

Canadian Rail



NUMBER 142

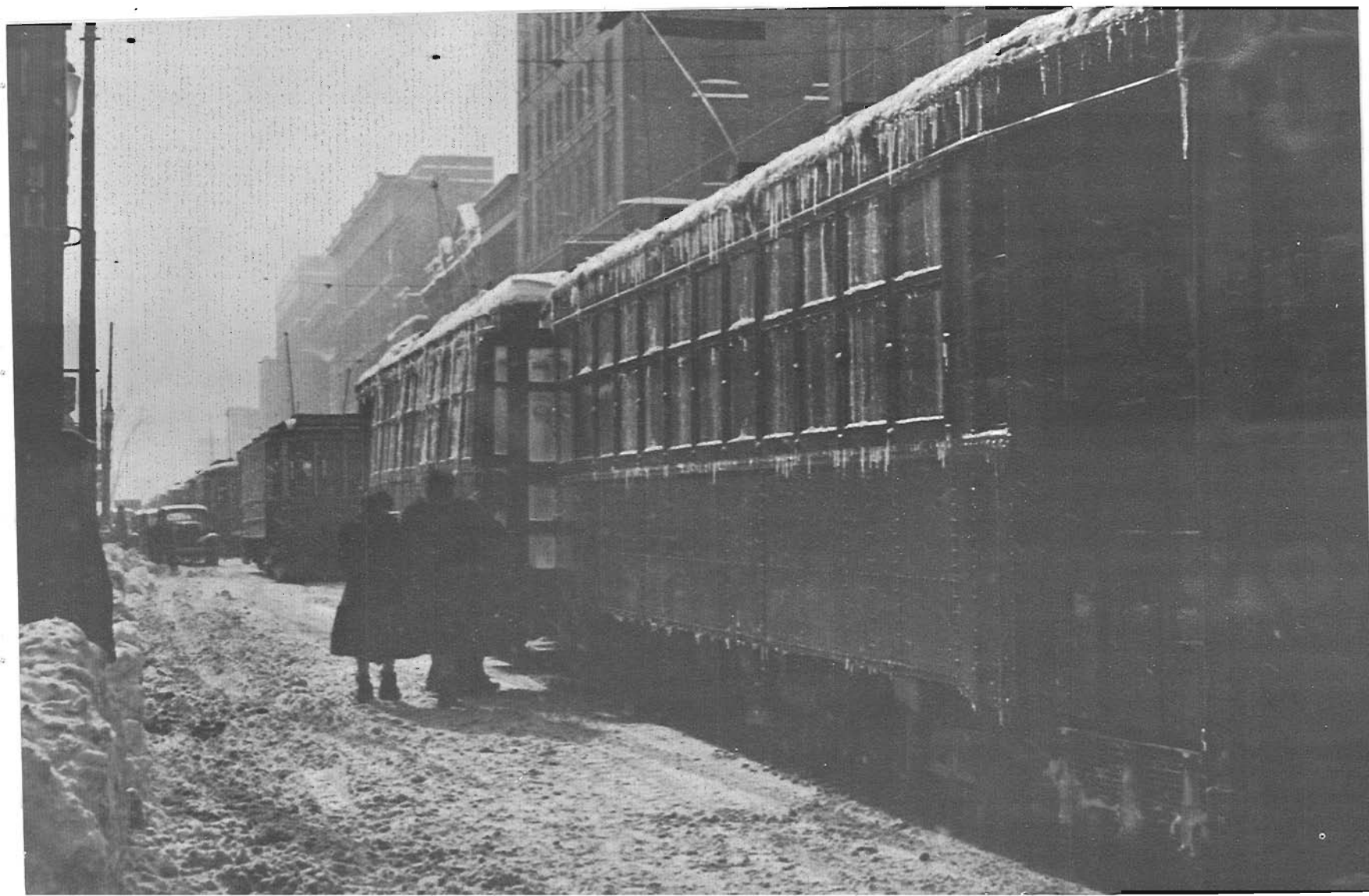
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MARCH 1963



Sweepers in action never failed to present a dramatic picture. They symbolized, perhaps more than any other type of equipment, the struggle against the elements.

Above photo and upper picture on Page 48 from the Notman Collection, courtesy McGill University. Other snow-fighting illustrations provided by R.M.Binns, A.Clegg, and the Montreal Transportation Commission.



Snow-fighting on the Transit Lines of Montreal.

by Richard M. Binns

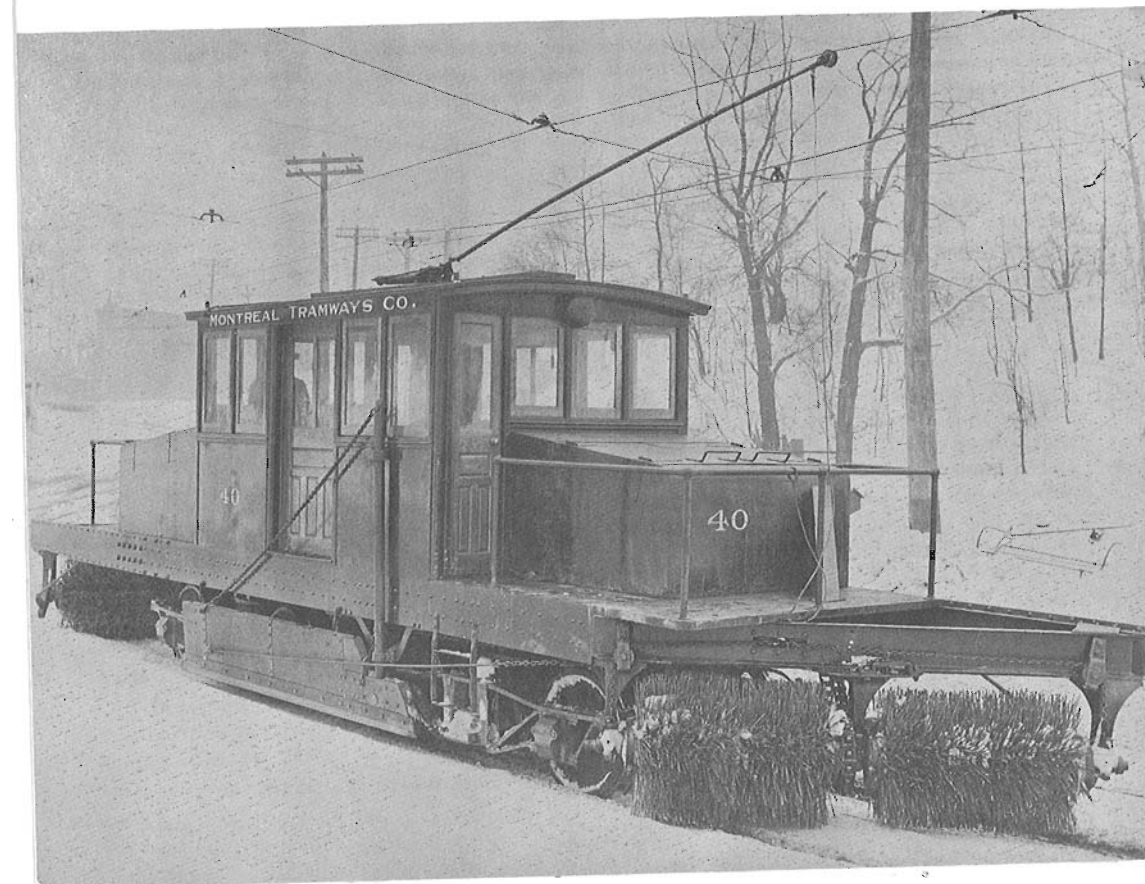
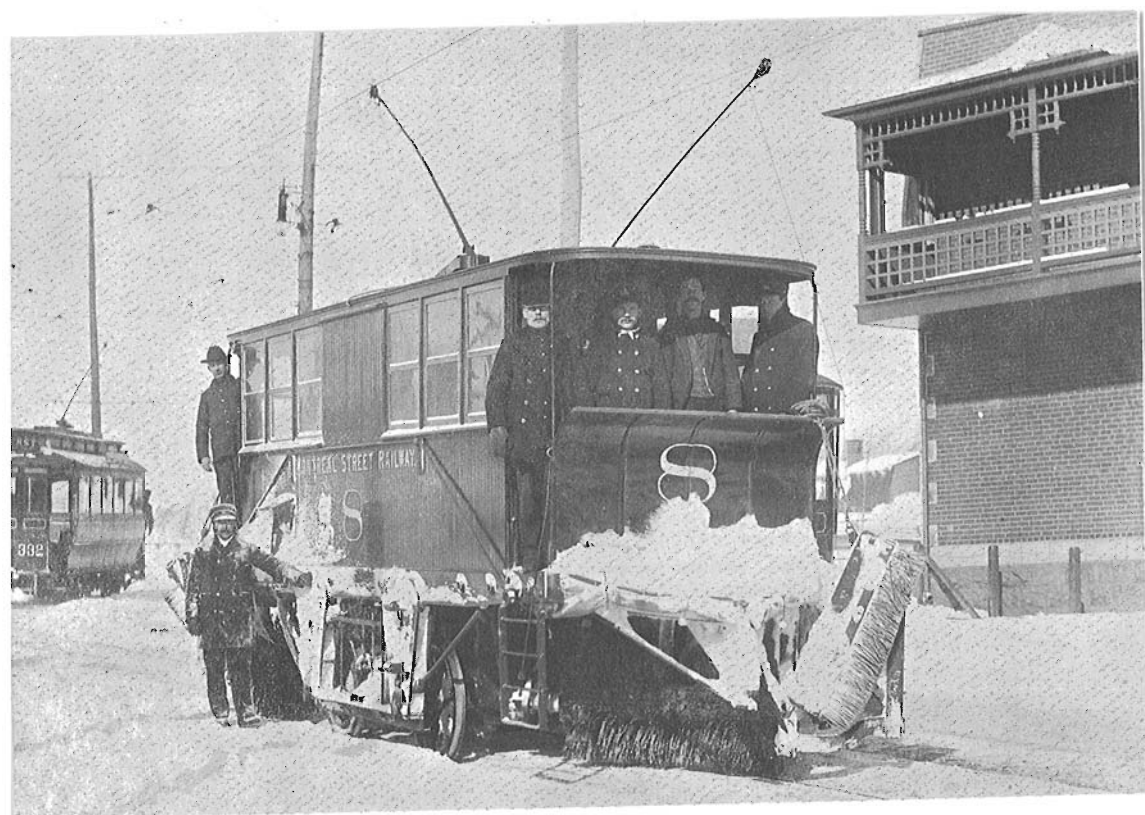
"With the exception of Leningrad, Russia, Montreal has a greater average annual snowfall than any of the world's cities with a population of one million or over. "

