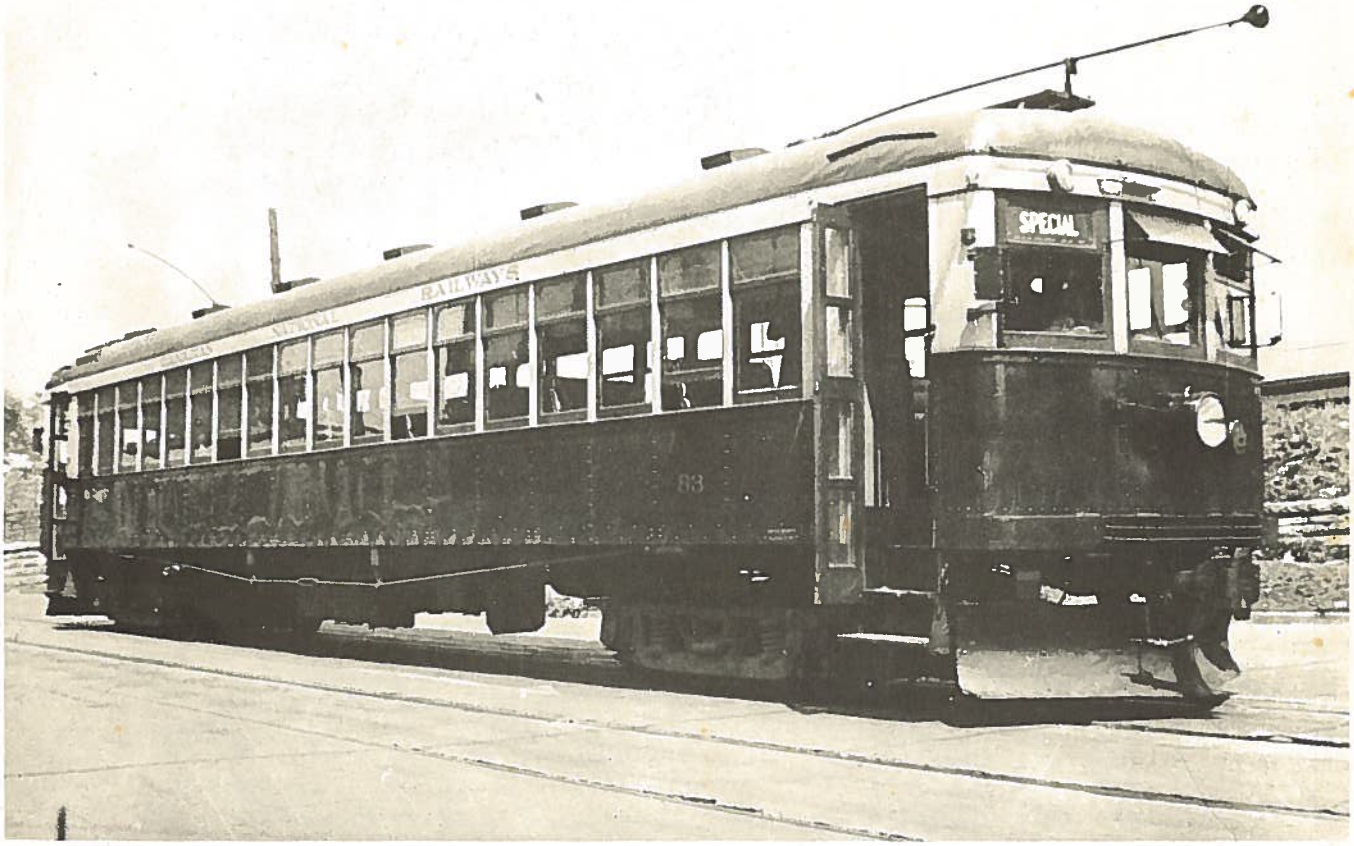
UPPER CANADA RAILWAY SOCIETY 1941

Newsletter

INCORPORATED 1952

NUMBER 209 JUNE 1963

20 Years Ago!



Car 83 of the Niagara, St. Catharines and Toronto Railway rolls down Bridge Street in Niagara Falls, Ontario, at the start of the first fantrip sponsored by the Upper Canada Railway Society on June 13th, 1943. (See page 92).
(Photo by J. William Hood)

UPPER CANADA RAILWAY SOCIETY
BOX 122 TERMINAL "A" TORONTO, ONTARIO

Fantrips !

A 20th ANNIVERSARY OF ONE

By J. William Hood
and Stuart I. Westland.

All Photos by J.W. Hood.

Exactly 20 years ago this month, on June 13th, 1943, the Upper Canada Railway Society, then less than two years old, sponsored its first charter fantrip. The trip, co-sponsored with the Buffalo Chapter of the National Railway Historical Society, consisted of a seven hour tour of the lines of the Niagara, St. Catharines and Toronto Railway, and used newly-refurbished car 83, which was making its first revenue run in almost 12 years.

The events leading up to this excursion are very interesting to relate. In 1924 and 1925, the St. Catharines shops of the N.S.& T. built two new cars for the Toronto Suburban Railway, another Canadian National Electric Railways property. These two cars, #107, which was a straight coach, and #108, a combination baggage-passenger car, provided most of the base service on the T.S.R. up until the time of the line's abandonment on August 15th, 1931. Following abandonment, 107 and 108 were placed in storage at the Lambton Carhouse, along with the other equipment of the railway. In 1935, when all the legal aspects of the abandonment had been disposed of, some of the cars were scrapped, while others were transferred to other C.N.E.R. lines. Nos. 107 and 108 came to the N.S.& T., where it was planned to rebuild them and place them in service as 83 and 84, respectively. During the late thirties, some work was done on 107, but following the discontinuance of service on the Niagara Falls Subdivision, and the resulting surplus of cars, no further work was done, and both cars were shoved out into the boneyard to rust away. In 1942, the Montreal and Southern Counties Railway, again another C.N.E.R. property, decided that they had a need for a new snowplow, so car 108 was shipped to Montreal and rebuilt as M.& S.C. 300, and saw many years of service in this guise. Meanwhile, in St. Catharines, the N.S.& T. had been ordered by the Department of Transport to restore interurban service on the Niagara Falls line because of the war. The increased traffic thus generated brought on a shortage of cars, and the management's eyes turned again to the hulk of 107 sitting in the corner. The final stages of the rebuilding of the car were completed about the middle of May, 1943, and 107 emerged from the shops, resplendent in red and grey livery, as N.S.& T. no. 83. It was then that the Upper Canada Railway Society and the National Railway Historical Society approached the railway and arranged for the chartering of the car before it entered regular service.

It is believed that this was the first charter excursion operated by a Canadian railway enthusiasts' group. It was not the first such operation in Canada, however, as this honour apparently falls to a trip operated on the London and Port Stanley Railway in 1941 by the Railroad Enthusiasts of Rochester, N.Y.

Present day members of the Society, used to an abundance of railway charter excursions of all types, will probably find it difficult to imagine what a rare event a fantrip was in 1943. This was during the height of World War II and railway enthusiast activities, which had begun to flourish in the United States and to a lesser degree in Canada during the late 1930's, had been dealt a body blow during 1940 and 1941. Not only were excursions just not possible on most railways during the war because of security restrictions and the shortage of equipment, but in addition the loss of members of the railway societies to the armed forces depleted numbers to the point where many such groups found it difficult to carry on. At one point during 1943 there were only twelve resident members of the U.C.R.S. in the City of Toronto.

It was under these unfavourable circumstances that the Directors of the U.C.R.S. resolved to operate a charter trip, as the return to service of the historic car 107 of the Toronto Suburban Railway as N.S.& T. 83 was an event worth taking a long chance on. While the degree of financial involvement was small in contrast to that of to-day's excursions, it looked large in those days. There was no mailing list, no known "fantrip clientele", and no way of obtaining newspaper or radio advertising. Intention of the Society to operate the trip was circulated by word of mouth among the Toronto members and presumably much the same was done in Buffalo. Individual hand-written letters were sent to Associate members resident elsewhere in Ontario urging them to attend the excursion.

Somehow, by dint of hard work and enthusiasm on the part of the U.C.R.S. members who arranged the trip, a total of 76 persons turned up at Bridge Street, Niagara Falls on the morning of June 13th, 1943 to await the arrival of the resplendent car 83. This would be a respectable total for an electric trip to-day, but at the time it was nothing short of phenomenal.

