

JOHN STEWART, Secretary-Treasurer  
 Consulting Engineer.

IPANY,



MANUFACTURERS OF

Steel and  
 Iron

Bridges

SWING BRIDGES, TURN-  
 TABLES,

Round-House and Drill-Shed  
 Roofs, Etc., Etc.,

ALSO IMPROVED MACHINERY, ESPECIALLY  
 ADAPTED FOR BRIDGE-BUILDING AND  
 OTHER HEAVY PURPOSES.

Have Supplied Bridges for  
 ... the ...

Canadian  
 Pacific  
 Railway

From MONTREAL to VAN-  
 COUVER.

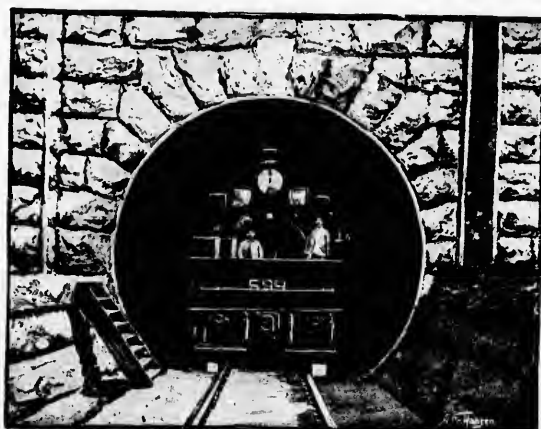
ed by C. Telpor,  
 ON, ONTARIO, Canada.

# THE ST. CLAIR TUNNEL.

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RUSSELL Creosoting Works, Long Island City. The contract for excavating the approaches was performed by ELLIOTT & PHIN, of Brantford, and the steam shovels used were from the MARION STEAM SHOVEL CO., of Marion, Ohio. The derricks were furnished by DOBBIE & STUART, of Thorold.

The system of lighting and ventilation during the progress of the work was most excellent. It need hardly be stated that electric lights were employed, and the plant for this was furnished by the EDISON COMPANY on the American side, and by the BALL ELECTRIC LIGHT COMPANY, of Toronto, on the Canadian side. Incandescent lamps were used, and the work was well-lighted in the shields and air locks. The latter were furnished by the DETROIT BRIDGE AND IRON WORKS. They were supplied with fresh air by two Root blowers at each end, through pipes which were extended as the work progressed. These were furnished by the ABENDROTH & ROOT MANUFACTURING COMPANY, of New York. When the work reached the river, the employment of compressed air became necessary, the men working in an atmosphere under pressure of from ten to twenty-eight pounds above normal. The requisite pressure was maintained by the use of two Ingersoll air compressors at each end, which were supplied by the INGERSOLL SERGEANT DRILL COMPANY, of New York.



TUNNEL ENGINE EMERGING FROM PORTAL.

In addition to the supplies made especially for the tunnel, there was constant demand for articles of general hardware and iron supplies. These were furnished by the well-known house of CHAS. MACKENZIE, MILNE & CO., of Sarnia. In addition to the machine work done at the special shops, built for the purpose, much extra repair and shop work was done by FRANCIS BLAIR, of Sarnia, and the PHOENIX IRON WORKS, of Port Huron.



FERRY DOCK AND TRANSFER STEAMER.—"THE OLD WAY."

who have in this tunnel again successfully overcome nature's barriers, as they had previously done by the construction of the Victoria and Suspension bridges.

The accuracy of the surveying was simply marvellous, and due credit should be given to the instruments employed. The theodolites, and other apparatus, were furnished by STACKPOLE & BROTHER, of New York, and were the finest to be had.

No one can pass through this tunnel without being impressed by the permanent character of its construction, and it will remain as a lasting monument to its projectors, and a tribute to the indomitable energy and vast resources of the Grand Trunk Railway Company,