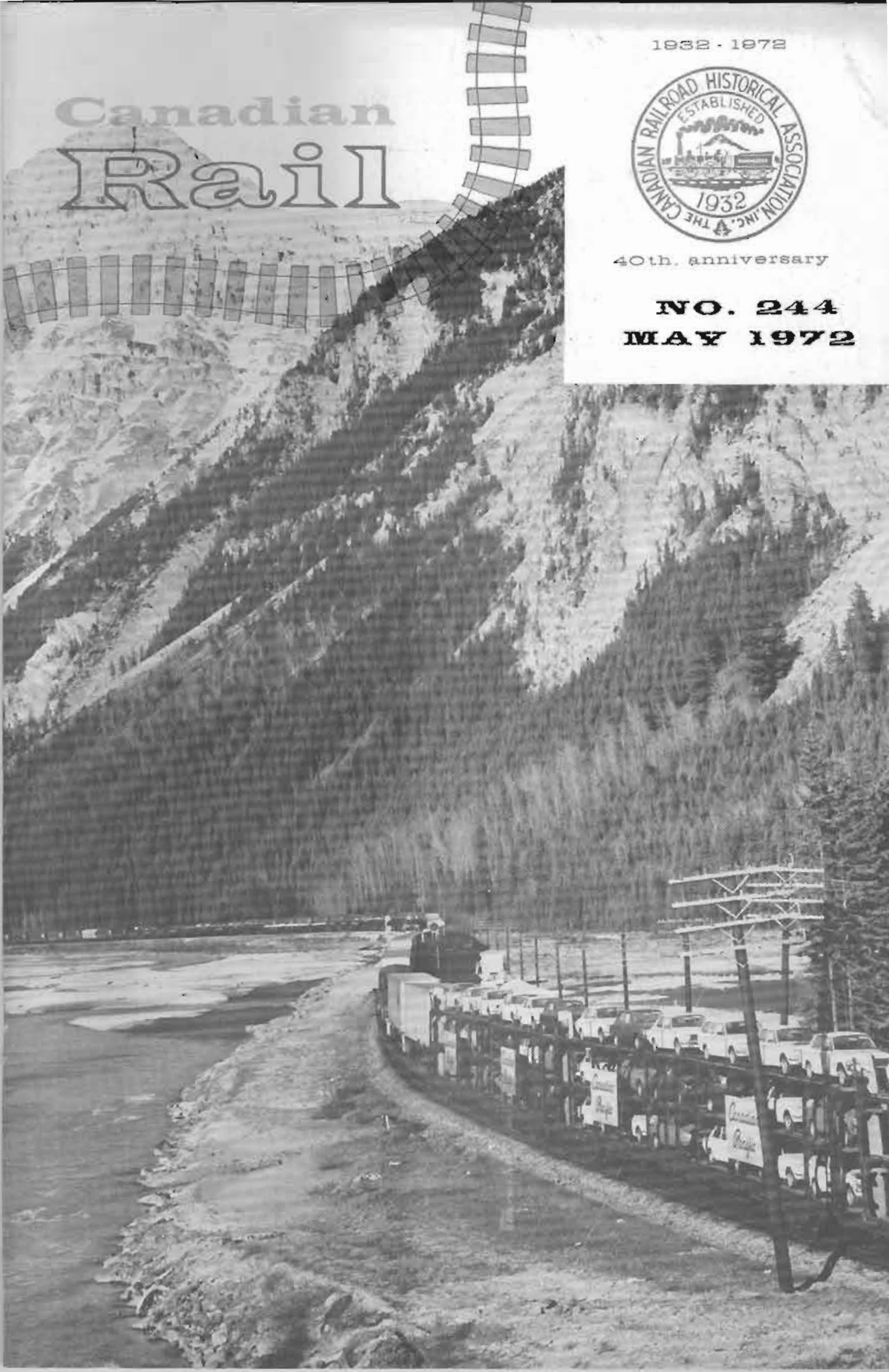
Canadian Rail

1932 - 1972

40th. anniversary

NO. 244
MAY 1972

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A Quarter-Century Of Freight Car Design

Bernard Wilkinson, B.Sc.

TWENTY-FIVE YEARS - A QUARTER-CENTURY - is not a long time in the total history of the railways of North America. Since the first Canadian "freight" train puffed out of Laprairie, heading for St. Johns, Québec, late in 1836, almost six quarter-centuries have elapsed, each one notable for some phase of railway technological development.

Quite logically, the last quarter-century has produced more dynamic and dramatic changes in freight car design than any such previous period. These years have produced such a massive and revolutionary change that it makes all previous progress in freight car design pale in comparison.

Twenty-five years ago, the railways of North America offered potential shippers four basic types of car for carrying freight. These were the box car, the flat car, the gondola car and the open hopper car. The box car was the general workhorse of the railway and was used for all types of commodities that required protection from the weather. Its place in the economic life of North American transportation is legendary. In the middle 1940s, not much thought was given to making a particular car for the use of a particular shipper. The railways were vastly overworked and were relatively unable to build anything other than the four basic types, since these cars could carry such a great variety of products. Consequently, there was little or no sense in expending precious time and money on unnecessary construction.

There were some semi-specialized cars, such as tank and refrigerator types, but these formed only a small part of the total fleet. During World War II, as might have been anticipated, the railways watched their freight car fleets deteriorate badly, because of the magnitude of the wartime emergency traffic offered and the lack of

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AS A DEMONSTRATION OF WHAT A MODERN RAILWAY CAN DO WITH A NEW FREIGHT car design, the cover picture shows a CP RAIL freight with trilevel after trilevel of automobiles, in the valley of the Kicking Horse River, British Columbia (1969). Photo courtesy Canadian Pacific.

The 40-ton, 40-foot general purpose boxcar, shown on the inside of the front cover, was built by the National Steel Car Corporation for the Ontario Northland Railway in 1947. This was one of the basic car types twenty-five years ago. Photo courtesy National Steel Car Corporation.

time for essential maintenance. The termination of the War found many railway companies with badly worn-out fleets of rolling stock and a great period of car rebuilding and new car building followed. Except for a minor business recession in the '50s, the generally prevailing economic conditions provided a more favourable climate for railway freight business. Coupled with this, railway management began to adopt a more aggressive freight sales policy.

> In order to regain lost business and to capture new opportunities, this dynamic freight sales policy necessitated a customer-oriented service and - more important to the freight car designer - it demanded customer-relevant cars. Out of this new sales and design environment developed the highly specialized freight cars that we see today on modern North American railways.

Twenty-five years ago, the transportation of automobiles from assembly plant to distribution centre had been all but preempted by the highway carriers. This was one instance where the new management concepts could be applied and a revolutionary development thereupon occurred. The standard railway automobile car at that time was essentially a box car, but with wide doors, and carried four automobiles. As time went by, Canadian National Railways developed a semi-specialized box car automobile carrier that was basically a super-box car, having two decks and carrying eight automobiles - four on the lower deck and four on the upper.

Following continuing research, the open-sided trilevel car was produced. The disappearance of the steam locomotive made an open car possible, because cinders and soot, which could damage the finish of the automobiles, was no longer a problem. The trilevel car can carry fifteen automobiles on three decks, with extremely simple tie-down devices.

Even though the trilevel is a highly specialized car, which must travel empty for the return portion of its journey, the railways have found that they can quote rates attractive to the shipper -and still make a profit - because of the reduced transportation costs of operating such cars. As a result, the railways have recaptured the lion's share of the automobile transportation business. Solid trains of loaded trilevels are a common sight on railways in the 1970s.

> And so, a new era in transportation history came to the railways. There was a profound lesson to be learned from this "profit-sharing" concept . Railway management learned that if there was sufficient incentive and the right type of equipment, the railways got the business. Railways thus could fight their competitors in a very dramatic fashion. It was clear that one way to cut costs and reduce freight rates was to build larger cars of specialized types, specifically designed to any industry's particular needs.

Thus, in the last fifteen years, there has been a virtual flood of highly specialized, customer oriented, BIG cars. As a result, the railways have been able to recapture many former clients and secure their rightful share of new ones.

A classic example of how the railways out-manoeuvered the competition was seen in the introduction of the piggyback flat car. With the advent of this service - made possible by the perfection of the design and construction of these cars - the railways literally took the highway semi-trailers right off the roads and transported them to their destinations by rail, at a substantial saving in time and money to the truckers and at a profit to the railway companies.

Included in the multiplicity of specialized railway cars was the mechanical refrigerator car, which was developed to supercede outmoded ice-and-salt refrigerator cars. The new vehicle can carry frozen foods, fresh garden produce, fruit and dressed, hung meat at any desired temperature, maintained by thermostatic controls, regardless of exterior weather conditions.

Dressed meat traffic is becoming more and more important to the railways of North America, as the "kill" houses - formerly known as slaughterhouses - move westward, closer to the ranches where the cattle are fattened. Sides of dressed beef nowadays originate in the western cities of Lethbridge, Edmonton, Moose Jaw and Winnipeg. For the time being, this traffic is of primary importance, but the question has already been raised as to why the whole meat packaging process should not be carried out at the "kill" house and the meat shipped to centres of consumption in neat, hermetically-sealed consumer packages. If such a procedure were adopted, the mechanical refrigerator car could still be used, but without the internal meat-suspension system with which they are presently fitted.

The mechanical refrigerator car of today has an equipment compartment at one end, in which a diesel motor drives a generator to produce electricity. The electricity is used to power electrical heaters, which maintain normal temperature in the car's interior in winter, or to power a refrigerator unit which keeps the car's contents cool in summer.

Formerly, refrigerator cars were cooled by a mixture of ice and salt or by adding ice to overhead tanks containing water, the cold air so generated settling to the bottom of the car and cooling the contents in the process.

In the winter, the interiors of these primitive cars was heated either by portable charcoal-fired heaters, placed in the loaded cars or by a permanent undercar charcoal heater connected to a heater pipe located in the floor of the car. The difficulties of controlling the temperature accurately with these devices can be imagined. The potential fire-hazard was obvious and inescapable.

