Upper Canada Railway Society

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Newsletter

SEPTEMBER – OCTOBER 1975

PROPOSED NAME CHANGE RAIL AND TRANSIT

NUMBER 354 SEPTEMBER-OCTOBER 1975

Upper Canada Railway Society

The Upper Canada Railway Society is a pioneer in Canadian railway publications, having originated in 1935 as the Toronto International Engine Picture Club. In 1941, the present name was adopted and in 1952 the U.C.R.S. was incorporated in the province of Ontario, Canada.

The Upper Canada Railway Society meets on the third friday of each month. July and August meetings are informal movie nights. The meetings are held at 589 Mount Pleasant Road, Toronto, Ontario and start at 8:00 p.m.

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Membership in the Upper Canada Railway Society entitles you to six copies of this magazine per year. Also you receive twelve copies (one per month) of the U.C.R.S. Newsletter Informer - a typed, mimeographed sheet on rail activities. Membership also entitles you to a 10 percent discount on all items which the Publication Sales Department sells. Some of the Canadian Railway items offered for sale are: railway records, post cards, books, calendars, badges, hats, back copies of the Newsletter, and Canadian Rail & Transit data sheets to name a few.

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FRONT COVER:

Canadian National famous steam excursion locomotive 6218 a U-2-g Northern (4-8-4) is pictured here on a U.C.R.S. runpast over the Welland Canel in September 1966. Of interest - wooden private car "Nova Scotia" was bringing up the rear. (Nova Scotia's new home and picture, see July-August 1975 Newsletter).

(by J. T. Robbie)

BACK COVER:

Toronto Transit Commission Small Witt 2894 on a photo stop of the Electric Railroaders' Association Convention the evening of July 6th, 1974.

(by Mike Roschlau)

Upper Canada Railway Society Newsletter
P. O. Box 93
Islington, Ontario. M9Z 4X1

NEXT ISSUE

Canada's Railway Magazine
RAIL AND TRANSIT
Newsletter of the Upper Canada Railway Society

LAST ISSUE OF THE NEWSLETTER

The Upper Canada Railway Society's Newsletter (next issue Rail and Transit) is published six times a year by the Upper Canada Railway Society. The contents of this magazine are copywrited.

CONTENTS:

In keeping with the fact this is the last issue under the name "newsletter", here are some out-of-date and often asked for reprints of past publications.

In the future all our publications will carry the mark of "Rail and Transit".

STAFF

The proposed name change to Rail and Transit as originated by J. T. Robbie is being registered.

CANADIAN PACIFIC 3100-3101 4-8-4 Class K-1-a

3100 when new (1928)

Late in the summer of 1928, a significant new locomotive design emerged from the Angus Shops of the Canadian Pacific Railway. This was embodied in two heavy Northern type engines numbered 3100 and 3101. Used during the running-in period between Smiths Falls and Montreal, they were later put in heavy passenger service between Toronto and Montreal, supplementing the two smaller and older 4-8-2s, 2900 and 2901.

3100 and 3101 were the first locomotives of their type on the Canadian Pacific and, as events were to show, the last. They embodied many features new to Canadian railway practice, and remained on their designed service for more than 25 years.

The hope of the designers was to produce an engine which best combined high tractive effort with low engine weight. These were the first locomotives in Canada to employ the one-piece cast-steel frame. The single frame casting for each locomotive weighed 23 tons, which represented a saving of about two tons over a fabricated frame of the same capacity. The cylinder and valve chest casings were also in the form of a single casting, the first such instance in Canada; this resulted in additional strength with a 25% weight reduction. The tender frame was also a single casting.

Additional weight saving was effected in the construction of the boiler. Nickel steel was used to a greater extent than in previous designs, resulting in another substantial weight reduction. Nickel alloys were used in all reciprocating parts and in many minor cast components.

Despite the comparatively low engine weight, the high tractive effort of 60,800 lb. resulted from the employment of steam at 275 lb. pressure, considerably higher than any other Canadian locomotive at the time. This tractive effort was slightly higher than that of the Canadian National's 6100-class 4-8-4s introduced the previous year, though the starting effort of the latter, which were fitted with boosters, was slightly higher than that of the Canadian Pacific engines.

3100 and 3101 were employed almost exclusively between Montreal and Toronto until displaced by the omnipresent diesel in March 1954. Before they were many years old, their appearance was modified by the installation of "elephant ears" smoke deflectors, and the engine number was moved to the centre of the running board which was widened to receive it; this was a distinctive feature of many of the Canadian Pacific's larger engines. A photograph of 3100 in this condition appeared in Bulletin 52. The smoke deflectors were later removed.

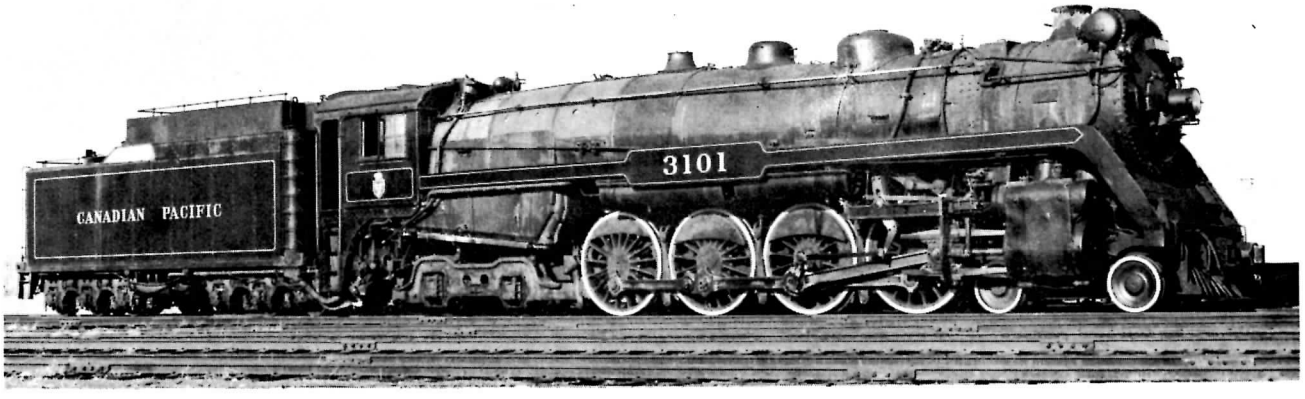
Upon the introduction of diesels on the passenger service between Toronto and Montreal, 3100 and 3101 were employed for a time east of Montreal, but before long were converted to burn oil fuel and transferred to the Western Region operating out of Winnipeg. At this time they lost their maroon, black and grey passenger colour scheme to appear in more conservative black, though retaining the gold striping on the running board and tender sides. After about three years in Western service, however, they were relegated to storage where they remain at time of writing, awaiting an uncertain future.

In the summer of 1947 it was believed in many railroad circles that 12 additional 4-8-4s, to be modernized versions of the 3100s, had been ordered for service between Toronto and the Lakehead. Unfortunately, this belief proved groundless, and they remained the only examples of their type on the Canadian Pacific, which may seem strange in view of the enthusiasm with which the Canadian National adopted the Northern type. Nevertheless, many of the innovations of the design of the 3100s were adopted in building the many Hudson (4-6-4) and Royal Hudson locomotives for which the Canadian Pacific is famous. The two Northerns were thus not without influence on Canadian steam locomotive development.

3101 at Montreal West, Sept. 20, 1954. (F.Sankoff Photo)

Numbers	3100-3101
Construction	Angus Shops, Can. Pac. Rly.
Class	K-1-a
Maximum Height	15'7"
Maximum Width	10'8"
Weight (engine plus tender)	709,000 lb.
Weight (engine only)	423,000 lb.
Weight (on drivers)	250,000 lb.
Rigid Wheelbase	19'9"
Engine wheelbase (total)	45'9½"
Overall wheelbase	87'0¼"
Length overall	97'5½"
Driver diameter	75"
Boiler, type	Conical
Boiler, diameter outside, first ring	84¼"
Working pressure	275 lb./sq.in.
Tubes	7, 3½" and 59, 2¼"
Flues	196, 3½"
Length of tubes	20'6"
Combustion chamber, length	5'0"
Heating surface, firebox and arch tubes	422 sq.ft.
Heating surface, tubes and flues	4509 sq.ft.
Superheating surface	2112 sq.ft.
Firebox	140 3/16" x 96"
Grate area	93.5 sq.ft.
Valves	7" travel, 14" diam.
Lap: 1 1/8"; lead	¼"
Cylinders	25½" x 30" stroke
Tractive effort	60,800 lb.
Factor of adhesion	4.12
Valve gear	Walschaert
Tender capacity	12,000 gal., 18½ tons

Plans for these locomotives will be found in the book "One Hundred Years of Steam Locomotives" and in the October 1928 issue of "Canadian Railway and Marine World", a predecessor of "Canadian Transportation".



3101 in storage at Weston Shops, October 1957. (W.Krawiec Photo)

Upper Canada Railway Society – BOX 122, TERMINAL "A" TORONTO

Canadian Pacific Electric Lines

LAKE ERIE & NORTHERN – GRAND RIVER RAILWAY

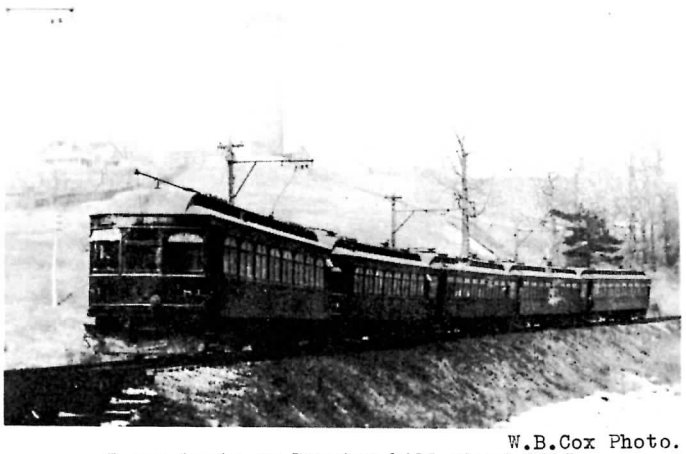
GRR 824,826,828

WOOD PASSENGER CARS

On Dec. 4, 1906, the Preston car barn of the Galt Preston & Hespeler Street Ry. and the Preston and Berlin Ry. burned, destroying one new locomotive and seven passenger cars. Two cars and one freight motor, which were in service at the time of the fire, escaped damage. These, along with one car which was damaged in one end only, represented the only rolling stock available for service.

Four cars were immediately ordered from the Ottawa Car Mfg. Co., and on delivery early in 1907 were numbered 21, 31, 41 and 51.

Traffic continued to increase, and consequently in 1910 two cars, numbered 61 and 81 were obtained from the Ottawa Car Mfg. Co. and in 1912 two more, 205 and 215, from Preston Car & Coach Co. These two groups were generally similar in appearance, except that the 1912 cars had single type double width windows instead of the more usual divided type.

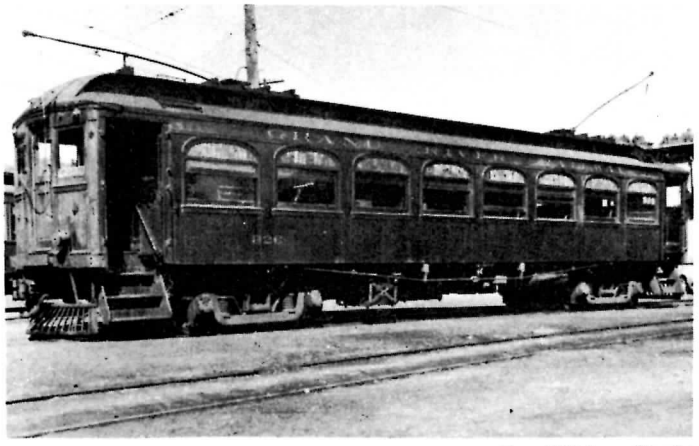


W.B.Cox Photo.
5-car train on Preston hill about 1915.

The G.P.& H.St.Ry. and the P.& B.Ry. were two separate companies operated under the parent company incorporated as the Berlin Waterloo Wellesley and Lake Huron Ry. Co. In 1914 about half the cars were lettered for the G.P.&H. and the remainder for the P.& B. On Jan. 1, 1908, the company was leased for 99 years to the Canadian Pacific Ry. and in 1914 its name was changed to Grand River Railway Co. Shortly afterward, the city of Berlin was renamed Kitchener.

In 1921 it was decided to change the Grand River Ry. from 600 volts to 1500 volts D.C. in common with the Lake Erie & Northern Ry. which had been opened with the higher voltage in 1915. The change was made on Dec. 4, 1921, and with the introduction of new steel cars on this date, all the former G.P.&H. and P.&B. cars were immediately retired. The 600-volt electrical equipment was removed, and the cars were placed in storage as passenger trailers.

In 1923 cars 81, 205, and 215 were rebuilt in the Preston shops of the railway, and emerged as 824, 826 and 828. The vestibules were completely rebuilt to resemble those of the newer L.E.& N.Ry. 933 series. 1500-volt multiple-unit electrical equipment was installed, and the cars placed in service on the short but heavily-travelled Preston-Hespeler branch. They afterward spent all their running life on this branch and saw very little if any main line service. This may have been because they lacked the drinking-water facilities required by the Province of Ontario on all passenger cars running 20 miles or more.



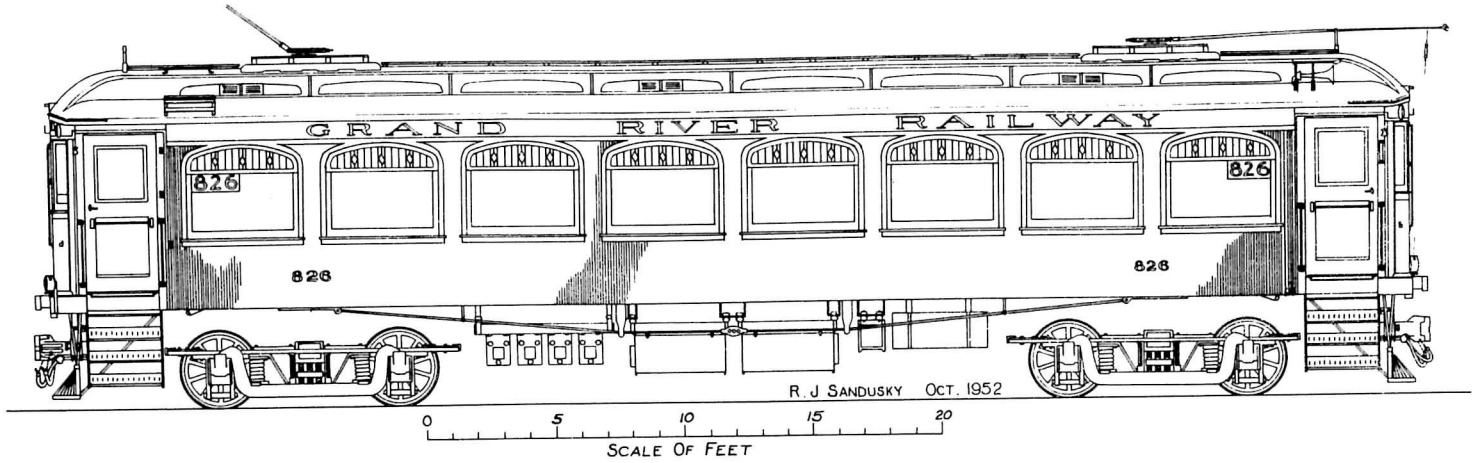
Wm. Miller Photo.
826 at Preston, July 1, 1944.

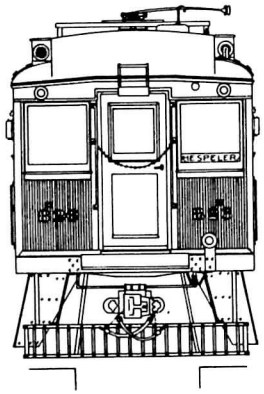
Cars 21 to 61, which had been in storage since 1921, were finally dismantled early in 1935.

Car 824 was little used after 1932 and was out of service by 1934. Two years later, motors were removed and the car classed as a trailer, though it was probably never used as such. In 1944, as a result of increasing wartime traffic, it was repainted, but due to pressure of work and shortage of manpower in the shops, the motors were never installed, and in June 1946 it was dismantled.

Car 826 continued in service on the Hespeler branch until late 1946, when it was withdrawn from passenger service owing to a weakening frame. It was used for a short time on the main line as an emergency car, being the only one of the three cars which is known to have operated on the L.E.&N. line under its own power. In December 1946, it ran MU with a regular steel car to Port Dover, where it was used as a temporary station until the new building was completed. Late in March 1947 it was returned to Preston, and was used as a service car until Sept. 1948 when it was rebuilt into Service (Dining) trailer 26.

In 1938, the motors of car 828 were removed and it operated for a short time as an MU trailer, but the motors were soon replaced. Early in 1947, it was withdrawn from passenger service, its place on the Hespeler line being taken by one of the larger cars. In July 1947 work was started to change it into a caboose without a cupola, but being too heavy for such purpose, it became Service (Boarding) Car 28. Car 26 was scrapped at Preston on Mar. 20, 1953 and 28 on April 13.





SPECIFICATIONS

Numbers:

Original	1914	1923	1948
G.P.&H. 81	G.R. 81	G.R. 824	Scrap
P.&B. 205*	G.R. 205	G.R. 826	26
P.&B. 215	G.R. 215	G.R. 828	28

*205 in 1913 carried G.P.&H. In 1914 was P.&B.

Builder & Date: 824 Ottawa 1910; 826 828 Preston 1912

Rebuilt: G.R.Ry. Preston Shops 1923

Construction: Composite, Wood and Steel

Voltage: Originally 600 D.C.; 1923 - 1500 D.C.

