

for connection to apparatus, is extremely unlikely and, in the case of the cable in Ballantynes, there was no evidence of failure of this cable at the two points where it was prepared for connection to apparatus—namely, the service fuses at one extremity, and the oil-filled circuit-breaker at the other.

Mr. Nicol commenced his investigations at the Lichfield Street substation of the Municipal Electricity Department and found no evidence to show that the supply of electricity, the protective devices within the substation on the circuit to the overhead line, or the overhead line, was improper and able to be the cause of the fire on the premises of Ballantynes. He further stated there was no evidence to show that, due to electricity, the fire originated in—

- (a) The service entrance mains :
- (b) The service fuses :
- (c) The electricity mains cable :
- (d) The main electrical switchboard.

The complete failure of electric lights occurred about 3.58—that is, some considerable time after the fire had been discovered. The cable and the reticulation had been operating satisfactorily since its installation in 1936.

Mr. Nicol's evidence was supported by other experts such as Messrs. J. C. Forsyth and B. H. M. Homersham. The contractors who installed the main electric cable were Messrs. Thompson and Dorreen, Ltd.

41. Mr. Salvesen, the electrician called by counsel for Ballantynes, contended the welding of the armour of the cable took place through the passage of fault current when the main cable broke down, prior to the outbreak of fire, whereas Mr. Nicol gave it as his expert opinion that the welding of the armour was due to external sources, such as falling debris due to the fire, at a time when the cable had been displaced from its original horizontal position in the basement. Mr. Salvesen also propounded the theory that a piece of sheet metal 11 in. by 5 in. which must, in his opinion, have been left by a careless workman on the top of the metal case surrounding the fuse panel, must have fallen so that it made contact between the thimble and the metal cover, thence to the steel armouring of the cable through the cable end-box. In this way he considers the steel-tape armour of the cable may have become heated and caused a breakdown of the cable, and ultimately fire.

This theory presupposes the placing of a piece of metal of a certain size and design on the top of the fuse-panel casing in such a way that it would fall in a certain manner and rest in a position that would create a short circuit, and cause fault current to pass from the thimble through the sheet-metal cover. He said, while searching the debris in the basement after the fire, he found a piece of metal such as he demonstrated would be necessary to prove his theory, but no other person, excepting a labourer employed by him, has admitted seeing such a piece of metal. According to Mr. Salvesen, this piece of metal was despatched to the State Hydro-electric Department workshops, but State Hydro officials deny that it was ever received by them.

In a report to the Fire Underwriters' Association dated 26th January, 1948, Mr. Salvesen spoke of finding a piece of metal 6 in. by 4 in., but, at the hearing, produced a piece of metal which, he said, was similar to what he found at the fire, but measuring 11 in. by 5 in.—the difference in size being explained as a typist's error. At the hearing the labourer produced a sketch of his recollection of the piece of metal, which was quite different in size and design.