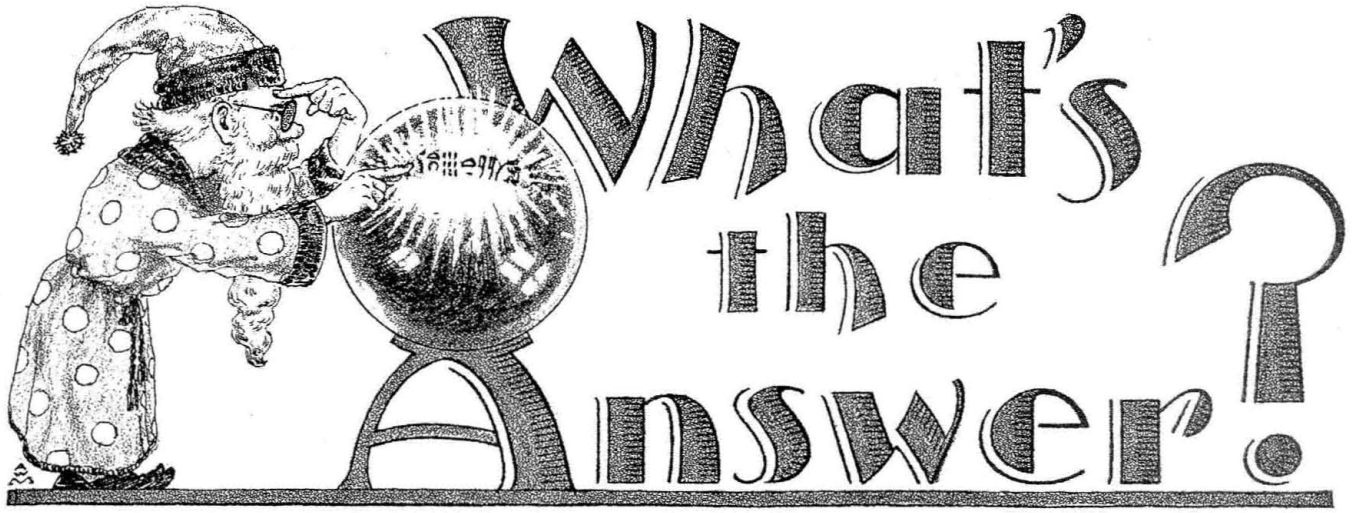

To Be Answered in a Subsequent Issue

(1) *Do you consider it advisable to provide track circuit control for automatic highway crossing signals on passing tracks which are used considerably by trains operating at fairly high speeds? How are the circuits arranged?*

(2) *What is the best method of preventing frost trouble on contacts and commutators of signal mechanisms and circuit controllers?*

(3) *When using power drilling machines for bonding, how many machines and men can be profitably used in one crew?*

(4) *What effect does density of freight traffic, as measured by the number of trains per day, have upon the "dead" time of train operation? "Dead" time is the time consumed by delays. What ratio does such delay time bear to total time over a district?*

Are Automatic Signals on Sidings Justified?

"Where passing tracks are lengthened to say 8,000 ft. to facilitate non-stop meets on centralized control installations, is it advisable to provide automatic signal protection on the passing track, and if not, what rule is used to cover the operation?"

Believes There Are Two Answers to This Problem Depending on Train Speeds Through the Siding

By B. J. Schwendt
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IF speed through the siding is to be kept down to approximately 10 m.p.h., such as is the common rule on most roads where No. 10 turnouts or crossovers are used to enter a siding, in my opinion no signaling is necessary unless special conditions exist, as the method of operation can be covered by standard Code Rule No. 105 (new Code, January, 1928) which reads as follows:

"Rule No. 105—Trains using a siding must proceed, expecting to find it occupied. Sidings of an arranged direction must not be used in a reverse direction unless authorized by the ..... or in emergency under flag protection."

Under signal dispatching, such as we are using, it is so arranged that both entering signals cannot be cleared at once. This will prevent two trains from entering the opposite ends of the same siding through error on the part of the dispatcher, which might result in their getting together. This same arrangement of signals takes care of the requirement in the second part of Rule 105 about established directions, as under signal dispatching any siding may be used in either direction under signal protection; therefore the second part of the rule would not be needed.

In special cases such as above mentioned it may be necessary to signal the siding. The following case is a sample in which signaling in one direction would be desirable: A siding is approximately two miles long, but the north end of it for approximately a mile is crossed by a number of city streets. Trains of 100 cars are operated requiring only one-half of this siding to get into clear. If such a train should enter from the south and proceed to the north end, the usual delay of a random meet with an opposing train might be such that the train would have to wait five minutes or so for the opposing train to pass. Under such circumstances it would be necessary for the train in the siding either to back up to the entering end to clear the street crossings or cut them; in either case the delay would be considerable. The use of a northward signal midway of this siding to announce when conditions are right for the train to move on to the north end and pass on out would probably justify its expense many times over. There may be many other conditions requiring such treatment where long sidings are involved.

If high-speed turnouts suitable for train speeds of approximately 30 m.p.h are used and the siding is also suitable for similar train speeds, it is in my opinion necessary to track circuit the siding and provide an intermediate speed entering signal to correspond with the speed allowed (30 m.p.h.) In our practice this would call into use the middle arm on a three-arm signal or the middle unit on a three-unit, color-light signal. Should a second train follow the first into the siding, the lower or calling-on arm or unit would be used. In this case, as above described, the opposing entering