

H carriers are operated over dispatcher's phone wires.

### End of Pass Track Switch

By G. A. RODGER  
Superintendent Signals  
and Communications  
Wabash  
Decatur, Ill.

In our APB territory we locate the telephone in a booth mounted on a concrete post adjacent to the end of passing track switch, at a point where it is convenient for the train crews to use. We use a wall mounted telephone with a door switch to disconnect it from the line. In most cases we drop both the dispatching and message circuits into the booth, and they can be selected by a double-pole, double-throw switch.

In our single-track traffic control signal systems, we partition off the front end of the house and install the telephone in the front section. The house is located adjacent to the switch.

## New Employees

*What means do you employ in the selection of new communications employees? What standards are established with regard to age, education and experience? Do you consider scientific aptitude testing of value and do you use it?*

### Move Up in Ranks

By S. W. MILLER  
Superintendent Communications  
Nickel Plate Road  
Cleveland, Ohio

New or vacated positions requiring considerable ability, in general, are filled with employees from lower job classifications, who have a reasonable time in which to qualify, generally considered to be 30 days.

As a result of this practice, practically all our new employees are groundmen and linemen of little experience, employed by foremen in the gangs. It is desirable that these new gang employees have a high school education, but this has not been made a condition of employment, as often it has been impossible to recruit employees for line gangs with such education. The prospective employee may be as young as 18 to 21, if a permit is secured from parent or guardian. The age limit is 40 at the present time.

We feel that aptitude testing has

its place, but it is not used in this department because our system of offering opportunities for advancement in job classification, with strict qualification requirements, effectively eliminates those not suited.

The ability of employees depends a great deal upon the amount of studying they do and application to their work. Our road provides incentive by issuing bulletins on temporary job vacancies of over

30 days, and giving an employee awarded the position seniority in that job classification, if he is able to qualify. In this way, an employee by diligent study and application, can place himself in line for permanent jobs in higher job classifications. The amount of information assimilated and capability acquired by employees working with this incentive, has been truly surprising.



Crossing indicators on TRRASTL; limit signs in foreground

## Crossing Indicators

*What type of indicator is used in slow speed territory to signify to approaching enginemen that highway crossing gates are in the lowered position prior to the engine's movement over the crossing? What are the advantages of using such an indicator?*

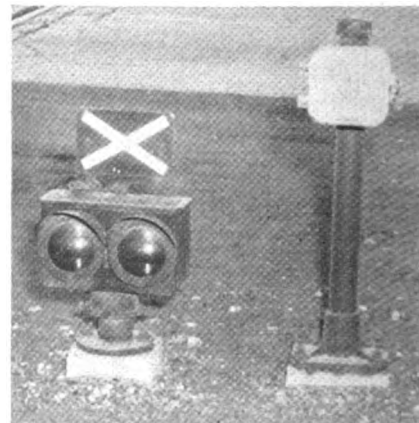
### Used at Busy Crossings

By OSCAR E. MILLER  
Signal Engineer  
Terminal Railroad  
Association of St. Louis  
St. Louis, Mo.

The indicators we use in slow speed territory to signify to approaching enginemen that highway crossing gates are lowered before movement is permitted over the crossing are of two types. One is the electric switch lamp type similar to Union Switch & Signal ES 20 electric switch lamp with red and green lens. A small sign with a reflectorized "X" is mounted on top of these switch lamp type indicators. The other is a three-color colorlight dwarf signal with the third lens aperture blanked by a small reflectorized crossbuck sign to distinguish that the indicator is

a highway crossing protection indicator and not an automatic block signal.

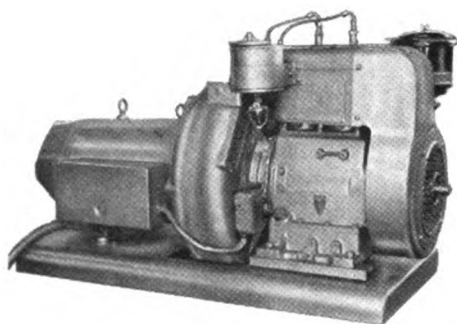
Our method of operation is as follows: If a train stands on an approach section for a predetermined time (which insures that it is stopped or moving at very low rate of speed), the gates time out and after a first time interval the crossing indicator displays the red aspect (stop). Then after a 15-sec. longer time interval the gates start to rise. If it is desired to lower the gates again the engineman moves his engine onto the center or island track circuit, the limits of which



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are indicated by small crossbuck limit indicators (sign with reflectorized "X"). When the leading wheels of the engine pass these indicators, the gates are again lowered and after they have assumed horizontal position, the indicators change to a green aspect and the engine can then proceed over the crossing.