Length: Orig. 824 55'0"; 826, 828 53'5" } 1923 Reblt. 53'2"

Truck Centres: 33'0" Width: 9'3"

Height, Rail to top of roof walk 13'3"

Weight: Orig. ——; 1923 - 824 69,000, 826 828 73,000

Pilots: 824 Orig. Wood locomotive type; 1923 Reblt. Steel
826 828 Steel locomotive type

Warning Device: Air operated whistle,
1937-8 826 828 recieved Pheuphonic Horns

Seating Capacity: Main Compartment 48, Smoker 16

Seats: Leather Push-Over

Control: Orig. #251 Switch group
1923 Westinghouse AB

Motors: Orig. Four Westinghouse 93A 50 h.p.
1923 " " " " " 545A6 85 h.p.

Gear Ratio: 1923 25:62

Geared Speeds: 1923 40 mph free running;
55 mph top speed

Trucks: Baldwin MCB

Wheels: Orig 33"; 1923 36"

Brake Valve: 1923 Universal and M.23D
Engineer's Valve

Brakes: Westinghouse Automatic

Heating: 1923 Electric Seat-heater

Couplers: Orig. Tomlinson M.U. 1923 MCB Automatic

Colour: 1923 Tuscan Red,
Gold lettering

Upper Canada Railway Society
BOX 122, TERMINAL "A"
TORONTO, CANADA

Bulletin 38- August, 1953

2910-2929

by F. H. Howard

The Canadian Pacific is typical of those railroads which carry on an extensive passenger business over a widespread but thinly-populated area, which traffic is transported in many relatively short trains. In the years following the onset of the depression, and until World War II, the term "relatively short" to the C.P.R. implied four or five cars, usually of wooden construction and constituting a trailing load of perhaps 300 tons. Such trains were headed by a variety of motive power, either ten-wheelers like D-6's, D-10's and E-5's or light Pacifics of the G-1 and G-2 classes, few of them younger than 25 years, and all of doubtful economy of operation and maintenance.

Photos by Fred Sankoff, 25 Botfield Ave., Toronto 18
JUBILEE TYPE 2925 AT WESTMOUNT, QUEBEC, APRIL 23, 1938

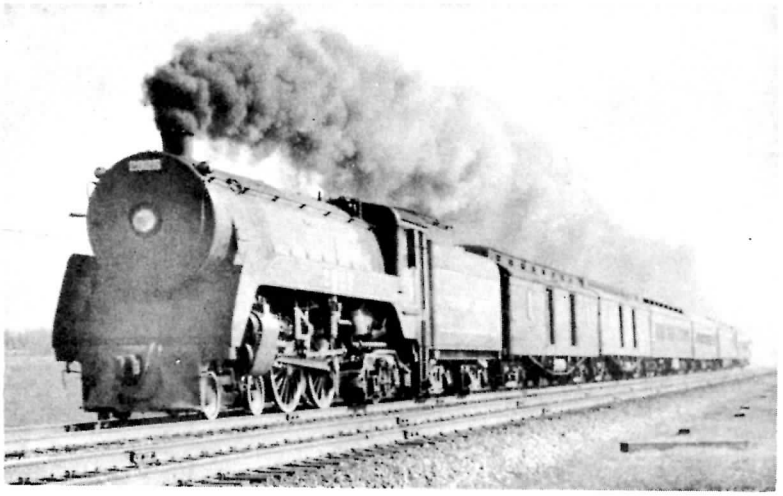
By 1937 the decision had been made to infuse the locomotive roster with some modern branch line or secondary passenger power. C.P.R. mechanical officers - carrying on a tradition of bold pioneering in such matters - had been pondering this problem for some time, and settled on a smaller version of the "Jubilee" type 4-4-4 engines built the previous year. Canadian Locomotive Co. Ltd. of Kingston was accordingly given a contract for 20 F-1 class locomotives, the first engines to be deliberately designed for limited tonnage in an era of bigger and still bigger motive power. In August of 1937, the author assisted in the laying down of number 2910 to inaugurate the series; it would have been numbered 2900 according to C.P.R. custom, if it had not been for a pair of old light Mountain-types bearing the numbers 2900 and 2901.

The F-1 was similar to its predecessors in having the same wheel arrangement and very high pressure (300 psi) boiler, small cylinders, front-end throttle, type E superheater, and no steam dome. However, it differed in other respects in view of its strictly local-train function. Its grate area being under 50 sq. ft., no stoker was applied, nor was power reverse gear fitted. A conventional slab-type frame was considered adequate, and the unconventional little feed water pump instead of a big compound one. That great boon to maintenance, the roller bearing, was applied to the engine truck, as was the case on every passenger locomotive built since 1928. A rather larger tender than the shrouded affair behind the first "Jubilee" was provided, and since the wheel-base was considerably shorter, the main rod drove on the trailing driver, the latter being a more conservative 75" in diameter.

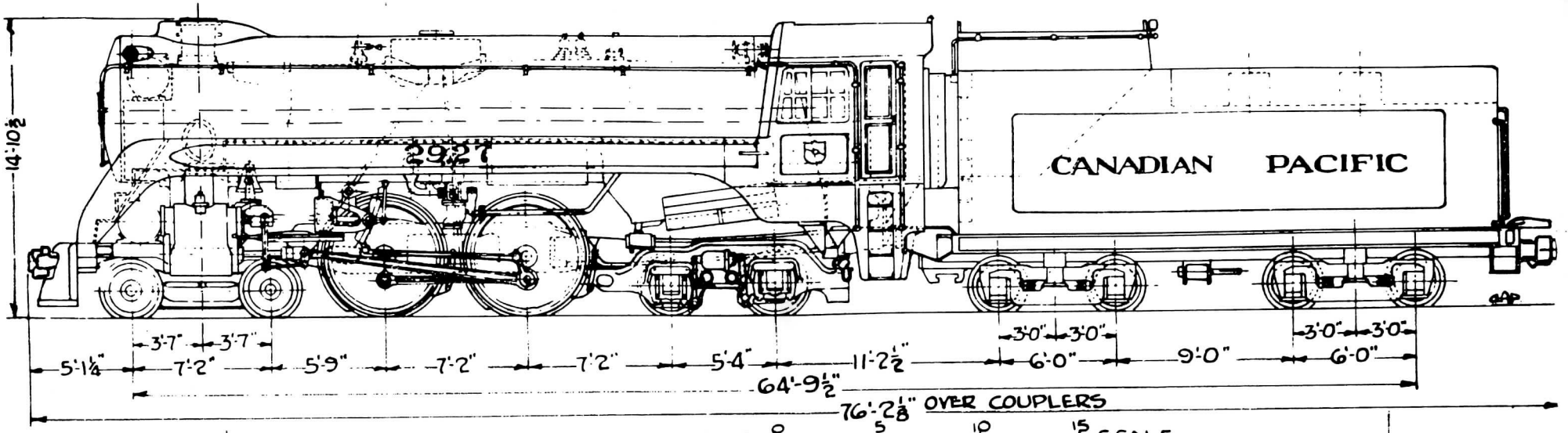
These engines, along with the Royal Hudsons built concurrently at Montreal, initiated the semi-streamlined fashion which was carried on for some years. They weigh 120 tons in working order, 56 tons of it resting on the drivers; this last figure is the third lowest of any class in the C.P.R. fleet, and is indicative of a most courageous venture into tailoring a locomotive to fit a particular job. Although their axle loading is relatively high, their low adhesive weight allows their use on almost any branch line. Their tractive effort is naturally low at 25,900 lb., and they develop 1262 drawbar horsepower at 40 m.p.h.

The F-1's occasionally are used in freight service, but usually on passenger trains. Fifteen of them are on the Western Region, mostly at Winnipeg and Moose Jaw, with the remainder at Toronto, Ottawa and McAdam. No. 2927 at Ottawa has been known to doublehead train no. 8 into Montreal in the days before no. 10 was added to relieve the load, and in summertime used to depart backwards at 4 a.m., with deadhead equipment, to Alcove on the Maniwaki branch, whence a daily except Sundays commuter train brought civil servants into the capital.

By the spring of 1938, then, the C.P.R. owned all 25 locomotives of the "Jubilee" type, just about all the tendered 4-4-4's the world had ever seen or ever would see. The increase in passenger traffic occasioned by the war demanded locomotives of higher tractive effort, so the F-1's were not repeated, but the theory behind their design persisted right until the end of the steam period; and the Canadian Pacific can with credit point to them as evidence of their recognition that branchline power need not and indeed should not always be cast offs from the main line. In this it was virtually alone, among the railways of North America.



TRAIN 731 HEADED BY AN F-1-a AT BRONTE, ONT., MAY 1, 1948



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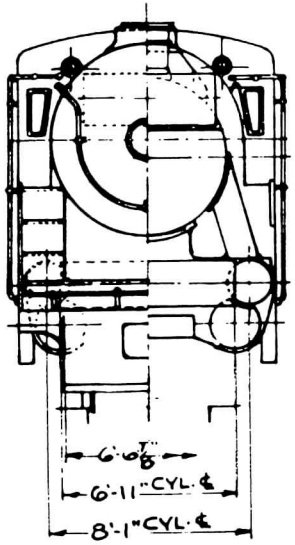
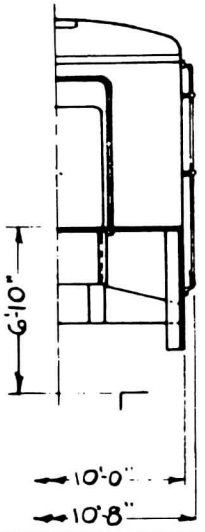




CANADIAN PACIFIC

CLASS - F 1-A

BOILER PRESSURE - 300 #/□"

CYLINDERS - 16½"×28"

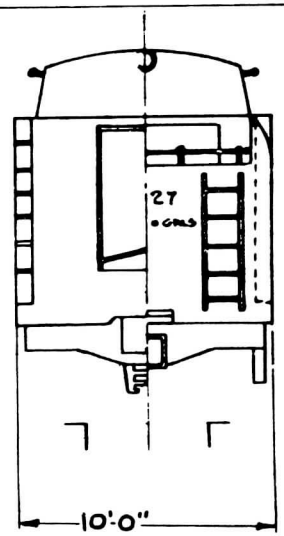
DRIVERS - 75" DIA.

LEADING TRUCK - 33" DIA.

LEADING TRAILER - 36" DIA.

TRAILING TRAILER - 45" DIA.

TENDER TRUCK - 36" DIA.



DRAWN BY G.A. PARKER

UPPER CANADA RAILWAY SOCIETY,
Box 122, Terminal "A",
Toronto, Ontario.

Bulletin 33, April, 1952

JOINT ISSUE

THE ONTARIO SOCIETY OF HO MODEL ENGINEERS,
R. Norman Collins, Hon. Secretary,
236 First Avenue, Toronto 8, Ontario.

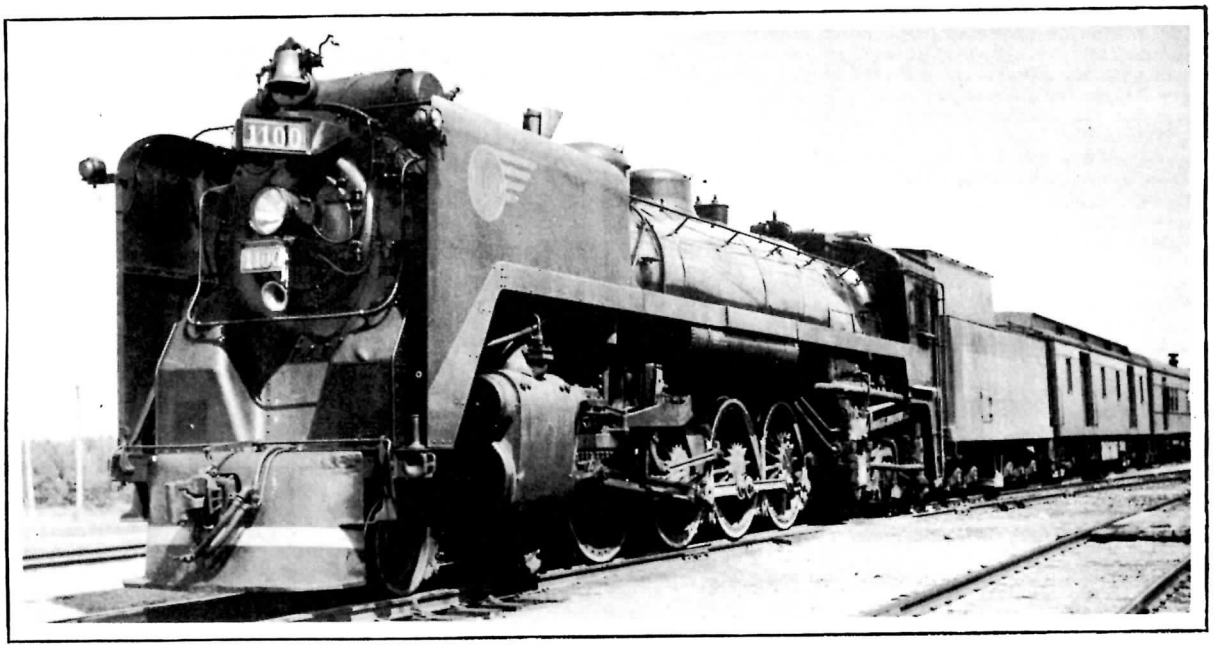
Supplement to "THE QUILL", April, 1952

Upper Canada Railway Society

BULLETIN 29

THE ONTARIO NORTHLAND RAILWAY

By A. ANDREW MERRILEES



1100 leading "The Northland" at Porquis.
J. Norman Lowe Photo.

The discovery of natural resources in an undeveloped area has in the past been the traditional reason for the opening of the district by railway construction. Few, indeed, have been the lines successfully built on faith alone - on an assumption that by providing transportation, settlement and traffic would surely follow.

The Temiskaming & Northern Ontario, or as we now know it, the Ontario Northland, was one such line. At the time it was projected through the forests and wilderness extending from Lake Nipissing toward James Bay, it was purely and simply a development road - built by the Provincial government because the area did not show sufficiently attractive traffic possibilities to attract private railway promoters.

Today, the district it serves supports a prosperous and rapidly growing population, and whole new industries previously unknown in the Province of Ontario. The railway has repaid the vision and faith of the Province and its people a thousandfold.

At the beginning of this century, the town of North Bay was a division point on the Canadian Pacific main line from Montreal to Vancouver, while a secondary route of the Grand Trunk Railway reached up to it from Toronto far to the south. No line of railway extended northward from the C.P.R. main line within the Province of Ontario.

As many as twenty years earlier, lumbering interests had begun to penetrate this region to harvest the virgin pine and spruce. Their only highways were Lake Temiskaming and its tributary streams, but these were often unreliable in winter, as well as during the spring break-up, and the fall freeze-up. In this period, also, a few settlers had made their homesteads at the head of Lake Temiskaming, in the vicinity of the present town of New Liskeard. These hardy families were almost completely isolated from their fellow men, their markets, and their sources of supply, and had for some years been making insistent demands for rail connection with the south.

A series of surveys conducted by the Provincial government in the year 1900 showed, in addition to extensive stands of valuable timber, large areas of arable land, and hinted at the possibility of discovering important mineral deposits. In 1902 a board of commissioners, to be known as the Temiskaming & Northern Ontario Railway Commission, was appointed by the legislature, with authority to build a line of railway from North Bay to a point on Lake Temiskaming.

The first contract was let by the Commission to A.R. Macdonell on October 3, 1902, covering the complete construction of the 110 miles of railway from North Bay to New Liskeard, the first sixty miles to be completed by December 31, 1903, and the remainder by December 31, 1904.

The formality of turning the first sod having been executed with suitable ceremony by the Hon. F.R. Latchford at North Bay, May 10, 1902, construction was commenced on October 14 of the same year, and on January 16, 1905, the completed railway to New Liskeard, 114 miles in length, was turned over to the Commission for operation.

In August, 1903, even before the line was completed, a construction employee accidentally uncovered a slab of virgin silver near mile post 103. The investigation which followed disclosed the presence of rich mineral deposits spread over a large surface. The once-roaring boom town of Cobalt was thus quickly born, and prospectors and settlers flooded into the area.

On June 7, 1904, a further contract was awarded A.R. Macdonell covering the construction of a forty-mile extension northward from New Liskeard. Steel had reached Boston Creek, the terminus of the contract by December 31, 1905, and regular service as far as Englehart was established on October 1, 1906. Two short branches were also built during 1906. One extended six miles from Cobalt to the new mining centre of Elk Lake, while the other, seven and a half miles long, ran from Englehart to Charlton.

Between New Liskeard and Englehart the line emerges from the heavily forested country onto a huge fertile northern plain - the famous Clay Belt of Northern Ontario. The phenomenal possibilities of growth in an area so far north amazed both the government and the early settlers, many of whose wilderness homesteads have by now been developed into prosperous and well-ordered enterprises.

In 1907, a contract was let to extend the line northward to a junction at Cochrane with the National Transcontinental Railway, then under construction by the Dominion government from Quebec to Winnipeg, there to meet the Grand Trunk Pacific Railway. The T.& N.O. reached Cochrane on November 26, 1908, while the N.T.R. arrived on the scene in 1910, and continued westward, reaching the Prairie gateway in 1915. Ontario's development road then became an important link in transcontinental travel, through trains being routed from Toronto to Winnipeg over its line.

Gold was discovered in the Porcupine area in 1909, and in the following year the Commission started work with its own forces on a 33-mile branch from Porquis Jct. (now called simply "Porquis") to the new mining area. This branch reached South Porcupine on June 16, 1911, and Timmins on July 1, 1911. This town became a larger and much more permanent mining camp than Cobalt, and is now perhaps the most modern and progressive city in all Ontario's Northland.

