

## Eight-Hour Bill and the Electric Railways

Secretary E. B. Burritt of the American Electric Railway Association is in Washington urging the inclusion in the eight-hour railroad bill now before Congress of a clause exempting interstate electric railways from its provisions. Reports from Washington on Sept. 1 state that the Senate committee on interstate commerce at a meeting held on the night of Aug. 31 had agreed to amend the bill so as to make its provisions not applicable to electric interstate railroads or to steam railroads of less than 200 miles in length. As the measure was intended to cover steam railroad conditions, the justice of the exemption of the electric roads is obvious. Henry S. Lyons, secretary Boston Elevated Railway, has also been in Washington during this past week associated with Mr. Burritt in presenting the electric railway side of the case, and many telegrams have been sent to senators and members of the House by electric railway companies since the measure was announced, urging that this exemption be made.

Present reports indicate that there will be no strike next week on the steam railroads, but earlier in the week when the strike appeared imminent, the effect on electric railway traffic received very careful consideration by all electric railway companies. Undoubtedly the interruption of steam railroad service would make the facilities offered by the electric railways even more important than they are at present. Some interurban managers in the central states interviewed by a representative of this paper said that owing to their limited coal supply they feared that they would have to reduce rather than increase the number of their cars in operation if the strike should occur. They would thereby conserve their coal and other supplies and be able to keep their roads open longer, in case the steam railroad strike should be prolonged.

## New Signal Installations on Electrified Steam Roads

The Chicago, Milwaukee & St. Paul Railway has completed the signaling of 134 miles of its electrified section, comprising stretches between Lennep and Three Forks and between Piedmont and Finlen. The signaling now being installed will cover the remainder of the 440-mile, 3000-volt d.c. electrification. The road, which is single track, uses the double rail propulsion return system. The power for the signals is transmitted by a 4400-volt, 60-cycle transmission line supplied by substations located thirty miles apart. Line transformers having a rating of 4400 to 110 volts are provided at each signal location.

The track circuits are fed from 0.5-kva. track transformers having a 110-volt primary and an 18-volt secondary. Two-position vane track relays are used with a reactor in series with the transformer leads. The normal pressure on the track element of this relay is one volt and on the local element, 110 volts. The line relays used in this installation are of two types, the three-position vane and the two-position single element vane.

On the heavy 2 per cent grades impedance bonds having a capacity of 1500 amp. per rail are used to carry the propulsion current. The impedance bonds used on lesser grades have a capacity of 500 amp. per rail. The light signals are of the three-light type, having red, green and white indications. Each lens is illuminated by a main lamp and a pilot lamp. The range of these light signals in day time is 3000 ft. under

normal conditions and 2000 ft. under the most unfavorable conditions.

The Pennsylvania Railroad is soon to begin the work of electrifying its Chestnut Hill branch on which a 11,000-volt, 25-cycle a.c. propulsion system will be used. The signals and locking circuits will be controlled from forty-three two-rail return and twenty-seven single-rail return track circuits. The propulsion current will be carried by means of thirty-five 200-amp. impedance bonds and by six 75-amp. bonds. The remarkable success achieved by the position-light signals used on the Philadelphia-Paoli division has caused the Pennsylvania Railroad to continue their installation on the new electrification. The track relays will be of the brakeless centrifugal frequency type. The vane frequency line relays will draw their energy from 1-kva., 110-volt, 60-cycle transformers. At each signal location 3300 to 110-volt transformers will step down the power from the signal transmission line. The maximum length of track circuit will be 3800 ft. and the minimum 1000 ft.

The signal material for both the above mentioned installations is being furnished by the Union Switch & Signal Company, Swissvale, Pa.

## English Tramways and the War

Some of the problems that have been confronting British tramway operations during the second year of the European war are well shown by the following extract from an editorial in *The Electric Railway and Tramway Journal* of Aug. 4:

"As to revenue, the great majority of our tramways have done remarkably well during the second year of the war. Some of the larger centers of population have scored continuous and notable increments, and our weekly traffic returns, as a whole, show a great preponderance of the plus over the minus signs. The working classes almost everywhere are earning more—in many cases much more—than average wages, and are spending their money freely, to the great benefit of the tramways.

"In respect of expenditure, it goes without saying that in almost all the items the cost has been higher. Wages have been advanced all round, allowances to dependents are steadily growing, and the cost of materials, fittings, etc., has not only gone up by leaps and bounds, but is befogged by the difficulty which exists in many lines of procuring supplies at any price whatever. The prices of certain materials and supplies have mounted much higher, and even where some attempt has been made to insure co-operative buying such things as tires have reached about \$50 per ton—a price which before the war would have been deemed unthinkable.

"On the whole, it appears to be a fair and reasonable conclusion that our tramways have done well in the teeth of great difficulties. They are, perhaps, piling up a certain number of troubles for themselves when the war comes to an end, but they cannot avoid these, seeing that they cannot obtain either the labor or the materials to keep their tracks, cars, sheds and so on in proper order. The postponement of repairs and adequate maintenance consequently is unavoidable, and it is up to the managers to do their best to keep going their services during the war, and leave what may happen afterwards to the arbitrament of circumstances. They cannot do either less or more than that."

On Aug. 1, during the visit of Judge and Mrs. Elbert H. Gary to the Philippines, they were the guests of honor at a dinner tendered them by C. Nesbit Duffy, vice-president Manila Electric Light & Power Company. The dinner was attended by prominent government officials.