CP RAIL's newly-designed mechanical refrigerator cars can carry whole sides of beef,suspended by a monorail meat-rack system,fastened to the car ceiling,which facilitates loading and unloading of sides of dressed meat. The sides of meat are rolled out of the packing house cooler to the refrigerator car door,where they are transferred to hooks attached to four-wheel trolleys,which run in the ceiling-suspended tracks. These trolleys can be manoeuvered into the proper position in the refrigerator car and then locked in place,so that there is no accidental movement of the meat during transport.

This mechanism represents a "total systems"design concept,since no single element of the system was improved by redesign at the expense of another element of the system.

These new cars can transport 70,000 pounds of dressed meat, whereas the old ice-refrigerated cars could only handle 30,000 pounds in quarters - not in halves. Much of the interior space of the old cars was occupied with ice-tanks,essential for cooling. Once again, the larger specialized cars permitted savings in transportation costs, through incentive freight rates and also through significant reductions in the company's operating costs.

Pressure-unloading,covered hopper cars for cement,sugar,flour,salt and other powdered and granulated bulk commodities can be completely and automatically unloaded by compressed air into or out of customers' storage silos . The bulk commodity is kept clean and free from contamination by other materials and the day of slow gravity unloading for these products is a thing of the past!

Canadian railways pioneered the development of insulated and heated box cars for transporting products such as canned and bottled beer, general canned goods,liquid packaged detergents and many food products which require protection from freezing during the rigors of sub-zero temperatures,during the long,hard Canadian winter. These cars have a thermostatically controlled heating system,using alcohol-fired pot-burner heaters,with perimeter-finned tubing,recessed in the car floor.

Modern freight cars,like the mechanical refrigerator and the insulated box car, have the added advantage of "foamed-in-place" insulation. The insulating material is pressure-foamed into the cavities between the inner and outer car walls and,when this material solidifies and cures,it adheres permanently to all surfaces with which it comes in contact. Thus,the necessaity of fastening or packing the insulating material is eliminated and the car structure is considerably strengthened by the insulating material itself.

An innovation of the '60s was the extra-high,50-foot,80-ton,large-cube newsprint box car,pioneered by CP RAIL. The additional height of these cars allows double-stacking of newsprint rolls,thus making possible a full load of 80 tons per car, with no wastage of space. To prevent in-transit cargo damage from end-shock which may occur during starting,stopping and switching,these cars are fitted with long-travel cushioned underframes,which act as admirable shock-absorbers.

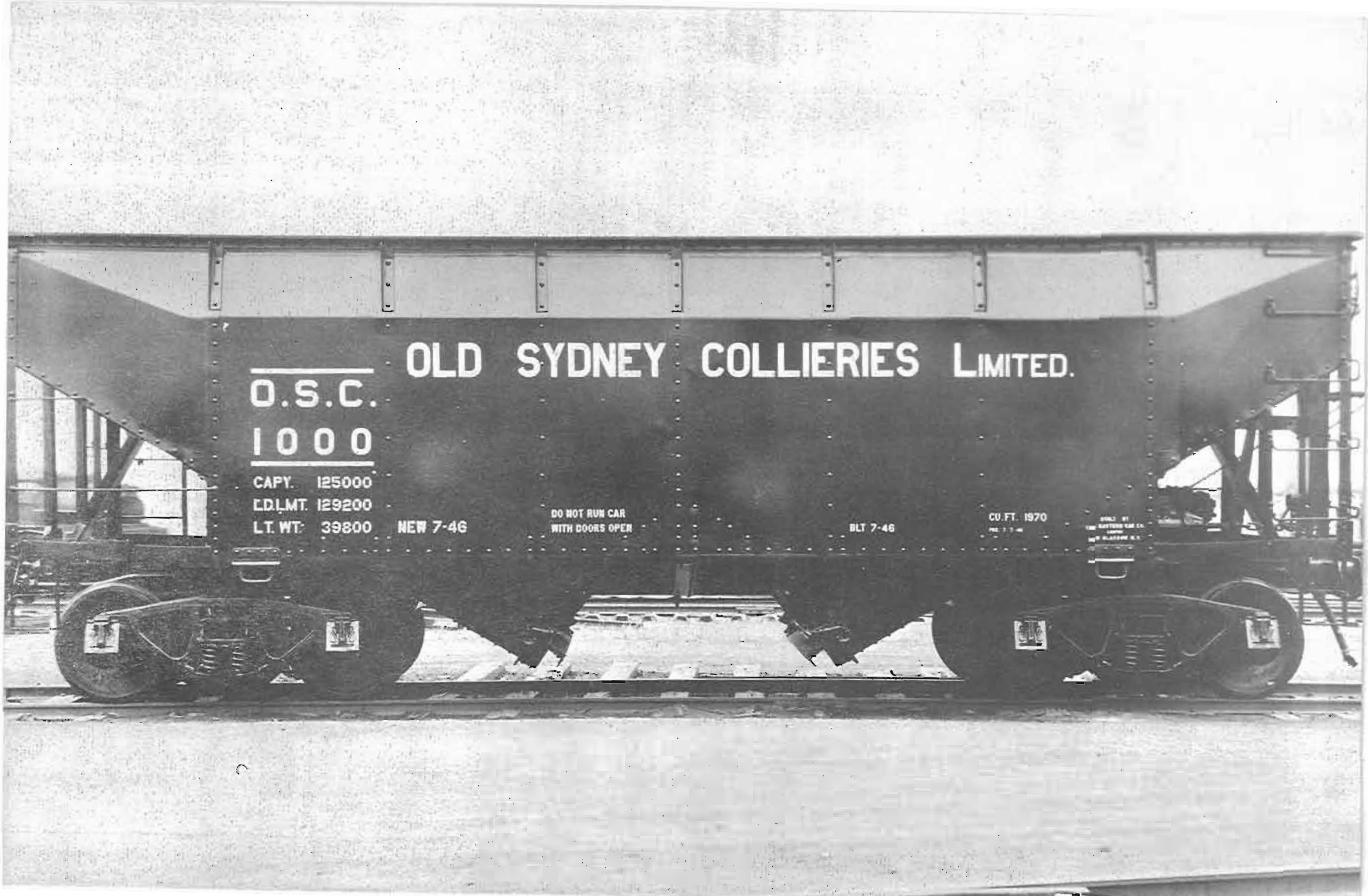
The newest idea in rail-water transportation is the container. The container-carrying car - container car - developed to transport these useful and versatile boxes , promises to achieve a prominent place on the rail transportation scene. Because containerization offers so many advantages to the shipper,its success is certain and its growth has been and will continue to be phenomenal. Containers and containerization require not only specialized rail cars,but also new,specialized container-ships and radical,new container ports and accessory equipment. The new container flats will play a most important part in the proposal to utilize North America as a "land-bridge" between Europe and Asia,in a truly intermodal transportation concept,employing rails,ships and trucks.

This is yet another example of how the railways have innovated and specialized,to participate in an expanding transportation market. The growth potential here is fantastic and it is possible to envision solid container unit-trains racing across the prairies to the Pacific Coast,in the not-too-distant future.

The foregoing is a brief description of a few of the new,specialized types of freight car,but there are - altogether - so many and the variety is increasing so rapidly that to describe them all would require an encyclopedia!

Cars such as these would have been impractical and impossible twenty-five years ago and it would be worthwhile,at this point, to consider some of the changes in car engineering that have permitted their development.

HERE ARE TWO TYPES OF CARS BUILT A QUARTER OF A CENTURY AGO. THE 50-ton,twin hopper car was built by the Eastern Car Company for the Old Sydney Collieries,Limited,in 1946. The photo is courtesy Hawker Siddeley Canada Limited.
The 48-foot,drop-end gondola was built in 1947 by National Steel Car for the Algoma Central Railway. Photo courtesy National Steel Car Corp.


OLD SYDNEY COLLIERIES LIMITED.
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CAPY. 125000
LD.LMT. 129200
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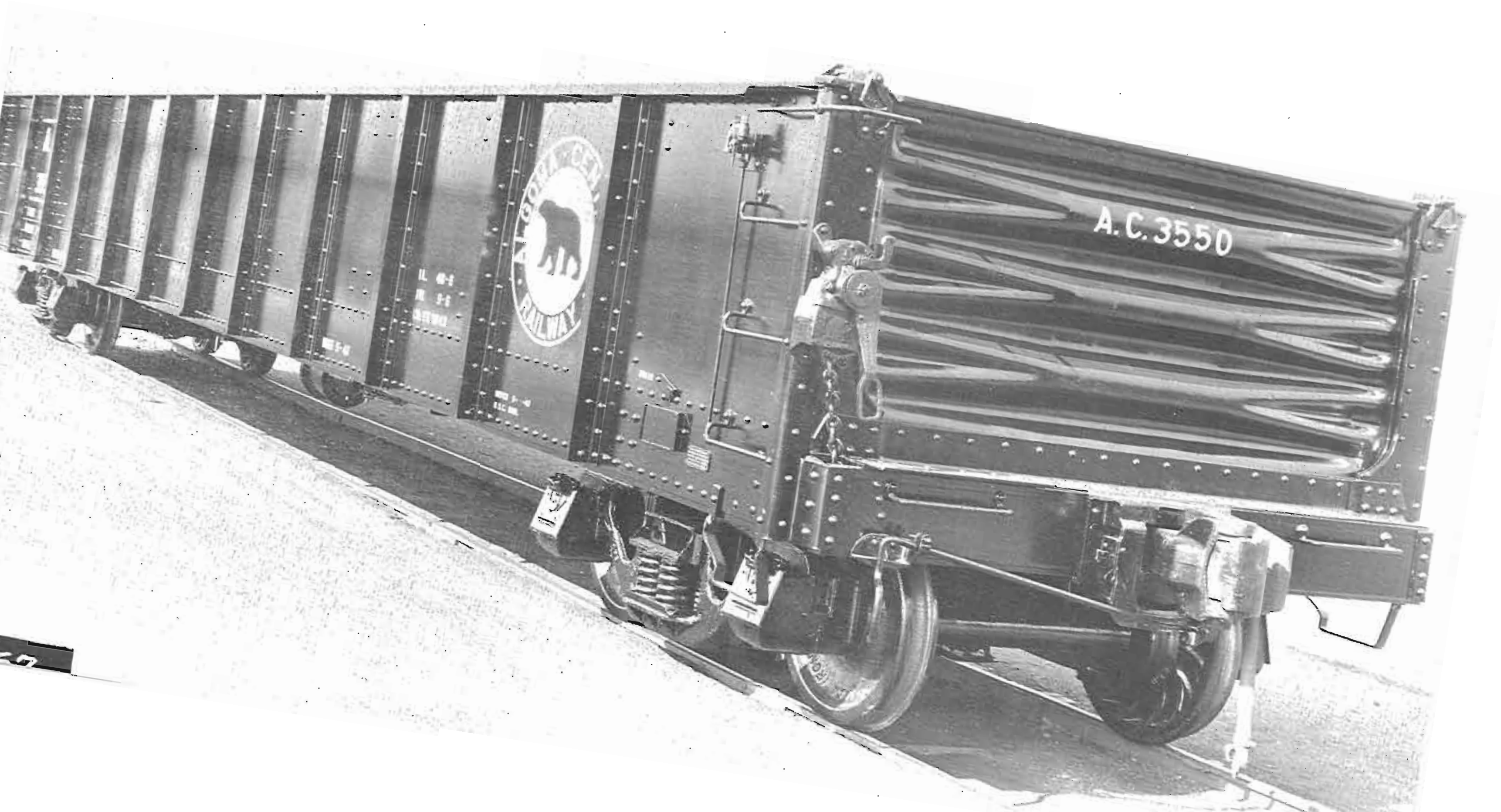
NEW 7-46
DO NOT RUN CAR
WITH DOORS OPEN
BLT 7-46
CU.FT. 1970


