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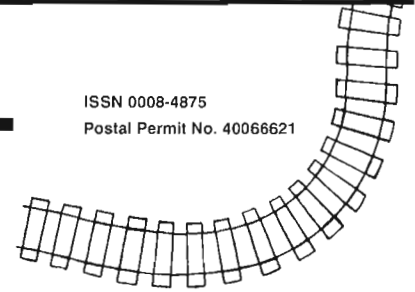


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*FRONT COVER: Canadian Pacific Railway M630 # 4563 was caught at Fernie, British Columbia on the head end of a coal train in September 1972. Photo Stan J. Smaill*

*La M630 #4563 du Canadien Pacifique a été capturée sur pellicule à Fernie, Colombie-Britannique, à la tête d'un train de charbon en septembre 1972. Photo par Stan J. Smaill.*

*BELOW: BC Rail C630 No. 715 was supposedly acquired and was delivered to the Canadian Railway Museum by GE / MLW circa 1991, but this was an error. It was withdrawn within a year and scrapped three years later. CPR 4563 was acquired in 1995 to represent this important class of locomotives. Photo Len Thibeault.*

*La locomotive BC Rail C630 No. 715 était supposée avoir été acquise par l'ACHF et fut livrée au Musée Ferroviaire Canadien par la compagnie GE / MLW vers 1991, mais on découvrit vite que c'était par erreur. La 715 fut alors retirée du Musée et, malheureusement, envoyée à la ferraille trois ans plus tard. La CPR 4563 fut acquise par le Musée en 1995 pour représenter cette importante classe de locomotives. Photo par Len Thibeault.*

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## CP Rail 4563: A Locomotive with Nine Lives

By/Par Hugues W. Bonin

### Introduction

This article is about one of the latest acquisitions of Exporail, one of world's largest railway museums at Delson/St. Constant, Québec, formerly known as the Canadian Railway Museum. This acquisition is CP Rail #4563, a big diesel-electric locomotive built in November 1969 in Montréal by the Montreal Locomotive Works (MLW) as one of its M630 models. The M630 is the Canadian version of the C630 designed by MLW's mother company, the American Locomotive Company (Alco) in the mid 1960s as one of the models of the « Century » series.

This article will first explain the context in which the « Century » models and more particularly the C630 and M630 models were conceived. Then, the reasons why the Canadian Pacific Railway and later CP Rail purchased a fleet of these diesel locomotives will be explained. The careers of the big MLWs, as they are known among the rail buffs, will be covered. The article will then conclude on the circumstances leading to the donation of unit #4563 to the Canadian Railway museum, and on the fate of the few surviving « Big MLWs ».

## CP Rail 4563: Une Locomotive aux Neuf Vies

### Introduction

Cet article est au sujet de l'une des plus récentes acquisitions d'Exporail, un des plus importants musées ferroviaires du monde situé à Delson/Saint-Constant, Québec, et anciennement connu comme le Musée Ferroviaire Canadien. Cette acquisition est la locomotive #4563 de CP Rail, une grosse locomotive diesel-électrique construite à Montréal en novembre 1969 par la Montreal Locomotive Works (MLW) comme l'une de son modèle M630. La M630 est la version canadienne du modèle C630 conçu par l'American Locomotive Company (Alco) au milieu des années 1960 comme l'un des modèles de la série « Century ».

Le texte qui suit va d'abord expliquer le contexte dans lequel la série de locomotives « Century » a été conçue, et plus particulièrement les modèles C630 et M630. Ensuite, on examinera les raisons qui ont mené le chemin de fer Canadien Pacifique, puis le réseau CP Rail, à se procurer des locomotives de ces modèles. On verra les carrières de ces grosses MLW, comme on les appelle chez les ferroviphiles. L'article se terminera en expliquant les circonstances qui ont mené au don de la #4563 au Musée Ferroviaire Canadien, et le sort des quelques survivantes parmi les « grosses MLW ».