In 1911, also, the Commission bought all the outstanding capital stock of the Nipissing Central Railway, which operated a small electric line between the adjacent towns of Cobalt, Haileybury and New Liskeard. This little line had a Dominion charter, which gave it the right to build into Quebec Province, a privilege which the Ontario road lacked. This was to become of value to the T.& N.O. Commissioners some time later. In this year, also, surveys were started into the country north of Cochrane, but construction of this extension was not commenced until 1921.

The year 1912 saw construction crews at work on the 28.5 mile branch from Earlton to the mining area at Elk Lake, this line being opened on February 5, 1913. Also during 1913 a branch was built from Porquis Jct. to Iroquois Falls, to serve the huge plant of the Abitibi Power & Paper Co. Ltd., then under construction. This in now one of the largest newsprint mills in the world, and a great owner of trackage and railway equipment in its own right. This branch is seven miles long, and was open for business by September 9, 1913.

While running rights over the T.& N.O. were granted in 1912 to the National Transcontinental, a part of the Canadian Government Railways, these were not exercised until 1915, when a through service between Toronto and Winnipeg was instituted, using the T.& N.O. main line as a link between the Toronto-North Bay line of the Grand Trunk Railway and the Cochrane-Winnipeg portion of the N.T.R. By 1922 this train had been discontinued as a result of the construction of the Longlac-Nakina cutoff connecting the main lines of the former Canadian Northern and National Transcontinental Railways. However, until 1930 the Canadian National's "Continental Limited" continued to use the T.& N.O. as part of its route between Montreal and Vancouver. This route consisted of the former Canadian Northern main line east of North Bay, thence the T.& N.O. to Cochrane, the former N.T.R. to Winnipeg, and a combination of the main lines of the former Canadian Northern and Grand Trunk Pacific systems to Vancouver.

The outbreak of war in 1914 put an end for several years to ambitious railway construction projects, and may be said to mark the close of the first chapter in the life of Ontario's Development Road. The second chapter opened in 1921, with the approval by the Provincial government of an extension of the line northward from Cochrane, with the object of eventually reaching James Bay, and of giving Ontario a seaport of her very own. A contract covering the construction of seventy miles of line, from Cochrane to Fraserdale, was let on January 7, 1922, and the line was open as far as Coral Rapids by November 1, 1923. The building of this branch was designed to make possible the construction of a huge hydro-electric power plant in the canyon of the Abitibi River.

Also in 1923, work was started on a branch from Swastika northeastward to the bustling new gold mining area around Kirkland Lake and Larder Lake. This was built under the Nipissing Central charter, with a view to eventually entering Quebec. This branch was completed to Larder Lake on November 10, 1924, to the Quebec border in 1925, and to Rouyn and Noranda in 1927.

On November 10, 1924, a twenty-mile branch was completed from a point south of Cobalt to Silver Centre, in the Lorrain silver mining region. This was one of the Commission's shortest-lived projects, however, as it was abandoned in 1935, the mineral deposits having been found to be of less value than anticipated.

The short branch to Kerr Lake was abandoned in September, 1927, thus becoming the T.& N.O.'s first abandonment. The general decline in activity in the once-fabulous Cobalt silver mining area was the reason for this retrenchment.

From 1928 to 1932 construction was underway on the extension of the Fraserdale line through barren and uninhabited country to Moosonee, near the ancient Hudson's Bay Company trading post of Moose Factory, on James Bay. Steel reached the final terminus in the fall of 1931, and on July 15, 1932 the golden spike was driven home by the Hon. George S. Henry, then Premier of Ontario, exactly 300 years after the English explorer, Captain James, had arrived at the spot in his sailing ship. Among those present, and assisting at the ceremony, was Mr. Justice Latchford, who had officiated at the turning of the first sod at North Bay in 1902, barely thirty years earlier. A monumental job of construction and development had been accomplished in those thirty short years by the people of Ontario and their government.

In April, 1946, the old name of Temiskaming & Northern Ontario was changed to Ontario Northland Railway, to avoid confusion with another railway using the initials T.& N.O., the Texas & New Orleans, a unit of the Southern Pacific system. The present O.N.R. includes the Swastika-Noranda line of the Nipissing Central Railway, the electric operation of this subsidiary having been abandoned years ago. The Ontario Northland Transportation Commission operates, in addition to the railway, steamboat services on Lake Nipissing and the Temagami chain, and a motor bus system paralelling the main line, and replacing passenger trains on the Elk Lake, Charlton and Iroquois Falls branches. Ontario's own system is thus leading the way in operation of co-ordinated transportation services by different types of carriers under unified management.

Bulletin 29 March, 1951

UPPER CANADA RAILWAY SOCIETY
Box 122, Terminal "A"
Toronto, Canada

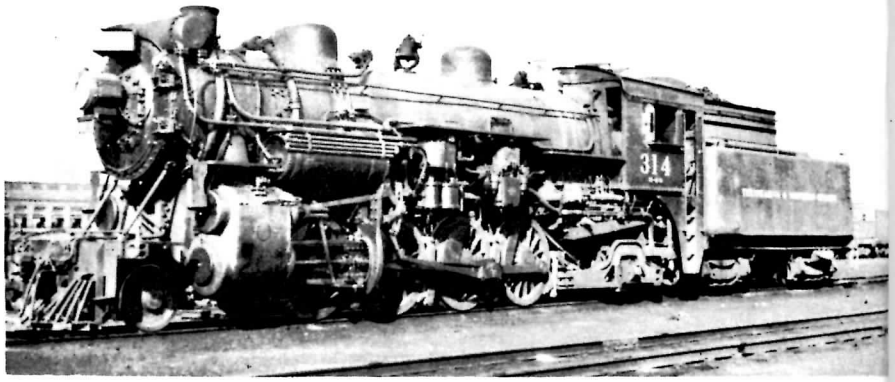
ALL-TIME LOCOMOTIVE ROSTER

STEAM LOCOMOTIVES

ROAD NUMBERS Original	1935	1940	WHEEL ARRGT	YEAR BUILT	BUILDER	SERIAL NUMBER	TRACTIVE EFFORT	HAULAGE RATING	CYLINDERS D x S	DRIVERS	ENGINE WEIGHT	REBUILT	NOTES	DISPOSITION
1 & 101			4-6-0	1903	Kingston	611	23671 lbs		19" x 24"	56"	135000			Sold
2 & 102			"	"	"	612	"		"	"	"			Sold
3 & 103			"	"	"	613	"		"	"	"			Sold
4 & 104			"	"	"	614	"		"	"	"			Sold
105			"	1906	"	689	"		"	"	138000			Sold
106			"	"	"	690	"		"	"	"			Sold
107			"	"	"	691	"		"	"	"			Sold
108			"	"	"	692	"		"	"	"			Sold
109			4-4-0	1892	Pittsburgh	1295	13240		17" x 24"	68"	88500		A	Scrap
110			"	"	"	1296	"		"	"	"		A	Scrap
111	111		4-6-0	1906	Montreal	40873	23400		19" x 24"	62"	142000		B	Scrap
112	112	100	"	"	"	40874	"		"	"	"	M 1919	B	Scrap
113	113	101	"	"	"	40876	"	23%	"	"	"	M 1919	B	I/S
114	114		"	"	"	40877	"		"	"	"		B	Scrap
115	215		"	1907	"	44165	25740		"	57"	145000		B	Sold
116	216		"	"	"	44166	"		"	"	"		B	Scrap
117	217		"	"	"	44167	"		"	"	"		B	Scrap
118	218		"	"	"	44168	"		"	"	"		B	Scrap
119	219		"	"	"	44169	"		"	"	"		B	Sold
120	220		"	"	"	44170	"		"	"	"		B	Scrap
121	221	200	"	1908	Kingston	841	26301	26%	"	56"	143800	K 1918	B	I/S
122	222	201	"	"	"	842	"	26%	"	"	"	K 1922	B	I/S
121	221	202	"	"	"	843	"		"	"	"	K 1922	B	Scrap
124	224	203	"	"	"	844	"		"	"	"	K 1922	B	Scrap
125	225	204	"	"	"	845	"	26%	"	"	"	K 1922	B	I/S
126	226	205	"	"	"	846	"		"	"	"	K 1922	B	Scrap
127	127	102	"	1909	"	905	23379		"	63"	150200	M 1919	B	Scrap
128	128	103	"	"	"	906	"		"	"	"	M 1919	B	Scrap
129	229	206	"	"	"	907	25840		"	57"	149000	M 1919	B	Scrap
130	230	207	"	"	"	908	"		"	"	"	M 1919	B	I/S
131	231	208	"	"	"	909	"		"	"	"	M 1919	B	I/S
132	232	209	"	"	"	910	"		"	"	"	M 1919	B	Stored
133	633	600	4-6-2	1911	"	961	30422	33%	21" x 28"	69"	203100	M 1914	C	I/S
134	634	601	"	"	"	962	"	30%	"	"	"	M 1914	C	I/S
135	635	602	"	"	"	963	"	30%	"	"	"	M 1914	C	I/S
136	636	603	"	"	"	964	"	30%	"	"	"	M 1914, 30	C	I/S
137	437	400	2-8-0	1912	"	1039	42598	43%	23" x 30"	57"	210600			I/S
138	438	401	"	"	"	1040	"	43%	"	"	"			I/S
139	439	402	"	"	"	1041	"	43%	"	"	"			I/S
140	440	403	"	"	"	1042	"	43%	"	"	"			I/S
141 & 300	300	300	2-8-2	1916	"	1345	45530	45%	25" x 30"	63"	258040		D	I/S
142 & 301	301	301	"	"	"	1346	"	45%	"	"	"		D	I/S
143 & 302	302	302	"	"	"	1347	"	45%	"	"	"		D	I/S
144 & 303	303	303	"	"	"	1348	"	45%	"	"	"		D	I/S
145 & 304	304	304	"	"	"	1349	"	45%	"	"	"		D	I/S
146 & 305	305	305	"	"	"	1350	"	45%	"	"	"		D	I/S
141	541	500	2-8-0	1930	"	1899	45030	48%	23" x 30"	57"	238250			I/S
142	542	501	"	"	"	1900	"	48%	"	"	"			I/S
143	543	502	"	"	"	1901	"	48%	"	"	"			I/S
144	544	503	"	"	"	1902	"	48%	"	"	"			I/S
147 & 306	306	306	2-8-2	1921	"	1688	45535	51%	25" x 30"	63"	261800	N 1923	F	I/S
148 & 307	307		"	"	"	1689	"		"	"	"			Scrap
149 & 308	308	307	"	"	"	1690	"	45%	"	"	"			I/S
150 & 309	309		"	"	"	1691	"		"	"	"		E,H	Scrap
151	851	(800)	0-6-0	1906	"	747	31913		19" x 26"	50"	121000			Scrap
152	852	(801)	"	"	"	748	"		"	"	"			Scrap
153	853	(802)	"	1909	"	903	31286		"	51"	123200			Sold
150 & 154	854	(803)	"	"	"	904	"		"	"	"			Sold
155	955	900	0-8-0	1920	Montreal	62498	42570	43%	23" x 28"	53"	208500			I/S
156	956	901	"	"	"	62499	"	43%	"	"	"			I/S
157	757	700	4-6-2	1921	Kingston	1692	36493	38-48%	"	69"	250500	N 1948	E,F,G,H	I/S
158	758	701	"	"	"	1693	"	38-48%	"	"	"	N 1941	E,F,G,H	I/S
159	759	702	"	"	"	1694	"	36%	"	"	"		E,H	I/S
160	760	703	"	"	"	1695	"	36%	"	"	"		E,H	I/S
310	310	310	2-8-2	1923	"	1740	45500	51-61%	25" x 30"	63"	278700			I/S
311	311	311	"	"	"	1741	"	51-61%	"	"	"			I/S
312	312	317	"	1924	"	1742	"	51-61%	"	"	"			I/S
313	313	313	"	"	"	1743	"	51-61%	"	"	"			I/S
314	314	314	"	1925	"	1770	"	51-61%	"	"	272700			I/S
315	315	315	"	"	"	1771	"	51-61%	"	"	"			I/S
316	316	316	"	"	"	1772	"	51-61%	"	"	"			I/S
1100	1100	1100	4-8-4	1936	"	1919	54500	55-65%	22½" x 30"	69"	371320		H	I/S
1101	1101	1101	"	"	"	1920	"		"	"	"		H	Stored
1102	1102	1102	"	1937	"	1921	"	55-65%	"	"	"		H	I/S
1103	1103	1103	"	"	"	1922	"	55-65%	"	"	"		H	I/S

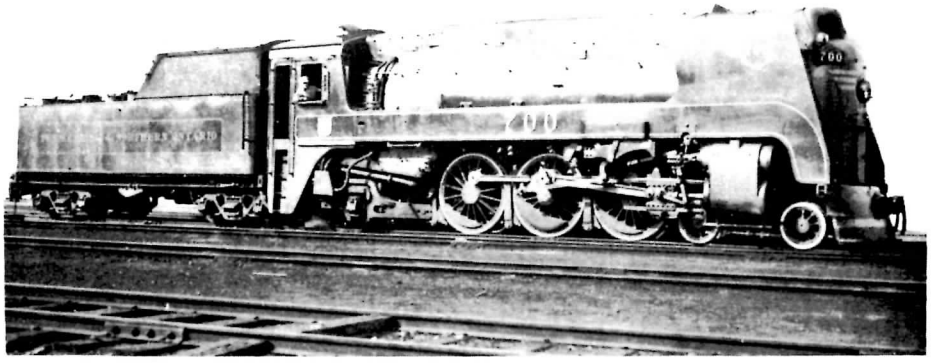
ONTARIO NORTHLAND RAILWAY

Safety - Comfort - Speed



TOP - 314 at Englehart, about to be coupled to a Timmins freight.
J. Norman Lowe photo

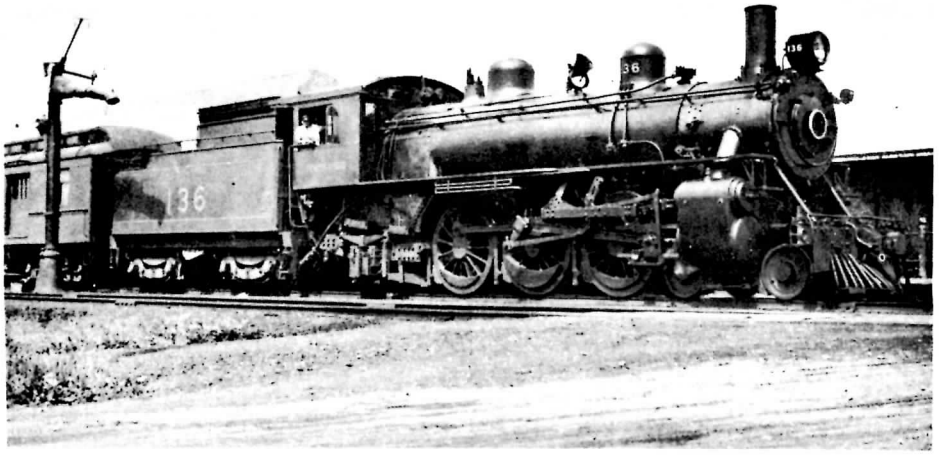
RIGHT - 700 before removal of streamlining.
From John R. Lee



LEFT - 110 at North Bay in July, 1934.

BOTTOM - 136 on train 18 at New Liskeard, July 24, 1934.

James H. Allen photos



ONTARIO'S DEVELOPMENT ROAD

DIESEL-ELECTRIC LOCOMOTIVES

ROAD NUMBERS	TYPE	WHEEL ARRGT	YEAR BUILT	BUILDER	SERIAL NUMBER	TRACTIVE EFFORT (CONTINUOUS)	HAULAGE RATING	DRIVERS	MAX SPEED	ENGINE WEIGHT
1200 to 1202	1000 HP Switcher	B-B	1946	Alco-GE	77479-81	34000 lbs	34%	40"	60	230,000
1203	" "	"	1950	MLW-GE	77586	"	"	"	"	"
1300 to 1301	1500 HP Road Switcher	"	1949	Alco-GE	76824-25	42500	43%	"	65	245,000
1302 to 1303	" " "	"	1950	MLW-GE	76096-97	"	"	"	"	"
1304 to 1307	1600 HP Road Switcher	"	1951	"	77742-45	52500	53%	"	"	"
1500 to 1505	1500 HP Road "A" Units	"	1951	GM-Dies		40000	40%	"	"	"

All these locomotives (except 1203) are equipped with multiple-unit control. 1300 - 1307 and 1500 - 1505 have train heat boilers.

SELF-PROPELLED CARS

ROAD NUMBERS Original	1939	TYPE OF CAR	YEAR BUILT	BUILDER	CAR WEIGHT	REBUILT	DISPOSITION
1002	1000	73 ft. Gas-Electric Combination Car	1926	Brill	116400	Rebuilt to Diesel-Electric car, baggage only, with 250 HP Cummings engine, 1939.	Stored
1000	1001	Storage Battery Combination Car (DE)	1924	C C & F	55400	Rebuilt 1939 as combination trailer for 1000	I/S
1001	1002	" "	"	"	57300	Rebuilt 1939 as first-class trailer for 1000	I/S

GENERAL REMARKS

1. The all-time roster is complete to February 15, 1951.

2. Column Details

   (a) Tractive effort, cylinders, drivers and engine weight details are for locomotives as originally built. Subsequent rebuildings of locomotives has changed much of this data.
   (b) Tractive effort shown is without booster.
   (c) Haulage rating is new haulage rating of locomotives in service as of February 15, 1951. 1% approximately equals 1000 lbs. tractive effort. Where two figures are given, second is H.R. with booster.
   (d) Engine weight is weight of locomotive less tender.
   (e) Locomotives were rebuilt by Kingston (K), Montreal (M), and North Bay shops (N).

