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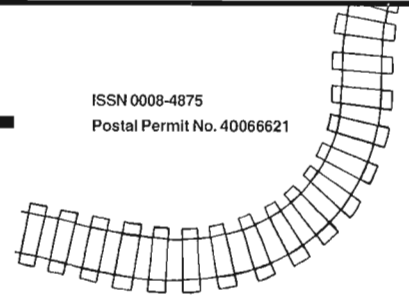


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FRONT COVER: On February 6, 1971 the CRHA operated an excursion to the Laurentian mountains north of Montreal. This photo was taken after a runpast with the all stainless steel train. The rear car is the "Revelstoke Park". Photo by Fred Angus

BELOW: During the summer three pieces of equipment came to the Canadian Railway Museum on long-term loan from VIA Rail. This view shows dome car "Sibley Park" at the museum on August 27, 2004. Photo by Fred Angus

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Canadian Rail is continually in need of news, stories,, historical data, photos, maps and other material. Please send all contributions to the editor: Fred F. Angus, 3021 Trafalgar Avenue, Montreal, P.Q. H3Y 1H3, e-mail angus82@aei.ca . No payment can be made for contributions, but the contributor will be given credit for material submitted. Material will be returned to the contributor if requested. Remember "Knowledge is of little value unless it is shared with others".

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The 50th Anniversary of the CPR Stainless Steel Passenger Fleet

Fifty years ago the Canadian Pacific Railway took delivery of the first of 173 Budd stainless-steel streamlined passenger cars. These modern cars, the first of their type to operate in Canada, were a huge step forward in passenger rail travel. The purchase of this equipment was largely the idea of Norris R. Crump, Vice President of the CPR and soon to be its president. The new equipment began to go into service in 1954, and by April 24, 1955 enabled the CPR to introduce an all new transcontinental train "The Canadian", besides upgrading its sister transcontinental the "Dominion".

In later years, passenger service suffered from the competition from airlines and private automobiles, and in 1978 the CPR service was taken over by VIA Rail Canada. In 1990 the "Canadian" was moved from the CPR to the CN line, ending 104 years of transcontinental service on CP. However the stainless steel equipment continued in service, and in the 1990s was virtually rebuilt by VIA, equipped with head-end power and given a new lease on life. Most of these cars are still in service today, operating from coast to coast, Halifax to Vancouver, and it is expected that they will continue in use for many more years.

To commemorate half a century of the inauguration of these fine passenger cars, we are reprinting portions of an article that first appeared in *Canadian Transportation* for October 1954. We will also show some of the original photos and advertisements that accompanied the article. As a contrast we will also look at another fine CPR train that ran more than sixty years earlier.

Canadian Pacific's New Passenger Cars



The Canadian Pacific Dome-Observation-Lounge car "Banff Park".

The complete order for these 173 cars was divided into seven different car types, decided upon as the result of prolonged and intensive study on the part of the C.P.R. officers and officials concerned, sufficient to make up 15 complete transcontinental trains, including two types having glassed-in dome sections, the whole group being made up of:-

Eighteen scenic dome-observation-lounge cars, with drawing-room and three double bedrooms, each with accommodation for a total of 58 passengers.

Eighteen dome-buffet-lounge coaches, each with accommodation for a total of 73 passengers.

Eighteen dining cars, each with dining accommodation for a total of 48 passengers.

Twenty-nine roomette-bedroom-drawing room-section sleeping cars, each with accommodation for 25 passengers.

Forty-two roomette-bedroom-compartment-section sleeping cars; each with accommodation for 24 passengers.

Thirty first class passenger cars, each with accommodation for 60 passengers.

Eighteen baggage-dormitory cars, each with accommodation for up to 17 crew members and large baggage space.

The layout of each type of car is shown by the accompanying floor plans.

All of the cars have a coupled length of 85 ft., are 10 ft. 3/8 in. in maximum width, and the height from rail to top of roof is 15 ft. 10 in. as concerns the cars equipped with the scenic domes, and 13 ft. 6 1/4 in. as concerns all other car types.

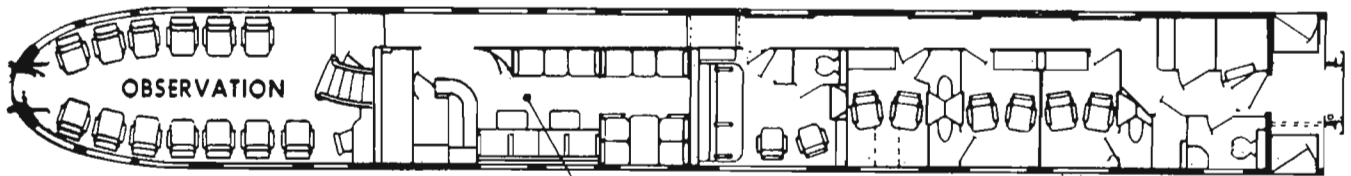
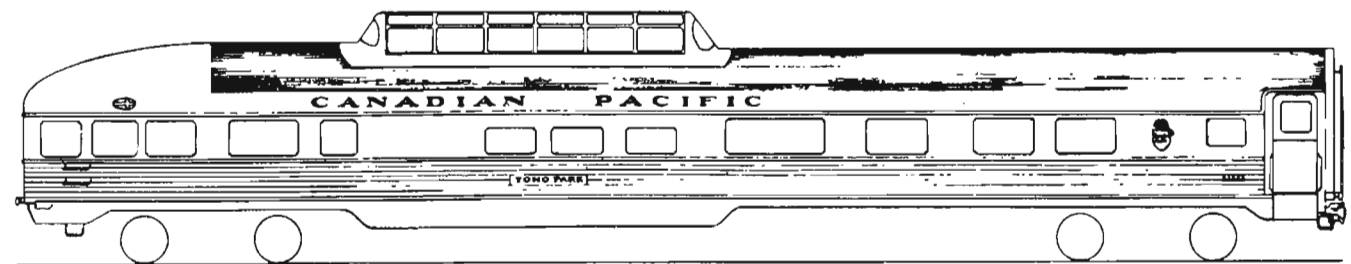
For the most part, the interior finish is made up of unpainted plastic in various colour schemes which provides a very attractive appearance and requires a minimum of maintenance.

The exteriors are unpainted stainless steel except for the standard Tuscan red colour the full length of the letterboard with the title "Canadian Pacific" in gold letters, a Tuscan red stripe on the belt rail moulding below the windows and the car name or numbers in Tuscan red and gold. The Canadian Pacific beaver emblem, cast in relief, is located in the dead light area at the four corners of each car.

Many of the major items required for the construction and operation of the cars are being manufactured in Canada, being applied either while cars are under construction or after delivery in Canada. These are as follows:- Trucks, draft gear, couplers, roller bearing journal boxes, air brake equipment, public address system, batteries, lighting fixtures, generator drives, parcel racks, air filters, window sash, lavatories, toilets, seats, chairs, carpets, interior murals, mattresses and pillows, air-conditioning equipment, diaphragms, fans and blowers, water coolers, berth and door curtain materials, ash stands and miscellaneous hardware.

Seven steps of a gracefully curved stairway lead up to the 24 passenger observation dome section. The handrails of the stairway are of clear plastic. The seats in the dome are the non-reclining, fixed type with adjustable foot rests attached to the seat. Each seat is constructed with foam rubber seat cushions, backs and arm rests, equipped with ash-receptacles in the ends.

The floor of the passageway, bedrooms, drawing room, beverage room, dome stairs, dome section and lounge observation section is carpeted throughout.



THE MURAL LOUNGE
SCENIC DOME LOUNGE CAR TOTAL PASSENGERS — 58

Dome-Observation-Lounge Cars

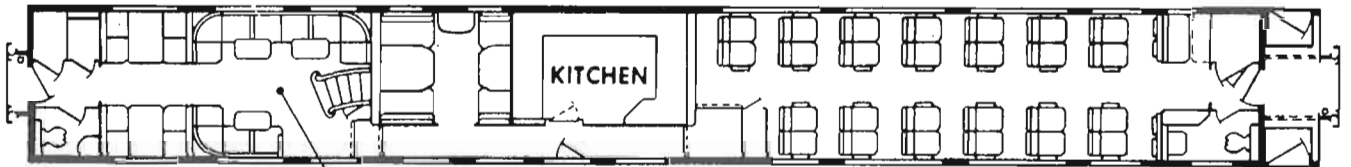
The dome-observation-lounge car is the feature car of each train. In the front end of the car, forward of the dome, are located three double bedrooms and a drawing room. Bedrooms "C" and "D" can be opened en suite if desired as these rooms are separated by a folding partition.

Immediately beyond the drawing room two steps in the passageway lead under the dome and past a glass-enclosed "Mural Lounge" accommodating 12 passengers. Each of the 18 cars is being decorated with a different mural.

Dome-Bufferet-Lounge Coaches

Each of the dome-bufferet-lounge cars presents an unusual combination of facilities, and is really three cars in one.

The forward 26-passenger coach section, ahead of the dome, features seating similar to the first class coaches. At the end of the coach section two steps lead down to a passage-way under the dome. Off the passage-way there is a kitchen from which snacks and beverages are prepared and served. This kitchen is finished in stainless steel throughout



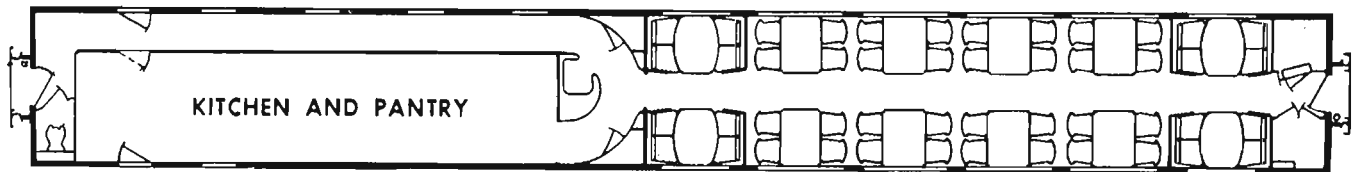
SKYLINE COFFEE SHOP
SCENIC DOME COACH TOTAL PASSENGERS — 73

Each mural is painted by an artist of the Royal Canadian Academy of Arts and they depict scenes from various provincial parks.

At the end of the passage two steps lead up into the 13 passenger observation lounge section behind the dome. A writing desk is provided here alongside the dome stairway for passenger use.

and features a combination three-gallon coffee urn and six-gallon hot water boiler, an automatic dishwasher, a combination ice cream and frozen food compartment and a general storage refrigerator among other kitchen facilities.

Beyond the kitchen and occupying the remainder of the under-dome area, there is a 6-passenger buffet section.

**DINING ROOM CAR****TOTAL PASSENGERS — 48**

This is separated from the passageway by clear glass panels on either side of the entrance, a large mirror being on the right wall and a mural on the left transverse wall.

Two steps lead up to a 17-passenger buffet section with a combination of curved settees, banquette seats and tables. From this section seven steps, with clear plastic hand railings, lead up into the dome, which seats 24 passengers and features non-reclining fixed type seats, similar to the dome-observation lounge car.

A men's toilet and lockers occupy the areas beyond the buffet section.

There is a conductor's seat and folding desk, and an electric locker on one side of the aisle at the opposite end of the car, and a women's toilet just inside the vestibule on the opposite side.

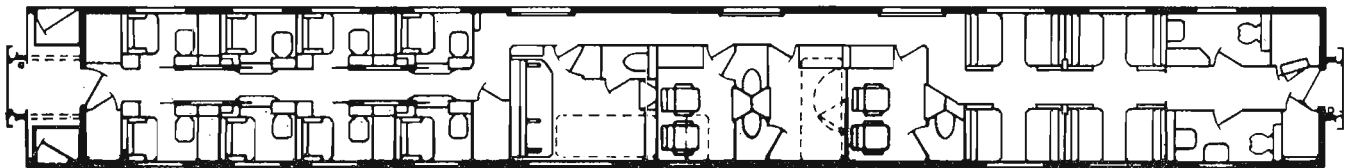
The remainder of the car is taken up by a kitchen and pantry constructed entirely of stainless steel and featuring electro-mechanically operated refrigerators, an automatic dishwasher which is employed for washing, sterilizing and rinsing dishes, and a combination three-gallon coffee urn and six-gallon hot water boiler among other kitchen facilities. Cooking is done on a propane gas-operated range.

The floor of the dining section is carpet-covered and the floor of the kitchen and pantry is covered with tile.

Roomette-Bedroom-Drawing Room-Section Sleeping Cars

The 29 roomette-bedroom-drawing room-section sleepers, each with space for 25 passengers, provides five different types of accommodation:

At the front end of the car are located four open sections with lower and upper berths, which are converted

**CHATEAU SLEEPING CAR****TOTAL PASSENGERS — 25**

Cable type roller curtains are provided on the windows in the coach section, the windows of the buffet section being equipped with venetian blinds.

The floor of the coach section is covered with durable rubber tile blocks, whereas the floor of the passageway, buffet section, dome stairway and dome section is covered with carpet.

Parcel racks are located on both sides of the coach section.

The Dining Cars

In the new dining cars, symmetrical banquette sections in each corner of the dining room seat 16 passengers, while in the centre chairs are provided for the remaining 32 passengers.

This car is also finished in plastic with bright mouldings, and features a ceiling having stars and night sky motif.

The windows in the banquette sections are 54 1/2 in. long, whereas the windows in the main dining area are 67 1/2 in. long. Da-Lite control venetian blinds are provided at all windows in the dining section. Window drapes are provided at the windows and have snap-button tie backs applied.

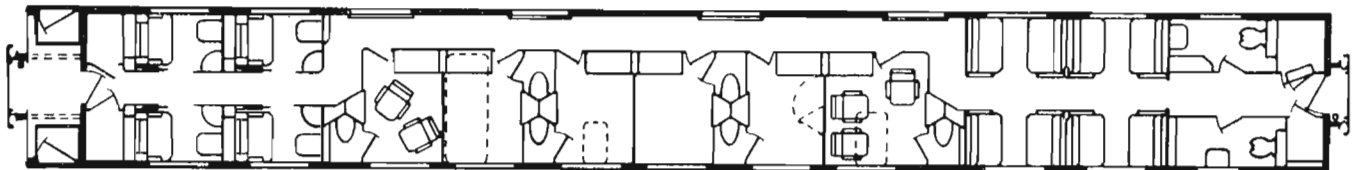
into facing settees for daytime use. Toilet and washroom facilities are adjacent at the end of the car.

In the center portion of the car are located three double bedrooms and a three-passenger drawing room, all featuring disappearing beds to form a daytime living room with movable, comfortable chairs and adjoining enclosed toilets. A separate lavatory and dressing table combination in each room is provided with three-way mirror for the convenience of women passengers. Taps for circulating refrigerated and filtered water are provided in each room. Double bedrooms "C" and "D" can be opened into one room by means of a folding-sliding partition between them to accommodate a party of four. The drawing room has longitudinal disappearing upper and lower berths and a transverse lower berth, convertible to a sofa for daytime use.

At the rear end of the car are located the latest in compact accommodations, the upper and lower duplex roomettes, two of each being located on either side of the car center aisle. The upper roomette is provided with a folding berth, and the lower with a simple sliding type, each room having individual toilet and washing facilities.

Luggage shelves and a soiled linen locker are located beyond the roomettes, just inside the vestibule.

The floor in all areas of this car type is carpeted.

**MANOR SLEEPING CAR****TOTAL PASSENGERS — 24**

Roomette-Bedroom-Compartment-Section Sleeping Cars

The 42 roomette-bedroom-compartment-section sleepers, each accommodating 24 passengers, have, like the 25-passenger sleepers, four open sections at the forward end of the car. In the center portion of the car is located a two-passenger compartment and five double bedrooms. Bedrooms "C", "D" and "E", "F" can be opened en suite, being separated by a folding partition.

At the vestibule end of the car are located four full size roomettes on one level, two on each side of the center aisle. These roomettes are of the latest design whereby the passenger need not open the sliding passageway door to raise or lower the folding berth, and feature a combination dressing table and corner lavatory and individual toilet. Two linen lockers, one on each side of the aisle, are located just inside the vestibule. At the opposite, non-vestibule end there is a men's toilet, and a women's toilet provided with a dressing table and vanity chair.

The floors of the passageway, bedrooms, portion of roomettes, compartment and open sections are covered with carpet.

1/2 in. in length, and are equipped with cable type roller curtains.

The floor covering is rubber tile blocks, and continuous parcel racks run throughout the coach and smoking sections on both sides of the car.

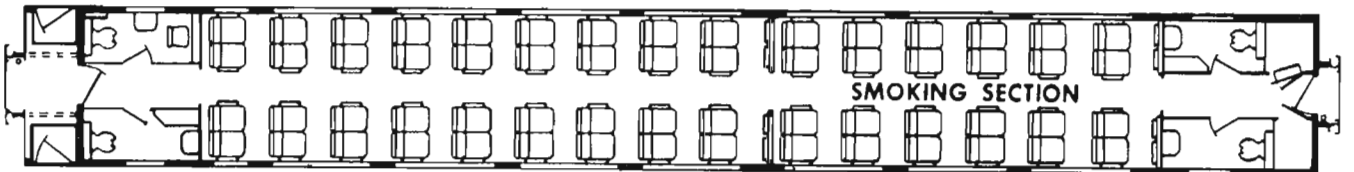
The interior walls, ceilings and bulkheads are lined with plastic panels, using bright, unpainted mouldings at the joints.

The Baggage-Dormitory Cars

In each of the 18 baggage-dormitory cars, the 47 ft. 6 in. baggage section has a load capacity of 35,650 lb. It contains wet floor racks, lockers, desk, electric water cooler, hot plate and enclosed toilet and lavatory.

At the rear end of the car is located the living quarters for dining and buffet car crews and stewards.

The stewards' room has an upper and lower bunk, a wardrobe, and complete facilities, while the crew section has accommodation for fifteen men in triple tier bunks. Adequate locker space, with washing and toilet facilities, and an enclosed stainless steel shower stall are provided adjacent to the bunks.

**DELUXE COACH****TOTAL PASSENGERS — 60**

The 60-passenger First Class Cars

The new first class cars, each seating 60 passengers, feature rotating, reclining type seats with adjustable headrest, also an adjustable leg and foot rest attached to the seat. Each seat is constructed with foam rubber seat and back cushions, and is provided with ash trays in the arm rests. The seats are arranged in a 24-passenger smoking section, which is separated by a glass partition from a 36-passenger non-smoking section.

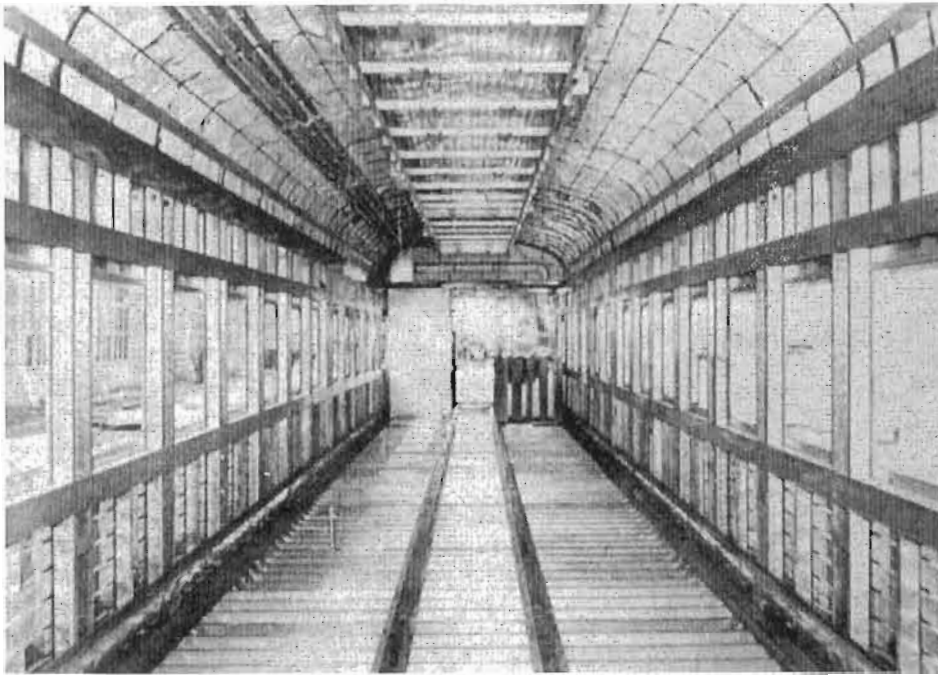
Separate washing and toilet facilities are provided at each end of the car, a men's toilet being located on each side of the center aisle of the car immediately beyond the smoking section, and a women's toilet on each side of the center aisle beyond the coach section at the vestibule end of the car. A dressing table and vanity chair are provided in one of the women's toilets.