*The very first big Alco built was Atlantic Coast Line #2011 as the first C628, a model that did not make it to Canada. It became Seaboard Coast Line #2011 before being renumbered #7513. With the Family Lines merger, it was assigned to the Louisville and Nashville Railroad, and is seen here on its way to the big roundhouse in the sky in the Lafayette, Indiana, yard on 26 September 1977.*

*Photo by Hugues W. Bonin.*



*La toute première grosse Alco construite a été la Atlantic Coast Line #2011 comme la première C628, un modèle qui ne trouva pas d'acheteur au Canada. Elle devint la Seaboard Coast Line #2011 avant d'être renumérotée #7513. Lors de la fusion créant la compagnie Family Lines, elle fut envoyée au chemin de fer*

*Louisville and Nashville Railroad, et on la voit ici en route vers la grande rotonde dans les cieux au triage du L & N de Lafayette, Indiana, le 26 septembre 1977.*

*Photo par Hugues W. Bonin.*

### General context

At the onset of World War II, the first successful mass production diesel-electric locomotives were gradually appearing on North American railways. The most famous of these was the FT road locomotive model designed by the Electro-Motive Division of General Motors (EMD), Alco's S-1 and S-2 switchers and the RS-1 road-switcher. The war effort directed the energies of the major locomotive builders toward the production of ammunition and weapons (such as cannons and tanks) in addition to the production of locomotives of established models, and thus precluded the development of improved diesel locomotives. EMD was then producing only diesel locomotives in addition to weaponry, but its competing firms had to build steam locomotives, with diesel locomotive production either inexistant or kept at a minimal level.

When peace returned in 1945, EMD was thus at a big advantage over its competition for the diesel locomotive market. The performance of its F- and E-series of locomotives convinced most of the major railways that the diesel-electric propulsion was the way to go, and most were planning to phase out their steam locomotive fleets as rapidly as possible. This policy was driven not only by the superior performance of the diesel locomotive, but also by basic economics with the salaries getting higher and the diesel locomotive being less demanding in operating and maintenance human resources. By the end of the 1950s, steam was already a thing of the past on most American railways, and Canadian railways had their last runs of steam powered trains in 1960. After that, there were only a few exceptional occurrences for steam power, mainly the small number of steam locomotives kept by some major railways for public relation purposes and railfan trips, railway museums and tourist lines, and a few « oddball » industries such as the Northwestern Steel Co. in Illinois,



*N-Scale model of Canadian Pacific Railway C630 4503 showing the grey and maroon livery. The model is marketed by Atlas and depicts an Alco locomotive with the Alco Tri-Mount 6-wheel trucks. The MLW units are equipped with the shorter Dofasco trucks. Photo by Hugues W. Bonin.*

*Modèle à l'échelle "N" de la Canadian Pacific Railway C630 #4503 montrant la livrée rouge vin et gris. Ce modèle est distribué par la compagnie Atlas et représente une C630 d'Alco pourvue des bogies à trois essieux "Tri-Mount" d'Alco. Les C630 et M630 construites par MLW sont équipées de bogies plus courts construits par Dofasco. Photo by Hugues W. Bonin.*

### Contexte Général

Au début de la Seconde Guerre Mondiale, on voyait graduellement apparaître sur les lignes ferroviaires nord-américaines les premiers exemplaires des premières locomotives diesel-électriques réussies et produites en grand nombre. Les plus célèbres de ces locomotives étaient les « FT » conçues par la Division Electro-Motive de la General Motors (EMD), les locomotives de triage S-1 et S-2 d'Alco, et la locomotive de route et de triage RS-1 construite par Alco. Cependant, l'effort de guerre dirigea les énergies des fabricants de locomotives vers la production de matériel militaire comme des munitions, des canons et des chars d'assaut, en plus de la fabrication de locomotives de modèles bien établis, ce qui excluait la poursuite du développement de locomotives diesel améliorées. En plus du matériel de guerre, EMD ne produisait que des locomotives diesel, tandis que ses concurrents étaient limités dans la production de locomotives diesel par leurs carnets de commande de matériel de guerre et de locomotives à vapeur.

