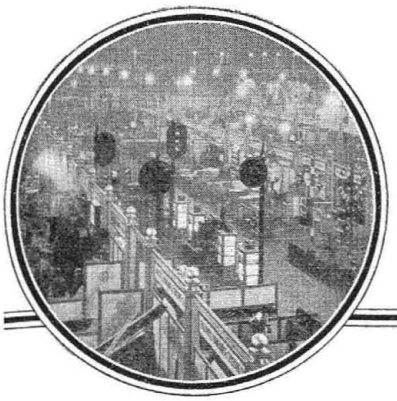
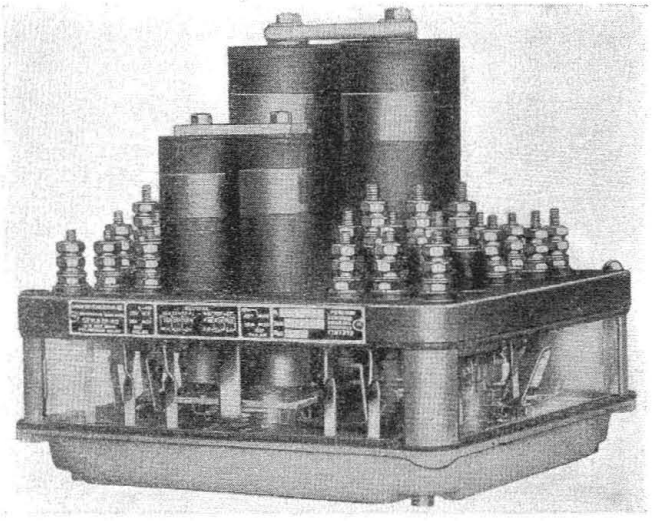


NEW AND IMPROVED DEVICES

Union Retained-Neutral Polarized Relay

THE Union Switch & Signal Company recently placed on the market its Style DP-20 retained-neutral polarized relay. This relay, unlike the ordinary polarized relay, is so designed that it does not allow the neutral contacts to release during the period of ordinary pole-changing. For circuits which have to remain closed during this period of reversal, it has been customary to employ a slow-acting neutral relay, controlled by the neutral contacts of the polarized relay, with sufficient retardation to bridge the neutral contacts of the polarized relay during the pole-changing interval.



With this relay it is possible to dispense with a slow-release repeater in circuits which must remain closed while the polar armature is reversing

The new DP-20 retained-neutral polarized relay thus eliminates the need of an additional relay of the slow-releasing type. This relay is designed to provide full contact opening and pressure and full polar contact pressure with the relay deenergized. All parts are arranged in a manner to give full A.R.A. clearances while not sacrificing the logical and systematic arrangement of terminal posts characteristic of other Union relays. The top plate is of the usual brown bakelite construction and carries the standard A.R.A. name-plate which shows clearly the arrangement of contacts as well as other data.

This relay is designed for use in any circuit in which the contacts of the neutral armature must remain closed during a reversal of the polarity of the line. Due to the efficiency of this design, the relay with four neutral contacts may be used to replace directly a polarized relay of the same resistance and its attendant slow-release relay, thus saving the entire battery drain ordinarily taken by the slow-acting relay. The relay with six neutral contacts, while taking slightly more power than the four-contact relay, still takes much less than the combination of the ordinary polarized relay and the slow-release relay.

All coil connections are made to standard terminal posts located in the top plate and sufficient room is provided to make all terminals easy to reach. The magnetic structure employs the same materials as are used in the Union Style DN-11 and DP-14 Relays.

Type AB De-ion Circuit Breaker

A SAFE flashless device has been developed to perform the protective function heretofore left to carbon circuit breakers or fuses in railway signal power distribution lines. It is known as the AB "De-ion" circuit breaker and is a development of the Westinghouse Electric & Manufacturing Company.

A number of advantages over fuses and carbon circuit breakers are claimed for these "De-ion" breakers. Unlike a fuse, the "De-ion" breaker has nothing to be replaced or renewed; it can be reclosed by anyone as quickly and easily as a switch. It cannot be held closed against an abnormal overload or short circuit, nor can it be blocked to prevent opening the circuit; its rating cannot be changed by unauthorized persons. It has a time lag preventing unnecessary tripping on slight, momentary overloads.

The breaker requires only about 70 per cent as much mounting space as a carbon breaker. Unlike the latter, it opens a short circuit without flash or undue noise. It is so enclosed in a molded composition box that no live parts are exposed. A handle like that of a switch protrudes through the cover to provide means for manual operation and for reclosing the breaker after it has been tripped, but the remainder of the mechanism is entirely enclosed.

The operating mechanism is arranged to provide a quick make and a quick break. The contacts, which are trip-free of the handle, are held in the closed position by a toggle composed of two sets of links, one of which is fulcrumed to the contact mechanism, and the other on a cradle beam pivoted on the frame at one end and latched to the trip mechanism on the other end. The trip mechanism consists of a bi-metal thermal unit cali-