CANADIAN RAILROAD HISTORICAL ASSOCIATION
INCORPORATED.

NEWS REPORT NO. 66 — MONTREAL, CANADA — APRIL 1956

Notice of Meeting:

The regular monthly meeting of the Assocation will be held in room 920, Transportation Building, 159 Craig Street West, Montreal, at 8:00 PM on Wednesday, April 11th, 1956. The entertainment will be announced at the meeting.

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Coming Trips

Arrangements have been made with the Montreal & Southern Counties Railway to operate a special trip in car #104, over all lines of the system on the last day of service. The exact date has not as yet been determined, though estimates place it between the 28th of April (time change weekend) and the middle of June. Members and associates who reside out of town, who would be interested in being kept informed as to the last trip, when the final arrangements are made, are asked to drop a postcard to Mr. John Marjoribanks, Chairman, Trip Committee, C.R.H.A., P.O.Box 22, Station B, Montreal. Mr.Marjoribanks will keep this record on file, and should sudden arrangements become necessary, those who have mailed cards will be informed individually, by mail. If time permits, notice will be given in the News Report, otherwise.

AS IT IS ANTICIPATED THAT THERE WILL BE A CONSIDERABLE DEMAND FOR TICKETS ON THIS OFFICIAL LAST TRIP, PREFERENCE IN THE MATTER OF SEATING SPACE WILL BE GIVEN IN THE ORDER IN WHICH RESERVATIONS ARE RECEIVED. IT IS THEREFORE ESSENTIAL THAT YOU SEND YOUR NAME AND ADDRESS TO THE ASSOCIATION, ALSO NOTING WHETHER THE RESERVATION IS FOR YOURSELF, OR WHETHER OTHERS WILL ACCOMPANY YOU.

THANK YOU.

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BACK COPIES OF BULLETINS WANTED

Leonard A. Seton, our Honourary Legal Counsel, is seeking to complete his file of back copies of the News Reports and Bulletins. If any reader has copies of News Report 1 - 5 inclusive and #10 (issued in 1949 and 1950) and Bulletin 10 - issued 1938, which are not required, Mr.Seton would like to purchase them. His address is 354 Notre Dame Street West, Montreal.

INTERESTED IN 8 mm. MOVING PICTURES

Ted Gay, 156 Van Buren Avenue, Teaneck, N.J., U.S.A., would like to contact persons interested in railway moving pictures. He would like to obtain 8 mm. footage of Canadian and US roads and will pay cash, or has PC negatives of all roads, 35 mm. slides and 8 mm. footage to trade. Copies not wanted. Will make titles in exchange. Has many extra titles to give away.

THE SUPERSTRUCTURE OF THE OLD VICTORIA BRIDGE.

The superstructure consisted of square wrought iron tubes, large enough to permit a train to pass through the inside and, being almost entirely enclosed, it was like riding through a long, dar, iron tunnel.

Prior to the building of the Victoria Bridge and the similar but earlier Britannia Bridge, engineers knew very little about stresses in bridges and strength of materials and Robert Stephenson was forced to carry out a long and elaborate series of experiments with scale models. He found that in a hollow beam, supported at each end and sustaining a weight, the upper surface in the centre is exposed to a strain of compression, diminishing to the ends, while for the bottom surface, at the same point, the conditions are the reverse, becoming tensile. -- the sides acting as struts or braces to prevent those opposite strains approaching each other. In a beam of this description, therefore, the excess of strength must, on the top and bottom, be in the centre and diminish as the ends are approached; while on the sides, the conditions are again reversed, the centre requiring the minimum of strength necessary for connecting the top and bottom, with an increase as the ends or bearings were reached. To accomplish the required distribution of material in the different parts of the tube, wrought iron plates of various thicknesses were used: -- 5/8", 9/16", 1/2", 7/16", 3/8", 5/16" and 1/4" -- the thicker parts being used in the parts requiring greater strength, and vice versa.

Each tube was 516 feet long and rested on three piers; it was securely bolyed to the masonry of the pier in the centre, on which it had a colid bearing of 16' x19', and free bearings on each of the two contiguous piers of 7½' x 19'. To provide for expansion and contraction, the ends rested on fourteen rollers, six inches in diameter and three feet in length, with cast iron bearing plates on the top of the piers and similar plates bolted to the under side of the tube.

