Train Order Indicators Used Successfully On the C. I. & L.

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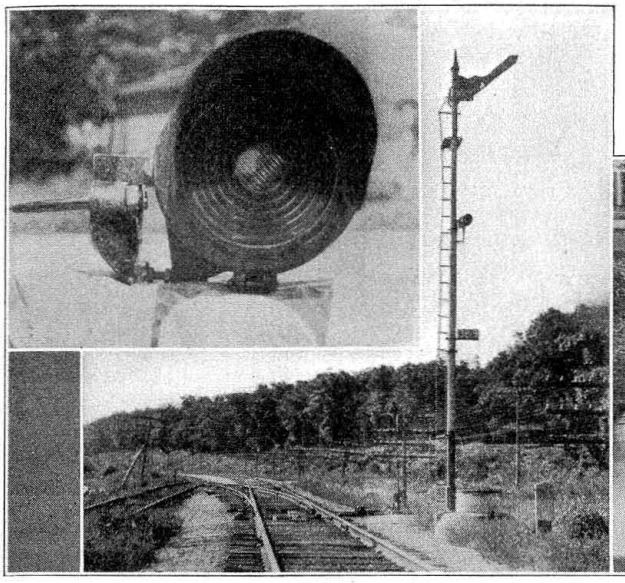
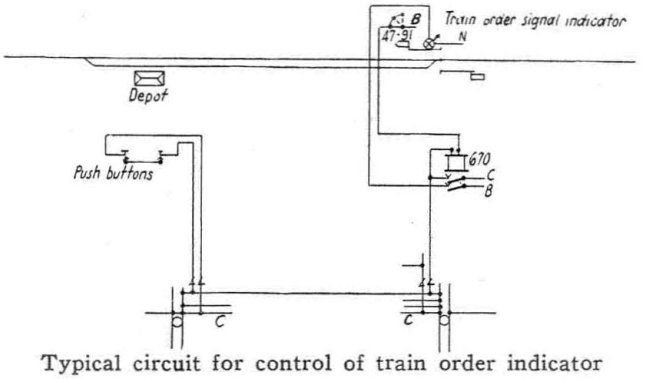


Upper Left—Close-up of train order indicator which is mounted on the signal mast; Right—Two control push buttons mounted above operator's desk in station

THE Chicago, Indianapolis & Louisville is a single track line operating trains by time card and train order. In the block signal territory, practically all train movements are handled by means of the standard form of No. 19 train order. As there is considerable distance between stations, there is an opportunity for one freight train to leave a telegraph office, holding an order to meet an opposing freight train at an intervening telegraph office. The telegraph office at this intervening station may be at one end of a siding, quite a distance from the switch where the freight train will stop and head in. In the meantime the opposing freight train may have been delayed for some



Typical circuit for control of train order indicator

cause, which in turn will cause a delay to the train which is to take the siding. Before the operator can attract the attention, or take steps to get a train on the siding to move, there may not be much time left for it to advance against the opposing train. Consequently the train must remain on the siding, losing additional time.

To overcome this unnecessary delay, we have installed on the mast of the block signal at the switch furthest from the telegraph office, a type of indicator using the standard Type-W light unit as manufactured by the General Railway Signal Company. This unit is equipped with a green doublet lens and with the standard adjustable bracket for clamping to a 5-in. signal mast. A 10-watt, 10-volt lamp is used which takes current from the battery that operates the automatic block signal.

The indicator is controlled by a circuit to the telegraph office. On the operator's desk are two push buttons several inches apart, the contacts of which must be closed simultaneously to complete the circuit, the two buttons being used so that, in the event one button is accidentally closed, it will not establish a circuit and pick up the stick relay. A typical circuit for the indicator is shown in the diagram. It will be noted that once the stick relay is picked up, it will close the circuit to the lamp in the indicator until the passage of the train. The circuit to the indicator is interconnected with the block signal circuit, so that the indicator cannot show a green light unless the block signal to which it is attached, is in the clear position, thus avoiding any opportunity for the engineman to misinterpret the indicator for a clear block signal. This, it will be noted, is accomplished by breaking the stick relay control through the semaphore signal controller in the 47-deg. to 90-deg. positions. Passage of a train automatically drops the stick relay and extinguishes the indicator light unit.

The method of train operation is as follows: The dispatcher, upon learning that the opposing train has been delayed, advises the telegraph operator to clear the train order indicator so that the engineman of the approaching train, observing the green indicator, will not stop and take siding, but will continue to the telegraph office, where he will pick up an additional train order without stopping his train, and will continue to some other siding designated in the train order as a meeting point.