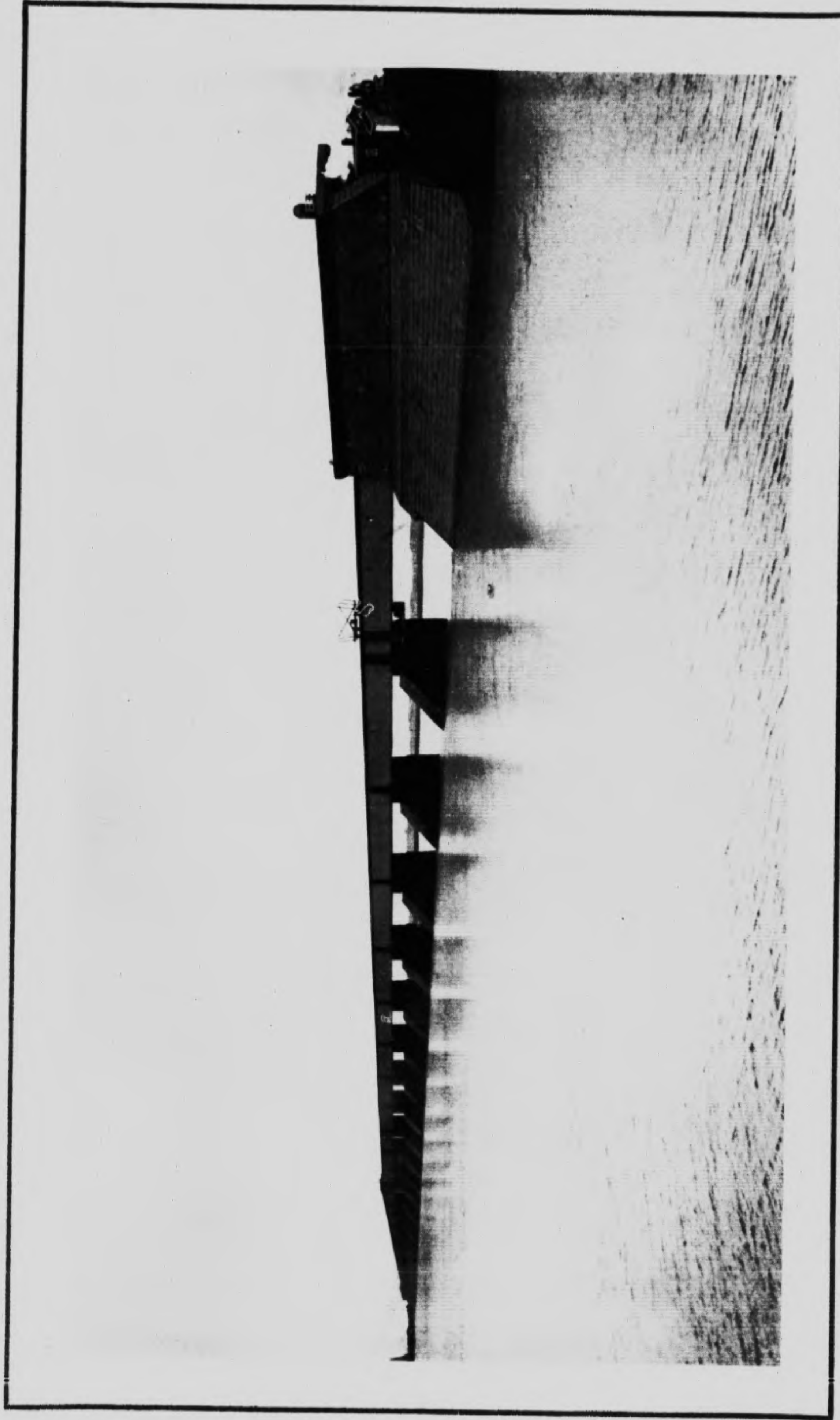




OLD VICTORIA TUBULAR BRIDGE ACROSS THE ST. LAWRENCE RIVER, MONTREAL. OPENED FOR TRAFFIC BY
H. R. H. THE PRINCE OF WALES IN THE YEAR 1860. RECONSTRUCTED 1898.

