

fatal accident occurred at a transmission shaft. A worker who neglected to stop the machinery before he reached over an unfenced shaft to feel a bearing which was running warm had a part of his clothing caught up by the shaft. The shaft has now been completely boxed in. In another case a worker died from injuries received when a motor-car hoist crashed from the first floor of a building to the ground floor, a distance of 16 ft. A motor-car was placed on the platform and the hoisting gear lowered. For a reason which is not clear, the platform did not descend till about 4 ft. 6 in. of the chain was slack and the impact of the fall through this distance was sufficient to carry away the overhead beams and the hoisting-gear. The machine had been reported idle for some years, and the owners were prosecuted for working an uncertificated machine. The fourth fatal accident occurred at a tractor running on wheels and used for hauling logs on a sawmill tramway. Due to the slipping of a key, the tractor got out of control on an incline and a worker, when jumping off, was thrown under the wheels. A brake which had been removed before the accident has now been reassembled and the machine is now reported to be safe. The remaining accident occurred when an attendant was fatally burned whilst lighting up an oil-burner of an oil-fired boiler. The gas exploded in the furnace and flames and heated oil were driven out of the furnace-doors over the workman. A damper in the flue was found closed after the accident but it is not certain whether the damper was closed purposely or accidentally. When lighting up a cold boiler there is difficulty in procuring a circulation of air through the flues if a mechanically driven fan is not provided. The gases lie in the furnace and when the temperature is raised to the point of ignition the danger of a blow-back through the furnace-doors occurs. The practice which had been adopted of lighting the burner with a piece of newspaper did not allow of the fireman standing clear of a possible flare-back. A safer means of lighting the burner is now being used, and the damper has been removed from this boiler.

A fatal accident which occurred on 26th February, 1931, was, owing to investigations into the causes of the accident being incomplete, not reported for the year ending 31st March, 1931, but was fully inquired into during the year. A digester used in a large freezing-works in Otago for the extraction of fats from meats and offal was fully charged and heated to a temperature of 200° Fahr. The top door was then placed in position and steam turned on. After working a few minutes it was decided to remove the door and put in a quantity of fat, which had been inadvertently left out, and the steam valve was shut. Five minutes later a cry was heard and the attendant was found fatally scalded by partially cooked fat which, on removal of the door, had been ejected from the digester. It is clear from evidence given at the inquest that there was no pressure visible by gauge when it was decided to reopen the digester, but it is assumed that there was a slight pressure of vapour within the chamber and a certain amount of steam under pressure contained beneath a layer of melted fat. The sudden removal of the large door relieved the vapour and, on the surface of the fat being disturbed, the released steam ejected a portion of the heated fat through the open door over the unfortunate workman. Circular instructions were issued to Inspectors stating that the circumstances of this accident and the danger of removing doors during the process of cooking were to be brought under the notice of managers and attendants of digestive plants.

Of the 42 non-fatal accidents reported, 6 were connected with machinery not inspected by the Department. Twelve of the remaining accidents occurred at woodworking machines, 7 were at circular saws, 3 at butchers' mincing-machines, 4 at presses, and 4 at lifts. Four accidents were connected with farm machinery, which is now exempt from annual inspection. One-half of the non-fatal accidents reported were with machinery fully protected and for which no additional safeguards could be provided. These accidents were due to carelessness of the workers, and in some cases the guards had been removed from the machines. A careful investigation was made into the causes of all accidents and where it was practicable and reasonable to do so additional safeguards were fitted. During the year circular instructions were issued having reference to the guarding of gear-wheels, biscuit-stamping machines, chaff-cutters, oil-engines, mincing-machines, grooving-presses, and printing-press rollers.

EXAMINATIONS OF LAND ENGINEERS, ENGINE-DRIVERS, AND ELECTRIC-TRAM DRIVERS.

These examinations were held at the various offices of the Inspectors of Machinery throughout the Dominion at the regular intervals provided for in the regulations—namely, in the months of May, August, November, and February. In addition, a few special examinations were granted, but the holding of special examinations is not encouraged, as it is considered that the regular examinations are of sufficient frequency, and, except in very exceptional circumstances, candidates are expected to make arrangements to attend the scheduled examinations.

The full list of places where the examinations were held is shown in an appended return, as also is the number of candidates examined at each place. The classes of certificates for which examinations were held were: First-class engine-driver, second-class engine-driver, steam winding-engine driver, electric winding-engine driver, locomotive-engine driver, traction-engine driver, locomotive and traction-engine driver, and electric-tram driver.

The total number of candidates examined was 380; of this number 292 were successful and 88 failed in their examinations. 335 certificates were issued, which includes 292 to successful candidates for examinations. The remainder were issued under the provisions of sections 53, 59, and 62.

The regulations relating to the granting of engineers' and engine-drivers' certificates were consolidated and amended slightly during the year.

PROSECUTIONS.

During the year legal proceedings for offences under the various statutes administered by the Department were instituted in 49 cases. Prosecutions under each Act were as follows: Fisheries, 38; harbours, 1; Shipping and Seamen Act, 3; inspection of machinery, 7.