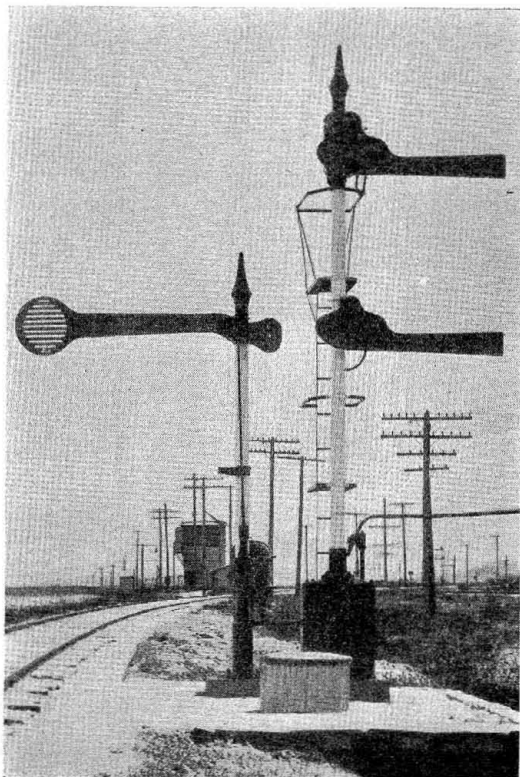


# Railway Signaling

## Automatic Interlocking Replaces Mechanical Plant



Home signal on the Great Western

**A**UTOMATIC interlocking at a grade crossing of the Chicago Great Western and the Chicago & North Western, near Rochester, Minn., is saving the Great Western \$1,400, and the North Western \$1,000, net, annually, which represents a return of approximately 23 per cent on the investment, for both roads. The requirement of the Minnesota Railroad & Warehouse Commission that smash-boards be installed as part of the automatic interlocking accounts for approximately 30 per cent of the cost of the installation. The automatic plant, which was installed in July, 1931, replaced a mechanical interlocking which had been in service 28 years.

### Traffic Conditions

The crossing here described is on a branch line of the Minnesota division of the Great Western, which extends from Randolph, Minn., to McIntire. About 1½ miles north of Rochester, Minn., this line crosses at grade a branch line of the Chicago & North Western. The traffic on the Great Western at this point normally consists of two freight and four passenger trains daily, while that on the North Western consists of four freight and four passenger trains. Ladings are chiefly farm products and general merchandise.

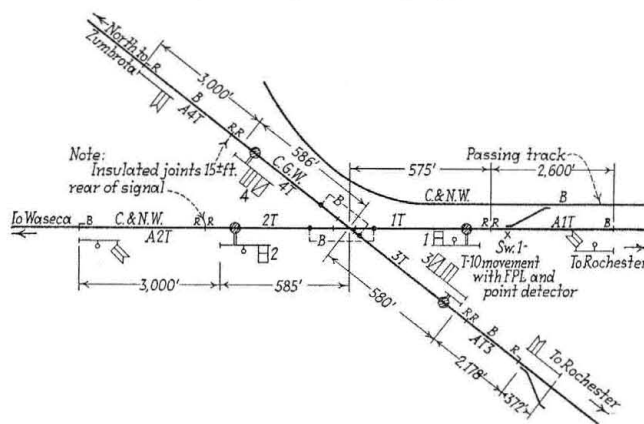
Since the speed over the crossing is limited by bulletin to 20 m.p.h., operative distant signals were not required. The home signals on the Great Western operate to two positions, Stop and Caution, and are designated

Chicago Great Western and Chicago & North Western effect total net return of 23 per cent on investment of \$10,500  
 —Smash-boards required—Circuits utilize interlocking relays for directional control

as such by an auxiliary blade fixed in the Stop position. On the North Western the home signals operate to two positions, Stop and Clear, and carry lunar white marker lights. The distant signals on the latter road carry yellow marker lights. Home signals are located approximately 580 ft. from the crossing, with the distant signals 2,550 to 3,000 ft. in the approach to the home signals.

### Control Relays of Interlocking Type

The circuits are patterned after the Chicago & North Western's standard plan for automatic grade-crossing interlocking, a feature of which is the use of interlocking relays to secure the desired directional control. A Great Western train approaching signal 3 will, on en-



Meets can be made at the passing-track without operating the emergency release

tering track circuit A3T, cause signal 3 to clear, provided there is no train between signals 3 and 4, or between signals 1 and 2, and that there is no train approaching a clear home signal on the North Western. As the train in question passes signal 3 this signal assumes the Stop position and cannot again be cleared until the train has passed signal 4.