3. Renumbering Details

   (a) All locomotives retained road number assigned on acquisition by T.& N.O. until the general renumbering in 1935, with the exception of the following special renumberings:

   - Locomotives 1 to 4 renumbered as 101 to 104 in 1905 to initiate the general numbering system with the coming of new locomotives 105 to 114.
   - Locomotive 150 (0-6-0) renumbered as 154 on December 19, 1920 when locomotives 147 to 150 (2-8-2) ordered in same year.
   - Locomotives 141 to 150 (2-8-2) renumbered as 300 to 309 in 1929 when locomotives 141 to 144 (2-8-0) ordered in the same year.

   (b) First general renumbering took place November 1, 1935.

   (c) Second general renumbering took place in December, 1940, and is still in effect. At that time locomotives 851 to 854 were assigned numbers 800 to 803, but the locomotives were disposed of without having their numbers changed.

   (d) Locomotive 312 had number changed to 317 about 1943, following collision with 311 about 1938.

NOTES ON STEAM LOCOMOTIVES

A. Locomotives 109 and 110 were purchased in October, 1905 from Pittsburgh & Lake Erie R.R. 48 and 49, and were the only second-hand locomotives purchased by the T.& N.O. or O.N.R.

B. Valve gears on Locomotives 111 to 132 were changed from Stephenson to Walchaert during 1918 to 1922. These locomotives were equipped with superheaters during 1918 to 1923.

C. Locomotives 133 to 136 were superheated when rebuilt by Montreal Locomotive Works in June, 1914.

D. Locomotives 141 to 146 originally had Russian style cabs.

E. Locomotives 150 and 157 to 160 (later 309 and 700 to 703) were first locomotives in Canada to be equipped with boosters; these were applied when the locomotives were built. Boosters have since been removed from 159, 160 (702, 703).

F. Valve gears on 306, 307, 700, 701 (formerly 306, 308, 157, 158) were changed from Young to Baker in 1941 and 1942.

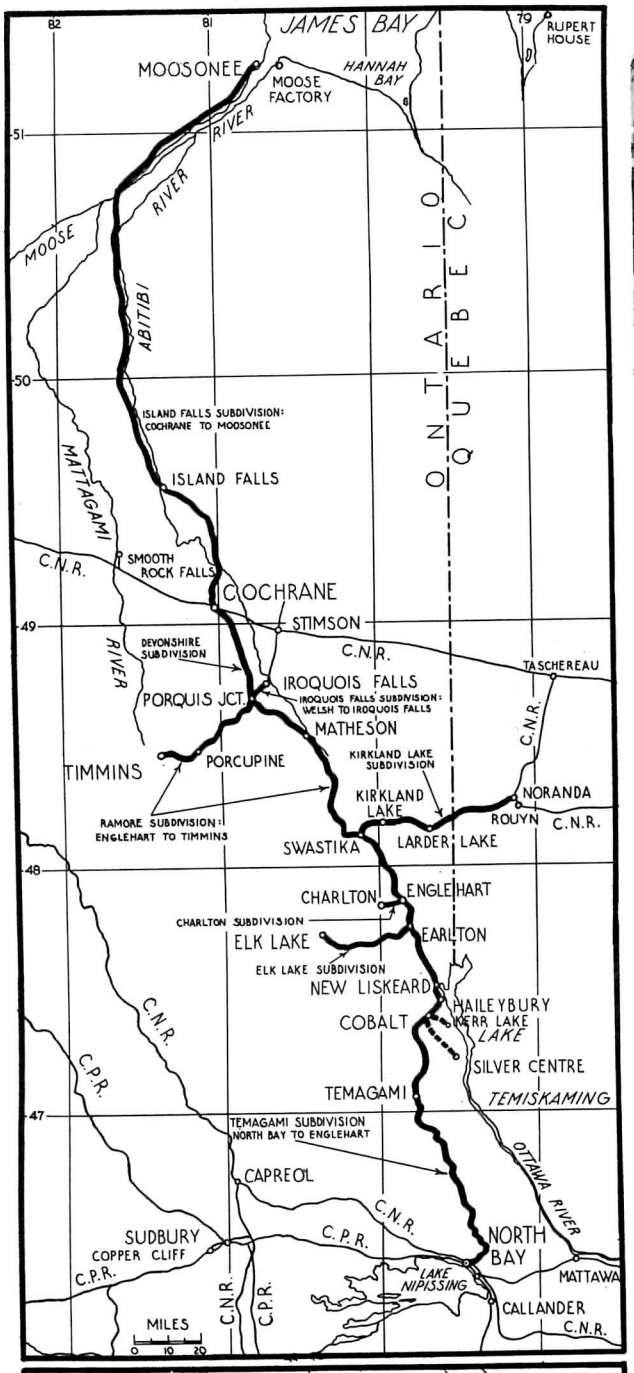
G. Locomotives 700 and 701 (originally 157 and 158) were streamlined, painted green, given new A.A.R. front ends, Baker valve gear, BK boosters, Elesco exhaust steam injectors, Barco power reverse gear, and had tenders lengthened to give a capacity of 8500 gals. and 13 tons, in December 1940 and January, 1941.

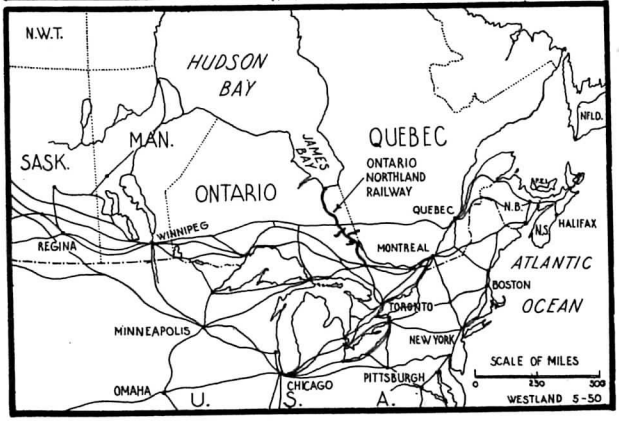
H. Booster applied by builder.

DISPOSITION OF STEAM LOCOMOTIVES

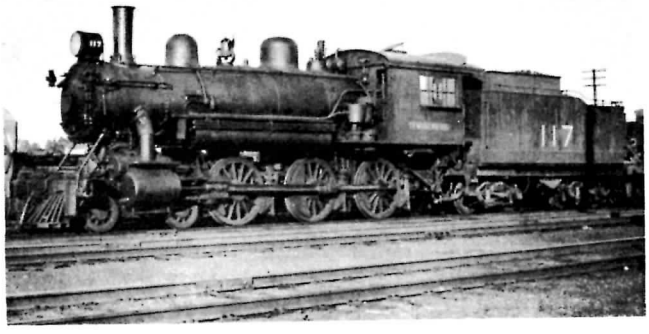
The following locomotives removed from service prior to February 15, 1951 are listed in the same order as they appear in the roster and by their original numbers. Locomotives removed after 1935 have the numbers that they bore at time of removal shown in brackets after original numbers.

101 - Sold to Canadian Equipment Co., June/20; resold to Alberta & Great Waterways Rly., June 9/21 as #30; now scrapped.
102 - Sold to Baldry, Yerburgh & Hutchinson (contractors on Welland canal), May 8, 1914.
103 - Sold to Canadian Equipment Co., June/20; resold June 9/21, probably to contractor on Welland canal
104 - Sold to Canadian Equipment Co., June/20; resold to Alberta & Great Waterways Rly, Aug. 19/20 as #29; now scrapped.
105 - Sold to Canadian Equipment Co., June/20; resold to Roberval & Saguenay Rly, July/20, as #10; scrapped.
106 - Sold to Canadian Equipment Co., June/20; resold August 19, 1920, probably to a contractor on Welland canal.
107 - Sold to Canadian Equipment Co., June/20; resold June/20, probably to a contractor on Welland canal.
108 - Sold to Canadian Equipment Co., June/20; resold to Roberval & Saguenay Rly., Sept./20 as #11; scrapped.
109 (109) - Scrapped November, 1940.
110 (110) - " " "
111 (111) - " July, 1940.
112 (100) - " December, 1947.
114 (114) - " July, 1940.
115 (215) - Sold to Mattagami R.R., Smooth Rock Falls, Ont. in July, 1941 as #102; still in service.
116 (216) - Scrapped July, 1940
117 (217) - " December, 1940
118 (218) - " July, 1940
119 (219) - Sold to Normetal Mining Corp., Normetal, Que., January, 1938, as 219.
120 (220) - Scrapped July, 1940
123 (202) - " December, 1947.
124 (203) - " " "
126 (205) - " " "
127 (102) - " " "
128 (103) - " April, 1949
129 (206) - " December, 1947
132 (209) - Written off December, 1947; in storage at North Bay shops, February 15, 1951.
148 (307) - Scrapped July, 1940.
150 (309) - " " "
151 (851) - " December, 1940
152 (852) - " " "
153 (853) - Sold to Normetal Mining Corp., June, 1941 as #853, resold to Manitoba Paper Co., Pine Falls, Man., 1946.
154 (854) - Sold to Abitibi Power & Paper Co., Iroquois Falls, Ont., December, 1941, as #60; still in service.
1101 (1101) - Stored at North Bay shops for scrapping, Feb. 15/51.





Detail and locational maps of Ontario Northland Railway



102 - (ex 127) at Cochrane station, hauling Cochrane - Porquis local - J. Norman Lowe photo

1301 - 1500 h.p. road-switcher at North Bay roundhouse, July 19, 1943 - from Frank J. Bechtel

117 - (later 217) at North Bay, July, 1954 - James H. Allen photo

1200 - 1000 h.p. switcher in North Bay yards

ADDRESSES OF PHOTOGRAPH CONTRIBUTORS

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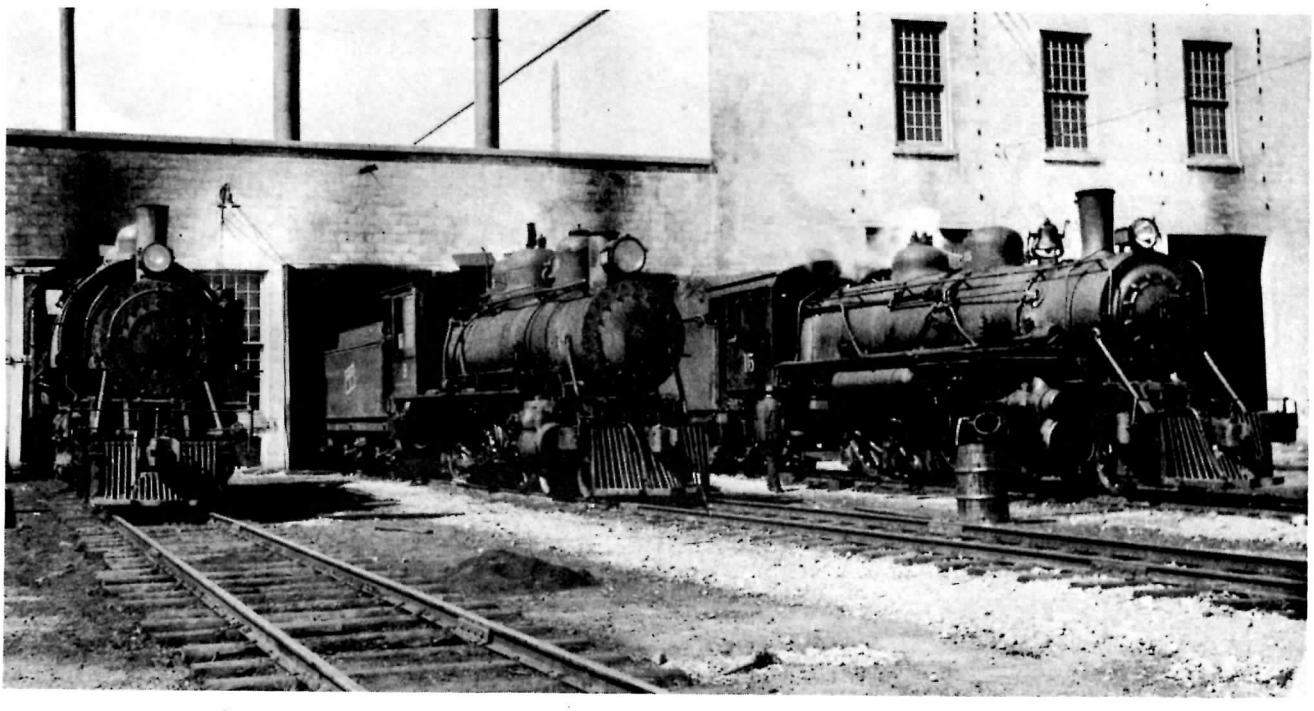
THE RAILWAYS OF Newfoundland

A PICTORIAL REVIEW



A representative line-up of Grand Falls Central power, photographed at the Botwood engine house on Sept. 7, 1954, by John D. Knowles. Left to right: 2-6-2T number 12, ten-wheeler number 9, (note the slide valves), and Mikado number 15.

Newfoundland Ry. (C. N. R.)

The Newfoundland Railway, (now part of the CNR), offers a unique opportunity to the student of railway operation to observe the function of a complete and self-contained system which duplicates, in microcosm, the performance of its parent company of the mainland. The circuitous route of the CNR takes it 547 miles between termini a scant 300 air miles apart, over the barren uplands of Gaff Topsail, past sandy coves and through vast pulp forests. Connection with the mainland is made by company steamers plying Cabot Strait between Port-Aux-Basques and North Sydney, N.S. Four branches reach out to Bonavista, Lewisporte, Argentia and Carbonear, with mixed trains providing the service. The mixed train operating over the 90-mile Bonavista branch carries a wooden Buffet-Sleeper, the Harbour Grace, which runs through from St. John's. Another noteworthy feature of this line is the only bridge observed over a railway track in all Newfoundland. It occurs where a loop of track, about a half mile in length, and encompassing a tiny, picturesque lake, is used to descend out of one of the numerous valleys traversed in the leisurely trip to Bonavista.

Since the Canadian National took over the Newfoundland system, a vigorous program of rehabilitation has been undertaken, in order to put the railway in first class condition, and reduce delays and breakdowns. By early 1957, Diesels had replaced all steam power; land had been acquired in St. John's for the installation of a new yard; (passenger trains are currently split upon arrival there, since no station track will accommodate more than nine cars); telegraph lines across the island have been completely renewed; massive steel wedge plows are being substituted for the toy-like wooden plows of yesteryear; there is more modern rolling stock and sturdier roadbed.

At the same time, a reduction in passenger fares has enabled Newfoundlanders to move around and take advantage of seasonal employment in various parts of the land. And so the traveller finds sleeping-car space at a premium, and standing loads in the coaches The "crack train" of the line is the "Caribou" Before Confederation, this 12-car train was more imaginatively called the "Foreign Express". At one time, a single 2-8-2 hauled this train, assisted up the numerous short, steep grades by helper engines, Recently, two Mikados, or later still, one "Mike" and a Diesel were used over the entire line. Another feature of the Overland Route is the "Wood-Train", solid strings of flat cars containing four giant bundles of pulp logs, each tied with a steel cable. Much traffic of this nature originates at Glenwood, and is destined for the paper mills at Grand Falls.

903 helps 2-8-2 number 312 get a Wood Train under way at Bishop's Falls.

Canadian National 6-axle Diesel leaving the St. John's yard with a freight. Note the semaphore at the entrance of the yard, right. The blade is enclosed in a glass case, and pivots in the centre.

Grand Falls Central

The Grand Falls Central is better known as the Botwood Railway, under which name it was a subsidiary of the Anglo-Newfoundland Development Company, whose pulpwood and mining interests make it the largest industrial concern in Newfoundland. In recent years, the AND Co. has divested itself of many of these subsidiaries (including the town of Grand Falls), and consequently, on July 1, 1956, the 22-mile carrier passed into other hands, acquiring its new name at that time. Although it now operates as a separate company, the fortunes of the G.F.C. are still bound with those of its former owner, for its chief function is the transportation of newsprint from the mills at Grand Falls, and ore from the Buchans Mines to tide-water at Botwood. Oil is brought in by tank car for the plant boilers.

In winter the railway closes down, save for the plant yard tracks, and a short spur which connects the mill with the CN main line. When the port of Botwood is blockaded with ice, the newsprint moves along the Canadian National to St. John's, an open port all year round.

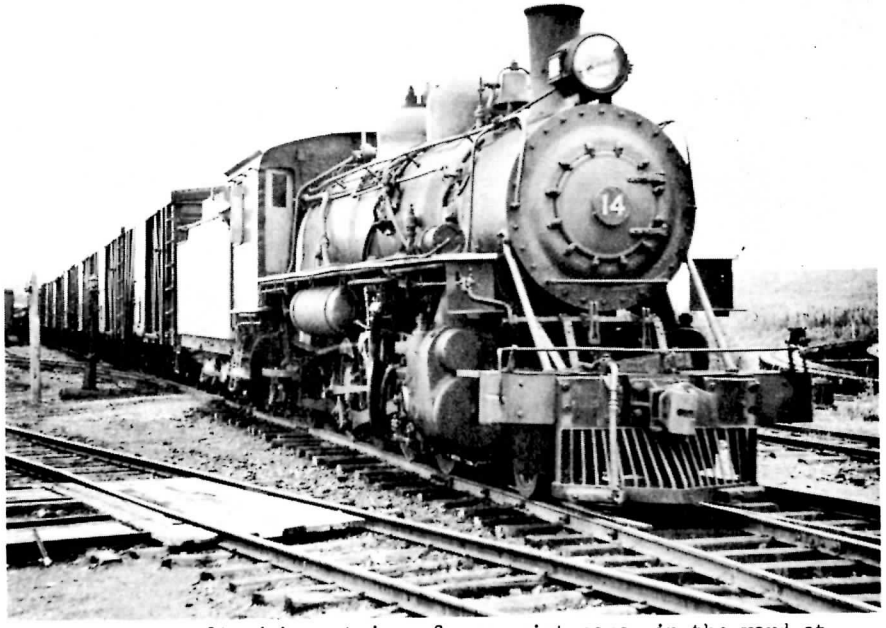
The ancient coach that serves as a waycar on G. F. C. trains also gives them the status of a Mixed operating on an informal "Go-when-ready" schedule. This open-vestibuled car shows evidence of a palmier day; the legend "First Class" and "Second Class" being clearly discernible under the paint at opposite ends of the carsides.

