

Above—Crossover No. 16, looking south, at the end of double track at M.P. 145.5. Right—Yard-track indicators aid trains getting into each end of Inman yard without stopping



THE Southern Railway has installed a remotely-controlled signal and interlocking system on a five-mile section of single track just north of Howell, Ga., which is 2.3 mi. north of the Atlanta Terminal passenger station. In this territory, the Southern Railway has rebuilt and enlarged its Inman freight yard. Previously, the main line was a double-track throughout the 18 mi. from Atlanta past the yard and to Austell, Ga.

Two Main Tracks Previously

Inbound southward freights previously entered the north end of the yard via a main line crossover and a side track crossover at North Inman, and outbound northward freight entered the northward main at North Inman. These crossovers were operated by hand-throw stands, operated by switchtenders.

Tracks at the south end of the yard terminated with inbound and outbound freight running tracks. The hand-operated switches involved were operated by switchtenders. With the freight trains being operated into and out of the two ends of the yard, the passenger

trains were the only ones that used the two main tracks between Marietta Bridge and North Inman. When designing the new yard layout, it was decided to provide only a single track main for passenger train movements around the yard. This was done in order to avoid the expense of constructing an additional main track. This expense would have been excessive on account of restricted right of way and the necessity of reconstructing two overhead bridges. A conclusion was that one main track equipped with remotely-controlled signals and power switches would provide ample track capacity.

Off The Main Line

In the previous arrangement, there was no place, except the main line, to hold an incoming southbound train that could not be accepted at once by the yard. Also there was no place to move a northbound train out of the yard and hold it if it could not proceed at once onto the main line. To meet these needs, two new crossovers were installed at M.P. 145.5, this layout being placed so that the sec-

tion of the previous northward main between North Inman and M. P. 145.5 which is 7,318 ft. in length, is long enough to hold the longest freight train. This new track layout at M.P. 145.5 is now the end of double-track main from the north. Now a single-track main extends from the crossover No. 16 at M.P. 145.5 to a crossover in Howell interlocking, about 5 mi.

Similar Layout at South End

To meet similar needs at the south end, the 4,746 ft. of previous northward main track between Howell interlocking and the crossover at Marietta Bridge was assigned for use as a freight lead. The new crossovers at Marietta Bridge, North Inman and M.P. 145.5 are equipped with dual-controlled electric switch machines. The controls for these machines and the home signals at these locations, as well as controls for train operation by signal indication on the single-track main line between Howell and M.P. 145.5 are all included in a new

Single Track with Remote Control

remote control system with the control machine in the operator's office at Inman yard.

Benefits to Trains

In the new track arrangement with remote control, for example, an outbound northward freight can be pulled out of the yard to the section of the advance track between North Inman and the end of double track at M.P. 145.5. This clears the yard for switching operations. Similarly, if the yard is so congested that an inbound southward freight cannot be accepted at once, it can be held clear of the main track, on this section of running track between North Inman and the end of double track at M.P. 145.5. In the meantime, an outbound northward freight can pull out of the yard via the crossover to the single track

aspects. At the end of double track at M.P. 145.5, the northward high home signal 13R, as shown in Fig. 1, governs from the single-track main via the crossover No. 16 to the northward main track on double track. No signal was installed to govern northward from the single track, with crossover 16 normal, to the southbound main track. No such move is to be authorized by signal indication. Similarly, signal 15R governs from the advance track to the northward main track, no signal being provided to govern via crossover No. 14 reversed.

At North Inman, the lower "arm", signal 11R, governs via crossover No. 10 reversed to the single-track main track. With this crossover normal, and the lever thrown to the left, signal 11LA displays yellow and 11LB displays yellow over red,

At Atlanta, Ga., the Southern gains a yard track and aids train operations by making track changes and adding signaling

After the switch engine clears this track and time locking is released, the crossover can be reversed for a movement to the main track. A similar arrangement applies to the control of signals 7RB, 7L and 7RA, at Marietta Bridge.

