If this economy were to be attended with a reduction in safety, hesitancy in adoption of the new relays would be justified. However, the reverse is true for the new relays possess better shunting sensitivity because of the higher track battery lead resistance that may be used. In other words, the new relay will shunt with a rail contact that would not affect one of the earlier instruments and will, therefore, insure a greater degree of safety especially for shunt foulings.

It is expected that the new specification to be brought out by the Committee on D-C. Signaling, will embody details of the operating characteristics of this new type of relay, and with this specification as a basis the establishment of new standards should lead to extensive use of the new relays.

Will Trunking Be Eliminated?

WOODEN trunking has been used as a protection for insulated wires for track and control circuits ever since electrical signals were invented. Opinions differ as to the best and most economical species of wood to be used, some roads preferring pine, others cypress and not a few redwood. Many signal engineers contend that paint does not preserve the trunking and that where it is used its principal advantage is for appearance, while several roads are using fire resistant paint with good results.

The treatment of trunking with wood preservatives, such as creosote has been frowned upon for fear that the excess creosote oil on the wood surface would deteriorate the insulation on the wires. However, by employing suitable methods of treatment such as the empty cell Reuping or Lowry process, an excess of creosote on the surface can be avoided. Considerable success is also said to have attended the practice of painting the outside of the trunking and capping with creosote oil. Oak has for years been considered the best wood for stakes to support trunking; but because of increased costs, it is being replaced by other woods which are usually creosoted before use. Concrete stakes with cast-iron trunking saddles have also been used. Trunking made of reinforced concrete was developed and together with concrete foundations is used considerably as, for example, on the New York Central.

Standards for different sizes of wood trunking as well as concrete were developed by the Railway Signal Association and the Signal Section, A. R. A., and until comparatively recent years the use of wires in trunking was considered as the only practical method of making rail connections or runs under the track.

More recently, particularly during the last five years, the use of parkway cable for underground runs has rapidly become a standard practice on a considerable number of roads. Interlocking plants as well as signal installations are now being constructed without the use of a single foot of trunking as, for example, the new electro-pneumatic interlockings on the Chesapeake & Ohio at Ashland, Ky., and on the Atlantic Coast Line at Charleston, S. C., also the new signaling on the Nashville, Chattanooga & St. Louis and the Toledo & Ohio Central. On these roads parkway is used for all circuits passing under the ground while some roads such as the Seaboard Air Line, have adopted parkway for rail connections but still prefer to use single conductors in wood trunking for control circuits running under the track between signals or relay cases. Some parkway has now been in service beyond the average life of trunking or wires in trunking.

It should be clear from the above, that many roads are adopting parkway cable with the assurance that satisfactory results will be obtained. Its use is, of course, a decided departure from established practices on many roads and it is quite likely that regardless of the success attained by parkway cable, trunking will continue to be used especially for some purposes on certain roads.

The Public Is Interested in Signaling

THE general public waiting around stations and passengers on the rear platforms of observation cars comment frequently on the interlocking and signal equipment of the railroad. The average passenger has a satisfactory feeling if he knows that every effort is being made to protect the train on which he is riding with modern safety appliances. This characteristic is being recognized by at least one traffic manager with reference to train stop equipment, for in connection with the introduction of a newly equipped passenger train a descriptive bulletin was distributed to the public while the train was on exhibition in one of the terminals, in which the following reference was included: "One of the most interesting features is the automatic train stop, which device protects the passenger against accidents due to broken rails or failure of enginemen to observe signals. The system automatically controls the pneumatic brake devices."

Does this not suggest the desirability of educating the traveling public concerning the benefits of signaling equipment on more roads. Those employed in the signaling field are especially qualified to assist in such a campaign and wherever the opportunity is presented should explain to those interested the functions of interlocking, signals and train control provided. The passenger traffic department should be informed as to the characteristic features that might well be emphasized in newspaper advertising and literature distributed to the public. Convenience and safety of travel on the railroads are two good arguments to offset competition from bus lines. The signal man can help the railroads in general and his own road in particular by expounding the accomplishments of the devices with which he is most familiar.

Letters to the Editor

Using Test Lamps Instead of Meters Is Not Always Advisable

TO THE EDITOR:

Testing relay contact resistance by means of a flashlight bulb is not in all cases to be recommended, despite the fact that such a kink was awarded first prize by the committee of judges, in the contest which was conducted a few months ago. It is reasonable to assume that the bulb of a flashlight is about 8 ohms resistance, which means that one cell of battery (1.4 volts) will discharge about 175 ma. through the lamp. Suppose the lamp is used in testing a relay contact of 0.5 ohm resistance, the total circuit resistance (neglecting internal cell resistance) is 8.5 ohms and the current would therefore be 164 ma. In other words, it would not be possible to detect a decrease in lamp brilliancy caused by the 11 ma. decrease in current resulting from the 0.5-ohm contact resistance introduced into the lamp circuit.

The use of this test lamp is therefore limited to relay contacts used for breaking line circuits, and since most