Panel heating is provided throughout the car, and a warm air curtain is projected over the interior face of each window to eliminate cold drafts from the large glass area in winter. The windows in both main areas of this car type are 76

Having briefly outlined in the foregoing the interior arrangements of the seven types of cars comprised in the Canadian Pacific order, we now undertake a description of features common to all types, except, in some cases, the baggage-dormitory cars.

Structural Details

The Budd Company, said to be the only car builder turning out cars with the entire structural shell built of stainless steel, employs an austenitic material which secures its high physical properties by cold work and which is obtained in various tempers. Five different tempers, to suit the strength requirements and manufacturing processes for each part of the car body, are used with yield point varying from 32,000 to 110,000 p.s.i. and with corresponding ultimate tensile strengths of from 80,000 to 150,000 p.s.i. and elongations of from 55 to 18%. Thickness ranges from 0.015 to 0.2 in. Most of the body structure is made by the "Shotweld" process, a system of accurately controlled spot welds developed by Budd in 1930, which made it practical for the first time to join thin cold-rolled stainless steel with reliable and economical joints.



Chief features of framing of a non-dome stainless steel car

A car built by the company is designed and constructed as a hollow box beam in which the roof is the load-carrying top chord, the floor structure the bottom chord, the side frames are the vertical shear carrying members and the end frames give the body torsional stiffness. The side frames are modified plate girders with vertical channel or Z posts, flat deadlight panels backed by corrugations for flatness and shear carrying ability, continuous external mouldings at roof rail, belt rail and side sill, and a skip-node corrugated plate girder between belt and side sill.

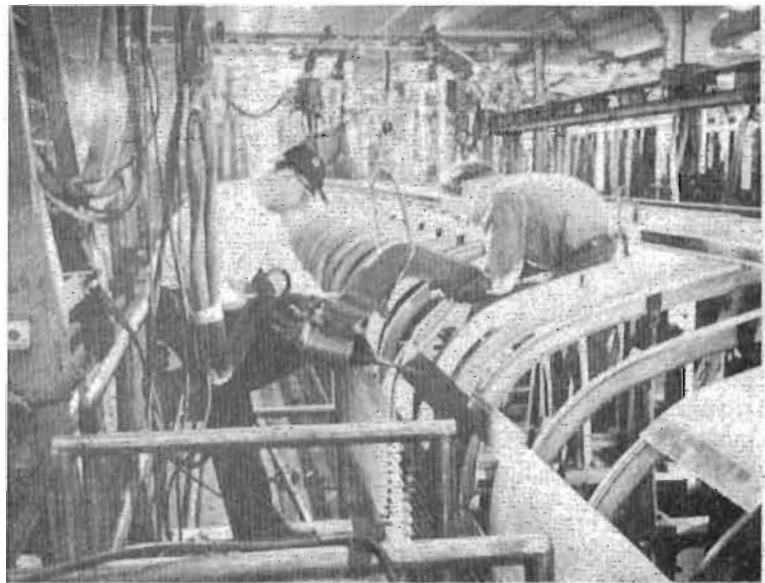
The Budd floor is also unique in being built as a strong horizontal plate girder to uniquely resist lateral or corner blows, in addition to incorporating continuous longitudinal stainless steel structural side sills and centre sill. Instead of the more customary intermittent floor beams plus longitudinal stringers, a Budd floor is made up of 4 in. deep "Z" shaped transverse floor members on 10 in. centres, the bottom flanges of which are extended to lap under and weld to the adjacent members to form a continuous weather-excluding bottom surface and floor girder.

The Budd stainless steel roof is unique in the following features: light, continuous longitudinal corrugations, plus heavier continuous longitudinal exterior purlins (that tie into collision posts at each end) welded to transverse "Z"-shaped carlines, suitably placed to develop load carrying ability in the corrugations. The roof includes a continuous smooth letterboard that also serves as connecting member to the side frame.

The stainless end frames incorporate strong exterior stainless steel vertical collision posts that tie into the underframe below and to the purline connections above at the roof. The end frames are covered with flat stainless steel

sheets suitably stiffened. The end frames incorporate another useful design feature much appreciated by roads which have had to lift cars by emergency handling. Budd cars have a large lifting eye in the top of each collision post for engagement by a lifting hook. This permits special handling of a car without inflicting further damage to the structure.

Much Weight Saved. - Following are the approximate weights of the seven types of C.P.R. cars, the empty weight being stated first, followed by the loaded weight in brackets: - Baggage-dormitory cars, 117,000 lb. (157,700); first class coach, 119,900 (132,000); dome-buffet-lounge coach, 146,400 (163,700); dining car, 133,900 (153,500); roomette-bedroom-drawing room-section sleeping car, 135,400 (143,200); roomette-bedroom compartment-section sleeping car, 134,100 (142,200); dome-observation-lounge car, 148,700 (164,000).



Car roof being assembled by "Shotweld" in builder's plant.

The Budd Company points out that former steel non-dome coaches, if modernized to include modern air-conditioning, electrical, water equipment and interior luxury items, would each weigh about 175,000 lb., compared with the 119,900 lb. of the new coaches, an excess weight of 46,000 lb; or 38.3%. The company expresses pride in the fact that its stainless steel cars are stronger than non-stainless steel cars built on the same specifications, in addition to being lighter. It states that this strength is a matter of record in many full scale proof tests and tests to failure of entire cars, in Budd's unique 2,000,000 lb. compression testing machine.



The final assembly bay, 1800 by 132 feet.



ABOVE: Ceiling fittings enter a Dome-Observation-Lounge car at the Budd Co. plant.

RIGHT: The ceiling is fitted in the lounge section.

Plastics Extensively Used in Interiors, Featuring Micarta and Armorply

The extensive use of recently-developed plastics in the new cars marks a new departure in this field. The materials used were chosen to provide a very handsome appearance in the car interiors. A smooth satin-like finish which is pleasant to the touch and is free of shiny gloss has been achieved. In addition, great savings in maintenance will be made possible due to the fact that the plastic finish used for walls, ceilings, doors, wainscoting, bulkheads, partitions and window sills is practically indestructible and seldom requires repairing. The plastics themselves are colored to blend with the various decorative schemes of the cars, providing a more permanent finish than could be achieved by the use of paints.

The ceilings are a unique construction combining .081" aluminum and .015" Micarta. The Micarta is bonded to the aluminum in the same operation that molds the Micarta sheet. The Westinghouse Electric Corp., manufacturer of Micarta, is said to be the only firm so far able to make this type of plastic combination and offer it for sale commercially. The product originally was developed at the request of the U.S. Maritime commission and was used on the liner United States for all surfaces in staterooms and dining rooms. Its performance on the liner no doubt encouraged the Canadian Pacific and the Budd company to employ it in the cars now being built.

The sheets are delivered flat to the car manufacturer who subsequently contours them to the required shape by placing them through metal forming rolls. This operation of contouring is perhaps the best evidence of the successful welding of the plastic to the aluminum sheet.

All wainscot, pier and freize panels are of 1/8 in. thick Micarta manufactured in such a way that the flat sheets, as delivered to the car builder, have in them a concave curvature with respect to the decorative side. This assures complete flatness when the panels are set in place, since they draw to the plane of their center axis.

For all interior doors and the partitions between compartments, bedrooms and the corridor, a combination of .025 in. aluminum with a .051 in. Micarta facing was glued to two sides of Marine grade plywood. The final thickness of these panels is 1/2 in. and the construction of the plywood plus metal plus plastic was decided upon to give the maximum in stiffness and to assure the minimum of sound transmission. In areas where stiffness and sound transmission are not so important, 1/2 in. panels consisting of Marine grade plywood are faced with 1/16 in. Micarta with the metal being eliminated.



The folding partitions consist of Marine grade plywood faced with 1/16 in. Micarta in an over-all thickness of 3/4 in.

All access doors such as those leading to air-conditioning, light and other controls are of 1/2 and 3/8 in. thick Armorply, meaning a plywood faced two sides with a zinc coated steel. These panels are subsequently painted.

In the crew's quarters and diners, Armorply is again used in 1/2 in. thickness being faced on one or both sides with .025 in. number 4 polish stainless steel. All panels have metal on both surfaces or where one surface is concealed from view; the metal used is a zinc coated steel which balances the stainless steel facing.

The Westinghouse firm provides the Micarta, either the solid 1/16 in. or 1/8 in. sheet, or the combination of the .015 in. Micarta on the aluminum. The United States Plywood Corp., national distributor for decorative Micarta, in turn laminates the Micarta in any of its combinations to plywood, as required, this work being done at a new Armorply plant at Cattaraugus, N.Y. As concerns the interior doors for all compartments, in the C.P.R. cars, these are delivered to the Budd Company semi-fabricated, i.e., with all cut-outs for locks, grills, etc., and with a stainless channel molding applied. The method of attachment of the stainless steel channel molding is unique; no mechanical means are employed, due to development of an exceptionally fine adhesive which holds the molding permanently in place.

Electrical Power

The electrical power on all cars is supplied by means of a multicell storage battery and an axle-driven generator. The battery provides the direct current source of power when the cars are not in motion or are moving at too slow a speed to drive the generator. The generator, which supplies the required electrical power when the cars are moving at a speed sufficient to cut in the generator, or when attached to a standby source of power, also provides enough excess energy to recharge the battery.

With the exception of the baggage-dormitory car, all cars are equipped with a motor alternator to supply alternating current power necessary for fluorescent lighting, razor outlets, vacuum cleaner outlets, electrostatic air filters, radios and P.A. systems. Power required for convenience outlets of the baggage-dormitory car is supplied by a vibrator inverter.

The baggage dormitory cars and the coaches have 25 k.w. generators, the dome coaches, diners and dome sleepers have 35 k.w. generators and the sleeping cars have 30 k.w. generators. All cars are equipped with Spicer drives.

The Spicer hypoid drive gear assembly is attached to one axle on the inboard end of one truck of all cars by clamping a compressor carrier, which uses a high durometer rubber under compression as means for resisting slipping on axle.

The dining cars, and the two types of sleeping cars are provided with one 57 cell MLH-31-DM Exide powerclad battery, whereas the baggage dormitory cars, coaches, dome coaches and dome observation cars are provided with one 57 cell Gould type KAZ-21 battery. All batteries have a capacity

of 600 amp. hours at an 8 hour rate of discharge. All types of cars are equipped with two 150 ampere D.C. swivel type battery charging receptacles, one located at each side of the car under bottom of the skirt. Two Pyle National 100 ampere, 4-pole, 220-volt, 3-phase 60-cycle standby receptacles are also on each car, located on each side of car under bottom of the skirt. The fourth pole energizes the A.C. coil of the motor starter.

All cars except the dome coach and dome sleeper are provided with four stainless steel battery boxes, designed to accommodate 4-tray, 5-tray or 6-tray battery units, depending on the particular car on which they are applied. The dome coach and dome sleeper are equipped with three stainless steel battery boxes of adequate size to accommodate 4-trays, 5-trays, 6-trays or 9-tray battery units as required for that particular car.

Heating

The cars are heated by means of low pressure steam using a system supplied by Vapor Heating Corporation and designed to function adequately in temperatures of -40°.

The areas requiring heat are provided with a thermostatically controlled system using aluminum finned radiation set in stainless steel heater guards along the sidewalls at floor level, and operating in conjunction with an overhead heating coil, which is part of the air-conditioning evaporator units.

All dome cars are equipped with a light sensitive thermostat which automatically reduces the amount of cooling in the dome section when the sun load goes off.

The control panel for operation of the heating and air-conditioning system of all cars, with the exception of the sleeping cars, is fully automatic, with a knob set so that the right hand position is for "Day", left hand position is for "Night" and center position is "Off". The panel is manually operated with porter control and is located in the switch locker.

A system of panel heating is used in conjunction with the floor heat whereby heated air rises behind the wainscoting and escapes at the inside bottom edge of each window, thereby projecting a curtain of warm air over the glass area and eliminating any question of complaints of cold drafts from the windows in winter. All types of cars are provided with panel heating in the vicinity of the car where passengers or crew members might come in contact with car walls.

All aluminum fin radiation is set in stainless steel heater guards, except where the fins are located behind built-in seats having an enclosed base. Seat enclosures have holes in the face to allow circulation of air over the radiation, and holes are also provided in the top of the built-in seats to allow for proper air circulation.

Air-conditioning

All cars are equipped with electro-mechanical freon type air-conditioning units. The equipment for the baggage-dormitory car is of 4-ton capacity, and handles 1200 cu. ft. per minute, of which 600 cu. ft. is fresh air. The non-dome coach

and dining car have an 8-ton unit and a maximum air circulation of 2400 cu. ft. per minute, of which 800 cu. ft. is fresh air on the coach and 850 cu. ft. on the diner. All the sleeping cars, with the exception of the dome observation sleeper, are equipped with a 7-ton capacity unit and handle 1800 cu. ft. of air per minute, 800 cubic feet of which is fresh air. The equipment for the dome coach and dome observation sleeper has 12-ton capacity, consisting of 2 separate units of 6-ton capacity each, and handles 1800 cu. ft. air volume per minute on lower floor, with 500 cubic feet of fresh air per minute, and 1500 cu. ft. air volume per minute in the dome, with 250 cu. ft. of fresh air per minute, the remainder being recirculated.

With the exception of the non-dome sleeping cars, all cars are provided with a single speed direct connected compressor motor unit, mounted underfloor and equipped with a cylinder unloading device on the compressor. The motor is arranged for direct current operation on unregulated voltage. Non-dome cars are equipped with 12 hp motors and the dome cars with 14.5 hp motors.

The non-dome sleeping cars are provided with a two-speed belt connected compressor-motor unit mounted underfloor. The motor is arranged for direct current operation on unregulated voltage.

One dry type condenser unit, which is complete with a d.c. motor operating on unregulated voltage, is applied on all non-dome cars. Dome cars are provided with two dry type condenser units.

An overhead mounted unit, complete with direct driven blower motor assembly, is part of equipment on all cars except the dome coach and dome sleeper, which are equipped with an overhead mounted unit with a direct driven blower motor assembly arranged for two speeds.

Ventilation for all cars is accomplished by a blower unit, which is part of the air-conditioning system and is mounted in an overhead plenum chamber. The blower delivers air through the evaporator and heat coils of the unit to the main air distribution duct by means of a fabric connecting duct. Air is delivered to the different passenger or crew areas through anemostats, multi-vent panels or, in certain cases, grilles, which are mounted directly in the bottom of the main supply duct or supplied by branch ducts.

Water Supply

The water supply for all cars used for drinking, cooking, washing, etc., is contained in stainless steel air pressurized tanks enclosed in an insulated casing located directly below the center sill of car, the capacity of the tanks varying from 300 gallons on the baggage dormitory cars to 500 gallons on the diners, in accordance with the estimated demand for the particular car type in question.

All drinking water is chlorinated, filtered and cooled by electro-mechanical water coolers, the sleeping cars having a pump operated circulating system with individual outlets provided in each room.

Music and Public Address System

A special feature of these trains is the music and public address system for which each type of car except the

baggage-dormitory car is equipped. The system is wired for three channels, two of which provide continuous programs of tape recorded music, the remaining channel being used for public address by which the conductor or other authorized persons can make station announcements or provide commentary on items of scenic interest.

The system amplifier is located in the dining car, with individual speakers located in each room or area of sleeping cars and coaches.

Each bedroom is equipped with a selector switch and volume control for the convenience of the occupant.

Trucks

The Commonwealth trucks for all cars have a one piece truck frame of cast steel, manufactured by Canadian Car & Foundry Co., Ltd., and are designed for 6 x 11 in. roller bearing journals. The baggage-dormitory cars; duplex roomette-double bedroom-drawing room-open section sleeper and the roomette-double bedroom-compartment-open section sleeper are provided with SKF roller bearings, whereas the coaches, dome coaches, dining cars and observation dome cars are provided with Timken roller bearings. The truck wheel base is 8 ft. 6 in. The pedestal jaws, center and end transoms, generator drive torque, safety arm lugs and spring seats are cast integral with the truck frame. Trucks are of the four-wheel, single drop equalizer type with bolster and equalizer coil springs, which have a design deflection of approximately 9 1/2 in. under normal maximum weight of car. The truck bolster is one piece channel-type cast steel Commonwealth grade, and has a bolster bumper pad and bolted-on center plate applied. Pin holes are bushed with case hardened steel bushings. Spring planks are one piece cast steel. Forged steel swing hangers and cross bars of outside type are applied, swing hanger and cross bar bearing being cast steel. Equalizers for all trucks are a single "I" beam shape of forged alloy steel. Two vertical shock absorbers, Houdaille Friction Snubber type, one at each end of the bolster, are applied on all trucks to dampen vertical and lateral motion of the bolster.

The 36 in. rolled-steel wheels are machine balanced and have 2 1/2 in. rim tapered treads.

The trucks have Budd disc-type brakes, operated by four cylinders on each truck, and designed to produce a retardation of approximately three miles per hour per second on dry track, based on the light weight of the car, and on a brake cylinder pressure of 100 lbs.

Air Brakes

The air brakes on all cars are the Westinghouse H.S.C. type with D-22-AR control valves and arranged for use with Budd disc type brake. Each axle is equipped with the Rolokron anti-wheel-slide device. Two 16 x 72 in. air reservoirs tested for 210 lb. hydrostatic pressure, are on each car.

Operating in harmony with the air brakes, and so arranged as to apply braking pressure on both axles on one truck at each end of the car, is a Peacock lever type handbrake, all cars being provided with two hand brakes mounted on collision post at each end of the car, while the dome sleeper has one handbrake mounted on the collision post at the vestibule end of the car.

Sound Deadening

Fabreeka pads for sound deadening are provided at the bolster, bumper blocks, "I" beam equalizer seats, swing hanger bearings, equalizer spring bottom and top seats and bolster spring bottom and top seats. Thermoid pads for sound deadening are also applied between truck center plate and body center plate. The trucks of all cars are also provided with thermoid vertical sound deadening collars around pilot hole of truck central bearing.

Couplers and Yokes

Both ends of all cars are provided with an A.A.R. standard type "H" tight-lock H-81 coupler with single rotary lock lift, and high tensile steel yoke.

Draft Gear

The draft gears at each end of all cars are Waughmat, twin-cushion, double acting type, the bottom draft gear supports being bolted to end under-frame unit. The draft gear pocket contains Fabreeka pads adjacent to the connection between draft gear yoke and coupler, for sound-deadening purposes.

The Budd Disc Brake

Among the many outstanding engineering developments incorporated in the new C.P.R. cars is the improved CF type disc brake. A Budd invention, the disc brake provides what is claimed to be the safest, fastest and smoothest stopping ever accomplished on railway equipment.

The disc brake represents a completely new solution to the problem of how best to stop a train. The braking action is accomplished by the application of asbestos compound shoes applied by air pressure to a special air-cooled cast iron disc mounted to the inside hub of each wheel. It has been heralded as the only basic improvement in braking systems since the invention of the air brake nearly 85 years ago.

By transferring the braking action from the rim of the wheel itself (the same principle used to stop horse-drawn wagons and carriages for centuries) to the disc, the wheel is restored to its prime function of supporting and guiding the car as it moves along the rails. This eliminates the danger and expense caused by excessive wear and cracks in the wheel resulting from the tremendous heat generated in the process of bringing a train to a stop. At the same time, a much smoother and quieter stop is achieved due to the fact that the disc brake provides a constant coefficient of friction irrespective of speed, load or shoe pressure, and thus eliminates jerking, pitching and noise.

Since the disc brake can bring a streamliner to a safe and comfortable stop from high speeds within a shorter distance and in less time, it is possible for the schedule of the train to be stepped up considerably. The Budd Company advises that many disc braked trains average better than 60 m.p.h. on their regularly scheduled runs.

Among the disc brake's other advantages is the fact that it has only half as many component parts as regular clasp type brakes. It is a great deal lighter, and saves approximately 2,000 lb. per car. Remarkably long service is



Passengers in the dome are afforded a splendid view of the unsurpassed scenery.

obtained from the asbestos shoes, with a resulting saving in maintenance. It is customary to change shoes on clasp type brakes at the end of 6,000 miles of service. The remarkable asbestos shoe of the disc type brake consistently performs with complete reliability for 100,000 miles or better. The maintenance savings thus achieved amount to about \$24,000 per year on each 15-car train.

In addition to stopping trains, brakes perform another exceedingly important function. On long down grades brakes are in almost constant application to control the speed of a train. This is especially important on the Canadian Pacific which passes through some of the most rugged territory in the world. The disc brake, with its asbestos shoes and self-cooled disc, will not overheat, even in constant application.