At this writing, steam locomotives are still in use exclusively over the Grand Falls Central (see cover photo). While most of the rolling stock is quite old, the excellent state of preservation suggests that the winter months are well spent in upholding a high condition of repair.

Buchans Railway
Millertown Railway

These, like the former Botwood Railway, are properties of the A. N. D. Co. The two are quite dissimilar in operation, the Buchans Railway being a heavy ore carrier (370,000 tons of lead, copper and zinc concentrates moved over its rails in 1957); the Millertown Railway merely a supply line for the pulpwood camps of the Lake Ambrose District.

It is interesting to note that all four railways of Newfoundland are traversed by the stubby, tarpo-



Mikado number 14 with a string of newsprint cars, in the yard at Grand Falls

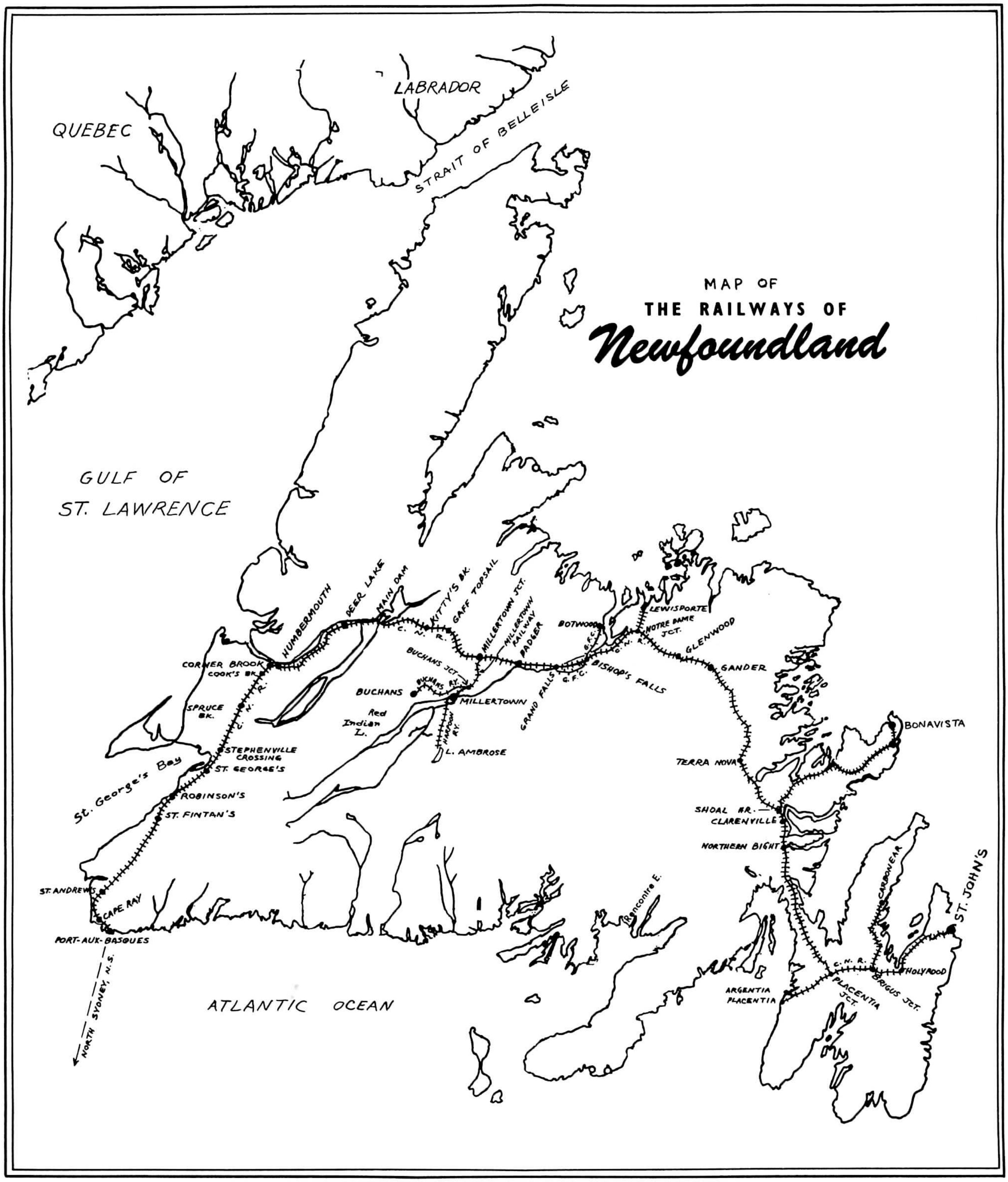
Buchans Ry. No. 6, enroute to Buchans, meets a train of the Millertown Railway at Buchans Junction, in this photo by J. D. Knowles.

lin-covered steel gondolas of the Buchans Mining Co in their trip to the docks of Botwood: the Buchans Ry. to Buchans Jct., 22 miles, thence 14½ miles to Millertown Jct. by way of the Millertown Ry. From here the C.N.R. transports them 43 miles on its rails to Bishop's Falls, where the aforementioned G. F. C. takes over for the remaining 11 miles.

A phenomenon of the Buchans Railway is its recen tly-acquired steel coach, which once burnished the rails of the Toronto, Hamilton & Buffalo Ry. Complete with diaphragms, and perched high on narrow-gauge trucks, this giant dwarfs the diminutive gray concentrate cars which are present in every train.

No such tonnage as the Buchans Ry. enjoys moves over the Millertown Railway. Its business is pulpwood, but the logs are floated 50 miles to the mill ponds of Grand Falls by way of the Exploits River. A 19-mile extension of the line, which crosses the Exploits River and serves the logging camps, is known as the Harpoon Railway. Its tracks undulate through bush that would quickly smother them if it were not periodically hacked away. A six-wheel Plymouth Diesel and a chain-driven, 4-wheel Whitcombe provide the motive power on the Millertown Railway, and its passenger coach, mounted with a small cupola, is resplendant in orange, green and white livery.

The Millertown and Buchans Railways have their own right-of-way problems, as these signs show.



Upper Canada Railway Society
BOX 122, TERMINAL "A"
TORONTO, CANADA

BULLETIN 49
May 1958

CANADIAN NATIONAL 8417-8422 GRAND TRUNK WESTERN

P-5-j 45%

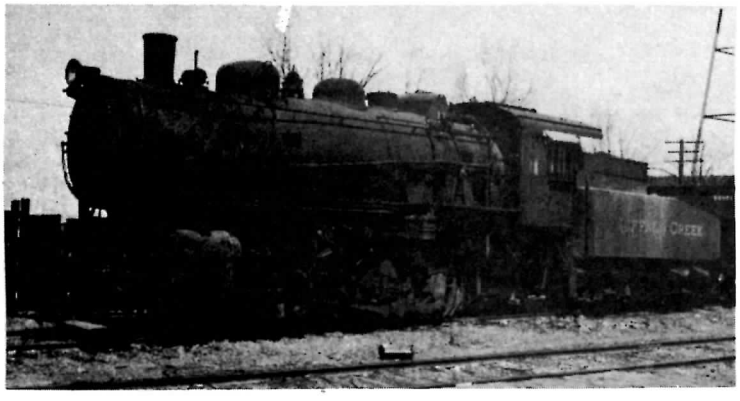
Formerly Buffalo Creek Railroad 21, 23, 25, 26, 27, 28

A recent C.N.R. locomotive purchase which has caused considerable interest was the acquisition in 1947 of six eight-wheel switchers second-hand from the Buffalo Creek Railroad of Buffalo, New York. These engines represent one of the very few groups of second-hand locomotives ever purchased by the Canadian National Railways, and are also the only steam locomotives that have been obtained by the system since the end of the war.

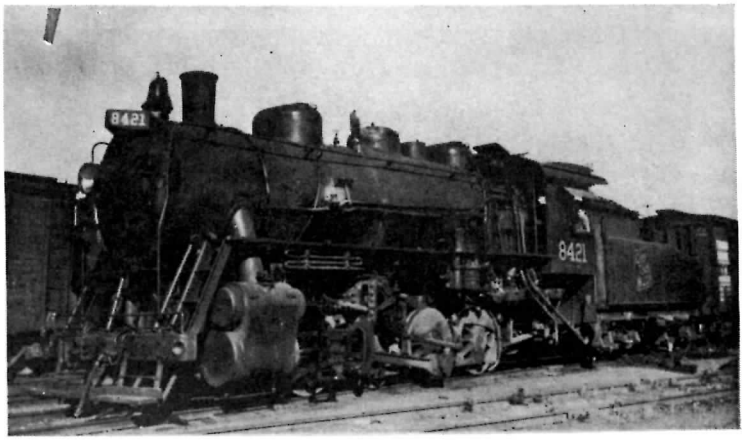
These locomotives comprised six of the eleven 0-8-0 switchers owned by the Buffalo Creek R.R., numbered 20 to 30, which were obtained by that road between 1914 and 1923. The Buffalo Creek is a terminal switching company entirely within the confines of the city of Buffalo; it owns approximately six miles of line and 35 miles of track extending generally from William Street to Peck Slip with branches. The railroad was opened in 1871 and leased in 1889 to the Erie and the Lehigh Valley Railroads, which together own all of the Buffalo Creek stock; general offices are in New York City.

The Buffalo Creek owned, in the years prior to and during the last war, a fleet of six and eight-coupled switchers. The first two diesels were purchased in 1938, and with the growing traffic in 1940, two more were added. After the end of the war, most of the steam locomotives were retired from service as the railroad, in common with many other terminal properties, realized the economies of diesel operation. The steam locomotives were not replaced directly by the diesels but were withdrawn as traffic slackened during 1945-46, and were either put in dead storage or held as reserve power at the Erie Railroad's Buffalo roundhouse. Those in storage were seen on the excursion of June 23, 1946, when U.C.R.S. members visited various railroad properties in Buffalo (see News Letter #9).

The occasion for numbers 21,23 and 25 to 28 entering service on foreign soil came in the winter of 1946-47 when a serious motive power shortage due to heavy traffic plagued the Central Region of the Canadian National Railways. To fill the breach, the C.N.R. rented the six aforementioned switchers from the Buffalo Creek, along with road locomotives from the Lackawanna, Lehigh Valley, Erie and Wabash Railroads. The Buffalo Creek engines were rented in February, 1947; accordingly they were reconditioned and arrived at Fort Erie (across the river from Buffalo) where they entered service in March. On July 25, 1947, the C.N.R. decided to purchase the locomotives outright. During July and August, all except # 28 were moved to Toronto for operation from Mimico roundhouse; then # 28 was brought to Toronto on December 19th of that year.



Buffalo Creek 28 in Danforth (Toronto) yard on April 17, 1948



G.T.W. 8421 at Bathurst Street (Toronto) on August 14, 1948

The C.N.R. assigned them to the Grand Trunk Western, although they have never been operated on the rails of this C.N.R. subsidiary. They were given road numbers 8417-8422, Class P-5-j, thus following right after the last 0-8-0's purchased in 1930. The locomotives operated for a considerable time with the "Buffalo Creek" name on their tenders, but were gradually taken to Stratford shops and given a thorough overhaul, from which they emerged with their new numbers and the G.T.W. herald. # 23 was the first engine to go through, in February of 1948, and was numbered 8417. A little later it was decided to renumber the locomotives consecutively with the old Buffalo Creek numbers, thus 8417 was changed to 8418.

In spite of the rather widely separated dates of construction, the 11 Buffalo Creek locomotives were very closely alike and differed only in minor specifications; 20 to 22 were constructed in 1914, 23 to 25 in 1916 and 26 to 30 followed in 1923. The last group was originally built for the Rock Island, but were sold from the builders to the Buffalo Creek; all were from the Brooks Works of the American Locomotive Company. Several alterations have been made at Stratford which give the locomotives a rather different appearance, making them look more like members of the Canadian National family. These include different location of the bell, turbo-generator, headlight, new footboards, pilot beam and cylinder heads, and application of running board steps, among other things.

At the present time they carry standard C.N.R. numberplates under the headlight, but metal bars are bolted over the words "Canadian National".

The renumbering and date released by Stratford shops is shown below for each locomotive:

B.C.R.R. Nos.	G.T.W. Nos.	Date Out of Stratford
21	8417	A June 23, 1949
23	8418	Feb. 6, 1948
25	8419	Mar. 24, 1949
26	8420	A Aug. 29, 1949
27	8421	July 3, 1948
28	8422	A Nov. 10, 1949

(A - Indicates date approximate)

Bulletin Number 25
November, 1949

Published by UPPER CANADA RAILWAY SOCIETY
Box 122, Terminal A, Toronto, Ontario

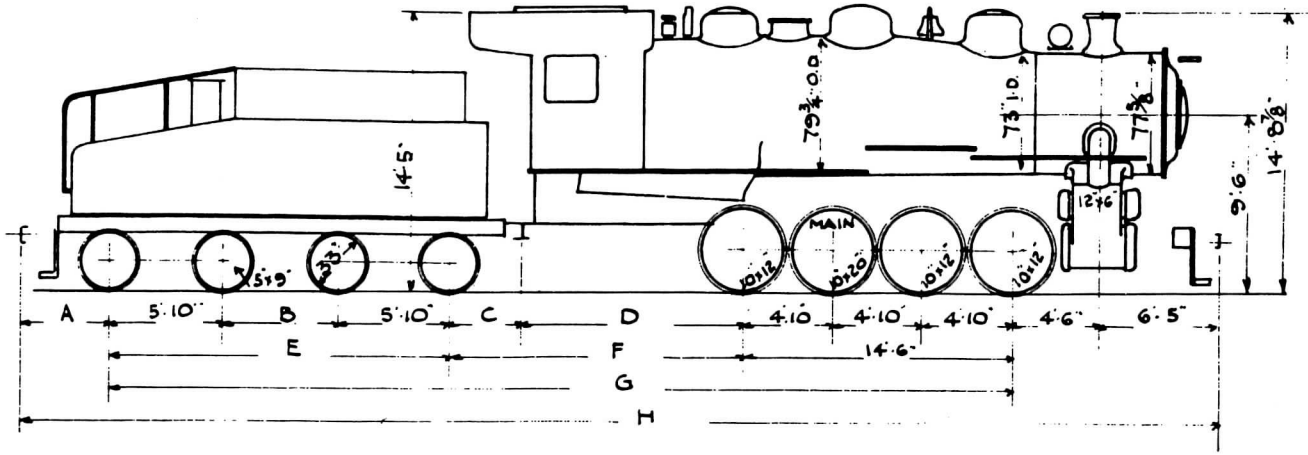
SUB-CLASS	DATE BUILT	BUILDER	BUILDERS ORDER Nº	BUILDER'S BOILER Nºs	PREVIOUS ROAD Nºs & INITIALS	ROAD NUMBERS
P 5]	1914	A·L·Cº	B 1360	54659	21 BUFFALO CREEK R.R	8417
·	1916	·	B 1407	56207, 56209	23 & 25 · · ·	8418 · 8419
·	1923	·	D 1634	64904, 64905, 64906	26 · 27 & 28 · · ·	8420 · 8421 · 8422

CANADIAN NATIONAL RAILWAYS
MECHANICAL DEPARTMENT
MONTREAL
TYPE **SWITCHER** CLASS **P5**

* FORMERLY RAGONNET
NATHAN 5 FEED LUBRICATOR [HYDROSTATIC]
GOLMAR BELL RINGER.

