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this occur, the signals would display Stop or Stop-and-Proceed indications, such as in A.P.B. territory.

When the original spring switch is placed in service, it is covered by a bulletin with full instructions and, as a constant reminder for train crews, etc., every spring switch location on each division is listed in the current time table, along with the following instructions (which protect against the plunger "overthrow," etc.):

"Where Automatic Block System Rules or Interlocking Rules are in effect and 'Stop' Rule 292, or 'Stop and Proceed', Rule 291, is indicated,

a train or engine, after complying with these rules, must not make facing move over a spring switch until it has been carefully examined to insure that it is lined and facing properly, nor enter on or foul a main track, or obstruct another main track, until the spring switch has first been operated by hand to proper position for the movement and has then waited a sufficient length of time to secure full benefit of signal protection as provided by Rule 505 (b).

"The spring switch must not be restored to normal position until the movement has been completed. The same trainman who operates the switch must restore it to normal position."

## GATE-ARM STRIPE COLORS\*

*"What color combination of stripes on highway crossing gate arms are most effectively seen by vehicle drivers and pedestrians approaching the gates when they are lowered, e.g., black on yellow, black on white, or other?"*

### Reflective Sheeting

By D. O. OPSTAD

General Sales Manager  
"Scotchlite" Division

Minnesota Mining & Manufacturing Co.  
St. Paul, Minn.

REFLECTIVE sheeting in various colors, to improve visibility during darkness, is finding a number of applications in the railroad field, included among which are highway crossing gate arms. Trademarked "Scotchlite", the material has the principal objective of making crossing gate arms brightly visible at night. This in turn has two purposes: (1) to reduce costs of replacing gate arms damaged by motorists running into them at night, and (2) to provide increased protection of motorists and safety of train movements.

Installation of the material enables the natural day-time appearance of a gate arm to be reproduced identically in a night-time reflection. It can be applied to the entire surface, cut in any shape, and reflect any desired color. The sheeting consists of a plastic with a coating of millions of tiny glass spheres, of which there are 30,000 p.s.i. These spheres function as lenses, focusing reflected light directly back towards the source, with a minimum of diffusion. Controlled reflection up to

225 times brighter than white paint at night is thus provided. Virtual immunity to vandalism results from the absence of any single units. The sheeting is applied with back-coated adhesive or special "vacuum applicators", and can be applied to any unpainted clean non-corroding metal such as aluminum, stainless steel, galvanized iron, brass, or porcelain enamel.

In addition to its use on crossing gate arms, the material is also being used in many other instances in the railroad field. A few of these are crossing signs for grade crossing protection, wayside signs, switch-stand targets, and semaphore signal blades.

## NEW BOOK

*The Safety and Special Radio Services. Federal Communications Commission. 37 pages, 5 7/8-in. by 9 1/2-in. Bound in paper. Superintendent of Documents, U. S. Government Printing Office, Washington 25, D. C. Price 15 cents.*

THIS publication is the latest edition to the Public Primer series of the Commission, and sketches in layman's language the growth and development of these nonbroadcast radio services, with brief description of the individual services and their over-all regulation.

\*Other answers on this subject were published on pages 179 and 180 of the March issue.—Editor.

# KINKS

## Emergency Keys for Screw Type Signal Locks

By D. F. MORRISON

Signal Helper  
Boston & Maine, Melrose, Mass.

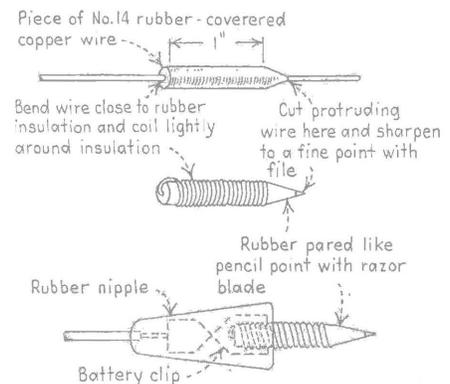
SIGNAL locks of the screw variety may be opened easily when either the socket wrench or standard key has been misplaced. Simply clip the points off of a 1 1/2-in. by 3/4-in. staple and bend the prongs to fit the lock's slots. Should the lock turn hard, a screwdriver may be inserted between the prongs to provide leverage.

## Meter Lead Pointer

By M. E. CARBERRY\*

Techuantepec Lumber Company  
Jesus Carranza, Ver., Mexico

A maintainer's voltammeter should have the leads tipped with stout grips, each protected by rugged rubber sleeves or nipples. In using such a meter, a good maintainer is careful not to put the reading on a voltage too high, or the ammeter on any short. The negative terminal of the meter can be snapped on a negative post—say the incoming terminal—and the positive grip used to "feel" for current. This, however, is



The meter lead pointer is made from piece of No. 14 rubber-covered wire

generally clumsy, so I made up a pointer for insertion in the grip snap, as shown in the accompanying sketch, which proved quite practical.

\*Formerly signal maintainer, Northern Pacific, Puyallup, Wash.—Editor.