

Signaling Special Layouts

The Seaboard met local operating problems at certain places by modifying the signal arrangement

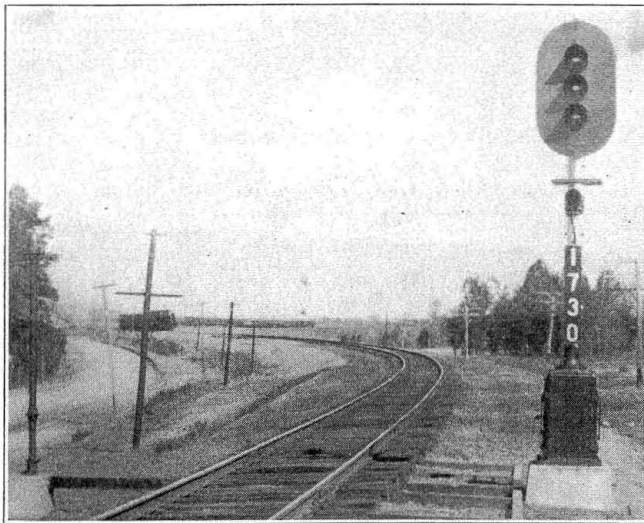
By F. H. Bagley

Signal Engineer, Seaboard Air Line, Savannah, Ga.

IN THE construction of its signal system, the Seaboard Air Line* encountered operating and other conditions which made it necessary to provide special circuits and changes from the standard A. P. B. layout through some of the cities, towns and yards along the line. Before the construction work was started, representatives of the Seaboard Air Line and the Union Switch & Signal Company went over the territory involved. Sketches were made of the track layouts through towns and cities where special conditions existed. The signals were located with their respective overlaps to provide for the most flexible operation. With these sketches as a basis, the circuits were then drawn up.

Yard Limit Indications

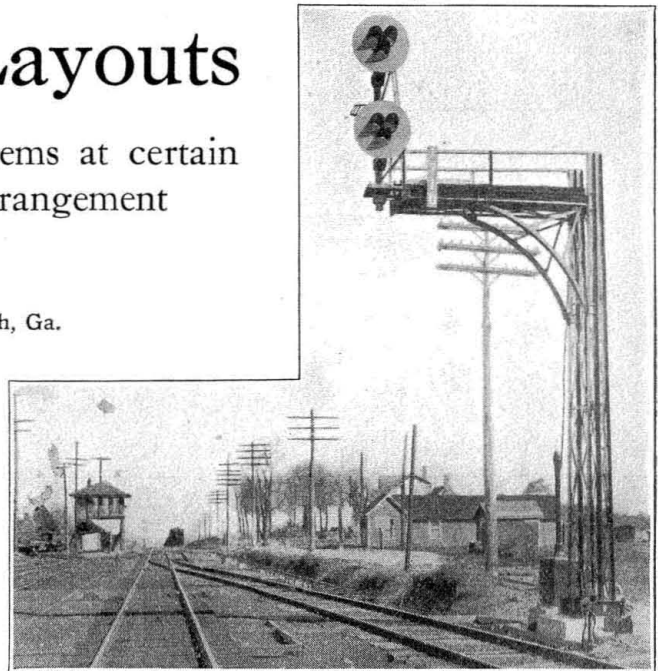
One of the first operating problems considered was the number of indications to be given to trains through yard limits. While it is the customary practice to employ 3-indication signals on main tracks through yard limits, it was the feeling of the Seaboard officers that to use three indications would be to conflict with the operating department rules governing the operation of trains in restricted territory. Consequently it was finally decided, in order to make the



Style-R color-light signal with standard yellow grade marker located below signal unit

signals conform to the operating rules, that 2-indication, color-light signals should be used. The indications given are red and yellow for "stop" and "proceed with caution." Three-position signals are thus used to indicate to enginemen that they are in territory where trains may be run at the maximum

* For description of signal construction, Richmond to Hamlet, see article in February, 1926, issue of *Railway Signaling*, "254 Miles of Color-Light Signals Constructed."



Style-TR two-unit, color-light, interlocking home signal at Apex, N. C., with cantilever mounting

speed permissible under the operating rules. If 3-indication signals had been used through yard limits, the signal controls would necessarily have been extended and this would have resulted in trains receiving an excessive number of yellow signals. The use of 3-indication signals in this territory also would have resulted in certain unwarranted costs without adequate return.

Another situation requiring study developed in deciding upon a means for preventing tonnage trains and through freights from being stopped unnecessarily in certain cities where a number of streets cross the tracks. This condition was met by making the signals tonnage signals in that territory. Other special locations were at such places as at the end of double track; at junction points, where it is necessary for trains to back into or out of stations; or where foreign line trains are operated into and out of stations over the Seaboard tracks.

Non-Directional and Directional Grade Signals

Extensive use has also been made of grade signals to facilitate the operation of tonnage trains on grades and at certain other special locations, one of which was mentioned above. When grade signal markers are placed on entering signals to sidings, the yellow marker light (indicating a grade signal) is given a non-directional control, but grade signals intermediate to passing tracks have their yellow marker light provided with directional control, the yellow marker light lighting up only for a close following movement. If a head-on movement was encountered between passing tracks, the yellow marker light would not light up and the indication given the enginemen would be that of a stop signal. This signal would then be observed as any other permissive signal, namely "stop" and "proceed."

In order better to illustrate the standard as well as the special locations, as developed for use on the Seaboard Air Line, diagrams are given showing the signal controls. Figures 1, 2, 3 and 4 represent the standard schemes applicable to 3-indication signals, while the figures following No. 4 show the 2-position