VICTORIA JUBILEE BRIDGE

ACROSS ST. LAWRENCE RIVER, MONTREAL

GRAND TRUNK RAILWAY SYSTEM

OPENED FOR TRAFFIC
DECEMBER THIRTEENTH,
ANNO DOMINI MDCCCXCVIII



COMPLIMENTS
PASSENGER DEPARTMENT GRAND TRUNK RAILWAY SYSTEM
MONTREAL

PC2947

c67

V52

1906

pk*st



THE GOLD MEDAL STRUCK IN COMMEMORATION OF THE
OPENING OF THE OLD VICTORIA TUBULAR BRIDGE, 1860.

58965

Victoria Tubular Bridge.

THE OLD WAY.



BACK in the fifties, Montreal could not boast of a better connection with the railway to the south than by the primitive mode of a ferry across the St. Lawrence River. The terminus of the Grand Trunk Railway, then called "The St. Lawrence & Atlantic Railroad," running from Portland, Me., was Longueuil, at which place the Company's steamers were in readiness to ferry the passengers to Montreal, the most important city of all the British possessions in America, and one which at that time warranted the expectation of its becoming an immense metropolis.

The population of Montreal was between sixty and seventy thousand, more than half of whom were of French extraction.

Freight was transported in barges, and during the winter months sleighs were resorted to as conveyances for passengers and merchandise. Twice a year there was a stoppage of traffic from one to three weeks during the fall and spring when the mighty St. Lawrence was impassable. On one occasion a number of passengers were being