When a freight train is approaching, an important item is to have it enter the yard without stopping, which would block the lead and the main line. As an aid in such operations, the Southern has installed yard-track indicators at each end of

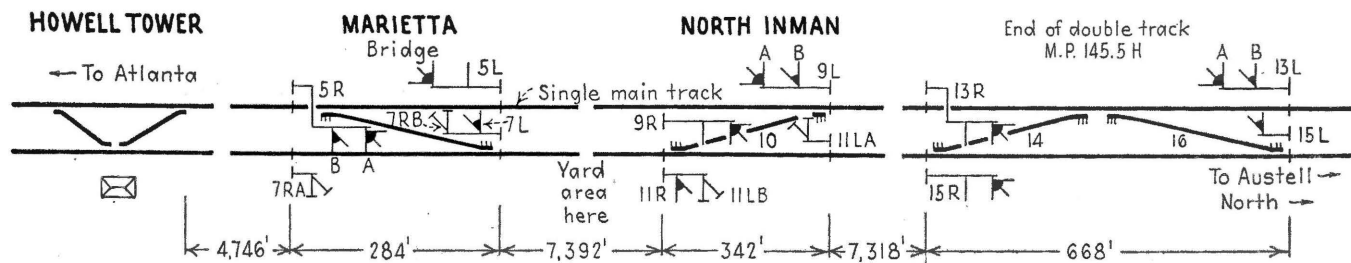


Fig. 1—Signaling arrangement between Howell tower and M.P. 145.5

main line at North Inman. The same corresponding operations can be made at the south end of the yard between Marietta Bridge and Howell. Thus, with this increased flexibility, train moves into and out

these aspects being lever controlled, without track circuit control. With these aspects displayed, this yard lead can be used by switch engines to move back and forth without the necessity for the leverman to set

the receiving yard. Each such indicator consists of several light signal units mounted one above each other. These units have clear glass covers; and each has a black numeral. When a train is approaching,

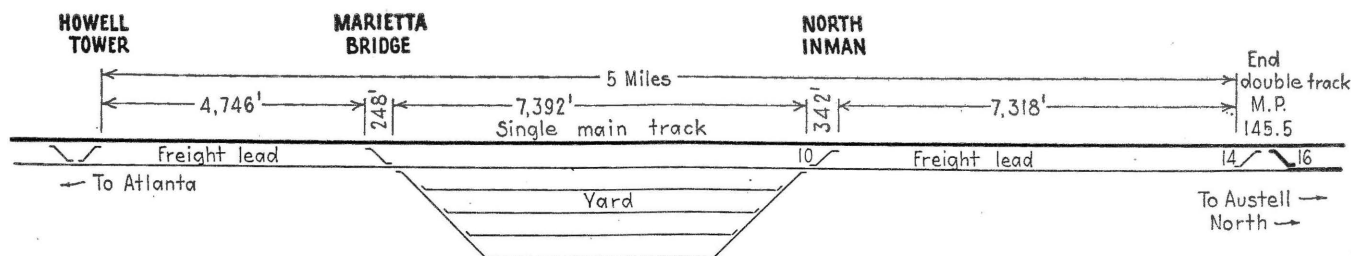


Fig. 2—Track layout between Howell tower and M.P. 145.5

of the yard are being expedited with the new remote controlled single-track arrangement.

The signals on this project are the color-light type, arranged to display standard Signal Section A.A.R.

the levers to clear the signals for each move. When a road train is ready to depart or an incoming freight train is approaching, the lever is placed on center to display the Stop aspect on both signals.

the yardmaster sets his control lever to cause the corresponding number to be illuminated in the yard track indicator, designating the track which the train is to enter.

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Shopman calling master station from communicating station at roundhouse pit

part of the new delivery system, and include a material truck with bins for small supplies, a lubrication truck with grease compressors and hoses and three-ton crane trucks for handling heavy equipment.