Such are the events leading up to the excursion. Now for the trip itself. The fans from Toronto arrived at the C.N.R. Bridge Street station in Niagara Falls on train 101, while the Buffalo group travelled by the New York Central to the Suspension Bridge and crossed over there. Promptly at 11:00 a.m., 83 came rolling down Bridge Street to pick up the two groups, and the trip began. A fast run was made over the main line to St. Catharines, where the car switched over to the Port Dalhousie line for the trip to Lakeside Park at Port Dalhousie. Here the railfans had lunch at the Lakeside Inn, and many photos were taken of the new car, the regular service cars, and the two boats bringing crowds of picnickers from Toronto for a day's outing at the Falls.

LEFT:
Car 130 photographed on Bridge Street at the conclusion of the trip.

Following the lunch period, the excursion made its way back to St. Catharines for a two-hour tour of the railway's shops. Here the fans lost no time in photographing the many various and interesting types of cars in the yards. After the tour was completed, car 83 was exchanged for one of the classic arch-windowed wooden interurbans which were so popular on the N.S.& T., no. 130. Leaving the shops, 130 traversed the main line to Substation Junction, at Thorold, where the Welland Subdivision branched off to Port Colborne. An interesting sidelight at Substation Junction was seeing car 82 sitting in the siding, with its pilot, front steps and anti-climber damaged, and the front pole missing. Investigation revealed that the car had just been involved in a level crossing accident, and was on its way to the shops.

An uneventful run was made over the Welland Subdivision, destined to be the last strong-hold of passenger service on the N.S.& T., and Port Colborne was soon reached. The return trip to Substation Junction was made, and 130 swung onto the rails of the Falls Subdivision again for the final leg of the excursion to Niagara Falls. While winding its way through the city streets to the C.N.R. station, 130 dug its pilot into the roadway at the corner of Queen and Erie Streets, breaking the braces. From here the car limped down to Bridge Street with the pilot digging a rut in the asphalt.

Upon arriving at the end of the line, the two groups bade farewell to the N. S.& T., and departed for their respective cities, well satisfied with a very enjoyable day's travel.

The following is the timetable used on the June 13th, 1943, trip:

TORONTO GROUP

8:00 a.m.	Leave Toronto on C.N.R. train #101-102.
10:50 a.m.	Arrive Niagara Falls, Ontario (Bridge Street).

BUFFALO GROUP

9:15 a.m.	Leave Buffalo on New York Central train #211.
10:31 a.m.	Arrive Suspension Bridge, N.Y.
11:00 a.m.	Party will board N.S.& T.Ry. car #83 at the Canadian end of the Whirlpool Rapids Bridge, Niagara Falls.
11:17 a.m.	Leave Bridge and Victoria Streets as a section of Falls Subdivision train #89.
11:50 a.m.	Arrive St. Catharines station.
12:05 p.m.	Leave St. Catharines as 2nd section of Port Dalhousie Subdivision train #27.
12:28 p.m.	Arrive Port Dalhousie.
12:30 to 1:30 p.m.	DINNER AT LAKESIDE INN.
1:32 p.m.	Leave Port Dalhousie as section of Port Dalhousie Subdivision train #32.
1:55 p.m.	Arrive St. Catharines Shops for tour of inspection.
	CHANGE TO CAR #130.
3:11 p.m.	Leave St. Catharines for Substation Junction as a section of Falls Subdivision train #98.
3:30 p.m.	Leave Substation Junction and run extra on Welland Subdivision to Port Colborne.
4:24 p.m.	Arrive Port Colborne.
4:31 p.m.	Leave Port Colborne as a section of Welland Subdivision train #141.
5:20 p.m.	Arrive Substation Junction.
5:30 p.m.	Leave Substation Junction as a section of Falls Subdivision train #102.
5:45 p.m.	Arrive Bridge and Victoria Streets, Niagara Falls.

TORONTO GROUP

7:00 p.m.	Leave Bridge Street station on C.N.R. train #107-108.

BUFFALO GROUP

8:05 p.m.	Leave Suspension Bridge on N.Y.C. train #246.

Gateway to the Yukon

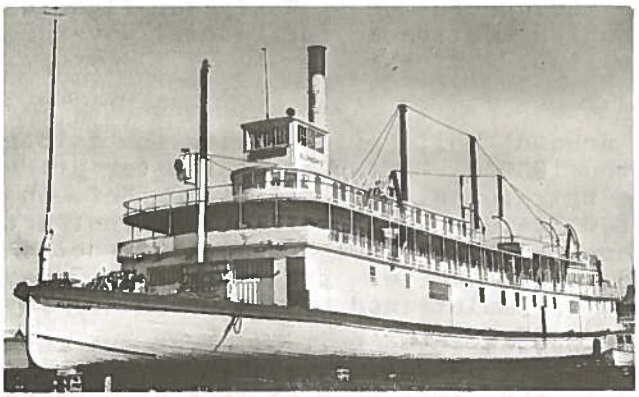
The White Pass & Yukon

By Robert D. Tennant, Jr.

Part Two:

OTHER MODES OF TRANSIT

Quite early in its history the White Pass & Yukon Route took on the form of a complete transportation system. In May, 1901, the firm acquired steamships from the Canadian Development Company, which were then turned over to the British Yukon Navigation Co. These vessels plied the Yukon River from Whitehorse to Dawson, and the lakes from Carcross to Atlin. The stage equipment and mail contracts of C.D.C. were also purchased that year and for some time the W.P. & Y. even handled mail by dog team down the Yukon River as far as Nome, Alaska.



"Klondike", one of the British Yukon Navigation Company's fleet of shallow draft sternwheelers, is seen here in storage at Whitehorse.
(Photo by J.D. Knowles)

In 1913, the White Pass Company (short for W.P. & Y.R.) purchased the Alaskan fleet of the Northern Navigation Co. This company carried the bulk of Alaskan freight until the completion of the Alaska Railroad. This acquisition enabled the W.P. & Y. to provide a direct transit link from the end of steel to the lower Yukon River. It also gave the White Pass access to Atlin, B.C. where the company became involved in the "Tuka Tram", a railway of which we will see more later. For many years the Circle Tour, as it was known, consisted of a trip from Whitehorse to Nenana to Skagway to Whitehorse. Transportation was provided by White Pass & Yukon, Alaska Railroad, and Alaska Steamship Company.

In 1954 the M.V. Clifford J. Rogers was specially designed to carry two hundred containers in addition to assorted deck freight. The $3,000,000 ship, built at Montreal, has the heaviest marine handling gear on the Canadian West Coast. This vessel is also equipped with electrical outlets for the Freezer Containers so that thermostatically controlled temperatures can be maintained at sea. The M.V. C.J. Rogers travels the approximately 1000 mile-long journey from Vancouver to Dyea (Skagway) on a regular two week service all year round.

White Pass & Yukon also operated an extensive aircraft service. From 1935 to late 1941 the White Pass Company had planes connecting all points in the Yukon Territory and carried passengers, winter perishable freight and mail. In 1941 these services were transferred to Canadian Pacific Airlines which still serve the Yukon. Another service is the Highway Division. This division is not actually new, as the company operated stage lines from 1901 to 1920. In 1912 and 1913 White Pass freight sleighs hauled supplies through the wilderness via Kluane Lake to the gold strike at the source of the Chisana River in Alaska. Since their appearance in October, 1945, modern motor buses rumble over Yukon's few roads on an interurban basis. Heavy tractor-trailers ranging from flat-beds to tanker-van combinations transport assorted freight from Whitehorse to Watson Lake in the east, and to Keno and Dawson City in the north.