So stated Montreal Tramways Company in a series of informative advertisements published some thirty-five years ago. The Company said that it was well equipped to meet Winter conditions, its snow fighting equipment being capable of covering all tracks of the system - almost 300 miles - once every hour.

Without detracting from the difficulties of street railways in smaller cities of North America and Europe which had a more severe Winter climate, it cannot be denied that maintaining tramway service during Montreal's winters was a struggle of great magnitude, carried out at enormous expense. Many different devices and types of equipment were developed over the years and methods changed from time to time to meet changing traffic conditions. With the onrush of the automobile age, the task of clearing and removing snow from the streets gradually became the responsibility of the Municipalities rather than that of the street railway.

Before the advent of electric traction in 1892, Montreal Street Railway abandoned its tracks entirely during Winter, usually from late December to mid-March. Snow was allowed to accumulate to a considerable depth on the streets as all movement of people and goods was by horse-drawn sleighs, the Company providing service with specially-built conveyances mounted on runners. During the Winter of 1891-92, the Company had eighty-two of these sleighs in service. It was the snow, perhaps, more than anything else, which engendered great doubts as to the feasibility of electric propulsion of street cars in Montreal. Many people, including some Directors and shareholders of the Company, were convinced that it would be foolhardy to attempt to run any kind of wheeled vehicle on the streets in Winter. The average annual snowfall was 118 inches, although there were Winters during which this figure was greatly exceeded -- notably the Winter of 1886-87, when the fall was 174 inches or almost 15 feet. By February 1887, the streets were said to be in deplorable condition, with drifts as high as ten feet in some places.

Nevertheless, despite the fears of many, electrification was proceeded with in 1892 and by the late fall of that year, electric cars were running on about 13 miles of the then thirty-mile horsecar system. Right from the beginning, the Company was obliged, by the terms of its contract with the City of Montreal, to keep its tracks clear of snow and in addition, to pay half the cost of removing the snow from curb to curb on streets where the cars ran - this to include snow which was shovelled from the sidewalks and snow which fell from the roofs of



houses. This clause was also written into the thirty-five year contract between Montreal Tramways Company and the City, signed in 1918. In later years, heavy payments for snow removal became a somewhat unfair burden, inasmuch as the streets had to be cleared for automobile traffic anyway and the tramway rider paid, through his fare, half the cost of this work for the benefit of motorists. In the beginning however, the charge was not unreasonable. The operation of electric cars in snow-covered streets required that the snow be plowed from the track close to rail level which, during the course of a Winter, would produce a deep trench unless the roadway on each side of the track was kept down to a reasonable level. Thus, the Company, because it adopted a vehicle running on rails in Winter, was obliged to share with the City the additional cost of snow removal which would not otherwise have been incurred.

For many years, sweepers were the main weapon employed in fighting snow. Whoever devised this remarkably effective machine succeeded well, because the basic design remained unchanged throughout the entire tramway era. Sweepers in action in heavy snow never failed to present a dramatic picture, - almost obscured by clouds of flying snow, and with a most satisfying sound of motors and whirling brooms, they symbolized, perhaps more than any other type of equipment, the struggle against the elements. The records show six electric snow sweepers dated 1892, built by the Toronto Railway Company. Three more were acquired from the same source in 1893. Altogether there have been 55 sweepers on the records, the greatest number at any one time being 42 in 1928.

Up to 1912, all sweepers were of the four-wheel type. In that year, a double truck "combination locomotive and sweeper" was received from Ottawa Car Manufacturing Company (No. 40). In the following year, two more were ordered and another in 1914. The idea was that the broom supports and mechanism could be removed in Summer, and by the attachment of standard couplers, the car could be used as a locomotive. What actually happened was that No. 41 was used as a locomotive from May 1913 to November 1913, and No. 40 was similarly employed from March 1914 to December 1916. Thereafter all these cars became sweepers permanently. Three more were built in Youville Shops in 1920. The double-truck sweepers weighed 44,500 lbs., and were powerful and efficient machines. Subsequent sweepers were of the single-truck variety, built by Ottawa; these had higher speed brooms driven by bevel gears instead of chains.

A system of "sweeper routes" was worked out according to the severity of the storm. Crews were specially trained to work on sweepers and were subject to call at any time, preference being given to men who lived near the car barns. Sweepers carried a three man crew: motorman, conductor and a wing operator. In the early days, two or three additional men accompanied each sweeper to pacify and restrain horses, the animals being quite understandably terrified by these machines. There was a special technique required in operating a sweeper, particularly in adjusting the height of the brooms to obtain the best results, and to avoid excessive wear and damage to the bristles. No satisfactory substitute was found for the rattan used on the brooms. It was tough, flexible and would not cause injury or damage if pieces were dislodged. This material came from south-east Asia and during the last war it was almost impossible to obtain. An inferior kind of reed called Palmyra stalks was obtained from New York and mixed with regular rattan in order to make existing stocks last.

In the 1950s, the number of sweepers had dwindled to sixteen. With the lib-

eral application of salt and abrasives to the streets in latter years, and with the great increase in automotive traffic, snow ceased to be snow. Damages to parked cars and to pedestrians' clothing, from being sprayed with this unsavoury mixture, made the use of sweepers undesirable. In the latter years, sweepers had limited use, mostly in storage yards and certain outlying areas.

