

seems evident that complete safety necessitates the use of time locks on all signals, so arranged that there will be no chance for a leverman to place a signal at stop just before the pony trucks of a locomotive pass that signal, with subsequent improper operation of switch levers under certain circumstances.

In some instances, the circuits at older interlockings have not been changed to include certain auxiliary protection that has proved desirable at other locations. For example, so-called back-locking can be arranged so that a dwarf signal immediately in the approach to a facing-point crossover cannot be cleared prior to the lining up of the route including an advance signal.

Test the Wires and Cables

On perhaps too many interlockings, the insulation on wires and in cables has long since rendered its useful life, and, as a result, "grounds" are liable to cause faulty operation. Especially where the "grounds" are effective intermittently, persistent effort is required to locate and correct them; furthermore, where this condition exists, there is always a condition of uncertainty. One safe procedure is to make a thorough test of the insulation values and replace all wiring and cables of doubtful performance.

Thus it is evident that an interlocking, even with the best of day-to-day maintenance, becomes obsolete and inadequate to render the safe and efficient service demanded by modern train operating conditions. Therefore, constant attention of an engineering nature is desirable, and where such attention has been postponed too long, complete modernization is necessary, and, in many instances, should receive preferred attention at this time.

Train Control Petition Denied by I. C. C.

THE Interstate Commerce Commission has denied the application of the Illinois Central for authority to discontinue the use of automatic train stop and two-indication cab signal devices, and to substitute in lieu thereof three-indication searchlight automatic block signals on its 122-mile line between Champaign, Ill., and Branch Junction. The proposed change was opposed by the employees of the Illinois Central and representatives of the four train and engine service brotherhoods.

The commission found, in part, that: "From the record in this case it is apparent that if the additional protection afforded by the device is disregarded, savings would be effected by the Illinois Central if the petition were granted. If financial considerations were controlling, the change should be permitted. However, it is necessary that both the purpose and the provisions of section 26 of the Interstate Commerce Act, as amended August 26, 1937, be given careful consideration.

In administering that section we may, after investigation, if found necessary in the public interest, order any carrier thereto to install the block signal system, interlocking, automatic train-stop, train-control, and/or cab-signal devices, and/or other similar appliances, methods, or systems intended to promote safety of railroad operation, and none of such appliances, methods, or systems which are in service may be discontinued or materially modified without our approval. Nowhere does that section relate to financial advantages or savings which might be effected by discontinuing the use of devices which promote safety. Its provisions apply to all carriers by railroad subject to our jurisdiction regardless of their financial condition. Its main purpose is to require 'common carriers by railroad to install and maintain certain appliances, methods, and systems intended to promote safety of employees and travelers on railroads.' The duty is imposed upon us to see that the requirements of this section, all of which relate to safety and to no other matter, are observed by carriers, and all powers heretofore granted us are extended to the carrying out of those purposes. . . . Petitioner asserts that the money saved by the proposed change could be spent to better advantage in the separation of grades or protection of grade crossings, in laying heavier rail, and in other ways which would improve safety conditions, although in this connection no specific program is advanced. . . . As stated in specifications described by us, 69 I. C. C. 280, the primary function of automatic train-stop or train-control devices is to enforce obedience to the indications of fixed signals. The proposal of the petitioner in this case consists merely of the installation of an improved type of fixed signal system, which does not comprise either cab signals, or automatic devices to enforce obedience to restrictive signal indications. The primary question presented in this proceeding is whether the use of even the most modern automatic block signals would provide as safe train operation as the present automatic train-stop and cab-signal devices. The evidence discloses that the system now in use not only gives the engine crew a true indication of track conditions ahead, but the cab-signal indications are more readily discernible, and, therefore, safer than wayside signals under adverse weather and other conditions such as are at times encountered on this division.

There are no changes in the trackage which, from the standpoint of safety, would warrant discontinuance of the present system and the substitution of wayside signals. The record is not convincing that there has been sufficient permanent reduction in traffic on this line to warrant any decrease in the safeguards employed; on the contrary, considering the increased speeds now authorized and proposed, any change in the present methods of safeguarding operation should be directed definitely toward increased protection. Undoubtedly the separation of grades and protection of grade crossings, as well as laying heavier rail, promote safety, but our consideration here must be directed to a comparison between the present signal system and the one proposed. We find that the proposed change would not promote the safety of operation in the territory involved, but that safety of operation would be decreased by the change."