Since its invention, the reliability, efficiency and economy of the disc brake has won it wide acceptance on railroads in the United States and in many foreign countries. A total of 1056 cars built by Budd and other builders, are now in service. More than 80% of all new cars now on order from American builders, - 388 of 483 - will be equipped with the Budd brake.

The Budd disc brakes used in the Canadian Pacific cars are equipped with a Budd-developed anti-slide device, the Rolokron. Electrically controlled, the Rolokron momentarily halts braking action the instant a wheel commences to slide, then automatically re-applies the brake.

Tightlock Couplers and Outside Swing Hangers

Among the recent engineering developments contributing to the good riding qualities of the new cars are the tightlock couplers and outside swing hangers employed.

The newest type tightlock coupler, the Standard H Type, has been adopted almost universally by the railways, and all new cars will carry them as standard equipment. Among the advantages of the H Type coupler is the elimination of slack in the coupler contour, which minimizes jerks and vibration between cars. They also eliminate the noise caused by coupler slack. Another advantage is increased safety in the event of derailment which is afforded by the vertical interlock provided when two Tightlock couplers are joined together. In addition, the new couplers greatly facilitate the joining together of cars in a train and reduce maintenance costs.

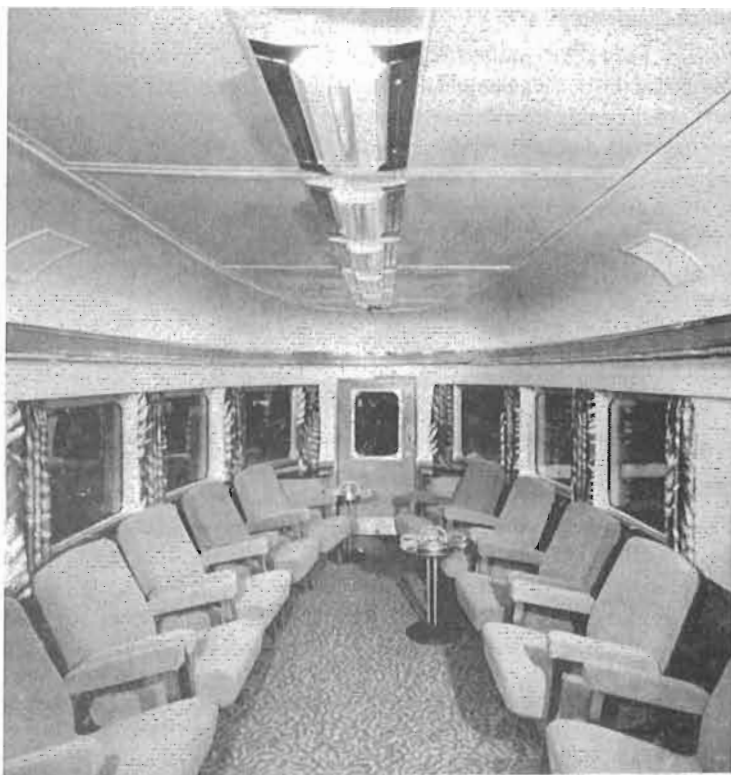
The outside swing hangers are applied to the outer sides of the trucks of the new cars and with their coil spring bolster suspension, provide smoother rides by reducing the car body roll. In addition to greatly increasing the smoothness and stability of the ride, they increase the safety of operation.

The outside swing hanger is another refinement that has been developed for the trucks on which these new cars will ride. The new type one piece cast steel truck frames and bolsters provide maximum strength and light weight and assure unusually long service life with a minimum of maintenance expense.

Interiors Present Many Refinements and Maximum Attractiveness

Throughout the new cars, the Canadian theme dominates the interior in original murals, plaques, coats of arms of Canada and the provinces, in illustrated maps and scenes depicting the varied activities of the country, and in prints of early Canadians which decorate the bedrooms in the sleeping cars. In keeping with the ultra-modern physical design and appointments of the various units, the decorations are tuned to bright, attractive colors with matching window drapes, the plastic interiors, restful non-glare windows and subdued lighting.

In the dome-observation-lounge cars, each named after a national or provincial park, paintings reproducing the unspoiled beauty of the parks, portrayed in original murals by eighteen of Canada's leading artists,



The 13-passenger lounge section of the Dome-Observation-Lounge (Park) car.



A bedroom "Ensuite" in Dome-Observation-Lounge car.

This type of bedroom, with accommodation for four persons, is ideal for a family on the move, with plenty of space, large picture windows and comfortable foldaway chairs.

form what may be appropriately referred to as the country's first art gallery on wheels. These murals, depicting Canadian scenery from Nova Scotia to British Columbia, have been sponsored by the Royal Canadian Academy of Arts for installation in the mural lounges of the cars. Robert W. Pilot, R.C.A., of Montreal, President of the Academy, supervised the arrangements between the Canadian Pacific and the artists, and painted one of the murals himself. This art presentation, itself an entirely new departure in train decoration, will be enjoyed every day by hundreds of passengers on trains across Canada, and the murals, a source of pride to Canadians, will demonstrate to visitors the position of the arts in Canada.

In addition, the Canadian decorative theme in these cars includes park flowers artistically portrayed in glass etching and colored carved linoleum, and each car displays a map of the park after which it is named.

Seven of the artists whose work will be exhibited in this portable, yet permanent, collection, come from the Montreal area, while another seven are from Toronto and vicinity, two are from British Columbia and one each from Alberta and New Brunswick.

Eight of the parks depicted are in British Columbia. Two are in Alberta and one each in Saskatchewan and Manitoba. Two are in Ontario and Quebec and one each in New Brunswick and Nova Scotia.

Banff Park, in Alberta, is portrayed by Charles F. Comfort, R.C.A., Toronto.

Yoho Park, B.C., by Harold Beament, R.C.A., Montreal.

Revelstoke Park, B.C., by R. W. Pilot, R.C.A., Montreal.

Assiniboine Park, B.C. by Franklin Arbuckle, R.C.A., Montreal.

Glacier Park, B.C., by Adam Sherriff-Scott, R.C.A., Westmount, Que.

Kootenay Park, B.C., by George Pepper, A.R.C.A., Toronto.

Waterton Park, Alta., by L. Petely-Jones, Vancouver.

Riding Mountain Park, Man., by William Winter, A.R.C.A., Toronto.

Prince Albert Park, Sask., by Fred Finley, A.R.C.A., Toronto.

Algonquin Park, Ont., by A.J. Casson, R.C.A., Toronto.

Sibley Park, Ont., by Mrs. Yvonne McK. Houser, Markham, Ont.

Laurentide Park, Que., by Albert Cloutier, A.R.C.A., Montreal.

Tremblant Park, Que., by Edwin Holgate, Morin Heights, Que.

Evangeline Park, N.S., by Leslie Smith, Montreal.

Fundy Park, N.B., by Lawren P. Harris, Jr., A.R.C.A., Sackville, N.B.

Kokanee Park, B.C., by A. Y. Jackson, C.M.G., R.C.A., Toronto.

Strathcona Park, B.C., by W.J. Phillips, R.C.A., Banff, Alta.

Tweedsmuir Park, B.C., by E. J. Hughes, Shawnigan Lake, B.C.

Each mural is 4 x 20 ft., and each park map 3 x 5 ft.

The interiors of the dome-buffet-lounge cars are fitted with the Canadian and provincial coats of arms, a large decorative map of Canada, and murals tracing the development of transportation in Canada. This pageant of Canadian transportation runs the artistic gamut from the birchbark canoe of the Indians, the Eskimo kayak, the boats of the fur traders, the dog sled, and the dog and horse travois of the plains, to the stagecoach and the high-stacked, wood burning locomotive, to the Diesel-electric locomotives of today.

In twelve of the cars, Canada's provinces and territories are represented by their crests in color and carved linoleum renderings of their legislative buildings, while in the other six cars the Canadian coat of arms and the federal Parliament buildings are portrayed. The maps, hand-painted, colored and animated, are 4 1/2 x 9 ft. In addition, there are large photographic reproductions of representative Canadian scenes from coast to coast.

The dining cars present a new approach to enjoyment of the meal hours, being decorated in most colorful style; with built-in banquet seats at each end of the cars. Each of the new diners carries the name of a distinguished dining room, public room or lounge of one of the Canadian Pacific hotels. Since the company's hotels stretch from Vancouver Island through the Rockies and east to Toronto and the Maritimes, these names are familiar to residents in various parts of the country. Appropriate murals depict scenes in the areas where the hotels are located and representative Canadian birds are portrayed on etched glass partitions. The provincial flowers of Canada are portrayed in etched glass mirrors and in hand-carved, colored linoleum wall treatment.



C.P.R. Vice President N.R. Crump examines a mural in a scenic dome lounge car.

In the first class coaches, activities of Canada, both industrial and recreational, are depicted by hand-carved linoleum panels, two in each coach.

Drawing rooms, compartments and bedrooms in the 71 sleeping cars have individual colored reproductions of Canadian scenes, painted by prominent Canadian artists.

Color treatment in all cars has been based on a uniform pattern of flow-through color and varied in its use in the different types and numbers of cars.

The scenic dome-observation-lounge cars, dome-buffet-lounge coaches, dining cars and first class coaches have two different color schemes for each type of car.

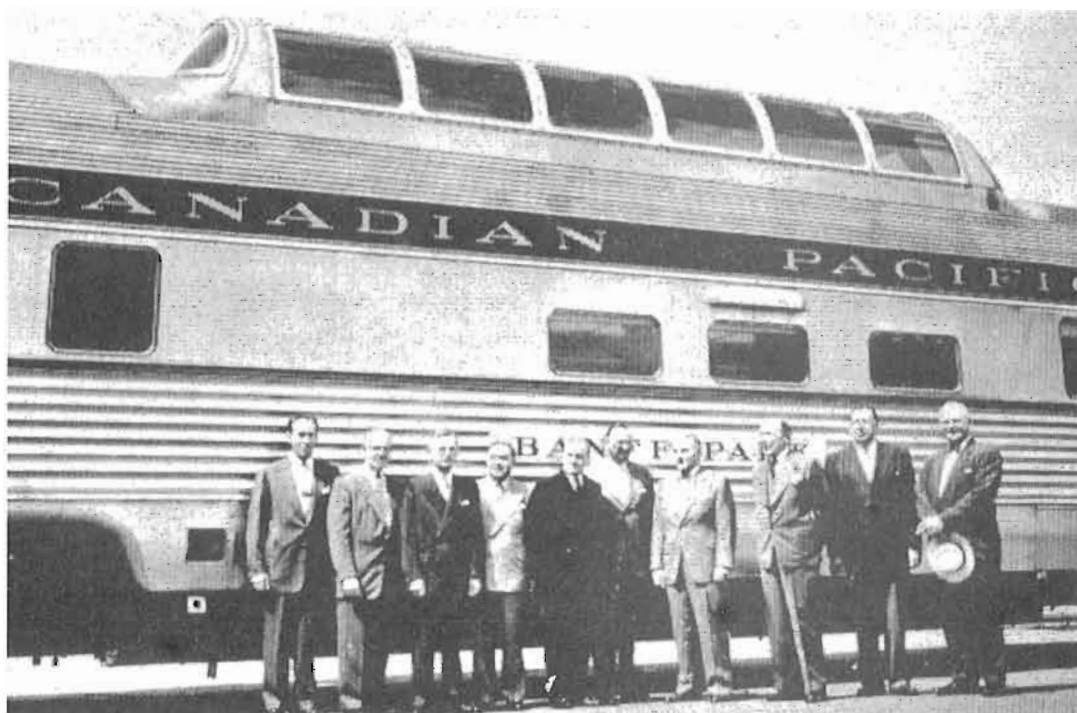
The sleeping cars have five different color schemes. Predominant colors throughout the equipment are Banff blue, Alberta green, Prairie gold, Empress rose, French gray and Atlantic turquoise.

Adding to the effect of well-appointed ease, the public address system operates throughout the train, playing soft music as required, and being otherwise available for pertinent announcements of interest to the passengers, and, in the Rockies particularly, for a running commentary describing the scenery, the names and heights of mountains and other matters of interest.

Numbering and Naming of the New Equipment

Canadian history and activity have been fittingly recorded in the naming of many of the new cars. As above noted, each of the eighteen scenic dome observation lounge cars carries the name of one of the national or provincial parks of Canada, representative of every part of the country.

In tribute to Canada's bilingual heritage, the 29 roomette-bedroom-drawing room-section sleeping cars, the "Chateau" class, are each named for a Canadian of French origin who contributed to the country's development, while the 42 roomette-bedroom-compartment-section sleeping cars, the "Manor" class, are each named for a distinguished Anglo-Canadian. In each of the 71 cars, a plaque tells, in both French



Vice President Crump and other C.P.R. representatives on a visit to the Budd Company plant.

From left to right above appear: E. Ratcliffe, designing draftsman; C. Hassal, engineer of car equipment; F.A. Benger, chief of motive power and rolling stock; H.A. Greeniaus, assistant to vice president; B.W. Roberts O.B.E., vice president, purchases and stores; President Budd of the car building company; Mr. Crump; Ian Warren, general passenger traffic manager; J.H. Campbell, manager department of public relations; P.T. Cole, public relations officer, New York.

and English, the story of the personality after whom the car is named.

The 18 dome-buffet-lounge coaches, the "Skyline" class, carry the name "Skyline" and are numbered in the series 500-517 inclusive.

Each of the 18 dining cars is, as noted above, named for a public room in C.P.R. hotels throughout Canada. The first class coaches are numbered in the series 100-129 inclusive, and the baggage-dormitory cars in the series 3000-3017 inclusive.

The scenic dome observation lounge cars are named as follows;-

Banff Park
 Yoho Park
 Revelstoke Park
 Glacier Park
 Kootenay Park
 Waterton Park
 Riding Mountain Park
 Prince Albert Park
 Algonquin Park
 Sibley Park
 Laurentide Park
 Tremblant Park
 Evangeline Park
 Fundy Park
 Kokanee Park

Strathcona Park
 Assiniboine Park
 Tweedsmuir Park

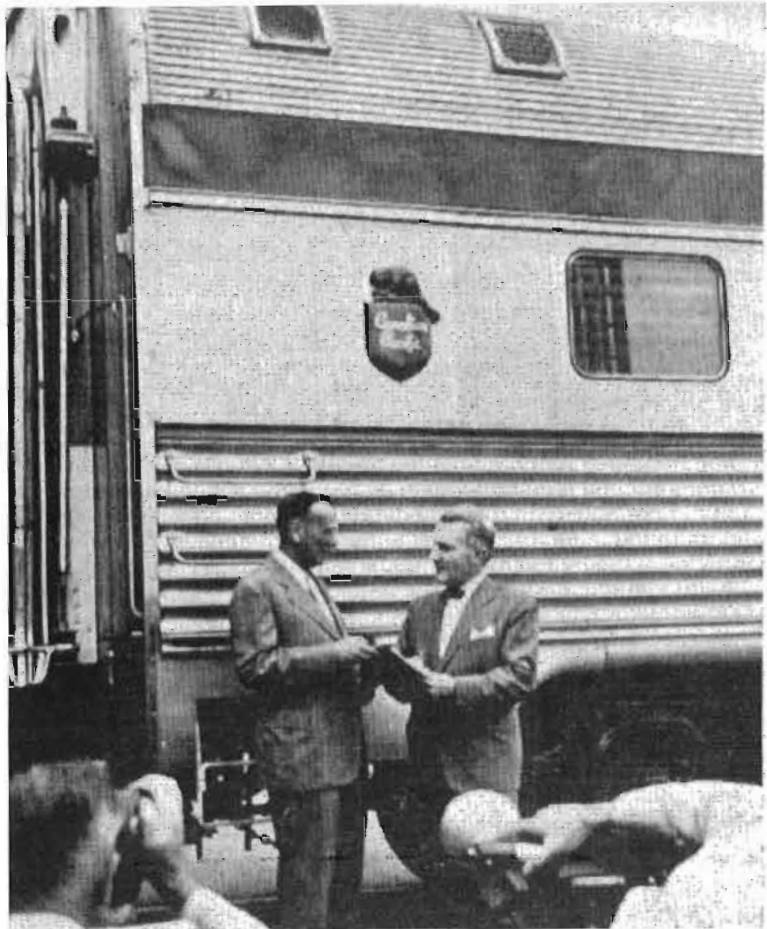
The "Chateau" class cars bear the following names:-

Chateau Argenson
 Chateau Bienville
 Chateau Brule
 Chateau Cadillac
 Chateau Closse
 Chateau Denonville
 Chateau Dollard
 Chateau Dollier
 Chateau Iberville
 Chateau Joliette
 Chateau LaSalle
 Chateau Latour
 Chateau Lauzon
 Chateau Laval
 Chateau Lemoyne
 Chateau Levis
 Chateau Maisonneuve
 Chateau Marquette
 Chateau Montcalm
 Chateau Papineau
 Chateau Radisson
 Chateau Richelieu

Chateau Rigaud
 Chateau Roberval
 Chateau Rouville
 Chateau Salaberry
 Chateau Varennes
 Chateau Vercheres
 Chateau Viger

The "Manor" class cars are named:-

Abbott Manor
 Allan Manor
 Amherst Manor
 Aylmer Manor
 Bayfield Manor
 Bell Manor
 Blair Manor
 Bliss Manor
 Brant Manor
 Brock Manor
 Burton Manor
 Butler Manor
 Cabot Manor
 Cameron Manor
 Carleton Manor
 Christie Manor
 Cornwall Manor
 Craig Manor
 Dawson Manor
 Douglas Manor
 Draper Manor
 Drummond Manor
 Dufferin Manor
 Dunsmuir Manor
 Elgin Manor
 Franklin Manor
 Fraser Manor
 Grant Manor
 Hearne Manor
 Hunter Manor
 Jarvis Manor
 Laird Manor
 Lorne Manor
 Macdonald Manor
 Mackenzie Manor
 Monck Manor
 Osler Manor
 Rogers Manor
 Sherwood Manor
 Stuart Manor
 Thompson Manor
 Wolfe Manor



Vice President Crump of the C.P.R. (right) takes delivery of the first car from President Edward G. Budd Jr. of the Budd Company in Philadelphia.

The dining cars are named as follows:-

Annapolis
 Acadian
 Frontenac
 Cartier
 Champlain
 Imperial
 Princess
 York
 Alexandra
 Selkirk
 Wascana
 Palliser
 Fairholme
 Alhambra
 Louise
 Emerald
 Kent
 Empress

The 107 "name" cars carry, for the first time in Canadian railway history, a special name plate inside the car, furnishing particulars of the naming of the car. These plates are finished in etched stainless steel, and present their information in both the English and French languages.

The CPR World's Fair Train of 1893

by Fred Angus

More than sixty years before the Canadian Pacific Railway placed its first stainless steel cars in service it also had a train which had claims to the title of one of the finest trains in North America. This was the so-called "World's Fair Train" which the CPR sent to the World's Columbian Exposition in Chicago in 1893. This train, the latest and finest that the company had to offer, consisted of locomotive 625 and five cars, all of which had been built in the CPR shops in Montreal and outshopped new in March 1893. As a contrast to the Budd stainless steel equipment, we will go back 111 years and look at this earlier train; as fine in its generation as the modern streamliners were in their era.

1893. It was an eventful time in world history as the nineteenth century progressed through its final decade. It was still the high Victorian era, as the Queen for whom the era was named entered the fifty-seventh year of her long reign, a reign that would last another eight years. In Canada, Sir John Thompson was Prime Minister, a term that was to be cut short a year later by his tragic death at Windsor Castle. South of the border, Grover Cleveland was starting his second term as president, having been out of office for four years; the only time an ex-president has regained this office. Later that year a financial panic would cause a depression which would last for three years and cast gloom over much of the mid-nineties. Yet despite all this it was basically a happy time as people did enjoy themselves and sang such song hits as "After the Ball" and the "Bicycle Built for Two".

On the railways, improvements were very much in evidence. Many of the long distance passenger trains had vestibules, eliminating the dangerous and old-fashioned open platforms, and freight trains were being more and more equipped with air brakes and standard couplers. A world's speed record had been set on May 10 when New York Central No. 999 reached an alleged speed of 112.5 miles an hour. Despite this show of speed by steam, there was considerable talk that electric locomotives, traveling regularly at speeds of 100 or more miles an hour, would soon supersede steam on all major lines. It was also a time of transition for street railways which were converting to electric power with all possible speed, depression or no depression, and horses by the many thousands were being retired as electric cars took over.

