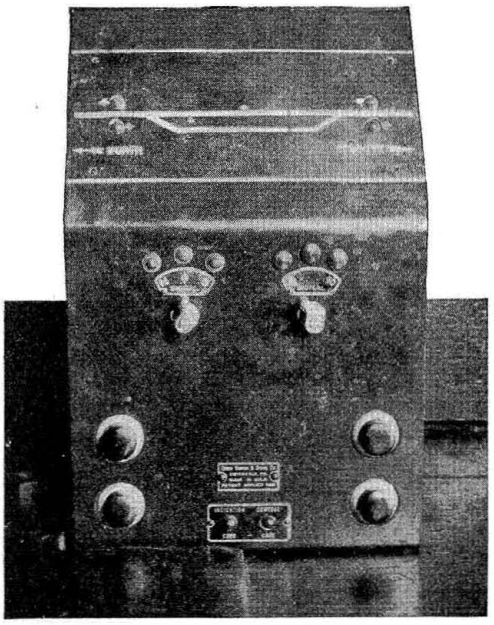
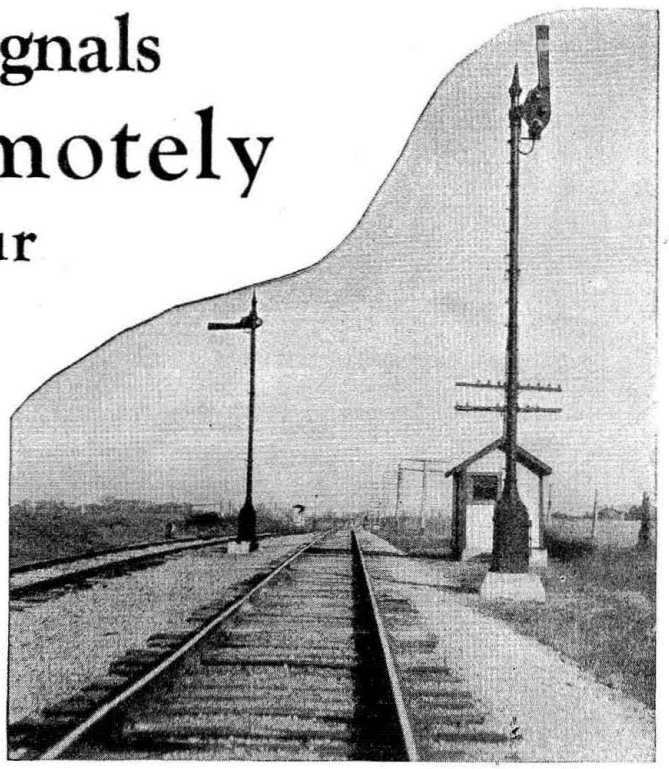
Manual Block Signals Controlled Remotely on the Big Four

Centralized circuit system affords control, indication check, and "OS" feature, thus saving the expense of operators



The control machine in the operator's office at Greensburg



View at Horace, northbound signal indicating proceed

THE Cleveland, Cincinnati, Chicago & St. Louis now has five installations of unattended manual block stations remotely controlled from adjacent stations, which serve to direct train movements and report the passing of trains, thereby saving the expense of operators at such points, all of which are located at outlying passing tracks.

The first installation of this device was made on the Michigan division of the Big Four at Horace, Ind., which is seven miles south of Greensburg on the line from Greensburg to Louisville, Ky. The control machine is located at Greensburg and is handled by an operator who also serves the Chicago division of the Big Four between Indianapolis and Cincinnati. The next manual block station with operators continuously on duty is located at Westport, Ind., 13 miles south of Greensburg. The automatic equipment at Horace divides this territory and permits trains to meet at the Horace siding under block protection. If it were not for this system, it would be necessary to employ three operators at Horace. The traffic on this line consists of one passenger train and approximately eight freight trains each way daily, or a total of 18 movements a day. The major portion of the freight traffic consists of coal from Kentucky moving north to Greensburg for connections north.

Four similar installations of remote controlled manual block signals are in service on the Cairo division of the Big Four, at Ernst, Ill., Trimble, Dunn and Gossett.

Short track circuits, located in the main line outside of the limits of the passing tracks, are so connected as to report the passing of a train and the direction in which it is moving. When a train enters a track circuit approaching the siding, the fact is indicated immediately by an annunciator bell and a light on the illuminated track diagram on the machine in the operator's office at Greensburg. The movement is likewise indicated when the train passes the signal and again when it passes the track circuits beyond the siding switch. An indication showing the position of each signal is displayed on the control machine until acknowledged by the operator.

As shown in the track and signal plan, each of the two manual block signals is located to the right of and adjacent to the track governed, and are separated sufficiently to permit the use of a track circuit that will afford proper shunting. The control of each signal is taken through a circuit breaker on the opposing signal, so that only one of the signals may be cleared at one time, thus insuring that the other is displaying the stop indication when the one indicates proceed. The signals are so connected that a train passing the signal indicating proceed, automatically releases the signal, causing it to display the stop indication.

Middle Order Established by Signal Indication

The operating rules provide that the "middle order" must be used when the movement of a train carrying passengers is affected by a train order, excepting when the meeting point is the initial station of the superior train on the division. When the dispatcher sends a train order establishing a meet at Horace, the operator at Greensburg receives the order and causes the signals at Horace to display the stop indication until the train, taking siding, reports in the clear; after which a proceed indication is displayed to the train using the main track. The conditions are reported to the dispatcher and by