THESE LOCOS PURCHASED FROM BUFFALO CREEK R.R. 1947

H	G	F	E	D	C	B	A	ENGS Nº
63 3⅝	47 10¼	15 6¼	17 10	11 7½	5 10¾	6 2	4 6⅜	8417
63 10⅛	47 10	15 6	17 10	11 8¾	3 9⅜	6 2	5 1⅜	8418-19
63 8	47 7⅜	15 9⅜	17 4	11 8¾	4 0⅝	5 8	5 1⅜	8420-21-22



SUB-CLASS	CYLINDERS DIA·	CYLINDERS STROKE	DRIVING WHEELS O.S.DIA·	DRIVING WHEELS DIA·CTRS.	FIRE BOX LENGTH	FIRE BOX WIDTH	GRATE AREA SQ·FT.	TUBES LARGE	TUBES DIA·	TUBES SMALL	TUBES DIA·	TUBES LENGTH	TENDER CAPACITY WATER	TENDER CAPACITY COAL	SUPERHEATER	HAULAGE RATING
P.5] 8417	22"	28"	51"	44"	96"	71¼"	47.5	30	5½"	227	2"	15'·0"	4565 IMP GAL	8 TONS	SCHMIDT	45%
8418-19	·	·	·	·	·	·	·	·	·	224	2"	·	·	·	·	·
8420-21-22	·	·	·	·	·	·	·	·	·	·	·	·	4980 ·	·	·	·

SUB-CLASS	HEATING SURFACE · SQ·FT. TUBES	FIRE BOX	TOTAL	SUPERHEATER	WEIGHTS IN WORKING ORDER LBS ENG. TRUCK	DRIVING	TRAILING	TOTAL ENG.	TENDER	ENG & TEN	LIGHT WEIGHTS DRIVERS	TOTAL ENG.	FACTOR OF ADHESION	MAXIMUM TRACTIVE EFFORT	BOILER PRESS.
P.5] 8417	2414	193	2607		-	212,500	-	212,500	107,000	319,500	190,600	190,600	4·70	45,200	200#
8418-19	2392	189	2581		-	210,000	-	210,000	110,350	320,350	188,700	188,700	4·64	"	"
8420-21-22	2389	"	2578		-	210,000	-	210,000	120,700	330,700	187,700	187,700	4·64	"	"

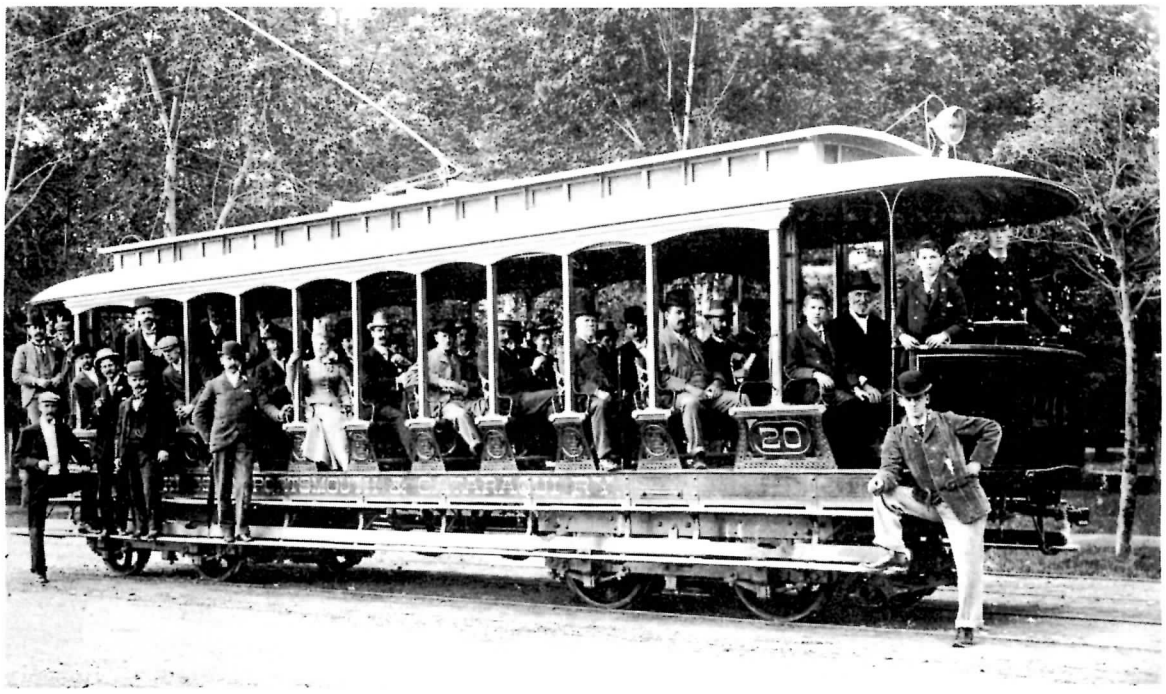
SUB-CLASS	GRATE SHAKER	TYPE OF FIRE DOOR	STOKER	TYPE OF REVERSE GR	TYPE OF VALVE GEAR	TYPE OF HEADLIGHT		TYPE OF BOILER	STEAM HEAT	Nº & SIZE OF AIR PUMPS	BRICK ARCH	EXTREME WIDTH
P.5] 8417	HAND	FRANKLIN #B	HAND	FRANKLIN B #	WALSCHAERT	U.S. HEADLIGHT Cº		E W T		1 - 9½"	YES	10'·4
8418-19	·	·	·	·	·	·		·		2 - 9½"	-	·
8420-21-22	·	·	·	ALCO	·	PYLE-NATL		·		1 - 8½" CC	-	·

3/48

- Courtesy Canadian National Railways

KINGSTON, PORTSMOUTH and CATARAQUI

ELECTRIC RAILWAY



Car 20 in 1903 at Macdonald Park (King St. east of Barrie)
From an original which hung in the Company Office.

The city of Kingston, Ontario, stands on a site which has been of importance since the earliest days of European civilization in North America. The first settlement on the site occurred in July 1673, when French forces under the great Governor Frontenac of New France in four days built the fort that afterwards bore his name, in order to display the white man's might to the Iroquois Indians who had come for a conference. Fort Frontenac was an important centre of the fur trade and, after the English conquest, was renamed Kingston and became an important trade and communications centre. In due course there arose a thriving town whose importance was increased by the completion of the Rideau Canal connecting Lake Ontario at Kingston with the Ottawa River at Bytown, later to be renamed Ottawa. The Canal, opened in 1832, was built to enable water-borne commerce to travel from the Great Lakes to Montreal via the Ottawa River without danger from the supposedly hostile American shore of the St.Lawrence River. It is still in use as a very popular cruise route. Kingston was also at one time the capital of the Province of Canada, and was the home of Sir John A. Macdonald, the first Prime Minister of the Dominion of Canada.

By 1876 the town had developed to the point where public transportation was feasible. Accordingly on February 10 of that year the Kingston Street Railway Co. was incorporated under a perpetual franchise; the first horse car was operated on Princess Street on February 2, 1877. Very little is known about the horse car days in Kingston, as the Company does not seem to have been outstanding in any way and the few pictures surviving show typical horse cars of the day. The car shed and stables were located behind the building at 493 Princess Street.

On May 27, 1893, the Company was reconstituted as the Kingston Portsmouth & Cataraqui Street Railway, with the intention of electrifying and extending the line. The new charter involved a 40-year franchise, and provided that the railway could be worked by "electricity, ammonia, compressed air or by such other motive power as may hereafter be agreed upon." Four years later the company was renamed Kingston Portsmouth & Cataraqui Electric Railway, with broader powers. The first electric cars were built by the little-known firm of Patterson & Corbin in St.Catharines, Ont. (This company failed in 1897). Rebuilding of the light horse-car track began on July 2, 1893, and the inauguration of electric operation took place on Princess Street late in September, 1893. The first electric car was driven by a Miss Kathleen Hardy and, since the day was wet and the street paved only with granite blocks, considerable sputtering and arcing occurred on the muddy rails, which is reported to have "terrorized" many onlookers. Sunday service was at first provided, and is recorded as having met with "considerable opposition"; it was discontinued about 1910.

The new company undertook a number of extensions, to Portsmouth in 1894 and to the Grand Trunk Station (known as "Outer Station", now C.N.R.) in 1898, and reached its greatest extent (8.0 miles) with the completion of the last link in the Belt Line shortly thereafter. Extensions to Cataraqui, Gananoque and Battersea were never undertaken.

The company at first experienced considerable success, so that additional cars were purchased in 1894 and 1895 from Canadian General Electric Co., Peterborough, Ont., which at that time manufactured complete cars rather than merely their electrical equipment. In-

cluded in these orders was a deluxe car about which tantalizingly little is known apart from the following note, "It is said that the Company.....will place this car at the disposal of those who wish to attend the opera etc. in full dress and who are willing to pay for the extra accommodation."

In 1897 the first of many disputes with the City government occurred. The Williamsville line extended west from Alfred St. into what was then almost undeveloped territory. This line was never successful and as early as 1897 was not operated during the winter months. The Company was taken to court by the City in an attempt to force year-round operation, but the case was dismissed. Moving forward in our story for a moment it is worth noting that the Williamsville line, which never had better than half-hourly service, was abandoned in 1910.

By 1900 the system was complete, and was enjoying its only brief period of prosperity. The following description was printed in the trade press of the day: "The street railway of Kingston, extending to Williamsville on the north, to Portsmouth directly in front of the asylum and penetentiary on the east, and a branch line connecting with the Grand Trunk Railway depot on the west, is one of the most modernly equipped in Canada. The Company has a capital stock of $200,000. The road is well laid out....., made of T-rail, 55 to 65 lb. to the yard. Current is supplied by the Kingston Light Heat & Power Co. from the power house on Queen St. to the 19 handsome cars of modern upholstery and furnishings." Apart from the fact that the writer's directions are hopelessly confused, this is an interesting description.

In 1902 four cars and an assortment of spare parts were purchased from the abandoned Belleville Traction Co.

In another dispute with the City in 1905 over extension of double track when the franchise permitted only single track, the Company simply suspended service since the same franchise required a car only every six months. It may be assumed that the Company, which was insolvent at the time, used this as an excuse to end operation. After several months of idleness, the trustees for the bondholders took control of the property and offered to sell it to the City for $125,000. This offer was rejected. They then sold it to a group of Kingston citizens who resumed the operation, though it was never profitable at any time during the rest of its life. The reorganized Company reduced the capitalization to $90,000.

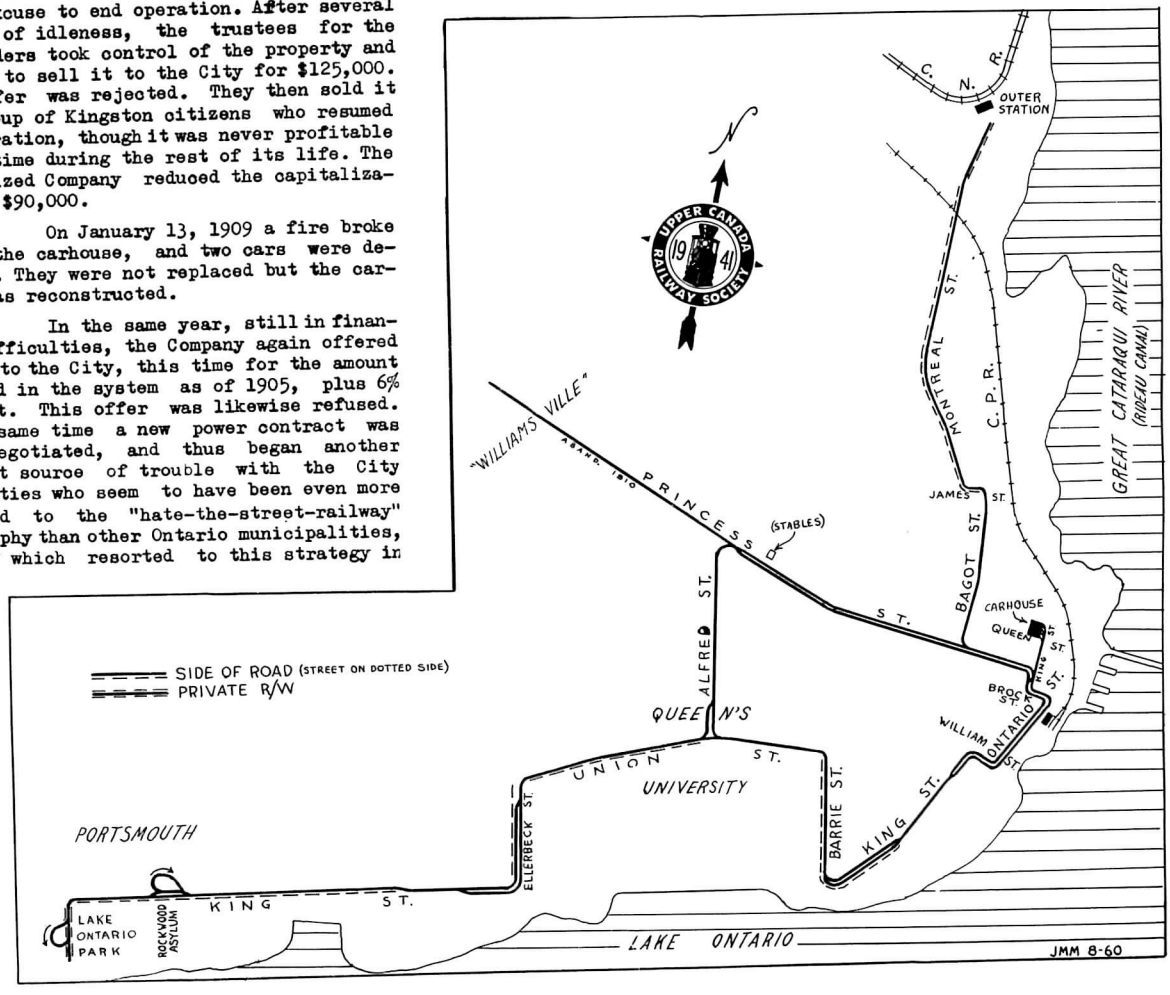
On January 13, 1909 a fire broke out in the carhouse, and two cars were destroyed. They were not replaced but the carhouse was reconstructed.

In the same year, still in financial difficulties, the Company again offered to sell to the City, this time for the amount invested in the system as of 1905, plus 6% interest. This offer was likewise refused. At the same time a new power contract was being negotiated, and thus began another frequent source of trouble with the City authorities who seem to have been even more addicted to the "hate-the-street-railway" philosophy than other Ontario municipalities, most of which resorted to this strategy in an attempt to obtain public support for themselves at the expense of the street railway. In this case, the City had taken over the Kingston Light Heat & Power Co. and was trying to raise power rates by 25%, an additional expense that the railway could not afford. The City refused to grant more than a 3-year contract unless it was terminable on six months' notice thereafter. This was unsatisfactory to the Company, which suspended service on Nov. 23 1909, and began to dismantle some track at the carhouse. A settlement was quickly reached, and service was resumed four days later.

About 1912 the City of Kingston began to pave its streets, and the Company found it necessary to relay and improve its trackage on such streets when ordered to do so by the City. In 1914 part of the line on Princess Street was double-tracked and relaid with 90-lb. rails on a concrete base provided by the City. Here again a dispute arose over the specifications of this concrete base, and a Montreal Tramways Co. official was called in to arbitrate. In 1922 and 1923 another mile of track was relaid in connection with further paving.

During the War costs increased greatly. In 1916 trainmen's wages were increased to $1.90 a day, and in the following year manpower was so scarce that 11 women were hired as conductors. The women were paid $2.25 per day, an increase of 20% in a year. In an attempt to provide additional revenue, the ticket rate was changed from 6 for 25¢ to 5 for 25¢ in 1916, the cash fare remaining at 5¢. In 1920 tickets were abolished and the nickel reigned supreme. Three years later fares were further increased to 7¢ cash, 4 tickets for 25¢, with workmen's tickets, valid only in rush hours, at 6 for 25¢. The old 5¢ fare was restored, however, in 1927 to attract additional business. A 75¢ weekly pass was introduced in 1926.

Also in 1926, the Company again offered to sell out to the City. It was a locally-owned enterprise and was being operated without hope of profit-making purely as a public service. The Company noted at the time that no dividend had ever been paid on the common stock, yet $25,000 had recently been spent on track rehabilitation



in paved streets. It was never possible to establish a depreciation fund and, while interest payments had been met, returns were small and an operating deficit had been constant since 1920. It was difficult, the Company said, to state how long the present situation could endure, since it had lived a hand-to-mouth existence for 30 years.

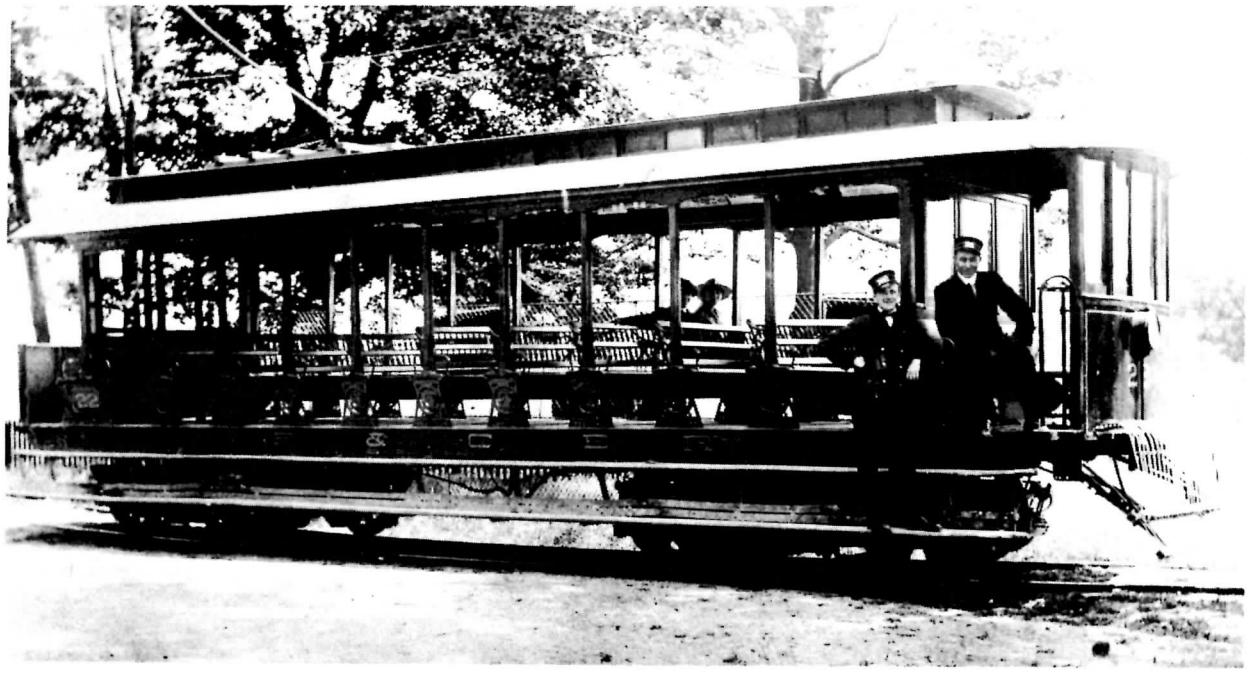
No reply was received from the City.

