



What's the Answer?

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Railway Signaling

If You Have a Question That You Would Like to Have Someone Answer, Or If You Can Answer Any of the Questions Shown Below, Please Write to the Editor.

Crossing Bells at Flasher Signals

"In your opinion, under what circumstances should a bell be provided as an auxiliary part of the protection where flashing-light signals are installed at a highway-railroad grade crossing?"

Only for Pedestrians

W. J. Eck

Assistant to Vice-President, Southern,
Washington, D.C.

A low-toned bell is useful on flashing-light crossing signals only when there is considerable pedestrian traffic over the crossing. Bells are of no use for vehicular traffic.

Bells Valuable at Close Range

Leroy Wyant

Signal Engineer, Chicago, Rock Island
& Pacific, Chicago

It is my opinion a bell should be provided at every crossing protected by flashing-light signals, or, for that matter, any other type of protection including gates.

The bells are especially valuable as warning to pedestrians and to vehicles starting up right at the signal or approaching it from a side street, under which conditions the drivers frequently are out of range of the most effective beam of the flashing light. Further, their attention is usually on the business to which they have just attended or on getting their car out into the traffic lane, and they do not observe the flashing lights. On the other hand, an audible signal, such as a bell, forces its attention on them.

I hear a lot about the objections to bells from nearby residents but the fact remains that we have one on every crossing signal on the Rock Island lines. In a very few cases we have

To Be Answered in a Later Issue

(1) *When installing crossing signals, what success have you had in pushing pipe conduit under street pavements, and what kind of a device is used as a pusher?*

(2) *On a double-track automatic block signal system using common line wire, an intermittent ground was causing the line control relay to be falsely energized. If you have had similar experience please explain methods used to locate the cause of trouble as it occurred on your territory.*

(3) *What is the most practical means of providing an arrangement whereby one man can check the complete operations of an automatic interlocking of two single-track roads?*

(4) *Have you devised a scheme for the operation of a time-recorder, for automatic interlocking, which operates only when trains are in the control limits, making it practicable to operate the recording tape at a higher speed thereby securing greater accuracy in comparing the data?*

had to resort to the "pedestrian" type bell. For this service we have tried varying types of bells, such as the rapidly-vibrating sheep-type gong.

We are now using a bell of the more commonly used type except the gong is about half the size of the standard type. I believe this latter arrangement is most satisfactory where a less noisy bell is required.

Bell Warnings Ineffective

P. M. Gault

Signal Engineer, Missouri Pacific,
St. Louis, Mo.

A crossing bell of any kind is a nuisance. As a warning device it is open to the very serious objection of being on the "open-circuit" principle. When horse-drawn vehicles were common it was very effective as a warning, but with the advent of high speed, closed automobiles and trucks its warning can seldom be heard for a distance which will enable the driver to take proper action.

Left to my own judgment, I would seldom use a bell at a highway crossing. The presence of traffic consist-

ing of heavy, slow-moving horse-drawn wagons or vans or pedestrians might justify use of bells if the noise does not become a nuisance to nearby places of business or residences.

Alining Flashers

"On an installation of flashing-light crossing signals with the lenses or roundels equipped to give a horizontal beam spread of 30 deg., how should each of the four separate lamps on a signal mast with back-to-back mounting, be directed? Please use sketch to explain."

Distribution Curve Indicates Range

E. W. Reich

Signal Engineer, Reading Company,
Philadelphia, Pa.

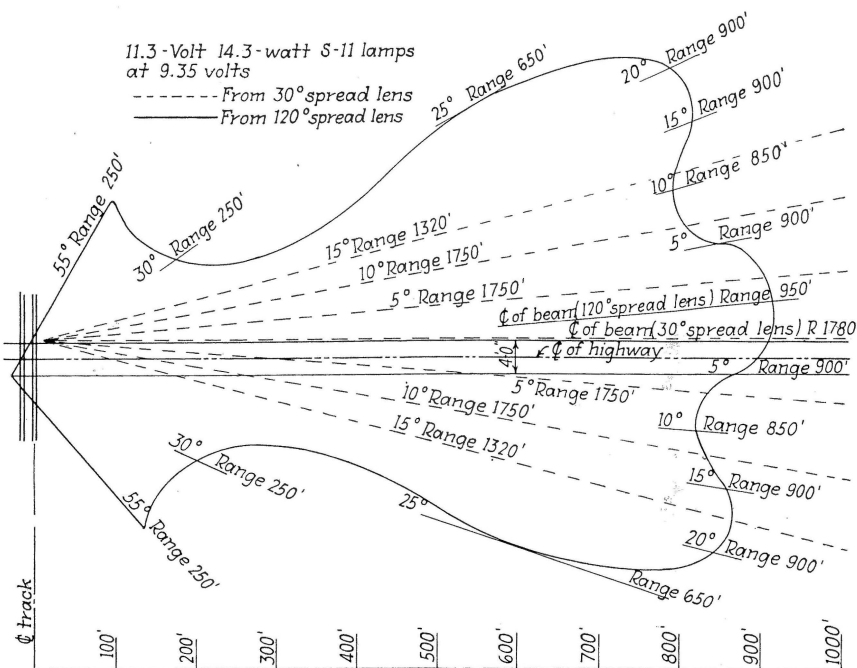
Wide modern highways with two or more lanes for traffic in each direction, together with the increased speed of highway traffic, are responsible for

