

safeguard which is believed to be superior to the ordinary wood-strain insulators or other devices which have been employed on other 1200-volt d.c. equipment.

The cars were built at the Paris (Ill.) plant of the McGuire-Cummings Manufacturing Company, and they were designed under the direction of C. D. Cass, general manager of the Waterloo, Cedar Falls & Northern Railway. A preliminary description of the character of construction employed in the extension of this company's lines between Waterloo and Cedar Rapids, over which these cars will operate, appeared in the *ELECTRIC RAILWAY JOURNAL* of July 19, 1913.

Line Construction for C., M. & St. P. Electrification

Construction of Overhead Is Progressing Rapidly—Work on the Second Section Has Been Begun

Overhead construction for the electrified section of the Chicago, Milwaukee & St. Paul Railway is progressing at a rapid rate from Three Forks, Mont., westward to Deer Lodge, Mont., unusually thorough methods and equipment having been provided to carry on the work efficiently and with expedition. The type of construction train engaged in erecting the catenary with the twin contact wires that are to be used for this installation is shown in the accompanying illustration. The trains include four box cars, upon the roofs of which wooden superstructures have been erected, so that the linemen have a platform 160 ft. long on which to work.

It is expected that the 113 miles of overhead construction between Deer Lodge and Three Forks will be completed early next fall, practically all of the line material for the installation being on the ground or en route at the present time. This includes more than 100,000 hangers and some 250,000 malleable-iron castings for the catenary construction, all of which were furnished by the General Electric Company. The line material, it may be said, has been sherardized throughout without exception, to eliminate the possibility of corrosion.

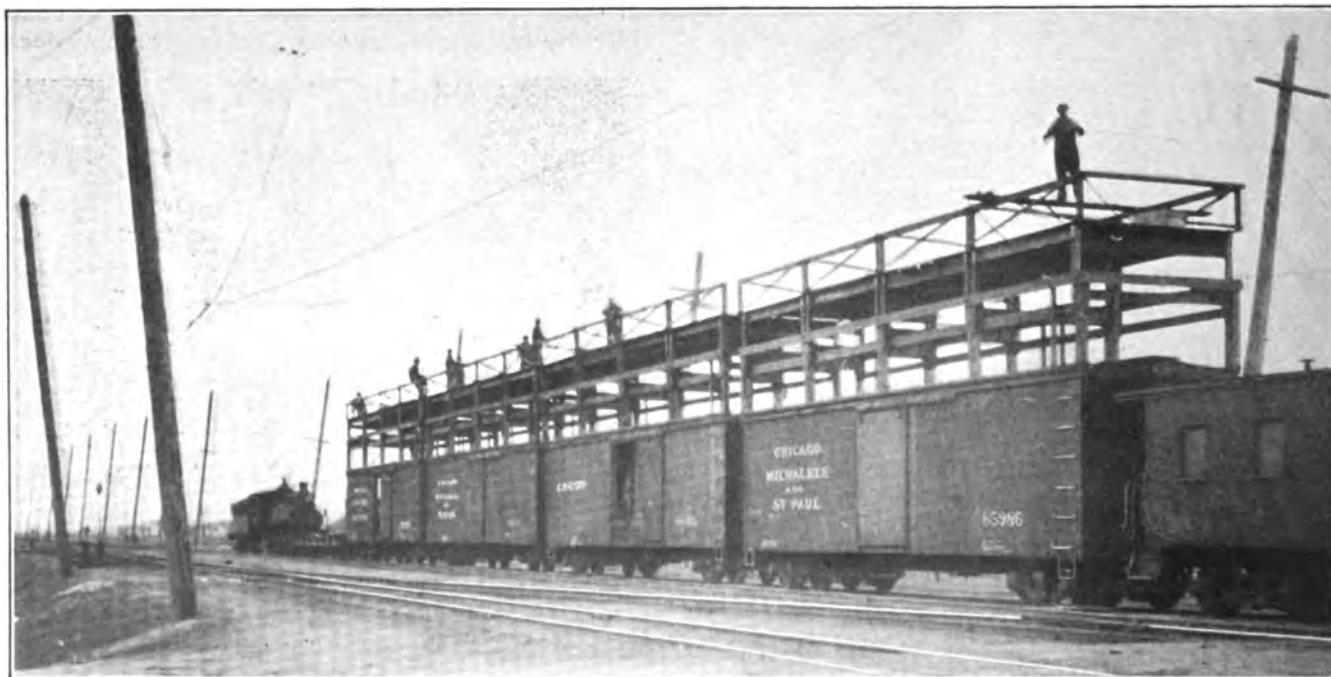
Work has also been started on the electrification of another engine division extending eastward from Three Forks to Harlowtown, nine electric locomotives in addition to the twelve now under construction having been

ordered early in March. It is planned to start overhead construction work on an additional engine division each year until all four of the proposed electrified districts are completed, making a total of 440 miles. This is to be in service under electric operation by Jan. 1, 1918.

Continuing Interest in Safety Work

Few companies have devoted more attention to the safety movement or have given it greater permanency than the Chicago & Joliet Electric Railway, Joliet, Ill., J. R. Blackhall, general manager. Recently this company was instrumental in promoting an exhibit and lecture course on health and safety first which was attended by more than 22,000 people, largely of the laboring class. By enlarging the scope of the safety work to include public health, the railway was enabled to join forces with the Joliet Public Health Central Council, and together they have conducted an educational campaign in the prevention of accidents and disease. The exhibit and lecture course was promoted under the auspices of the company and the council at an expense of less than \$500. This amount was borne by local manufacturers, public utilities and various other civic organizations. The purpose of the lecture course was principally to encourage community action, and the exhibits included machinery for carrying out the required measures. The program and exhibit were continued for nine days, the program consisting of afternoon and evening sessions and including musical entertainment and lectures by prominent speakers, some of them being of national reputation.

The railway has become quite enthusiastic about the safety movement, which has now been under way for practically a year. The management states that the results have greatly exceeded its expectations. Until about four months ago the percentage of accidents had been greatly reduced as a result of the safety work. For the past four months the company has had no accidents to report to the Illinois Public Utilities Commission. When it is considered that reports must be made of all accidents in which persons are injured and incapacitated for more than twenty-four hours, or damage is caused to property amounting to more than \$150, it will be seen that this means real results.



C., M. & ST. P. LINE CONSTRUCTION—FOUR-CAR TRAIN FOR LINEMEN