A new slogan, "The Container System", describes W.P. & Y.'s latest service. While many North American railroads currently have T.O.F.C. and a few related novelties such as Rail-Van, Flexi-Van, Adapto, and others, White Pass & Yukon has

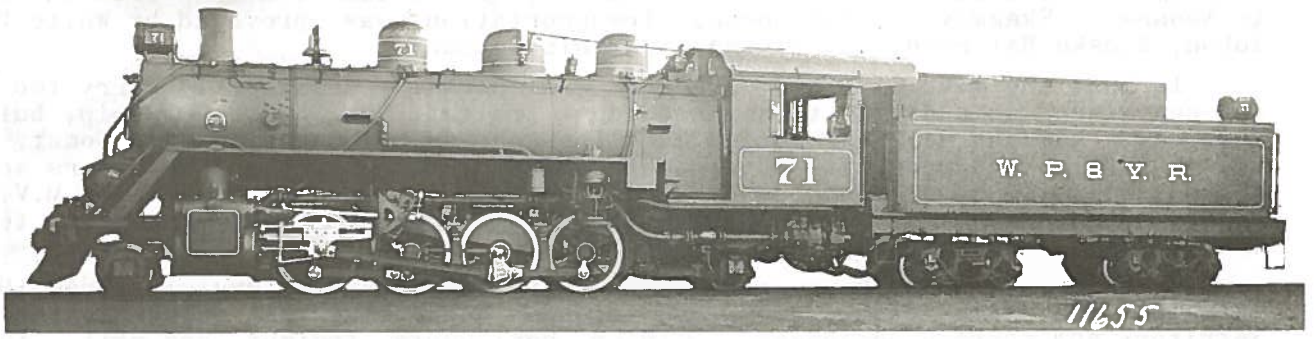
pioneered the use of containers, which it finds very efficient. These containers are of such a size that three of them would occupy a flat-bed tractor-trailer. Whitehorse became a city in 1950, and the W.P. & Y. enlarged its facilities the following year. In 1953 the road developed the container service. Measuring 7' x 8' x 8', these all-metal containers are available to the shipper in four types: heater, freezer, dry, and explosive. The first two types are capable of holding their respective contents from 50° F to -20° F, and the railway's 550 containers represent an investment of $600,000. The White Pass does not have any T.O.F.C. service because it finds the container system a much more satisfactory handling media.

Like the Southern Pacific, the White Pass has a pipeline division; in fact the firm is a distributor for Standard Oil in the Yukon and northern British Columbia. Petroleum from S. O. ocean tankers at Skagway is fed into a four inch pipeline, which follows the right-of-way for most of the route and is pumped to Whitehorse. In turn, petroleum is fed to small tank farms and customers by road tanker and smaller pipelines. This is a radical change from the gold rush days when thousands of five-gallon tins of gasoline were transported in wooden cases. This crude practice continued until 1929 when the tank car was introduced. The U.S. Army built the pipeline in 1942, and after the conclusion of World War II sold the Alaskan portion to W.P. & Y.R. and the Canadian section to the Federal Government. However, the W.P. & Y. operates the entire line.

CHANGES SINCE THE 'THIRTIES'

From the several thousands in and around Whitehorse during the gold rush days, only some 350 people were left by the 1930's. After the disaster at Pearl Harbour in 1941, the future of Whitehorse brightened. Co-operation between the Federal Governments of Canada and the United States made possible the construction of the Alaska Highway which was to pass through Whitehorse. Actual construction of the road was the responsibility of the U.S. Army; after the war the Canadian section was turned over to this country and was maintained by the Canadian Army.

U.S. Army Engineers leased the White Pass & Yukon Railway from the fall of 1942 to the spring of 1946. During this time it greatly augmented both personnel and equipment. Railroad tonnages shot up in the first year as tons of machinery, civil and military, and thousands of troops, chiefly U.S., poured into Whitehorse. Frequently trains had to be scheduled every hour.



No. 71, built by Baldwin in 1939, is shown in this builders photo. The engine weighs 145,000 lbs., has cylinders of 17" x 22" dimensions and has a tractive effort of 25,200 lbs.
(Photo courtesy D. McCartney)

Like other North American railways the road eventually investigated the advantages of diesel-electric motive power. In 1954 the W.P. & Y. embarked on its dieselization program, which is, as yet, not complete. Within the next two years it purchased five General Electric narrow gauge locomotives rated at 800 h.p., and in 1962 two additional engines were purchased.

ABOVE: W. P. & Y. no. 91 was built by General Electric in 1954 and is rated at only 800 horsepower.
(Photo by D. McCartney)

By virtue of its latitude, White Pass & Yukon Railway has its train operation hampered during the winter months by snowdrifts of from ten to forty-five (an extreme) feet in depth. High winds and low temperatures also make their presence felt. From Glacier to Bennett, a distance of twenty-six miles, lies the section most prone to the effects of snow. Occasionally the snow becomes hard packed, a condition demanding the service of either of the two 106-ton rotary snow plows; built by Cooke in 1900, these machines are usually pushed by two or three locos. If a third engine should prove necessary, it operates in reverse so that its pilot-mounted plow will enable a retreat. A plow has been known to advance only one hundred feet in twelve hours. Although slides have occurred, fortunately there have been few bad accidents. On one occasion a caboose on a train was swept from its trucks complete with crew and deposited at the bottom of a 600 foot valley.... and no one was seriously injured!

Looking at the schedule or actually riding the train, one realizes that speed is not a W.P. & Y. selling point. Maximum speed is 30 m.p.h. because the twisting nature of the track prohibits any greater speed in safety. However, as most passengers are quite content to view the impressive mountains, or like other tourists, gasp at the abrupt drop from track to canyon floor, speed is of little importance.

HOW WHITEHORSE GOT ITS NAME

During the Great Gold Rush immediately prior to the railroad's arrival, river steam boats floated dare-devil gold seekers and their supplies down the Yukon River to Miles Canyon. Here everyone and everything went over the portage railway to its northern terminus of Closeleigh, which was situated across the river from Whitehorse today. Subsequently the young town was moved to its present site and changed its name to Whitehorse in honour of Chief White Horse who in 1898 drowned in the turbulent white waters of the Whitehorse Rapids.

THE PORTAGE RAILWAY

To speed up the transfer of materials from the ships in the upper Yukon River to those in the lower, it was decided that a small railway would be required. Wooden rails were laid from its southern terminus of Canyon City in Miles Canyon along a selected route (actually the well-worn portage) to Closeleigh following the eastern bank. Horses then brought in to haul the rail wagons went to work. The Miles Canyon tramway enjoyed heavy traffic until the completion of the W.P. & Y. on the western bank.

THE "TUKA TRAM"

One year after the formation of the Atlin Short Line Railway & Navigation in February 1899, the company faced competition. Captain John Irving in February 1900 disclosed his plan to build a second tramway across the isthmus to compete with A.S.L.R. headed by J.H. Brownlee. In March construction began on the Irving Tramway. Protests from the Brownlee company forced temporary suspension of construction. In June 1900 the bitter dispute was settled by the intervention of a third enterprise. White Pass & Yukon bought the assets, steamers, wharves and tramway of the Irving tramway. Shortly thereafter the rail line was completed from Tuka Arm, on Tagish Lake, near the mouth of the Atlin River, to Scotia Bay on the west shore of Atlin Lake. By this venture the White Pass Company gained control of the transportation facilities to the Atlin Lake district. In 1925 A.S.L.R. ran its last train. The Tuka Tram ran until 1949.

SPIRIT OF THE FUTURE

The White Pass & Yukon Corporation Ltd. operates numerous services, each of which is expanding. With the large deposits of petroleum being discovered in the Eagle Plains area, present oil facilities may shortly have to be enlarged. Timber reserves are virtually untouched; traffic in forest products has yet to be developed. Then too, there are minerals and metals in varying degrees of availability. Gold, silver, lead, copper, zinc, and coal are found in the Yukon, as well as asbestos, cadmium, tungsten, and platinum.

Once the future is determined, the W.P. & Y. might decide to make the change to standard gauge, a costly project if ever undertaken. At the present time the road does not plan the use of microwave and/or C.T.C. for the reason that the volume of traffic would not merit such an investment and at this time there are no plans for extension of rail mileage within the next decade. The organization as a whole is dedicated to northern development and its services are accordingly constantly being revised in order to keep abreast of the requirements of the economy of the area.

The White Pass & Yukon Railway has operated in northern Canada for over sixty years and has watched about half a dozen unsuccessful attempts to link the central or northern part of British Columbia with the Yukon. The latest venture, that of the Pacific Northern Railway, has been cancelled because it would appear uneconomical. The effect of such a standard gauge project on the three-foot gauge W.P. & Y.R. would at this time be pure speculation. The recent discovery of a giant hematite iron ore deposit 320 miles north-west of Whitehorse has sparked the study of a railway line from the ore body to the Pacific coast. Since its incorporation, W.P. & Y.R. has operated a gamut of transportation media. Pack train, dog-team, stage-coach, sleigh, river boat, ocean steamer, bus, truck, train, and airplane collectively make this company Yukon's most complete transportation system. White Pass & Yukon is sitting on a powder keg of opportunity of such magnitude that it could ultimately dwarf the Labrador-Quebec iron ore developments.