In some instances a key circuit controller is used (operated by switch key by train crew) to lower gates. However, our experience is that trainmen prefer to re-lower gates by moving the engine past the limit indicator and allowing the gates to lower rather than using the key.

We have used these indicators at two very busy crossings with US Route 50 and Illinois State Route 3 in East St. Louis, Ill., and Monsanto with excellent results on these crossings, which are used by 16,000 cars and 11,000 trucks daily.

#### Used on IC

By R. W. KILE  
Special Engineer  
Signal Department  
Illinois Central  
Chicago, Ill.

The Illinois Central employs two basic types of indicators, either a standard high or dwarf colorlight signal or bascule bridge lamps mounted on a short mast. Each indicator is designated as such by an "X" which is either painted on the



Colorlight dwarf crossing indicator in electrified territory of the IC

background or on a sign mounted on the signal.

Normally we use two basic circuits. One is the conventional method of indicating the position of the gates either in the down or raised position. This type circuit is used where operation consists mostly of passenger trains, which make a station stop before reaching the crossing.

At other locations where through train movements are common in addition to passenger train stops or where time cutouts are provided in the approach circuits, the indicator normally displays a proceed indication with the gates in a raised position. When the approach becomes occupied, the gates lower and the indicator will continue to display a proceed indication. Should a train stop on the approach, causing the time cutout feature to become effective, the gates clear; however, the indicator then displays a stop indication until the crossing protection is set in operation once more and the gates lower.

The purpose of having the gate indicator normally display a proceed indication as described above is to allow trains to approach the crossing at normal speed and to indicate to trainmen that the crossing protection is operating properly. With this arrangement the possibility of the trainmen mistaking the signal or making unnecessary brake applications is avoided.

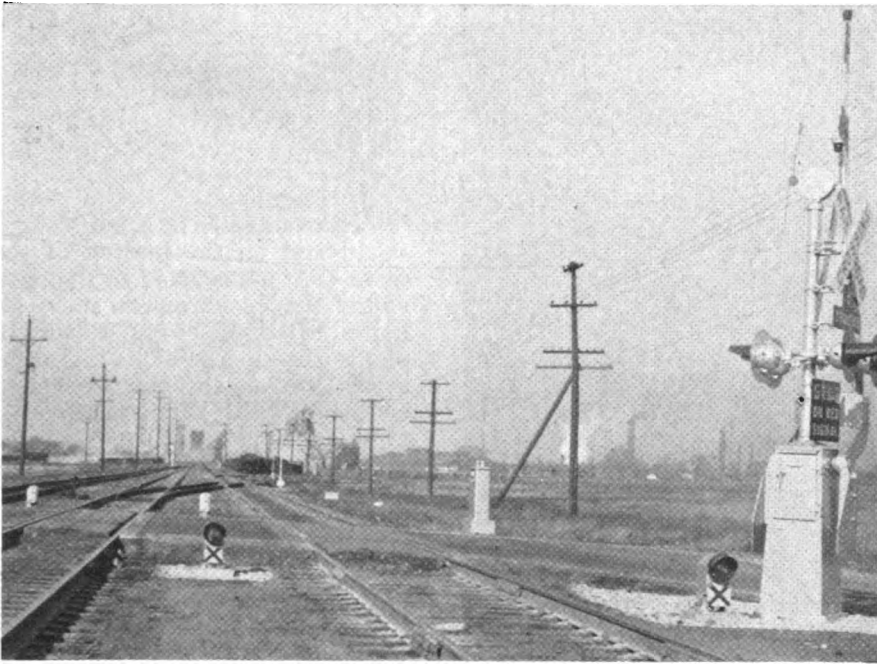
We have found that both arrangements work satisfactorily and have not experienced any trouble with the gate indicators being mistaken for any other type of signal.