Lorsque la guerre prit fin en 1945, EMD avait acquis une bonne longueur d'avance sur ses concurrents dans le marché des locomotives diesel. La bonne performance de ses modèles « F » et « E » avait convaincu presque toutes les plus grosses compagnies ferroviaires que la propulsion diesel-électrique était la voie de l'avenir, et la plupart des chemins de fer envisageaient de remplacer leurs parcs de locomotives à vapeur par des locomotives diesel-électriques le plus rapidement possible. Cette politique n'était pas seulement due à la performance supérieure des diesels, mais par des raisons de nature économiques alors que les salaires ne cessaient de croître et que les locomotives diesel n'avaient besoin que de peu de main d'œuvre pour leur entretien et leur conduite. À la fin des années 1950, la vapeur était déjà disparue sur la plupart des réseaux ferroviaires américains, et les chemins de fer canadiens ont mis leurs dernières locomotives à vapeur à la retraite en 1960. Par la suite, on ne vit des locomotives à vapeur tirant des trains que très exceptionnellement, ces rares locomotives étant conservées en état de marche par les compagnies pour des fins de relations publiques et d'excursions pour les ferroviophiles, ou roulant aux musées ferroviaires ou sur des chemins de fer touristiques. Il ne faut pas oublier quelques entreprises « bizarres » qui tenaient encore à utiliser la vapeur pour leurs besoins, comme la Northwestern Steel Co. en Illinois, qui s'est servie durant de nombreuses années de plusieurs locomotives de manœuvre du type 0-8-0 ayant appartenu au chemin de fer Grand Trunk Western.

which kept for many years a fleet of former Grand Trunk Western 0-8-0 switchers.

In the 1950s and early 1960s, the railroads were purchasing a wide variety of diesel locomotives from several builders, generally to try new models from EMD, Alco, MLW, Baldwin, Fairbanks-Morse, Lima, Hamilton, Whitcomb and General Electric notably. Very few railway companies at that time were aiming at standardizing their locomotive fleet. Most rosters were then motly collections of many models with powers ranging generally from 600 hp to 1000 hp for the switchers, and from 1350 hp to 1800 hp for the cab units and the road switchers used for mainline service. Saving significant sums of money in crew salary, the railroads were happy to lash up several locomotives to power increasingly heavier and faster trains. When Fairbanks-Morse and its Canadian counterpart Canadian Locomotive Company offered the 2400 hp H24-66 « Trainmaster » locomotive model, few railway officials saw a real need for such a powerful diesel-electric locomotive and the sales only reached 127 units.

In 1959, the mentalities were beginning to change. General Electric was mostly involved in supplying other builders with electrical components, but was itself offering only small locomotives mostly for industrial uses, such as the 44-tonner, the 45-tonner, and a few larger models such as centrecab units weighing 65 and 85 tons, and the popular 70-tonner endcab diesel. In that

Durant les années 1959 et au début des années 1960, les compagnies ferroviaires achetaient une grande variété de locomotives diesel de plusieurs fabricants de locomotives, généralement pour essayer l'un ou l'autre modèle offert par EMD, Alco, MLW, Baldwin, Fairbanks-Morse, Lima, Hamilton, Whitcomb et General Electric, entre autres. Très peu de compagnies à cette époque cherchaient à standardiser leur parc de locomotives. En général, ces parcs n'étaient que des collections de plusieurs modèles dont les puissances allaient de 600 cv à 1000 cv pour les locomotives de manœuvre, et de 1350 cv à 1800 cv, pour les locomotives de ligne. Impressionnés par les économies en salaires obtenues en interconnectant plusieurs locomotives diesel, les compagnies ferroviaires étaient heureuses de réunir un grand nombre de locomotives diesel conduites par un seul équipage à la tête de trains plus lourds et plus rapides. Quand la compagnie Fairbanks-Morse et sa compagnie canadienne affiliée, la Canadian Locomotive Company, mirent sur le marché le modèle de locomotive H24-66 « Trainmaster » de 2400 cv, peu de dirigeants de chemins de fer virent un réel besoin pour une locomotive aussi puissante. Il en résulta que les ventes de ce modèle ne totalisèrent que 127 locomotives.