Other photo captions:

Page 83: Much of the White Pass' traffic moves in containers aboard flat cars, as shown in this photo. (Photo by J.D. Knowles)

Page 84: "Lake Summit" is just one of a fleet of many parlour cars on the White Pass and Yukon. (Photo by J.D. Knowles)

T.T.C. HAPPENINGS

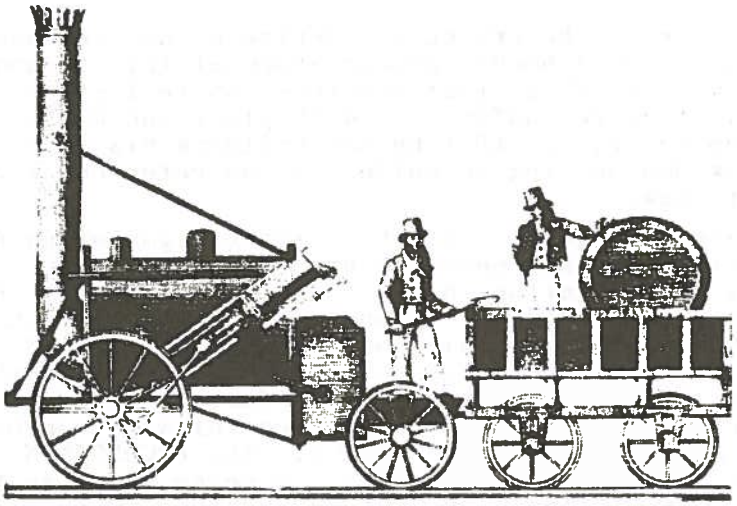
* The following Witts were burned at the Unwin Avenue Disposal Area during the month of May:

2704, 2708, 2712, 2728, 2734, 2744, 2760, 2772, 2782, 2796, 2812, 2818, 2828, 2862, 2878.

(J.N. Bascom)

* Work was started during May on the rebuilding of the Dufferin Street Loop at the entrance to the C.N.E. gates. This work has necessitated the closing of Dufferin Street south of King Street to all streetcars, and in addition the DUFFERIN bus is looping in the Exhibition grounds.

PIONEER RAILWAYS



ROCKET

by M.V. Buffam

Construction of Britain's first railway, the Stockton & Darlington, which was strictly a colliery road, was a vastly different proposition than that which confronted the cities of Liverpool and Manchester. Liverpool was an important sea port and the jumping-off point for a huge overseas trade, and Manchester was the Lancashire center of the great textile industry. Both cities were growing rapidly and had already outgrown the travel and transport facilities available to them, and the future life and prosperity of the inland manufacturing center depended upon an unrestricted flow of produce to the coast.

Eventually, the merchants of the two cities got together and took the first step towards solving the problem by taking a survey of the intervening area with a view towards providing a railway such as had already been inaugurated in the Stockton & Darlington colliery district. In 1824 the project began to take shape and a prospectus was issued, but, as had happened when the other railway was suggested, tremendous opposition, led by the landowners and canal companies, arose against it.

A determined stand by the promoters of the railway secured the passing of the Bill in 1826, but not before they were obliged to make certain concessions, one of which was a change of route. By the Act they were permitted to make and maintain a railway or tramroad from the town of Liverpool to the town of Manchester.

The last obstacle was finally removed from the path of the new railway, and George Stephenson, the renowned locomotive builder, was appointed engineer in charge of the actual construction. He was to be confronted with many problems, probably the greatest of which was carrying the track over Chat Moss, five miles of quicksand so soft that any object placed within reach of it was immediately swallowed from view. He adopted the plan of pouring vast quantities of material into it and finally succeeded in obtaining a bed firm enough to support the rail and ties. After crossing the bog and building more than sixty bridges, there remained the problem of obtaining access to Liverpool. To secure such right-of-way, tunnels had to be dug beneath the roads of the city without obstructing traffic, undertakings which entailed the cutting and removal of some half million cubic feet of solid rock.

Newsletter

EDITOR: E. A. JORDAN, 48 Woodland Park Rd., Scarborough
NEWS EDITOR: S. I. WESTLAND, 36 Fishleigh Dr., Scarborough
PRODUCTION: J. Wm. HOOD **MAILING:** J. B. DELL

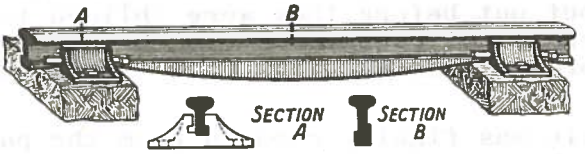
Published by the Upper Canada Railway Society, Box 122, Terminal "A", Toronto, on the 8th day of each month. Opinions expressed are those of the Editors only.

Authorized as 2nd class mail by the Post Office Department, Ottawa and for payment of postage in cash.

Compared to some of the projects undertaken and successfully completed today, Stephenson's accomplishments appear somewhat trivial and insignificant, but we must not overlook the fact that construction facilities were a bit different 130 years ago; that he was unfamiliar with plans and did not know how to indicate his designs on paper, and that he was building his first railway, the second in all England. He had nothing to guide him, no reference works to consult, and no precedent to follow.

On the morning of October 6th, 1829, there began at Rainhill, in England, a contest the like of which had never before been seen in sport or industry. It came about as the only solution of a deadlock between the Directors of the Liverpool and Manchester Railway, then nearing completion, over the type of motive power they should use. Some of them leaned towards a stationary engine and rope system of traction, while others, including Stephenson, insisted on adopting the steam locomotive. Despite the fact that the Stockton & Darlington, which was the first successful common carrier railway ever built, had for four years been using a travelling steam engine, the LOCOMOTION NO. 1 which had been built by the L. & M.'s own engineer, and had never reverted to any other type of power, railways were in the embryo stage and there were plenty of skeptics who were waiting to be convinced. Even on the Stockton & Darlington Railway, the company did not cater to passengers, but let the right of passenger conveyance to outside contractors who paid a toll for the use of the line and who used coaches drawn by horses which ran on a path between the rails. That they used horses was not from choice; it was the only means available to them as they had no locomotives. The fact that horses were still used on the Stockton & Darlington, even though not by the company itself, no doubt influenced to some extent the final decision of the Liverpool & Manchester Directors.

Stephenson's opinion was not without weight, and although steam locomotives were already giving a good account of themselves in England, many of the Directors had yet to see their first train. They said "we know what the motive power for the railway must do, but are not sure that steam locomotives can fill the bill, so we will frame the requirements into a prize competition offering £500 to the locomotive which, (1) can consume its own smoke, (2) haul so many tons, in proportion to its weight, at ten miles per hour, (3) give a better performance than any of the other engines." Bearing in mind that the main objects of a locomotive are (1) to generate steam, (2) to apply the energy of the steam to produce power in the cylinders, and (3) to convert that power to tractive effort through the driving wheels, all the competing locomotives must embody these principles.



STEPHENSON'S WROUGHT IRON RAIL 1829

In those days, meeting such stiff requirements looked like a well nigh impossible undertaking, but Stephenson had abundant confidence in his own ability, and they just whetted his determination to win. He realized though, that his own skill would be taxed to the utmost and decided to find and enlist some person of proven skill to help him; he felt that victory would then be doubly assured. Why not his own son, Robert?

Robert, a builder of engines in his own right, had his own ideas, radical though they may have seemed to his father, and it was plain to him that if they were to win the impending contest, their present concept of steam locomotive fundamentals would have to be revised. He suggested they break away from the vertical drive from cylinders to wheels heretofore used by all locomotive builders, and adopt a compromise location, mounting the cylinders in a line nearly horizontal with the wheels. Considering the primitive track on which they would be operating, he believed that no effort should be spared to keep the engine's weight as low as possible, mindful, of course, that load and engine weight were relative in the rules of the contest. He aimed at reducing the weight to a point which would permit using four driving wheels, and no more. He could point to his LANCASTER WITCH, embodying these innovations, to prove to his father that he wasn't suffering from the effects of any pipe dream.

