

substation in Lichfield Street, where the overhead line protective devices were of the cartridge-type fuses, the voltage being 400 volts phase to phase and 230 volts phase to neutral and earth. There were other consumers attached to Ballantyne's circuit. The service to Ballantyne's building is briefly described in Appendix B.

The Municipal Electricity Department service lines were taken to shackle insulators on the Colombo Street frontage of Ballantynes, and joined the service mains of the building at bolted thimble connections prior to entering the galvanized-iron mains entrance pipe which led through the masonry of the front wall of the building, and was fitted at either end with a bell-mouth. The service mains were short lengths of paired V.I.R. conductors, and they terminated at a fuse board where porcelain-clad, back-connected fuses of the rewirable type were mounted. It was stated that a protecting metal cover surrounded the fuse-panel. From the fuse-panel the main supply to the building passed to the main switchboard situated in the basement at the extreme rear of Pratt's building by means of a 0.3 square inch, four core, PILCSTA and S cable. From the main switchboard the supply was laid to various subsidiary circuits throughout the building.

As indicated in Appendix B, there was also a direct-current supply which entered the building from Colombo Street at the south-east corner of Congreve's building. This supply was normal in every way.

There was an arrangement between the Christchurch Fire Brigade and the Municipal Electricity Department regarding power-supply disconnection at fires, whereby it was arranged that the fire brigade should notify the Municipal Electricity Department of fire calls. On the occasion of Ballantyne's fire there is no record of any telephone message having been received from the fire brigade, either from the fire-station or from the seat of the fire. While the arrangement between the Municipal Electricity Department and the fire brigade required the fire brigade to notify the Municipal Electricity Department of all fire calls, it also required a second call from the fire brigade if the fire brigade desired the supply to be disconnected. No such call for disconnection was received from the fire brigade. The initiative for drawing the fuses on Ballantyne's circuit originated with the chief engineer of the Municipal Electricity Department.

(b) *Water* : The water-supply consisted of—

- (i) 15 in. main in Colombo Street :
- (ii) 8 in. main in Cashel Street, east of Colombo Street :
- (iii) 6 in. main in Cashel Street, west of Colombo Street :
- (iv) 8 in. main in Lichfield Street, east of Colombo Street :
- (v) 4 in. main in Lichfield Street, west of Colombo Street :

There were two hydrants close to Ballantyne's building in Colombo Street; four in Cashel Street; two in Lichfield Street; and others at greater distances in the streets named, and also in High Street, Durham Street, and Tuam Street.

At times of heavy draw-off, such as would occur when a fire of this magnitude develops, the supply in the mains is boosted by pumping, and the supply on this occasion was adequate to meet the peak demand.

(c) *Gas* : The gas service is outlined in Appendix B, and there was nothing abnormal concerning the various services to the building.