

### AMERICAN BRIDGE TO CROSS RIVER NILE AT CAIRO, EGYPT.

Cable advices from Cairo, Egypt, state that the contract for the construction of a new bridge to cross the Nile River at Cairo, which will cost more \$1,500,000, has been let by the Ministry of Public Works of the Egyptian Government to the Compagnie de Fives-Lille of France, after an international competition in bidding for its construction. The new bridge, which will be located at the deepest part of the Nile River, and will lead direct to the site where the Boulac Museum stood, is to be built in accordance with plans prepared by the late Sir Benjamin Baker, of London, the engineer of the great Forth Bridge, Scotland, and the Scherzer Rolling Lift Bridge Company of Chicago, the latter company also furnishing consulting engineering services during erection. The entire work is to be executed under the charge of the Ministry of Public Works of the Egyptian Government and it is expected that the new bridge will be completed and in service before the end of the year 1910.

This large modern bridge will be in striking contrast to some of the old types of slow moving bridges across the Nile. It has a total length between abutments of 274.5 meters. The total width of the bridge will be 18 meters divided into two foot-paths of 3 meters each, a tramway track of 5 meters to carry double lines of electric tramway of 1 meter gauge, and 7 meters of road clearance. The structure will consist of a Scherzer Rolling Lift Bridge with 4 fixed approach spans. On the Boulac side of the Nile quay walls will be constructed on masonry wells. The south end of the abutment on this side of the river will join the existing quay wall and the north end will ultimately be joined to the quays under construction. The piers and abutments which will be of Assouan granite are to be built on foundations to be sunk by compressed air. The Scherzer Rolling Lift Bridge will have a movable span of 30 meters to allow the passage of boats.

In order to facilitate the heavy water and land traffic at this site, which is in the most prominent part of the Egyptian metropolis, the Scherzer Rolling Lift Bridge is designed to operate very rapidly, the time required to open or close the bridge being less than 30 seconds. This result is accomplished by the use of the most modern electric equipment.

### INSPECTION OF TIRES ON LOCOMOTIVE ENGINES.

In view of the very frequent breakage of rails on the various railway systems operating in Canada, and the numerous accidents resulting therefrom, the Board of Railway Commissioner's Inspectors have made a careful examination of the driving tires of the locomotive engines used on different railways; and they report that, on the tires of quite a large number of the engines there are skids, or flat spots, three to four inches in length and in some cases even longer.

It has not been represented to the Board that these flat spots on the tires have been responsible for the rail breakage referred to; but instances are known where engines with "skidded" tires have left broken rails behind them, and the Board therefore recommends that railway companies, subject to its jurisdiction, adopt some system for a more careful and rigid inspection of tires on locomotive engines, especially during the winter months, in order to prevent, as far as possible, the running of engines with defects of the kind mentioned.

### NEW USE FOR MANGANESE STEEL.

A good example of how the development of one industry helps another is found in an order for manganese steel discs recently placed by the Cutler-Hammer Clutch Co., of Milwaukee. This company, in addition to manufacturing magnetic clutches, makes a specialty of lifting magnets for handling pig iron and scrap metal. The growth of this latter business and the natural desire of the manufacturers to perfect every detail of their product has led to the adoption of manganese

steel for coil shields, the coil shield being the flat disk fastened to the under side of the lifting magnet for the double purpose of protecting the magnetizing coil and interposing between the two poles of the magnet an area of non-magnetic material. Brass, which is non-magnetic, has heretofore been used for this purpose. Ordinary steel will not do because it is a magnetic metal and would serve to conduct the magnetic lines of force from pole to pole instead of compelling them to seek a passage through the material to be lifted. Manganese steel seems to be the ideal metal for this purpose. It is non-magnetic, like brass, and infinitely harder; so hard, in fact, that the continued hammering of the pig iron or other metal on the under surface of the magnet makes not the slightest impression on it. The 50-inch magnets recently furnished by the Cutler-Hammer Clutch Company to a number of steel mills in the Pittsburg district are all equipped with manganese steel coil shields instead of with the brass coil shields formerly used.

### ORDER OF THE RAILWAY COMMISSIONERS OF CANADA.

Copies of these orders may be secured from the Canadian Engineer for a small fee.

4725—May 13—Authorizing the Windsor, Essex and Lake Shore Rapid Railway to erect, place and maintain its wires across the track of the Pere Marquette Railway at Main Street, east of Kingsville, Ont.

4726—May 13—Authorizing the Windsor, Essex and Lake Shore Rapid Railway to erect, place and maintain its wires across the track of the Pere Marquette Railway at Pelton, Ont.

4727—May 13—Authorizing the Windsor, Essex and Lake Shore Rapid Railway to erect, place and maintain its wires across the tracks of the Pere Marquette Railway at Lansdowne Avenue, Kingsville, Ont.

4728—May 13—Authorizing the Commissioners of the Transcontinental Railway to expropriate and use a portion of the right-of-way and lands of the New Brunswick Railway Co, near Theriault, County of Madawaska, Province of New Brunswick.

4729—May 13—Authorizing the G.T.R. Co. leave to cross with its second track the track of the United Counties Railway Co. (operated by the Q.M. and S. Railway) at St. Hyacinthe Junction, P.Q.

4730—May 13—Authorizing the C.P.R. to construct certain branch lines or spurs in the city of Montreal, P.Q., from its Lachine Canal south bank branch to and into the premises of the Consumers' Cordage Co. and Dominion Bag Co.

4371—May 11—Authorizing the Provincial Light, Heat, and Power Company to carry its 40,000 volt transmission line across the tracks of the Grand Trunk Railway at Dorval, P.Q.

4732—May 13—Authorizing the Provincial Light, Heat, and Power Company to carry its 44,000 volt transmission line across the tracks of the Grand Trunk Railway at a point 1/4 mile east of Rockfield Station, P.Q.

4733—May 19—Recommending to the Governor-in-Council for sanctioning an agreement between the Vancouver, Victoria, and Yukon Railway and the Vancouver, Victoria and Westminster Railway and Navigation Company, dated March 26th, 1908, for the sale of certain portion of its undertaking and property.

The New York offices of the American Spiral Pipe Works have been removed from 39 Cortlandt Street, to larger and better equipped offices in the Hudson Terminal Buildings, 50 Church Street, New York. Mr. F. B. Sanborn is in charge, and is prepared to furnish complete information of "Taylor's Spiral Riveted Pipe" for hydraulic mining, exhaust steam, and all other water supply work. This pipe is furnished 3 to 40-inch diameter up to 1/4-inch in thickness, and for pressures up to 500 lbs. This company is also prepared to furnish forged steel flanges for all classes of pipe and other purposes, including welding flanges, boiler flanges and high pressure steam pipe flanges.