

The inspections include 138 new power boilers, aggregating 728 horse-power, manufactured in the Dominion, and 13 new power boilers, aggregating 631 horse-power, imported from abroad.

The inspections also include 45 new air-receivers made in the Dominion and 18 made abroad, and 367 new unfired pressure vessels, other than air-receivers, made in the Dominion and 120 made abroad.

The fusion welding process of joining metals continues to progress in the field of boiler and pressure-vessel construction, this progress being marked by a concurrent decline in the time-honoured method of joining metals by rivets.

Large unfired steam-pressure vessels used as digesters for processing food products have been built in New Zealand during 1945 for the first time of all-welded construction. Welded digesters possess the important advantage that there are no lapped plates or rivet heads to harbour the acids which, in riveted digesters, have hitherto caused rapid and severe corrosion.

Designs have been submitted and approved for the construction of water-tube boilers of 600 lb. p.s.i., which is the highest working pressure which has as yet been proposed for boilers intended for New Zealand. The boilers are of the water-tube flash type and would be of all-welded construction. Increased attention is being given to the control of the quality of feed water in boilers of the types where the usual systems of feed-water control are inadequate.

New Zealand Land Boiler Rules have been reprinted with amendments, and progress has been made in the framing of a comprehensive code of rules covering fired boilers and all types of unfired pressure vessels.

Printed notices drawing the attention of steam-users to the fundamental principles of economy in steam-production have been distributed by the Department to encourage methods of efficient combustion which effect savings in the consumption of fuels in general, and particularly coal.

MACHINERY

The following statement shows the number of machines, machinery plants, lifts, cranes, hoists, and tractors inspected during the year ended 31st March, 1946, with the corresponding figures for 1945 also shown :—

	1945-46.	1944-45.
Machines driven by steam power in 1,604 plants	8,323	8,053
		(1,640 plants)
Machines driven by power other than steam in 11,618 plants	83,291	81,155
		(10,806 plants)
Electric-power-supply stations	140	129
Lifts	3,563	3,331
Cranes	571	529
Hoists	1,950	1,885
Tractors	163	351
	-----	-----
Total machinery inspections	98,001	95,433

There has been an increase of 2,568 machinery inspections made during 1945-46 over the previous year, including 47 cranes and 25 lifts inspected for the first time, and the revenue from the machinery-inspection service again shows an increase over that of the previous year.