With all the new inventions and innovations, especially in electrical technology, it was natural that a great show would be held at which all these wonders could be exhibited to the world. Such a show took place in Chicago

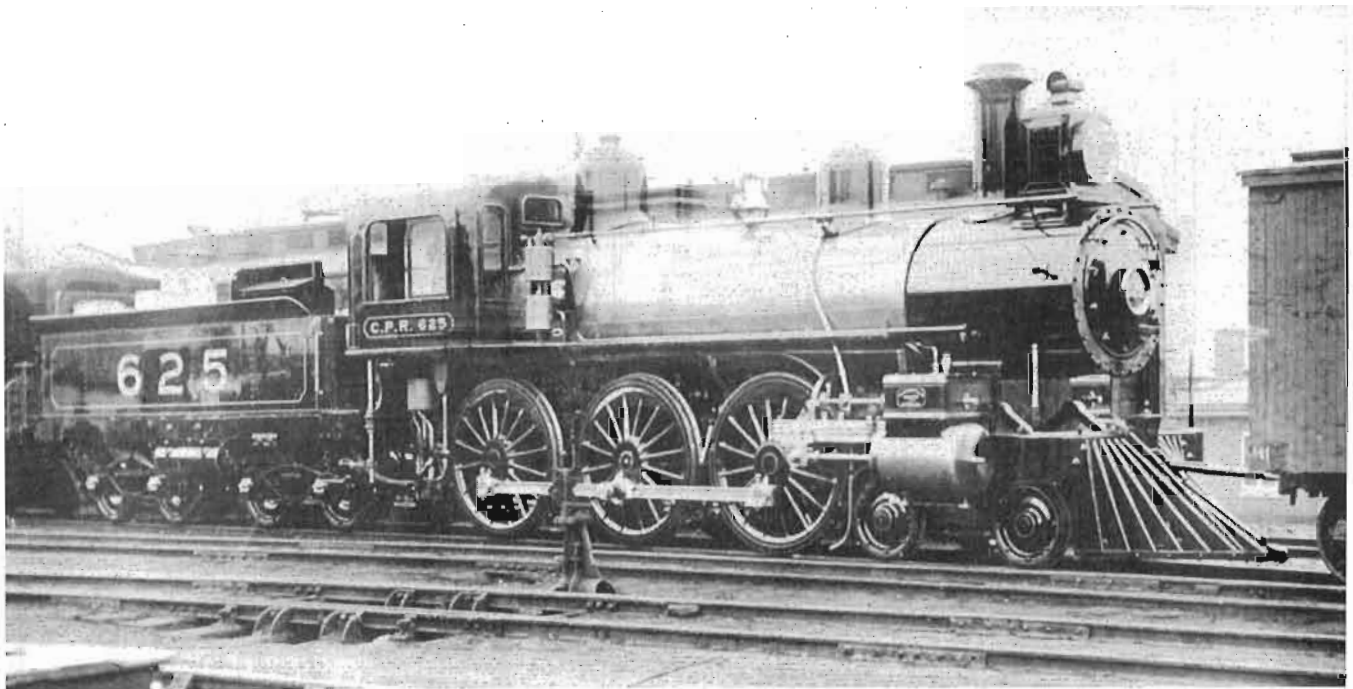


The decorative cover of the brochure given to visitors to the CPR exhibition at the World's Columbian Exposition of 1893.

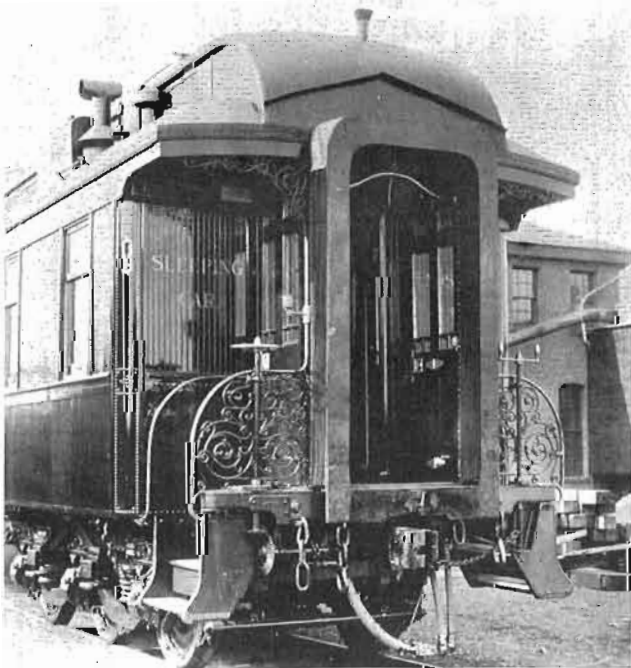
from May through October of 1893. Since the mid-1880s plans had been made for the commemoration, in 1892, of the four hundredth anniversary of the famous voyage of discovery by Christopher Columbus in 1492. Eventually this took the form of a great world's fair, called the World's Columbian Exposition, to be held in Chicago. It was soon evident that the time to prepare for such a huge fair was insufficient for it to be opened in 1892, so it was delayed for a year. Thus it was that, on May 1, 1893, the World's Columbian Exposition opened its gates, and for six months more than 27 million people toured the fair and marveled at the wonderful exhibits sent from all over the world; the best that the late nineteenth century had to offer. Of course, there were other attractions, such as the Ferris wheel and the "Hoochie Koochie" girls on the Midway! Thousands of kinds of souvenirs were sold, many of which are still treasured keepsakes after well over a hundred years. Some historians claim that the Columbian Exposition was the greatest world's fair ever held. (As a matter of interest, one of Canada's many exhibits was a 22,000 pound cheese, a full size metal replica of which may

be seen near the site of the former CPR station at Perth, Ontario, one of the world's few monuments to a cheese!).

Since many of the greatest innovations of the late nineteenth century involved railway technology, it is obvious that railways, both in North America and overseas, would send many exhibits of equipment both old and new. In fact the largest exhibit at the entire fair was that of the Baltimore & Ohio Railroad whose exhibit covered the entire history of railways and was the start of the present B&O museum in Baltimore. One means of transportation seems to have been absent; there does not appear to have been a single automobile exhibited at the fair! Evidently 1893 was just too early for this particular innovation; two or three years later it would have been quite a different story.



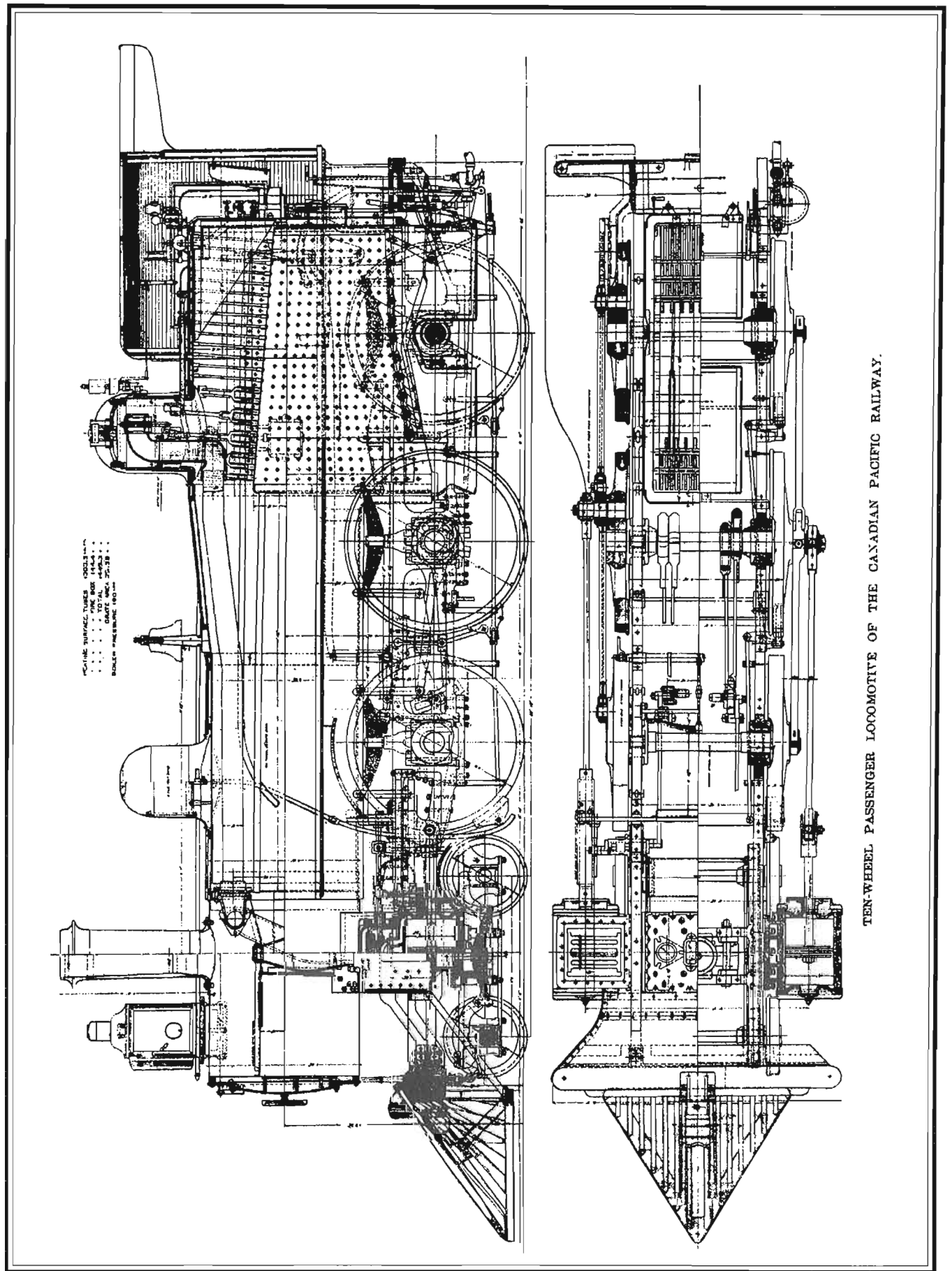
Locomotive 625, photographed when en route to the World's Columbian Exposition in March, 1893. Evidently it did not run to Chicago on its own power, as it appears to be coupled into a freight train. The narrow-vestibule car behind the 625 is likely baggage car 1750. Narrow vestibules on a baggage car were quite unusual, and may have been done especially for this train. Only three engines of this class were built, 625, 626 and 627. Curiously, the official publication "The Book of the Fair", published in 1895, shows sister engine 626. However 626 and 627 were not outshopped until July 1893, two months after the fair opened, whereas 625 was completed in March, and was at the fair site the same month. All accounts say that 625 was the engine on the exhibit train; probably the publishers of the book, two years later, simply used a CPR photo of what was, in fact, a similar locomotive. The one shown here is the actual one. Collection of the author



An end view of a narrow vestibule sleeper like the one on the exhibition train. This one is the 12 section one drawing room sleeper *Enoshima*, also built in 1893. The *Satsuma* in the World's Fair train differed in that it had eight sections and two drawing rooms, but it was otherwise similar.

In 1893 the president of the CPR was William C. Van Horne who had held that office for five years. Given his dynamic character, which had pushed the railway through to completion only seven years before, and his constant striving for publicity for the CPR, it was obvious that he would not miss the opportunity provided by the world's fair. Yes indeed, the CPR would be at the World's Columbian Exposition with bells on (literally) and would show the world that it could compete with any other railway anywhere, and could also excel on its new trans-Pacific steamship service. When the fair opened, visitors to the Transportation Building could view large paintings of the spectacular scenery along the CPR line, maps and timetables of its services, including around-the-world tours for \$610 in gold, and models of its new "Empress" ships.

However the largest and most impressive CPR exhibit by far was a complete passenger train, all brand new, just out of the railway's Montreal shops in March, 1893. This train was exactly 400 feet long, and consisted of 4-6-0 locomotive 625 and five cars: Baggage car 1750, Second Class car 940, First Class car 460, Dining car "Savoy" and Sleeping car "Satsuma". All were fitted with narrow vestibules which were the most up-to-date for the era, although they would be superseded by the wide vestibules in the following decade. Exterior finish was varnished mahogany with gold striping and lettering, and the elaborate and beautiful interiors were designed by Edward Colonna of Montreal who had also designed the interior of Van Horne's home. Altogether, it was a train of which any railway in the world would be proud.



TEN-WHEEL PASSENGER LOCOMOTIVE OF THE CANADIAN PACIFIC RAILWAY.

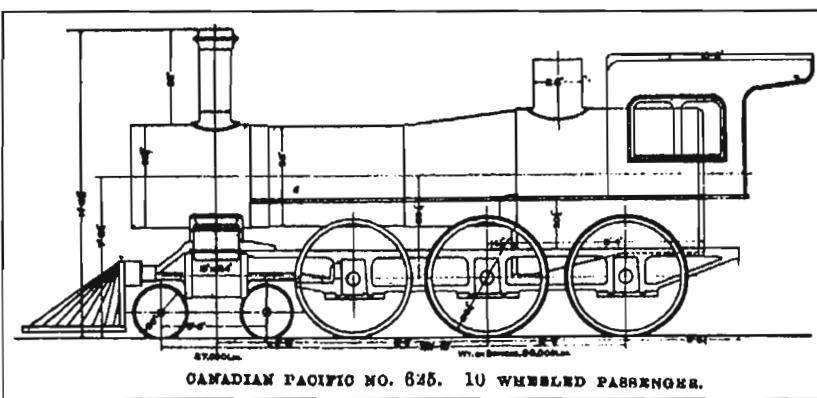
On these two pages are reproduced diagrams and portions of articles which appeared in *The Railway Review* of July 22, 1893 and *The Railway Age* of September 22, 1893. New York State Library

The exhibit of the Canadian Pacific Railway at the World's Fair consists of one of the standard vestibule trains used by that company. This magnificent transcontinental train is exhibited in the Canadian section, adjoining that of England, in the transportation annex. Excellent opportunity is thus afforded for making some very interesting comparisons of American and English railway practice.

The locomotive at the head of this train (No. 625) is a heavy ten-wheeler designed by the late Mr. David Preston, mechanical superintendent of the C.P.R. [Editor's note: Mr. Preston died suddenly in April, 1893.] and built in the company's Montreal shops. For the details and specifications we are indebted to Mr. R. Atkinson, acting mechanical superintendent at Montreal.

The general-construction of No. 625 is shown in the accompanying illustration, which is reproduced from the original drawing. The illustration shows a longitudinal section through the center of the fire-box and cylinder, also two horizontal sections, giving a very clear idea of the design. The fire-box is over the rear axle and between the frames, the crown sheet being supported by the back end and crown-bars on the forward end. The forward end of the grate is sloping, and the dump grate is at the back end. There are 155 tubes of 2 1/2 inch outside diameter and 12 ft. 10 1/8 in. long between sheets. The water leg is 3 in. wide at the sides and back and 3 1/2 in. in front. The diameter of the barrel is 58 in. outside of the sheet at the smallest ring.

The cross-head is the Laird type made of cast steel, and the guides are of Siemens-Martin steel. The valve motion is of link type, the travel of the valve being 6 1/8 in. with 7/8 in. outside lap and 7/32 in. lead. The steam ports are 1 11/16 in. wide, the exhaust ports are 3 1/8 in., and the length of both are 18 in. The piston rods are of forged steel, the axles are of the same material, and the crank pins are of Low Moor iron, case hardened. One of the peculiar features of the engine is the method of introducing the feed water. The check valves, which are two in number, are placed on the back head of the boiler and the water passes from them through a pipe extending above the crown sheet to the forward end of the boiler as shown in the illustration. It is claimed that in this way the feed water becomes thoroughly heated before it mixes with the water in the boiler. The engine truck has a wrought iron



frame, forged solid and heavily cross braced, and has a swing center and four 30 in. wheels, the axles being 5 ft. 3 in. from center to center. This locomotive truck is of the lateral motion type, equipped with auxiliary side springs to

reduce and take up the side play and shock.

The cab is entirely of steel, lined with matched cherry ceiling, with a 1 1/2 inch air space for insulating purposes. Westinghouse air brakes and train signaling apparatus are among the equipments of the engine. The frames of this and all other engines of its class are machined all over. The ashpan is so constructed that it can be removed without disturbing the wheels, and vice versa. The grate shakes in two sections with a single dump. The engine and tender wheels are of the Krupp wrought iron disk pattern with Siemens-Martin steel tires. The tender has a very large coal capacity and a rather medium water capacity. It carries 10 tons of coal and 3000 gallons of water. The weight of the tender empty is 38,000 pounds.

The principal dimensions of the engine are as follows:

Diameter of cylinders	19 in.
Stroke	24 in.
Maximum travel of valves	6 1/8 in.
Lap	7/8 inch.
Lead	7/32 inch.
Diameter of drivers	69 in.
Forward driver	bald.
Main and rear drivers	flanged.
Width of forward tire	6 in.
Width of main and rear tire	5 1/2 in.
Material in tires	crucible steel.
Rigid wheel base	13 ft. 3 in.
Total wheel base	22 ft. 10 in.
Weight on drivers	98,000 pounds.
Total weight	125,000 pounds.
Boiler type	wagon top.
Boiler pressure	180 pounds per square in.
Boiler diameter outside	58 in.
Heating surface, tubes	1300.9 sq. ft.
Heating surface, fire-box	144.4 sq. ft.
Heating surface, total	1445.3 sq. ft.
Grate area	25.39 sq. ft.
Stays, type of	riveted crown bars.
Tender, water capacity	3,000 gallons.
Tender, coal capacity	10 tons.
Tender weight, empty	38,000 pounds.

Passenger Cars at the World's Fair

Canadian Pacific - The exhibit of the Canadian Pacific Railway is at the extreme north side of the space given up to railway rolling stock; it consists of a complete train of five cars vestibuled throughout with the Barr vestibule and coupled with the Trojan automatic coupler. The baggage, second-class and first-class cars, are carried on four-wheel trucks, and the dining and sleeping cars on six-wheel trucks. All the truck wheels are of wrought iron, single plate, with Krupp tires, and are 36 inches in diameter. The truck frames and bolsters are of wood supported by elliptic springs. The brake beams are also of wood. The journals are 4 1/4 inches in diameter and 8 inches long. The outside sheathing of all the cars is mahogany, finished in natural color and striped with gold leaf. Each car in the train is a representative of its class as used in every-day service by the Canadian Pacific, and all were built at the company's shops in Montreal.

Baggage Car - The interior of the baggage car is finished in ash and is supplied with a cupboard and desk, and a couch for the use of the baggageman. For about one-quarter of the length of the car at each end the floor is depressed below the middle portion and covered with zinc. Over this is a slat flooring that can be removed, the object of which is to provide a place for drippings from express packages that contain ice. The car is lighted by oil lamps.

Second-Class Coach - The seats in the second-class coach are arranged in pairs, as customary in sleeping cars, so that they can be made up in berths when desired, and above is the ordinary, though plain, upper berth. The interior finish is of light mahogany and the ceiling of stained veneering. The seating capacity is 64 passengers. Passengers traveling on second-class tickets are entitled to seats in cars similar to this, and if they wish they can pay 50 cents extra each night to have the berths made up.