A.C. 3550
RAILWAY

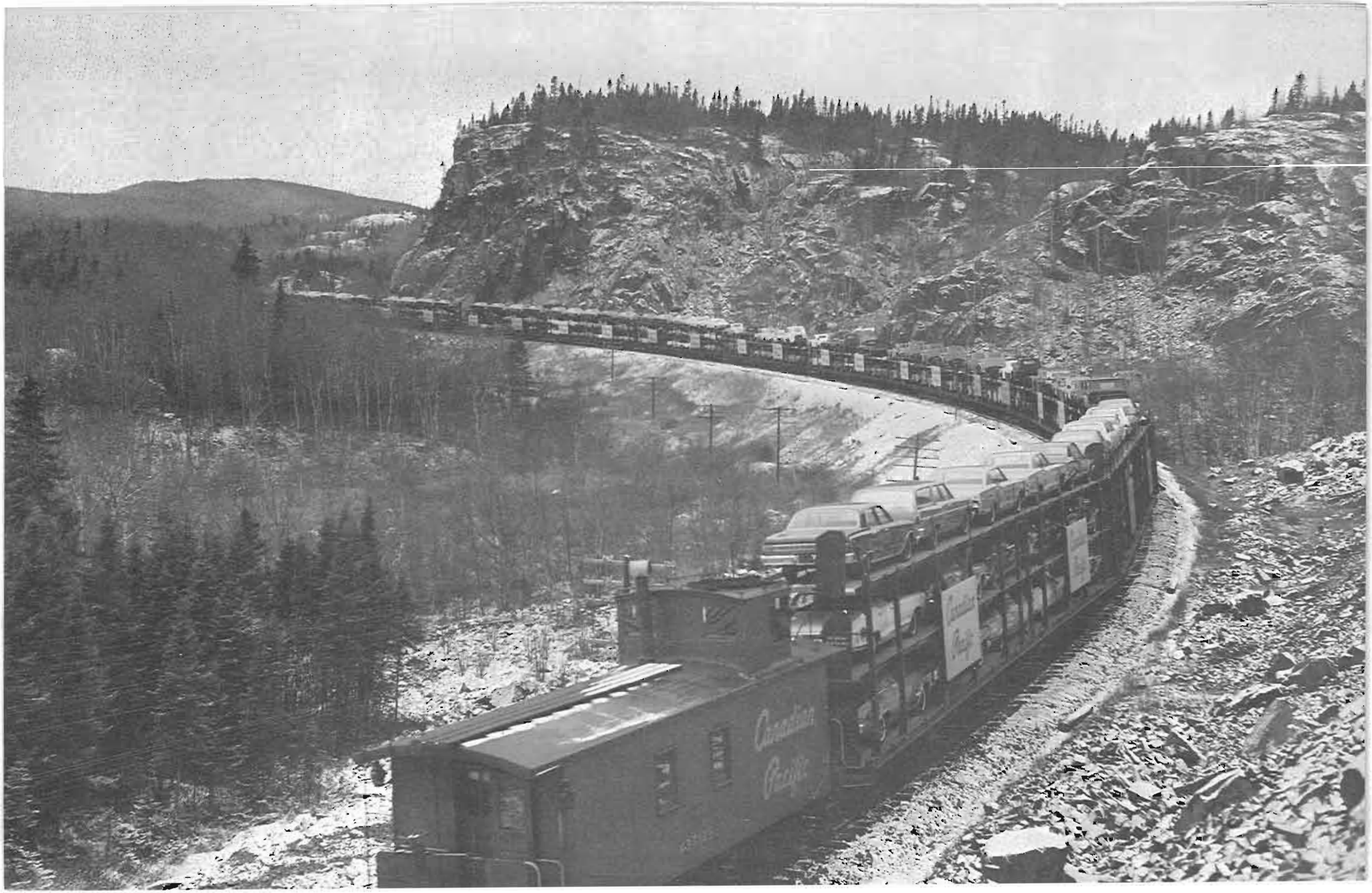
EASTERN CAR COMPANY LIMITED BUILT THIS 41-FOOT,50-TON FLATCAR FOR THE Canadian Tube and Steel Products Limited in 1948. It was then a basic type. Photo courtesy Hawker Siddeley Canada Limited.

CN 589987 was the first of three generations of automobile carriers. Built in 1949 by National Steel Car,it had a capacity of 4 automobiles. Photo courtesy National Steel Car Corporation.

By 1959, a second generation of automobile transporters had appeared. This 40-ton car,built by Canadian Car & Foundry Company in that year carried 8 automobiles,4 on the lowe[illegible] [illegible] 4 on the upper.
Photo courtesy Canadian National Railways.

CANADIAN NATIONAL
C.N.
AUTOMOBILE DOUBLE DECK TRANSPORTER
C N R
SERVES ALL CANADA
YELLOW LINE IS CLEARANCE LIMIT FOR STANDARD CARS
MAX. HEIGHT FOR THIS CAR
UPPER DECK
LOWER DECK
BLT. 4-39


Canadian Pacific
Canadian Pacific


Canadian Pacific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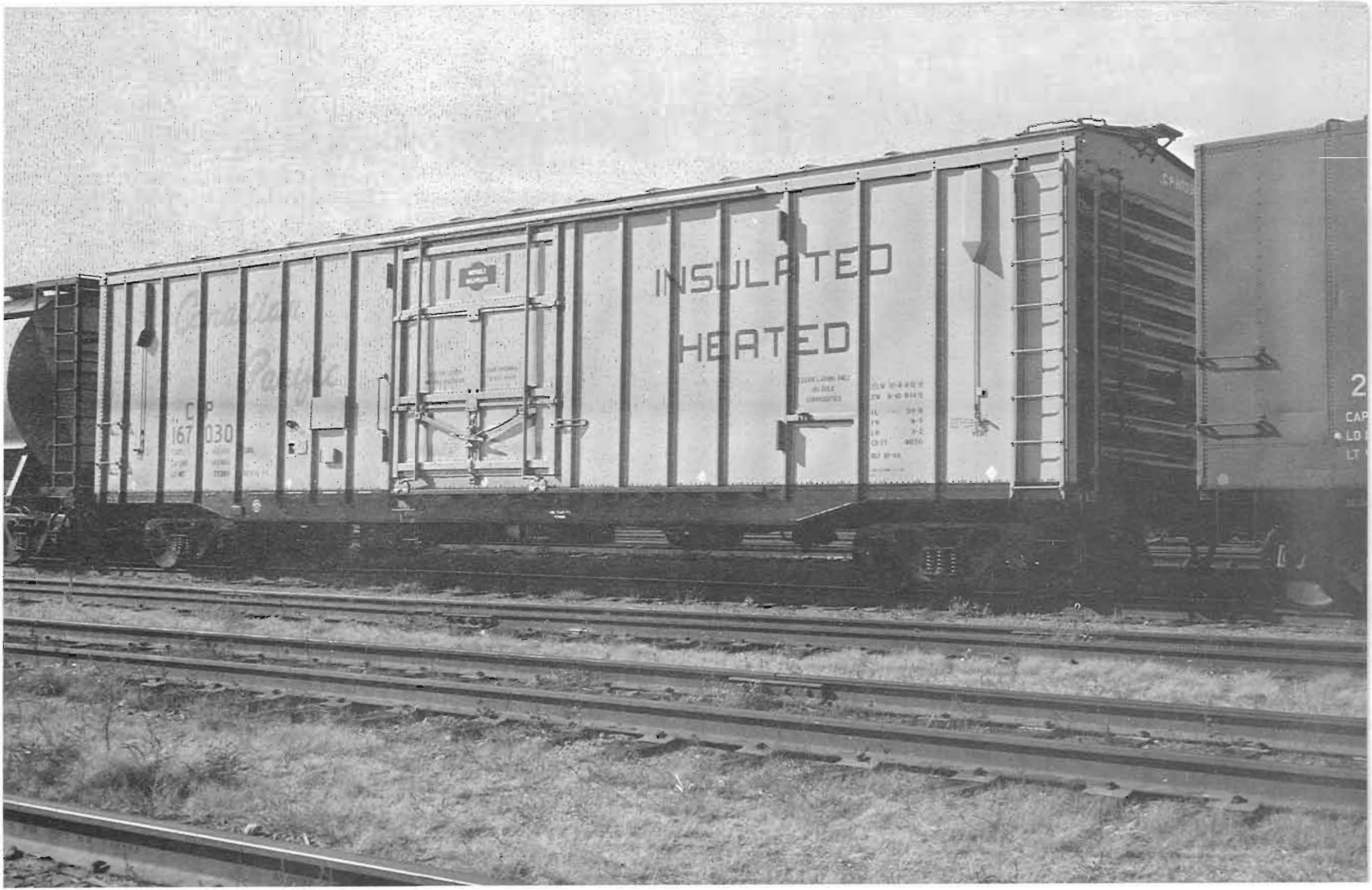

INSULATED
HEATED
CP
167030

Changing design concepts in freight cars, over the last twenty-five years, have been many and varied, but they can be narrowed down to certain specific areas.