Another device used, probably from the beginning, was a pair of rail scrapers attached to the passenger cars. There were various patterns but all employed steel blades attached to a yoke mounted under the front platform. This assembly could be lowered by the motorman so that the blades rested on the rails and threw the snow to each side. At full speed - and if there was a fair amount of snow on the rails - an approaching car presented the appearance of a ship throwing spray from the bows. The track scrapers also prevented a build-up of ice, from wheel splash, close to the rails.

Snow clearing also required a great deal of hand labour, particularly in the yards and at station platforms on private rights-of-way. A familiar sight throughout the tramway era were the men with a bucket of salt and a broom, salting and cleaning the switches. In latter years, this became a hazardous occupation in heavy traffic. Despite the red lantern and the white cross bands worn, there were injuries and even fatalities. Another group of men was employed, during the fall and winter, looking after the hills. They were known as "Hillmen" and each was responsible for keeping the tracks in safe operating condition on a particular hill. Usually a small hut was installed nearby where salt, sand and tools were kept, and at the same time afforded a shelter for the hillman on duty.



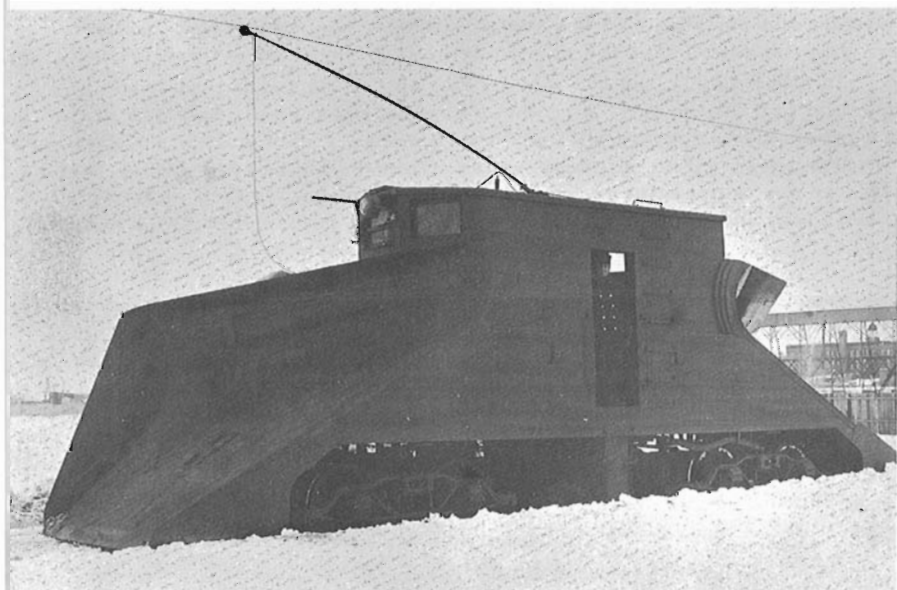
This brings us to another difficulty of Winter operation which was not caused directly by snow, but in most cases by the absence of snow - slippery rails. It is not clear whether the first electric cars were equipped with sand boxes, but in the minutes of a meeting of the M.S.R. Board of Directors held on November 17th, 1892, we find:

" The Managing Director reported that sand cars being required by the Company he had ordered from the Toronto Railway Co., six second hand one-horse cars to be converted. "

It is highly probable that these cars were not converted for electric operation, but were fitted inside with sand hoppers and towed by a motor car. The earliest existing M.S.R. records, 1902, show ten cars under the heading of "Sand and Salt cars". No data is given; they were all scrapped in 1905. Whether or not some of the Toronto horse cars acquired in 1902 is not known. After 1905, a fleet of about ten "Salt Cars" was maintained, these being invariably old single truck passenger cars equipped to distribute salt on the rails. The salt was used to combat a condition known as "frozen rail" or "black rail". A combination of low temperature, high humidity and no wind, produced a film of ice mixed with atmospheric dirt on the rails which could virtually paralyze the system. Braking required the greatest of care to avoid an uncontrolled skid and usually a couple of notches of power were applied with the brakes to keep the wheels turning. Tests conducted many years ago on St. Lawrence Blvd. with a 638 class car during a very severe condition of "black rail" revealed that the coefficient of friction between wheels and rails was so low that it almost equalled the rolling friction of the car, with the result that the car would skid at the slightest application of brakes. In other words, the car would slide almost as readily as it would coast. The problem of "black rail" was never completely solved. Salt was effective only in temperatures down to about 5° above zero. The Salt Cars were also useful at Winter fires to prevent water from the hoses freezing on the tracks. Often at low temperatures the rails in the vicinity of a fire would become covered with ice, and a Salt Car was assigned to run back and forth to keep the line open.

In 1947, car No. 3021, then used as a tool car, was equipped to carry 1,000 gallons of water in tanks, from which heated solutions of sodium chloride or calcium chloride could be made and dribbled on the rails as the car proceeded. Ex-passenger cars 1175, 1176 and 1178 were similarly converted. The chemical solution used could be altered to give best results within each temperature range, calcium chloride being used for temperatures below zero. These brine cars were quite effective, but there were not enough of them to cover the system rapidly.





Upper: The Great Storm in February 1904 brought the Taunton Plow and a Brill Sweeper to Davidson and Ontario Streets.

Lower: Wedge Plow by Russell Plow Co. at the Defleu-rimont Snow Dump in March, 1916.

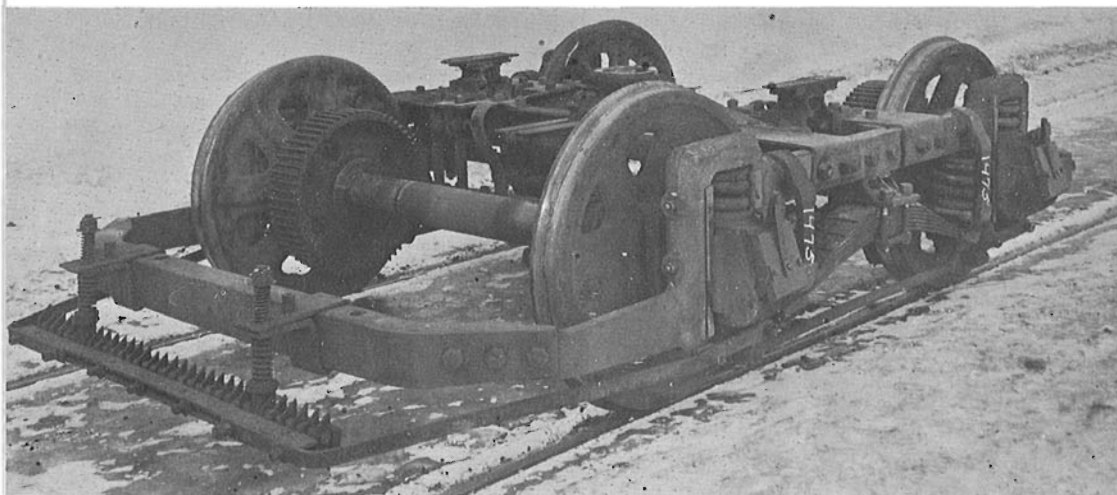
Opposite: Single-truck wing plows were effective on the City Streets. Scene at Craig and Beaver Hall in January 1948.

Maintaining service on outside suburban lines in Winter, presented an entirely different problem - high winds and drifting snow. On exposed lines such as Cartierville, Back River, St. Michel and the Terminal line, and later Notre Dame Street East, conditions required the use of rotary plows. As these areas became more built up in later years, rotaries were not so often required. In the early days, however, deep cuts would be formed, with the snow on each side of the track coming up above window level. Rotary plows were the only effective means of keeping the cuts clear of hard packed wind-blown snow. During one February, around 1910, a double truck rotary, No. 2, was kept on the Cartierville line for about twenty days without going into the shop. Maintenance crews were sent out from St. Denis whenever the car needed servicing or repairs.