En 1959, les mentalités commencèrent à changer. La General Electric à cette époque ne produisait que des composantes pour les locomotives d'autres fabricants, en plus de construire elle-même de petites locomotives de type industriel, dont les modèles



*The hero of this article, CP Rail #4563 is seen here at Smiths Falls, Ontario, at the head of a westbound freight train, in company of M636 #4736 and C424 #4210, on 20 September 1980. Photo: Hugues W. Bonin.*

*L'héroïne du présent article, la CP Rail #4563, est vue ici à Smiths Falls, Ontario, à la tête d'un train de fret vers l'ouest, en compagnie de la M636 #4736 et de la C424 #4210, le 20 septembre 1980. Photo par Hugues W. Bonin.*

les plus populaires furent les 44 tonnes, 45 tonnes et 70 tonnes. En 1959, GE dévoila plusieurs démonstrateurs de son nouveau modèle U25B, le premier d'une série de modèles dits « Universal », avec une puissance de 2,500 cv et roulant sur des bogies à deux essieux de type « B ». Ce modèle était le premier des locomotives diesel dites de « seconde génération ». Plusieurs chemins de fer testèrent les démonstrateurs U25B, qui étaient les premières locomotives à avoir un « nez » surbaissé pour assurer une meilleure visibilité pour une sûreté accrue. Le carnet de commandes de GE commença à se remplir rapidement, car les ingénieurs des compagnies ferroviaires étaient impressionnés par les performances de ces nouvelles locomotives. En 1961, EMD avait bien pris note des événements, et offrit aux acheteurs son modèle GP30, lui aussi une locomotive de type « B-B », mais avec une puissance



*Another encounter with #4563, again leading a westbound train in Smiths Falls, Ontario, on 1 October 1989. Trailing this unit were M636s #4723 and 4715. Photo by Hugues W. Bonin.*

*Une autre rencontre avec la #4563, encore une fois à la tête d'un train de marchandises vers l'ouest à Smiths Falls, Ontario le 1 octobre 1989, a permis cette prise de vue de l'arrière de la locomotive. Les M636 #4723 et 4715 étaient main forte à la #4563 cette journée-là. Photo par Hugues W. Bonin.*

year, GE put on the road several demonstrator locomotives of the U25B model, the first of the « Universal » line of models, with a 2500 hp output and riding on 4-wheel (« B ») trucks. This was the first of the so-called « second generation » diesels. Several railways tested the new locomotives, which were the first to have the « low nose » feature enhancing visibility for better safety. The order book of GE started to fill up as the motive power officials were impressed with the performance of the newcomers. In 1961, EMD had taken note and offered the GP30 model, also a B-B unit, but with a 2250 hp engine, available with a low nose and a pressurized carbody to ensure a cleaner environment to the diesel engine and the other mechanical and electrical components. In 1963, the GP35 model was included in EMD's catalogs, matching the U25B in power.

At about the same time, the merits of 6-wheel trucks for mainline usage were recognized. Previously, such 12 wheel-equipped units were mostly used for special purposes such as slow transfer trains and hump yard service. The catalogs of the main builders were offering the more powerful models as « C-C » locomotives, with model designations such as U25C and SD35. A horsepower race had just been started among the builders, as the railways soon found that problems occurred when the number of units « multiple-united » exceeded 12 units or so. In the following years, the builders were offering models with 2750, 2800, 3000, 3300 and 3600 hp ratings. Bigger, twin-engined models were even built, the most popular of these models being the 47 DDA40X « Centennial » monsters built by EMD for Union Pacific.

Faced with the stiff competition from EMD and GE, the other locomotive builders were having hard times as their shares of the locomotive market were fading away. Fairbanks-Morse ceased building diesel locomotives in 1958, but the Canadian Locomotive Company was able to remain active until its closing in

de seulement 2,250 cv, disponible avec un « nez » surbaissé et un compartiment du moteur pressurisé pour assurer un environnement propre au moteur et aux autres composantes mécaniques et électriques. En 1963, le modèle GP35 fut inclus dans les catalogues de EMD, égalant en puissance le modèle U25B.

À la même époque, on commença à reconnaître les avantages des bogies à trois essieux pour le service sur les grandes lignes. Avant, les locomotives équipées de tels bogies étaient surtout utilisées à des fins spéciales, comme le service de trains de transfert lents et le service des buttes des triages. Les catalogues des principaux fabricants de locomotives offraient les locomotives de type « C-C » avec les moteurs les plus puissants, ces modèles étant appelés U25C et SD35. C'était le début d'une course à la puissance entre les fabricants, alors que les compagnies ferroviaires découvraient qu'il y avait des problèmes lorsque l'on essayait de réunir plus de 12 locomotives à la tête des trains. Au cours des années suivantes, les constructeurs de locomotives offraient des modèles de 2750, 2800, 3000, 3300 et même 3600 chevaux-vapeur. On en arriva même à produire des locomotives encore plus puissantes, munies de deux moteurs diesel, le plus populaires de ces modèles étant le modèle DDA40X « Centennial » construit en 47 exemplaires par EMD pour le chemin de fer Union Pacific.

