

January, 1961 - Number 180

The Society meets on the first and third Fridays of every month. The next indoor meeting will be held in Room 486, Toronto Union Station, at 8:30 PM., on January 20, 1961, and will be the Annual Meeting of the Society, at which time the Officers' Reports for the year 1960 will be presented, and the election held of Directors for the year 1961. The attendance of all members is urged. following the business portion of the meeting, the entertainment will consist of some of the more unusual motion picture films from the collection of Mr. John Mills.

The February outdoor meeting will be held on Friday, February 3, 1961 at the C.P.R. Leaside Station.

**Note:** This is the last Newsletters that will be mailed to members whose dues are not paid up to December 1961. Members who have not renewed should do so without delay in order to avoid missing any Newsletters. Dues are \$2.50 for Resident members, \$1.50 for Associate members; please add exchange to out of town cheques.

T.T.C. EXCURSION TO BE OPERATED

The Society plans to operate a photographic excursion which will include the new sidewalk trackage on Bloor Street at Avenue Road (see page 5). The excursion will be held on January 22, 1961, and the car (a 2700-series Small Witt) will depart from Bloor Street and Spadina Avenue at 11:00 AM. The temporary tracks will be covered in both directions, and the customarily devious routing will be followed. Fare will be \$2.00; tickets will not be issued but cash fares will be collected on the car.

36 NEW SUBWAY CARS ORDERED

Late in December, the T.T.C. awarded the long-awaited contract for rapid transit cars for the University Avenue branch of the Bloor-Danforth subway. Thirty-six large cars have been ordered from the Montreal Locomotive Works Limited, hitherto known primarily for locomotive construction. It is understood that the cars were designed in cooperation with Pullman-Standard. The contract price, the lowest of 10 tenders received is \$3,968,264.

The new cars will be of unpainted aluminum, and will be 74' 5<sup>5</sup>/<sub>8</sub>" long, with four doors on each side. Six of the new cars will make a train of the same capacity as eight of the 57-foot cars operated in the Yonge subway. The larger size is calculated to achieve a net capital saving of \$580,000 after allowance for trackage re-alignments necessary to allow the longer equipment to operate in the Yonge Subway. Each car will weigh 64,000 lbs. and will seat 84. Special communications equipment will be installed to permit voice transmission between trains and the central control office, and between motorman and guard; it will also permit announcements to be made to passengers on trains. Dynamic braking will be used (with stand-by air) and the trucks will incorporate a form of air suspension. Windows will be permanently closed and ventilation will be by forced air. Delivery is to be between September 1962 and January 1963, the target date for opening of the University Subway.

Trucks will be supplied by Dominion Foundries & Steel Company, Hamilton.

Control and motors by Canadian General Electric, Peterborough.

Brake system by Westinghouse Brake & Signal Company, England.

The design of these cars is evidently both efficient and imaginative, and their

arrival will be eagerly awaited by all local railway enthusiasts.

#### C.N.R. VICE-PRESIDENT AND THE FUTURE OF RAILWAY SERVICE

Integration of rail and road services will provide Canadians with the best and cheapest possible freight transportation, and will make the most efficient use of both modes, Dr. O. M. Solandt, Vice-President, Canadian National Railways, said in Toronto recently.

He visualized the Canadian railways in the near future consisting only of main lines and a few major branches. Scattered along these lines would be major road-rail terminals or rail heads where freight that is brought by truck from distances of 50 to 100 miles or more would be rapidly and efficiently transferred to rail for long haul.

Abandonment of unprofitable rail services that could be more efficiently provided by other carriers would strengthen the railways, strengthen their competitors and lower the transportation bill of the nation.

Dr. Solandt said that though speed and increasing personal incomes were encouraging air and private motor car travel, other important elements favoured railway passenger business.

"In spite of all the improvements in roads, urban and highway congestion with its attendant dangers and delays is steadily increasing", he said. "The difficulties of getting to and from airports become more and more impressive".

The Canadian National, said Dr. Solandt, was attempting to obtain a larger share of the travel market over high-density intercity routes, particularly for overnight and shorter day travel. Urban and suburban commuter services by rail would have to be subsidized and probably run by local transport authorities.

The problem of ownership of basic transportation facilities was one of the most fundamental factors distorting the growth of transportation in Canada, he said.

"The argument as to whether the truckers and the ships and airlines pay their full cost of the use of public facilities is beside the point. The mere fact that they only have to pay to use these capital facilities when traffic offers, while the railways have to pay interest on their investment and maintenance costs whether there is any traffic or not, makes it very difficult to find means for regulating the two so that they can compete on exactly equal terms", Dr. Solandt said.

