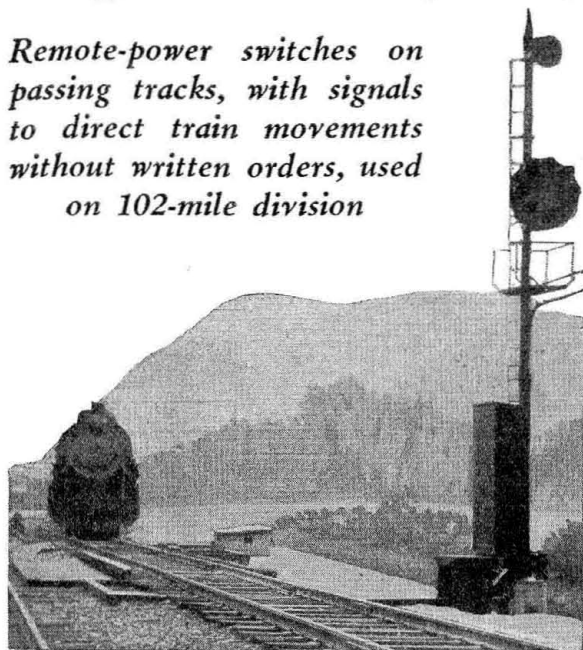


## Trains on Baltimore & Ohio

# Operate by Signal Indication

*Remote-power switches on passing tracks, with signals to direct train movements without written orders, used on 102-mile division*



## Over Single-Track Lines

By G. H. Dryden

Signal Engineer,  
Baltimore & Ohio

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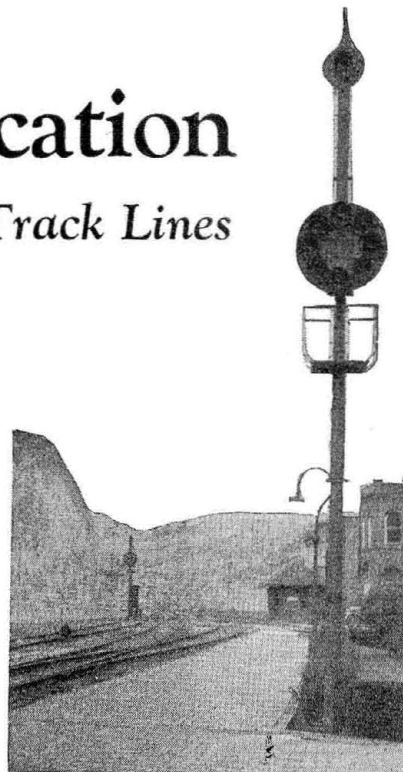
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*Left—West bound freight train leaving the siding at Salem, W. Va.*

*Right—View near Salem station looking east over switches at the lap*

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THE Baltimore & Ohio has recently completed a system of signaling and remote control power switches on a complete division between Grafton, W. Va., and Parkersburg, a distance of 102 miles, of which 89 miles is single and 13 miles is double track. Between these limits all train movements are being directed by signal indication without written train orders, and train stops to enter or leave the passing track switches are eliminated. All signals are the color-position-light type, and the switch machines are electrically operated. The system is controlled from desk-lever machines located at 16 points along the division, principally at existing interlockings or important telegraph offices. The installation was constructed by signal department forces of the Baltimore & Ohio.

### Track Layout and Physical Limitations

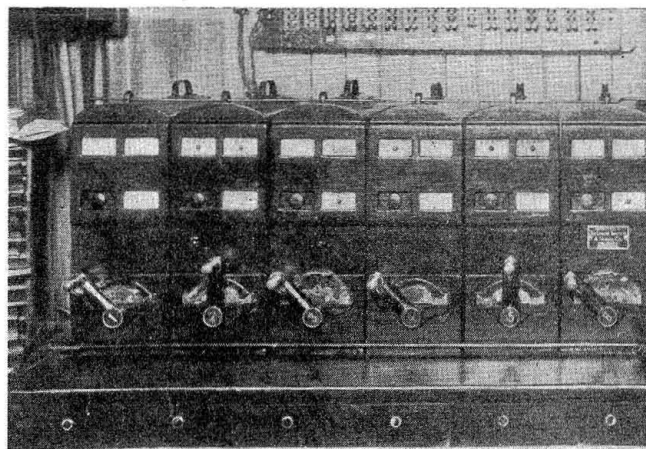
Extending westward from Grafton to Rosemont, there is an 11-mile section of double track which is signaled for regular movements on the right-hand track. Through Clarksburg there is a two-mile section of

double track between interlockings "MO" and "J"; likewise there is a one-mile section of double track from Camden into the yard at Parkersburg. The remainder of the division is single track, with lap siding layouts at 11 stations and single sidings at 3 other stations, as shown on the track plan. At the end of double track and at all passing siding inlets or outlets, interlocking is provided, each interlocked switch being protected by signals near the fouling point.

This division traverses a mountainous section of West Virginia with numerous curves, grades and tunnels.



Signaling on the double track west of Grafton



The desk-levers are placed on heavy wooden tables

The ruling grades vary from 0.96 to 1.47 per cent. There are 23 tunnels on this division, varying from 300 to 2,710 ft. in length, the longest being located near Clarksburg, W. Va.

This division is a part of the Philadelphia-Cincinnati main line and handles nine passenger trains each way daily, including the National Limited, while the freight traffic includes approximately 11 trains each way daily. Approximately 40 trains are, therefore, operated over this line daily. The through passenger trains are sched-





