

the signal tower from white to red, indicating that the bridge is closed to traffic. Similar changes of light occur on the operator's panel.

Until the end locks are withdrawn, the contactors of the operating motors remain open. When withdrawn, these contactors are closed, so that the operator can, as soon as the light signals that the time is proper, energize the main motors through the controllers. The first notch of the controller merely releases the solenoid brake. This position can be used at any time when it is desired to coast. The starting of the span on its upward movement opens the lock motor contactors, so that the latter cannot

unless the bridge is actually moving up or down, it is held rigidly in position by a brake operated by an independent 5-h.p. motor.

The current for operating this bridge is obtained from the Kaministiquia Power Company and is 2,200 volts, 3-phase, 60-cycle A.C. current. It is stepped down to 550-volt for use on the bridge. The operator's house on top of one of the towers is fitted with a complete electrical control outfit, including switchboard and the necessary attachments.

The bridge is also equipped with a hand-operating mechanism for use in an emergency. It would take four hours to open the bridge with this mechanism.

The total weight of steel in the bridge, exclusive of the approaches, is about 2,500 tons. The counterweight weighs 2,400 tons. The bridge was designed by the Strauss Trunnion Bascule Bridge Company, of Chicago, under the direction of Mr. P. B. Motley, engineer of bridges for the Canadian Pacific Railway. It was fabricated in the Davenport works of the Canada Foundry Company, and all calculations in regard to counterweight were worked out in their engineering department, after the shop drawings were made. The entire electrical equipment was furnished and installed by the Canadian General Electric Company, Limited.

ELECTRIC RAILWAY CONVENTION IN ATLANTIC CITY.

The American Electric Railway Association, whose company members represent over 36,000 miles of track, more than 76 per cent. of the total in the United States, will hold its Thirty-second Annual Convention in Atlantic City, October 13th to 17th. The preliminary announcement of its programme indicates the growing attention which public service corporations are giving to the matter of relations with the public and employees. Technical matters, being left largely to the allied associations, composed of the technical men of the business, the parent association, in which are found the heads of the companies, devotes its attention largely to subjects of general interest to the industry.

Profit-sharing with Employees, The Relation of Carriers to the Development of the Territory They Serve, The Relief of City Congestion, Present Tendency of Public Service Laws and Regulations, Valuation, and Electric Railway Securities from the Investor's Viewpoint, are some of the subjects which will be discussed.

Among the speakers will be Frank Hedley, vice-president of the Interborough Rapid Transit Company, of New York; Paul Shoup, president, Pacific Electric Railway Company, Los Angeles; C. S. Sergeant, vice-president, Boston Elevated Railway Company; J. J. Burleigh, vice-president, Public Service Corporation of New Jersey; W. F. Ham, vice-president of the Washington (D.C.) Railway and Electric Company; C. L. S. Tingley, vice-president of the American Railways Company, Philadelphia; C. N. Duffy, vice-president, the Milwaukee Electric Railway and Light Company; Richard McCulloch, vice-president, United Railways Company, of St. Louis; C. W. Beall, of Harris, Forbes & Company, New York; A. D. B. Van Zandt, Detroit United Railway Company; David W. Ross, vice-president, Interborough Rapid Transit Company, New York; Frank Bergen, general counsel, Public Service Corporation, of New Jersey; C. M. Rosecrantz, general counsel, the Milwaukee Electric Railway and Light Company, and Assistant Surgeon-General W. C. Rucker, of the United States Bureau of Public Health.

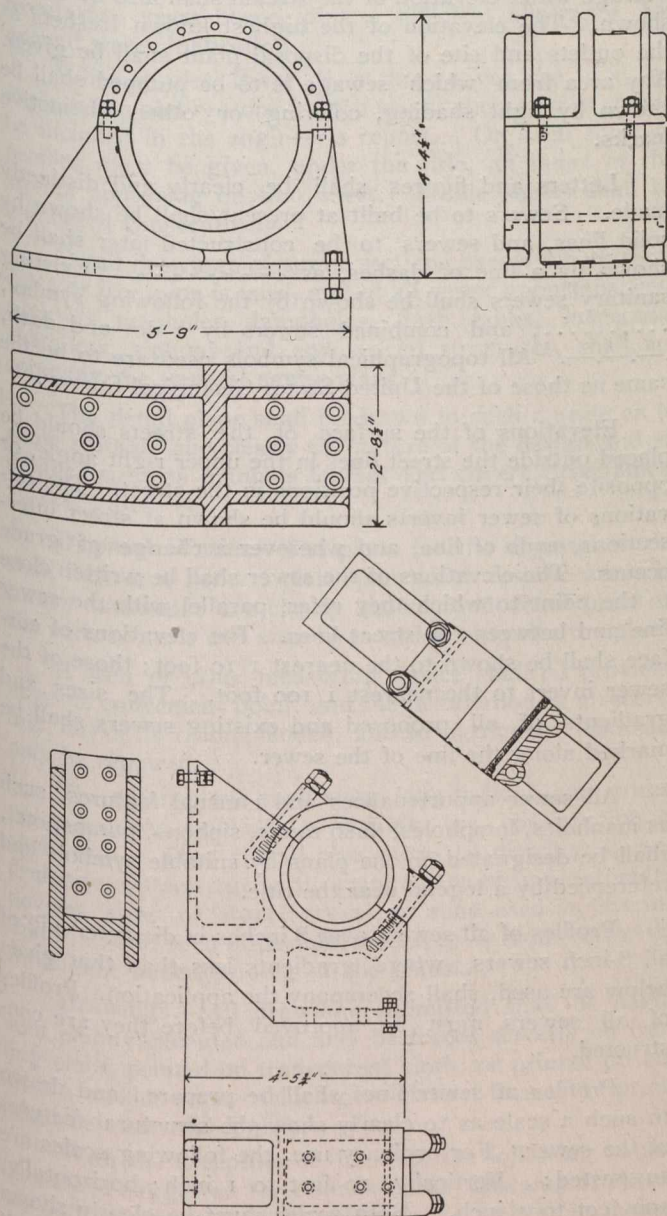


Fig. 4.—Kaministiquia River Bridge—Details of Trunnion Bearings.

operate by accident. The closing of the span is performed by reversing the operations outlined, and the signal lights show up in the same reverse order. Air buffers are provided to take up any shock when the span strikes the abutments. If the bridge is travelling too fast, these air buffers will cause the motors to overload and trip the oil switch, which will automatically put the brakes on. The operating machinery is all interlocked in such a way that every operation must be performed in sequence, and