Walking and Waiting Reduced

Prior to the installation of the new system at Riverside, when a mechanic needed a part, it was often necessary for him to walk the length of the roundhouse to find his supervisor to get a card permit for the part. When he had this, then he had to go to the tool and parts room, pick up his material and take it to wherever he was working himself. Hours were lost every day as a result, which not only slowed up work, but was hard on workers. With the new communication facilities and fast delivery system, however, workmen can now get tools and supplies delivered to them in a matter of minutes. Supervisors and workmen throughout the roundhouses have an instant means of communication at all times, and waiting and walking around to get tools and equipment, or to locate someone whose advice or approval is required to complete a job, are thus eliminated.

Modern Equipment

The paging speakers throughout the roundhouses are the Type 1B8, rated at 12 watts, and manufactured by University Loudspeakers, Inc. These speakers are connected in

multiple to a Stromberg-Carlson AU-34-type amplifier with a power output of 25 watts in the tool room, the circuits between the amplifier and loudspeakers being on 14-gage outside twist-type wire. The paging microphone is the MD-27A type, manufactured by Stromberg-Carlson.

Equipment Details

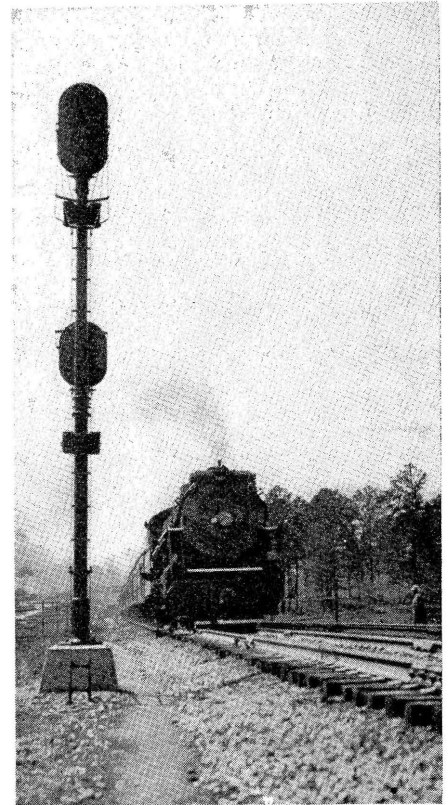
Each intercommunicating station in the roundhouses consists of an Executone C-40 type unit, mounted in a welded open-front metal box painted white with the station's number in black on the sides. These boxes are mounted on the walls about 5 ft. from the floor, so as to be at approximately head level of the users. The master unit in the tool room is an Executone Type H-25, with buttons and capacity for 20 field stations, although only 14 are presently in service. Circuits between the master and field units are on 14-gage type wire. A PS-12A rectifier furnishes d.c. control voltage for the master unit. Both the master unit and the paging amplifier operate on 115-volt a.c. power.

The new intercommunication and loudspeaker facilities at Riverside were installed by regular railroad forces under jurisdiction of W. S. Baker, regional supervisor of communications. The major items of communications equipment were furnished by Executone, Inc., and the Stromberg-Carlson Company.

Remote Control

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The indicator shown in the picture has six units to display a separate designation for each of six receiving yard tracks. The six aspects are controlled by a circuit arrangement which require only 2 wires from the yard master's office to the indicator. This consolidation of circuits is accomplished by use of two polarized d.c. relays and one polarized a.c. relay. The six receiving



Southbound train at signal 13L, M.P. 145.5

yard tracks are equipped with track circuits which are used to control track-occupancy lamps on the yard-master's panel in the Tele-talk tower.

This signaling project was designed and installed by railroad forces under the jurisdiction of L. C. Walters, assistant to vice-president—signal and electrical, and H. A. Hudson, signal and electrical superintendent, Lines West. Actual construction was performed by R. T. Hinds, signal & electrical supervisor, and B. G. Webb, construction supervisor. The major items of signal equipment were furnished by the General Railway Signal Company, the insulated wires and cables by the Kerite Company, and the batteries by Thomas A. Edison, Inc.