It was all very well to make suggestions and lay plans, but George knew that an engine powerful enough to pull a stipulated load at the required speed must work on higher steam pressure, which meant they must design a boiler far more efficient than any hitherto built. The logical solution called for two things: (1) the heated surface of the boiler in contact with the water must be increased as much as possible; (2) some means must be found to supplement the natural draft in the firebox. The number 1 conundrum was plainly a matter of increasing the heating surface and was solved by increasing the number of flues, or tubes, which carried the fire through the boiler to the smoke stack; the second was solved by installing a blast pipe which carried the exhaust steam from the cylinders up the smoke stack, thereby creating a forced draft. George, never one to overlook an opportunity, had been quick to see and appreciate the value of Trevithick's "forced draft", and the "multi-tubular" boiler idea of the French inventor Sequin. His triumph was due, not so much to his genius as to his dogged perseverance in co-ordinating and adapting ideas of his own and those of the others. The higher steam pressure had a tendency to bulge the ends of the boiler, which tendency was overcome by inserting "stay bolts", long rods extending through and fastened to each end. The ROCKET was the first successful engine to embody these elements of efficiency which remained essential features of steam locomotives through the many decades of their construction and operation throughout the world. The use of copper tubes in an iron boiler gave rise to unequal expansion, especially at the end exposed to the firebox heat, necessitating the design of a new type of tube fastening. Making pistons fit exactly to cylinders without the use of precision machine tools was an ever present problem in those early days, but the Stephensons proved to the world that they were a resourceful pair.

Finally, the locomotive was finished to the satisfaction of the builders and stood all ready, waiting for the Rainhill Trials. Entries, many of them as novel as the idea of the trials itself continued to pour into the offices of the proposed railway, in pursuit of the 500 Pounds prize offered to the winner.

When the trials were eventually run off, the winning entry, the Stephenson's ROCKET, gave such an outstanding performance that the Directors needed no further demonstration to be convinced that the steam locomotive was a suitable type of motive power for their new railway.

(Next: The Rainhill Trials)

C.P.R. News

* The C.P.R.'s Quebec Street roundhouse in London, Ontario, will be reduced to only four stalls to make way for an overpass of Quebec Street over the main C.P.R. yard in London. At the same time, the Quebec Street station will be moved back several feet to allow the addition of two more tracks to the yard layout.

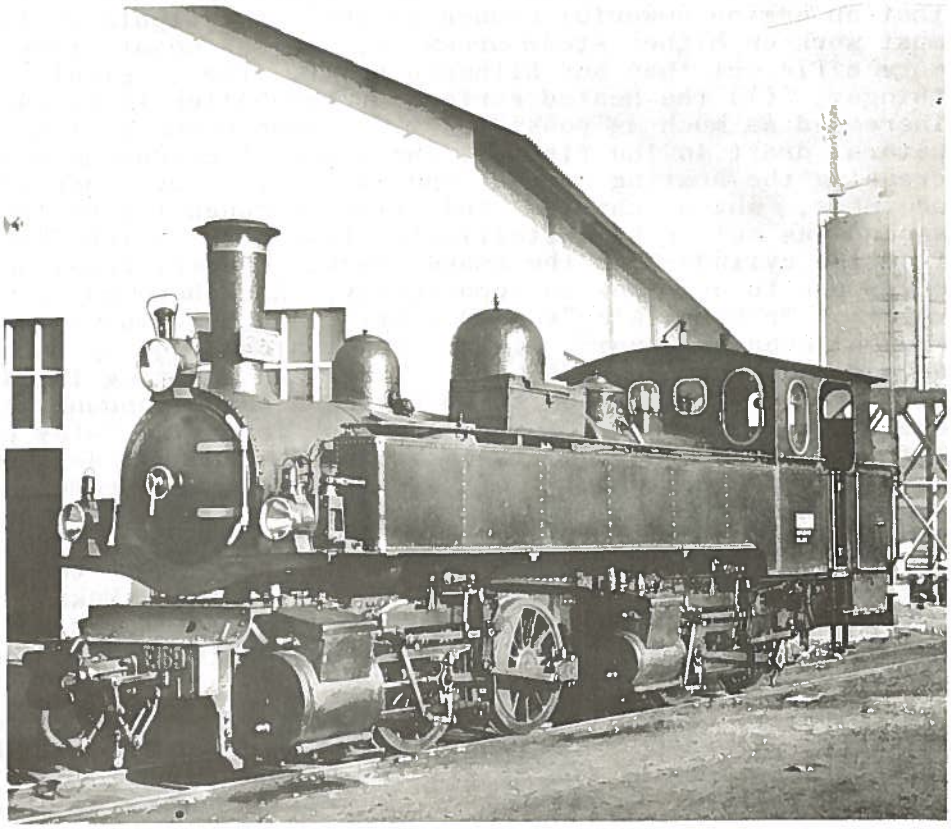
(W.E. Miller)

* It is reported that the Lake Erie and Northern trackage between Waterford and Brantford will be removed some time this year. The L. E. & N. R. bridge over the Grand River at Brantford may have to be relocated when Highway 403 is extended through that city and the Waterford bridge is in need of repairs. The redundancy of trackage between Brantford and Waterford is obvious, and the amount of switching in Brantford could easily be handled by the L. E. & N. crew for both railways.

(G.W. Roth)

* Mention was made last month of the three new locomotives purchased by the C.P.R. and the fact that they were considered as rebuilds from other units. Since several experts have disagreed with that statement, some explanation might be in order. Units 8200 and 8201 were built to replace engines 1902 and 1910, which, along with 8474, were wrecked in an incident at St. Eugene, P.Q. in February of 1962. The locomotives are rebuilds only in that the two wrecks were returned to General Motors Diesel in London and a year later the GP-30's were delivered to the C.P.R. It is likely that some parts of the 1900's, albeit completely reconditioned, found their way into the 8200's, although the majority of the components that make up the new units are either remanufactured parts turned in by the C.P. or other roads, or completely new (manufactured in the United States). The increase in horsepower in the new locomotives is achieved simply by turbo-supercharging of the standard G.M. 567C series, V-16 engine, and the uprating of the main generator and traction motors.

In Search of Steam



by David Ibbotson
(All photos by the author)

ABOVE: This trim 0-4-4-0T, of metre gauge, was built by Henschel in 1908 and is pictured at Oporto Boa Vista.

Most of us have a mental list of railways we would like to visit or power we would like to see, a list which is in many cases no doubt, decidedly international in flavour but, if not, certainly varied in its consist. My own dreams go back to pre-school days and I recall distinctly looking at a map of Brazil and wondering about the goings-on between Porto Velho and Guajara-Mirim on the Bolivian border. It was eventually marked off as "done" but there are other lines which came to mind in later years and somehow just do not fit into vacation itineraries or my chief's idea of a business trip.

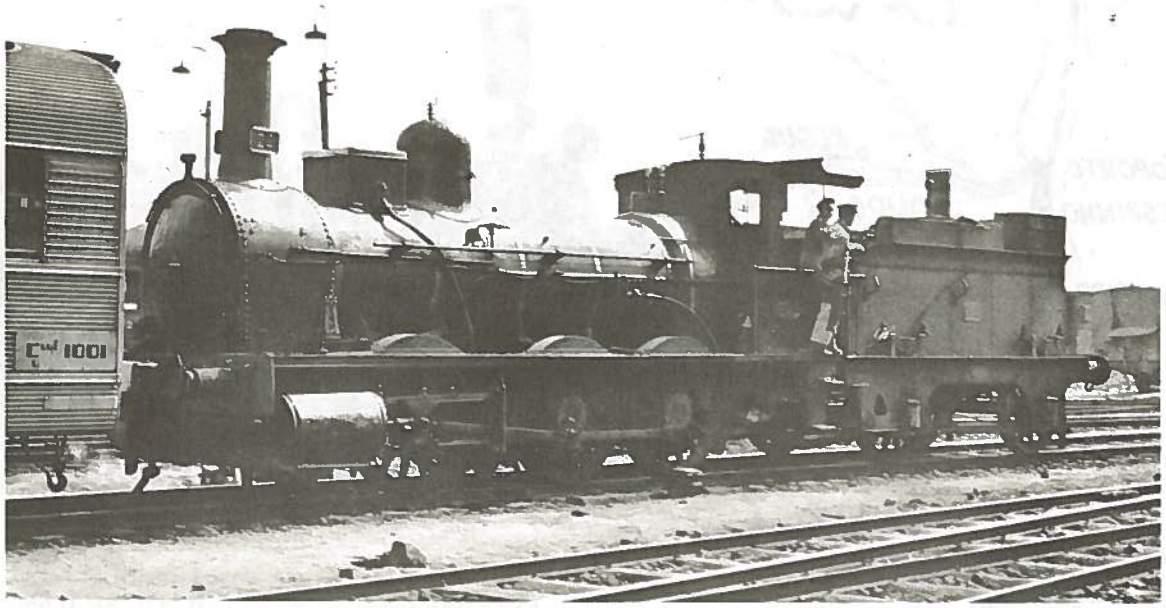
As luck would have it, September, 1962 brought the opportunity to go to Portugal on the way to England, only to be followed through with another visit in the month of November, to consolidate the position, so to speak. I had often given thought to the head end of the varnish along the valley of the Douro through the miles of vineyards to the Spanish border, and there were even more questions about the metre gauge lines which abound in the north of the country. This was the chance.