#### THE DEVELOPMENT OF THE ROTARY SNOW PLOUGH

The development of the rotary snow plough has been chiefly due to Canadians and Canadian railways. This might be explained by the amount of snow which is supposed in some quarters to fall in Canada, although as a matter of fact the difficulties with snow are just as great on most of the railways crossing the Rockies and the Cascade Mountains in the United States as they are in Canada. In both countries the rotary snow plough has been extensively used, and it has proved to be the only effective machine for dealing with deep drifts and slides beyond the capacity of the ordinary wedge plough. For drifts of a moderate depth through which a reasonable speed can be maintained, the wedge-plough can be operated much more quickly than the rotary. However, the wedge plough cannot throw snow out of deep cuts, and the rotary plough can then be a great saving in time and manpower by contrast with the labourious alternative of shovelling out the cuts by hand.

The rotary plough was originally invented by J. W. Elliott, a Toronto dentist, who in 1869 took out a patent on a "compound revolving snow shovel". This invention employed a wheel having a number of flat arms supported by a shaft rotating in line with the track. The wheel was enclosed in a casing shaped at the forward end to collect the snow, and flaring

backward to a circular housing surrounding the wheel, with an opening at the top to permit the snow to be thrown out by centrifugal force. No practical use was made of this invention, but it nevertheless contained the basic principles of the modern rotary plough. The idea was later taken up by Mr. Orange Jull, who improved the Elliott wheel by placing a knife or cutting wheel in front of it. This was intended to cut the snow from the bank and pass it back to the fan wheel behind it, for discharge through the top of the casing.

Mr. Jull, it might be noted, was much interested in the problem of snow removal from railway lines, and the Toronto & Nipissing Railway (built as a narrow-gauge line between Toronto and Cobocok) was the scene of some of his earlier experiments. He is perhaps best known for the peculiar rotary snow removal device which was tried out on the Denver South Park & Pacific Railroad in Colorado. This machine, which consisted essentially of a huge auger-drill like the common carpenter's brace-and-bit, proved on its first major trial to be a total failure, since the revolving drill did not remove the snow from cuts, but merely compressed it more firmly between the sides of the cut and the train, which quickly became solidly wedged in.

The Jull improvement of the Elliott wheel was taken up by Leslie Brothers, of Orangeville, Ontario, who constructed a full-sized prototype model. The fan wheel was mounted on a hollow shaft and the knife wheel was carried on a solid shaft which passed through the hollow shaft. The two wheels were rotated in opposite directions through a system of bevel gears. This model was erected on the end of a flat car during the winter of 1883-84 at the CPR shops at Parkdale (Toronto), but the winter was almost over before it was completed. In order to test it, a bank of snow and ice was shovelled onto the track in a cut on the CPR between Parkdale and Queen's Wharf. The Elliott plough succeeded in throwing the accumulated snow as far as 200 feet from the track. This test showed the necessity of a flanger to prevent derailments in compressed snow and ice, and also the desirability of permitting the snow to be ejected on either side of the line. Leslie Brothers accordingly developed a wheel with reversible cutters, and a movable hood on the casing through which the snow could be discharged on either side of the track.

A complete plough of this design was constructed for Leslie Brothers by the Cooke Locomotive Works of Paterson, NJ, and was operated on the Chicago & North Western Railway in northern Iowa in 1885-86. This experience showed that the principle of counter-rotating wheels was impractical, as the friction caused by the snow passing from one wheel to another revolving rapidly in the opposite direction, absorbed more power than the actual cutting and throwing of the snow. Leslie Brothers therefore devised a single wheel having cutters attached directly to it, which automatically accommodated themselves to the direction of rotation of the wheel. This wheel was attached to the C&NW plough and was tested late in the same winter with excellent results. The entire plough was then rebuilt at Paterson incorporating several improvements which had been suggested during the winter's use, and was given a more severe trial during the winter of 1886-87 on the Oregon Short Line, a Union Pacific subsidiary. The OSL was so satisfied that it not only purchased the experimental model outright but ordered three more for immediate construction.