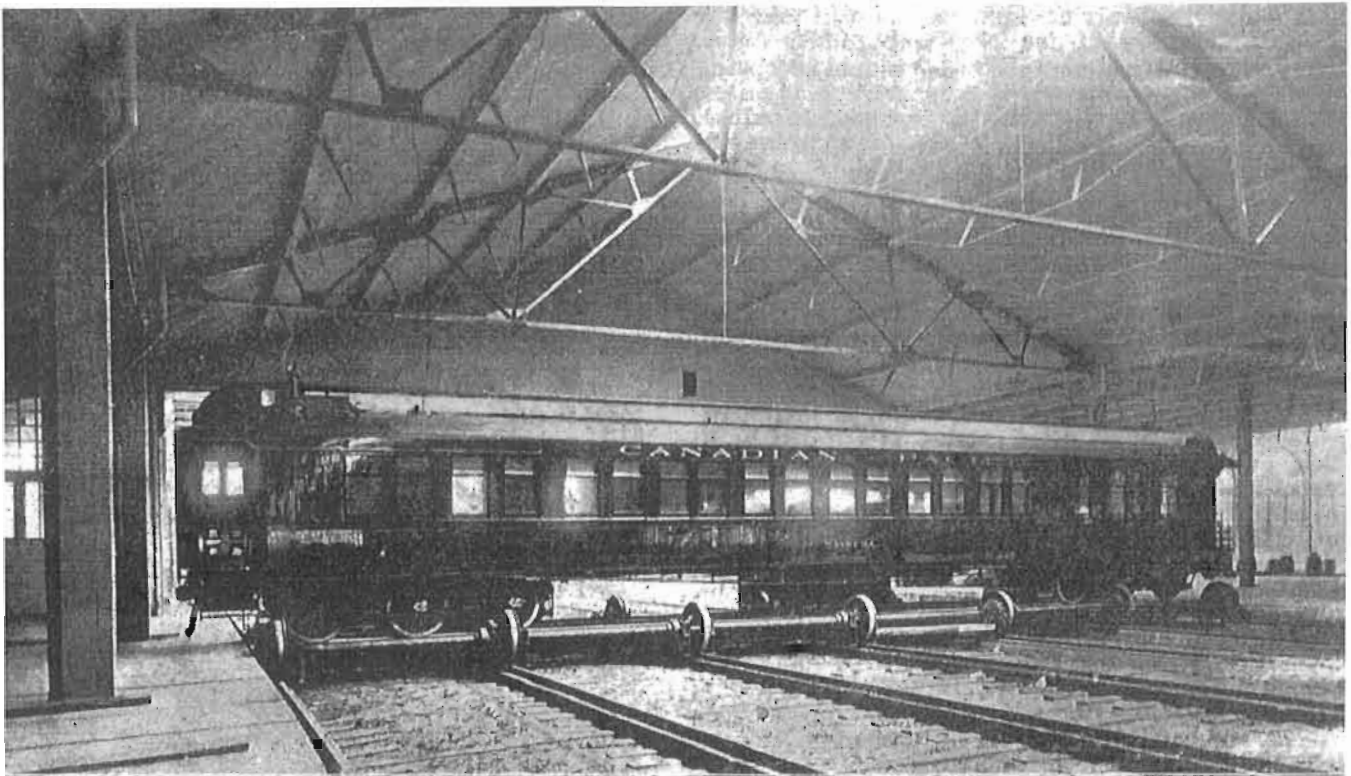
First-Class Coach - There is a smoking room in each end of the first-class coach, the rear one always to be used so as to keep the smoke from the body of the car. There are also separate toilet rooms. The peculiarity of the interior of the car is the two arches springing from side to side, and, though not obstructing the view from end to end of the car, they divide it into three sections, the more so as the seats

at each arch are not reversible. There are two points at each arch at each side of the aisle extending from the floor to the ceiling, and the main arch extends over the aisle. The main section is finished in white mahogany, and the seats, finished in copper-red plush, are especially comfortable. The smoking rooms are finished in oak.

Dining Car - The dining car seats 30 passengers in five rows of tables, those on one side of the aisle seating four while those on the other side seat two. The interior is finished in white mahogany, in the Italian renaissance style, while the passages are in oak. The seats are upholstered in leather and the floor is carpeted. The kitchen occupies about one-third of the length of the car and is of the most up-to-date design allowing for a great variety of dishes to be prepared.

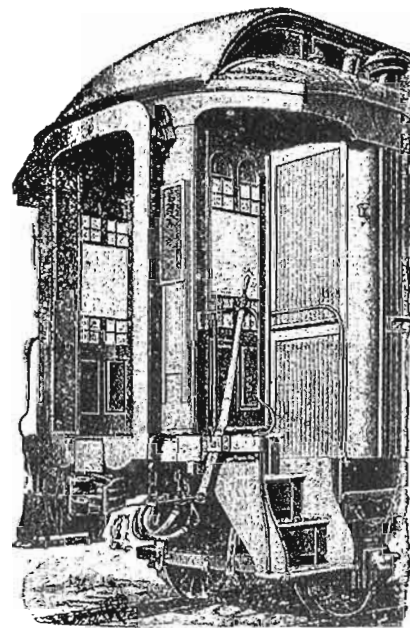
Sleeping Car - The accompanying illustration is a reproduction of a photograph of the sleeper while standing on the transfer table in the annex to the transportation building. This picture conveys a good idea of the proportions of the car, but, of course, can give very little conception of the finish, which is unusually fine.

The interior arrangement contains some features which are exceptional in sleeping cars used in ordinary service. In one end a bath room is located, which can at all times be supplied with hot and cold water, and has all conveniences usually attached to such apartments. Joining this room on one side is a gentlemen's toilet room, and on the other, a large smoking room and lavatory combined. The latter, which contains three wash basins and two water coolers, is very large and roomy, which is one of the commendable features of the car. The finish is white mahogany and quarter sawed oak. The body of the car contains eight sections, the seats of which are upholstered in sage green. This color, in combination with the white mahogany which forms the finish, produces a very good effect. In the opposite end from the bath and smoking room there are two state rooms, having the same finish as the center, with the exception of portions of the side and end walls which are covered with a tastefully designed cloth. Each of these rooms has an independent toilet room and lavatories. Between the last state room and the end of the car are located the ladies' toilet room and a heater room.



This extremely rare view shows Canadian Pacific Railway sleeping car *Satsuma* on the transfer table at the World's Columbian Exposition just after it arrived from Montreal, and as it was being moved to the track where it would be exhibited. According to CPR records, the entire train, locomotive and five cars, was completed in March, 1893. It must then have departed for Chicago almost immediately, for this photo was taken about March 15, soon after its arrival. To date this is the only photo discovered that shows any part of the train actually at the fair. *The Railway Review*, March 25, 1893. New York State Library.

In this connection it may be well to give a description of the transfer table being used in the transportation building, the general construction of which can be understood from the illustration. This table is located on the extreme east side of the transportation building annex, the posts on the right of the illustration supporting the west wall of the main building. The pit extends about three-fourths the length of the annex, is about two feet deep and 70 ft. wide. Any of the tracks inside the building can be connected with this table, and it will be used for bringing in practically all the exhibits entering this department. After the exhibits have all been placed, the table will be run outside of the building to a space provided and roofed for the purpose, where it will form one of the exhibits of the department. The pit inside the building will then be floored over, and the space used for exhibits. When the time comes for removing exhibits the floor will be taken up and the table used in the same manner as when they were installed. This table has been in operation for some time past and has been watched with particular interest by the exhibitors who have expressed surprise at the rapidity and ease with which the heaviest locomotives and cars can be handled.

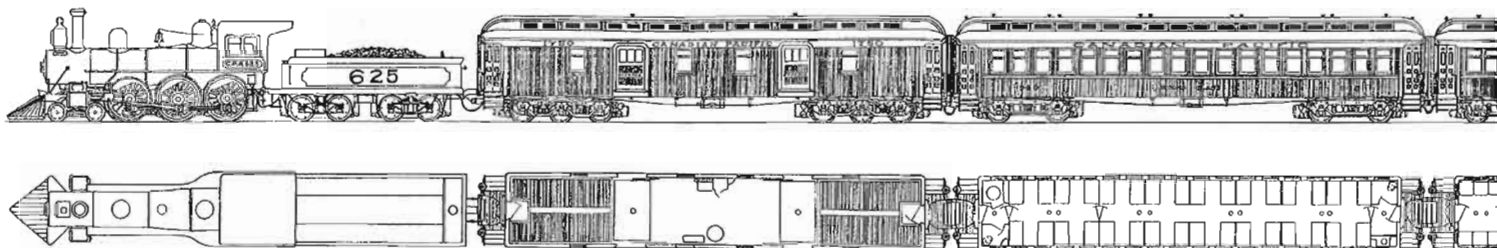


LEFT: A description of the transfer table, then busily at work moving the heavy exhibits into the building in time for the opening of the fair on May 1, 1893.

ABOVE: A view of the Barr vestibule with which the CPR passenger cars were equipped.

Both items from *The Railway Review*, March 25, 1893. New York State Library

THE CANADIAN PACIFIC RAILWAY COMPANY'S STANDARDS



CANADIAN PACIFIC ROUTES FROM CHICAGO.

TO THE PACIFIC COAST.		TO ONTARIO AND QUEBEC.		TO THE MARITIME PROVINCES.		TO NEW ENGLAND.	
Lv. Chicago, C. M. & St. P. Ry.	* 6.00 PM * 10.30 PM	Lv. Chicago, Wabash Rd.	* 2.30 PM * 10.30 PM	Lv. Chicago, Wabash Rd.	* 10.30 PM * 2.30 PM	Lv. Chicago, Wabash Rd.	* 2.30 PM * 10.30 PM
" Chicago, C. & N. W.	* 6.00 PM * 10.30 PM	Lv. Detroit, (Fort St.) C.P.R.	* 11.05 PM * 12.10 "	Lv. Detroit, (Fort St.) C.P.R.	* 12.10 "	Lv. Detroit, (Fort St.) C.P.R.	* 1.05 PM * 12.10 "
" Chicago, C. G. W.	* 6.30 AM * 6.00 "	Central Time.		Central Time.		Central Time.	
" Chicago, C. N. I. & P.	* 11.30 PM * 12.50 "	Ar. Chatham, C. P. Ry.	* 3.54 AM * 3.03 "	Lv. London, C. P. Ry.	* 4.50 "	Lv. London, C. P. Ry.	* 3.45 AM * 4.50 "
" Chicago, Burlington.	* 6.15 PM * 11.20 "	" London, "	* 3.45 " * 4.45 "	Ar. Toronto, "	* 8.55 " * 8.10 "	Ar. Toronto, "	* 8.10 AM * 8.55 PM
" Chicago, Wis. Cent.	* 5.47 PM * 10.45 "	" Woodstock, "	* 4.42 " * 6.45 "	" Smith's Falls, "	* 4.05 AM * 3.20 PM	" Montreal, "	* 7.20 PM * 7.40 AM
" St. Paul, "	* 6.33 "	" Ayr, "	* 5.21 " * 6.25 "	" Montreal, "	* 7.40 AM * 7.30 PM	" Richford, Vt., "	* 10.55 PM * 11.34 AM
" Minneapolis, Gt. Nor.	* 7.10 "	Ar. Galt, "	* 5.42 AM * 6.48 PM	" Sherbrooke, "	* 11.07 AM	" Newport, Vt., "	* 12.00 PM * 12.40 PM
" Winnipeg, C. P. R.	* 7.00 "	Ar. Guelph, C. P. Ry.	* 9.20 AM * 8.10 PM	" Megantic, "	* 2.46 "	" Lyndonville, B. & M. Rd.	* 1.18 AM * 2.06 "
" Fortage La Prairie, "	* 5.37 "	Ar. Milton, C. P. Ry.	* 6.40 AM * 7.43 PM	" Greenville, "	* 5.27 "	Ar. St. Johnsbury, "	* 1.35 AM * 2.52 PM
" Brandon, "	* 11.00 "	Ar. Toronto, "	* 6.10 AM * 8.05 PM	Ar. Vanocboro, "	* 10.10 AM	Ar. Fabyans, Me. Ctl. Rd.	* 4.45 AM * 4.35 PM
" Broadview, "	* 11.10 "	Ar. Orangeville, C. P. Ry.	* 10.05 AM	Ar. Woodstock, N. B., C. P. Ry.	* 12.55 PM	" Portland, Me., "	* 8.25 " * 8.10 "
" Regina, "	* 11.38 "	" Mt. Forest, "	* 11.55 AM	Ar. St. Andrews, C. P. Ry.	* 1.15 PM	Ar. Old Orchard, B. & M. Rd.	* 9.13 AM * 8.58 PM
" Medicine Hat, "	* 5.33 "	" Harriston, "	* 12.23 PM	Ar. St. Stephen, C. P. Ry.	* 11.55 AM	Ar. Augusta, Me. Ctl. Rd.	* 12.37 PM * 2.10 AM
" Calgary, "	* 21.20 "	Ar. Owen Sound, "	* 1.00 PM	Ar. Fredericton, C. P. Ry.	* 1.15 PM	Ar. Wells River, B. & M. Rd.	* 2.20 AM * 3.09 PM
" Banff Hot Springs, "	* 12.10 "	Ar. Peterboro, C. P. Ry.	* 11.05 AM * 11.43 PM	Ar. St. John, N. B., C. P. Ry.	* 1.20 PM	" Holyoke, "	* 7.10 "
" Laggan, "	* 13.35 "	Ar. Kingston, K. & P. Ry.	* 4.40 PM * 5.00 AM	Ar. Sussex, I. C. Ry.	* 2.58 PM	" Springfield, "	* 7.25 "
" Field, "	* 14.45 "	Ar. Renfrew, "	* 5.25 PM * 8.25 PM	" Petitoodiac, "	* 3.32 "	Ar. Hartford, N. Y., N. H. & H. Rd.	* 8.29 AM
" Glacier, "	* 15.50 "	Ar. Smith's Falls, C. P. Ry.	* 3.20 PM * 4.05 AM	Ar. Moncton, "	* 4.15 PM	Ar. Plymouth, C. & M. Rd.	* 3.56 AM * 4.35 PM
" Revelstoke, "	* 21.20 "	Ar. Brockville, C. P. Ry.	* 10.10 PM * 1.18 PM	Ar. P. du Chene, I. C. Ry.	* 9.30 PM	" Concord, "	* 5.40 " * 6.30 "
" North Bend, "	* 9.30 "	Ar. Ottawa, O. P. Ry.	* 5.15 PM	Ar. Charlottetown, P. E. I. New. Co.	* 1.00 PM	Ar. Manchester, "	* 6.19 AM * 7.05 PM
Ar. Mission Jc., "	* 13.16 "	Ar. Winchester, C. P. Ry.	* 4.25 PM * 5.05 AM	Ar. Summerside, P. E. I. Ry.	* 3.00 PM	Ar. Portsmouth, O. & M. Rd.	* 10.10 AM
Ar. N. Whatcom, B. B. & E. C. Ry.	* 3.05 PM	Ar. Montreal, "	* 1.20 PM * 7.40 AM	Ar. Sackville, I. C. Ry.	* 6.51 PM	Ar. Nashua Jct., C. & M. Rd.	* 6.50 AM * 7.35 PM
" Seattle, Steamer	* 7.00 "	Ar. St. John, P. Q., C. P. Ry.	* 9.24 PM * 10.02 AM	" Amherst, "	* 6.16 "	Ar. Worcester, B. & M. Rd.	* 9.28 AM
" Tacoma, Steamer	* 9.00 "	" Farnham, "	* 9.50 " * 10.50 "	" Londonderry, "	* 8.25 "	Ar. Providence, N. Y., P. & B. Rd.	* 11.02 AM
" Portland, Ore., N. P. R. Ry.	* 6.38 PM	Ar. Cowansville, "	* 10.13 PM * 10.53 AM	Ar. Truro, "	* 9.00 PM	Ar. Lowell, B. & M. Rd.	* 7.19 AM * 8.05 PM
Ar. San Francisco, So. Pac. Rd.	* 8.15 AM	Ar. Sherbrooke, C. P. Ry.	* 12.07 AM * 12.45 PM	Ar. Picton, I. C. Ry.	* 12.05 PM	Ar. Lawrence, B. & M. Rd.	* 9.10 AM
Ar. New Westminster, B. C.	* 16.00 "	Ar. Megantic, "	* 1.45 AM	" New Glasgow, "	* 11.30 AM	Ar. Salem, "	* 8.49 AM
Ar. Vancouver, B. C.	* 16.05 "	Ar. Joliette, C. P. Ry.	* 7.50 PM	" Mulgrave, "	* 3.15 PM	Ar. Boston, B. & M. Rd.	* 8.05 AM * 8.55 PM
Ar. Victoria, B. C.	* 21.50 "	Ar. Three Rivers, C. P. Ry.	* 12.50 AM * 10.55 AM	Ar. North Sidney, "	* 7.32 PM	Ar. Fall River, O. G. Rd.	* 10.25 AM * 12.45 AM
Ar. San Francisco, P. C. S. S. Co.	* 6.00 AM	Ar. Quebec, "	* 16.30 AM * 1.15 PM	Ar. Halifax, I. C. Ry.	* 11.00 PM	Ar. Newport, R. I., F. R. J.	* 11.05 AM

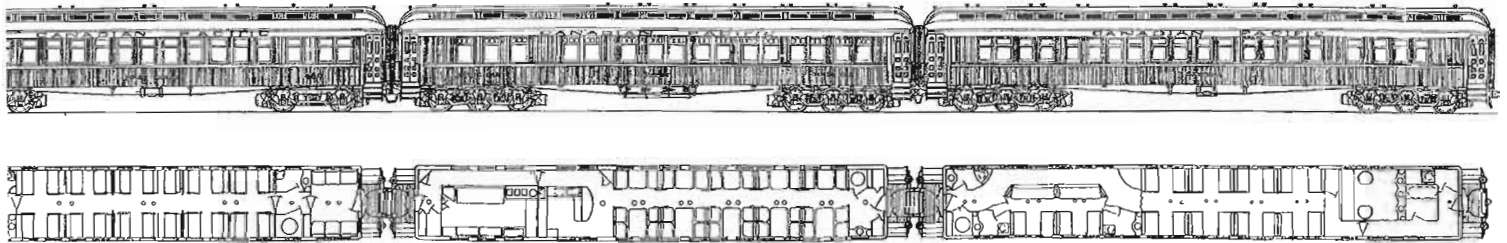
Trains not otherwise marked run week days only. * Daily, Sundays included. † Daily, except Sunday. ‡ Daily, except Saturday. § Daily, except Monday.

TICKET OFFICES IN PRINCIPAL CITIES: CHICAGO, 232 So. Clark St. DETROIT, 11 Fort St., West. MONTREAL, 129 St. James St. NEW YORK, 353 Broadway. PORTLAND, ORE., 146 First St.
 ST. PAUL, 183 East 3d St. TORONTO, 1 King St., E. ST. JOHN, N. B., Chubb's Cor. SEATTLE, Star-Jloyd Bldg. Front St. SAN FRANCISCO, 648 Market St.
 MINNEAPOLIS, G'ty' Loan Bldg. OTTAWA, 42 Sparg St. BOSTON, 191 Washington St. TACOMA, 901 Pacific Avenue. LONDON, 67, King William St., E. C.

There are also ticket offices in Vancouver, B. C.; Victoria, B. C.; Yokohama, Japan; Shanghai, China; Hong Kong; Bombay, India; Calcutta, India; Sydney, Australia; Auckland, New Zealand, etc.

Map and timetables of the CPR system and connections as printed in the brochure handed out to visitors to the Canadian Pacific exhibit at the World's Columbian Exposition. The timetables show how to get from Chicago to many major places on CPR lines, as well as numerous places on other company's lines. Presumably, if you were at the fair already you did not need to know how to get to Chicago! Also shown are the locations of CPR offices in many parts of the world, including places as remote as Calcutta, Auckland and Sydney Australia. In fact the CPR had sleeping cars bearing the names of these exotic places. Sleeper *Calcutta*, built in 1893, now car 56, *Malahat*, is preserved at the Canadian Railway Museum.

D TRAIN AS EXHIBITED AT THE WORLD'S FAIR, CHICAGO, 1893



THE above is no fancy sketch but an accurate representation of the CANADIAN PACIFIC standard train as it appears in the Transportation Building. A more elaborate train could have been prepared but the desire of the Company is to show those who have not travelled on the Canadian Pacific Railway what accommodations they may expect when they do travel. Every part of this train was constructed in the Company's erecting shops at Montreal, on the high standard adopted for all their Passenger equipment.

The Train is vestibuled throughout and measures 400 feet in length, 10 feet 3 1/2 inches in width and 14 feet 8 inches in height. It is lighted by electricity, can be heated by steam from the locomotive, and is fitted with double windows, and all the latest improvements in signals, brakes, couplers, steel axles and wheels, etc., etc. The exterior finish of train is in Honduras mahogany, with old brass trimmings. The interior of the Coaches, Dining and Sleeping Cars are from special designs by E. Colonna, Architect, Montreal.

LOCOMOTIVE 625 is of the modern and powerful 10-wheeled passenger type. The length of engine and tender is 59 feet 8 inches, weight when loaded, 213,000 lbs. Drivers, 69 inches in diameter. Cylinders, 19 inches diameter, 24 inches stroke. Tender capacity, 3000 gallons. It is capable of hauling a train of 10 cars, or 420 gross tons, at a speed of 60 miles per hour.

BAGGAGE CAR 1750 is of the standard pattern, 63 feet 8 inches in length, 59,600 lbs. in weight.

SECOND CLASS CAR 940 is 64 feet 4 inches in length and 65,300 lbs. in weight, and has seating capacity for 64 passengers. It is upholstered in leather and is at night converted into a sleeping car. It is fitted with smoking compartments, lavatory and separate closets.

FIRST CLASS CAR 460 is 64 feet 4 inches in length and 65,300 lbs. in weight and has seating capacity for 56 passengers. The style of the interior is early Italian Renaissance. The wood work in main room is white mahogany [sic], plush copper-red in color, and the smoking room old oak and olive corduroy. The seats are of the Forney pattern, and most comfortable. There are separate lavatories for men and women.

