

In view of the increasing demand for sand and gravel as the result of cost of timber-supplies, it is intended to strictly enforce the provisions of the Act in regard to any cases of unauthorized removal of materials from foreshores. A number of prosecutions have been successfully taken during the year. The Department became involved in a lengthy Supreme Court action which sought an injunction to prevent the Department from issuing permits for removal of shingle from a Crown foreshore. The Department was able to establish its right, and judgment was given against the appellant.

GOVERNMENT STEAMERS.

The s.s. "Tutanekai" has efficiently carried out the work of tendering the coastal lighthouses and departmental harbours during the year, and has visited the southern islands in search of castaways, and to replenish the provision-depots there.

During the year this vessel was reconditioned, extensive repairs and alterations being carried out. The cable-tank and after deep-water ballast-tank were taken out of the vessel, and the space thus cleared converted into hold for the carriage of cargo, which has added considerably to the commercial value of the vessel.

INSPECTION OF MACHINERY.

The number of inspections of machinery carried out during the year total 25,111, as compared with 24,963 inspections last year. Many machines were found to be in a dangerous condition. The protection of machinery has been given careful consideration, particularly in cases where accidents have occurred. There is no doubt many accidents are brought about by the carelessness of operators. It should be the duty of every person employed on moving machinery to observe the regulations made by the Department for his protection. It might be desirable that the Department should have power to prosecute the operator himself when he removes fencing or otherwise interferes with safeguarding-devices, or when he manipulates belts in motion by hand, or does other similar unauthorized actions.

One of the fatal accidents that occurred during the year happened to a man who was oiling an overhead shaft whilst it was in motion. The ladder on which the man was standing slipped, and he grasped the shafting to save himself from falling. His clothing, however, became entangled round the shaft, and he was whirled around with it. In this case there were ample opportunities for the oiling of the shafting when it was at rest.

It is a wise precaution to have ladders fitted with some kind of non-skid device when they are intended for use in factories. The suitability of the form and material of the non-skid device will depend upon the kind of floor. Iron spikes are suitable for soft floors; leather or indiarubber is satisfactory for hard floors, though unsuitable for greasy floors. For ladders which are required to be used at various angles of inclination, cast-iron swivel feet, shod with indiarubber or leather, are very satisfactory. The condition of the floor around machines has contributed to some accidents. Floors should be kept clear of waste and loose material, and should be maintained in a good and level condition.

It has come under the notice of the Department that buzz-planers have been worked with the circular heads frequently exposed for a greater length than necessary for the material being treated. The reason for the adoption of the circular head was the furnishing of an additional safeguard, and not with the view to dispensing with the guard as usually fitted before the use of the circular head was made compulsory. Only so much of the gap as may be required for the particular work in view should be exposed.

At the inspection of lifts and hoists many defects have been remedied. The danger of unfenced lift-wells and unprotected doorways and openings is in many cases not sufficiently realized. The cages of all passenger-lifts are fitted with doors, but it is the consensus of opinion that only where the doors must be fastened before the lift can be operated is it customary to close the cage-doors. This is a strong reason why the doors, particularly of passenger-lifts, should be fitted with interlocking-devices rendering it impossible to work the cage with the doors open.

A somewhat troublesome matter in regard to new lifts is the insufficiency of the fencing and safety precautions. As a rule the Inspector is not called in until the installation is nearing completion. Should any alterations be required by the Inspector involving additional expense, the owner, architect, building contractor, and lift engineer have all to be consulted before the work can be gone on with. In such circumstances delay and inconvenience appear to be unavoidable, and it would be much more satisfactory to all parties if a practice was made of submitting drawings of lifts to the Department for approval before the work of erection was commenced.

Boilers.—The number of boilers inspected during the year was 7,780, as compared with 8,158 last year. A large number of defects were discovered, many of them dangerous. It has been found difficult to make the necessary internal inspection of some boilers owing to the insufficiency of sighting-holes. During the year rules were issued prescribing minimum sizes for manholes and hand-holes for multitubular boilers of the under-fired type, and a distance of 10 in. between the steam-space stays where this is practicable.

New Boilers Inspected.—The number of new boilers inspected during the year is 275.

There is a tendency on the part of boiler-makers to crowd the tubes in boilers of the multitubular type, no doubt with a view to obtaining a maximum nominal horse-power for a minimum diameter of shell. Boilers so designed cannot be efficient, as the circulation of the water is impeded by the tubes. Bad circulation assists pitting of the boiler-plates. When air is present in the feed-water, oxygen is given off immediately the water comes in contact with the hot plates, and cannot escape if the circulation is poor. Due to the combination of oxygen with any acid that may be present in the water,