The rotary plough spread rapidly through the northern United States, and in 1888 the Canadian Pacific constructed eight in conjunction with the Polson Iron Works, Toronto. These were of the "square fan" type in which the back of the wheel was a plate of sheet steel to which steel partitions were fastened, radiating from the centre like the knife cuts in a pie, and supporting at the outer ends the front ring of the wheel and the bearings on which the cutters pivoted when accommodating themselves, through the pressure of the snow being cut, to the direction of rotation. The snow was passed back into the space between the cutting

knives and the back plate. The steel supports divided the interior of the wheel into a number of compartments shaped like a slice of pie, and the centrifugal force caused by the rapidly rotating wheel caused the snow to fly to the outer or wider, ends of the compartments where it was held by the stationary circular housing of the wheel which conformed closely to the ends of the compartment partitions. At the top of the plough the housing suddenly ceased, and the snow was ejected violently through this opening by centrifugal force, and was directed to either side of the track by an adjustable "spout".

This wheel proved satisfactory when handling dry snow, but in heavy work the partitions proved too light to support the stresses involved when the wheel bit into heavily packed or damp snow, and the wheel developed severe twisting and distortion when the "back ran ahead of the front". To overcome this, Leslie Brothers introduced the "scoop wheel". In this wheel the compartments become cast-steel pie-shaped concave scoops secured to a cast-steel centre. The knives are carried on the edges of the scoops, and the knives on adjacent edges of adjoining scoops are so connected by links that according to the direction of rotation, when one knife is cutting the snow, the other is pressed down out of the way. The scoop wheel entirely superseded the square fan type, and has been the basis for later rotary plough construction.

The construction of rotary ploughs has not changed greatly in later years, in principle at least. The wheels have become larger, the drive more powerful, movable "cut wideners" have been developed to make the effective cutting width somewhat greater than the actual diameter of the wheel, and improvements in design details have enabled greater speed and power to be obtained. Simpler and lighter rotaries, even including some single-truck specimens, were constructed for use on interurban lines; examples of these were to be found on the Toronto & York Radial Railways and the Montreal Tramways Company suburban lines. More recently, experiments have been made in driving the wheel otherwise than by the steam reciprocating engine. Nevertheless, the basic conception remains that of a Toronto dentist 92 years ago.

#### T.T.C. NOTES

Temporary trackage extending about 300 feet in each direction from the corner of Avenue Road and Bloor Street has been installed by the TTC. This trackage, which was placed in use on January 10<sup>th</sup>, will be in use until January 27<sup>th</sup>, and will permit uninterrupted street car service while the subway structure is being built under the track area in the centre of Bloor Street. Eastbound street cars will operate on the sidewalk in front of the Royal Ontario Museum and the Household Science Building of the University of Toronto, and westbound cars on the pavement adjacent to the curb. Overhead has been installed on typical interurban bracket-arms affixed to the existing overhead poles. The UCRS will operate an inspection trip over this unusual installation on January 22<sup>nd</sup>. (see page 1).

➤ The old island ferry "T. J. CLARK" has been sold for scrap to the Toronto Dry Dock Company for \$1.00. Used in recent years in freight service, this venerable craft required certain repairs that were not deemed economically feasible, and has been refused by the Ontario-St. Lawrence Development Commission to whom it had been offered as an exhibit for the Morrisburg Museum.

➤ Large maps of TTC services have been installed at Davisville Station and Eglinton Terminal of the Yonge Subway for the use of blind persons. The routes are indicated by raised markings and all necessary lettering is in Braille.

#### L. & P. S. RAILWAY 14 PRESERVED

Shortly before Christmas, London & Port Stanley Railway car 14, one of the two largest

interurban cars ever to operate in Canada, was purchased as a joint venture of the Ontario Electric Railway Historical Association and the Canadian Railroad Historical Association. Originally it had been intended that each organization would obtain a car, but the railway was willing to sell only one car to rail fan organizations, agreement between the two associations was reached whereby the car would actually be the property of the CRHA and would ultimately be added to the Montreal museum, but for the foreseeable future would remain in Ontario under the auspices of the OERHA. Owing to its length (72 feet) and weight, it is not considered feasible to move it to the Rockwood property by road and the present arrangement was therefore arrived at. The car is at present stored in an inaccessible location on an industrial siding where a 24-hour guard is maintained. It is considered as a notable exhibit in the history of Ontario electric railways, as the two 1917 cars (12 and 14) were constructed as the forerunners of the large number of cars to be built for the Hydro-Radials proposed between Toronto and London and Toronto and Niagara Falls and are indeed the only visible reminders of this grandiose scheme apart from the wider-than-necessary rights-of-way on which some Hydro transmission lines are built.