Faisant face à la compétition féroce de la part de GE et de EMD, les autres fabricants de locomotives en arrachaient, leurs parts du marché s'effondrant graduellement. Fairbanks-Morse cessa de construire des locomotives diesel en 1958, mais la Canadian Locomotive Company resta capable de continuer jusqu'à sa fermeture en 1969. Après avoir fusionné avec Lima et Hamilton, Baldwin quitta le marché en 1956. EMD et GE se retrouvèrent avec Alco et sa filiale MLW comme compétiteurs, mais pas pour très longtemps, puisque Alco cessa sa production de locomotives diesel en 1969.

1969. After merging with Lima and Hamilton, Baldwin left the market in 1956. EMD and GE were then left with Alco and its subsidiary MLW as competitors, but not for very long, since Alco ceased producing diesel locomotives in 1969.

Alco was a leader in steam locomotive building in North America. It saw the merits of the diesel-electric propulsion quite early and, even before WW II, it had developed a line of reliable diesel switchers and road switchers, being credited with the innovation of the road switcher concept. However, the war effort prevented Alco from developing diesel road locomotives and, at VJ day in 1945, Alco was behind EMD as a diesel-electric road locomotive builder. The 539 diesel engine model used successfully for the S-line of switcher and the RS-1 road switcher could not exceed 1000 hp when turbocharged, clearly insufficient to compete with the 1500 and 1750 hp models offered by EMD :F3, F7, GP7 and GP9. Alco wasted no time in developing a new, more powerful diesel engine, the 244 model, available in several 12- and 16-cylinder variants producing such as 1500, 1600,

Alco était un des leaders dans la construction de locomotives à vapeur en Amérique du Nord. Elle découvrit les avantages de la propulsion diesel-électrique très tôt, et, bien avant la Seconde Guerre Mondiale, elle avait développé une série de locomotives de manœuvre fiables, ainsi que des locomotives de route et de manœuvre, étant créditée de l'idée de ce type de locomotives. Malheureusement, l'effort de guerre empêcha Alco de développer des locomotives diesel de grandes lignes, et, lors de la reddition du Japon en 1945, Alco était en retard sur EMD dans le marché des locomotives de ligne. Le moteur diesel de modèle 539 utilisé avec succès pour la série S de locomotives de manœuvre et pour la locomotive de route et de manœuvre RS-1 ne pouvait pas fournir plus de 1000 cv de puissance, même avec un turbochargeur. Ceci était nettement insuffisant pour compétition-ner avec les locomotives de 1500 cv et de 1750 cv offertes par EMD (modèles F3, F7, GP7, GP9). Alco s'empressa de concevoir un nouveau modèle de moteur, le 244, disponible en plusieurs variantes de 12 et de 16 cylindres



*CPR 4563 on the head end of a mainline freight at Woodstock, Ontario on May 15, 1991. Photo CRHA Archives, Fonds Bury CPF19-138*

*La 4563 du Canadien Pacifique à la tête d'un train de marchandises photographiée à Woodstock, Ontario, le 15 mai 1991. Photo des archives de l'ACHF, Fonds Bury CPF19-138.*



*Four heavy units headed by 4563 whine out of Woodstock, Ontario on September 9, 1991. Photo CRHA Archives, Fonds Bury CPF20-65*

*Quatre locomotives lourdes, menées par la 4563, accélèrent leur train à la sortie de Woodstock, Ontario, le 9 septembre 1991. Photo des archives de l'ACHF, Fonds Bury CPF20-65.*

2000 and 2400 hp. Several locomotive models using this line of engines were marketed with more or less success in the 1950s by Alco and MLW : RSC24, RS2, RS3, RS10, RSC2, RSC3, RSD4, RSD5, RSD7, FA1, FB1, FA2, FB2, FPA2, FPB2, PA1, PB1, PA2, PB2, PA3 and PB3. The large number of models was a result of incremental improvements addressing specific problems encountered on previous models. In general, the Alcos and MLWs had robust diesel engines and were good pullers, but needed higher levels of maintenance and repairs.