(Continued on page 600)

the necessity of installing long-range signals and special spread lenses so that signals are visible throughout the entire highway approach.

The arrangement of signals recommended by the Association of American Railroads, and adopted by most

way in bright daylight at a distance of approximately 1,780 ft. from the crossing, and the back lights at a distance of approximately 950 ft. The spread of a back-light beam is such that a good indication can be observed over the entire width of the crossing.



Distribution of beam with the range at various angles from the flasher units

roads as standard, in which the signals are arranged to indicate in both directions along the highway, permits the use of one type of long-range spread lens on the front light and a wider type of spread lens on the back light.

The accompanying diagram plotted from manufacturer's curves shows the approximate range and spread of signals in which a 120-deg. spread lens is used on the back light and 30-deg. spread lens on the front light. The location shown is typical for a long tangent approach, and the focusing of signals should be adjusted to meet local conditions at individual locations, allowance being made for curved highway approaches. The ranges for the various degrees of spread shown are approximate values.

With a tangent highway approach as illustrated, the long-range front lights can be sighted from the high-

This wide spread is particularly desirable when cars are stopped opposite the signal on the approach side of the crossing, where there are two or more lanes in the one direction and where a car in the right-hand lane might obstruct the view of the signal to the right of the highway.

Drawing Illustrates Method

C. J. Kelloway

Superintendent of Signals, Atlantic Coast Line, Wilmington, N.C.

The best answer that we can give to the question of how to direct the flashing-light units of a crossing signal having 30-deg. spread lenses, is indicated on the plan herewith. The dotted lines represent the central beams, each of which is directed toward an automobile approaching the

crossing at a distance of 400 ft. The back lights are also directed toward these points on the opposite sides in order to obtain the maximum benefit from these auxiliaries. The essential dimensions are shown in the diagram.

Checking Signal Lamps

"On approach-lighted signal territory where it is important not to shunt the track because of interfering with train operation, what means do you use to check filaments in signal lamps?"

Use Dry Cells in Testing

E. B. Luse

Signal Maintainer, Great Northern, Ephrata, Wash.

In testing filaments of signal lamps I use dry cells and lead wires fitted with testing clips. The clips are connected at the light socket and the two cells connected in series, giving sufficient voltage to illuminate the filament.

Although this voltage does not give full brilliancy there is usually enough light to indicate, upon close inspection, whether both filaments are burning, in case there are two. Also the lower voltage relieves the eyes of the discomfort caused by looking on a bright filament as in regular signal operation.

By testing signal lights in this manner there is no danger of stopping trains or of tying up interlockings, by using shunts.

DNL Relay Shunted

Vernon C. Cone

Signal Maintainer, Southern Pacific, El Paso, Tex.

Testing signal lamps in approach-lighting territory without shunting the track is not a difficult operation. For
(Continued on page 602)

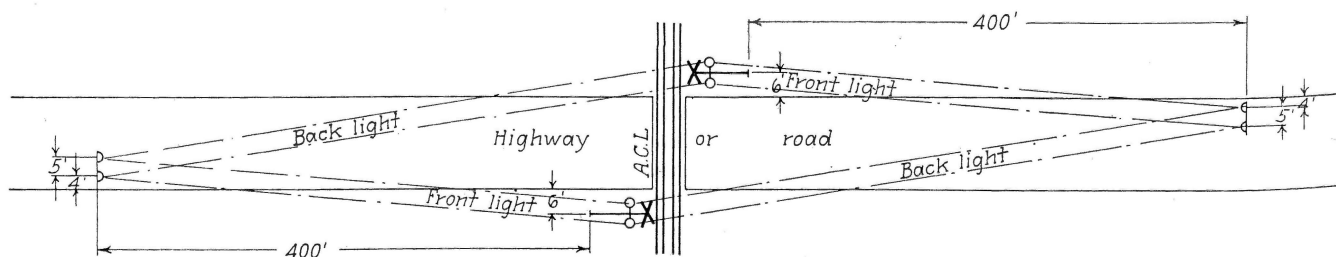


Diagram illustrating the focusing scheme employed on the Atlantic Coast Line