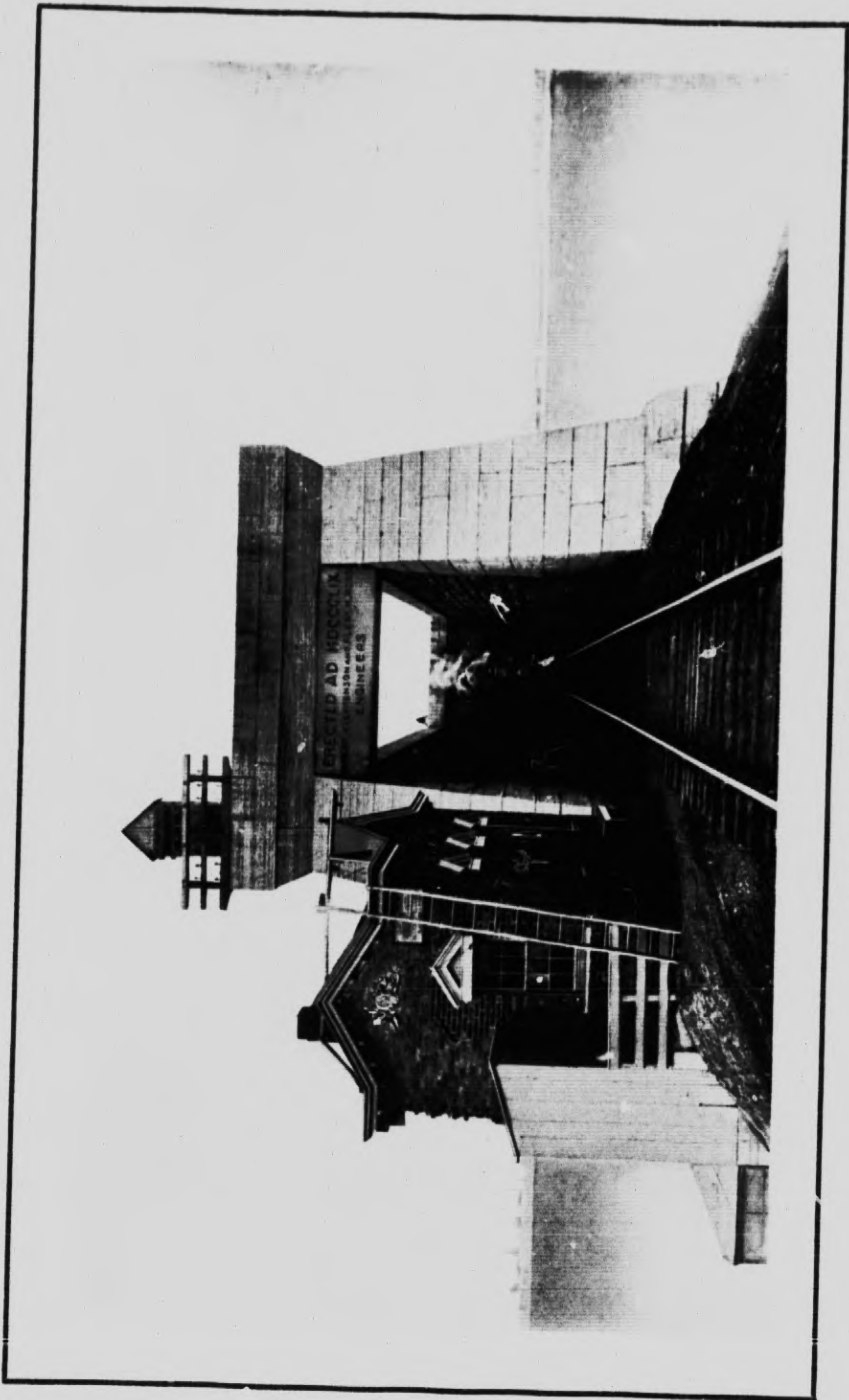
VICTORIA JUBILEE BRIDGE

carried across the ice bridge in a sleigh, driven by one of the Grand Trunk teamsters, when a casualty occurred which proved fatal to one of the number, the others narrowly escaping. When nearing the middle of the stream, the whole field of ice, many miles in extent, began to move, but fortunately stopped after going a short distance, and all escaped in safety except one man who died from exhaustion and fright.

Thus it may be imagined by those living in the present period, that great difficulties and dangers were experienced by travelers to and from Montreal in the old days, before the Grand Trunk Railway erected that wonder of engineering skill, the "Victoria Tubular Bridge," which stood the test of a heavy traffic for nearly forty years.

It is probable that there never was an undertaking so beset with difficulties as the building of the "Victoria Tubular Bridge," at Montreal. The contractors had to contend not only with a rapid stream two miles wide, but with shoves of ice from three to seven feet in thickness, and from fifteen to twenty square miles in extent.

The engineers of the Victoria Tubular Bridge were Robert Stephenson and Alex. M. Ross, C. E. Mr. Ross, who had been connected with many large railways and public works in Europe, came to Canada in the year 1852, and after conferring with prominent men in this country and the management of the Grand Trunk Railway, with a view to bridging the St. Lawrence, returned to England



PORTAL OF OLD VICTORIA TUBULAR BRIDGE.

GRAND TRUNK RAILWAY SYSTEM

in the fall, after suggesting a tubular bridge to connect the north with the south shore.

The first stone for the first pier of the old bridge was laid July 22, 1854, by Sir Cusack Roney, along with Vice-President Holmes, Mr. James Hodges, Alex. M. Ross, C. E., and other gentlemen, who were also joined by Lady Roney, Mrs. Hodges, Mrs. Maitland and others, each taking the trowel and assisting in preparing the mortar-bed for the first stone in the first pier of the great undertaking.

FIRST CROSSING OF VICTORIA BRIDGE.



ON November 24, 1859, Vice-President Blackwell, Hon. G. E. Cartier, Attorney-General; James Hodges, Alex. M. Ross, C. E.; Walter Shanly, Major Campbell, Messrs. Gzowski, Macpherson, Forsyth, Captain Rhodes and others, were the first to cross the Victoria Bridge. Mr. Blackwell was on his way to England to attend the Grand Trunk meeting, where he was able to report himself as coming "via Victoria Bridge."