By anyone's standards, Portugal is small in size but certainly nothing else is lacking. A maximum of three hours will see one from the Atlantic to the Spanish border and from north to south, if you really get going in the morning; you can get from one end to the other without losing a night's sleep. These facts automatically solved the problems of the long-haul fan trip, for a base in the north, Oporto, and a base in the south, Lisbon, would do the trick.

I am not one of those persons who is acutely interested in cylinder dimensions, heights above rail level or local rail union laws, but curiosities always stand out, and Portugal has more than its ration. The now state-run and unified system, previously split up into a number of small operations, is a wonderful combination of ancient and modern which extends to all aspects of railway operation.

Starting in the north, at the time of my visits the main line running south from the Spanish border at Valença towards Oporto was well taken care of by a selection of Ten-wheelers, polite in exhaust, neat and lady-like in appearance and not overtaxed by half a dozen modern cars, some, by the way, built to Budd specifications. Freights come along behind 2-8-0's equally as neat and prim and proper.

Oporto is large enough to deserve, and have, good commuter services and the goings-on around Campanhã station in the rush hour cannot be put to shame anywhere. There is a stub-end broad gauge station in Oporto (Sao Bento) and trains back out to Campanhã where power is put on the other end of half the trains (those which are not continuing north). With practically no diesels around and only a few railcars, 2-6-4T's work the local trains, but the delight centres around the 1875 Beyer-Peacock-built 0-6-0's which do much of the yard work, spotlessly clean, but really quite out of place behind a line of stainless steel cars! There's occasionally an 0-4-0WT (Chemnitz in 1881) shuffling around the roundhouse and works and if you are lucky a real live 2-4-0, also by Beyer-Peacock in 1875.



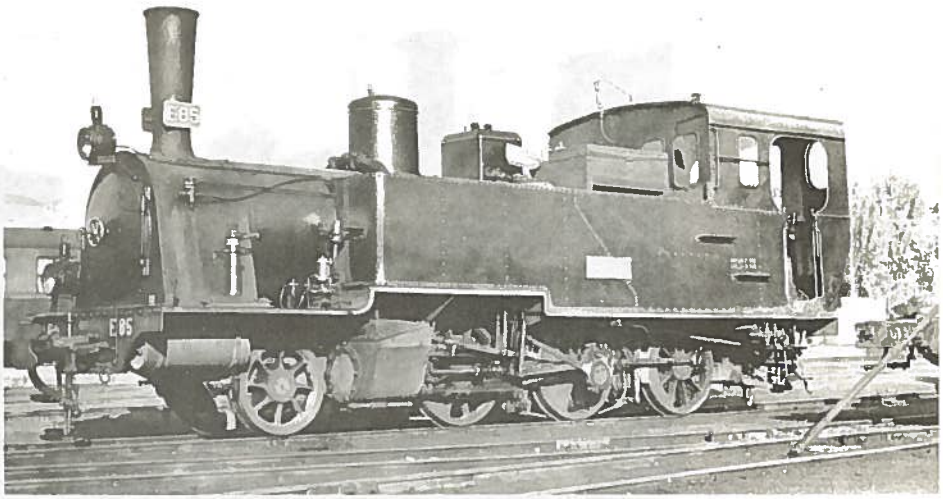
ABOVE: This 0-6-0, seen switching modern 5' 6" gauge stainless steel cars at Oporto Campanhã station, was built by Beyer Peacock in 1875.

This I thought was it for 1962, but no, there was more to come right inside the city limits. Across the other side of town at Trinidade station there are eighty arrivals and departures daily on the metre gauge. Railcars take good care of much of the traffic but there is also a wonderful collection of steam for the freight and even some of the passenger turns. As for the power let me recall a few; 2-6-0T's (Esslingen in 1886), 0-4-4-0T's (Henschel in 1905), and 2-8-2T's (Esslingen in 1931), and everything gleaming in the sun, another item of which there is no shortage, although at noon it is high in the sky and casts too many shadows in the wrong places.

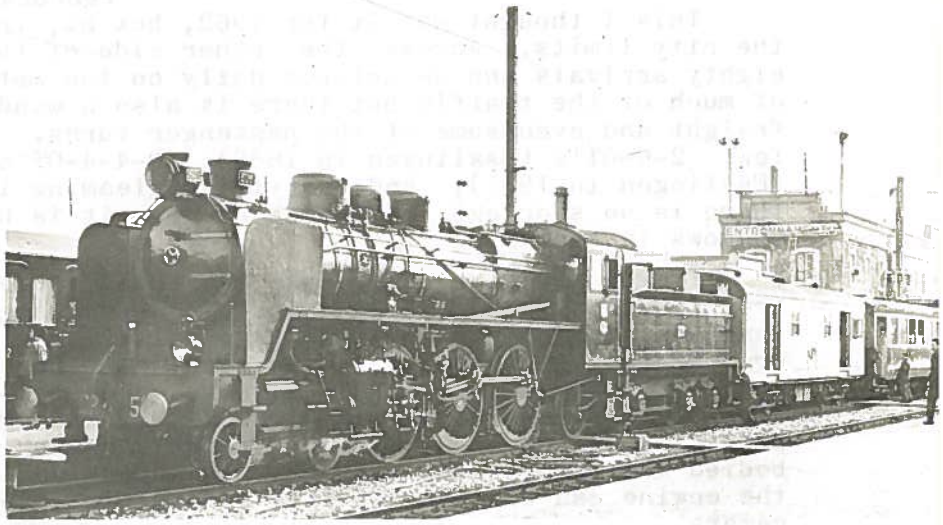
If you have the time, take the broad gauge line along the Douro Valley east from Oporto. There are a number of narrow gauge lines running north at various junction points and the Corgo Valley line from Régua is well worth the effort treating it as a day's side trip. At Régua there is a Borsig well tank in the narrow gauge yard for local work and the mixed trains of the Corgo follow along behind Henschel 2-4-6-0T's of 1913 vintage. The consist ranges from wooden passenger equipment of dubious French ancestry to brand new four-wheel steel-bodied mail cars. The scenery is superb and from the open end of the last car the engine can be seen twisting and turning presenting every opportunity for the camera.

Alco units and railcar sets look after the varnish on the main line south from Oporto and also a few of the freights. At 75 per the equipment rides very well on what appears to be unchaired track. Most junctions have a small shed for either narrow or broad gauge power, 4-8-OT's at Espinho or 2-6-OT's at Aveiro. At Entroncamento, the kingpin of the system and only eighty minutes from Lisbon, there is a large works and a roundhouse full of sizzling steam power. The station yard is a dream with lots of room and not an excess of poles and power lines. A careful look at the "Guia Oficial" reveals traffic peaks for arrivals and departures and apart from the diesels,there are ample numbers of handsome Pacifics, Ten Wheelers and 2-8-4T's which look after the lines running eastwards to the Spanish border.

BELOW: The narrowness of metre gauge necessitates outside valve gear, naturally enough, but outside Stephenson gear is somewhat of a rarity! The engine, C.P. E85, was built by Esslingen in 1886.



