

The number of inspections shows an increase of 5,148 over the previous year and is the highest number yet recorded in any one year. Included in the inspections are thirty-seven lifts and forty-eight cranes inspected for the first time. The new crane inspections include special-purpose cranes for such duties as pole-stacking, bulk transport of artificial manures, and gold-dredging. Designs have been approved for two cranes to be built in the United Kingdom, one of 90 tons capacity and one of 80 tons. A satisfactory development is noted in the design and construction of certain types of power-cranes by New Zealand engineering firms.

The number of accidents reported during the year in connection with boilers, cranes, lifts, hoists, and general machinery inspected by the Department was 133, of which 4 were fatal and 129 were non-fatal. The corresponding figures for last year are 5 fatal and 157 non-fatal accidents. In accordance with the established practice of the Department every legally notifiable accident was thoroughly investigated during the year as soon as practicable after its occurrence, and steps were taken, where possible, to eliminate the accident-producing hazards.

The fatal accidents occurred at a travelling crane, transmission shafting, a circular saw, and a rolling lift bridge. The following are brief accounts of each accident compiled from the reports. The steps taken to ensure as far as is practicable that the worker is protected from a similar occurrence are mentioned in each case :—

(1) A works engineer opened and passed through a door leading to a crane runway just as the crane was passing the doorway. He was crushed between the crane and a post supporting the roof and received injuries, from which he died. He was quite familiar with the works, but it is thought that he must have mistaken the entrance to the crane for a door giving entrance to the fitting-shop, which it was known he intended visiting. The door has been fitted with a lock, the key of which is in the custody of the crane-driver. This should prevent another accident under similar circumstances.

(2) Whilst he was engaged in brushing down the roof beams of a factory, the apron of an employee was caught on a revolving shaft. His clothing was torn from his body and he was so severely injured that he died in hospital within a few hours of the accident.

The shafting is 11 ft. from the floor and is out of normal reach, and should have been approached only when the machinery was stopped. In view of the apparent lack of supervision given in the factory to prevent access to the shafting when in use, the shafting has been completely fenced and guarded.

(3) A workman at a sawmill was killed when using a circular saw. After ripping a piece of timber 15 ft. long he discarded the left portion and lifted the other portion over the top of the saw. The teeth of the saw caught the passing timber and shot it forward with such force as to cause fatal injuries to the workman. The saw had not been seen by an Inspector of Machinery and was not adequately guarded. A hood guard covering top of the saw has now been fitted.

(4) Whilst repairs were being carried out to a rolling lift bridge a mechanic was pinned beneath it when, through some misunderstanding, it was lowered. The lifting and lowering mechanism was in good condition. Instructions have been issued which should safeguard a repetition of the accident.

As in previous years, the injuries received in the majority of the 129 non-fatal accidents inquired into were to the fingers and hands. Some of these accidents were trivial, but all were fully investigated, as very often the search into the cause of a minor accident will indicate how a guard can be improved to safeguard an accident of a more serious nature. There were, unfortunately, a number of serious accidents resulting in the loss of limbs. In five cases an arm was severed, torn off, or so badly injured that it had to be amputated. There were 3 accidents in which hands were severed, and in 1 case a foot was cut off by a circular saw.

Twenty-nine of the non-fatal accidents were due to the very unsafe practice of cleaning or adjusting machinery whilst it was running. The danger of this practice cannot be too highly stressed, and the most harmless looking shaft, spindle, roller, or wheel is a potential hazard when approached with a cleaning rag or an adjusting tool. In all these cases the stopping of the machine would have removed all accident risk. Another dangerous practice responsible for a number of accidents is that of putting on or adjusting belts of running machinery. In one case a workman in a sawmill got inside the guard rail protecting a line shaft and attempted to wrap a canvas belt around the running shaft. The belt trapped his hand and drew him to the shaft, and his right arm was torn off above the elbow. In another case a girl attempted to replace a small belt driving a sewing-machine. First her cardigan and then her skirt were caught, and she was drawn to the shaft. Fortunately the weight of the girl stopped the low-powered driving motor, and she escaped with bruises and shock. In her statement on the accident she said that she will never attempt to put on another belt on any machine unless the power is off. If all machinery attendants were of a similar mind there would be comparatively few accidents with belts and transmission shafting.

The Department's machinery notices issued to all places where machinery is inspected call attention to these very unsafe practices.

In one accident eight workmen were overcome by fumes when a valve on an ammonia compressor burst. The failure of the valve was attributed to a carry-over of liquid ammonia from the suction side, and an additional liquid separator has now been fitted on the low pressure ammonia line to prevent a recurrence. Fortunately, the workmen injured by the fumes made a quick recovery.

Accidents with woodworking machinery were again comparatively numerous and accounted for over one-third of the total accidents reported. Of the 51 wood-working machinery accidents, 23 were with circular saws, 4 with other types of saws, 10 with planers, and 6 with shapers and moulders. The total number of accidents with circular saws was 25 and was by far the greatest number with any one class of machine used in the industry. The dangerous nature of the circular saw has been stressed for many years, and particular attention is given by the Inspecting Staff to the guarding of this machine.