The first rotary plow was a single truck machine bought by the Montreal Park & Island Railway sometime before 1901, from the Peckham Motor Truck and Wheel Company, Kingston, N.Y. It was originally MP&I No. 16, becoming No. 1 after 1901. M.S.R. purchased a double truck rotary, No. 2, from the same builder in 1901 and in 1905, another single truck rotary, No. 3. About the same time the Montreal Terminal Railway purchased a similar plow which became No. 4. No. 5, a double truck rotary was acquired in 1910. The last three were known as the "Ruggles Rotary Snow Plow", built under license by Peckham.

Most suburban passenger cars were fitted with a steel "V" plow during Winter. A double end, double truck nose plow was purchased from Taunton Locomotive Works, Taunton, Mass., in 1904. It was designed for single track use and apparently was not successful as it became a locomotive on the Terminal Ry. five years later. Replacing it was a self-propelled wedge plow from the Russell Car and Snow Plow Co., Ridgeway, Pa. This too appears to have had limited use. In order to reduce the drifting in snow cuts, a flat car was equipped with a long wing, which could be raised to any angle. This car was able to shear off the straight sides of snow cuts to a slope of about 45° . The snow thus pulled down on the track was thrown into the adjoining fields by a following rotary plow. Several flat cars were also fitted with side wings for levelling the roadway beside the tracks. These were called "Snow Levellers".





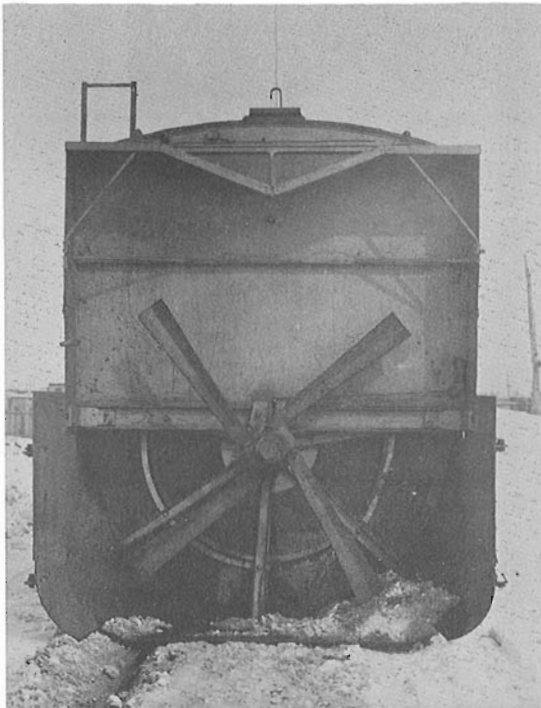
In 1913 a single truck wing plow was received from Ottawa Car Manufacturing Co. This had wooden retractable wings on each side, and a wood "V" plow for the track area. This plow, No. 10, was obviously intended for use on single track only. In 1920, it was rebuilt with a shear plow for the track area. It was renumbered 100 and two similar plows were built in Youville Shops. These plows were found to be very effective on city lines and by 1944 sixteen were on hand. Like the sweepers, they carried a crew of three - one man being the wing operator who in the latter years was kept busy working the wing to avoid striking parked automobiles. The side wing was moved in and out by an electric motor and it could be adjusted vertically by air. The level of the track blade could also be adjusted pneumatically. Both the devilstrip wing and the side wing had a wooden "dog" in the supporting mechanism which would break if the wings struck any fixed object in the street, thereby allowing the wings to swing back to avoid damage or derailment. The cars originally had hand brakes, but all were equipped with air brakes after the last war. Ice cutters, a series of hardened steel teeth, could be fitted to these cars for cutting down ice ruts in the whole track area including the devilstrip. Before the volume of automobile traffic dictated the present policy of clearing snow down to the pavement, the formation of ice ruts in or near the track space was a serious Winter problem. The single truck plows, equipped with ice cutters were capable of dealing with any snow or ice condition. Good traction was obtained by the use of a heavy concrete sub-floor. Weights varied from 38,860 to 41,700 pounds.

After 1944, several more double truck flat cars were converted for snow fighting by the installation of a "Frink" plow on the front and a levelling wing on the right side. Two flat cars, 3053 and 3056, were equipped with "Willitt" graders. In 1945-46, the double-truck sweepers were equipped with "Frink" plows at one end; in this period, sweepers were giving way to more specialized equipment.

In order to prevent damage and wear to motor casings caused by riding on accumulations of snow and ice in the centre of the tracks, the Company developed an ingenious device, about 1917, for attachment to passenger cars. This consisted of a yoke carrying a series of steel teeth, and attached to the rear of the truck frame. A few cars on each route were so equipped each Winter. The parallel marks in the centre of the tracks made by these scarifiers were a familiar sight in Winter.

Visibility for the motorman was sometimes a problem in Winter operation. Before about 1925, there appears to have been no mechanical means of keeping the front window clear. About 1925, all cars were fitted with a hand-operated window wiper with blades inside and outside. In the 1940s, automatic air-operated wipers were installed. A defrosting device for use in freezing rain or sleet was also developed, consisting of a metal frame with resistance wires between two pieces of glass. This could be hung on the outside of the front window and plugged into an electrical outlet on the dash. Sufficient heat was generated to keep the glass clear.

Sleet on the trolley wire was occasionally a serious problem. For this condition, devices known as "sleet cutters" were attached to the trolley wheels. No tools or fastenings were required and the device, consisting of a grooved scraper and a spring, could be quickly attached or removed. It was held in place by looping the trolley rope over a hook at the back of the scraper. A raised platform was provided at Cote Street car barn for attaching sleet cutters, quickly without delay to service. Occasionally a few cars had to be operated all night on outlying lines to keep ice from building up on the wires.



Page 46 - St.Catherine at Peel ----
February, 1944.

Page 48 - No.8 was one of the earliest pieces of snow fighting equipment operated by the M.S.R.

No. 40, the first double-truck sweeper on Glen Rd. in 1912. Rattan broom can be clearly seen.

Page 50 - One of the original Levelers shown on St.Denis St North, Feb. 2nd, 1910.

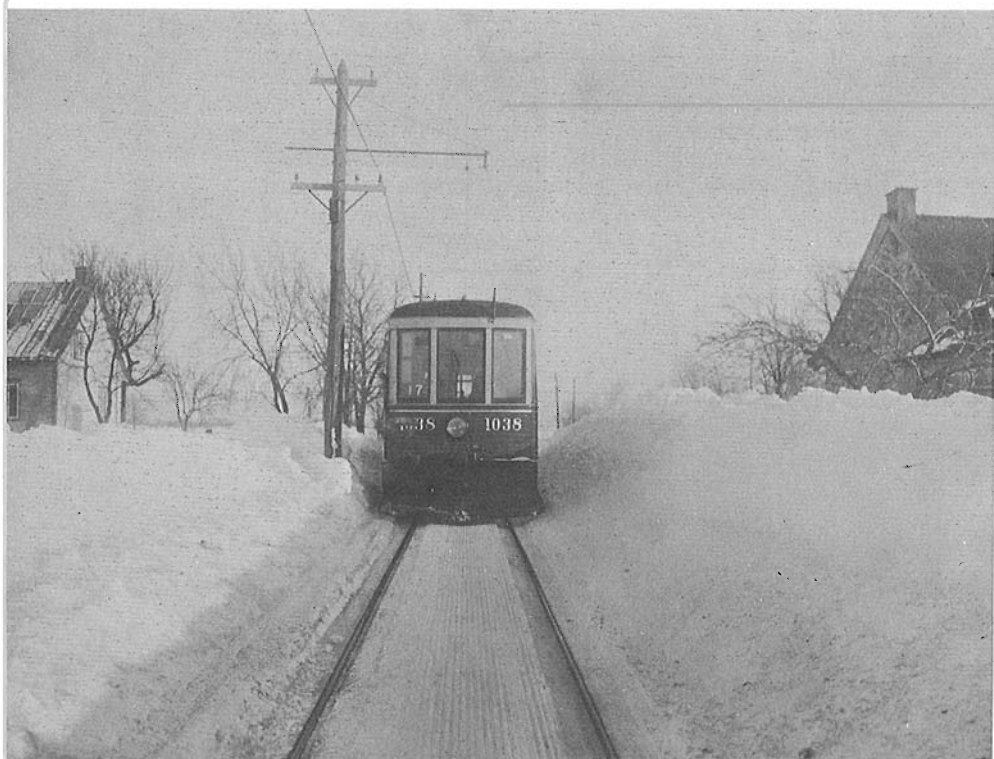
Page 51 - Double truck sweeper # 45, equipped with Frink Plow, Ville St.Laurent, Dec.28, 1946.