On August 25, 1860, the bridge was officially inaugurated, and the last rivet driven by H. R. H. the young Prince of Wales, on which occasion a grand banquet was held near the bridge, and

VICTORIA JUBILEE BRIDGE



H. R. H. ALBERT EDWARD, PRINCE OF WALES, AND
SUITE. TAKEN AT MONTREAL DURING OPENING
CELEBRATION OF VICTORIA TUBULAR BRIDGE, 1860.

addresses were given by the Prince, the Duke of Newcastle, Mr. Blackwell, Mr. Alex. M. Ross, C. E., Mr. Hodges and others.

To commemorate this event, Mr. Blackwell had a medal prepared by J. S. Wyon, chief engraver of Her Majesty's seals, a gold one of which was presented to H. R. H. the Prince of Wales, and a bronze one to each of the officers of the Grand Trunk Railway. It bears a fine impression in relief of the Prince as he then appeared, with the Prince's feathers on the reverse

GRAND TRUNK RAILWAY SYSTEM

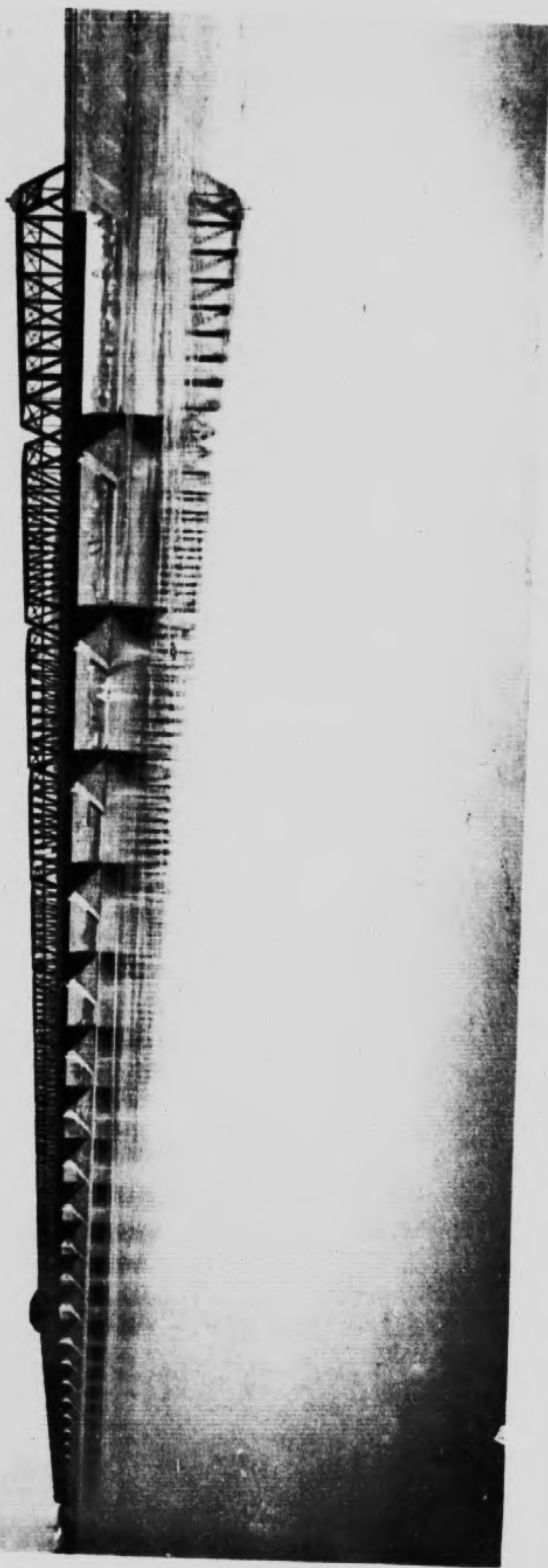
side, and the words "Welcome! Albert Edward, Prince of Wales, visited Canada and inaugurated the Victoria Bridge, 1860."

A REMINISCENCE OF THE BRIDGE BUILDERS.