The first and most important governing factor was the clearance diagram for the equipment. In the early part of the last quarter-century, most freight cars were designed to fit within the Association of American Railroads' Equipment Diagram, known as Plate "B". This clearance diagram described the maximum structural dimensions to which a railway car could be built, if it were intended to operate over all of the major North American railways having the traditional 4 feet 8½ inches - or Stephenson gauge - between their rails. Plate "B" permitted a maximum height for a car of 15 feet 1 inch above the running rail and a width of 10 feet 8 inches, provided that the distance between the truck-centres of the car did not exceed 41 feet 3 inches. When this latter distance exceeded the limit, the car width had to be reduced proportionately, to remain within the limits of the diagram and thus clear all trackside structures, especially on curves.

While Plate "B" restricted - in one sense - car size on railways originally built to a larger track dimension - such as today's Erie-Lackawanna and the eastern portions of Canadian National Railways' main line - it assured that every car so constructed could operate on the railways in most of North America without danger of striking structures and the sides and tops of tunnels.

In 1963, a new diagram was introduced. This was Plate "C". It permitted a width of 10 feet 8 inches, a height of 15 feet 6 inches, with truck centres 46 feet 3 inches apart. This new diagram encouraged the car designer to build cars larger than those allowed according to the old Plate "B".

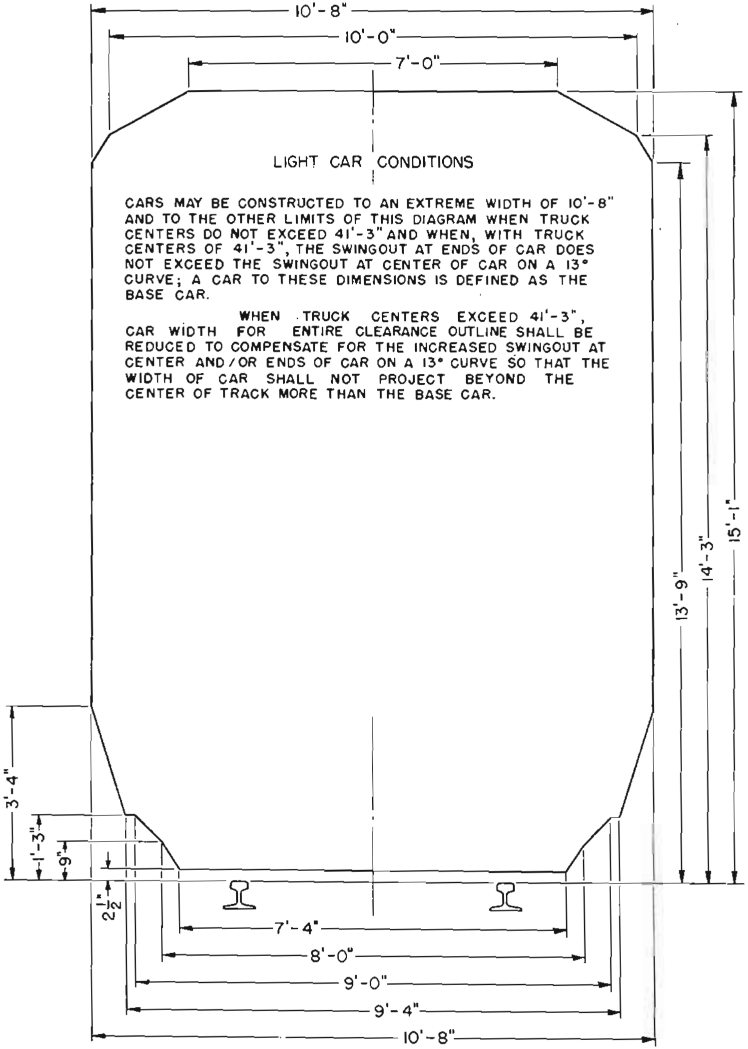
THE THIRD GENERATION. NATIONAL STEEL CAR CORPORATION, HAMILTON, ONTARIO built this 89-foot trilevel auto carrier for CP RAIL. This car carries 15 automobiles, which are secured on the car by an extremely simplified tie-down system. Photo courtesy CP RAIL.

A trilevel automobile unit-train rolls through rocky country near Port Coldwell, Ontario, on a sunny day in 1964. Photo courtesy CP RAIL.

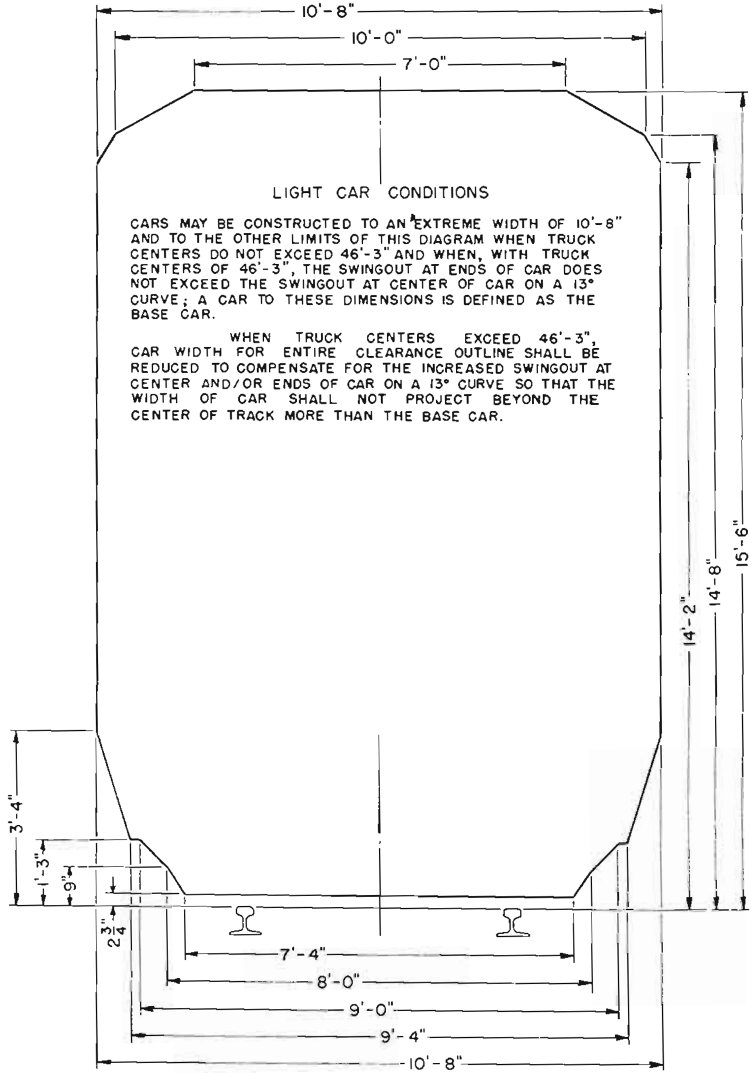
Off the highway and on the railway! A unit-train of piggyback flatcars rolls along the shores of a lake in Ontario with CP RAIL unit Number 4001 - displaying the "beaver" emblem - on the point. Photo courtesy CP RAIL.

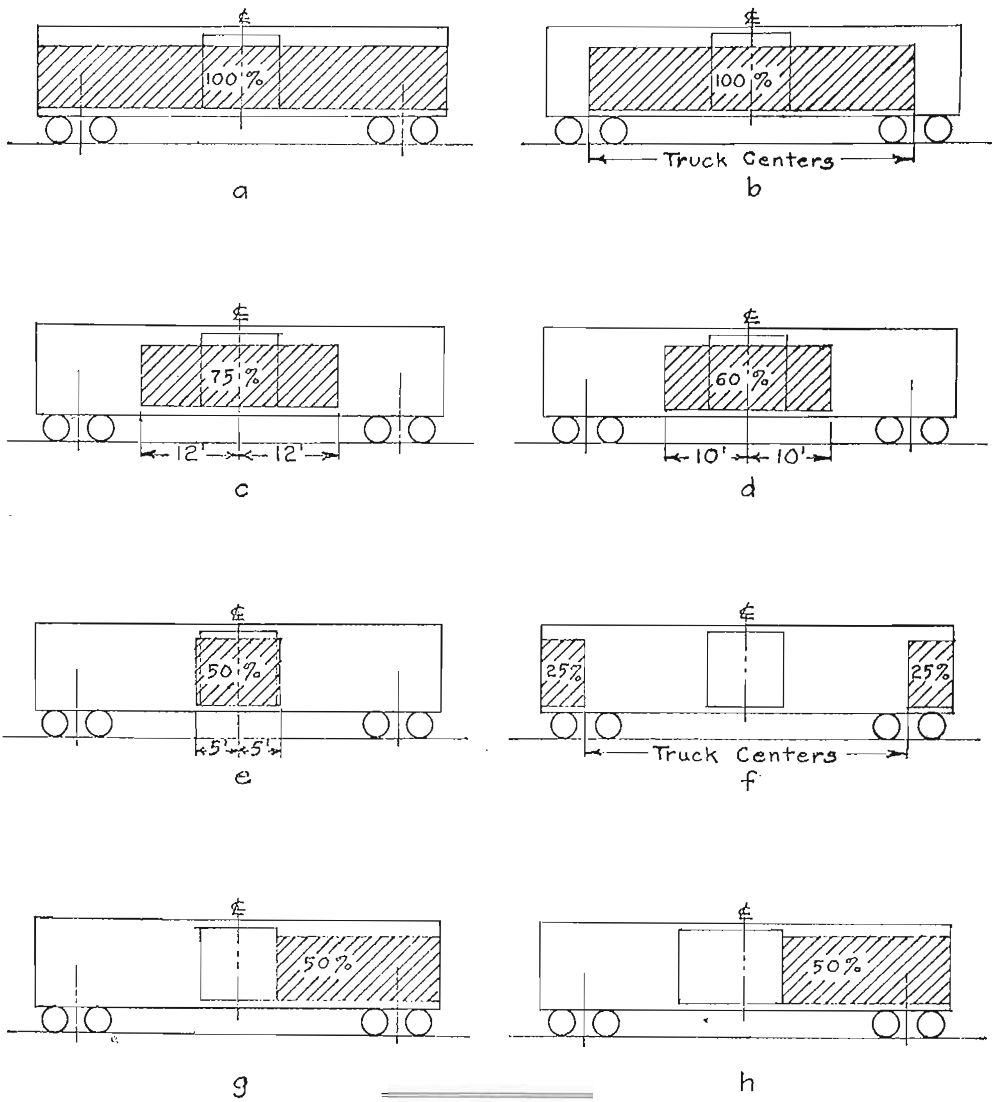
Load-restraining, moveable bulkheads and air ventilators are some of the specialized features of this 50-foot, 20-ton insulated and heater-rquipped CP RAIL "IH" car. These highly specialized cars are most useful in the transport of freezable commodities during the long, cold Canadian winters. Photo courtesy CP RAIL.

