Editorial Comment

Highway Crossing Protection from The Motorist's Viewpoint

THE vast majority of the American public are today owners and drivers of automobiles. The officers and employees of the signal departments of the railroads, as a part of this American public, are, therefore, in the position of being the beneficiaries of their own product in the form of highway crossing protection. When on the railroad, signal department employees can benefit by watching to determine whether motorists observe the signal indications and are governed accordingly. When driving on the highways in private automobiles, it is equally as important that railroad men give attention to the location and indication of highway crossing signals. During an inspection of several highway crossing signals installed recently, it was found that two of the signals were located too far from the edge of the highway. Likewise the lights were above the standard height. At another crossing the lights were lined to throw the strongest beam off the road rather than down the highway. These deviations from the desired standard are not readily observed from trains or from rail motor cars. Observations therefore should be made by railroad men from the highway. as well as the track. In some cases men become so familiar with the thing they construct that they neglect to observe the operating results. In the case of highway crossing signals, a check is particularly desirable, because as a rule, the average motorist never enters any complaint regarding the operation of a signal. In fact, in case of an accident, the burden of proof rests with the railroad in showing that the device was operating properly.

Diversified Application of the Centralized Control System

THE direction of train movements by signal indication without written orders, and the control of the passing track switches to eliminate the necessity for train stops, all under the control of one man at a central location, seemed to many to be a dream when first presented before the Signal Section convention in March, 1925. The fact that such equipment has since been developed, and two extensive installations placed in operation within less than three years is an outstanding accomplishment in the railway signaling field.

A fundamental feature of this new system, which many engineers were hesitant to approve, is the elimination of mechanical locking between levers in the dispatcher's machine, as a result of which the dispatcher is free to move any lever at any time. although the switch will not follow the movement of the lever if a train is approaching, or passing over it. The locking of the switch is accomplished locally by track circuits, rather than by locking the actual position and movement of the corresponding lever in the machine. A second feature of importance is the fact that the control of the signals and switches can be accomplished in one system by means of one wire to each switch in connection with a common; another method using only two wires extending throughout the territory.

These two fundamental characteristics, the elimination of the locking between levers and the control over a minimum number of line wires, are features readily adaptable to the field of the remote control of outlying switches and the control of signals for directing trains on short as well as long sections. As an example, one road has installed a centralized control system for the control of the switches at the ends of a short section of single track between two ends of double track and thereby relieved two operators on each of three tricks, trains being directed over this section by signal indication without train orders. At another location a complete interlocking at the crossing of two roads is to be controlled remotely by means of the centralized system, with the control machine located in the tower of another plant, thus relieving a leverman on each trick. Still another road has used the centralized circuit system for the control of the switches at a passing track on a grade permitting a saving of approximately 30 min. to be effected by each tonnage freight train that uses the siding. A junction switch, a yard entrance switch and a crossover at a freight terminal on another road are to be controlled from the dispatcher's office several miles away by means of the centralized control system and thereby effect a saving of at least 15 min. overtime on each freight train.

These installations, in service or under construction, serve to show that the centralized control system can be used to accomplish decided savings in train operation at outlying junctions, crossings and switches as well as on complete divisional installations. In other words, the signal engineer now has a new system or method of control that he can use to advantage in many cases.

The Way to Increase Pole Life

ON account of the gradual decrease in our timber resources, the railroads, as extensive users of forest products, should take steps to secure maximum life from all such products which they use, as, for example, poles for signal and communication lines. Certain pole timbers, such as chestnut and cedar, render a long life in their natural state, but if maximum life is to be rendered, the poles should be at least butt treated with preservatives, which practice was followed by the Oregon Short Line with the cedar poles used in the line constructed for signal circuits recently. However, the supply of species of timber naturally adapted to render a long life is limited, and in order to broaden the available supply, a number of roads are turning their attention to the use of other timbers such as pine, which have the necessary strength, but which require full length pressure treatment with preservatives in order to prevent decay.

The application of preservative treatment to various species of timber has so distributed the demand for pole timber as to maintain a reasonable price. In considering the use of poles with long life one should not overlook the constant increase in the labor cost of replacing poles while the line circuits are in service. For example, one road which installed several hundred miles of pole line for signaling about 15 years ago, with short-life timber, has since been required to pursue a consistent program of replacements at heavy expense for labor as well as materials. Large communication companies