BELOW: C.P. broad gauge engine 508 is seen at Entroncamento station in September, 1962 with a train for Abrantes. The engine was built by Henschel in 1925.



On this north-south artery the overhead is as far as Fatima out of Lisbon and French electrics look after most of the trains between Entroncamento and Lisbon. The commuter services out of Lisbon (Rossio and Cais do Sodre stations) are all electric with the exception of an occasional railcar. Service is frequent and runs at all hours.

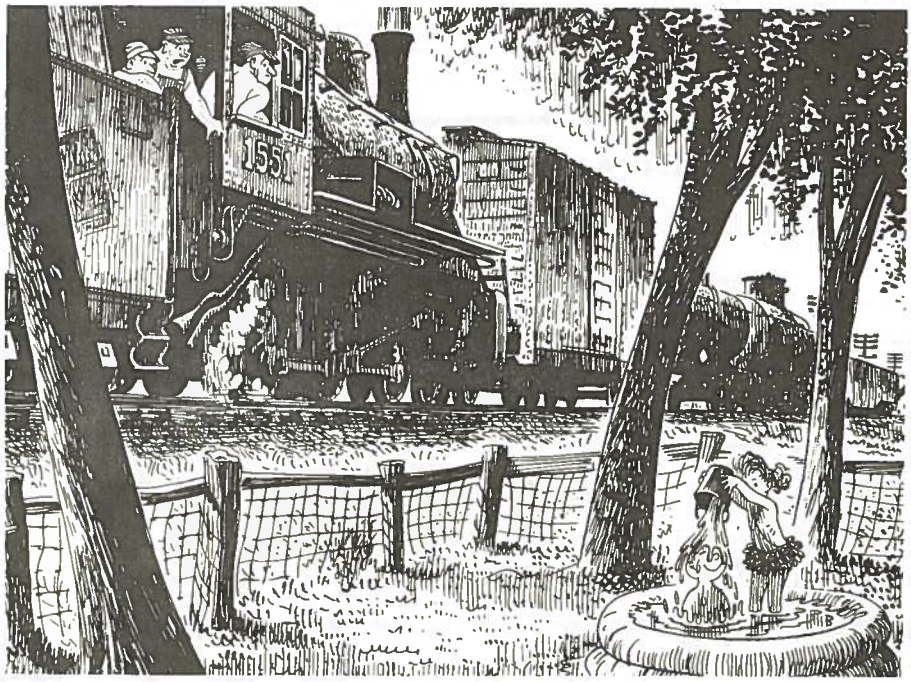
Using Lisbon as a base, a must is the roundhouse and shops at Barreiro, on the south side of the Tagus River and easily reached by ferry (also railway operated). The station at Barreiro resembles a mosque (it is something of a ruin) with its minaret and colourful tiled walls, while the shed isn't much better. But it is what is inside that counts and there is a good selection of 4-6-2's (Borsig in 1923), 2-8-2's (Alco in 1945), 4-8-0's (Babcock and Wilcox in 1947) and deserving special mention are the inside cylindered 4-6-0's (Borsig in 1910). The lines south from Barreiro to the almost sub-tropical south coast contain a mixture of steam power and railcars but if you get as far as Vila Real de San Antonio it's only a ferry ride across to where the R.E.N.F.E. steam power switches at Ayamonte.

Borsig and Henschel both had good salesmen out on the line in the days of steam purchases, but Decauville, North British and Beyer-Peacock weren't exactly asleep and there is plenty of evidence to prove it. The Swedes have done alright with their railcars while the French are represented by the electric units.

If you decide to go, don't be put off by the comparitively high trans-Atlantic fares, for the cost of living is one of the lowest in Europe with excellent quality in food and wines. And with the long summers of the country you can go late or early to take advantage of off-season rates. But before you pack your bag a word of warning; The Portuguese are very friendly and wonderful with visitors, however, they do like to see a letter of authority granting permission to take photographs before you perform any incantations before a steaming 2-4-0. It saves hours of arguing, especially if you don't speak the language, (French is widely spoken, by the way) and is far less frustrating.

Worth a Laugh

Courtesy Doug. Wright and the Montreal Star.



"Hey, you want to drive an engine Junior? You want to trade places?".

R. S. Duncan

With the death of Mr. Robert Stewart Duncan, on May 20th last, we have lost not only one of our very early members, but one who had much to contribute. This he did willingly when he met a responsive listener, as many members can attest. Mr. Duncan was well read in every branch of culture, but sooner or later he usually got around to "railroading", the avocation of both his father and grandfather, both of whom were named John. The first was born in Scotland in 1805 and married Charlotte McDougal in 1830. They came to Canada in 1842, where John, Junior, was born a year later.

A letter, now in the Ontario Archives, shows he was employed by the first railway out of Toronto in 1852, or a year before the trains began to run. He was appointed Station Master at Thornhill (now Concord) where he resided until his death in 1888. He was not a telegrapher, because there was no telegraph, but when it came a couple of years later, seven of his eight children learned to operate the Morse instrument.

The most successful of these was John, Junior, who in his late teens was in charge of the stations at Lefroy and Bradford, as attested by the Harvey Papers in the Toronto Public Library. The coming of the Grand Trunk Railway opened a fresh opportunity for an expert telegrapher and young John Duncan joined that organisation. In a lengthy article which he gave to the Toronto Telegram, in 1922, he told of one of his first assignments which was to board the train for Stratford, where the operator had let two trains come together and had been dismissed. On arrival there, John Duncan was shown a gadget which his predecessor had rigged up to have the telegraph tap out his number to the supervisor, every hour, as he slept. The ingenious telegrapher was Thomas Edison.

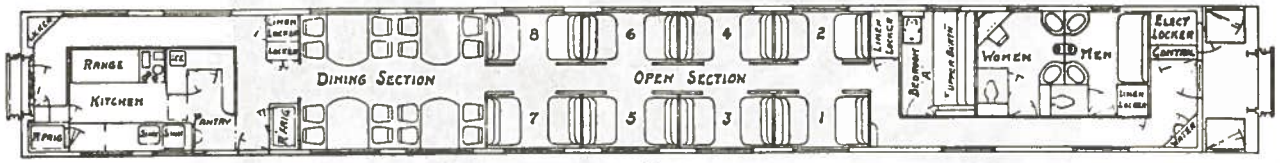
When the Toronto and Nipissing was organised in the early 1870's, John Duncan was appointed Superintendent, where he served with distinction until the road was absorbed by the Midland Railway, organised by another telegrapher, George A. Cox.

With this background, our deceased member was in a rare position to create afresh the events of yester years. His mother was Elizabeth Stewart, whose father, Robert, was an early Toronto builder and owned considerable property in the centre of the city. Robert Stewart was well learned and collected a large library. Some parts of this were inherited by his grandson, our late member. Mr. Duncan made the most of what his ancestors had bestowed upon him and was not found wanting as he accumulated the worthy literature of his day. He was generous in sharing his labours with those who paused to listen. This Society has been made richer by having as one of its pioneers, Robert Stewart Duncan.

C. N. PASSENGER CAR DIAGRAMS

SLEEPER-GRILL

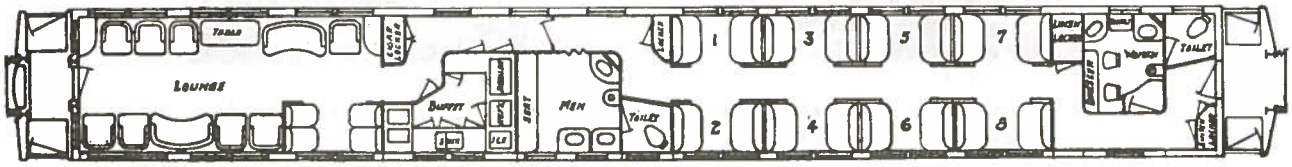
ITEM 21 — 8 SECTION — 1 DOUBLE BEDROOM — 16 CHAIR DINING SECTION — AC-17



997	Whitepool	1000	Whitebear	1003	Whitecourt	1006	White Otter	1008	White Point	1010	White Rock	EM
998	White Glen	1001	White Brook	1004	White Hall	1007	White Plains	1009	White Star	1011	White Rapids	EM
999	Whitebeech	1002	Whitechurch	1005	Whitelaw					1012	White Oak	EM
										1013	White Sands	EM

EM — Electro-Mechanical Air-Conditioning.
Removable windows in sections 1 and 2 of cars 1010, 1011, 1012 and 1013 for stretcher cases.