Until lately, the traveler, on leaving the Montreal side of the bridge going east, may have observed on his left a gigantic boulder placed upon cut stone mason work, surrounded by a picket fence. This boulder was dug up in the vicinity of the bridge while the latter was under construction, and was placed where it stood for years by the workmen employed on the construction, in commemoration of the immigrants who died from ship fever during the years 1847-'48. The monument now stands in St. Patrick's Square, Point St. Charles. The boulder bears the following inscription:

To
*Preserve from Desecration
the Remains of 6,000 Immigrants
who Died of Ship Fever
A. D. 1847-8*
THIS STONE
*is Erected by the Workmen
of Messrs. Peto, Brassey & Betts
Employed in the Construction of the
VICTORIA BRIDGE
A. D. 1857*





VICTORIA JUBILEE BRIDGE ACROSS THE ST. LAWRENCE RIVER, MONTREAL. BUILT ON THE SAME PIERS AS
THE OLD VICTORIA TUBULAR BRIDGE, OPENED FOR TRAFFIC 1898.

Victoria Jubilee Bridge.



AT the time of the completion of the Victoria Tubular Bridge in 1860, it was considered the eighth wonder of the world, and was the admiration of not only the promoters and the Railway Company, but of all Canadians and others who looked upon it. Through increase in traffic, and with the on-

ward march of time and improvement, the old bridge had become inefficient to meet the demands of the Grand Trunk Railway System, and the management concluded that it must be replaced with a structure which would meet all needs. Accordingly, a new open-work steel bridge, with double tracks, carriage ways, and foot-walks for pedestrians, now rests on the piers which held the old Victoria Bridge for so many years.

On December 13, 1898, the second track across the Grand Trunk Railway's new Victoria Jubilee Bridge over the St. Lawrence River at Montreal was completed, and the bridge opened for traffic with a double track, the first train to pass over it being the St. Johns local, with passenger engine No. 265, Conductor Lavigne

VICTORIA JUBILEE BRIDGE

and Engineer Day. While apparently of small moment in itself, this fact marked an interesting event in the history of the Grand Trunk Railway System, as well as in the history of the development of the commerce of both Canada and the city of Montreal.

The Chief Engineer of the new bridge was Mr. Joseph Hobson, Chief Engineer of the Grand Trunk Railway System. The contractors were: The Detroit Bridge & Iron Works for the erection of the whole of the superstructure, and for the construction of nineteen spans of it, including the center one. The remaining six spans were constructed by the Dominion Bridge Company of Montreal. Mr. Wm. Gibson, of Beamsville, Ont., built all the masonry required for the enlargement of the abutments and piers.

The work was commenced in October, 1897, by the erection of the first span on the west end—the structure being built completely around the tube of the old bridge, the latter being cleverly utilized as a roadway on which a temporary steel span was moved out to the first pier, and the new structure then erected outside the temporary span.

The progress of the work was delayed for the period of two months during the winter of 1897-8, owing to very severe weather, and the actual time of construction only extended over a period of about eight months. During that time the enormous traffic of the Grand Trunk was delayed but very little—practically nothing to