At this point yet another dispute arose over power rates. A contract made in 1916 with the Kingston Public Utilities Commission specified that the Company would be billed for power at cost, and that any reductions in the cost of producing the power would be passed on to the Company. The rate established in 1916 was $1.20 per KWH, but by 1926 the P.U.C. had ceased to generate its own power and had become, in common with almost all other similar undertakings, a distributor of power produced by the Hydro-Electric Power Commission of Ontario. This spectacularly successful public utility had so decreased power costs that when the P.U.C. offered a new contract at 75¢ per KWH the Company refused to accept it on the basis that this was still above the new cost to the P.U.C. which, however, refused to acknowledge the actual cost of the power. Negotiations dragged on to the point where four months later the Company announced that service would be suspended on April 30, 1927, unless a satisfactory contract were signed. This finally produced an agreement in which the P.U.C. admitted that the Company was correct and had been overcharged for many months. The P.U.C. therefore agreed to pay $15,000 in lieu of power rate reductions to which the Company had been entitled, to wipe out 15 months unpaid power bills totalling $4,200, and to fix the new power rate at 65¢ per KWH. The Company then announced that it would continue operations until the end of its franchise period in 1934.

February 10, 1927, was the 50th anniversary of street railway service in Kingston, and the Company, despite its precarious financial situation, announced that the gross receipts for the day would be devoted to charity. The sum of $199.95 was taken in on the cars, so the Superintendent added another 5¢ from his own pocket, and the total of $200.00 was turned over to a committee for distribution.

Operations continued unchanged until the early morning of March 1, 1930, when fire broke out in the carhouse. Starting in the carpenter shop, it quickly spread to the rest of the structure, interrupting the power before the cars could be moved to safety. 11 closed cars and 9 open cars were destroyed, only one closed car, a sweeper and a work car being saved. This proved to be the end of the K.P.&C. Four days later at an emergency meeting of the City Council, W.F.Nickle, the President, stated that while the Company had intended to operate until 1934, it was now forced to abandon, since restoration of the service was out of the question. The Company offered to sell the entire system to the City as scrap for $5500, except for Lake Ontario Park in Portsmouth, for which the price was $60,000. A 60-day agreement for a temporary bus service was made with Colonial Coach Lines Ltd. while the future of the street railway was debated.

A survey showed that $325,000 would be required to rehabilitate the line (including 10 used lightweight steel cars) and, if a 5¢ fare were continued, an annual deficit of $18,000 could be expected. It was therefore decided to abandon the line outright, and a formal agreement was made with the Kingston City Coach Co., a Colonial Coach subsidiary, for local service which continues to the present.

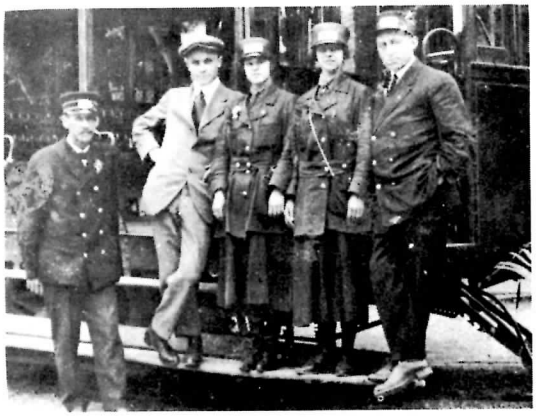


Car 22 at Lake Ontario Park. (All photos from R.J.Clench, Kingston)

The sweeper saved from the fire was sold to the Cornwall Street Railway Light & Power Co. as their No. 2. It survived until after World War II, the only K.P.&C. car to see further service.

Track on private right-of-way was removed by the Company, the first spike in the dismantling being drawn by H.C.Nickle, the Superintendent, on June 18, 1930. Trackage in paved streets was purchased as scrap by the City, and removed or paved over. The last rail was not removed until the winter 1940 - 41, when it was used to lay a railway siding to a new wartime manufacturing plant.

And thus passed the last signs of the Kingston Portsmouth and Cataraqui, never profitable, always in difficulties, but operated as long as possible by a public-spirited local management determined to provide a necessary service as long as it was physically able to do so. The fact that the line survived until 1930 in the face of what appears to be deliberate non-cooperation by the City, is a great tribute to the Nickle family who were largely in control of the line in its last years.



Two of the wartime female conductors, 1917

Kingston Street Railway horse car, King & Brock Sts.

ROLLING STOCK

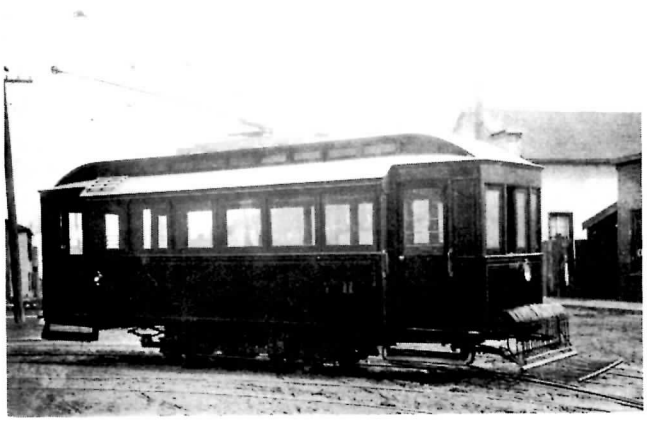
Almost nothing is known of the technology of K.P.&C. equipment, owing to its extreme age and to the loss of all company records. Cars were originally built by Patterson & Corbin of St.Catharines, Ont., or by Canadian General Electric in Peterborough, and many were later rebuilt by the Rathbun Co. in Deseronto, Ont. Taylor trucks predominated, and most cars were equipped with G.E. 800, 1000 or 67 motors. No equipment was ever equipped with air brakes. Cars built as open cars had odd numbers; closed cars had even numbers.

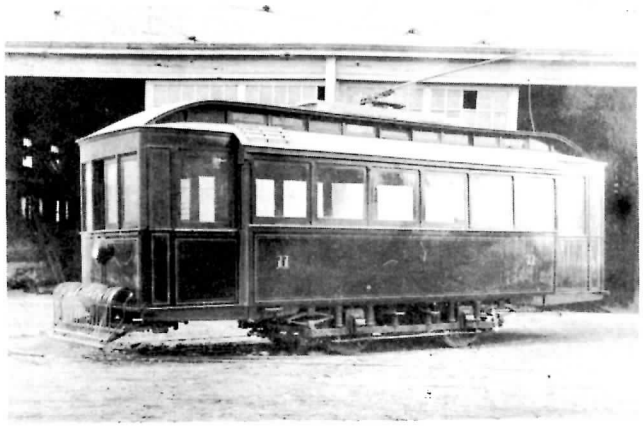
CLOSED CARS (Single truck):
All built originally with double-end control and open platforms. All but 13, 15 and 23 were later rebuilt as single-end cars and had the platforms closed in. Still later the cars were modified for the pay-as-you-leave system, with front entrance. Car 13 was indeed unlucky, being wrecked in a grade-crossing accident on Montreal Street.
Curve-side cars: 5,9,13,23. (23 ex Belleville 1902)
Straight-side cars (rebuilt): 7,11,15,17,19,21.

OPEN CARS (Single truck, formerly trailers):
6,8,10,12,24,26,28. (Last 3 ex Belleville 1902)
All but 12 and 24 later rebuilt as single-end cars.

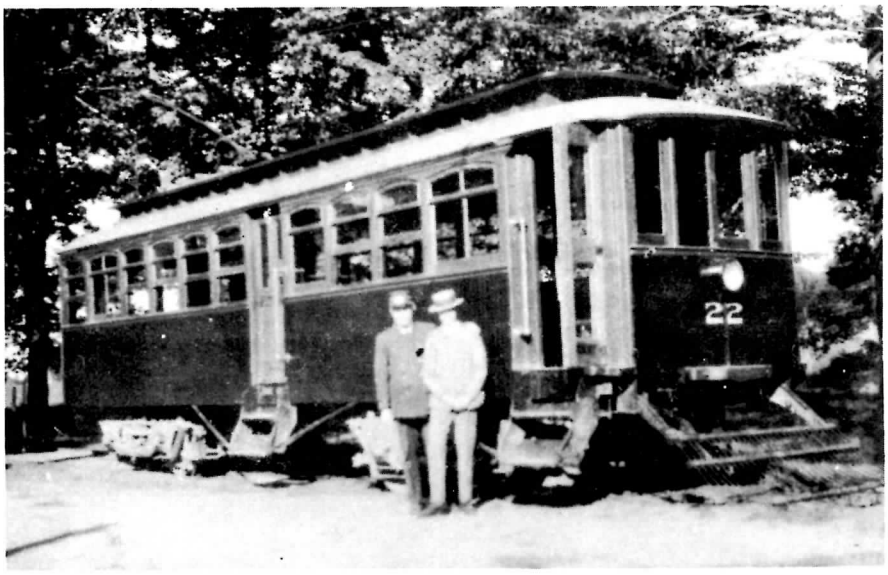
OPEN CARS (Double truck):
14,16,18,20,22. One truck motorized. 18,20 and 22 later rebuilt closed cars with centre exit, front entrance.

SERVICE CARS:
Single-truck box motor. Two single-truck sweepers. Double-truck flat motor with two small cabs, survived fire and used in dismantling of line.





Two views of closed car 11 after rebuilding by the Rathbun Co., 1922



Closed car 22 rebuilt from open car of same number, at Lake Ontario Park.

SERVICE

Four routes were operated:

PORTSMOUTH. The main line of the system. From Asylum loop (in summer from Lake Ontario Park) eastwards, looping clockwise via Alfred, Princess etc. Original 20-minute service was increased to 10-minute about 1914. Four cars required in winter, five in summer. The double-truck cars were always used on this line, assisted as necessary by smaller cars. Some excursion business was done from the steamer docks on Ontario St. to Lake Ontario Park; also a small amount of freight was carried between the C.P.R. station and the "Malt House" on King St. in Portsmouth. In periods of heavy traffic it was necessary to "double" the trips every ten minutes, as the track layout did not permit more frequent service.

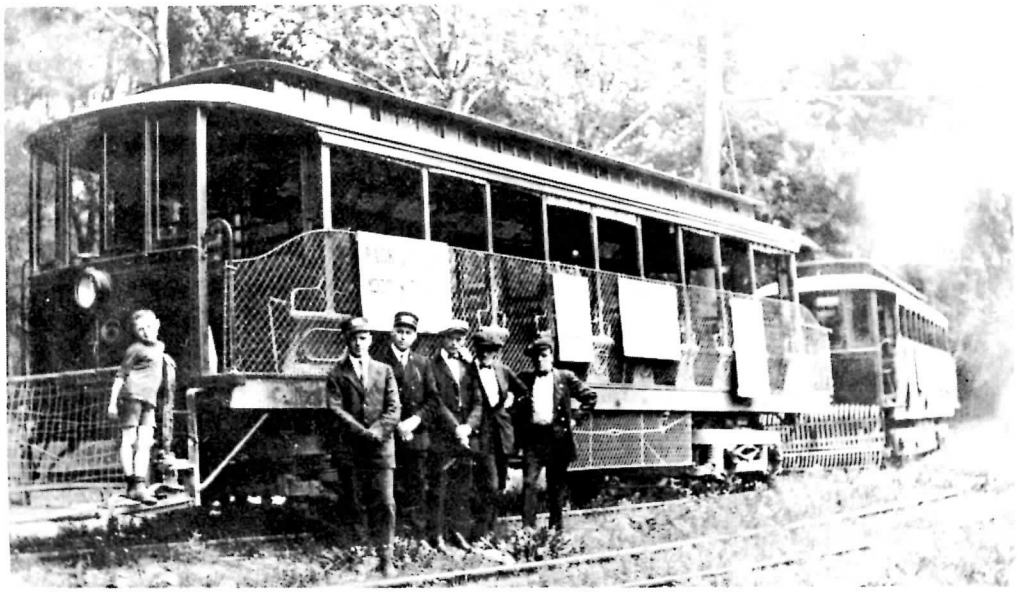
BELT LINE. Ran counter-clockwise around the same loop as Portsmouth cars. 10-minute service after about 1914, two cars of the group 6,8,12,26,28 usually used.

BAGOT ST. One-car shuttle between Princess St. and the "Outer Station" (Grand Trunk, later C.N.R.). 20-minute service. No turnouts on line. Unprotected level crossing with Kingston & Pembroke branch of C.P.R.; the conductor had to dismount and flag the car across. Car 12 or 24 usually used in summer.

WILLIAMSVILLE. West from Princess & Alfred Sts. 30-minute service in summer only. Abandoned in 1910.

Despite the basically single-track layout of the system, considerable flexibility in service was assured by the long turnouts and the presence of double track on downtown streets; waits at meeting points were the exception rather than the rule. Every ten minutes a triple meet occurred at Alfred & Union Sts. when inbound and outbound Portsmouth cars met a Belt Line car.

It is interesting to note that regular Sunday service was given only in very early years. On occasion, when an event of general interest was taking place in the city, a limited service would be provided; this resulted in litigation on a few occasions as it was said to be contrary to the Sunday "Blue Laws", which stated that Sunday service could be provided only in connection with other means of transportation and not for "mere gain."



Open car 16 at corner of King & Barrie Sts., 1919.

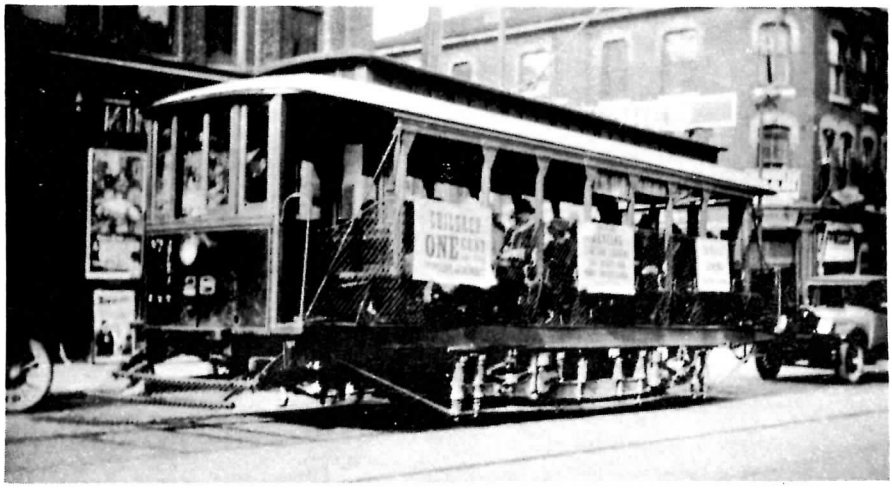
BELLEVILLE TRACTION Co.

BELLEVILLE, ONTARIO

One of the very few "Traction Companies" in Canada, and the first street railway to be abandoned, was the Belleville Traction Co. The City of Belleville is located about half-way between Toronto and Kingston on the shore of the Bay of Quinté. When the Grand Trunk Railway built between Toronto and Montreal in 1856, it passed some distance to the north of the town, and accordingly in 1877 the Belleville Street Railway opened a horse-car line from the Grand Trunk Station to the Government dock, a distance of about 2¼ miles. The fares were 6 for 25¢, and the company owned 5 cars and 16 horses. In 1895 a new company was formed, the Belleville Traction Co., which proceeded to electrify the line and relay the track with iron rails under a 20-year franchise which exempted it from taxation and permitted the company to suspend service between December and March of each year. The electrification was entirely accomplished by Canadian General Electric, which supplied one closed car and three open cars. Despite consideration of a conduit or stud-contact system, ordinary overhead construction was used. Service was hourly.

hoped in that year to extend the line west through a superior residential district to a large cemetery on the western edge of the town, and to generate power by damming the Moira River which the line parallelled. An attempt was made to finance these improvements by a bond issue, but this was a total failure and the company in its unsatisfactory condition became unable to meet interest payments. The property was offered for sale in March 1900 and July 1901, but no bids were received. Finally on September 12, 1901, it passed into the hands of its creditors and was closed down forthwith. The few assets were sold to a local syndicate which considered making a few improvements and trying to sell it as a going concern, but did not do so. The four cars, plus two trucks (the origin of which is unknown) and five spare motors, were sold to the Kingston Portsmouth and Cataraqui.

In 1903 a promoter from Cleveland proposed to the City Council that he be permitted to use the Traction Company's rails, which were still in place, for



Former Belleville Traction Car as K.P.&C. 28, on Princess St., 1928.
(J.M.Mills Photo)

Much mystery surrounds the rolling stock of the Belleville Traction Co. A photograph, unsuitable for reproduction, shows a single-truck closed car numbered 8 pulling an open trailer; it is not even certain that this picture represents the Canadian Belleville Traction Co. as there was another line with the same name in Illinois. The disposition of the company's horse cars is unknown since apparently the electric cars were newly built; by 1899, furthermore, two of the open cars seem to have been converted to trailers.

By 1898 the company was in financial difficulties. The line did not serve the residential section of the town, which lay principally to the east and west of Front St. on which the tracks were laid. It was operation of a horse-car service, on the understanding that if patronage was sufficient, the line would again be electrified in two years' time and would be extended to form a belt line. Preferring no service at all to the humiliation of stepping back into the horse-car days, the Council refused his request, and the rails were removed and sold to the Belleville Portland Cement Co. which was building a large new plant at Point Anne, a few miles east of the town, involving a railway to connect it with the Grand Trunk main line. This line was built under the name of the Belleville Radial Railway, but was not a common carrier. It was operated as an electric switching line by the Canada Cement Co. until about 1951.