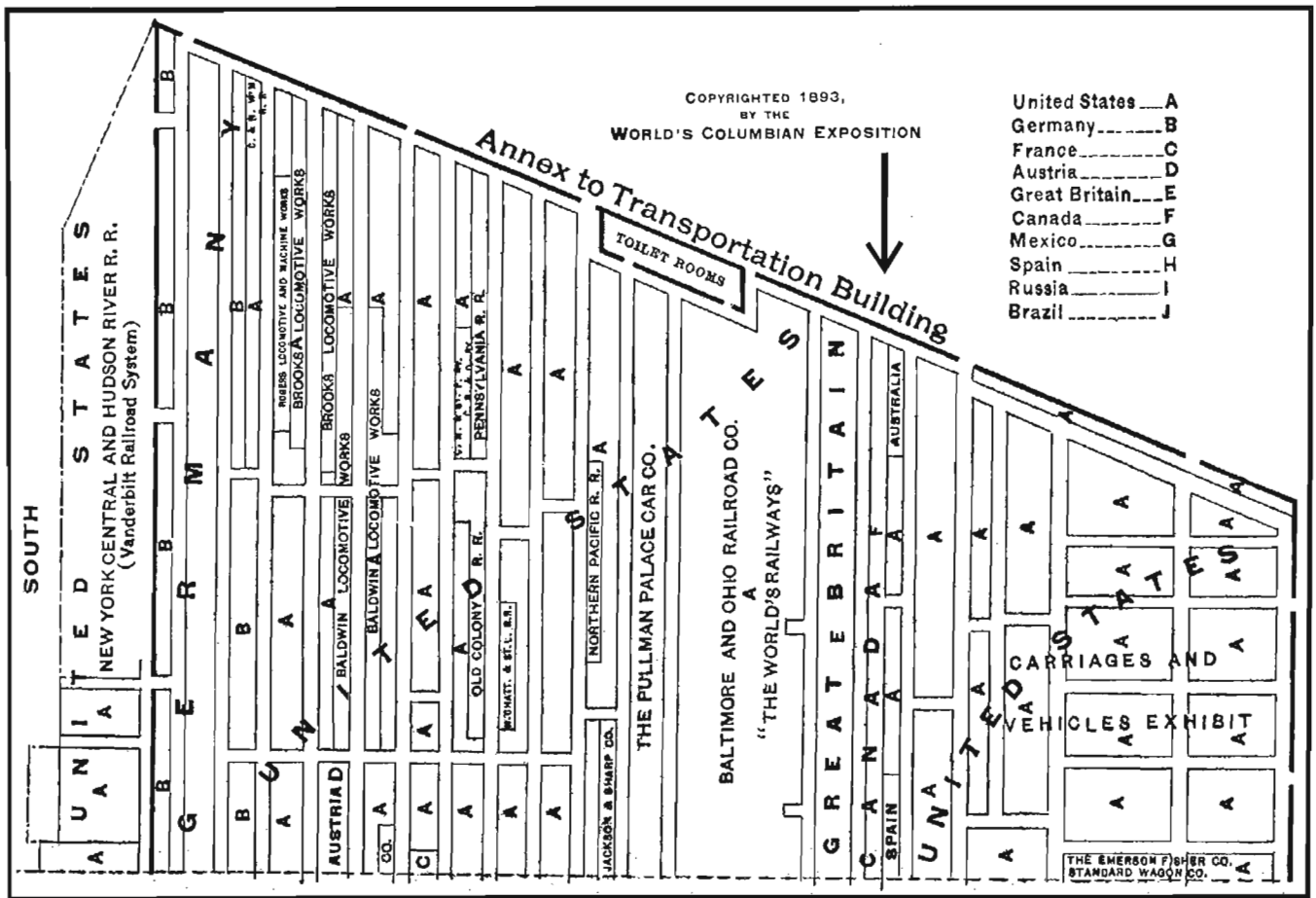
DINING CAR "SAVOY" is 70 feet 10 inches in length, 85,000 lbs. in weight and six-wheeled trucked. Style of interior, Italian Renaissance. It is upholstered in yellow brown leather and carpeted in old India rug pattern. The wood work in main room is white mahogany, in passages old oak. It is capable of seating 30 passengers; the tables on one side being suited for 4 persons each and on other side of aisle for 2 each. The kitchen and pantry are of modern and convenient design; the table ware is of special pattern, and the car is furnished throughout in the most handsome manner.

SLEEPING CAR "SATSUMA" is 77 feet 2 inches in length, 94,000 lbs. in weight, and six-wheeled trucked. Style of interior, Spanish Renaissance. Plush, sage green; woodwork, white mahogany or "prima vera"; metal work, old bronze; panelled ceiling. It has seating capacity for 44 passengers, eight upper and eight lower berths and two staterooms en suite, each having an upper, lower and sofa berth. There are separate lavatories and closets for ladies and gentlemen, and for each stateroom also a bath room, and a large and airy smoking room. The car must be seen to be appreciated.

ATTENDANCE. The train while on exhibition will have conductors and train hands in attendance, same as when in service, to show visitors through the cars and answer all enquiries.

ABOVE: Description of the CPR's World's Fair train, copied exactly from the 1893 brochure.

PAGES 234 THROUGH 239: Enlarged drawings of locomotive 625 and the five cars of the World's Fair train. These are reproduced from the same brochure in the HO scale of 3.5 millimetres to the foot.



A floor plan of the annex to the Transportation Building at the World's Columbian Exposition, showing the location of the various railway exhibits. The CPR train was displayed on the track marked "Canada" (indicated by an arrow), between "Great Britain", "Australia", "Spain" and part of the United States exhibit. In such close quarters it does not seem to have been photographed. The transfer table, by which the exhibits were moved, was on the east side, which is the bottom of this plan.

Exhibit No.	GROUP 80.	Class'n No.
1.	Andrews, Jno. S., Milltown, N. B. Car coupler.	500
2.	Canadian Pacific Ry. Co., Montreal. a Photos and maps. Scenery on line displayed on frieze and center of gallery bridge. Mt. Stephen (2), Hermit Range, Mt. Begbie, Castle Mountain, Lake Louise (2), Bow Valley, Three Sisters, Ross Peak, Mt. Baker, Cattle Ranch, Farm Scene Manitoba, Banff; two framed maps Canadian Pacific route "Around the World." b Locomotive and train of cars. Their standard passenger train. (A ten-wheeled locomotive, baggage car, second-class sleeper, first-class coach, dining car and a first-class sleeper.)	499

The entry in the official catalogue of the fair, showing the Canadian Pacific Railway exhibit.

Despite the popularity of the train, the author has been unable to find a photo of it, except for a view of the locomotive en route to the fair, and a photo of the sleeper on the transfer table. One explanation is that it was exhibited on an interior track, with not much space between it and other trains. Also indoor photography was quite difficult in 1893, and visitors to the fair were not allowed to use cameras (even outdoors) unless they purchased a special permit. Many visitors never bothered with the permit, so amateur photos are scarcer than would be expected. Recently, a pamphlet given out by the CPR at the fair, came to light, and the author was able to obtain a good quality photo copy of it. From this pamphlet have been copied the diagrams of the equipment, as well as the description of the train, maps and timetables. The diagrams are reproduced here in exact HO scale for the benefit of modelers.

After the fair closed at the end of October, the train returned to Montreal. There is evidence that it was kept intact for at least four years, for an article dated 1897 refers to the "World's Fair cars" being refurbished in the Hochelaga shops and being used together. Eventually of course they went their separate ways, and all had long lives, although the passenger cars lost their narrow vestibules and later, their elaborate interiors.

Around the World.

AJOURNEY Around the World not many years ago was considered the voyage of a lifetime; nowadays it is lightly undertaken, and many people make the tour annually.

The CANADIAN PACIFIC RAILWAY COMPANY, by means of their unrivalled system of railway and their magnificent Empress Steamers on the Pacific, are enabled to offer this tour on very advantageous terms. Their trains, similar to that one on exhibition in the Transportation Building, and illustrated hereon, cross the American Continent from ocean to ocean, and their steamers, a model of which is similarly exhibited and illustrated, traverse the Pacific from British Columbia to Japan and China, connecting at Hong Kong with the well-known Peninsular and Oriental steamers. By means of this connection the traveller proceeds on his journey via India and Egypt to London and Liverpool, where he takes one of the ocean greyhounds of the Atlantic. This tour round the world can be made for **\$610.00 gold, or £125**

On June 14th, 1893, a new and superb steamship service to Australia and New Zealand, via Honolulu, was inaugurated; the trip occupies twenty-one days each way between Vancouver and Sydney.

Those who do not wish to go round the world, but desire to make the fashionable trip to the "Land of the Rising Sun," JAPAN, can proceed from Chicago to Yokohama for \$259.50 and can procure a return ticket, good for four months, for \$400,—or good for twelve months for \$450.

A less extended tour from Chicago to ALASKA can be made for \$195; or a ticket from Chicago to THE PACIFIC COAST (Vancouver, Victoria, Seattle, Tacoma, or Portland), and return, for \$100, with corresponding reduced rates from other points.

These rates may be reduced somewhat during World's Fair.

For tickets, berth reservations, descriptive pamphlets, and all particulars, apply to 232 South Clark Street, Chicago, or at any other office of the CANADIAN PACIFIC RAILWAY.

PUBLICATIONS

Relating to the CANADIAN PACIFIC RAILWAY and its interests to be had on application at 232 South Clark Street, Chicago.

The New Highway to the Orient. (Illustrated.) Descriptive of the Transcontinental Route.

Westward to the Far East. (Illustrated.) By E. R. Scidmore. Descriptive of Japan and the principal cities in China and the route thereto.

Around the World, giving advices as to how that journey should be made, price, route, railways, etc.

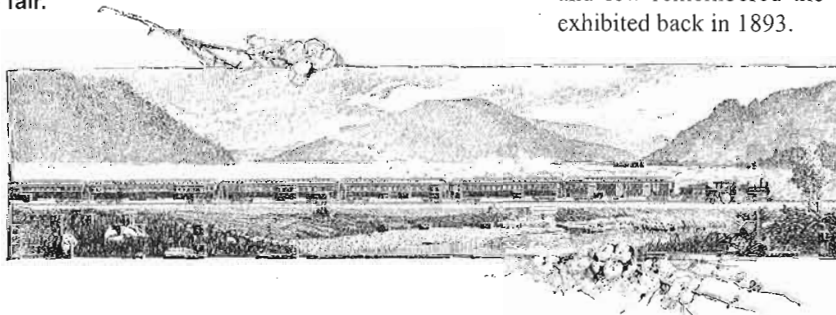
Western Canada. Description of the vast wheat fields and ranching countries of Canada.

British Columbia, telling of the mining and farming interests of that wonderful country.

Timetable Folders, giving the complete train service of the longest railway in the world under one management.

Views of Scenery along the line of railway, in sets of 12, size 10 x 12 inches, in handsome portfolios, are on sale at all principal offices. Price, - \$1.50
Or, in rolls in sets of 3, size 22 x 28 inches, suitable for framing. Price, - \$1.00

An advertisement for the CPR's Around the World trips, as well as several of the company's publications, all of which could be obtained at their Chicago office. This advertisement is copied from the brochure given to visitors at the fair.



A CPR transcontinental train as illustrated in one of the company's publications of 1893.

Ironically, the success of the world's fair proved to be the prelude to hard times. By 1894 the depression that followed the panic of 1893 had become very severe, many companies collapsed, and unrest was widespread. The CPR suffered severely, along with most North American railways, and did not build or acquire any more passenger cars until 1898. By then, however, the depression was just an unpleasant memory, and the great years, the first decade of the twentieth century, were just ahead.

Meanwhile the equipment from the World's Fair train continued in service, being modified in many respects over the years. In the twentieth century, the lavish Victorian decorations went out of style, the interiors were simplified, and in several cases the cars were converted to other uses, their "moment of fame" long since forgotten. All the equipment remained in service for at least 35 years, and one car lasted for 63 years.

Locomotive 625 was the first to go. It was renumbered 820 in 1907, then in 1912 became 2020, and early in 1913 was renumbered again, this time to 2010. It was scrapped in November 1929.

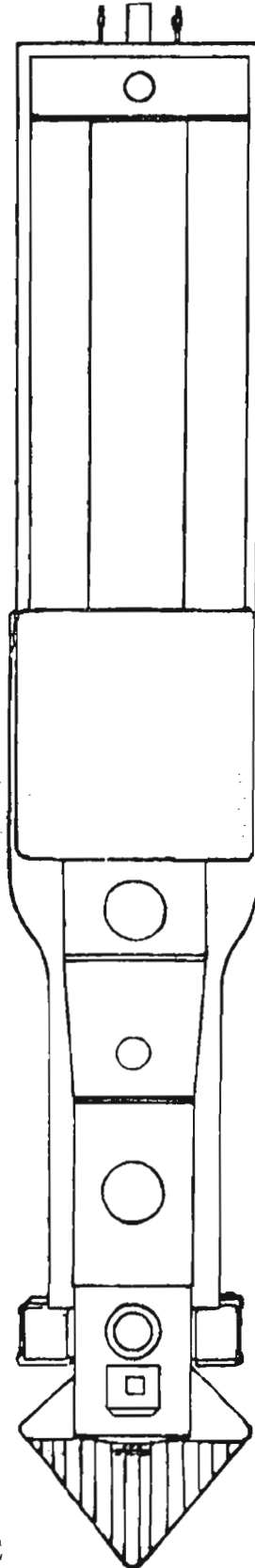
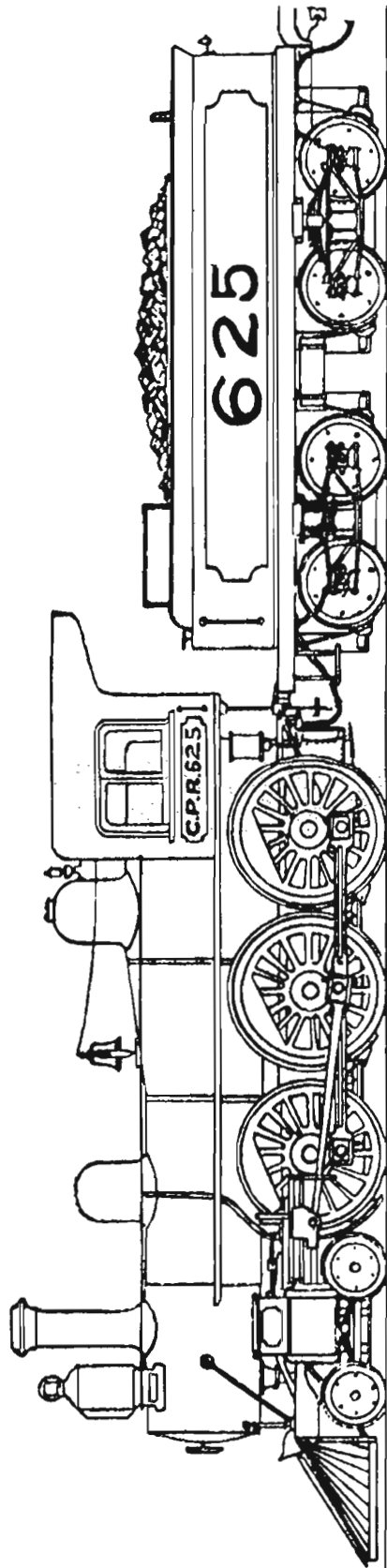
Baggage car 1750 was renumbered 1720 in 1908, and then became 3820 in 1911. Transferred to the Esquimalt & Nanaimo it became their 21 in 1929, later being renumbered 53 in 1931. It was scrapped in March 1937.

Second class car 950 was renumbered 1187 in 1907, and then became 2476 in 1911. It was converted to boarding car 407941 in 1931 and was scrapped in 1939.

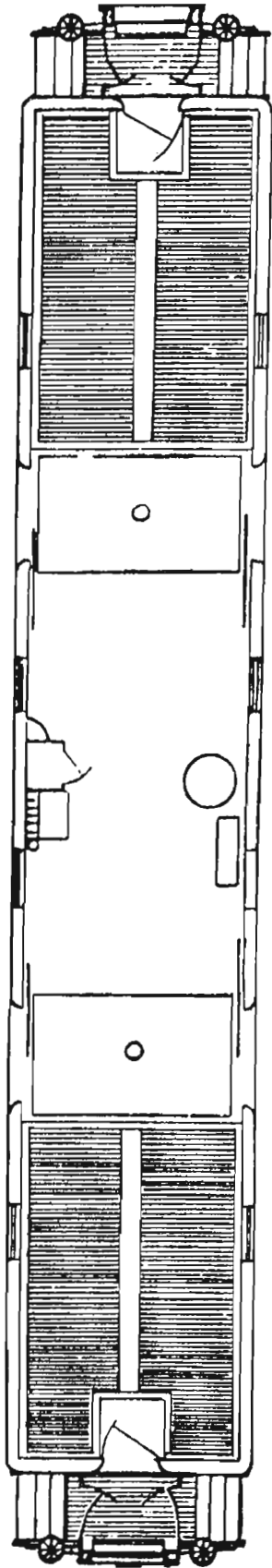
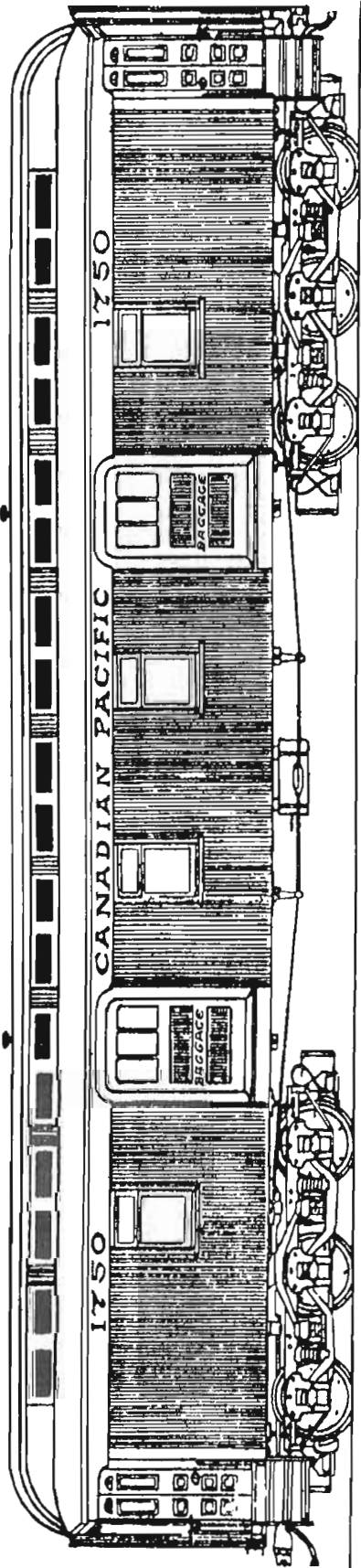
Dining car "Savoy" was converted to a buffet-parlour car in 1917, keeping its name. Then in 1919 it was numbered 6610, and later went to the Dominion Atlantic Railway. It served for another 36 years, and was scrapped late in 1956.

Sleeper "Satsuma" was renamed "Yoho" in 1917, and later was converted to colonist car 2723. It appears to have survived at least into the 1950s.

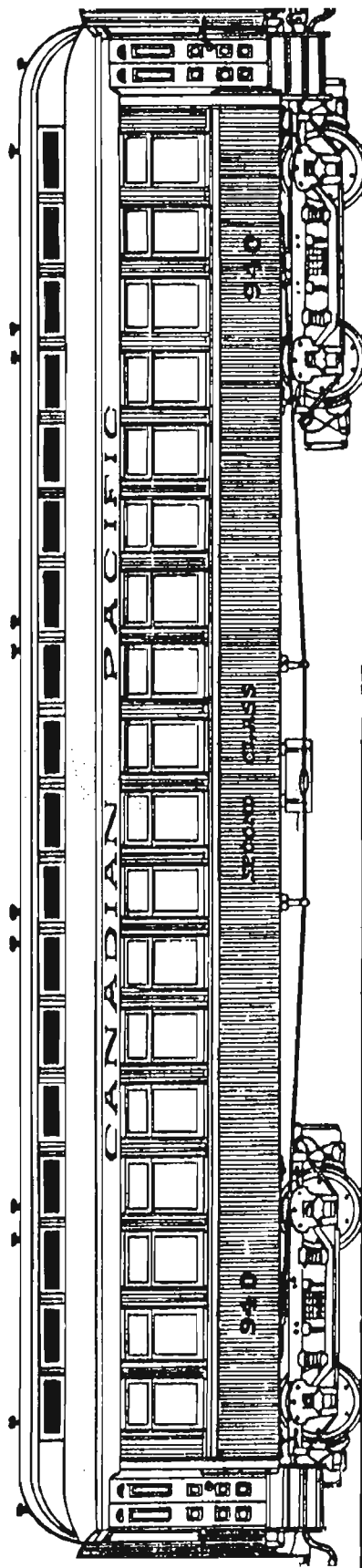
By the time the last of the World's Fair cars were retired, the CPR was already operating its modern Budd built stainless steel equipment, so the years of service of these vastly different passenger cars actually overlapped for a short time! It was then 63 years since the World's Columbian Exposition, and few remembered the CPR's magnificent train exhibited back in 1893.