#### C.N.R. SCARBORO STATION DESTROYED BY FIRE

The venerable frame station of the Canadian National Railways at Scarboro Junction, in eastern suburban Toronto, was almost totally destroyed by fire between 1 and 5 A.M. on Sunday, December 18<sup>th</sup>. This station was situated between the tracks of the Oshawa Subdivision and the diverging Uxbridge Subdivision, and dated from the early days of the Grand Trunk Railway of Canada. At one time this station stood between the Grand Trunk broad gauge on its south side, and the narrow (3'-6") gauge of the Toronto and Nipissing Railway, on the north side of the building.

The fire is reported to have originated in the express office and had made substantial headway before being detected. When the flames penetrated the area between the roof and a false ceiling, in the central section, which area represented one-time agent's living quarters, the fire was well out of control and the entire station was doomed. The building was jammed with Christmas express parcels, most of which were lost. Traffic on the Oshawa Subdivision was halted or rerouted during the period that the fire was out of control. Emergency arrangements were put into effect later in the day, including the placing of Caboose 77559 on a siding parallel to the Oshawa Subdivision just east of the St. Clair Avenue crossing to serve as temporary agent's quarters. Wire crews worked through most of the day of the 18<sup>th</sup> disconnecting telephone and telegraph lines from the remains of the burned out station and connecting them to the caboose, standing several hundred feet to the west along the main line. A dwarf order board was erected on the south side of the main line directly opposite 77559. Officials also combed the ruins during the day for such express parcels and other items as might be salvageable.

Early on the 19<sup>th</sup> a demolition crew commenced work in dismembering what remained of the station, concentrating on clearing first an area directly behind the burned out order board, where a car body was to be placed to serve as a second temporary agent's office. During the day a work train was dispatched to Scarboro with large crane 50397 and service (dining) cars 68636 and 69323 (converted box cars), among other equipment. The body of 69323 was lifted from its trucks and placed beside the Uxbridge Subdivision tracks, immediately south of the section houses, to serve as a temporary express office. Later, at about 6:00 P.M., 68636 was lifted from its trucks by means of a single cable sling as it stood on the eastbound main line (with 50397 standing on the westbound), and placed directly on the site of the old station, in the area that had been cleared during the day. Both bodies were

placed on wooden blocks, leaving all draft gear and brake rigging intact.

To time of writing (January 12<sup>th</sup>), all markings had been left on the car bodies, although various express office signs were affixed to 69323. For several days prior to Christmas a steel 7100 series express car was spotted on the siding parallel to the Uxbridge Subdivision, opposite 69323, to handle the overflow in express parcels. This car was later removed, and box car 574322 took over this function. Bunk car 61018 was also stationed here during the period that demolition and other work was in progress in the area. By December 28<sup>th</sup> the station had been totally removed and the area which it occupied was filled with crushed stone, the old foundation having been ripped out. This foundation, interestingly enough, was a webwork of ancient rails.

To time of writing Caboose 77559 and the dwarf order board were still in use; the permanent order board had been partially repaired and certain work had recently been done to 68636 to prepare it for use. The arrangements with respect to the car bodies would indicate that it is intended to return them to service as operating cars at a later date, presumably following the construction of a new station, although no official advice has been received as yet in respect of the intention of the C.N.R. to replace the destroyed station. S.I.W.

#### MISCELLANY

The "on-again, off-again" Pine Point railway from the Northern Alberta railway into the Peace River country seems to be "on-again". It is stated that arrangements are now being made for location surveys for the line running north from Grimshaw, Alberta. The mining company whose products would be exported over the railroad, is anxious to commence shipping before 1965, and the railroad will be about 400 miles long. No definite decision has yet been made by the Dominion Government, however.

➤ An interesting project is being planned for Schefferville, the northern terminus of the Quebec North Shore & Labrador Railroad. Under this plan, railroad tunnels would be driven directly into the ore deposits and ore dumped directly from the surface into railroad cars ready for shipment. Pilot tunnels have already been driven to gather information about the nature of the soils to be encountered.

➤ Plans are being made for a large-scale construction of additional port facilities at Moosonee, northern terminus of the Ontario Northland Railway on James Bay.

➤ A new C.N.R. station is being planned for Burlington, Ontario.

➤ A record heavy shipment was delivered from Sorel, Quebec to Lakeview, Ontario. Weighing 176 tons, it will form part of an electrical generator at the generating station under construction at Lakeview. Sorel is the only port in Eastern Canada with a large enough crane to handle the trans-shipment from ship to railway car.