ITEM 22 — 8 SECTION — BUFFET — LOUNGE — AC-1

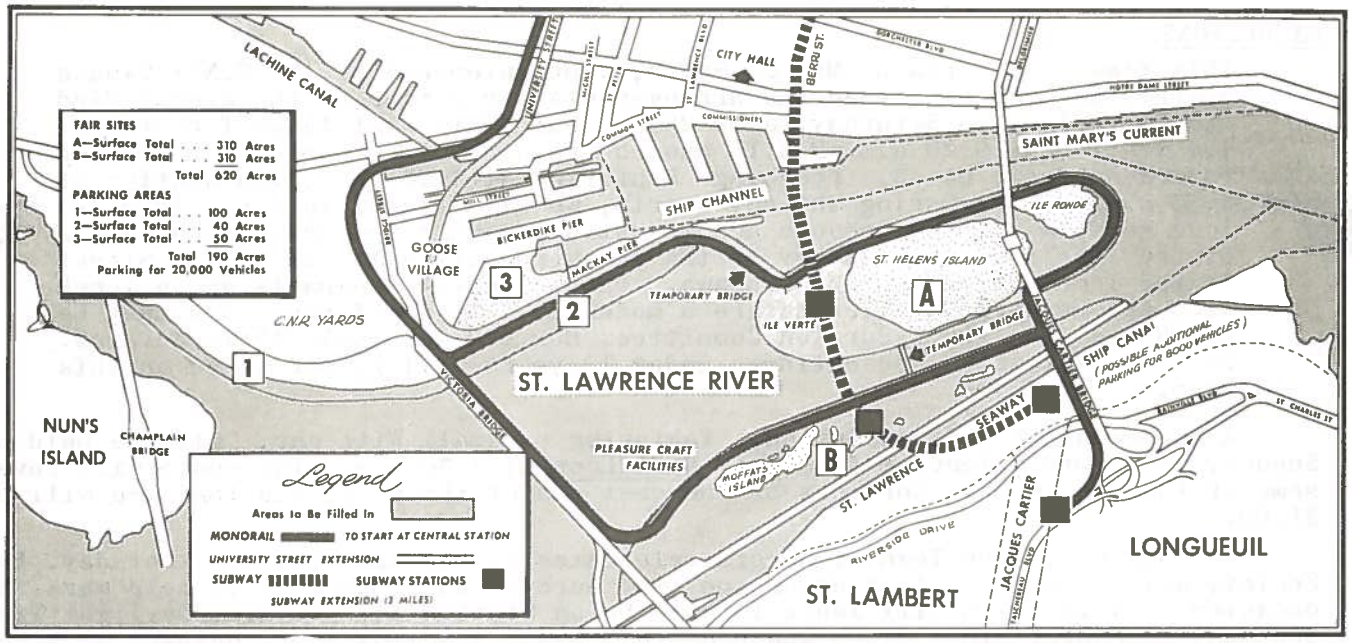


985 Colonie Club — Removable Windows for stretcher cases.

RAPID TRANSIT PROGRESS

* Plans for an all-concrete monorail system, similar to the monstrosity inflicted on the citizens of Seattle, Washington, last year, have been advanced as a possible solution to the problem of transporting visitors to the site of the 1967 World's Fair, to be held on St. Helen's Island in the middle of the St. Lawrence River at Montreal. Cost of this system, which would run from Central Station to Longueuil, is estimated at $2.75 million per mile. Also to be built is a three-mile extension of the now under construction Berri Street subway line, which would serve approximately the same areas as the monorail.

The cars on the monorail would be electrically powered and ride on rubber-tired wheels running on the top surface of the supporting structure, while two sets of similar wheels run on the side surfaces of the beams to guide the train.



C.N.R. Report

* The imaginative Canadian National engineering staff continues to experiment with car equipment and accessories that will produce better service for shippers. Two examples of these devices under test in the Maritime Region are types of containers, both serving different purposes. In an attempt to speed up the loading of express parcels, a wire mesh container, loaded at leisure prior to train arrival, has been devised. To lift the loaded container aboard the express car, a compressed air powered hoist, running on a length of steel beam fastened to the car roof and extensible beyond either side of the car at the door opening, has been experimentally fitted to car 9111. The hoist can lift up to 1,000 pounds while a small pallet truck handles the containers once they are aboard the car. Using the container-hoist system, a wagonload of small parcels can be loaded onto the car in 30 seconds, rather than the five to ten minutes required when each individual parcel is tossed aboard manually.

To help cut down on transhipment delays on its Newfoundland services, the C.N. has placed nearly 300 containers of 390 cubic foot capacity in service, to be used between Newfoundland and mainland points. The use of these containers does away with rail-boat transhipment at North Sydney. The containers are carried on specially outfitted flatcars on the mainland and are not opened until they reach pierside at Port au Basques, where their cargo is loaded onto the narrow-gauge cars of the C.N.R.'s Newfoundland lines.

* The demolition of the Canadian National's Lindsay, Ontario, station was commenced on May 7th by the City Steeplejack Company of Cornwall.

U.C.R.S. Announcements

JUNE MEETING

The June meeting of the Society will be held on Friday, June 21st at the Marine Museum of Upper Canada, Exhibition Park, commencing at 8:30 p.m. Entertainment at the meeting will consist of a quiz on railway topics and the showing of two 16 mm. films.

HAMILTON CHAPTER MEETING

The June meeting of the Hamilton Chapter of the Society will be held in the Board Room of the C.N. station on Friday, June 28th, commencing at 8:00 p.m.

EXCURSIONS

This time it's certain! Mr. J. Smyth, Superintendent of the C.N's Oshawa operations, has confirmed the arrangements for a tour of the electrified Oshawa Railway on Saturday, June 29th. Our party will leave Toronto Union station at 9:20 a.m. D.S.T. aboard train no. 10 (Danforth 9:30) and return on train no. 5, reaching Danforth at 5:23 and Union station at 5:35 p.m. D.S.T. During the day's trip, we will travel in style in a deluxe gondola car and caboose accommodation, and cover the entire length of the line from the tannery at the southern extremity of Simcoe Street to the lumber yard in North Oshawa. Photo stops, run-pasts and a lunch stop are arranged. Tickets are a modest $2.00 from Toronto and must be purchased from the Excursion Committee, Box 122 Terminal "A" in advance. For safety reasons, no children under 12 years will be permitted on this trip.

A three hour T.T.C. excursion, featuring a small Witt car, will be held on Sunday, June 30th, leaving from City Hall Loop at 1:30 p.m. The route will cover some of the more scenic portions of the west end of the city, and the fare will be $1.00.

On July 6th, the Town of Aurora celebrates its centennial. On that day, the Society will sponsor a steam excursion to Aurora and Bradford to help mark the occasion. This train will leave Toronto Union Station at 9:30 a.m. Daylight Time and make passenger stops at Parkdale and St. Clair stations. A number of trips will be made between Aurora and Bradford during the day, depending on the passenger demand at Aurora, and a special display of railway equipment will be arranged at Aurora. Run-pasts will be made on all legs of the trip for camera fans. Fare from Toronto to Aurora will be $3.00 return, while from Aurora to Bradford the fare will be $1.00, with the usual half fares applying for children. Tickets will be available at the C.N. ticket offices or the Excursion Committee, Box 122, Terminal "A", Toronto, after June 28th.

PUBLICATIONS

Members desiring faster delivery of their Newsletters are reminded that they may have all their U.C.R.S.-mailed material sent by First Class Mail on payment of $1.00 (in addition to their regular dues) to the Secretary, at Box 122, Terminal "A", Toronto.

Some time in the near future, the Society will publish a 12" L.P. phonograph record of the sounds of Canadian steam locomotives. Any members wishing to contribute taped material for this recording are asked to send their tapes (recorded at not less than 7½ i.p.s. and of good sound quality) to the Editor, Box 122, Terminal "A", before July 15th, 1963, for consideration. All tapes submitted will be returned in good condition by August 15th. Material recorded from the baggage car on excursions should be avoided, but any other sounds would be welcomed. Further information may be obtained from H.R. Naylor at the above address or phone LE. 4-4184.