

Machine controls two interlocking layouts



Three miles to Orleans Jct.

IC Combines Interlockings

One panel-type machine controls two interlockings three miles apart, and thus coordinates train movements and reduces operating expenses

A NEW PANEL-TYPE control machine, installed by the Illinois Central at Mays Yard near New Orleans, La., controls switches and crossovers at the entrance and exit at the north end of this yard, and also a remote interlocking at Orleans junction, 3 mi. north, including a crossing of the IC and KCS, as well as a junction of two IC lines, one north via Jackson to Memphis, and the other north via Baton Rouge and Vicksburg to Memphis.

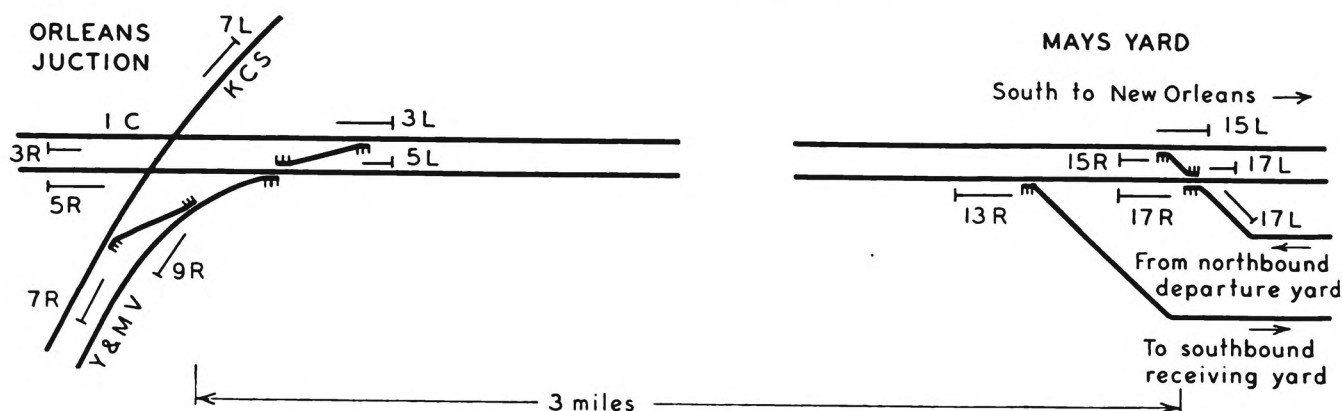
The track and signal plan at the

north end of Mays Yard is shown in Fig. 1. Inbound southward freight trains leave the main track via switch 14 reversed, and use the long running track into the yard. With switch 14 normal, southbound passenger trains are routed to signal 17R to proceed on the southbound main via switch 18 normal to New Orleans. Outbound, northward freight trains leave the yard via switch 18 and crossover 15 reversed, to the northward main track.

These power switches and signals

at Mays Yard had been in service for several years, having been controlled by desk lever controllers in the yard office. In the 1953 project, the desk levers were eliminated; the switch and signals at Mays Yard are now controlled by levers on the new panel in Mays Yard office, which also has levers to control the interlocking at Orleans junction.

The plan in Fig. 2 shows the track and signal layout at Orleans junction, which includes the crossing of the IC and the KCS, as well as a signal switch, two crossovers, and seven home signals. This layout was formerly operated by a mechanical interlocking which was removed, and was replaced by electric switch machines and color-light signals to form an all-relay electric interlocking that



Left, Fig. 2—Orleans Junction, and right, Fig. 1—Mays Yard layout

is controlled from the panel in the office at Mays Yard, 3 miles away.

On the control panel, the 4 signal levers and 3 switch levers for control of Orleans Jct. are at the left, and the 3 signal levers and 3 switch levers for Mays Yard are at the right.

Syncrostep System

The GRS Co. Simplex Syncrostep coded remote control system, type A371, is used on a two-wire line circuit to transmit controls from the Mays Yard office to Orleans Junction, and to bring back indications to the control machine. A total of 18 outgoing controls and 38 incoming indications are handled by this Syncrostep system. All controls applicable at one time can be sent out in one second, and all the indications can be returned in 2 seconds.