Many suburban pass'gr.cars were fitted with "V"plows during the winter months.

Page 54 - Scarifier, applied to rear of front truck.

Page 55 - Business end of a Rotary. Defrosting device for use in freezing rain. Resistance wires generated enough heat to keep glass clear.

Page 56 - Winter scene near Vertu on the single-track line between St.Laurent and Cartierville, showing nose plow on 1038, & scarifier marks in the snow between rails.





Rotary plows were the effective means of keeping cuts clear of hard-packed wind-blown snow. No.2 and No.5 were fighting to keep the St.Michel line open when this photo was taken, Jan.26 1928.

A great deal of extra work was thrown on car barn staffs during the late Fall in getting the passenger cars ready for Winter. Fender gates were raised to seven inches above the rail, truck scrapers and scarifiers were attached and heater fuses inserted, not to mention putting on the double windows. On the whole system, some twenty-five thousand double windows were installed in mid-November and removed in mid-March.

It is impossible, in a brief outline such as this, to cover fully the many aspects of operation during the sixty-seven winters of the electric regime in Montreal. Even the most casual examination however, must elicit a tribute to the hundreds of men, - engineers, shopmen, operating crews, hillmen and shovellers, - who over the years have worked day and night to keep the cars running, all in the spirit and tradition of Canadian railroading.

An all-time listing of snow and ice equipment follows.

ACKNOWLEDGMENT: The writer is indebted to Mr. D.E. Blair, Mr. L. Brook, Mr. J.A. Foisy, Mr. W.P. Kierans and Mr. V.A. Linnell for certain information contained in this article.

R.M.B.

M.S.R. - M.T.C. SNOW AND ICE EQUIPMENTS w e e p e r s :

<u>No.</u>	<u>Type</u>	<u>Builder</u>	<u>Date</u>	<u>Scrapped</u>	<u>Notes</u>
1	ST	Toronto	1892	1919	
2	"	"	"		★ Burned 1898
2/2	"	Brill	1898	1929	
3	"	Toronto	1892		★ Burned 1898
2/3	"	Brill	1898	1929	
4	"	Toronto	1892		★ Burned 1898
2/4	"	Brill	1898	1929	
5	"	Toronto	1892	1924	
6	"	"	"		★ Burned 1898
2/6	"	M.S.R.	1898	1929	
7	"	Toronto	1893		★ Burned 1898
2/7	"	M.S.R.	1898	1926	
8	"	Toronto	1893	1926	
9	"	"	"		★ Burned 1898
2/9	"	M.S.R.	1898	1929	
10	"	Lariviere	1894	1938	
11	"	"	"	1938	
12	"	"	c1896		★ Burned 1898
2/12	"	M.S.R.	1898	1950	
13	"	Lariviere	c1896	1948	
14	"	M.S.R.	1899	1950	
15	"	"	"	1948	
16	"	"	"	1950	
17	"	"	"	1948	
18	"	"	"	1938	
19	"	"	"	1950	
20	"	Ottawa	1903	"	
21	"	McGuire	1904	"	
22	"	"	"	"	
23	"	Brill	1905	"	
24	"	"	"	"	
25	"	"	"	"	
26	"	McGuire	1908	"	
27	"	"	"	"	
28	"	Brill	1910	"	
31	"	Ottawa	1903	1938	1908-Ex Terml.Ry.#1
32	"	"	1907	"	" " " #2
34	"	Lariviere	-	1950	1901-Ex MP&IRy. #14
35	"	"	-	"	" " " #15
36	"	Ottawa	1926	1953	
37	"	"	"	"	
38	"	"	"	"	
40	DT	"	1912	1957	
41	"	"	1913	"	
42	"	"	"	"	
43	"	"	1914	"	
44	"	M.T.C.	1920	"	Frink Plow installed on one end, 1945-46.
45	"	"	"	"	
46	"	"	"	"	
50	ST	Ottawa	1928	1957	
51	"	"	"		Preserved.
52	"	"	"	1957	
53	"	"	"	"	
60	"	"	1914	"	1935-Ex Trois Riv. #1
61	"	"	"	"	" " " #3

Double Truck Flat Cars Converted to Plows and Levellers

<u>No.</u>	<u>Original Builder</u>	<u>Date</u>	<u>Date Converted</u>	<u>Scrapped</u>	<u>Notes</u>
30	M.S.R.	1907	1910	1929	Equipped as Leveller, 1910 Re# 3030, 1914.
3050	Dom. Car	1908	1928	1938	Leveller.
3051	"	"	1914	1959	Leveller, Frink Flow added in 1944.
3052	"	"	1928	1938	Leveller.
3053	"	"	1945	1959	Willet Grader.
3054	"	"	1914	1959	Leveller, Frink Flow added in 1950.
3055	"	"	1944	1959	Frink Flow and Leveller.
3056	"	"	1945	1959	Willet Grader.
3057	"	"	1950	1959	Frink Flow and Leveller.
3096	"	1910	1950	1959	" "
3097	"	"	1950	1959	" "
3150	C.C.& F.	1925	1929	1959	Leveller, Frink Flow added in 1950.
3152	"	"	1929		Leveller, Frink Flow added in 1950. Sold to Cornwall in 1957.

S a n d a n d S a l t C a r s .

(All former single-truck passenger cars).

<u>No.</u>	<u>Re No.</u>	<u>Date Converted</u>	<u>Retired or Scrapped</u>	<u>Notes</u>
(Ten cars, prior to 1902)			1905	No data.
8	18 (1914)	1905	1948	
16	76 (1914)	"	"	
20	220 (1914), 20 (1924)	"	1937	
48	332 (1932)	1925	1948	Ex MP&IRy. Psgr. Car #6.
186		1905	1915	
188		"	1937	
190		"	1910	
198		"	1911	
268		1916	1948	
274		1912		To C.R.H.A., 1950.
318		"	1924	
332		1910	1932	
354		1905	1948	
374		1910	1948	
432		1915	1948	

B r i n e C a r s

3021		1947	1957	Ex DT Tool Car.
1175		1948	1959	Ex DT Psgr. Car)
1176		1948	φ) M.T.C.
1178		1950	1959) 1943

φ- Held for Seashore Electric Railway, Kennebunkport, Me., U.S.A.

★- Hochelaga Car barn fire, September 16, 1898.

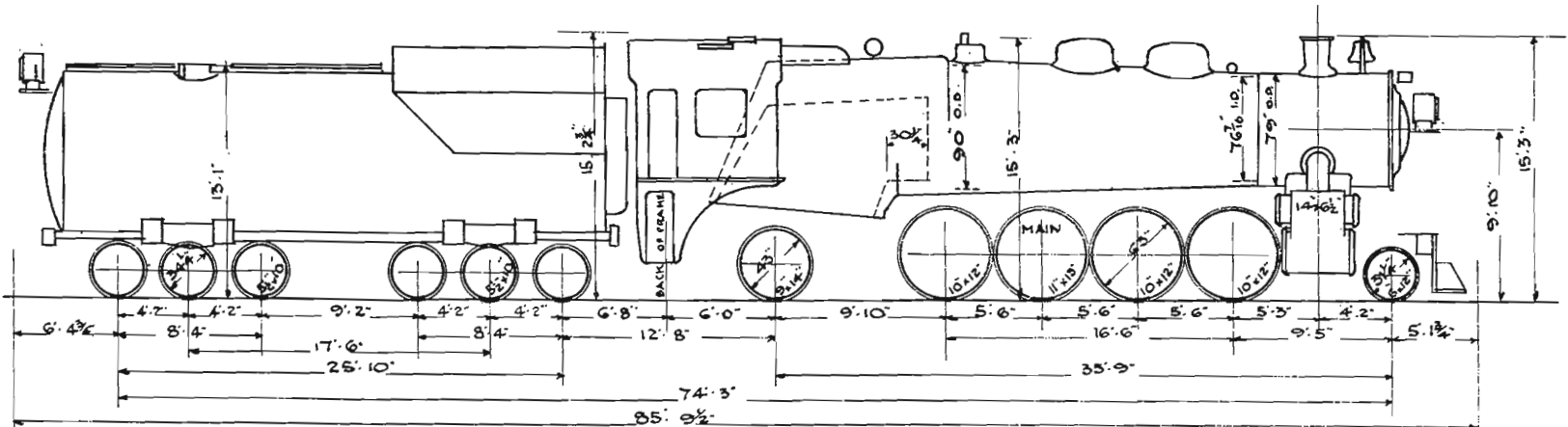
SUB CLASS	DATE BUILT	BUILDER	BUILDERS ORDER NO.	BUILDERS BOILER NOS.	ROAD NUMBERS.
S.2.a	1923	M.L.C.	Q 316.	64477 & 64481	3527 & 3531
			EWO.600E		