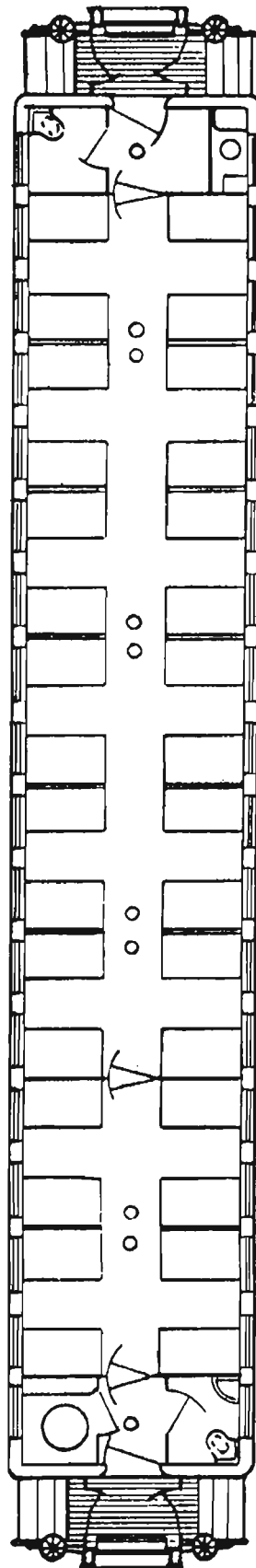
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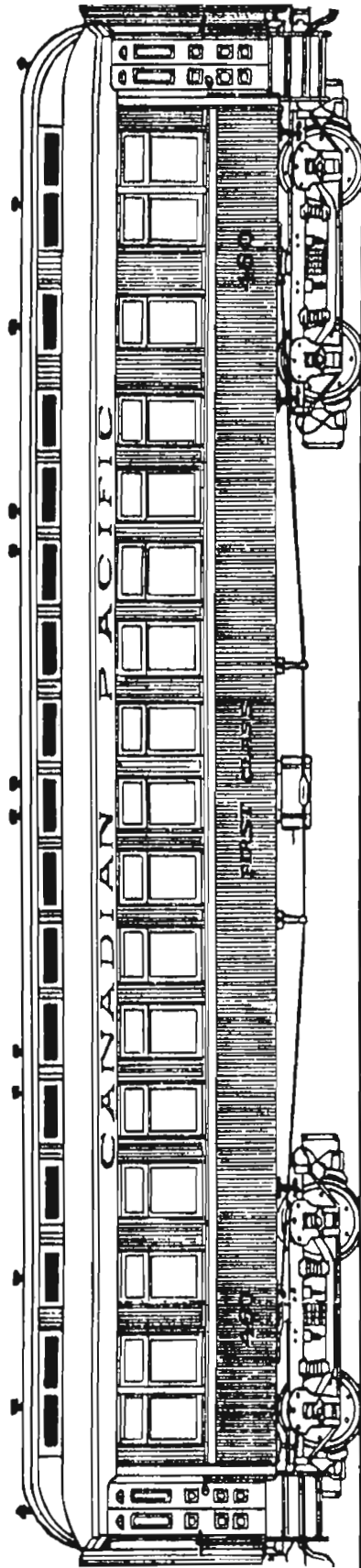


BAGGAGE
CAR 1750

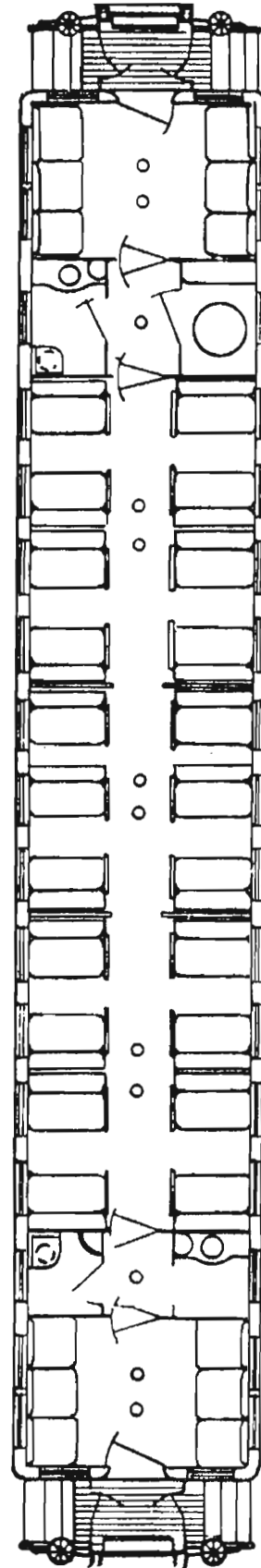


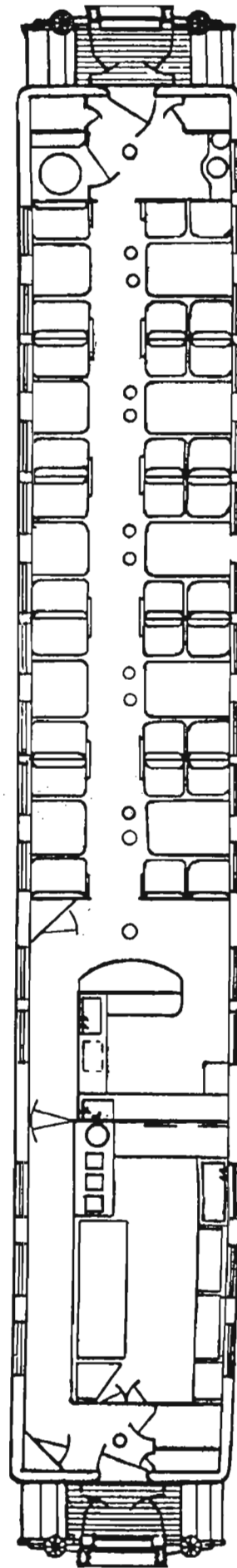
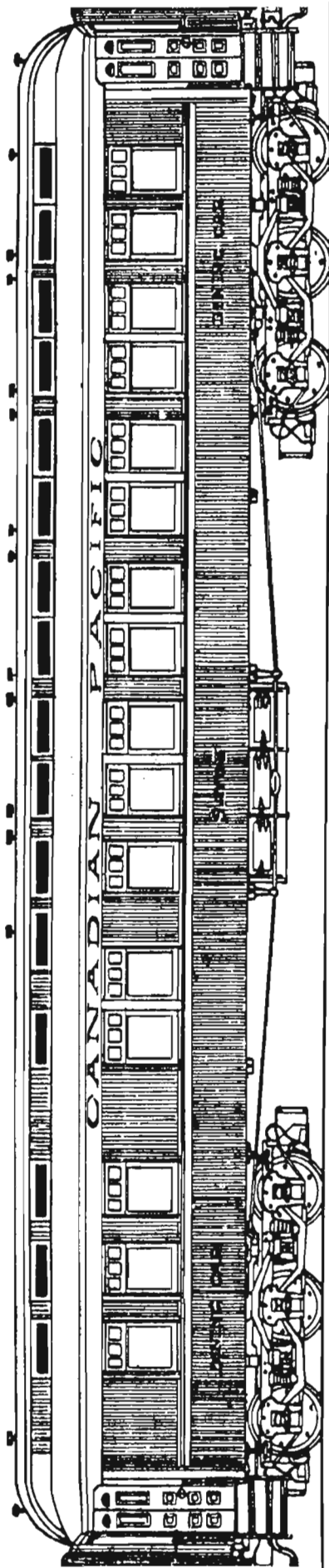
SECOND
CLASS
COACH 940



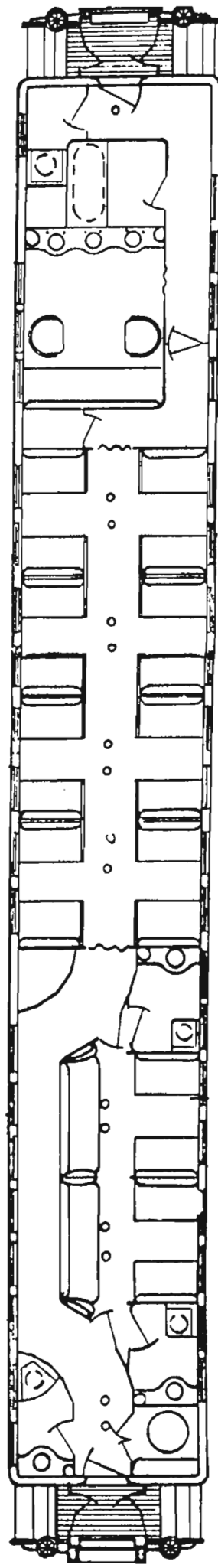
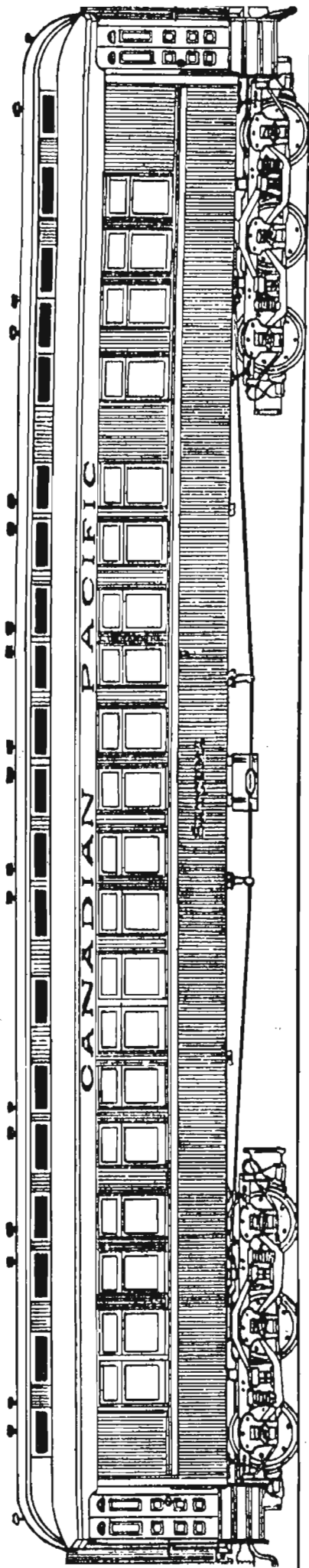


FIRST CLASS
COACH 460





DINER
"SAVOY"



SLEEPER
"SATSUMA"

Some 1954 Advertisements Heralding the New Stainless Steel Cars

'SCENIC DOMES'
NOW IN SERVICE ONLY ON
Canadian Pacific



BUSINESS TRAVEL as you've wanted it! Relax in modern lounges... hold private meetings en route in bedrooms, parlors or luxurious drawing rooms.

NOW RIDE THE ONLY 'DOME' ROUTE IN CANADA

- NOW FOR THE FIRST TIME the ultimate in business travel comfort... on new all-stainless-steel "Scenic Dome" and Sleeping Cars.
- NOW FOR THE FIRST TIME... vacationers can see Canada from the upper level "Dome" or in the luxury of the colourful "Scenic Dome" Lounges.
- NOW FOR THE FIRST TIME, an amazing improvement in riding comfort... PLUS the extra smoothness of diesel-hauled trains.

NOW IN DAILY SERVICE BETWEEN MONTREAL and VANCOUVER - TORONTO and VANCOUVER

Canadian Pacific - The Scenic Dome Route Across Canada

One of the 173 Streamline stainless steel passenger cars, Budd built, for the Canadian Pacific Railroad

the largest single order in Budd history...



completely equipped with WAUGHMAT *Twin Cushions* DOUBLE-ACTING

The first Waughmats ever used on this continent were applied to Canadian Pacific passenger cars in 1930... twenty-four years ago. The Waughmats are still in regular service. In the light of this long experience, it is evident that the selection of Waughmat Twin Cushions by the Canadian Pacific Railway for their 173 new stainless steel passenger cars was no casual choice. Performance established preference. Inquiries invited.

CANADIAN WAUGH EQUIPMENT COMPANY LIMITED
920 INSPECTOR STREET, MONTREAL

Canadian Pacific's 84 new coaches, dome cars and diners roll on TIMKEN bearings

AS part of its \$40,000,000 improvement program the Canadian Pacific Railway is putting into service 84 new stainless steel coaches, dome cars and diners. All will be modern cars equipped with Timken tapered roller bearings to eliminate the expensive hot box problem—cut operating and maintenance costs.

Because of their tapered design, Timken bearings are the only journal bearings that deliver what you expect when you buy a roller bearing. They're the only bearings you can count on to end the hot box problem and cut operating and maintenance costs to a minimum.

Because of their taper, there's no lateral movement in Timken bearings. No lateral movement to score rollers and races, shorten bearing life. No lateral movement to pump lubricant through the seal and out of the journal box, draw dirt and water in.

Because of their taper, Timken bearings have positive roller alignment. Ends of rollers are held snug against the ribs and their wide area contact keeps rollers properly aligned. The rollers can't skew to upset full line contact. The load is always carried the full length of the rollers.


With passenger trains on roller bearings, the next great step in railroading will be converting freight trains to roller bearings, too. And this step is a lot nearer now because a new Timken heavy-duty bearing assembly cuts the cost of applying roller bearings to freight cars 18% to 25%. This new bearing assembly fits all types of axle frames and comes pre-assembled and pre-greased. Complete information is yours for the asking.

Make sure you get all that a roller bearing can give you. Get Timken tapered roller bearings. The Timken Roller Bearing Company, St. Thomas, Ont. Cable address: "TIMROBICO". Canadian Representatives for Timken Bearings for Railroads, Railways and Power Engineering Corporation, Limited, New Glasgow, Montreal, Niteranda, North Bay, Ottawa, Toronto, Hamilton, Windsor, Winnipeg, Edmonton, Vancouver.

TIMKEN
TAPERED ROLLER BEARINGS

NOT JUST A BALL BEARING JUST A ROLLER THE TIMKEN TAPERED ROLLER BEARING LASTS LONGER AND THROUST - LOADS ON ANY COMBINATION

THE CENTER OF ATTRACTION ON CPR'S DOME OBSERVATION CARS



Along with the comfort and beauty of the Observation Cars is the unique service bar by Colonna... compactly designed for maximum efficiency... sanitation and attractiveness.

This is another installation representative of the finest service equipment available today for the demands of the modern railroad traveler... made by Angelo Colonna.

Soon to follow will be the luxurious Budd-built modern Diners and the Dome Lounge Cars on which Colonna equipment will prove an important part on this outstanding fleet of trains.

ANGELO COLONNA
designers and manufacturers food service equipment
PHILADELPHIA 34, PENNSYLVANIA

When the new stainless steel cars were delivered, the firms that had supplied components used in building the equipment placed advertisements in the various trade magazines. All these ads appeared in the latter part of 1954. Note that the Waugh Equipment Co. used the CPR insignia that had been outdated since 1946! It is also interesting that Edward Colonna designed the interiors of the 1893 World's Fair cars, and another Colonna designed the service bar on the new dome cars.

SCENIC DOMES

ANOTHER

Canadian Pacific

FIRST
IN CANADA



BUDD DELIVERING

173 CARS

TO THE

CANADIAN PACIFIC

The Canadian Pacific makes a continuing study of railroad operations, and the performance of railroad equipment, all over the world.

One of the consequences of these studies was the placing of an order for 173 Budd all-stainless steel railway passenger cars—the largest single order for railway cars the Canadian Pacific has ever placed, or Budd has ever received.

The order includes 36 scenic dome cars, the first and only dome cars in Canada.

A look at the record of the performance of Budd cars over the past twenty years reveals the reason for the Canadian Pacific's decision to order cars of all-stainless steel construction. They require Class 1 to 4 repairs only half as often as cars constructed of other materials, and the repairs cost only half as much. They provide a maintenance saving on paint alone of as much as \$400. per car per year. Light weight permits more cars per train for the same motive power. All this in addition to their vastly greater strength.



Edmonton, Alberta—Exhibit: two days—Attendance 6,397



Calgary, Alberta—Exhibit: two days—Attendance 11,199



Banff, Alberta—Exhibit: 20 minutes—Attendance 407



Ottawa, Ontario—Exhibit: 1 day—Attendance 5,396

All the cars will be equipped with Budd railway disc brakes and Budd Rolokron wheel slide prevention device, as well as all the other newest improvements in railway car equipment and furnishings.

The first two cars, a sleeper and a scenic dome car, were delivered in Montreal early in July, where they were put on exhibit for three days and then taken on a 10,000 mile transcontinental display.

In the first week more than forty thousand visitors inspected the cars. When the tour was over, the number exceeded 200,000. In less than a month they wore out the stair carpet to the dome, which, in

normal service, would last ten years or more.

Indians, cow-pokes, miners, seamen, hunters, rangers, plainmen, city-men, farmers and country folk—some of them came hundreds of miles just to see these beautiful, exciting new railroad cars.

Now, as deliveries accelerate, they are riding in them proudly and affectionately and, from the Canadian Pacific's standpoint, profitably. When all the cars are delivered, they will provide the consist for the finest trains that ever rolled on rails. The Canadian Pacific doesn't just think so. It knows so.

The Budd Company, Philadelphia 15.

Lethbridge, Alberta—Exhibit: one day—Attendance 7,178

TABULATION OF CANADIAN PACIFIC ORDER

Car Type	Number	Description
Baggage-Dormitory	18	15 crew, 2 stewards, 35,600 lbs. baggage
Coach	30	60 passengers
Dome-Coach-Lounge	18	26-passenger coach, 24-passenger dome, 23-passenger buffet (73 passengers total)
Diner	18	48 passengers
Sleeper	29	4 open sections, 3 double bedrooms, 1 drawing room, 8 duplex roomettes (25 passenger total)
Sleeper	42	4 open sections, 1 compartment, 5 double bedrooms, 4 roomettes (24 passenger total)
Dome-Sleeper-Observation-Lounge	18	3 double bedrooms, 1 drawing room, 12-passenger beverage room, 24-passenger dome, 13-passenger observation lounge (58 passenger total)



BUDD ENDS MAINTENANCE PROBLEM WITH MICARTA PLASTIC SURFACES

Canadian Paolillo's new passenger fleet features colorful, carefree MICARTA surfaces in all interiors

In designing this new fleet of passenger cars, Budd and Canadian Pacific found a way to keep interiors cheerfully bright and inviting—without the necessity of repeated refinishing.

In sleepers, lounges cars, dining cars, deluxe and scenic dome coaches, colorful, durable MICARTA was employed for wallcovering, pier panels, ceilings and coves, main partitions, tables, shelves and racks.

MICARTA was chosen because it offers the perfect blend of beauty and utility. Its tough, mirror-smooth surface will stand up to the abuse of thousands of careless, bustling travelers. It cleans "like new" with merely a damp cloth. It never needs refinishing.

This progressive step in car design promises the railroad industry more attractive and functional car interiors at a substantial savings in upkeep costs—savings that will quickly repay the initial cost of this durable plastic surfacing material.

For complete information on MICARTA for car interiors, write United States Plywood Corporation, MICARTA Division, 55 West 44th St., New York 36, New York.

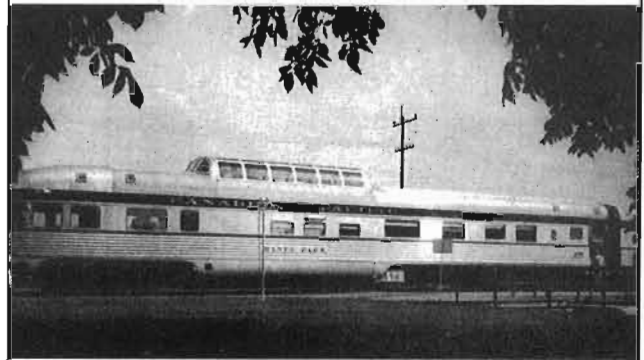


This is Westinghouse micarta for CAR INTERIORS

Westinghouse micarta
Manufactured by UNITED STATES PLYWOOD CORPORATION
 55 WEST 44TH STREET, NEW YORK 36, N.Y.
 A DIVISION OF W. L. MERRILL PLYWOODS, INC.

Congratulations...

To the Canadian Pacific Railway Company on their new passenger cars.



The Holden Co. Limited is proud to have supplied equipment for the latest Canadian Pacific Railway Company cars, and will be available to assist in servicing them from our offices across Canada.

