

by cutting large openings between the buildings on the ground and first floors. Smaller openings had also been made between the cellars under three of the buildings. Stairways and lifts were unprotected, and only two of the lateral openings (on ground floor) were protected by substandard fire doors; soft-board linings were used extensively throughout the premises. The sales area was confined to the ground and first floors, and the upper floors were used for office, factory, and staff cafeteria purposes. There was no automatic alarm or sprinkler system, and the only first-aid fire-protection consisted of some sixty chemical fire-extinguishers distributed through the premises.

The fire started in the cellar in the building at the south end of the block. It had free air-supply through the cellars under two adjoining buildings and free discharge of products of combustion through an open stairway to ground and first floor and, through cellar and ground floor, to the lift and stairway in the adjoining building. Lateral travel was temporarily blocked by fire-doors on the ground floor of the adjoining building and by a temporary soft-board screen covering an opening on first floor of building in which fire started. There was no access from first to second floor of this building. These factors resulted in a rapid development of the fire, but the extent of this was not evident either in the more distant buildings or in the street owing to a large proportion of the heat and smoke being diverted to a light-well at the back of the building by the temporary closing of the first-floor opening.

The call to the fire brigade was delayed for at least ten minutes owing to a misunderstanding. When the brigade did arrive the smoke conditions inside the building on fire were bad, and about ten minutes were spent in an unsuccessful attempt at entry to the cellar. The fire then flashed through to the first floor and spread laterally through that floor with extreme rapidity, cutting off from escape the persons still on the upper floors of the two adjoining buildings along the same street frontage. In a very few minutes the buildings were alight from end to end and on all floors. An emergency call was put in, and with an excellent response of city and suburban units, and by good work in the later stages, the fire was substantially confined to five of the seven buildings.

### RECOMMENDATION OF THE ROYAL COMMISSION

The report of the Royal Commission condemns as inadequate the existing regulations and by-laws governing means of egress from buildings as applying in Christchurch. It recommends that the model code of by-laws prepared by the Standards Institute with respect to building construction, means of egress, and fire-prevention should be amended in certain respects and made of universal application throughout New Zealand to both new and existing buildings. It recognizes that the full provisions of the codes cannot be applied to many existing buildings, but recommends that certain principles such as protection of lateral and vertical openings, limitation of floor areas, and fire loading and restriction of hazardous occupancies, should be applied wherever practicable. It recommends that the administering authority should have power to require in default of full compliance such protective devices as first-aid fire-fighting appliances, and thermostatic alarms or sprinkler systems. It has also suggested that the by-laws should be drawn so as to require the owner of an existing building to supply immediately, in form to be determined, a report on the building, indicating its relative fire hazard and deficiencies in means of egress.

The Commission finds that the work of the brigade was seriously defective in the early stages of the fire. It expresses the opinion that there is serious lack of organization, leadership, and command, and that the officers failed to appreciate their responsibilities. It contends that this failure is due not so much to the deficiencies of the individual officers as to inherent weakness of the existing system of wholly decentralized control of brigades. It commented that there is no system of officer training or of classification for inter-brigade promotion, and that promotion is normally based on service only and from within the local brigade. The Commission recommended that the existing system of local control be scrapped and that the whole fire service be controlled by three paid Commissioners having a knowledge of the subject, of whom one should be thoroughly experienced in fire-fighting.

Attached (Table 2) are statistical returns covering the year under review.

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