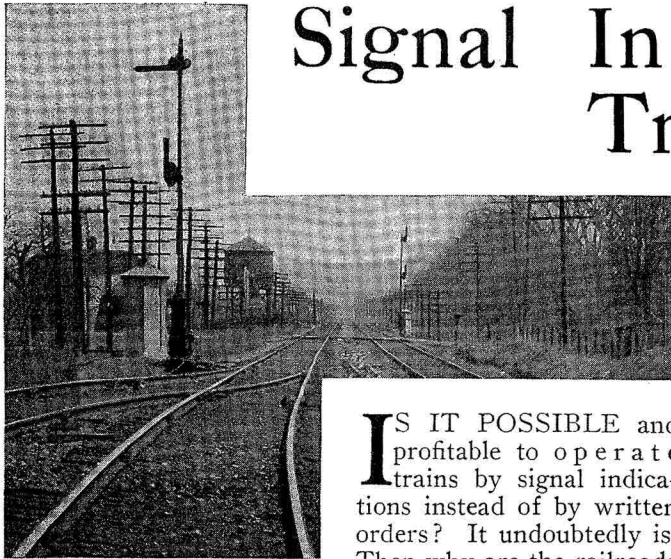


Signal Indications Replace Train Orders



Erie Train Order Signals

IS IT POSSIBLE and profitable to operate trains by signal indications instead of by written orders? It undoubtedly is. Then why are the railroads so slow to adopt this more efficient method of operation?

Wm. Nichols said in his treatise on train operation which was published in 1916, that "with a proper block signal system, the signals to govern train movements into and out of sidings, trains may be moved safely on single track without train orders and with but few train rules." It is our purpose in this paper to show that it is feasible and advisable to operate trains in this manner.

The problem is relatively simple for double track movements and many railroads are now operating such divisions more or less completely under signal indications. The best example of this method of operation is that in use between Port Jervis, N. Y., and Chicago on the Erie, a distance of approximately 900 miles. The system has been employed on this road for many years and has been found to be a great improvement over the old method of using written train orders to convey information. Several years ago the writer and one of our division superintendents made a careful investigation of the operation on the Susquehanna division of the Erie, spending a number of days on it interviewing local officers, visiting dispatchers' offices and riding various classes of freight and passenger trains. The operation was found to be smooth and every one concerned was favorable to it with the possible exception of the train dispatchers, who did not like to assume the additional responsibility of directing all of the train movements in spite of the fact that their work was made more easy.

To make effective the Erie method of train operation by signal indication the line of road is equipped with one-arm automatic signals of the three-position upper quadrant type. Where train order signals are required,

Thorough Investigation Reveals Convincing Information Applicable to Various Roads

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they are placed on the automatic signal mast below the automatic signal. The train order signals are one-arm, three-position electric signals. They are located at passing sidings or crossovers and are controlled from the nearest day and night train order office. The dispatcher directs their operation by telephone instructions to the office controlling them. One operator usually controls the train order signals at the point where he is located, as well as at either one or both adjacent sidings, this being possible because they are electrically controlled.

Train Order Signal Indications

The upper arm of the signal is the automatic signal and it controls the movement through the block in the usual way. The lower arm or train order signal indicates as follows:

Horizontal (Red Light)

Stop on main track and consult dispatcher on telephone.

Diagonal (Yellow Light)

Take siding and consult dispatcher on telephone when clear of main track.

Passenger trains will report before pulling into siding.

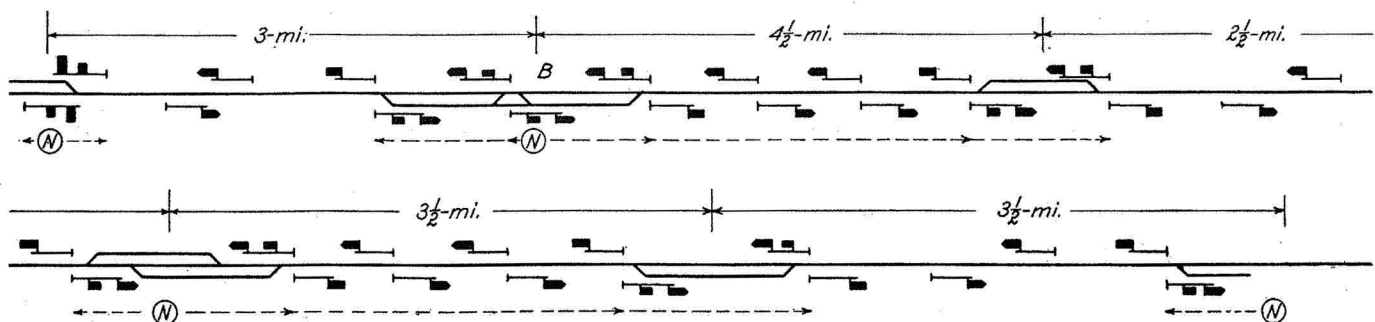
Vertical (Green Light)

(1) Proceed regardless of following preferred trains until otherwise directed by dispatcher.

(2) Trains are forbidden to accept this indication if there is any known cause that will prevent their making their usual running time. In such event they will consult immediately with dispatcher by telephone. When a train accepts the "proceed" indication and for any cause is unable to make its usual running time, it must protect itself against the following preferred train according to Rule 99, operating department.

When the train order signal displays "stop" or "take siding" the automatic signal displays "stop."

Under this system a freight train, whether local or through, holds the main track on the time of any passen-



(N) - Continuous train order office.

Controls indicated by dotted lines.

Track and Signal Plan Showing Train Order Signals and Location of Operators

