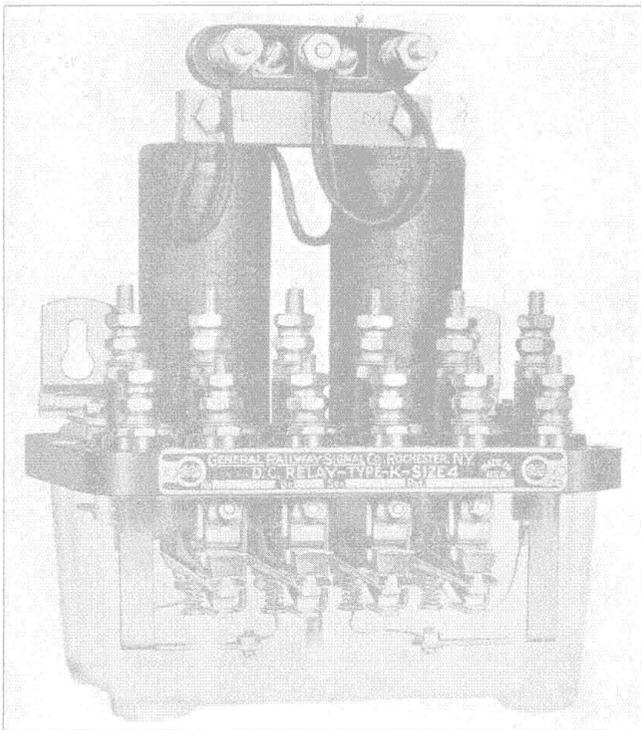


employed, would in a short time set up a condition that might cause constant sticking. Condensers of various capacities in this class of service are at the present time absorbing arcs from currents ranging from a few milliamperes up to 525 m.a., practically making unnecessary the cleaning or replacing of contacts on many devices.

### G-R-S Type-K Direct Current Relay

A NEW relay for track and line use has been produced by the General Railway Signal Company, Rochester, N. Y., and is known as its Type-K. The new relay has an articulated contact so designed that the pressure of the finger remains constant, thus decreasing resistance troubles. It is furnished, when desired, with shock absorbing springs which reduce effects from vibration.

Because of its high efficiency the Type-K relay will give good service under the most adverse track conditions, such as rain and snow or other causes which



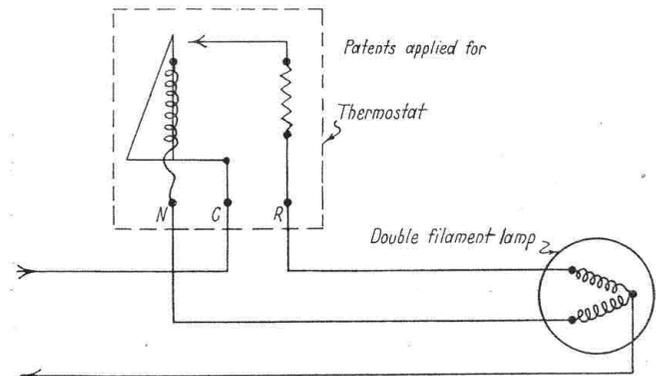
High operating efficiency is claimed for this new G-R-S Type-K d-c. relay

produce a change in ballast conditions. The energy required by the track circuit is small and the shunting values obtainable are said to be excellent. For line circuit use greater protection is obtained from foreign current due to adjustment for higher release values with a given working current.

### A Reserve Filament Device to Prevent Light-Out Failures

THE E. A. Lundy Company has placed on the market an adapter and double filament S-11 lamp in combination with a thermal relay to be substituted for the rebased lamps used in connection with light signals. The adapters are made to exact dimensions, and the S-11 lamps are sufficiently uniform to assure the same measure of focal control as now ob-

tained from the rebased lamps. This is made possible by the fact that the S-11 lamp is an automatic machine product, which insures a degree of accuracy that cannot be obtained where hand labor is employed. The thermal relay is designed to operate in series with the normal lamp filament, there being no contacts involved, and to cut in automatically the reserve filament through a normally closed contact



Wiring diagram of thermal relay for double filament S-11 lamp

when the normal filament burns out as shown in wiring diagram.

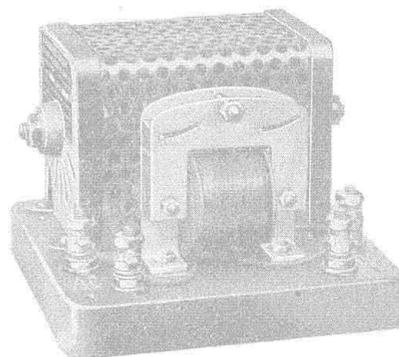
The lamp manufacturers claim that the reserve filament will give approximately 96 per cent of the lamp life of the normal filament. By use of double filament lamps in combination with the thermal relay, it is believed that signal light failures will be reduced to a remote possibility.

The above combination when substituted for the present rebased lamps will obviate the necessity of frequent lamp inspections, as approximately 42 days' lamp life will be provided after the normal filament burns out, where the signal lights are burned continuously. Patents have been applied for on this device.

An application of these units will be on exhibition at the Coliseum.

### Several Distinctive Features Found in New Union Rectifier

THE Union Switch & Signal Company has placed on the market its new Union rectifier having the following outstanding characteristics: permanency and long life; absence of contacts, moving parts, electrolyte or other features requiring main-



Style RX-10 Union rectifier

tenance; high efficiency, full wave rectification; simple adjustment and absence of interference with radio or telephone communication.