A.A.R. PLATE "B"



A.A.R. PLATE "C"





ASSOCIATION OF AMERICAN RAILROADS PLATES "A" AND "B" - THE PROFILES which establish the dimensions to which a railway freight car for interchange must be constructed.

Live-load distribution requirements: a car designer, designing a boxcar, must make sure that the underframe and floor are strong enough to carry the percentage of the load-limit imposed by these diagrams. Three diagrams courtesy Association of American Railroads.

Whole sides of dressed beef can be moved in and out of these 50-foot, 20-ton, mechanically-refrigerated cars on a special monorail system. The car interior can be maintained at any desired temperature setting from 10° below to 25° above, regardless of the outside weather conditions, by thermostatic temperature controls. Photo courtesy CP RAIL.

Controlled
Temperature
CP Rail
CP 286 414
Capy 134000 RPM
Ld Lmt 134100
Lt Wt 85900 New 10-69
7624

TWENTY-FIVE YEARS AGO, DRESSED BEEF WAS MORE OFTEN SHIPPED IN QUARTERS than in halves or "sides". Today, a customer can ship sides of beef in a specially-designed car. This shows sides of dressed beef arriving at Modern Packers Limited, Montréal, in a mechanical reefer car (1965).
Photo courtesy Canadian Pacific.

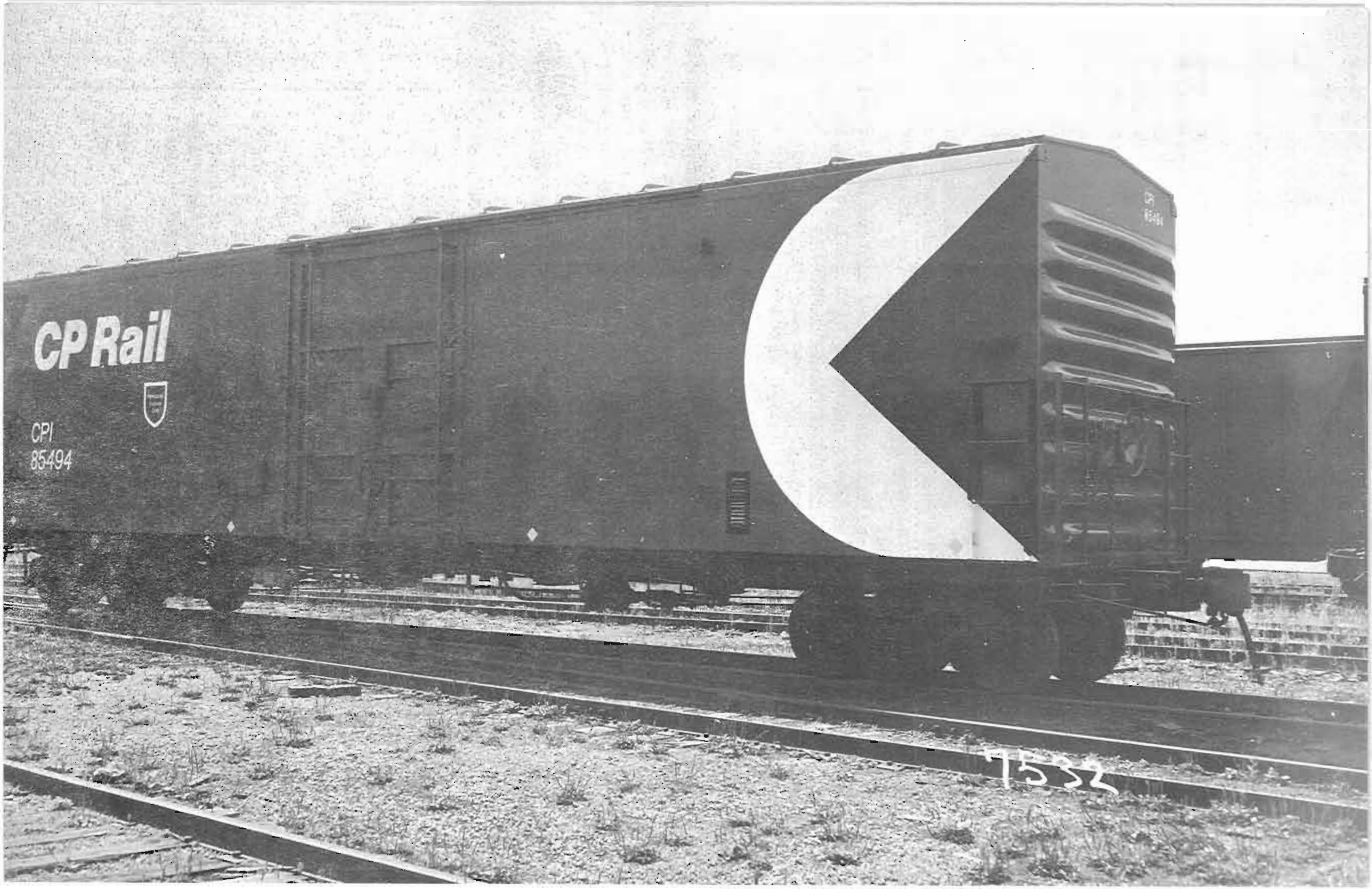
The second factor in the alteration in design concept related to load distribution patterns. Once again, the A.A.R. - in order to achieve uniformity among the many North American railways - specified definite loading requirements for certain types of cars. For example, a general-purpose box car had to carry 100% of its permissible load on the floor area between its truck centres. From the truck centre to the end-wall, it had to be able to carry 25% of the total load limit. Over the last twenty-five years,these requirements have been altered in certain cases to increase the load-carrying capabilities of the cars. This has been a challenge to the ingenuity of the car designer,because he has been forced to increase the strength of the car,while attempting to maintain the weight of the empty car at a minimum.

A third factor favouring a change in design concepts is the necessity for modification in the structural design of the car. The engineering calculations associated with freight car design fall within the discipline of structural engineering. A flat car,for example,resembles a small bridge,supported on two abutments - which are the trucks - and able to carry loads,due to the support provided by longitudinal members - the underframe.But there, the similarity ends.

The car designer must allow for and contend with vertical-impact shocks from the car wheel contacts with rail joints,in addition to the horizontal end-compression and traction loads, which occur when the brakes are applied or when the engine speeds up to accelerate the train. Every car design approved for interchange with other railroads by the A.A.R. must conform to rigid strength requirements. It must be able to stand a compressive end-squeeze of 1.25 MILLION pounds!

Car engineering calculations have become a highly-sophisticated computation during the last twenty-five years. One particularly important derivative developement has been the so-called shear-plate car design,where the loads from end-shocks are transmitted from the car couplers to the side-walls of the car,instead of to the underframe. This innovation has enabled the design of the new tank-type, covered hopper cars and gondolas,such as CP RAIL's "Bathtub" type, which have no conventional underframes. The new design has reduced the tare weight of these cars significantly.

Perhaps the most logical area for change in car design has been discovered as a result of the development of better materials for car construction. Among these new construction materials,perhaps the most spectacular progress has been made in the realm of exotic,high-strength steels. Twenty-five years ago,ordinary structural carbon steels allowed engineers to work to a yield-stress of 32,000 pounds per square inch. The yield-stress of a piece of metal is described as the mechanical force that the steel can withstand without being deformed permanently. Since World War II - and probably largely as a result of advances in metal technology made in the war period - metallurgists have been able to produce high-strength steels,some of which have a design yield-stress of 50,000 pounds per square inch. In more recent years,improved steels with a yield-stress of 70,000 pounds have been produced quite economically and are today being used in freight car construction.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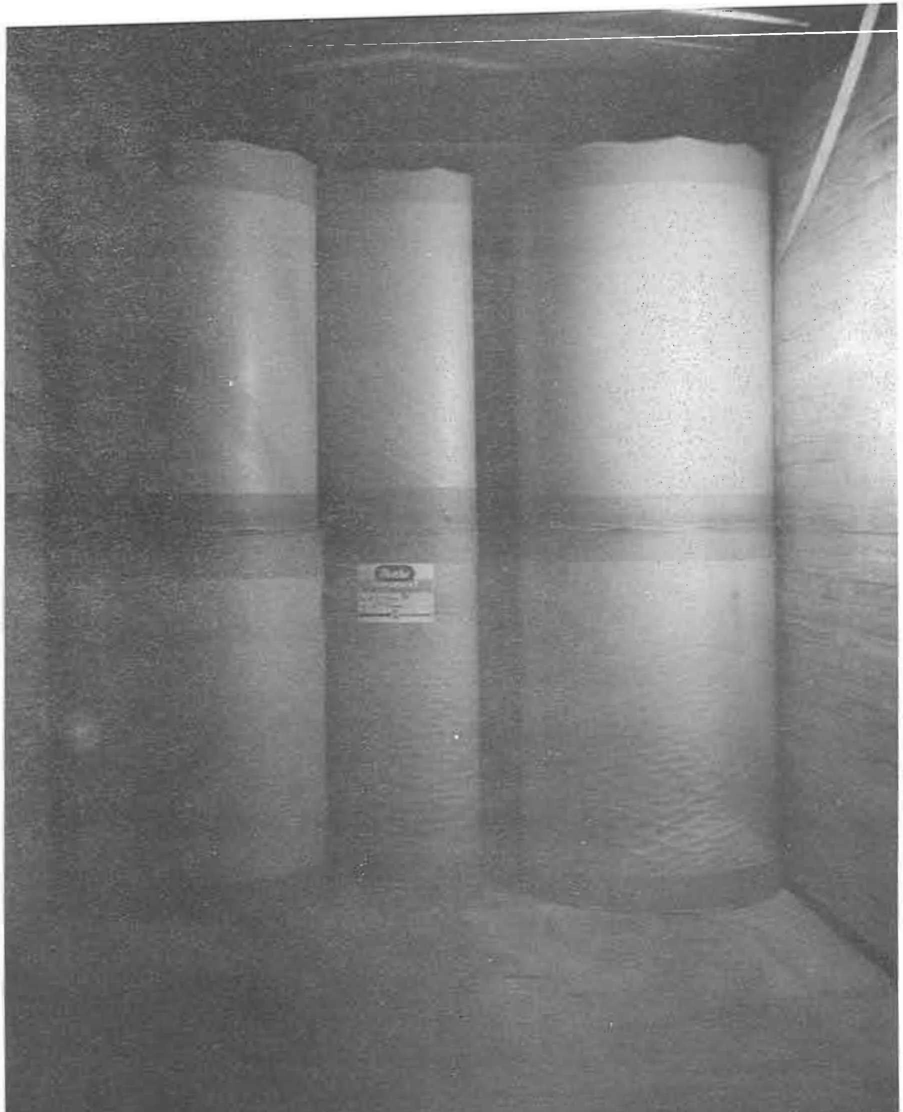


