

forthcoming to wind the car by hand power to the nearest floor landing. Lift passengers caught in this dilemma are inconvenienced and occasionally alarmed, but they are in no danger so long as they do not attempt to get out of the lift car until it has reached a floor landing.

The head of a  $\frac{3}{16}$  in. metal screw was sufficient to cause a loaded lift in Parliament Buildings to partially run away. The head of a screw had broken off and so jammed the brake mechanism that the brakes became worn and out of adjustment and were eventually unable to prevent the loaded lift car from making an involuntary descent, fortunately, without seriously injuring any of the lift passengers.

Accidents in the use of farm tractors, generally involving loss of life, have in recent years reached disturbing totals. While the usual kind of tractor accident on a farm or road is not a "machinery accident" under the Inspection of Machinery Act, cases have arisen, and no doubt will arise, where mechanical defects or deficiencies in the design or safeguards of tractors and their attached machinery have been responsible for accidents involving life and limb. Inspectors of Machinery, in association with the officers of the Department of Agriculture, will in future investigate every tractor accident which is suspected to be due to mechanical defects.

In support of a training course for Labour and Health Inspectors in Safety Health and Welfare, an engineer officer of the Marine Department in 1949 prepared and delivered a series of illustrated addresses on machine safety, supplemented by visits with the trainees to Wellington factories where power machinery is used which would be dangerous if it were not adequately guarded. Similar addresses on machine safety have been arranged for at other manufacturing centres.

A violent explosion from a make-shift steam boiler occurred in a bush district. The boiler was made from a 40-gallon petrol drum. It had a stop valve, but no pressure gauge to indicate steam pressure, nor any safety valve to relieve the pressure. The drum was three-quarters filled with water and placed over a fire aided by 2 gallons of diesel oil. Steam which was generated was being used by the two men concerned when a terrific explosion occurred and the petrol drum blew up. The force of the explosion projected the wrecked petrol drum like a rocket for a distance of about 3 chains. One of the two men standing 6 ft. from the make-shift boiler was bodily hurled 20 ft., and suffered severe burns and shock, from which he fortunately recovered. At least one of the men concerned should have realized in the first instance the extreme folly of attempting to use an oil drum or any other uncertificated container as a steam boiler, for he held a Second-class Engine Driver's Certificate. He should also have known quite well that a safety valve was an essential fitting on any closed vessel in which steam is generated.

Defects developing in shell plates of aged boilers are always possible, and do in fact occasionally occur. But serious defects discovered this year in a shell plate of a large water-tube boiler less than a year old were unexpected and almost unprecedented in New Zealand. The defects took the form of a want of homogeneity of the steel plate, which was indicated by a number of laminations or cracks which penetrated the boiler plate at acute angles to the surface. Lamination defects can be due to slag inclusions in the steel billet when it is rolled out into plates. There is no safe repair for a laminated boiler plate. The boiler drum will be completely renewed. This will eventually involve a large dismantling and re-erection job at the freezing works concerned. To avoid any dislocation of the works during its killing season, due to the shutting down of the boiler, the Department has reduced the steam pressure and permitted the boiler to continue to operate under special supervision for a few months. The defective boiler plate was made by a British steel works of high reputation and long experience.