

A uniform system now prevails throughout the colony for the survey of steamers, and the latest Board of Trade requirements are adopted as they are issued by that body.

Numerous excursions have been run throughout the year without mishap. This shows that the vessels have been well handled by their deck and engineer officers, and that the supervision of the Customs has been effectual in preventing overcrowding, which would no doubt often happen without this supervision.

A good number of engineers have been examined during the year, the third-class certificate having been much in favour with the young workmen out of the shop.

Three hundred and one surveys have been held, the total number of steamers surveyed being 228.

The following table shows the number of steamers engaged in the respective trades, their tonnage, horse-power, and fees payable for survey :—

Number.	Trade in which engaged.	Aggregate Registered Tonnage.	Registered Nominal Horse-power.	Fees payable.
26	Foreign	27,344	5,255	£. s. d. 353 10 0
67	Home Trade	12,480	4,088	527 10 0
135	River and Extended River	3,871	2,493	451 0 0
228		43,695	11,836	1,332 0 0

Attached will be found particulars of steamers surveyed, giving names, tons register, horse-power, nature of machinery and propeller, also trade in which employed.

I have, &c.,

ROBERT DUNCAN, Principal Engineer-Surveyor.

The Secretary, Marine Department.