➤ The corporate existence of the B.C. Electric Railway Company has been wound up, and the company absorbed into the parent B.C. Electric Company.

➤ The C.N.R. has been proposing to operate freight trains over two divisions with the same crew, instead of changing at each division point as is now the case. A trial run was scheduled for November 24<sup>th</sup> between Toronto and Capreol, eliminating the normal change at South Parry. The proposal was dropped, however, under threats of a wildcat strike by the unions involved.

➤ The General Motors Diesel Limited plant in London, virtually closed down since the completion of dieselization in Canada, will be re-opened on a limited scale on receipt of an export order for 12 locomotives for the New Zealand Railways. Also, the plant is scheduled to begin production of transit and suburban motor buses by June, 1961.

➤ Special round-trip fares were offered for passengers travelling to Vancouver for the

Grey Cup game. The normal return coach fare is approximately \$152 "off seasons", and the special rate was \$103.50 per person for two passengers travelling together, \$92 each for three, and \$78.25 each for four.

➤ The CPR and the C.N.R. have renewed the agreement, originally reached in 1939, under which they jointly operate the Hotel Vancouver. The renewed agreement is also for 21 years.

➤ The C.N.R. has called tenders for construction of a 55-mile branch line into the Mattagami Lake mining area, from a point on the present C.N.R. line in the vicinity of Seneterre.

➤ C.N.R.'s small steel arch-roof RPO passenger trailer 15767 has been bought by the Lakeshore Model Railroad Association for use as a club house, and placed on a short, isolated section of track on the north side of Mimico Yard, near Main Street and Willowbank Road. This car was last used with self-propelled car 15832 on the Lindsay - Orillia - Midland line, having been assigned to that service after wooden trailer 15747 was damaged.

#### MONTREAL SUBWAY PLANS

Rapid transit discussion is much in the air in Montreal. Plans have been published for a 13.6 mile system to cost approximately \$260,000,000 and the Quebec Legislature is being asked to approve of this expenditure on behalf of the Montreal Transportation Commission. The cost figure given provides for the entire line to be constructed in subway; if open-cut were employed for part of the distance, the cost would of course be reduced.

The plans show two lines: One would begin at the present Youville Shops, which have been retained for this purpose since the end of street railway operation in Montreal. It would proceed south under St. Denis Street with stations at Cremazie, Villeray, Jean-Talon, Beaubien, de Fleurimont, Boulevard St. Joseph, Mount Royal Avenue, Cherrier, and St. Catherine Streets where connection would be made with the cross town line. From there the line would turn west under Notre Dame Street with stations at Champ de Mars, Place d'Armes and McGill Street, and then north under Windsor and Peel Streets with stations at St. Catherine (another connection) and Sherbrooke, the end of the line. The cross town line would start in the west at Girouard Avenue, and proceed under Sherbrooke Street with stations at Victoria Avenue and Kensington, and then would angle south to the Forum, whence it would run under St. Catherine Street with stations at Atwater, Guy, Peel (connection), McGill College Avenue, St. Lawrence Boulevard, St. Denis (connection) and Amherst, thence angling north to Ontario Street with stations at Delorimier, Frontenac, Davidson and Boulevard Pie IX, the east end of the line.

An investigation is now under way by a technical consultant firm of the feasibility of incorporating the C.N.R.'s Mount Royal tunnel into the rapid transit scheme. An origin-and-destination survey is being undertaken, and the question is being considered of locating additional stations along the line. The C.N.R. has stated, rather equivocally, that the use of the tunnel for subway service was "feasible, but not necessarily economically feasible".

#### EXCHANGE SECTION

For sale — Six post cards of Detroit Street Railway Birney car 194; also six post cards of Grand Trunk Western 4-8-4 6323; price 30¢ each set, from Steve Zawacki, 19366 Fenelon, Detroit 34, Michigan.

➤ Wanted — March 1957 "*Trains*" magazine. Any condition, must be complete. Ian G. MacDonald, 9 Humbercrest Point, Toronto 9.

➤ Roger Boisvert, 1150 St. Julie Street, Trois Rivieres, Quebec, would like pictures of the following locomotives: CPR 1057, 5404, 5447, 418, 3051; C.N.R. 1323, 1385, 2190, 2192,

2196, 2613, 3210, 4015, 4022, 4031, 3584, 5035, 5054, 5502, 5508, 5510, 5511, 5518, 5528, 5534, 5551, 5552, 5553, 7512, 8388; TH&B 76.