CANADIAN NATIONAL RAILWAYS
 MECHANICAL DEPARTMENT
 MONTREAL
 TYPE **MIKADO** CLASS **S.2**

TENDER BUILT BY C.L.C. 1924.

MAIN FRAMES OF CARBON STEEL

* 3527 OIL BURNER



OPERATING CURVATURE 16°

SUB-CLASS	CYLINDERS		DRIVING WHEELS		FIRE BOX		GRATE AREA SQ. FT.	T U B E S				TENDER CAPACITY		SUPERHEATER	HAULAGE RATING.	
	DIA.	STROKE	O.S. DIA.	DIA. CTR.	LENGTH	MDTH		LARGE	DIA.	SMALL	DIA.	LENGTH	WATER			COAL%
S.2.a	27"	30"	63"	56"	108 1/8"	84 1/4"	63.7	40	5 3/8"	240	2"	18'-0"	11,300 GAL	17 TONS	SCHMIDT	55%

SUB-CLASS	HEATING SURFACE			SUPER-HEATER	WEIGHTS IN WORKING ORDER				LIGHT WEIGHTS		FACTOR OF ADHESION	MAXIMUM TRACTIVE EFFORT	BOILER PRESS		
	TUBES	FIREBOX	TOTAL		ENGINE TRUCK	DRIVING	TRAILING	TOTAL ENGINE	TENDER	ENGINE & TENDER				DRIVERS	TOTAL ENGINE
S.2.a	3257	294	3551	885	29,500	227,600	57,700	314,800	251,000	565,800	205,000	279,800	4.16	54,590	185 1/2"

SUB-CLASS	STOKER	TYPE OF REVERSE GEAR	TYPE OF VALVE GEAR	SYPHONS	MULT. THROT.	FR. WTR. HTF.	STEAM HEAT	NO. & SIZE OF AIR PUMPS	BRICK ARCH	EXTREME WIDTH

Flows:

No.	Type	Builder	Date	Scrapped	Notes
--	--	-- before	1907	1919	Term'l.Ry."Snow Car",no data
--	--	-- before	1902	1911	"Ice Digger", no data.
--	--	Dom. Car	1909	1912	"Snow Car", no data.
--	DT DE Nose Flow	Taunton	1904	1913	Converted to Locomotive No.2, 1908.
--	DT DE Wedge "	Russell	1908	1936	
1	ST Rotary	Peckham	--	1950	1901 ex MP&IRy. #16
2	DT "	"	1901	1950	
3	ST "	Ruggles	1905	1950	
4	ST. "	"	--	1950	1908 ex Term'l Ry.
5	DT "	"	1910	@	
10	ST Wing	Ottawa	1913	1959	1920-Rebuilt and re# 100.
101	"	M.T.C.	1920	"	
102	"	"	1920	1958	
103	"	"	1926	1959	
104	"	"	1928	1957	
105	"	"	1929	1958	
106	"	"	"	"	
107	"	"	"	1959	
108	"	"	"	1957	
109	"	"	"	1959	
110	"	Ottawa	1932	"	
111	"	"	"	1958	
112	"	"	"	1957	
113	"	"	"	"	
114	"	M.T.C.	1944	1959	
115	"	"	"	1957	

@- Held for Branford Electric Railway Ass'n, Branford, Conn., U.S.A.

C. P. Timetable Changes -- effective October 28, 1962.

Mr. F.A.Kemp, author of "The Winter Timetables" Page 218 last year, has informed us that, to the best of his knowledge, there were no changes in Canadian Pacific schedules last October, other than the routine revisions to adjust to winter conditions.

DIAGRAM

The diagram this month is of Canadian National's S-2-a class, locomotives 3527 and 3531. These engines were built in 1923, by the Montreal Locomotive Works -- builder's numbers 64477 & 64481. They were part of an order for 35 engines (3525 to 3559 inclusive) but were subsequently modified by the substitution of extra-large cylindrical tenders built 1924 by the Canadian Locomotive Company. At the end of 1952, both units were based at Melville, Saskatchewan No.3527 was scrapped in April 1960, while 3531 met a similar fate in August 1961.

(Diagram courtesy C.N.R.)

Association News

by Stephen Cheasley

The Membership Committee announces that the following persons were recently elected to Associate Membership in the CRHA.

Eric Clegg	Harry Vallas	George Thompson
Peter Lambert	E.C. Eddy	Richard Viberg
Michael Whitehead	Mrs. J.L.D. Mason	Robert Sandusky
Charles Moore	James Shetler	Charles Massey
Eliot Sterling	David Knowles	Joseph Mold
David Hanson	Douglas Carlyle	B. Brant
Robert Bales	Charles Thompson	Colin Williamson
Donald Robinson	Anthony Careless	John Tynan
Norman Morris	Worden Phillips	John Coughlin
George Holman	Donald Smith	Brian McCarrey
Edward Emery	Ronald Ball	James Sandilands
Ralph Conrad	James Leworthy	John Rollit
James J. Greer	Mrs. E. Bridges	Peter Hall
Gerald Lapointe	Lyle McCoy	Robert Tennant
Bernard Patterson	Bruce Ballantyne	Albert Bremer
Ernest Holliday	Gilles Dupré	John Eagle
Lindsay Ward	Henry Preble	John Jones
Harvey Dust	William Rossiter	Kenneth Godwin
Lupher Hay	John Montgomery	Osborne Taylor
Mrs. G. Lorin	Patrick Hind	

In addition, Mr. Wyatt Webb was elected to Regular Membership.

Continued on Page 64



New Brunswick Exhibit for Museum.

by Fred Angus.

Saturday, Dec. 8, 1962 saw the arrival at Delson on CPR flatcar 300570 of Saint John N.B. streetcar No. 82. While its appearance indicated long suffering by vandalism and weather, and the need for very extensive rebuilding, the main roof and structural members are in sufficiently good condition to render this task feasible. No. 82 consists of a body only, but it is planned to use a single truck and other equipment now being held for the association.

This car was built in 1906 by the Ottawa Car Manufacturing Co. one of six similar closed cars, Nos. 80-90, even numbers, ordered by the Saint John Railway Co. Twelve open cars built at the same time, were later converted to closed cars resembling 82, but these have now completely disappeared. On one of the bulkheads of No. 82 can still faintly be seen the name of the Ottawa Car Mfg. Co.

These cars were all designed for operation on the left side of the street, as the left hand rule of the road prevailed in New Brunswick until 1921. A photo of car 84 taken in 1906 shows this feature clearly, and it is planned to restore No. 82 in this way.

About 1921 or 1922, 82 and her sisters were rebuilt by the New Brunswick Power Co., which had taken over the St. John Ry. in 1917. Whether this was done concurrently with the change to right hand operation we do not know: at any rate, the curved wooden sides disappeared under flat sides of sheet metal. At this time also, these vehicles were converted to one-man cars, the doors became narrower and the right hand door at the end away from the motorman was removed and the space filled in. In this altered form, the 80 class remained intact until 1948, the year that streetcar service ended in New Brunswick, although the last few years saw their use in the rush hours only -- the base service being provided by the twenty-two newer cars built between 1914 and 1930.

