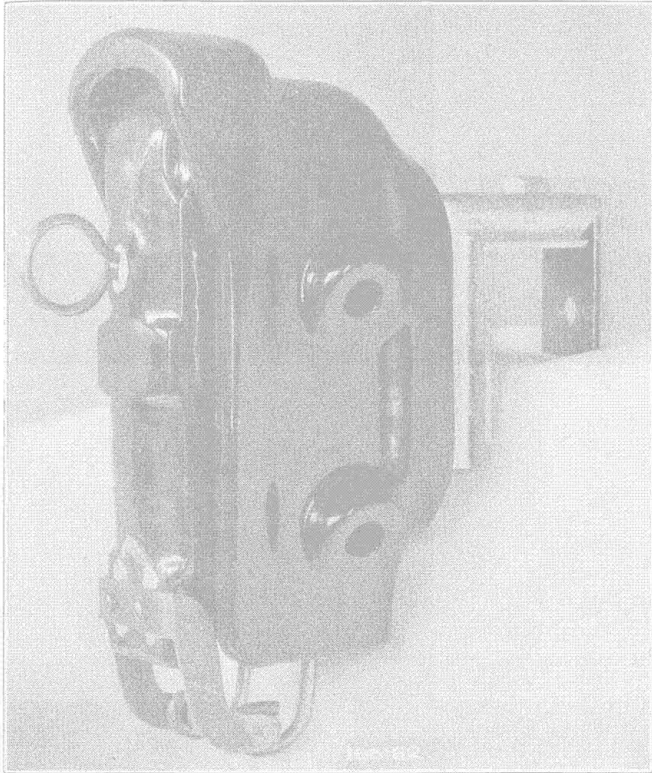


the open position. The door snaps into position when closed and is held securely in place at all times, thus eliminating a latch, and also the possibility of the door being unlatched and left open during a short circuit.

The fuse tube is open at the bottom and closed at the top. When the refill "blows," the gas is expelled from the open end of the tube. Insulating barriers



New porcelain enclosed fuse cut-out

in the box prevent the gases from causing arcing between contacts.

To refuse, no hook sticks, prongs, or tools other than a screw driver for clamping the fuse links in the tube, are necessary. Protection for both the operator and the transformer are assured.

New Line of DN Relays

THE Union Switch & Signal Company has developed a new line of d-c. relays known as the DN-10 and DN-11. These are small, compact track and line relays, said to have lower working currents than anything heretofore available for track circuits. The contact springs and graphites are designed to give maximum life and service. The top plate is of moulded insulating material and is designed to place the various rows of contact posts at different levels to facilitate the making of wire connections to the relays. All the openings in the top plate are permanently sealed to prevent water entering the relay.

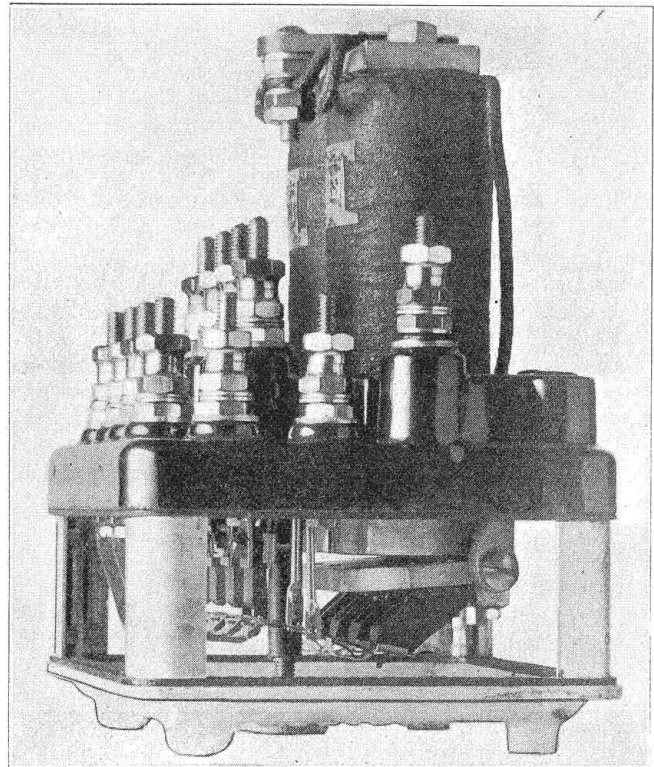
The DN-11 relay is intended for track and line use and has been designed for the best possible operating characteristics. It is $6\frac{1}{4}$ in. square and $8\frac{1}{8}$ in. high. The 4-ohm track relay will give full contact pressure on a working current of 70 m. a. Pick-up occurs at 65 m. a. and the relay releases at 37 m. a. or higher.

The DN-10 relay is smaller and more compact. It is limited to a maximum of 4 front and 4 back contacts. Its height of $7\frac{5}{8}$ in., length 6-in. and width of

$5\frac{1}{4}$ -in. make it especially attractive where there is but little housing space. It is designed to have a direct pick-up of 78 m. a., which is the same value used for many years for the A. R. A. specification relay. The design provides, for full stroke and full contact pressure at the pick-up value, thus the pick-up becomes the minimum operating value of the relay. The DN-10 relay is designed for release with spring pressure of 40 m. a. This value is higher than on previous relays and is considered by many users as a desirable feature in a track relay.

The characteristics given above apply only to the 4-ohm 4-point relay in each class. The DN-10 is made in this type only, but the DN-11 is made also in 6, 8 and 10-point combination. All the relays are built for either shelf or wall mounting and can be provided with simple shock-absorbing springs to minimize the effect of vibration. The base structure is a metal bottom with plate glass sides to afford good vision of all the internal parts. When required, a base can be furnished, made entirely of moulded glass.

Front graphite contacts are of a new design that wear uniformly without pitting. The back contacts



New DN-10 relay has special operating characteristics

are designed so as to eliminate entirely the possibility of dirt collecting on the face of the contact. The use of the straight contact fingers also eliminates the possibility of distortion. Mounted on a bakelite support, the contact fingers are rigidly held and well insulated.

It will be noted that these relays each have a high release value. This is a distinct advantage in that it makes possible greater safety and a longer life in service between adjustments. The low working current of 70 m. a. in the DN-11 and 78 m. a. in the DN-10 accomplishes a three-fold purpose, a longer battery life, the operation of longer track circuits and the possibility of eliminating cut sections, all of which make for economy.