INSIDE THE MODERN NEWSPRINT BOXCAR,DOUBLE-TIERED ROLLS of newsprint paper are ready for unloading at a customer's printing plant,after a "cushioned" ride from the point of origin.

From the outside,here is a 50-foot,80-ton,cushioned-underframe boxcar,particularly designed for double-stacking of newsprint rolls. Two photos courtesy CP RAIL.

Canadian Pacific
CP
381700
PRESSURE UNLOADING

The use of these greater strength steels has resulted in the production of a much lighter freight car. Since the car trucks are built to support a specified design load,with a maximum load-limit on the rail,the car body must be as light as possible to achieve a maximum load-limit capacity. Thus,the advantage of using high-strength steel is obvious. The metallurgical engineers in the steel industry have,in this way,made a significant contribution to the development of strong,high-capacity,lightweight cars.

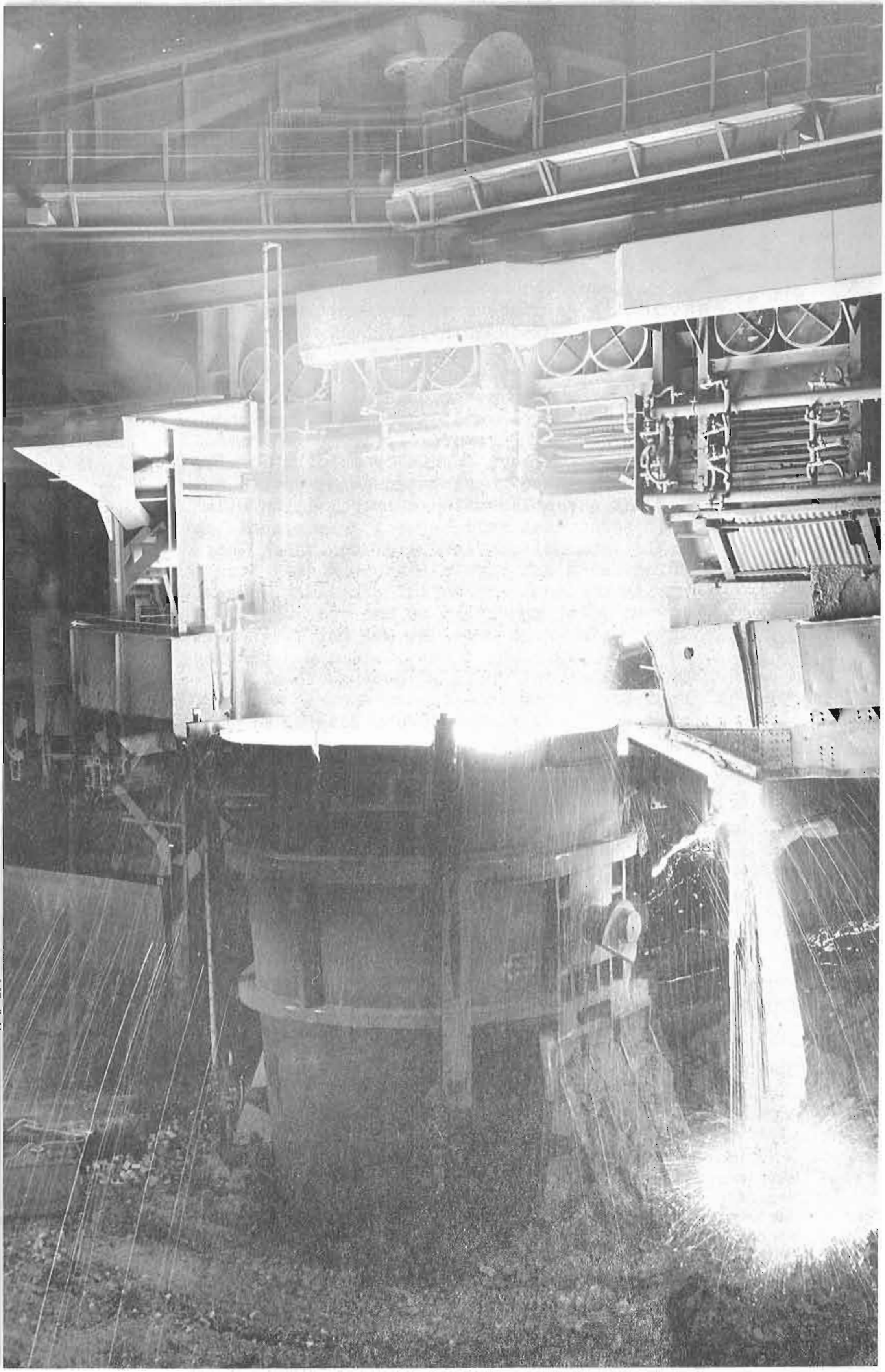
In the past quarter-century,many new freight car construction techniques have been introduced. One of the most important advances has been the change-over from cars of rivetted joints to cars formed by welding the parts together. In rivetted construction,the car was assembled using commercially-available structural rolled-steel shapes,such as angles,channels,I-beams,etc.,and these were joined with hot rivets. This was not necessarily the most economical procedure,because it was often necessary to use too much steel in certain areas where it was not essential. By using plate and sheet steel and welding it together in "unitary" construction, the designer is now able to use the right amount of steel where it is needed. Welding of these new components results in new car configurations which are much lighter in weight.

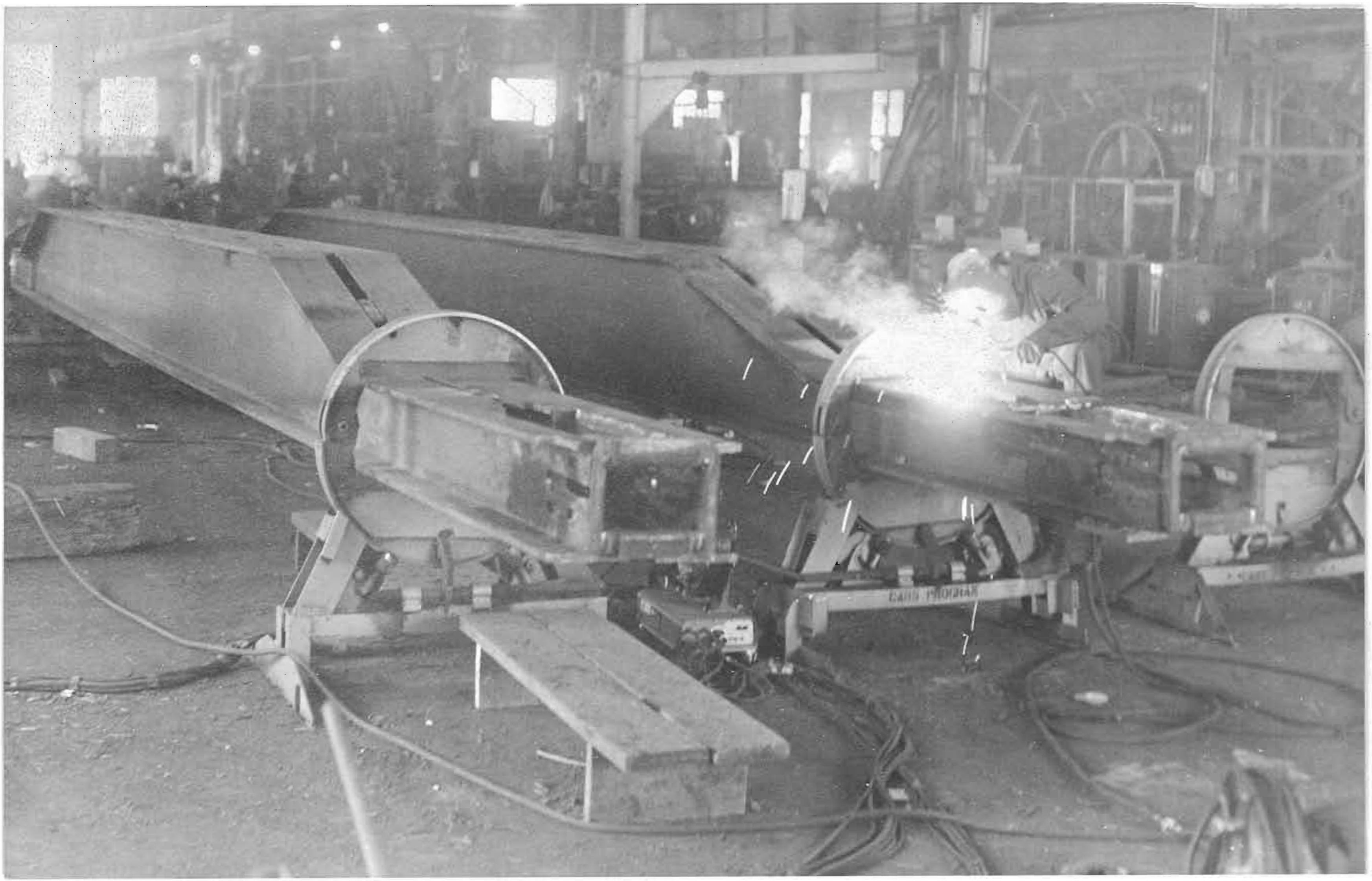
A quarter-century ago,the mechanical engineering departments of the railways strove to produce a freight car with the lowest possible initial cost. Often,the subsequent effect on maintenance costs was overlooked or neglected. Today,there is a new philosophy in railway mechanical departments. It is now recognized that it is more prudent to spend a little more money initially, in order to minimize subsequent routine maintenance charges. The use of roller bearings on freight car trucks - once considered an unnecessary extravagance - has today all but eliminated the dangerous "hot-box" problem,which for years was a chronic operating hazard.

