

70,000 lbs. per square inch. All main bearings are grooved for lubrication and fitted with screw compression grease cups directly connected to the bearings. The diameter of the main trunnion is 11", and of the counterweight trunnion, 12". Particular care was taken that trunnions and pins were turned perfectly true throughout; that they were provided with a sufficient number of adequate keys; and that they were accurately aligned and set.

The total weight of structural steel is 876,500 lbs.; and of trunnions, pins and bearings, 38,100 lbs.

Chain barriers will be installed at each end of the bridge, protecting both roadway and sidewalk. Each barrier is balanced by counterweights, and they are operated by a 5-h.p. motor. The mechanism of each barrier is so arranged that the brake shoes are free from the brake wheel except when the barrier is down, protecting the bridge opening. This eliminates the danger of the barrier failing to work on account of rust. The barrier itself is elastic and is so constructed as to gradually absorb the shock of any vehicle striking it. Fig. No. 6 shows the general elevation.

The painting specifications required that all riveted work in contact, and surfaces not accessible for painting after erection, should be given two coats of paint before erection. The paint specified was 12 lbs. the parts were assembled. The paint specified was 12 lbs. of red lead and 10 oz. of lamp black mixed with one Imperial gallon of pure raw linseed oil. It was subsequently decided that in regard to the riveted work in contact, the number of coats be reduced from two to one, to lessen the possibility of loose rivets resulting from the burning of

the paint. All field rivet heads and all areas on which the shop coat was damaged, were given a coat of shop paint before the finishing coats were applied.

The bridge will be operated by electric power, delivered at the switchboard in the operator's house in the form of 3-phase, 25-cycle alternating current at 550 volts. Pro-

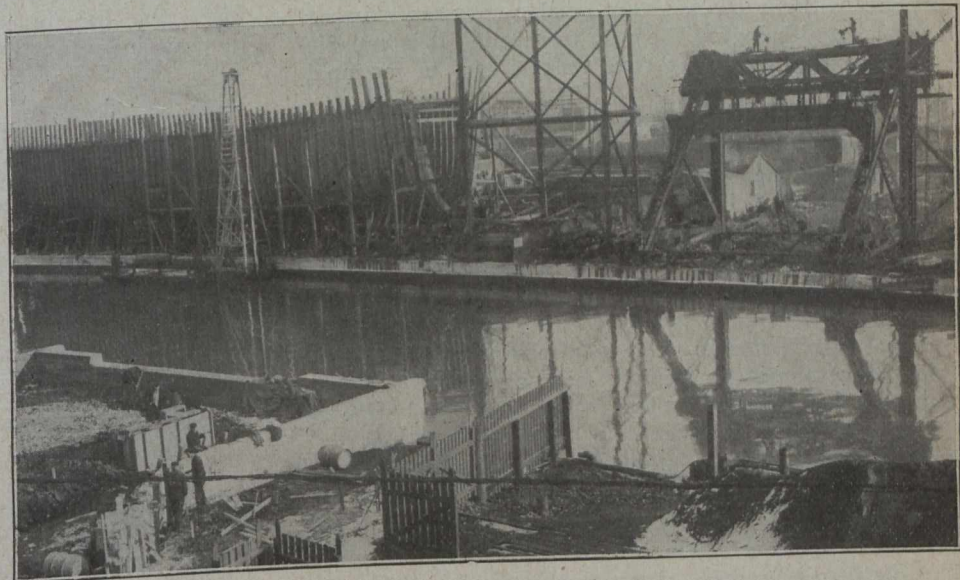


Fig. No. 4—North Shore Abutment in Foreground; Tower Posts of Counterweight Truss Erected Across the Channel

vision is made for taking current from either of two independent sources of supply.

The bridge leaf will be operated by two heavy-duty, enclosed type, variable speed, reversible electric motors, each operating at 710 r.p.m. with a normal running torque of 740 ft.-lbs. and a maximum starting torque of 1,600 ft.-lbs. The motors are capable of maintaining the above normal rating for thirty minutes without exceeding a rise of 75 deg. C. above the temperature of the surrounding air. They are capable of starting under, and of carrying for two minutes without injurious heating or sparking, the maximum starting torque specified. The entire insulation and rotating electrical parts are equivalent to the mill motor type. Each motor is furnished with a steel pinion of proper proportion to drive the operating machinery.

The end lock is operated by one 5-h.p. enclosed type, reversible motor, running at 825 r.p.m., with 30-minute rating. This motor is designed to permit of swinging the span through an angle of ninety degrees without spilling oil or becoming otherwise affected. Hinged manhole covers are provided for the protection of the end lock machinery.

Each motor is provided with a "Block" brake which is normally held in the set position by a spring with such force as to overcome from 80% to 100% of the normal motor

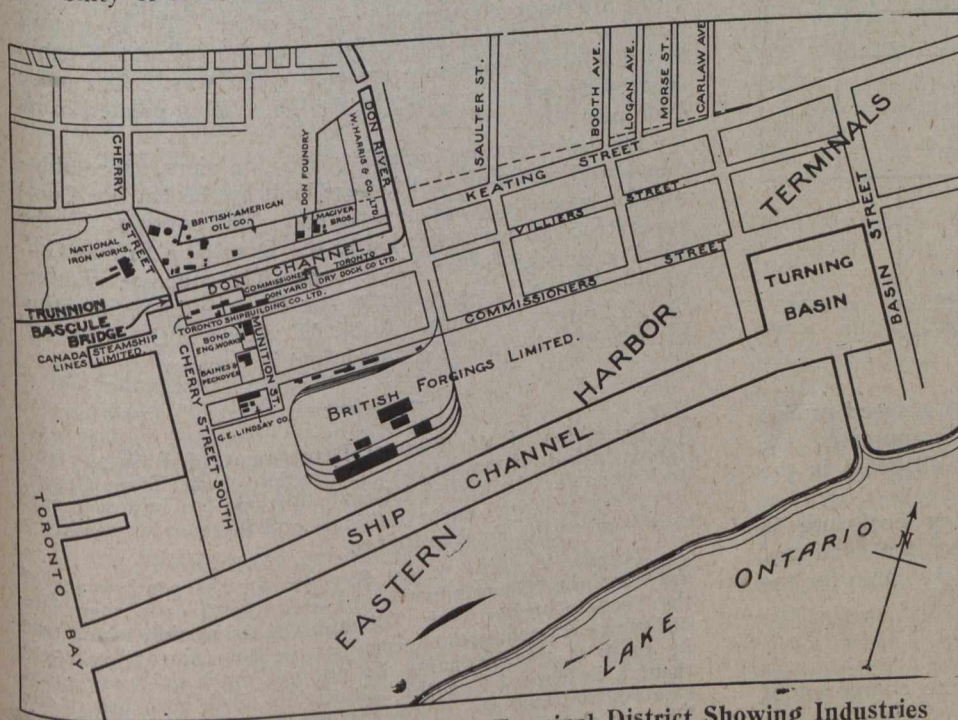


Fig. No. 3—Plan of Eastern Harbor Terminal District Showing Industries Already Operating There and Location of the Don River Bascule Bridge