Upper Canada Railway Society

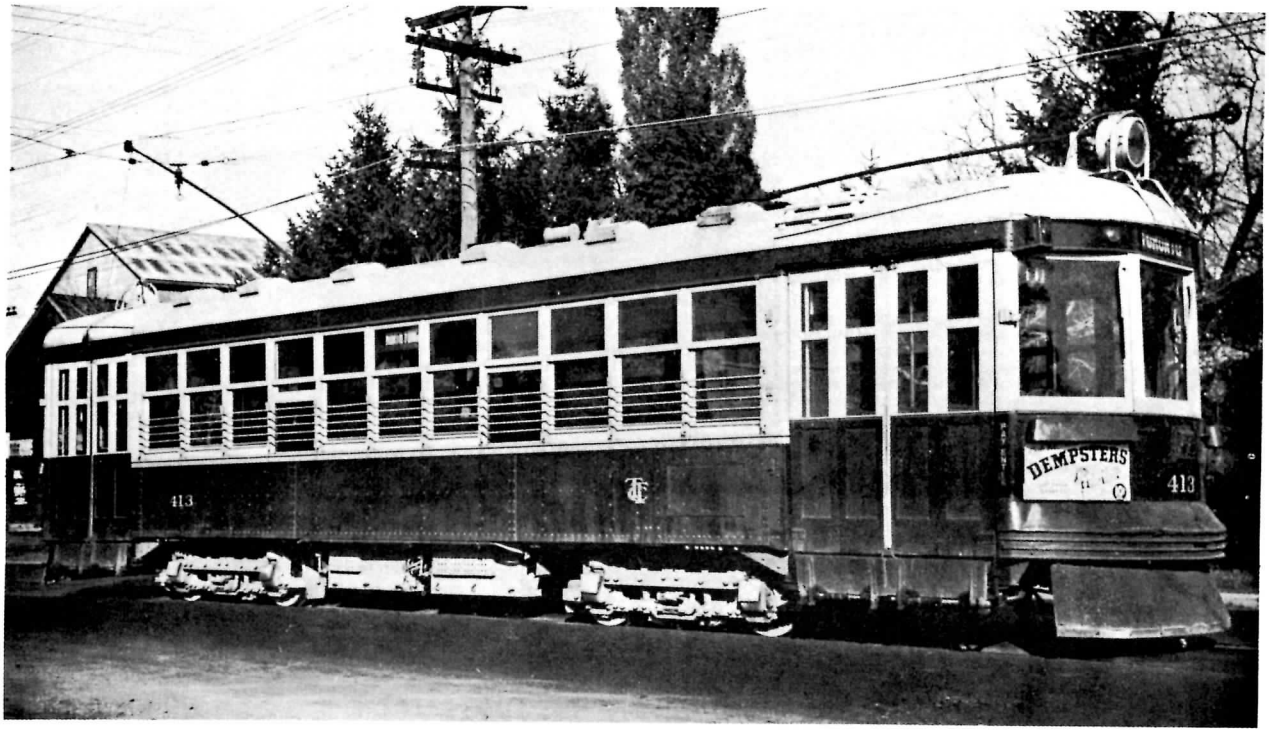
BOX 122 TERMINAL "A" TORONTO, ONARIO

BULLETIN 54

409 - 416

FORMERLY TORONTO & YORK RADIAL RAILWAY 409-416

(H.E.P.C. MANAGEMENT)



413 NEAR THE END OF TRACK AT RICHMOND HILL, ON OCTOBER 27, 1946

The era of the lightweight car all but by-passed the electric railways of the Toronto area. Although the wood body - high wheel era was represented by hundreds of Toronto Railway cars, the heavy steel body era of World War I and the years immediately following by hundreds of Peter Witt cars and trailers, and the PCC era by over 700 examples of that type of car, only eight true representatives of the lightweight car ever operated in this vicinity. These cars were the eight Ottawa-built double truck, double end units of series 409-416.

The numbering of this series had no significance on either the T.& Y.R.R. or the T.T.C., being far removed from the numbers of the other passenger equipment on both systems; this was because the group fitted into the numbering system of the Sandwich, Windsor and Amherstburg Electric Railway. This anomaly is explained by the fact that the eight cars formed only part of a group of twenty (401-420) which were ordered by the Hydro in 1924 and 1925 for the rehabilitation and modernization of electric railway properties which passed under its control around 1920, and which were to form the nuclei of a vast and comprehensive system of electric railways in the Province of Ontario, according to then current plans. Twelve of the cars were ordered in 1924, essentially as the modification of a group of four cars (301-304) which had been ordered for the Windsor lines shortly before. Of the twelve, 401-408 were assigned to the S.W.& A., while 409-412 were placed on the Mimico Division of the Toronto & York Radial Railway, at that time operating from the Humber River (terminus of the T.T.C. BEACH route) to Port Credit. An order for eight more followed in 1925, and this group was split evenly between the two properties; 413-416 going to the Mimico line and 417-420 to the S.W.& A.

All 20 cars were ordered as multiple unit equipment with Westinghouse HL switch group control and Tomlinson couplers, and were so delivered. The intention behind ordering MU equipment on these cars is not very clear - there is no record of multiple unit operation having taken place on either system as a regular practice. It seems possible that the Hydro management envisioned that this equipment might eventually be used elsewhere on the great projected system in a more heavily trafficked territory. The door arrangement was specifically designed for suburban (roadside) operation. There were four doors at each end (two on each side) and selector valves gave control over all four doors individually, so that left side loading was possible. Roof headlights were applied, being equipped with dimmer switches. The cars were delivered painted dark green with the lettering "HYDRO ELECTRIC RAILWAYS" on the letterboard; this name was painted out before very long, and the cars bore no identification other than numbers for the rest of their career under the Hydro management.

When the Toronto & York Radial Railway was transferred by the city from Hydro to T.T.C. management on January 12, 1927, the cars became T.T.C. property. Their use on the Mimico line continued until early 1929, when, because of the extension of the city car service (LAKE SHORE route) to Long Branch, only a few cars were required for the small stub remnant of the Mimico line (Long Branch to Port Credit) and the 400's were not among the cars chosen to continue service here. The Commission, at this time little suspecting that the cars would ever again be required for radial service, converted them provisionally to two man, single end city cars, with a fixed conductor's position adjacent to the rear door. It was not entirely certain, however, that they would not again be required for double end service, and the controls at the rear end were not removed, but boxed over. Some of the MU equipment was removed at this time, including the coupler at the front end. The cars were then assigned to St.Clair Division, operating on the BATHURST route. It was while in this service that car 412 went out of control on the Bathurst St. hill in one of the most famous runaways in T.T.C. history.

However, events transpired in Toronto's northern suburbs not many months afterwards which led to the formation of the North Yonge Railways, as described in Bulletin No. 40, the somewhat unique suburban line which lasted until comparatively recent times.

Cars 409-416 were taken to Hillcrest Shops again in mid - 1930 for further conversion. They were returned to their original double end operation, with roof headlights

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TORONTO, CANADA

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June 1956

and rakish slat type pilots. All couplers were removed, but much in the way of MU wiring and drum switches remained on the cars, and the Westinghouse HL control was retained, as it was as long as the cars operated. The cars were to prove to be the only passenger equipment used during the 18 - year history of the North Yonge Railways.

Minor modifications were made in later years (aisles widened, linoleum floor covering installed, pilots covered with sheet metal and Nichols-Lintern stop lights applied to the dash in 1942-43 and rattan seats covered with leather in 1945.) However, heavy wartime traffic took its toll of the cars and they spent an increasing amount of time in the shops; in addition, only a few shop personnel were acquainted with the maintenance of the HL control system, as it was unlike that on any other T.T.C. cars at this time.

In 1940, the 400's were almost reunited with their cousins from the Sandwich, Windsor & Amherstburg Rly; the S.W.& A. had offered its cars for sale following abandonment of all rail service, but inspection revealed that they were in poor condition in comparison to the Toronto cars, so the T.T.C. declined to purchase them.

During their stay on the North Yonge Railways, the 400's were seen quite often on the city streets during the summer months, notably on charter trips to the ferry docks and to High Park in the city's west end; for people who never had cause to see them in their natural habitat they presented an unusual sight in the downtown area, and many a head turned to watch them pass as they thundered noisily along with their large-flanged wheels kicking up the dirt from the flangeways.

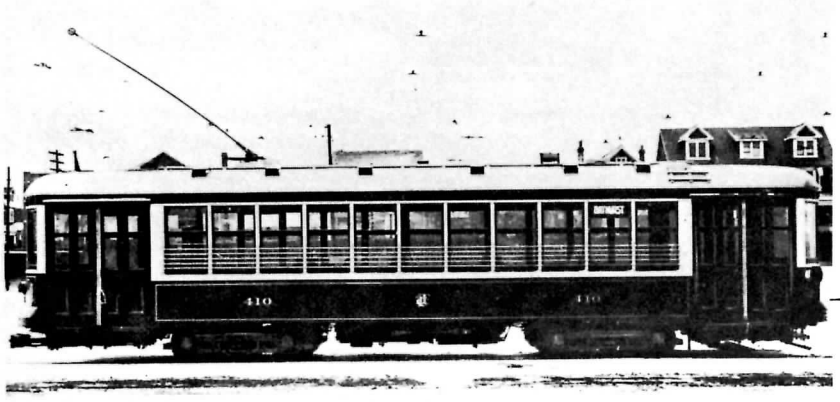
The abandonment of the North Yonge Railways, supposedly on a temporary basis, on October 10, 1948, meant the end of service for the 400's. The cars were moved to inside storage (409 - 415 at Danforth Division and 416 at Russell) immediately after the abandonment, and some light maintenance was done on one or two of the cars. However, by mid-1949, even before the farcical vote on the restoration of service, it was obvious that further care for the cars was unwarranted, and they were moved to outside storage on Track 22 at Russell Division. While here, they were sold to Western Iron & Metal Company in the fall of 1949, and were towed away to George Street yard for scrap during December 1949-January 1950.

SPECIFICATIONS

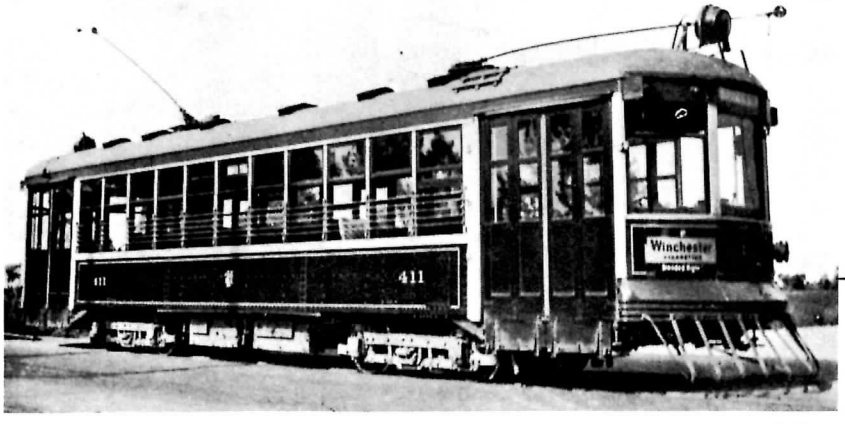
Class	- (T.T.C.) P-3, later R.
Builder & Date	- Ottawa Car Company, Ottawa, Ontario. 1924 (409-412) 1925 (413-416)
Construction	- Steel.
Length Overall	- 45' 5 3/4".
Width Overall	- 8' 2 7/8".
Height Overall	- 10' 10 3/4".
Net Weight	- 44000 lbs.
Seat. Capacity	- 44 (9 reversible each side, one double seat placed longitudinally adjacent to bulkhead at all corners.
Type of Seats	- Rattan, leather covered 1945.
Control	- West. HL with 15-B-16 master controller.
Motors	- 4 GE 265A.
Gear Ratio	- 14 : 69 helical.
Air Brakes	- West. SME & Safety car devices, M-28F valve
Hand Brakes	- 2 Ackley.
Compressor	- West. DH-16.
Trucks	- (409-412) Taylor. (413-416) Taylor (CC&F pattern).
Wheelbase	- 5' 4".
Truck Centres	- 20' 0".
Wheels	- 26".
Heating	- Electric (Consolidated).
Lifeguard	- HB (1924-1930), Pilot (1930-1949).
Max. Capacity	- 114 passengers.
Scrapped	- December, 1949 - 411,412,413,416. January, 1950 - 409,410,414,415.

409, 412 & 410 make an impressive three-car train in this August, 1924, photograph

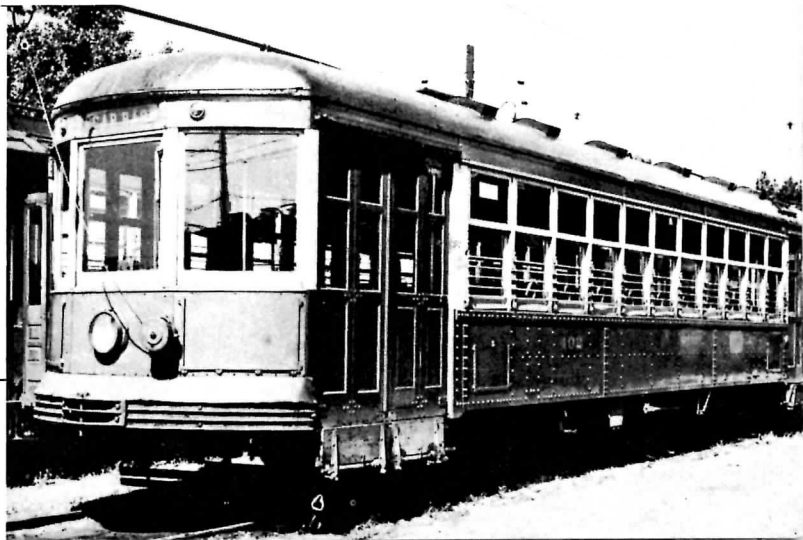
Interior of 410, showing rear-vestibule arrangement during the days of single-end operation. Photo taken Jan. 4, 1929



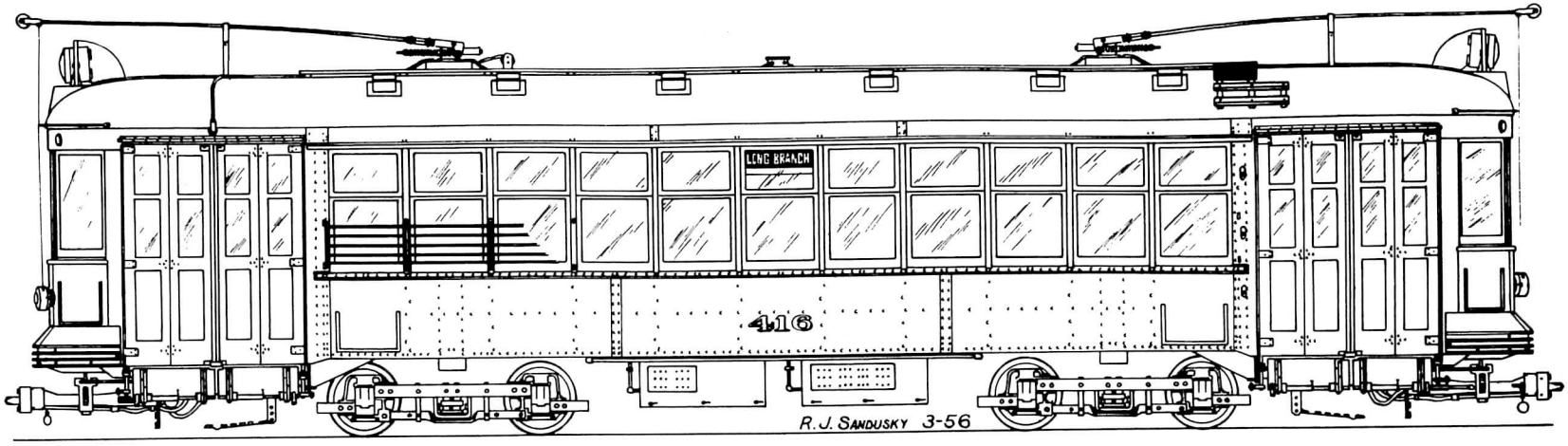
This is how the 400's looked as single-enders. Here is No. 410, photographed at St. Clair carhouse on January 4, 1929.



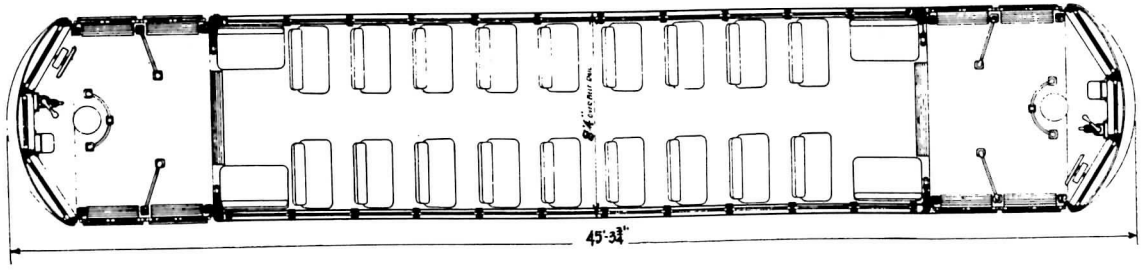
Number 411 at Steele's, June 15, 1937. Note the paint job of that time, with striped body and end panels.

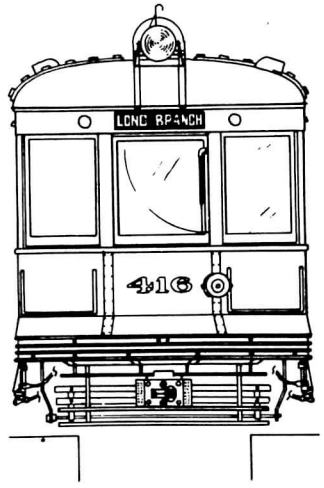


402, of the same group as Nos. 409-416, is pictured at the carhouse in Windsor, Ontario, in August of 1938.



SCALE OF FEET





ELEVATIONS & INTERIOR ARRANGEMENT
CARS 409-416 AS BUILT

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