GRAND TRUNK RAILWAY SYSTEM

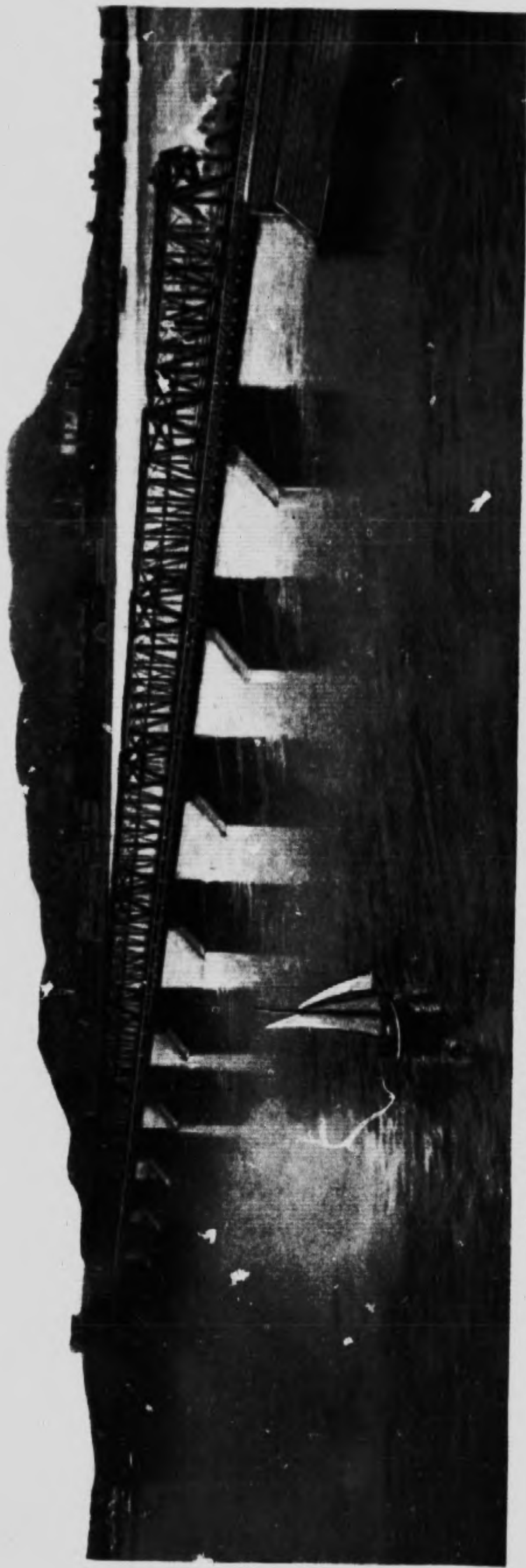
speak of—the longest time on any one occasion that the line was closed to traffic being about two hours, and the total length of time closed during construction being about twenty hours. This is a very remarkable result when the following facts are taken into consideration.

While the old bridge entire weighed 9,044 tons, the new bridge weighs 22,000 tons. The total length of bridge is 6,592 feet; number of piers, 24; number of spans, 25; length central span, 330 feet; length side spans, 242 feet.

While the width of the old bridge was sixteen feet, the width of the new bridge is sixty-six feet eight inches. The height of the old bridge superstructure was eighteen feet; the height of that of the new bridge over all is from forty to sixty feet.

The total cost of the new bridge, which provides double track for railroad trains and driveways for vehicles on each side, was about \$2,000,000. The contract price of the old Victoria Bridge was \$7,000,000.

The superstructure of the bridge, exclusive of its own weight, in which are included floors, railway tracks, guard rails, etc., is designed to carry the undermentioned moving loads: (1) Trains running in both directions, consisting of two consolidation engines and tenders, coupled, of an average weight of 5,200 pounds per foot of their length, followed by a car load of 4,000 pounds per foot. (2) A moving load on each



VICTORIA JUBILEE BRIDGE ACROSS THE ST. LAWRENCE RIVER. CITY OF MONTREAL
AND MOUNT ROYAL IN DISTANCE.



THEIR ROYAL HIGHNESSES THE DUKE AND DUCHESS OF CORNWALL AND YORK (NOW PRINCE AND PRINCESS OF WALES) WITH GRAND TRUNK OFFICIALS ON VICTORIA JUBILEE BRIDGE OCTOBER 16, 1901. THE PARTY ARE STANDING ON THE EXACT SPOT WHERE H. R. H. THE PRINCE OF WALES (NOW KING EDWARD VII.) DROVE THE LAST RIVET IN THE OLD VICTORIA TUBULAR BRIDGE IN 1860.

GRAND TRUNK RAILWAY SYSTEM

carriage-way of 1,000 pounds per foot. There is no limit prescribed for the speed of either railway trains or of ordinary carriages.

The new bridge ranks, from an engineering standpoint, with the foremost structures of the age, as the bridge which it replaced ranked the foremost as a monument to the skill of the engineers and bridge-builders of the period in which it was built.



