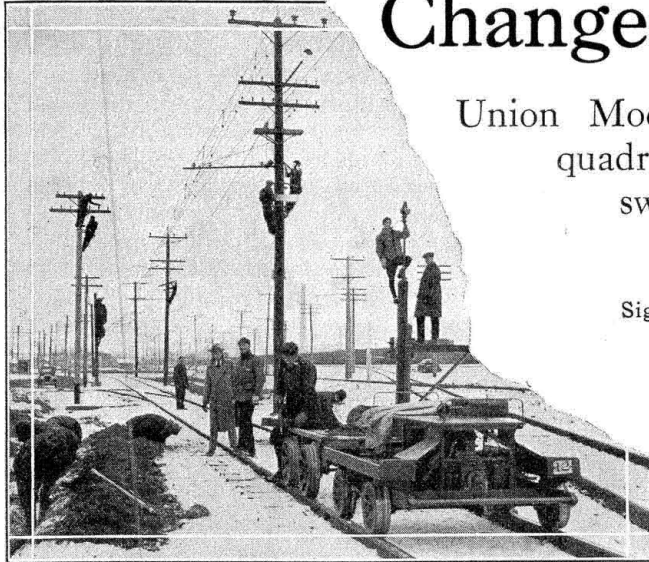


# Chicago South Shore & South Bend Changes Signal Equipment



Signal gang during signal reconstruction program

**T**HE extensive rehabilitation program on the Chicago South Shore & South Bend is an example of the modernizing of an electric railroad that was built about 18 years ago and which had suffered so severely from bus and automobile traffic that it was necessary to appoint a receiver. The equipment and roadbed were in such shape due to deferred maintenance that the valuation of the property dropped from about \$11,000,000, when built, to less than \$6,500,000 when taken over by the present management. To put the road in condition to successfully compete with rival bus and trucking companies it was necessary to spend over \$5,000,000 in one year.

The track was re-tied, tie-plated and ballasted with cinders and crushed stone over the entire line of 75 miles. Ten miles of new 100-lb. steel was laid and a number of new industrial spurs were put in. All sidings were extended and three were converted into high-speed passing tracks by double ending and inserting high-speed spring switches. All bridges were thoroughly examined, repaired and painted. All old corrugated iron culverts were replaced with re-inforced concrete tiles. The stations at Hammond, Gary, Michigan City and South Bend were enlarged and entirely rebuilt and new shelters were constructed at local stops.

The old overhead which was of catenary construction using an iron slipper wire was entirely replaced with new catenary using a copper slipper and a new type hanger which has relieved hard spots, provided greater flexibility and diminished wear on pantographs and wire. In some locations the old wooden poles have been replaced with expanded steel catenary bridges which will be the standard type of support on all future construction. Power was changed from 6,600 volts ac. to 1,500 volts dc. and nine new substations were erected. Four of these use mercury arc rectifiers while five are of the rotary converter type.

The old wooden cars were replaced with 25 large, roomy, all-steel cars of the Pullman type. Some of the features of these cars are enclosed vestibules with diaphragms on each end, baggage compartment and Pullman type smoker. Interior trim is in American

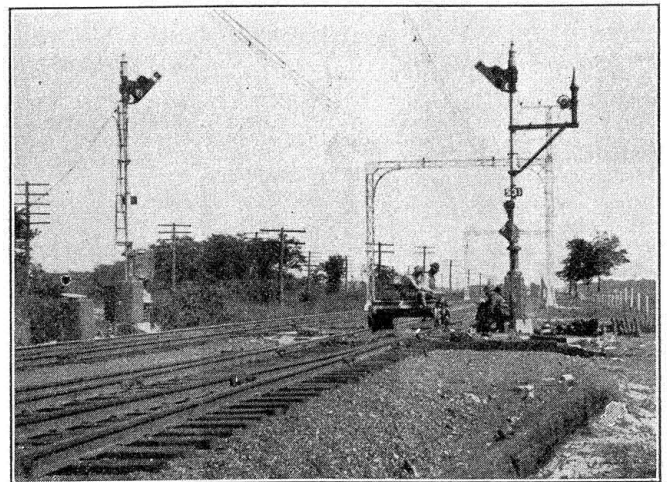
Union Model-R color-light signals replace upper-quadrant semaphores—High-speed spring switches installed at passing tracks

*By B. L. Smith*

Signal Supervisor, Chicago South Shore & South Bend

walnut with light cream ceiling. A pantagraph is used for current collection instead of the conventional trolley. Lights are 32-volt supplied by storage battery and motor-generator set mounted beneath the car. Tractive effort is furnished by four 210-hp. motors. Two parlor-observation and two dining cars were placed in service the middle of February. These are of steel construction throughout and are mounted on six-wheel trucks which assure riding comfort. Contracts have been let for ten additional all-steel motors and ten all-steel trailers.

In order to keep pace with the rapidly growing freight business four 80-ton Baldwin-Westinghouse freight locomotives have been placed in service. With



A pair of 60 degree two-position, upper-quadrant signals which were converted to color-light type

this equipment it is possible to deliver freight loaded in Chicago in the afternoon at South Bend before 6 o'clock the next morning.

## Extensive Signal Reconstruction Program Carried Out

The first signal system installed on the road was unique, being known as the positive selector system. To operate these signals, which were located at passing tracks, the dispatcher located at Michigan City, Ind., would plug in on the selector for the siding wanted and drop the block. If the block set properly he received an indication on a tape that worked in conjunction with the selector. As the dispatcher had no way of clearing the blocks they had to be cleared by the conductor of the train after receiving his orders. The system was finally aban-



