

A. H. Rudd Discusses Train Control at Philadelphia Engineers' Club

I. C. C. Criticised for Not Ordering Other Safety Devices as Well; Costs of Pennsylvania Tests Explained and Cab Signals Advocated

A. H. RUDD, chief signal engineer of the Pennsylvania, speaking before the Engineers' Club of Philadelphia, on November 17, set forth in considerable detail his views on the general question of safety of train operation and, in particular, on the course which a railroad company ought to pursue in the wise expenditure of its money for the most effective protection of the lives of its passengers and its employees (and of travelers on the highway at railroad crossings). Mr. Rudd's views in this field have been published before, especially in the paper that he read before the Signal Section of the American Railway Association, at Swampscott, Mass., in September, 1924; (*Railway Signaling*, October, 1924, pg. 391); but in the present essay he makes a more thorough study, citing the main facts in considerable detail.

In opening his address, Mr. Rudd said that he was speaking for himself only, not as a representative of the railroad company; and that he would not criticise the Interstate Commerce Commission; observing, however, that while, perhaps, the signal engineer is today exaggerating the importance of automatic train control, it is quite probable that the members of the Interstate Commerce Commission do not fully realize it. He went on to discuss the philosophy of safety on railroads in all its phases.

Considered entirely by themselves, automatic devices might be said potentially to be able to save 15 passengers a year (estimated value \$1,500,000); but to equip all of the railroads of the country is simply out of the question; the railroads do not control all of the capital in the world. This element cannot be considered by itself. The speaker then went on to recount the results of the enormous expenditures which the railroads have made in recent years to promote safety—better tracks, better locomotives, better cars, increases in block signal mileage, improvements in discipline and great advances in the morale of employees.

The Commission's Part in Train Control

Discussing the relation of the government in the train control situation Mr. Rudd said:

"For years John J. Esch, then Chairman of the Committee on Interstate and Foreign Commerce of the House of Representatives, was an earnest advocate of the block system and tried to have laws passed giving the Interstate Commerce Commission authority to compel their adoption. Finally his opportunity came and, as joint author with Senator Cummins of the so-called Esch-Cummins Bill, now the Interstate Commerce Law, he included Section 26, giving this authority to the Interstate Commerce Commission, of which he is now a member.

"Attention is especially directed to four words in this law: The Commission may order a railroad to install automatic train stop or train control devices 'or other safety devices.'

"Included in the 'other safety devices' are the various block systems, interlocking, etc., which Mr. Esch wanted years ago, but, as far as I have been informed, I do not know of a single case where a block system has been ordered in directly on a foot of territory, though thousands of miles of road have been ordered to put in automatic stops or speed control. The Commission is not a unit on this matter, as is evidenced by a dispatch from Washington:

"Washington Oct. 22.—The Interstate Commerce Commission today ordered the Great Northern Railway Company to install an automatic train control device on the 106 miles of its line between Williston and Wolf Point, in Montana, in spite of a petition by the railroad asking to be relieved of the expenditure.

"Commissioners McManamy, Hall and Eastman dissented from the ruling and Commissioner McManamy held that "a clear showing has been made that greater safety will result from an extension of automatic block signal system than from the same amount of money spent in the installation of the more complicated and expensive train control devices required by our order".

"The Congress in 1906 authorized the Interstate Commerce Commission to investigate train control and the use of automatic block signals. At that time, about 50,000 miles of track in the United States was block signaled, about 7,000 of this being automatic signals. As stated awhile ago, we now have 141,000 miles of track voluntarily protected by block system, an increase of 91,000 miles, and 69,000 miles of automatics, an increase of 62,000 miles—almost 3 times the mileage of block systems and 10 times the mileage of automatics than in 1906. The Pennsylvania alone has an investment of approximately \$27,000,000 in automatic and manual signals and interlockings.

"In addition to the block systems, we have better road-bed, improved brakes, steel cars, electric lighting of cars and electric headlights, more reliable signals of greater visibility day and night, and numerous other safety devices, such as approach locking and route locking at interlockings (which prevent signalmen from making mistakes), mechanical and electric checks on the block system, and, as important as any of these and perhaps more so, better discipline due to efficiency tests, better living conditions, so that men may devote their thoughts to their work and keep alert, shorter working hours, rigid physical examinations, checking of the condition of an engineer before he goes on duty, etc., all of which have tended to cut down the accidents due to human inefficiency and inattention, during the past 20 years.

History of Accidents Does Not Justify Such Extensive Installations of Train Control

"Accidents due to railroad operation caused an average number of deaths for the years 1919-1922 inclusive, of 4,157; the average number of deaths due to all collisions averaged 201 per annum. In 1923—7,385 people were killed; in 1924—6,922.