THE opening of the double track on the new bridge marked an era in the handling of traffic over the Grand Trunk Railway System. For whereas the old bridge could accommodate a maximum of but one hundred trains per day—as they were required to travel at a low rate of speed, and one train could not follow another until the preceding one was out, thus losing a considerable amount of valuable time during a day—the present bridge has almost an unlimited capacity in this respect, as trains can be moved swiftly and follow each other in rapid succession, owing to the establishment of a modern electric block system, which will permit two or three trains on the bridge in each direction at the same time. This enables the Grand Trunk to handle with facility the large and constantly increasing freight business—which has heretofore

VICTORIA JUBILEE BRIDGE

• ERECTED • 1892-9

SIR CHAS. RIVERS WILSON. *President*

JOSEPH PRICE. *Vice President*

CHAS. M. HAYS. *General Manager*

JOSEPH HOBSON. *Chief Engineer*

• CONTRACTORS •

DETROIT BRIDGE & IRON WORKS

FOR ERECTION OF SUPERSTRUCTURE AND

CONSTRUCTION OF NINETEEN (19) SPANS

INCLUDING CENTRE ONE

• DOMINION BRIDGE COMPANY •

FOR CONSTRUCTION OF SIX (6) SPANS

OF SUPERSTRUCTURE

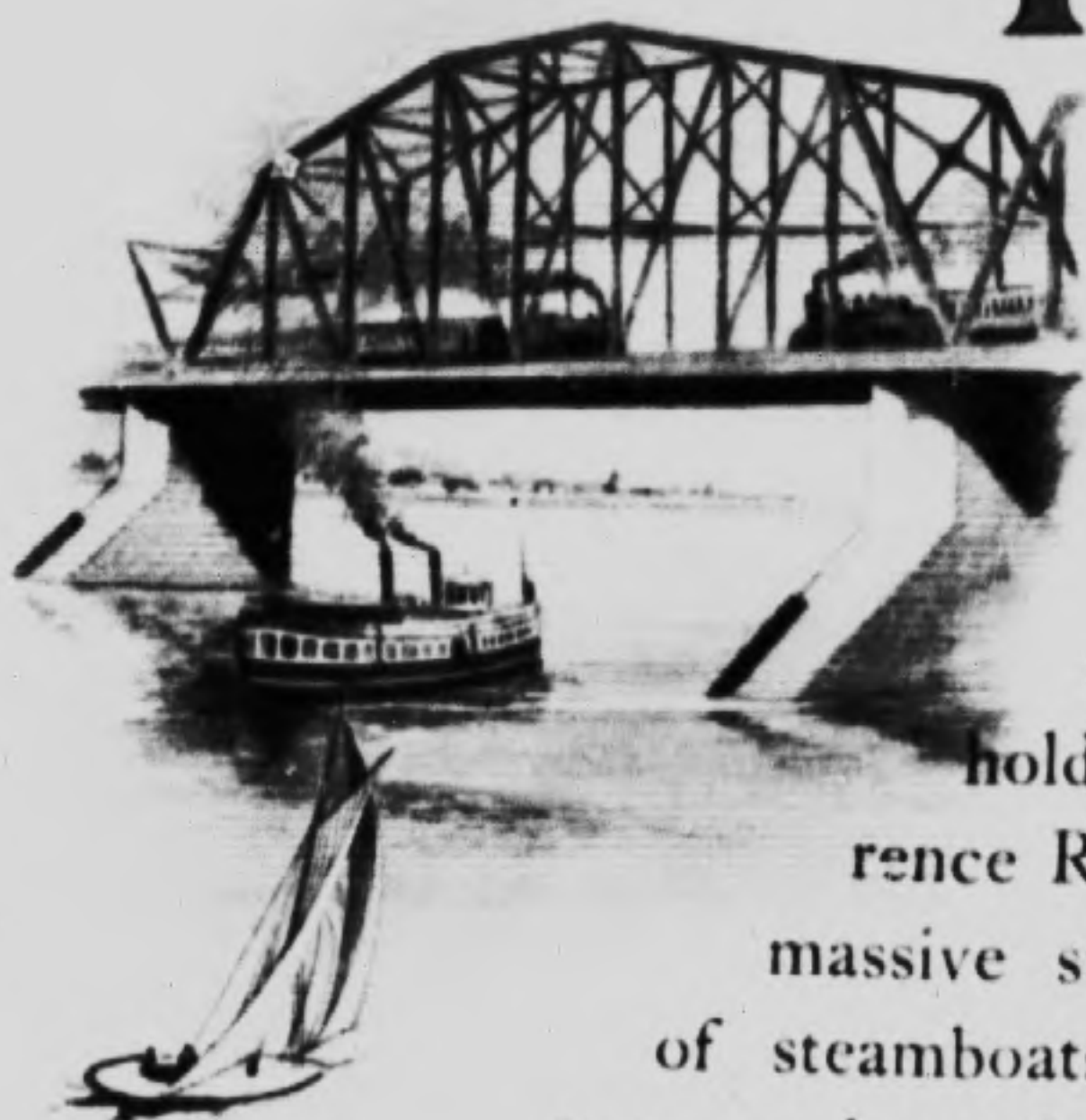
• WILLIAM GIBSON •

FOR MASONRY OF ENLARGEMENT

OF ABUTMENTS AND PIERS

GRAND TRUNK RAILWAY SYSTEM

been more or less hampered owing to the limited capacity of the old bridge—as well as handling in a proper manner the large passenger business which constantly comes to and through Montreal, and with increased volume during the summer tourist season.



THE view from the train while crossing the Victoria Jubilee Bridge is one of much grandeur, and if seen while approaching Montreal from the south shore, cannot but arrest the artistic sense of the beholder. With the St. Lawrence River sweeping under this massive structure, with hundreds of steamboats, sailing vessels, steam tugs and craft of every description, scurrying hither and thither on its waters opposite the harbor, and the city of Montreal lying in its beautiful location at the base of Mount Royal as a background, forms one of those beautiful pictures which delight the eye of the artist and awakens the admiration of all. The massive stone warehouses that line the harbor for miles, the extensive manufactories, from whose tall chimneys belch forth volumes of smoke, and which can be seen on

