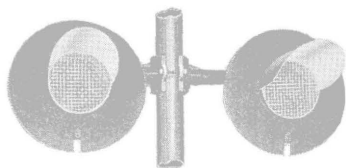


A Roundel Protector

A roundel protector, consisting of square mesh screen, suitably arranged for mounting on flashing-light crossing signals, semaphore spectacle castings, color-light signals, dwarfs, etc., has recently been placed on the mar-

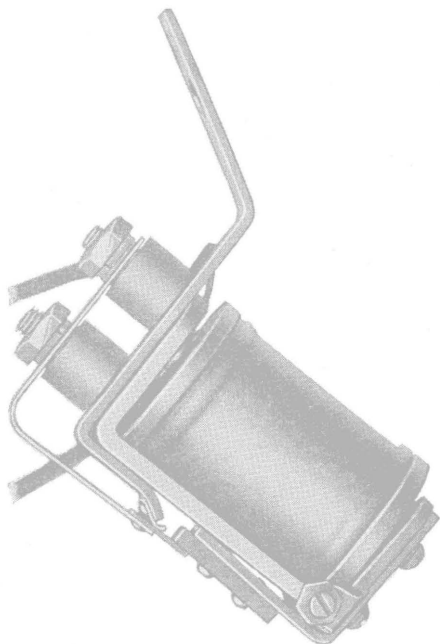


Protectors are made in several sizes

ket by the Western Railroad Supply Company, Chicago. The unit is available in several different designs, consisting of various lens-retaining rings for different lens sizes. The screen is $\frac{1}{2}$ -in. mesh, sufficiently strong to protect against flying missiles, yet it is claimed does not materially affect the volume of light from the signal.

Snubbing Relay for Semaphores

A DEVICE designed to replace the mechanically-operated snubbing contact on d-c. motor-driven top-post semaphore signals not equipped with buf-



Snubbing relay avoids breaking motor circuit

fers, has been announced by the Peerless Manufacturing Corporation, Louisville, Ky. Designated as the Model-G snubbing relay, the principal advantages claimed by the manufacturer are that it does not open the motor circuit at any time; there are no cams or other wearing parts; the snubbing is continuous; there is no sudden surge of relatively high cur-

rent to cause arcing at the motor brushes, such as results when a mechanical snubbing contact is used. This continuous snubbing is said to prevent jerking, and no adjusting is necessary to insure proper snubbing when the blade reaches a given position. It is entirely automatic, because its magnet is in series with the motor so that as soon as the motor control circuit is closed the relay picks up and opens the snubbing contact, removing the shunt across the motor. However, as soon as the motor current is cut off, the relay drops and the snubbing shunt is immediately placed across the motor ready for use.

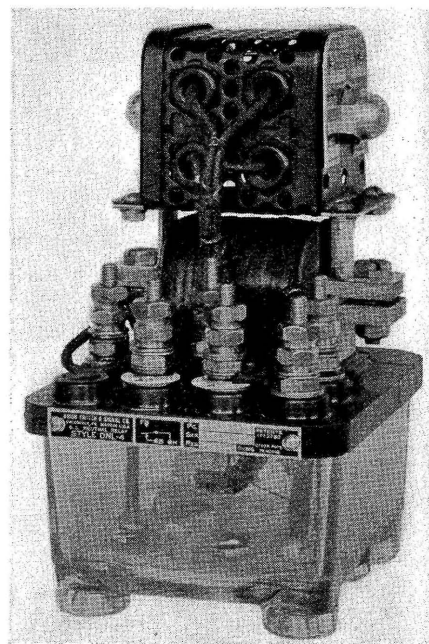
The Model-G snubbing relay can be installed in the same place occupied by the mechanical snubbing contact, which it replaces, without the necessity for any other changes in the signal mechanism.

An Under-Voltage Relay

RAILROADS having a reliable source of a-c. power and well-constructed transmission lines have experienced little or no trouble on account of the low release values of A.A.R. specifications for power-transfer relays (14830) used in transferring the load from the main a-c. supply to the reserve battery at highway-crossing and light-signal installations. Where the a-c. supply is subject to voltage fluctuations and load conditions on the line are such that locations near the end of the line may frequently be subjected to excessive line drops, it is evident that the load should be transferred to the reserve power supply before the line voltage has dropped

sufficiently to give poor signal indications. This problem is solved by the new Style DNL-41 under-voltage relay introduced by the Union Switch & Signal Company, Swissvale, Pa.

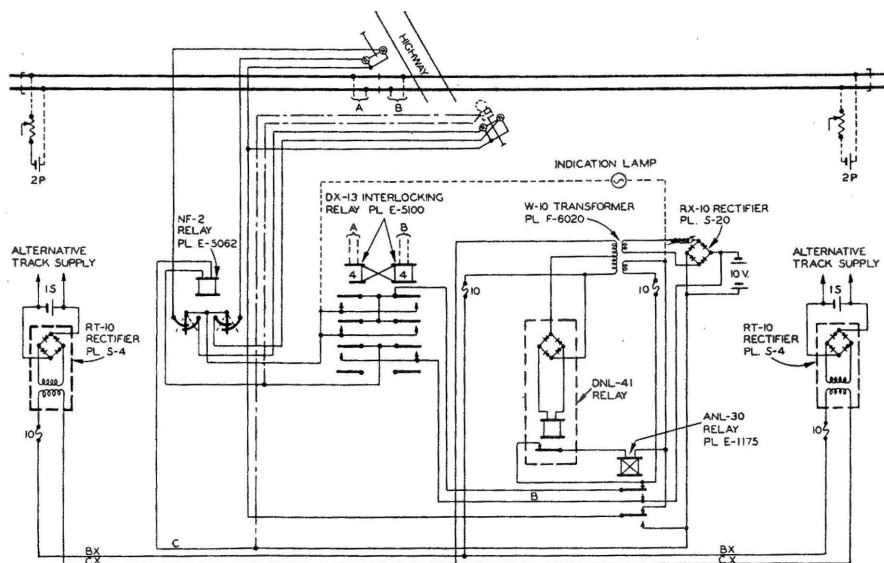
This relay will release on a small reduction in the line voltage, say not



DNL-41 under-voltage relay

more than 30 per cent, which relay in turn will control the power-transfer relay, positively opening or closing its circuit.

The new relay is a combination of the Union DNL-4 relay and a Model RN-12 copper-oxide rectifier for operation on 10 to 15-volts a-c. A series resistor is included in the winding of the relay coil. Adjustment for different transformer voltages is provided for by an adjustable backstrap on the relay.



Highway crossing protection circuits showing application of under-voltage relay in connection with transfer of power to a reserve supply. Through the use of an alternate circuit shown in dotted lines, an indication lamp enables the trainmen to observe when passing highway crossing locations if the power is being supplied from the normal source