THE HOLDEN CO. LIMITED
 MONCTON TORONTO MONTREAL WINNIPEG VANCOUVER



Complete Compressor-Coolant-Condenser-Expansion-Valve-Receiver-Filtering-Unit-Installation, supplied by Trane—Canada, Inc. (See photo in this issue C.P.R. Passenger Cars.)

TRANE SUPPLIES AIR CONDITIONING FOR NEW C.P.R. DOME CARS



Ton-tonnage type Compressor of 12 ton capacity provides three horsepower.



Two Trane air type Condensers readily designed for this application.

With the introduction of these new, streamlined stainless steel cars, passengers will ride the scenic, dome car way for the first time in Canada. On fifteen C.P.R. trains between Montreal, Toronto and Vancouver, they will thrill to ultra-modern train travel at its best... enjoying a great step forward in modern transportation.

Comfort feature of these new Budd-built cars is the air conditioning supplied by Trane equipment. Thermostatically-controlled temperatures in Scenic Domes are maintained over long trips. Varied weather conditions, hot or cold, do not affect the comfort of C.P.R. passengers.

This installation is one more example of how Trane air conditioning equipment fits today's demand for accurate, positive temperature control at all times... another reason why, in heating and air conditioning.

"The trend is to TRANE"

Write for information.

For the quantity units, specify independently connected with this car. The above provide the individual number conditions desired in the dome car in the study of the car. In complete operation for winter and summer with separate controls.

TRANE TRANE COMPANY OF CANADA LTD.
 4 MOWAT AVENUE TORONTO 3, ONTARIO
 OFFICES IN PRINCIPAL CITIES FROM COAST TO COAST
 MANUFACTURING ENGINEERS OF HEATING AND AIR CONDITIONING EQUIPMENT

NEW C.P.R. "SCENIC DOME" CARS ARE EQUIPPED WITH SKF JOURNAL BOXES

Reaching new high standards of efficiency, SKF Journal Boxes provide a maximum of passenger comfort and safety.

CANADIAN SKF COMPANY LIMITED
 1000 GERRARD ST. EAST, TORONTO, ONTARIO M4M 1B7



The picture of Comfort!

passengers on C.P.R.'s new ultra-modern Scenic Domes travel in comfort on

DUNLOP

Pillofoam



Under the upper deck Domes, these adjustable chairs, with their deep Pillofoam seats, invite relaxation.



Backs, arms and seats of soft, form-fitting Pillofoam ensure the deep comfort of these lounge car chairs.

Solid comfort is the keynote of the luxurious new CPR Scenic Dome coaches. That's why Dunlop Pillofoam® is used so extensively in the upholstery — its millions of tiny air cells literally breathe comfort!

Pillofoam is the obvious choice for transportation cushioning because it adds life to upholstery, eliminates spring repairs and has never been known to wear out. All of which adds up to greater passenger comfort... increased traffic revenue for you! Dunlop's free design service is ready to meet your particular requirements. Contact your nearest Dunlop Branch for information.

DUNLOP CANADA
Limited



Exide power adds to the comforts of these new Budd "SLEEPERS"

Now going into service on the Canadian Pacific, these 71 new Budd stainless steel sleeping cars, are completely different in design... provide unequalled travelling comfort, made possible to a large extent by electricity.

There is extensive 110-volt lighting throughout... electrical outlets for every conceivable requirement... air conditioning and heating for all-weather comfort... even a public address system which carries music and announcements.

Specially designed 110-volt, 400 ampere hour Exide batteries handle the heavy power demands created by this equipment. They are another example of Exide engineering at work for the transportation industry!

110-volt, 400 ampere hour Exide Potential M116-3100A railway car lighting and air conditioning battery.



EXIDE BATTERIES OF CANADA LIMITED Montreal TORONTO Vancouver

... FOR EVERY PASSENGER ON THE NEW, MODERN CANADIAN PACIFIC RAILWAY CARS

FULL COMFORT

with VAPOR **Unizone**® or... **Moduzone**® HEATING

THE VAPOR UNIZONE SYSTEM
is for Coaches and All Open-Body Cars. Operates with a single thermostat and a simple Vapor Regulator. Maintains selected temperature within 1° of variation desired, most efficient car-heating system ever devised. Ask for Bulletin 567.

THE VAPOR MODUZONE SYSTEM
is for Room Cars. Operates with three Vapor Regulators, provides individual temperature control in each room, by room equipment, but has no individual room thermostats. Each passenger's selected temperature is maintained at his individually selected degree under all conditions. Ask for Bulletin 568.

The new, up-to-the-minute observation dome lounge cars and sleepers built by the Budd Company for the Canadian Pacific Railway are completely equipped with Vapor Unizone and Moduzone systems. The Dome Car, with its highly variable heating demands, has the same simple basic elements as used in Vapor Unizone Systems for Coaches so that upstairs or downstairs, in every part of the car, uniform temperatures are maintained automatically. Vapor Moduzone systems on all sleepers provide selective heating, to please all room car passengers—whatever their preferences. Maintenance, too, is important—and Vapor Unizone or Moduzone systems require an average of only 15 minutes every two years for at-the-car servicing—saving 90% in Coach Yard Labor and reducing Store Parts by 60-70%. Ask for Bulletin 567 for Vapor Unizone and Bulletin 568 for Vapor Moduzone.

VAPOR CAR HEATING CO. OF CANADA LIMITED
65 DALHOUSIE ST. MONTREAL

In the observation lounge, seated passengers enjoy high-intensity light from the latest built Fluorescent tubes. Lensed glassware prevents glare from ceiling fixtures so soft fixtures appear.

Fluorescent ceiling fixtures in the observation lounge range in push at light in the side below. Fluorescent lighting highlights the ceiling to provide an indirect lighting component.

Fluorescent lighting in the scenic dome points a picture of sunbather's delight when viewed from the station platform. Soft, male and west lighting, creates passenger's safety after dark.

Wonder-Working Lighting for Canada's New Luxury Trains

LUMINATOR

fluorescent lighting for Canadian Pacific's new scenic dome lounge cars

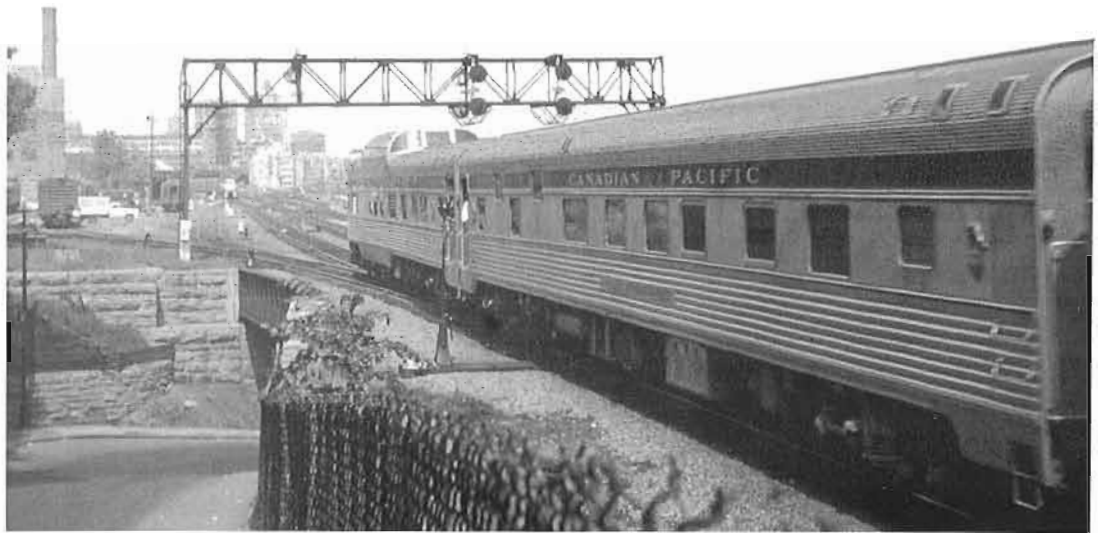
The comfort of riding Canadian Pacific's new scenic dome lounge cars is enhanced by the eye-easy Luminator fluorescent lighting that they feature—controlled, glareless lighting—always enough in the right places. Luminator lensed fixtures build up light for reading, while prisms bend light out of line of vision for eye comfort.

Luminator designers know transportation lighting. Their recommendations, based on their knowledge of the Science of Seeing, always result in greater passenger satisfaction.

Always specify Luminator for soundly engineered, controlled transportation lighting.

RAILWAY & POWER ENGINEERING
NEW GLASGOW • QUEBEC • MONTREAL • NORANDA
OTTAWA • NORTH BAY • TORONTO • HAMILTON
WINDSOR • WINNIPEG • EDMONTON • VANCOUVER
Cooperation Limited

The Canadian in the 1960s



OPPOSITE PAGE: June 28 1961 was the 75th anniversary of the departure from Montreal of the first scheduled CPR transcontinental train. These photos were taken on that date as train No. 1, *The Canadian*, left Montreal's Windsor Station. Note tourist car "Unity" in the top photo. This was one of 22 heavyweight tourist cars sheathed with stainless steel to blend in with the new Budd-built cars.

RIGHT: *The Canadian* at the old Ottawa Union Station westbound on August 21, 1964.

BELOW: The next day *The Canadian* met its eastbound counterpart near Ignace, Ontario while some passengers enjoyed the sight.

BOTTOM: The interior of the lounge in the *Park* car on April 30, 1967. At that time the original decor was still in use.

All photos, these two pages, by Fred Angus.



Up North in the Winter of 1971

On February 6, 1971, the CRHA operated a "snow" excursion from Montreal to Labelle and return on the now-abandoned Laurentian Division of the CPR. The train consisted entirely of stainless steel equipment, in the CP Rail "action red" paint scheme, with the *Revelstoke Park* bringing up the rear. These photos were taken on that memorable day. Note the dome car on the Montreal - Quebec City train as the special stops for a photo (right) at St. Martin Junction while the Quebec train passes.

Photos by Fred Angus



RIGHT: A stop at the picturesque station at Ste. Agathe. In the days of the ski trains the round end was a dining room.



LEFT: Some of the participants enjoying themselves in the lounge of the *Revelstoke Park*.

RIGHT: Another scenic runpast with lots of snow all around.



Stainless Steel Cars Down East Under VIA Rail

Until the introduction of the *Renaissance* equipment, trains 14 and 15, the *Ocean* had an all stainless steel consist. One of the three train sets on this train is still stainless steel. These photos, all by David Morris, show the stainless steel era in the Maritimes.

RIGHT: Train 14, the *Ocean*, approaching Moncton on September 17, 1995.



ABOVE: Same location, two seasons. Both are train 14 at Moncton. The winter scene was taken on February 28, 1998, while the spring view was on June 1, 2002.



ABOVE RIGHT: The normal stainless steel consist of train 619, the *Bras d'Or* is augmented by private car *Caritas* at Truro on June 4, 2002.



ABOVE: Train No. 15 at Folleigh Lake, Nova Scotia on June 1, 2002.



RIGHT: Train 14 backing up after its arrival at Halifax on August 30, 2004.

Car *Banff Park* in 2004



Of all the 173 CPR stainless steel cars, by far the best known is the *Banff Park*. It was the first "Park" car delivered, and it appeared in countless publicity photos and advertisements.

Today this veteran passenger car, now fully modernized and converted to head-end-power, is still very much in service with VIA Rail Canada. This summer it was assigned to the *Bras d'Or*, Via's luxury train operating between Halifax and Sydney Nova Scotia.

The photo above was taken at Truro on August 31, 2004. Compare this view with the one on page 211, taken half a century before.

LEFT AND BELOW: The *Banff Park* brings up the rear as the eastbound *Bras d'Or* stops at Orangedale station, now a museum, on August 24, 2004.

All photos these two pages by Fred Angus





TOP: En route to Sydney on August 24, 2004.

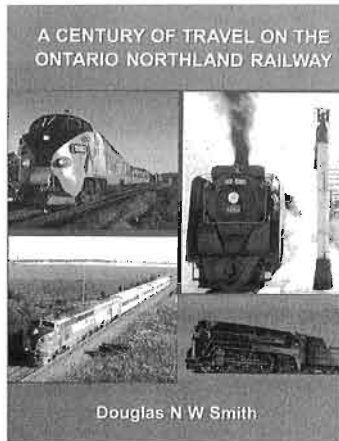
ABOVE: Early in the morning of August 25, 2004, the *Bras d'Or* waits at Sydney for its scheduled 7:30 A.M. departure for Halifax.

RIGHT: The observation lounge of the *Banff Park* en route from Sydney to Halifax on August 25, 2004. The clocks, showing the different time zones in Canada, were installed when the cars were rebuilt in the 1990s. The flowers add to the festive mood for this luxurious train. After fifty years the *Banff Park* still retains all its charm.



Book Reviews

A CENTURY OF TRAVEL ON THE ONTARIO NORTHLAND RAILWAY



By Douglas NW Smith

Published by: Trackside Canada
P.O. Box 1369, Station "B"
Ottawa, Ontario
K1P 5R4

Price \$39.95 plus shipping charge and 7% GST for Canadian orders.

"By 1884 a few hardy settlers had settled on the western shores of lake Temiskaming in a territory they called New Ontario. Cut off from the southern metropolitan areas by the Laurentian Shield, they pleaded for a railway link to the south".

Above is the opening paragraph of this most informative account of the colourful history of the Temiskaming and Northern Ontario Railway, and its successor, the Ontario Northland.

The proposed railway of 1884 never got beyond the planning stage, but on January 15, 1902 a bill was introduced in the Ontario legislature incorporating the Temiskaming and Northern Ontario Railway as a government-owned corporation. The first sod was turned on May 10, 1902, and construction proceeded north bit by bit, and the T&NO reached its northern terminus at Cochrane by the end of 1908. This was two years before the National Transcontinental arrived at the same location. Years later, the extension to James Bay was begun, and the first train reached Moosonee late in 1931. In 1946 the railway changed its name to the Ontario Northland Railway.

In this volume we have a blow-by-blow history of the railway during its construction years as it works its way slowly north. Then we read about the trials and tribulations of the railway as it goes through "The Dirty Thirties", "The War Years", and so on through the decades until we reach the twenty-first century.

Following the history portion, there are chapters about the varied fleet of passenger cars the T&NO / ONR has operated over the years. Included is "Private Varnish", "T&NO's Wooden Passenger Cars", "T&NO - A Steel Car

Pioneer", "Second Hand Steel Passenger Cars", "GO Transit Cars in the Far North", and other interesting items, not forgetting, of course, the European "TEE" trains that were in use from 1977 to 1992. There are also rosters of the various equipment.

The next section consists of individual chapters describing each of the major stations on the line, starting with North Bay and going all the way to Moosonee. Here we read of such places as Temagami, Cobalt, Englehart, Swastika and numerous places which played an important part in the development of northern Ontario.

In addition to the main text of the book there are also extra items, actually mini-articles, which tell of some of the "off-beat" features of the railway. Among these are accounts of the T&NO's only second hand steam locomotives, the T&NO's last new steam locomotives, T&NO's only streamlined steam locomotive, a most interesting, but forgotten train called the "Quintland", an account of a trip on the mixed train in 1957, the story of the last classic cab units, self propelled cars, lunch counters, and that most interesting but forgotten story, the T&NO's plans to electrify its lines!

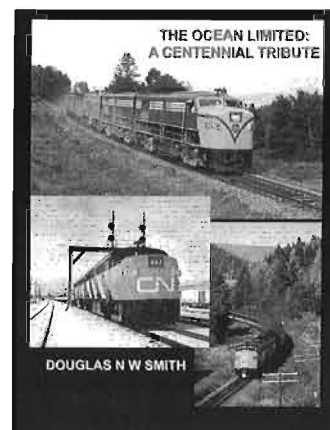
There is also a good account of the "Polar Bear Express" train to Moosonee, and some recent history, including the ill-conceived, but fortunately cancelled, plan to privatize the ONR. The last item covers the most recent event, the arrival of dome cars for use on the Moosonee run.

Not forgotten are the subsidiary companies of the T&NO / ONR. We read about the ONR's ships, its airline, its bus lines, and its subsidiary the Nipissing Central railway. The latter was a full fledged electric interurban line that served Cobalt, Haileybury and New Liskeard from 1910 to 1935.

The softbound book contains 160 pages and almost 300 illustrations, including more than 100 in full colour. Included is a "Heritage Gallery" of historic photos. There are also maps, diagrams and numerous tables to make it easier to follow the story. Even Santa Claus gets into the story!

Any fan of the ONR, or the far north, or anyone who just wants a good read, should have this book.

THE OCEAN LIMITED: A CENTENNIAL TRIBUTE



By Douglas NW Smith

Published by: Trackside Canada
P.O. Box 1369, Station "B"
Ottawa, Ontario
K1P 5R4

Price \$29.95 plus shipping charge and 7% GST for Canadian orders.

On July 3, 2004, the longest-running named train in Canada completed 100 years of service to the Maritime provinces. This is the world-renowned "Ocean Limited", now known simply as the "Ocean", which began operation between Montreal and Halifax in the days of the Intercolonial Railway, continued under Canadian National, and is now operated by VIA Rail Canada. In this 128 page softbound book, the author recounts the history of this famous train from 1904 until the present time.

However there is much more than this. The account actually goes all the way back to 1839 when Lord Durham recommended an intercolonial railway in his famous report of that year. Construction did not actually begin until the 1850s, and the story quickly gets involved with the Nova Scotia Railway, European & North American Railway and, after Confederation, the Intercolonial, which was constructed as a project of the federal government. After 1872 work proceeded on the most difficult part, between Moncton and Riviere du Loup, until the work crews, under Chief Engineer Sandford Fleming finally drove the last spike (with little or any ceremony) just north of Matapedia Que. In 1876.

Once through service began, there were several named trains operated on the line, and these nineteenth century predecessors of the "Ocean Limited" are covered in considerable detail. There are many rare photographs included, the oldest of which is one taken at the station at Riviere du Loup in 1860, showing the broad gauge track clearly. There are also very clear interior photos of ICR passenger cars of the 1870s and 1880s.

All this leads up to the star of the story, the "Ocean Limited" which made its debut on July 3, 1904 when the first train left Montreal for Halifax, 840 miles away. The book then follows this story through 100 years, including two world wars, years of prosperity and depression, and the gradual modernizing of equipment, through the steam and diesel era right up to the new "Renaissance" cars which are in the process of replacing the stainless steel equipment.

There are also numerous sidelights to the story, such as Canada's first Pacific locomotive, the first steel sleeping cars owned by a Canadian railway, the rail post office service, and even the story of how an ICR train graced the Dominion of Canada \$5 bill from 1912 to 1931!

In total there are more than 100 illustrations of which 45 are in full colour. There are also maps, timetables, car plans, and a large number of tables.

Altogether this is a worthy contribution to Canada's railway history.

BACK COVER TOP: The eastbound "Ocean" departs from Moncton, N.B., en route to Halifax N.S. on March 10, 1996.

BACK COVER BOTTOM: The westbound "Canadian" stops at Field B.C. on May 17, 1983. Less than seven years later the train ceased to run on the CP Rail line.

Both photos by Fred Angus

CANADIAN RAILWAY RECORDS



By Althea Douglas and J. Creighton Douglas

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In the century after 21 July 1836, when the Champlain and St. Lawrence Rail Road ran the first passenger train in Canada, the railways employed hundreds of thousands of men, and some women. It is a rare Canadian family that did not have at least one member who worked at some time for The Railway; if not running trains or the telegraph service, perhaps at the hotels, on the ships, or as skilled craftsmen in the huge shops where equipment was built and repaired.

Althea and Creighton Douglas have combined their knowledge and experience to write this genealogical guide not only to railway records and where to find them, but also to a way of life that has now largely disappeared. Steam power was replaced by diesel engines in 1960, and by then the airplane was supplanting the train for long distance travel. A glossary and a chronology will jog your memory, but readers are also introduced to current sources on the Internet.

Althea Douglas, MA, CG (C) was born in Moncton, N.B. Having a father who worked for the CNR meant that Althea went to school in Toronto, then attended University in Montreal where she met her husband.

J. Creighton Douglas, BSc was born in Cowansville, Quebec and grew up in nearby Sutton, in the Eastern Townships of Quebec. These towns are on the CPR line that connects to Boston and so Creighton worked for the CPR. A very junior rodman, he was assigned to the Smiths Falls Division where he worked for a year and a bit before he entered McGill.

Creighton and Althea both have a railway background, but it was a mixed marriage, CNR vs. CPR. While their career paths took them away from the world of trains, their interest remains. They have some forty years of Canadian Rail in their basement.

Canadian Rail

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