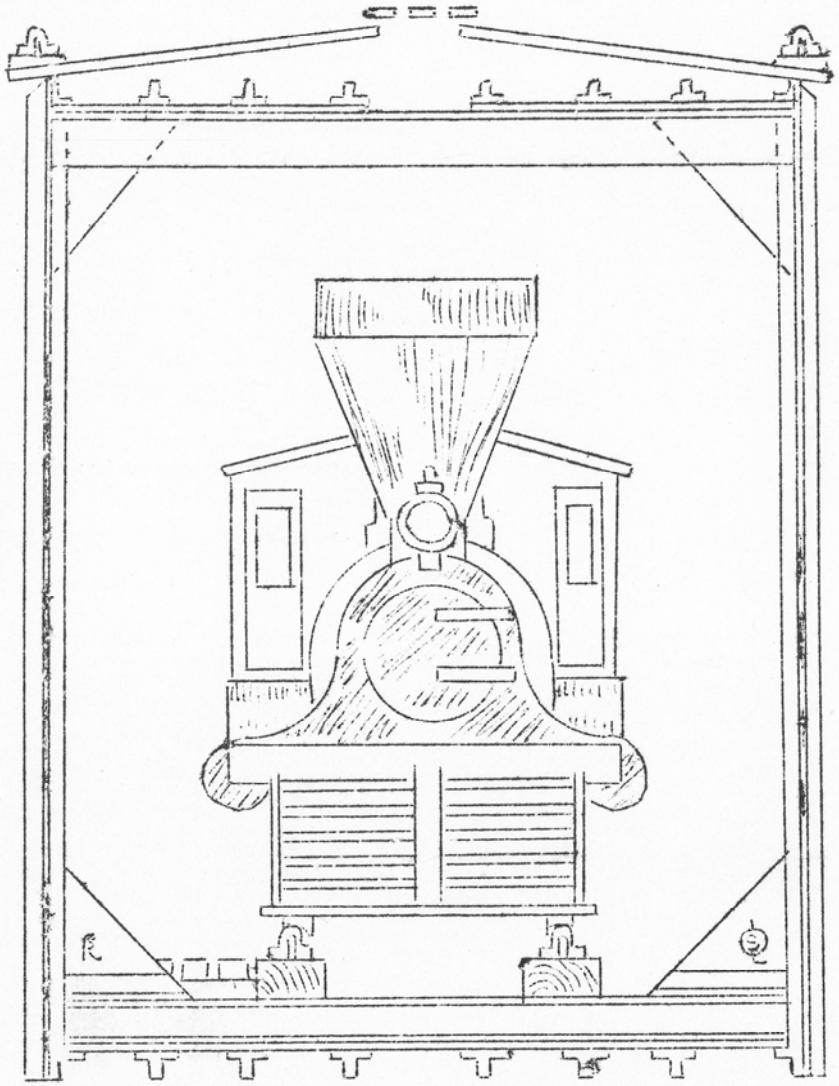
The sides of the tubes were made of wrought iron sheets, 3'6" wide, and put together with vertical spaced butt joints, strengthened by T bars inside and out and rivetted through.

The bottoms of the tubes consisted of iron plates running longitudinally with butt joints reinforced with angle and T bars on the under side. Keelsons, made of 10" I beams, were placed transversely on top of the bottom plates, spaced 7 feet apart, and rivetted through to the reinforcing T and angle bars underneath. The keelsons were also attached to the inner T bars of the sides of the tubes by lap joints and gussets.

The tops of the tubes were supported by transverse 10" T bar keelsons, also spaced 7 feet apart and similarly attached to the T bars of the sides by lap joints and gussets. The top plates were laid longitudinally, rivetted to the transverse keelsons, and the longitudinal butt joints strengthened by inverted T bars. There was a continuous opening, 2 feet wide, along the centre line of the tops of the tubes, to permit the escape of smoke and gases

from the smokestacks of the locomotives. The effectiveness of this vent was, however, nullified by the roof which was built over the top of the tubes. For this reason, the smoke and gases lingered unpleasantly in the Stygian darkness of the interior of the bridge.

To protect the tubes from rain and snow and to prevent oxidization, it was originally intended to cover the top of the tubes with a curved corrugated iron roof but this design was abandoned



and a sloping angular one substituted, composed of tongued and grooved boards, covered with the best quality of tin. A footwalk, 26 inches wide, extended along the top of the roof, and rails along each top edge carried the painting-traveller.

The erection of the superstructure started in the spring of 1857 and was completed in the autumn of 1859; the time required for each span being about ten weeks.

Heavy staging was required for the erection and this had to be very solid to prevent subsidence during the course of the work.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