We find it advantageous to use indicators at certain crossings where highway traffic is heavy and where it is essential that unnecessary operation of the crossing protection be kept at a minimum. By using such an indicator it is possible to arrange the controls in a flexible manner for various types of train movements, yet at the same time, retain the safety feature of having the gates in a lowered position before actual train movement is made over the crossing proper.

#### Signal with "X" Sign

By J. A. HARVEY  
Signal Supervisor  
Elgin, Joliet & Eastern  
Joliet, Ill.

On our system we have many interchange points where switching-type movements are made on the approach circuits to highway cross-



Colorlight crossing indicators for train crews on the EJ&E

ing protection. Our standard on all such locations is to have time cut-outs, and other cutouts actuated by hand-throw switches. On these locations we always install a colorlight type signal, which is marked with a letter "X," indicating that the signal pertains to crossing protection only. This signal incorporates the following features to give train crew information on how to handle the train movement:

- 1) When movement occupies the long approach, it approach lights the "X" signal, and if crossing protection is seized, the signal will display a green aspect.
- 2) When movement has lost the control of crossing protection on the long approach, the signal will

display the red aspect, and then after a predetermined time interval, crossing protection will clear for highway traffic. This feature allows the train crew either to reseat the protection by occupying the short approach before the time interval runs out, or stop train movement before it reaches the short approach circuit. We feel this feature is the most important information given to train crew.

- 3) When the time cut or other cutout features shorten the long approach circuit, the signal will not display a green aspect until crossing protection has operated 20 sec. on flasher protection and when gates are lowered into horizontal positions at gate locations.

## Snow on Signals

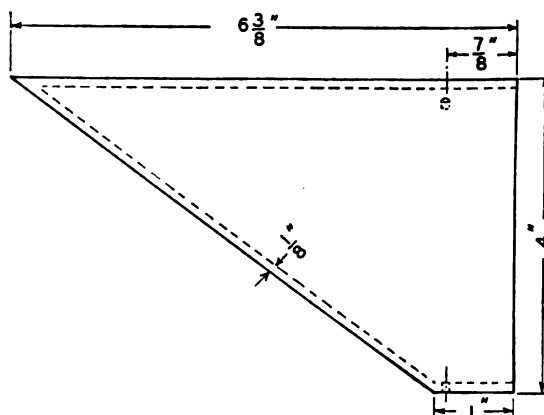
*What methods do you use to prevent the accumulation of snow on the surface of signal lenses?*

### Very Little Trouble

By J. I. KIRSCH  
System Engineer—  
Communications and Signals  
Pennsylvania  
Philadelphia, Pa.

We know of no special device or arrangement to prevent accumulation of snow or ice on signal lenses. The latest design of the hoods on position-light signal lamp units, as used on high signals on our railroad, to prevent the sun from shining into the unit and giving a re-

flected light, inherently serves also to prevent snow from accumulating on the cover glass. Seldom have we experienced trouble from this



source, and when it happens rarely, the only remedy we know is to remove the snow by hand.

During the winter of 1957-58 we made a trial of a silicone solution for treating cover glasses of signals to prevent sleet and snow from adhering to the glass. This test was not successful. What snow did accumulate on the glass melted and then formed into ice, but did not fall off. It was necessary to remove the ice by hand, which came off in one piece, retaining the shape and contour of the cover glass.

### Use Snow Shields

By B. W. MOLIS  
Superintendent of Signals  
and Communications  
Denver & Rio Grande Western  
Denver, Colo.

We use a plastic snow shield on searchlight signals. On signals equipped with this shield, we have never encountered an obscured aspect. It is made of transparent plastic tubing, 4 in. in diameter and 1/8 in. thick. One end is sawed off at an angle of 30 deg. This sloping end is completely closed by a piece, cut from flat 1/8-in. plastic sheet, sealed into the opening. The other end is cut at right angles to the axis of the tube. This end is left open.

When applying this shield, the open end, 4 in. in diameter, is placed over the central portion of the cover glass of the searchlight signal, the tube extending from the cover glass, with the angled portion of the shield at the bottom. The shield is held in this position by