← WHEN A CUSTOMER RECEIVES A BULK PRODUCT IN ONE OF CP RAIL'S PRESSURE-unloading cars,he simply couples up his discharge piping to the connection on the underside of the car and 100 tons of cement flow smoothly into the storage silo,without the necessity of costly manual labour. Photo courtesy CP RAIL.

↗ Molten steel - the material from which all railway cars are made. Metallurgists have indirectly made great contributions to railway car design over the last quarter-century,by providing high-strength, corrosion-resistant steels for fabrication.Photo courtesy Steel Company of Canada.

Electric welding has superceded rivetting as a means of joining together structural members. Here is a welder working on a box-section underframe centre-sills in the shops of Marine Industries,Limited, Sorel,Québec. Photo courtesy Marine Industries,Limited.





Automatic slack adjustors have eliminated the necessity for frequent delays in car maintenance yards, while essential adjustments in the brake rigging were made. Composition brakeshoes have lowered the rate of brakeshoe replacement, have reduced wheel wear and have increased braking efficiency.

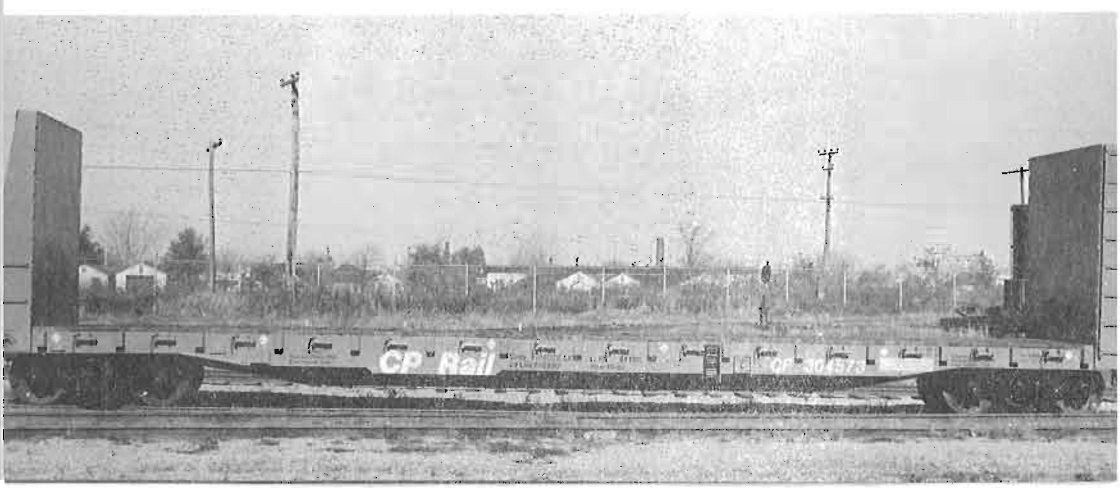
In the 1970s, railway mechanical departments are working as hard as possible to keep freight cars off the repair tracks and in continuous service - where they quite properly belong. This is being achieved through the provision of better equipped cars.

The interval since 1945 has been an exciting and extremely challenging one for the railway car designer. Of course, there are those doubting Thomases who would have us believe that the future of the railways is limited and finite. Fortunately, this is not so. The great potential of unit-trains for bulk materials and the encouraging prospects for containerization completely dissipate such pessimism. Even more important is the progress and experience realized during the last quarter-century. That era conclusively demonstrated that the railways can and will fulfill and surpass the mass transportation requirements of present and future years.

There is one conclusion that can surely be drawn from all of this recent experience. The next twenty-five year period of progress in rail transportation will once again make all such previous periods seem pale, by comparison.

A UNIT-TRAIN OF "BATHTUB" GONDOLAS, LOADED WITH CROWSNEST COAL, RUMBLES over Stoney Creek Bridge, on the long climb from Beavermouth to the Connaught Tunnel in central British Columbia. The successful operation of such unit-trains for bulk commodities assures a successful future for railways as carriers of raw materials and finished products.
Photo courtesy CP RAIL

ESPECIALLY SUITED TO THE TRANSPORT OF "PACKAGED" LUMBER, THIS 70-TON bulkhead flatcar has chain tie-downs and is of welded construction. This car could not have been built twenty-five years ago.
Photo courtesy Marine Industries Limited.



CP Rail
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WAYBILLS

Editorial Staff CANADIAN RAIL

May,1972.

Chris Andreae - author of THE GENESIS OF A RAILWAY MUSEUM in the February, 1972 issue of CANADIAN RAIL - asks that readers note that it is ex-L&PS motor L-2 (not L-3) which is being held for preservation in the Museum of Science and Transportation,London, Ontario.

The following summary of ROBOT cars used on CP RAIL coal unit-trains between Golden and Revelstoke,British Columbia,was kindly provided by Roger Boisvert:

Previous Equipment & Number	ROBOT Numbers 1st.No.	2nd. No.	Present No.	Conversion completed
Baggage 4465	C-4465	R-1000	1001	Apr.16,1970
Baggage 4472	C-4472	R-1001	1002	Oct.27,1969
Baggage 4473	-	R-1002	1003	Nov. 4,1969
Baggage 4478	-	-	1004	Feb.12,1970
Baggage 4475	-	-	1005	Feb.20,1970
D-E Unit 4454	-	-	1006	Oct.15,1971
D-E Unit 4449	-	-	1007	Oct.25,1971
D-E Unit 4452	-	-	1008	Nov. 5,1971

On Friday,January 14,1972,CP RAIL began loading 65 covered hoppers - the first of 5 unit-trains of wheat consigned to Trois-Rivières,Qué. The first train operated January 15 and at the end of February,286 hoppers filled with grain had made the trip. Eastern Region,CP RAIL,cooperated by releasing about 50 covered hoppers from the Port McNicholl-West Saint John service.

Walter Bedbrook,our Toronto and York Representative,tells us that the car-ferry service which used to operate on the St. Lawrence River between the Canadian Pacific Railway at Prescott,Ontario and the New York Central System at Ogdensburg,New York,must necessarily have been discontinued,for the equipment has turned up at Windsor. The Prescott & Ogdensburg Ferry Company,formed in 1909,was purchased by Canadian Pacific on Deptember 1,1929 and when the New York Central bought an interest on May 1,1930,this operation became a joint venture. The tug PRESCOTONT was built at Lauzon,Québec in 1930 and the barge OGDENSBURG - with a capacity of about 21 cars on three tracks - was built at Lorain,Ohio in the same year

Some time in the autumn of 1971,the PRESCOTONT and OGDENSBURG were transferred to service between Detroit and Windsor,Ontario.At the same time,registry of the PRESCOTONT was changed from Montréal to Windsor.

Container cars are rolled onto the OGDENSBURG on the Canadian side of the Detroit River,where all other car-ferry movements are made by the Norfolk & Western Railway. The OGDENSBURG is restricted to the transport of container cars only. The PRESCOTONT moves the barge plus cars to the Detroit Terminal Docks,where a ship-to-shore crane offloads the containers only,leaving the cars on the barge.

Returning containers are loaded onto the cars on the barge by the same crane and the whole apparatus then returns to the Canadian side,pushed by the PRESCOTONT.

The OGDENSBURG's bridge has been removed,presumably to provide clearance for the ship-to-shore crane on the U.S.side.

The reason for this rather peculiar operation is not known.

We warned you! The statisticians didn't keep up! Roger Boisvert reports that as of January 19,1972 CP RAIL had a total of 79 leased units. By February 1,two more F7As came from the Bessemer and Lake Erie,while on February 8,Bangor and Aroostook recalled one GP7 - Number 69. At that very moment CP RAIL was making arrangements to lease 15 F7As and 5 F7Bs from B&O-C&O numbered:

F7As		F7Bs	
4487	4645	5420	(Underlined numbers indicate pre-existing CP RAIL unit numbers.)
4499	4646	5495	
4502	7039	5498	
4575	7052	5529	
4586	7054	5533	
4587	7081		
4622	8009		
4630			

The first ten "A" units - to Number 4646 - are equipped with dead-man control. All units have dynamic braking and electric sanding. These units were assigned to Winnipeg. This brought the total of leased units on CP RAIL to a nice, even ONE HUNDRED. Roger believes this must constitute some kind of a record!

Mr. Frank Orr,our friend from Rutland,Vermont,tells us that the Green Mountain Railroad of Bellows Falls,Vermont,has put up for sale their three steam locomotives,Numbers 1246 & 1239 - ex Canadian Pacific Railway - and Number 89 - ex-Canadian National Railways. Number 1246 is in top-notch condition,her cab having been repaired after being burned out last summer. Number 1293 has not been used since 1965 and has long run out of tube-time. Other repairs would be needed to get her in running shape,since she has sat outside the ex-Boston & Maine roundhouse at North Walpole,New Hampshire - site of the Green Mountain's backshops - for six long years. The 89 has a leak in her boiler up under the frame and her tube-time is just about expired. GMRR would like to arrange a package deal for all three locomotives and while to date some enthusiastic customers have expressed interest in the engines, the most enthusiasm - and money - has been directed to Number 1246.