After a lever is positioned, the control does not go out until the leverman pushes the "code sending" button, at the bottom, below the vertical row in which the lever is located. Actually the "code sending" applies only to the controls which go out to Orleans Junction. Direct wire controls are used for the switches and signals in the Mays Yard entrance interlocking. However, in order to have the same procedure for all controls, the "code sending" buttons were installed not only as applying to coded controls for Orleans Junction but also to direct wire controls for Mays Yard.

A yellow lamp is lighted in the face of the barrel of each switch lever from the time such a lever is thrown until the corresponding switch is operated to and locked in the position corresponding to that of the lever. When a signal lever has been thrown, and the signal clears, a green lamp is lighted in the signal symbol on track model. A red light is provided in barrel of signal lever when stop indication is displayed.

Control of Restricting Aspect

Applying to signal 3L, 5R, 7L-7R, and 9R, at Orleans Junction and signal 17R at Mays Yard, a restricting indication, Rule 290, can be displayed by first setting the lever for a signal and then pushing the "call-on" button over the respective lever. The call-on controls omit the control by track circuit occupancy within home signal limits, and are therefore used to permit a locomotive to back down on its train when making a special move, or to get a train through the interlockings, if a track circuit failure in the home signal limits is the only factor that prevents



Relays at Orleans Jct.

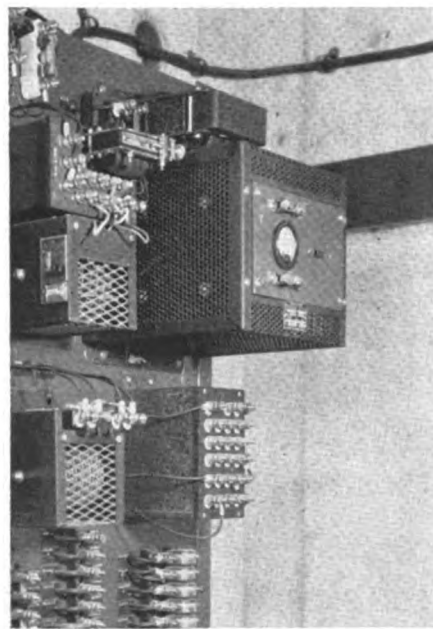
the display of a less restrictive proceed indication.

The single track KCS main line crosses the double track IC at an angle of 42 degrees, so that there is a dead section in excess of 35 ft. through this crossing. Protection for this dead section is secured by using a trap circuit arrangement similar to AAR Signal Section typical No. 8042A, Fig. 3.

Use of Telephones

The Syncrostep line circuit between Mays Yard office and Orleans Junction is on two No. 6 copper line wires with weatherproof covering. By use of filters, a telephone circuit is superimposed on this line circuit. Phones are located at each of the high home signals and in the concrete relay house. If a train is stopped by a home signal, the conductor can use the phone at the nearest signal to call the leverman at Mays Yard. Also the maintainer can use the phone in the relay house, to call the leverman. When a person at Orleans Junction speaks into one of the phone transmitters, a loud speaker is operated in the office at Mays Yard.

The switch machines at Orleans Junction are the GRS Model 5C. The signals are the colorlight type. The relays, Syncrostep equipment, and batteries at Orleans Junction are in a concrete house 8 ft. by 10 ft. The relays are the plug-in type, mounted in racks, as shown in the picture. The five 24-volt switch machines are fed by a set of 12 cells of 160-a.h. battery. The code equipment is fed by a set of 14 cells of 80-a.h. storage battery, and the local circuits are



Rectifiers are panel mounted



Batteries in open racks

fed by 5 cells of 80-a.h. battery. These are all the lead type battery made by Exide.

This interlocking was planned and installed by Illinois Central forces under the direction of T. B. Thompson, signal engineer. The control machine, switch machines, line code system and relays were furnished by the General Railway Signal Company.