VICTORIA JUBILEE BRIDGE

the shores of the river as far as the eye can reach, tend to show that Montreal is the commercial metropolis of the Dominion of Canada.

While speaking of Montreal, it might be said that when the old Victoria Tubular Bridge was completed in 1860, the population of this progressive city was, as already stated, between 60,000 and 70,000, and to-day the population is given as 350,000.

A synopsis of the dimensions and interesting features of the new bridge is appended.

Length of steel work, 6,592 feet.
Length (including approaches), 9,144 feet.
Number of piers, 24.
Number of steel truss spans, 25.
Length of centre span, 330 feet in the clear.
Length of side spans, 242 feet to 247 feet in the clear.
Thickness of centre piers at summer water level, 28 feet.
Thickness of side piers at summer water level, 18 feet.
Material of piers, limestone.
Quantity of masonry (piers and abutments), 100,000 cubic yards.
Height of ordinary spans (centre to centre of chords), 40 feet.
Height of centre span (centre to centre of chords), 60 feet.
Width between main trusses (centre to centre), 31 feet 2 inches.
Extreme width of bridge, including roadways, 66 feet 8 inches.
Height from water at centre to underside of bridge, 60 feet.
Grade of trusses to centre, 1 in 130.
Total weight of superstructure, 44,000,000 pounds.
Cost of bridge, new work, \$2,000,000.
Total cost of bridge, \$9,000,000.

CHAS. M. HAYS
*Second Vice-Pres. and
Gen'l Manager*
MONTREAL

W. E. DAVIS
*Passenger
Traffic Manager*
MONTREAL

G. T. BELL
*Gen'l Passenger and
Ticket Agent*
MONTREAL

GEO. W. VAUX
Asst. Gen'l Pass'r and Tkt. Agt.
CHICAGO

H. G. ELLIOTT
Asst. Gen'l Pass'r and Tkt. Agt.
MONTREAL



CITY OF MONTREAL BY MOONLIGHT, AS SEEN FROM A GRAND TRUNK RAILWAY TRAIN CROSSING THE
VICTORIA JUBILEE BRIDGE OVER THE ST. LAWRENCE RIVER.

