

It was noted in the last annual report that a number of Minimax extinguishers had been found with over-charge acid bottles. This has been further evidenced during the year under review, and the possible danger arising from this over-charge was shown by a test made with one of the older extinguishers found in service with a blocked nozzle. This was discharged in this condition and a severe explosion resulted, which would probably have caused death or serious injury had the extinguisher been used in the ordinary way. It is most strongly recommended that all extinguishers of this type should be inspected to ensure that the proper acid bottles are installed. The standard bottles are made of coloured glass and are marked "A" for the 10-pint, and "B" for the 2-gallon extinguisher.

#### CONSTRUCTION OF BUILDINGS.

The technical committee which has been working on the preparation of a standard code of building regulations completed the preliminary draft during the year. The primary purpose of the code is to ensure a standard of construction which will be resistant to earthquake stresses, and no provision was made for the constructional requirements necessary for protection against fire. Representations were therefore made on the lines of my last annual report, and it is understood that the necessary alterations will be made before the model by-laws are issued in final form.

#### FIRE-FIGHTING EQUIPMENT IN BUILDINGS.

A considerable amount of attention has been given during the year to the question of fire-fighting equipment installed in Government buildings, and as similar conditions exist in most commercial buildings in the cities and large towns, it is considered desirable to make some comment for general information.

The practice in the past has been to install canvas hose (usually 2½ in., but occasionally 2 in. or 1½ in.) at convenient points in the building, permanently attached to the water supply and flaked in cradles. The hose is usually of second-grade quality and branches have been found with nozzles up to 1 in. in diameter. Installations of this type are suitable for buildings situated outside fire brigade areas, where the occupying personnel has to be relied on for dealing with a fire, but in towns where an efficient fire brigade is available they are for all practical purposes useless, and contain an element of danger in that they give a false sense of security.

In detail they are unsatisfactory because they require a minimum of two men to operate—one to turn on the water and a second to direct the stream. This class of equipment, moreover, is not suitable for dealing with a large fire and for this purpose the brigade would use its own gear. If used on a small fire more water is delivered than is necessary to extinguish it and heavy water damage is likely owing both to the seepage from the hose and to the inevitable delay in turning off the water after the fire is extinguished, particularly when operated by inexperienced personnel. It should also be noted that it is necessary that the hose should be fully extended before use and fittings of this sort are difficult to operate in narrow passages and confined spaces. The 2½ in. equipment installed in many buildings would be highly dangerous for inexperienced persons to operate under the water-pressure conditions existing in most of the cities and larger towns. A number of demonstrations of this have been given during the year and it was shown, for instance, in Wellington, that some of the equipment taken from different buildings in the city could only be handled with difficulty by two experienced firemen.

It is strongly recommended that the use of unlined canvas hose for interior fire protection should be discontinued. Only first-aid equipment should be installed for use by the occupants of the building, and for this purpose the automatic hose-reel is the most satisfactory appliance. This consists of a small reel carrying up to 180 ft. of ¾ in. rubber hose. The water is supplied through a gland in the axis of the reel and the reel is arranged so that the hose can be run out in any direction. The hose carries a shut-off nozzle and it is only necessary to run off sufficient hose to reach the fire. The reels should be so situated as to cover all rooms on the particular floor. It is found that one person can extend the full length of the hose and operate it satisfactorily, and it gives a controllable stream capable of dealing with all but severe fires. The cost is comparable with that of the existing canvas-hose installations. The reel should, of course, be regarded as subsidiary to the main fire-installation, which should consist of one or more rising mains, according to the size of the building, fitted with the type of couplings used by the local brigade. A complete installation of this type has been made in the main Government Buildings in Wellington, and can be inspected by any persons interested.

#### INSPECTIONS.

Most of the brigades were inspected during the year. Close touch was kept with the activities of all districts by means of newspaper cuttings, and where necessary, several visits were made. With the exception of the matters referred to above, the conditions found were generally satisfactory, and it is pleasing to report that most of the brigades have reached a high standard of training. Tests on the water-supply were made in a considerable number of towns, and recommendations made to the Boards concerned as to the development of the brigade organization.

A number of reports were made during the year with regard to public buildings. As indicated above, a general recommendation has been made regarding the improvement of the first-aid fire-protection services in Government Buildings by the elimination of canvas hoses, standardization of hose connections, and the fitting of first-aid hose-reels. A number of reports were also made to the local Government Loans Board on loan proposals for fire-protection services, water-supply and reticulation services.

I have, &c.,

R. GIRLING-BUTCHER,

Inspector of Fire Brigades.