At the time of abandonment, the trucks of the cars were scrapped, and many of the bodies were sold for use as sheds, chicken houses, etc. No. 82 left the Wentworth Barn for the last time on June 24th, 1948. Subsequently, this car was purchased from Fowler's Transport of Saint John, and on July 17th, it was moved to Rothesay N.B., where it remained for fourteen years. In the interim, most of the other cars had been completely destroyed. In 1958, No. 82 was donated to the C.R.H.A., in the first week of December four years later, Fowler's Transport moved it to Saint John, from whence it began its rail journey to Delson.

This car is one of the few survivors of Maritime trolleys. The only other Saint John cars known to exist are six arch roof bodies of later vintage, used as sheds. All the other deck roof cars have long since gone. When, eventually, No. 82 is restored to running order, it should be a unique exhibit in the Transportation Museum.

← N.B. Power Co's Number 82, shown just prior to its final departure from the Wentworth Barn, Saint John.

Association News - (continued)

The following persons were recently accepted as Regular Members by the Edmonton Chapter of the CRHA.

Dale Coombe

Peter Portlock
John Simpson

John Ash

All members and subscribers to Canadian Rail are reminded that dues for 1963 are now payable. You are urged to facilitate our book-keeping by sending in the amount indicated on the invoices sent to you, as soon as possible.

It is hoped that many members and subscribers will include with their dues, some support for the museum's 1963 financial campaign. You can extend museum trackage one foot for every \$10 that you donate. We hope that you will use this chance to participate in the museum.

The members of the Building Committee, as well as many other members and guests, were on hand Saturday, November 24, to witness Quebec North Shore and Labrador locomotive No. 1112 become the first piece of equipment to enter the museum's first building, trainshed No. 1. It was a happy moment for the many members who donated so much time and energy to construct the 1000 feet of track necessary for the movement. We congratulate all who took part in this project.

Actually, the first piece of equipment to enter the museum building was motorized section car Kalamazoo from the London and Port Stanley Railway. This dramatic event took place one week previous at exactly 5:05 in the afternoon. Unfortunately, no photographs are available of this truly historic event because total darkness was prevailing at the time. It is reliably reported that there was considerable elation in the many members in attendance as engineer P. Murphy and Propulsion Attendant F. Angus guided the vehicle, under its own power, safely into the building.

Following the arrival of the first engine in the building, the subsequent weekends saw the placing there of the following:

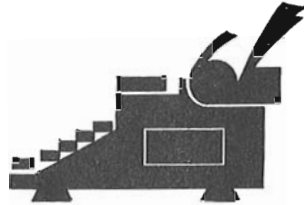
Engine No. 25 from Old Sydney Collieries
Car No. 423 from the Ottawa Transportation Commission
Car No. 6 from the Ottawa Transportation Commission
Engine No. 5 from the Maritime Railway
Car No. 401 from the Quebec Railway Light and Power Company

The construction of trainshed No. 1 draws to a close with the completion of the aluminum sheathing on the extension. The doors are under construction and when completed will assure complete protection of the exhibits inside. The completed building will give protection to 1320 feet of track, i.e. about $\frac{1}{4}$ -mile of track. It is of interest to note that the building is as long as a regulation Canadian football field.

All members and subscribers, whether in the Montreal area or not, are invited to visit the museum. It is suggested that you write or telephone Mr. C.S. Cheasley at 484-6262, in advance, for instructions to get there. We hope that you will visit the museum this year.

Notes and News

Edited by W. L. Pharoah



- ★ CN's original diesel-electric switcher No. 7700, more recently operated under No. 77, was retired from active service at the end of 1962. The diesel engine, which is not the original powerplant, will likely be removed for service elsewhere but the locomotive's frame, cab, and trucks may well be preserved as one of the first diesel powered units in North America. (ELM)
- ★ CN 4-6-2 No. 5588 was sent to Windsor, Ontario, for preservation during December, 1962.
- ★ Portland Maine's last railroad station is being closed. CN offices are being moved to an adjacent building and the 59-year-old stone station will be sold or leased. The large Union Station which served the Boston and Maine and the Maine Central was torn down two years ago and a shopping centre now occupies the site.
- ★ Metropolitan Toronto's transportation problems are not likely to be solved by railway commuter service in the opinion of Mr. E. Wynne, CN's Great Lakes Region vice-president. Mr. Wynne said that railway commuter service would not be practical because of the great volume of passengers that would have to be carried. "One alternative we are going to look at is that it may be possible to use the railway's right-of-way for rapid transit, but it would have to be on a separate track. We feel that using our present line for extensive commuter service would spoil both our regular operations and the commuter services. I don't think either would be able to operate on time." (Surprising as this may seem to those who have heard that the railways' main claim to fame is ability to cope with high-density traffic! - Ed.)
- ★ "For rent: one first class railway coach available for immediate occupancy. Cost: slightly more than walking," states a release from CN's public relations office in Montreal, which goes on to say this is the latest weapon added to CN's arsenal in its all-out efforts to attract more travellers to trains. CN is offering any group the opportunity to "own" a railway coach for the duration of a trip, coupled with huge price reductions. One example: sixty persons can charter a coach from Montreal to Toronto and return for \$8.85 per person. The regular coach fare is \$24.35. The scheme is not in effect during peak holiday periods, nor during the period June 1 - September 30 at which times the Railway is hard pressed for the equipment.
- ★ Mr. V.C. Wansborough, vice-president and managing director of the Canadian Mining Association said recently that Canadian railway engineers are studying routes for a new railway from the Yukon - Northwest Territories to the Pacific Coast, sparked by the discovery of a giant hematite iron-ore deposit 320 miles northwest of Whitehorse.

From the CRHA News Report - March 1953.

Q.N.S.& L.Ry has purchased Ontario Northland Ry. locomotive no.701. Overhaul of this engine before shipment started at the ONRY Shop, North Bay, in January.

Budd RDC-1 no. 2960 suffered an unfortunate accident on Saturday, February 21st, near Mont Laurier, Que. The car is presently under repair at CPR's Angus Shops.

There have been rumours that either, or both, of the transcontinental railways are contemplating improvements in the transcontinental schedules.

On Saturday, Feb.14th members and friends of the Association participated in a visit to Angus Shops of the CPR. During March it is planned to operate an excursion in MTC articulated "Duplex" 2501.

NOTES and NEWS - cont'd.

- ★ An average of eight locomotives per year for the next ten years will be acquired by the Mexican National Railways from the Montreal Locomotive Works. The order for eighty diesel-electric units is part of Mexico's plan for overhauling its railroads. The purchase will be made through the Canadian Government's Export Credits Insurance Corp.
- ★ The Boston & Maine has applied CN passenger tactics of lower fares and improved service to its commuter service and has come up with the same encouraging results. Under the influence of more frequent service coupled with reduced fares, an 18.4 per cent increase in passengers was reported for the first day of the experiment. Dr. Joseph F. Maloney, executive director of the Mass. Transportation Commission which is directing the programme, termed the jump in B & M commuters "truly amazing".
- ★ Essex Terminal Railway's locomotive No. 9 has finally reached the end of her line because of natural gas. For five years she prolonged her life by heating the Railway's enginehouse at Windsor, Ontario. Now, however, the company has switched to natural gas heaters. For thirty-four years the locomotive pounded the 21-mile line between Windsor and the limestone quarries on the outskirts of Amherstburg.

