

Emergency regulations were issued requiring owners of business premises to install this equipment on requisition, and, in view of the limited quantity available, sale was limited to this purpose. The necessary materials for manufacture of the pumps could not be obtained from abroad immediately, and arrangements had to be made to cover the intervening period. The standard bucket pump is fitted with a 25 ft. length of $\frac{1}{2}$ in. rubber hose. A large supply of this hose was imported from Australia, and lengths from 25 ft. upwards were made available for the interim protection of business premises. A tap adaptor which could be fitted to either threaded or plain water-taps up to $\frac{3}{4}$ in. was developed, and supplies of these were made available at the same time. Both adaptors and bucket pumps were fitted with a standard $\frac{1}{2}$ in. hose connection, the intention being that when the bucket pumps were manufactured the hose could be used from either tap or pump as circumstances dictated. The adaptor also made possible the use of ordinary garden hose from kitchen or bathroom taps for the protection of residential property. In addition to this equipment, supplies of wooden shovels and sand containers were supplied on the same basis for the alternative method of dealing with magnesium incendiaries.

11. *Fire Patrols.*—In New Zealand cities the residential areas offered a different fire-defence problem from those in Britain or the Continental cities. The dwellings are mostly of wooden construction, but they are, with few exceptions, completely detached buildings. The conflagration risk is probably no higher, despite the more inflammable construction, while the greater dispersal makes them unprofitable targets in comparison with the shipping, business, and industrial sections of the city. It was therefore decided to rely for their defence on an extension of the patrol system previously organized, plus an educational campaign directed at the improvisation of domestic first-aid fire-fighting equipment.

12. *Fire-watching.*—The fact that the warning might be limited and that commercial and shipping areas would almost certainly be the objectives made it necessary to develop a positive defence for all commercial buildings on lines similar to those which had proved successful in Britain. It was considered that in the secondary cities and ports there were sufficient people resident within reasonable distance of the business area to provide civilian fire parties for commercial and industrial buildings at short notice. Arrangements in these centres were therefore confined to the maintenance of a fire patrol and to the allocation of duties to suitable personnel living adjacent to commercial buildings, and their exercise in assembly and operation by means of test alarms. The same factors also applied in the main to the principal South Island cities—Christchurch and Dunedin. Their geographical position and limited shipping facilities made them unsuitable for development as bases for the Pacific war, and it was thought unlikely that they would be the objectives of the initial attack. Their general fire defence was consequently established on the same basis as in the secondary centres. It was recognized, however, that the commercial areas in these cities were sufficiently large to offer serious fire problems, and the Civil Defence authorities were required to make all preliminary arrangements for a regular fire-watching scheme.

13. Auckland and Wellington are not only the principal ports and industrial and business centres, but at an early stage in the Japanese war it became evident that they would function as bases for the American Forces operating in the Pacific. It was therefore almost certain that, if an attack did come, they would be the No. 1 objectives. It was manifestly impracticable, in the absence of prolonged warning of attack and under black-out conditions, to mobilize effective fire defence of the commercial buildings from personnel in the scattered residential areas. It was realized that the organization of the necessary fire parties required a vast amount of detailed work, both in the provision of accommodation and equipment and in the allocation, rostering, and training of personnel. Circumstances in New Zealand did not justify the same standard of preparedness as in Britain or the impressment of women, but it was decided that in these two cities at least a skeleton fire-watching system should be developed on an active basis—at least to the stage of providing resident fire-watchers and training them on a practical basis with the wardens and other Civil Defence units.

14. Fire-watching is a monotonous and, except during an actual attack, purposeless job. It is by far the least interesting and most burdensome of the civilian's wartime duties. The organization of the service took time and a great deal of work. Many difficulties had to be overcome, and the Civil Defence authorities are entitled to every credit for proceeding with it in the face of much opposition, both active and passive, from the people concerned. They set out to establish a partial service only, but one which could be readily expanded should the necessity arise. The duty personnel were not required to do active watching excepting during exercises. It must be admitted that some mistakes were made and, since the whole organization was developmental and designed against possible attack and not one certain and imminent as in Britain, there were at any stage bound to be inconsistencies and even absurdities to which critics could point. It is safe to say that had a vote of the fire-watching personnel been taken, 90 per cent. would have classified it as a waste of time and money. It was not. Most of our commercial buildings are of wooden interior construction with inflammable contents. Even most fire-resisting buildings have no protection against lateral fire exposures. No fire service could, by itself, deal with the results of incendiary attack under such conditions. The only way to save the cities from destruction under incendiary attack was to have fire-watchers on duty to deal with incipient fires when the attack took place. If the warning period was insufficient to assemble the personnel, then there was no option but to have them resident in the area. The Civil Defence authorities simply recognized this fact and acted on it. They required the continuance of active duties no longer than was necessary. By the time the American successes in the Solomons and the Coral Sea had reduced within reasonable limits the threat of attack, an effective fire-watching system had been established. It could be brought into operation again at any time should the war position deteriorate, and a stand-down was therefore ordered at the earliest safe moment.

15. *Fire Service Equipment.*—The threat of attack on a major scale made it necessary to provide against the probability of the breakdown of the water-supply in the commercial areas and to give effect fully to Scheme C. Further orders were placed for both the standard and large trailer pumps and for ancillary equipment, hose-laying appliances, transport vehicles, and fire hose. Strong representations were made to the British authorities for the early delivery of the latter, which was now justified by the improved fire-protection position in Britain. Difficulty was experienced in obtaining motor-vehicles owing to the heavy impressment by the Armed Services. A reasonable degree of mobility of even the billeted section of the Emergency Fire Service was only achieved by recruiting into the E.F.S. drivers of taxis and commercial trucks. Their vehicles were fitted up with towing attachments and were used on the same roster system as the billeted personnel. It was not until a very late stage in the organization that permanent motor-vehicles were made available even for the more urgent requirements such as hose-laying.