

EDITORIAL COMMENT

Before Winter Comes

WINTER weather is an important factor in the maintenance of signal and interlocking apparatus throughout Canada and the northern half of the United States. Sub-zero or even freezing temperatures, with sleet and snow, impose a real test on signaling installations and methods of maintenance. Providing Old Man Winter does not rush in ahead of time, there are yet four or five weeks in which to clean up a few odds and ends that might otherwise cause serious trouble and train delays during the extremely cold season.

All bonding, of course, should be inspected and special attention should be given to bootlegs. Now, during the season after the hot weather has gone and before colder weather starts, is an excellent time to inspect and repair insulated rail joints. Switch circuit controllers should be thoroughly cleaned, adjusted and oiled. A light coat of glycerin or oil on the contacts will assist in preventing the formation of frost. Ballast or trash should be cleaned away from the movable parts, to prevent the accumulation of ice or snow from hindering the operation of the controller.

At this season of the year several roads make a practice of cleaning and oiling top-post signal mechanisms, switch machines and similar apparatus, and then closing up the housing permanently for the winter. Gaskets on the doors of relay cases must, of course, be in good repair and ventilators, if used, must be free of paint or dirt. The open spaces around wires at housing inlets should be filled with asphaltum cement or plaster of Paris, to keep out the insects or mice, and to prevent the condensation of moisture on or in apparatus.

When inspecting interlocked or remotely-controlled power-operated switches, steps should be taken to insure proper drainage, in order to minimize the possibility of ice or snow blocking the movement of the switch. A careful inspection should be made of all batteries, with a view of determining their ability to withstand freezing temperatures. Open line wires and aerial cables and cable drops deserve careful attention, especially where high winds and sleet are apt to prevail.

This discussion mentions only a few of the more important jobs that should be given attention before cold weather sets in. Other and perhaps equally important items may arise due to local conditions. The point is that if the maintainer definitely sets his mind to do so, he can clean up a lot of these small jobs before cold weather comes, and will thereby save himself a lot of grief, and, no doubt, eliminate signal failures with attendant train delays.

A Lesson from a False-Clear Failure

RELIABLE shunting of track circuits is an absolute requisite to the safe operation of signal and interlocking facilities. We know, too, that rust or sand on the rails can form an insulating layer sufficiently effective to prevent proper shunting of the circuit. These dan-

gerous effects have been understood by signalmen for years, and various devices, such as rail scrapers and cleaners, have been developed and used effectively, especially at interlockings where certain crossovers or turn-outs are used infrequently.

Although the sand hazard frequently exists, train collisions resulting from false-clear signals displayed thereby are comparatively rare. In fact, the accident which occurred in the St. Louis terminal on August 21 is one of the first of this nature to be investigated and reported by the Bureau of Safety of the I. C. C. The death of the conductor of the switch crew is indeed regrettable, but otherwise this accident may be a good lesson to the railroads. Perhaps the signaling field has become calloused to this potential cause of failure of the foundation of modern signaling—the track circuit. A summary of the report of the St. Louis accident is published elsewhere in this issue, and based on this information it might be well for other roads to make an investigation regarding the use of engine sand in certain interlocking limits. If the enginemen are informed of the hazard involved, it is reasonable to expect them to reduce the amount of sand used and, in many cases, to use it only when absolutely necessary.

Furthermore, while discussing this important subject, it might be well for the signal engineers to reconsider the reports of Committee IV—Signal Section concerning the track shunting by rail motor cars, which were published in the Proceedings for March, 1930. At that time this question of improving the safety of track circuit operation was considered so important that the Signal Section recommended the employment of an expert to devote full time to the work being done by this committee, with the idea of evolving methods for improving the shunting characteristics of track circuits. On account of reducing the operating expenses of the Signal Section, this investigation was not undertaken. However, in the meantime several roads have carried on tests; furthermore, new types of relays with improved operating characteristics have been placed on the market. Nevertheless, the matter of improving the shunting of track circuits is still a very important problem before the signaling field and deserves the full-time concentrated study of an expert or a committee.

Obsolescent Signaling Equipment

THE Association of Machine Tool Manufacturers, in co-operation with a magazine serving that field, has recently made a detailed research of the machine tools in use in the more important plants of the major industries of the United States, the results of which show that a large percentage of the equipment has been in service for 10 years or more. The discussion accompanying the research explains that so many improvements have been made in machine tools during the past decade, that the managements of industries effected savings by replacing a large percentage of the equipment over 10 years old. Certainly this same condition exists to a marked degree in the field of railway signaling.