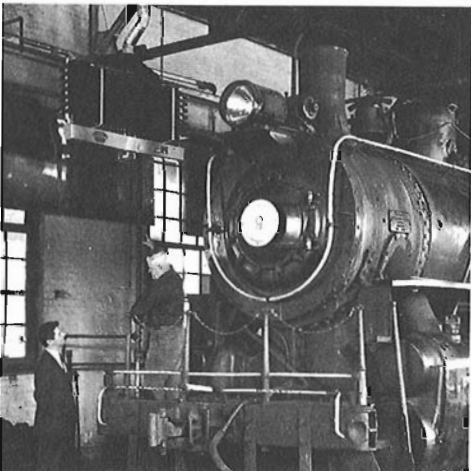
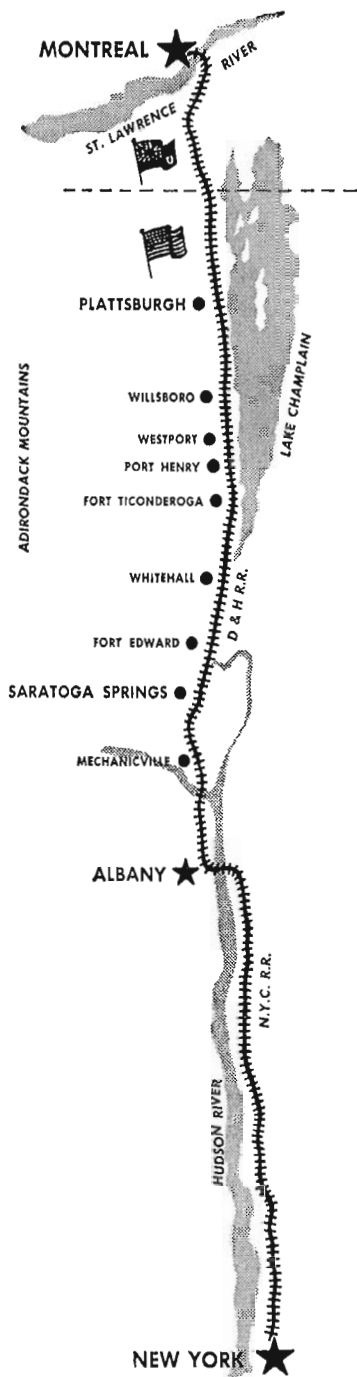


Photo of Essex Terminal's No. 9 beside natural gas heaters which forced locomotive's final retirement.

A D & H Railroad advertisement which appeared in the Montreal Star during January. Will the public patronize the service? What do our readers think of this type of ad?



CAN RAILROAD PASSENGER SERVICE BE MAINTAINED BETWEEN MONTREAL AND NEW YORK



Public's Desertion of Trains for other Modes of Transportation Threatens Service

It is difficult to imagine Montreal and New York, the largest cities in Canada and the United States, with the important intermediate cities and villages, without connecting railroad passenger service. Yet this is a distinct possibility if the present rate of the public's desertion of the railroad is not only stopped, but reversed.

On the day train, THE LAURENTIAN, it consists of air-conditioned coaches, parlor-observation car and a top-notch dining service. Its night train, THE MONTREAL LIMITED, offers air-conditioned coaches, roomettes, bedrooms, compartments and dining service. Special reduced family and group fares are available.

When railroad patronage flourished between the two cities there was little if any competition from other modes of transportation. Today, with 900,331 automobiles registered in the Province of Quebec and 4,596,827 in the State of New York, to mention but one province and one state, and with greatly improved highways paralleling the railroads, the private automobile has become the railroads' greatest competitor. Next to it are the airlines. There are 27 scheduled flights daily between Montreal and New York, the jets making the 344 mile trip in 72 minutes. There are also 14 scheduled bus trips a day.

The revenue from this operation during the past year, including receipts from mail and express service, failed substantially to meet the out-of-pocket expenses of providing it. ("Out-of-pocket expenses" do not include such items as maintenance of roadbed or structures, interest on investment or depreciation on property and equipment used in the service, station expenses, etc. *They include only those expenses which can be entirely eliminated if the trains are discontinued.*)

These heavy losses cannot be sustained much longer without destroying the economic health of the railroad.

All of this competition has resulted in a reduction of 40 per cent in the number of passengers carried in this service by The D. & H. Railroad since 1955, with the desertion of the trains increasing in tempo every year, the sharpest losses in patronage occurring during the past two years.

Whether or not railroad service can be maintained between these two great cities is obviously up to the public. If it wants and patronizes the service in sufficient numbers to warrant its continuation it will be provided. As railroads were designed and built for heavy daily mass transportation service they cannot be operated economically with light or sporadic patronage. Neither can they be maintained as a stand-by service to be used only when weather conditions ground the planes or make highway travel hazardous.

The D. & H. has striven to attract and maintain its passenger business. It offers what is considered one of the finest scenic railroad trips in the United States along the shores of beautiful and historic Lake Champlain and the lordly Hudson River. It uses two of the finest railroad terminals on the North American continent, the Windsor Station in Montreal and the Grand Central Station in New York City. Its equipment is modern and comfortable.

The D. & H. wants to continue to serve the public with good passenger transportation.

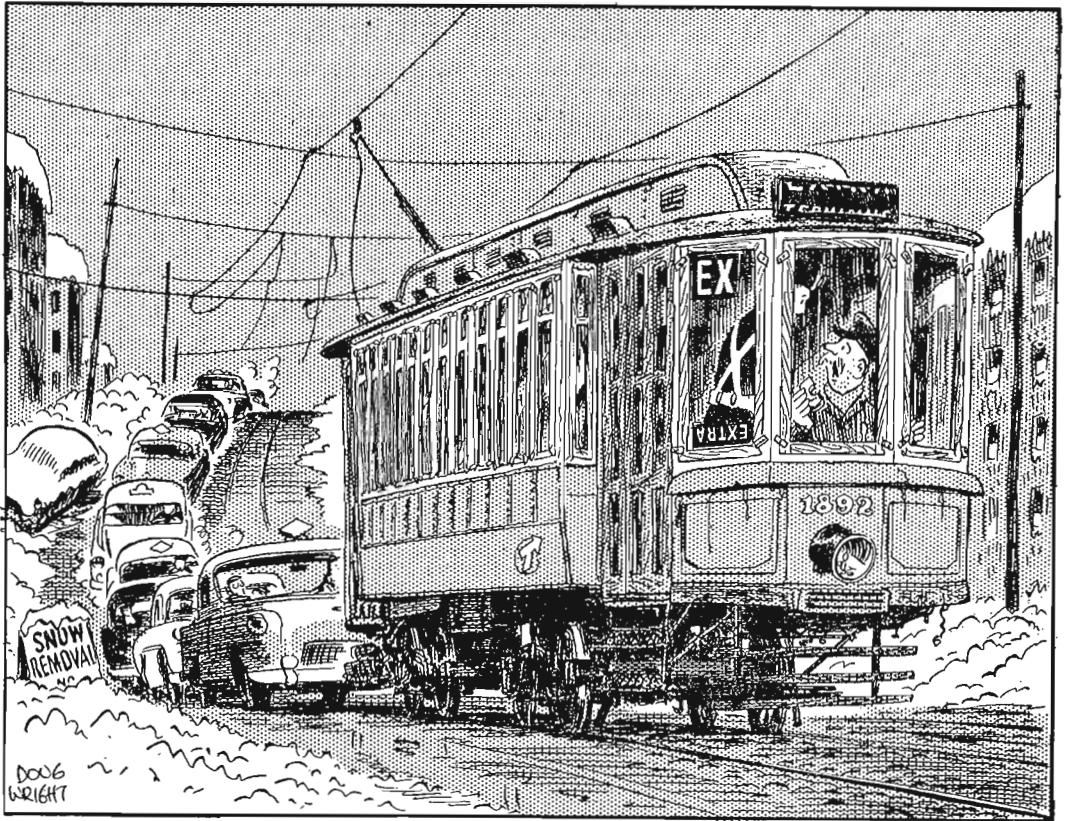
The question is not -- Does the public WANT the railroad? . . . but, will the public PATRONIZE it?



DELAWARE & HUDSON RAILROAD

CORPORATION

The Bridge Line Connecting the South and West with New England and Eastern Canada



"A 40-hour week'd be nice, but what I'd really like to see the Commission come up with is an answer for me to give taxidriviers who holler "Take that antique to the museum!" "

- Doug Wright, Montreal Star

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