

However, that a very severe injury can be inflicted by the circular head is evident, though, as already stated, difficult to understand. The fitting of a circular head to buzz-planers is often considered the only safety-device necessary, but it should be widely understood that the fitting of a cover above the gap and over the knives—that is, a bridge-guard—is an additional safeguard and is essential. Machines which do not have the bridge-guard will not be passed in the future.

Instructions were issued during the year relating to guards for drag or breast bench-saws used in sawmills. A supply of safety pamphlet No. 8 issued by the Home Office, which relates to "Fencing and other Safety Precautions for Wood-working Machinery," was obtained and issued to all Inspectors of Machinery. The pamphlet is practically up to date and deals with all machines commonly in use. It is well illustrated, and it is hoped that the instructions contained in it when given effect to will assist in reducing the number of accidents with wood-working machinery.

Boilers.—The number of boilers inspected during the year was 7,944, as compared with 7,780 last year. Many dangerous defects were discovered and repairs effected during the year, and to the careful annual inspection made may be attributed the fact that no serious accident has taken place during the period under review.

The number of new boilers inspected during the year is 363, as against 275 last year.

Circulars relating to boiler-construction have been issued recently as follows: Rules for Boiler-furnaces; Rules for Hydraulic Test of Boilers; Instructions respecting thinning of copper dished ends.

LIGHTHOUSES.

Three Kings Islands.—Since writing my last report a further series of direction-finding tests were carried out in Auckland Harbour in the presence of members of the Shipmasters' Guild and representatives of the Harbour Board and other interested bodies. The tests fully demonstrated the efficiency of the apparatus, and convinced all parties that it was a much more efficient aid to navigation than any auditory fog-signal.

Arrangements are being made to procure the necessary equipment for establishing a direction-finding station at Cape Maria van Dieman. This installation will then be operated by the personnel employed at the lighthouse, and will, it is considered, give better aid to navigation than a light and fog-signal on the Three Kings Islands themselves.

Cape Brett.—A new landing-crane has been erected at this station to replace the one which was destroyed by the phenomenal storm experienced here some time ago. This crane is exposed at times to very violent wave action, and a special design had to be adopted to overcome the difficulties inherent to this place.

Tiritiri.—This light has been converted from a watched oil-burning light to an automatic flashing one. It was originally an important making light for vessels approaching the coast, but owing to the diversion of trade through the Panama Canal and the provision of other powerful lights its importance is not so great as formerly. For this reason arrangements were made, when converting, to reduce the range of the light somewhat. The apparatus as converted is highly efficient and is giving full satisfaction.

Piako River Leading-lights.—It is now proposed to replace the existing oil-burning lights with a single automatic flashing light, and details are being prepared to that end.

East Cape.—The new lenses required to replace the damaged ones in the old light have been received and placed in position. Improvements to the existing access road and landing have been also carried out. A special telephone-line has been erected, and a toll-station established here to serve the requirements of the light-station and to enable the necessary meteorological information to be supplied.

Matakaoa Point.—The apparatus for this new light has been received and landed at the site. Suitable arrangements have been made for the land and access road, and the work of erection is to be put in hand immediately. This light will serve a twofold purpose. Owing to the shifting of the East Coast Lighthouse from the island to the mainland, there is a small dark sector to the northward. The new light at Matakaoa Point will be of great assistance to shipmasters coming from the north for turning the Matakaoa Point before they come actually within the range of East Cape light. Secondly, it will act as a port light in connection with the Port of Hicks Bay, where a new wharf is now being constructed by the Hicks Bay Harbour Board.

Cape Palliser.—A new water-supply has been provided for this station. The original provision consisted of rain-water tanks only. Considerable storage is required here, and as the existing tanks required renewal it was decided to provide a concrete reservoir fed by pumping from a near-by spring and providing a gravity supply to the various cottages and utilities.

Cape Foulwind.—Orders have been placed for the supply of the necessary apparatus for the conversion of this light from a watched oil-burning light to an automatic flashing gas light. Portion of the apparatus has been already received, and the remainder, consisting of the lens and lantern, is expected very shortly. Immediately the whole outfit is received the construction of the tower will be put in hand. This lighthouse will be the first one in this country to be equipped with the Dalen incandescent acetylene burner with automatic mantle-exchanger. The operation of this light will be wholly automatic, including the changing of the incandescent mantles in case of breakage, and it will be the most powerful unattended light so far installed on the New Zealand coast. The annual saving as a result of its use will amount to several hundreds of pounds per annum.

Puysegur Point.—Additions have been carried out to the buildings at this station, and the installation of a radio transmitting and receiving set has been completed.

Dog Island.—An examination of the optical and illuminating apparatus of this lighthouse has been made, and it has been decided to dismantle the existing light system and replace it with a standard