electric sign giving the name of the association in bright colors.

Arrangements have also been made for members from the East to take New York Central train No. 19, the Lake Shore Limited, leaving New York City, Grand Central Terminal, Friday, September 10, at 7:30 p. m., and arriving at the La Salle Street station, Chicago, Saturday, September 11, at 4 p. m. The Pullman equipment from New York will not be run west of Chicago, so that passengers from the East making reservations for space to Chicago should at the same time arrange for similar space from Chicago to Salt Lake City. The railroad fare for the trip from New York City to Salt Lake City and return is $83.70, in addition to which there is an extra fare on the Lake Shore Limited of $5. The rate between Chicago and Salt Lake City, and return, is $43. The return trip, in either case, can be made direct or via Denver. Sleeping-car rates for one direction are as follows:

	New York.	Chicago.
Lower berth	$13.50	$ 8.50
Upper berth	10.80	6.80
Compartment	38.00	24.00
Drawing room	48.00	30.00

In order to enable the railroads to know what equipment will be necessary, it is recommended that all requests for Pullman reservations and tickets be made between August 15 and September 1. All requests from New York City and vicinity should be made to W. V. Lifsey, general eastern passenger agent, New York Central, 1216 Broadway, New York City, and from Chicago and vicinity to H. A. Gross, general agent, passenger department, Chicago & North-Western, Chicago.

PUTTING A G. R. S. INTERLOCKING PLANT IN SERVICE.

BY W. L.

We recently put in service two G. R. S. electric interlocking plants, of approximately 60 levers each, and in each case the complete plant was turned over to the leverman for operation within five minutes after the time it was bulletined for service. Possibly the methods which we employed to prepare and actually place the plant in service are new to some signal men.

Each plant embodied several movable point frogs and double and single slip switches. All track functions were equipped with adjustable switch rods of the turn-buckle type, and the lock rods were drilled for a uniform throw, irrespective of the throw of the temporary hand switch stands by which they were being operated. All except derails were provided with a permanent marker in the form of a small clip under the nut of one of the point-lug bolts, to indicate the normally-closed point. Every function was numbered, even those on a double lever having individual numbers, to facilitate testing.

Permanent telephone connections to the tower were provided for at every manhole, and portable telephones were furnished the men who were testing the various functions and circuits. Within three days prior to placing them in service, each switch, derail, frog and signal was thoroughly tested and made to indicate positively on 110 volts at the tower. (Because of their being new and "stiff" it was necessary to multiple the fields of the motors on most of the frogs and double slip switches.) The detector locking, signal selection and other circuits were given a final check during these three days. The relays were all lettered and numbered, to correspond to working blue prints, in large characters visible from a distance of several feet.

The plant was bulletined for service at 10 a. m. on a week-day, and the following program was carried out between 7 a. m. and the time that the plant was pronounced in service at 10:05 a. m. A certain number of men were detailed to disconnect hand switch stands and adjust the throw of the switches and frogs to the interlocking standard (the lock rods already being drilled to this standard), beginning with the least-used ones. Where traffic conditions permitted the switches were spiked, and those which could not be spiked were operated throughout the last hour by a signalman with a tommy bar, under the direction of the regular switch tender. The storage battery was charged and sufficient current maintained to keep it at approximately 125 volts during the time the plant was being placed in service and for several hours thereafter—all functions having been tested at 110 volts. During the last hour one man went over all switch machines and made sure that all the motor brushes were lifted, and placed a piece of paper under the common spring of the pole-changer movement so that it did not make contact with the commutator. The tower being at one end of the plant, a telephone was put up at about the center of the layout, and a couple of men were detailed to serve it and carry messages to any part of the work.

Two men were placed in the tower to keep the storage battery charged to the right point, put fuses in the interlocking machine and notify the men on the ground by telephone in case anything needed attention. All levers were normal, all fuses were put in a few minutes prior to 10 o'clock, and the leverman was instructed not to touch a lever until the signalman at the tower was notified from the foreman on the ground that everything was ready. The signal blades were installed during the last half hour and the ground men stationed at various points over the plant with spike mauls, claw bars and small tommy bars. Two men checked watches, stationed themselves at opposite ends of the plant and at exactly 10 o'clock gave signals which started the gang to pulling spikes, dropping brushes and removing the paper from under the commutator springs of the pole changers. The two men, who had given the signals, followed up, inspected every function, noted that they had assumed the normal position, and meeting at the telephone, advised the foreman, who in turn notified the signalman at the tower to turn the plant over to the leverman—10:05 a. m.

Thus by proper preparation the most critical operation in the installation of an interlocking plant was accomplished in such a short time that it was unnecessary to move a single train during that time. When they did move they were under full interlocking protection. The leverman was not embarrassed, in addition to the usual confusion attending the operation of a new plant, by having to "manipulate" part of the machine for every train movement. His entire attention was devoted to moving traffic.

Four things particularly made this record possible: the turn-buckle adjustment type switch rods, the insulation of the common spring from the commutator of the pole changer, the use of the marker on the normally closed point of all switches and frogs, and the telephone facilities.

TRAIN ACCIDENTS IN APRIL.—The statistics of train accidents kept by the "Railway Age Gazette" show only two in the month of April that were important enough to list. This is the first time in the 43 years that these statistics have been kept that the monthly list did not include at least a half-dozen items. A study of these records shows that April is a month in which a light record is always to be expected. This is attributed to three causes, moderate traffic, favorable weather and a minimum of inexperienced trainmen.

ENGLISH RAILWAY ACCIDENTS.—Only 19 accidents were investigated by the English Board of Trade last year, this low figure being due, according to the Railway Gazette, London, in part to the fact that accidents have been fewer and in part to the limited inspecting force available on account of the unusual conditions incident to the war. Of the 19 accidents, 14 were collisions, 3, derailments, and 2, unclassified. Of the 14 collisions 11 were due to mistakes by enginemen. In 6 cases they overran or started against signals and in 1 case signals were misread, the other 4 being charged to carelessness. Of the 3 derailments, 1 was due to excessive speed by an engine unsuitable for passenger service, 1 to a defect in the locomotive and 1 to a broken rail. Only two of these accidents were fatal to passengers, 5 lives being lost in one and 1 in the other.