Mr. Orr thinks that with all of this activity, it is pretty certain that STEAMTOWN U.S.A. will operate their own "tourist" train in 1972, using ex-Canadian Pacific Number 1278, renumbered No. 127 - and the 10 passenger cars purchased from the GMRR. These cars are ex-Central Railroad of New Jersey and were part of the GMRR 700-series. By the way, one of them was sold to a purchaser from the State of New Hampshire.

GMRR's desire to withdraw from the tourist-train excursion business is due primarily to the excessive cost of insurance to cover the operation, plus the uncertainty of the firm application date for the State of Vermont's anti-pollution legislation. These factors, together with the ever-mounting operating and maintenance costs, make this operation less and less attractive.

As part of the overall withdrawal plan, GMRR is offering for sale its two watertowers and the coal tipple at North Walpole. GMRR might adapt the North Walpole backshop facilities to accommodate paying visitors, since most enthusiasts call briefly at this location before moving on to the attractions of STEAMTOWN U.S.A., at Riverside, Vermont, just across the Connecticut River.

What the railways in Great Britain touched off as early as January 1, 1923 continues to generate considerable warmth and comfort as far away as North America. In the year mentioned, small, medium and large-sized railways in the British Isles were "grouped" together to form four major main lines and some railway enthusiasts had the foresight to preserve memorabilia from these extinct organizations. Twenty-five years later, in 1948, railways in the United Kingdom were nationalized and a few years later, economy being the watchword, Dr. Beeching set about making the railways of the U.K. a paying proposition. This process involved the wholesale closing of unprofitable lines and the demolition of accessory structures. Tickets, wickets, trucks and benches were only a few of the items that became available. When steam locomotives were retired, enthusiasts went into ecstacies over number plates, name plates, whistles and steam gauges.

And that is why in 1972 the enthusiast collector can nip around the corner from Euston Station, London, to Cardington Street, where he will find thousands of articles and artifacts associated with the railways of Britain all

➔ OUTSHOPPED IN FEBRUARY, 1972, CARTIER RAILWAY'S NUMBER 72 POSES GLEAMING in the winter sunshine for a portrait at MLW Industries, Montréal, Qué.

Photo courtesy MLW-Industries.


72
72
4921

readily available - for a price, of course, which is sometimes measured in new pence, sometimes in old pounds and not infrequently in venerable guineas! There are uniform buttons and locomotive headlamps; fire-buckets and mahogany waiting-room clocks. And locomotive name plates, which when available, will bring as much as $ 300 each.

It is a profitable business.

Later than many - earlier than some - The Canadian Pacific Railway Company reached similar conclusions early in 1970. A decision was prompted by otherwise-useless Victorian fittings recovered from country stations - made redundant by the "customer service centre" concept - and the Royal Alexandra Hotel of Winnipeg - a veritable treasure-trove of early 19th. century decorative paraphernalia. All of these miscellaneous articles were dutifully gathered together for liquidation through the medium of CP BYGONES - a new corporate entity especially established for the purpose.

Before you could say "Kicking Horse Pass", CP BYGONES was off and running a mail-order business, subsequent to the publication of a catalogue and numerous announcements in railway trade journals. By this time, 1971 was well under way and so were the celebrations associated with the centenary of the Province of British Columbia. Capitalizing on the triple opportunity, CP BYGONES assembled a three car train - two of which contained items for liquidation - which made a very successful trip to Vancouver and return. In addition to providing Company participation in the centennial celebrations, more artifacts were "discovered" in British Columbia, which required the addition of another car for the return trip. The clincher: it is estimated that during the year of operation, CP BYGONES grossed something like $ 30,000 on the operation. Not bad!

Early in 1972, Penn Central in the United States took the decision to enter the "second-hand" railroadiana business by auctioning off more than 100,000 items - the contents of the former Pennsylvania Railroad's museum and library collection. To be conducted by the Samuel T. Freeman Company of Philadelphia, Pennsylvania on March 20, 21 & 22 - and 23, if necessary - the list of items to be offered was certainly impressive: Official Guides from 1870 on; coins and medals from the 1876 Centennial and the 1893 Columbian Exposition; old photographs and glass negatives; locomotive number and registry plates. Catalogue $ 1.50. Admission to the sale $ 2.00. While it is a pity to break up such an historic collection, it is equally certain that this sale would attract wide interest.

After much careful planning, late in 1971 Canadian National Railways decided to consolidate is many activities in the selling and disposition of various railway memorabilia into one new function. To be known as the Historical Projects Section, it would report administratively to the Vice-President, Transportation and Maintenance and functionally to a committee composed of representatives from Transportation & Maintenance, Purchases & Stores, Headquarters' Public Relations Departments. It was thereafter announced in CN's publication KEEPING TRACK that hundreds of items would soon be offered for sale through this office. The newly-named Historical Projects Officer, Mr. J. Norman Lowe, was hopeful that a catalogue could be ready by spring. Items offered for sale would first be announced to Canadian National employees and thereafter to the general public. Mr. Lowe said that the most difficult part of the programme was the pricing of the articles to be offered for sale. Without doubt, some indication of current pricing practice for railway memorabilia in Canada could be obtained from the catalogue of CP BYGONES, q.v.

S.S.Worthen.

OUR MEMBER IN OSAKA, JAPAN....................

Bill McKeown, writes to say that Mr. Sochiro Hirota of Kawasaki Heavy Industries Limited was the prime-mover in the negotiations leading up to the construction of the JOHN MOLSON of 1971. Without Mr. Hirota's continuing interest and tenacity, this remarkable project would not have been completed. Bill also asked that CANADIAN RAIL correct the record to show that the JOHN MOLSON of 1971 was built by Kyosan Kogyo Company of Fukushima, which city is as remote from Kobe - location of Kawasaki Heavy Industries Limited - as Windsor, Ontario is from Montréal. At no time was the JOHN MOLSON of 1971 closer than 300 miles to Kobe, and that was when the locomotive was shipped from Yokohama.

Mr. Hirota was assigned - together with other personnel - by Kawasaki to Kyosan Kogyo. The working drawings for the engine were done in Tokyo under the supervision of Mr. Takakuwa, the former Chief Engineer and principle locomotive designer for the Japanese National Railways.

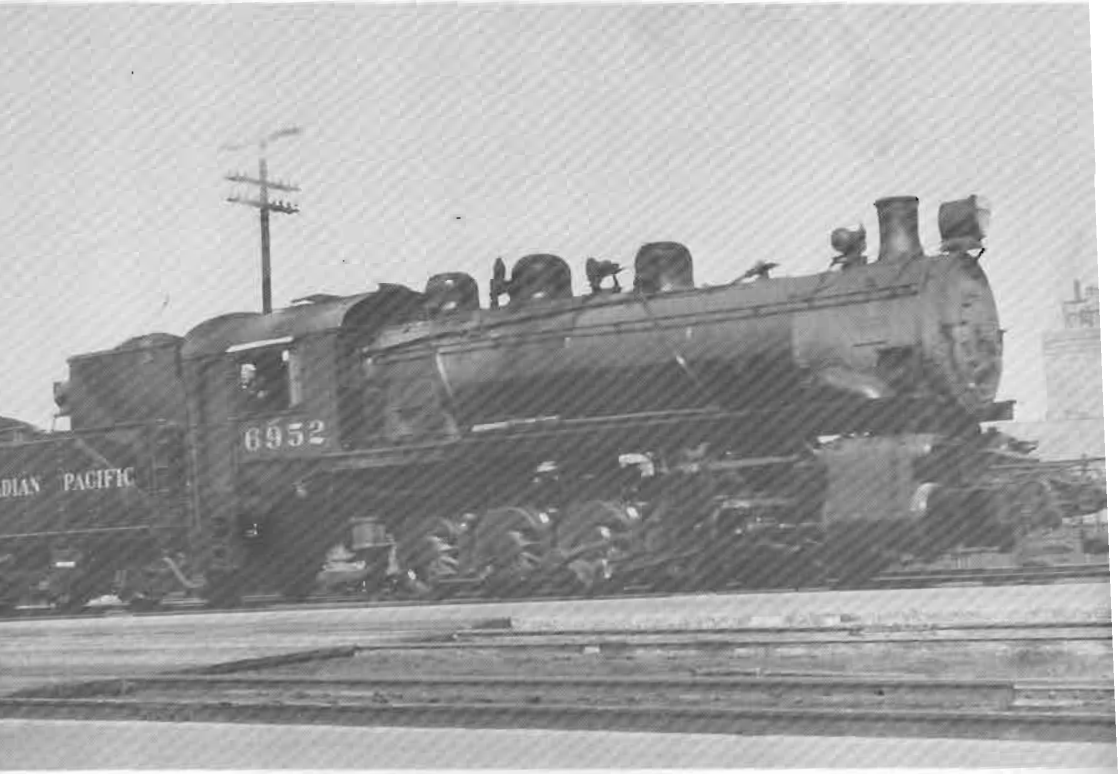
Kyosan Kogyo Company is a small concern among Japanese rolling stock manufacturers and is noted primarily for the production of small industrial diesel locomotives and specialized rolling stock such as snowplows and track-laying machinery. Their staff, which numbers perhaps less than 1,000, considered the JOHN MOLSON of 1971 as a real challenge and most of them - including the office staff - turned up in hard hats for the test run.

In summary, Mitsui provided the paper work, a Montréal contact and the essential telex. Kyosan Kogyo provided the shop space and the able work force - and a geisha party for Mr. Jones of CP SHIPS and Bill after the first successful test run.

Bill hopes to write a book some day on the negotiations for the JOHN MOLSON of 1971, as they were fascinating and provided extraordinary insights into Japanese business practice and were altogether an enlightening social study.

The Canadian Railroad Historical Association cannot presently sufficiently acknowledge Bill McKeown's contribution to the successful achievement of this remarkable project.

ALTHOUGH THEY OUTNUMBERED THEIR MORE FAMOUS 4-8-4 BROTHERS NOS. 3100 & 3101, CP RAIL's class W certainly were one of the least photographed classes. Here is 0-10-0 Number 6952, as she hustles around the yard in Winnipeg, Manitoba, in the spring of 1949. Coll. of Mr. Carl Gay.



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