A larger and more powerful diesel engine was developed by Alco, designated as the 251 model. This engine was first produced in 1953 as a 800 hp 6-cylinder turbocharged engine used in the S-5 switcher model produced in 1954 in only 7 copies (Boston and Maine #860-865 and Island Creek Coal #909). In that year (1954), diesel engines 251A and 251B were offered by Alco as 6- and 12-cylinder engines with power ratings of 800, 900 hp, 1800 and 2000 hp. In addition, the 251B engine was available as a 2400 hp 16-cylinder option. The diesel-electric locomotives based on these engines made by Alco and MLW were the S-6, S13 and T-6 switchers, the RS-11, RS-18, RS-23, RS-27, RS-32, RS-36, RSD-12, RSD-15 and RSD-17 road switchers, and the FPA4 and FPB4 passenger locomotives built for the Canadian National in 34 and 12 copies, respectively.

produisant 1500, 1600, 2000 ou 2400 cv. Alco et MLW mirent sur le marché plusieurs modèles de locomotives basés sur ces moteurs diesel avec plus ou moins de succès dans les années 1950 : RSC24, RS2, RS3, RS10, RSC2, RSC3, RSD4, RSD5, RSD7, FA1, FB1, FA2, FB2, FPA2, FPB2, PA1, PB1, PA2, PB2, PA3 et PB3. Le grand nombre de modèles résultait d'améliorations marginales apportées d'un modèle à l'autre visant à résoudre des problèmes spécifiques mis en lumière sur les modèles précédents. En général, les locomotives diesel d'Alco et de MLW avaient des moteurs diesel robustes et avaient de bonnes puissance de traction, mais avaient besoin d'efforts accrus d'entretien et de réparation.

Alco conçut un moteur diesel plus gros et plus puissant, le modèle 251. Ce moteur fut produit pour la première fois en 1953 comme un moteur turbochargé de 6 cylindres utilisé dans la locomotive de manœuvre de modèle S-5 produit en 1954 en seulement 7 exemplaires (Boston and Maine #860-865 et Island Creek Coal #909). Durant cette année-là (1954), les moteurs diesel 251A et 251B furent offerts par Alco comme des moteurs de 6 et de 12 cylindres de 800, 900, 1800 et 2000 cv. De plus, le moteur 251B était disponible selon une option de 2400 cv avec 16 cylindres.



Then, Alco and MLW were feeling the increased competition by EMD and GE and developed further versions of the 251 engine to match the power of the locomotives marketed by the rival companies. The 251 engine was produced as a 16-cylinder 2500 or 2750 hp model called the 251C. A smaller 251E model was also produced based on 6 cylinders with a rating of 1500 hp for a new switcher model. The 251E was also available as a 16-cylinder engine producing 3000 hp. Finally, the 251F model was offered as a 3600 hp 16-cylinder engine. These designs were further refined by MLW for its M-line locomotive series, including a 4000 hp 18-cylinder engine used on the unique M640 locomotive model.

Alco and MLW reviewed the whole diesel locomotive in addition to the engine : improvements were brought to most of the electrical and mechanical components and this resulted in the « Century » line of locomotive models which were generally recognized by their elegant carbody lines with rounded short noses and cab roofs. The « Century » line included the following B-B models produced by Alco : the 1500 hp switcher/transfer locomotive C415, the 2000 hp C420, the 2400 hp C424, the 2500 hp C425, the 3000 hp C430. The C-C models included the 2750 hp C628, the 3000 hp C630 and the 3600 hp C636. While MLW produced the C424 and C630 models, it brought enough modifications to the original design on the C630 to have the model designated as C630M and, later, M630. The major change was the 6-wheel trucks fabricated by Dofasco and quite different than the trucks equipping the Alco units : the so-called « tri-mount » truck and the Hi-Adhesion truck. MLW went on producing the M636 and the M640 models. Just a brief

Les modèles de locomotives basés sur ces moteurs fabriqués par Alco et MLW comprenaient les locomotives de manœuvre S-6, S13 et T-6, les locomotives de route et de manoeuvre RS-11, RS-18, RS-23, RS-27, RS-32, RS-36, RSD-12, RSD-15 et RSD-17, ainsi que les locomotives de service voya-geurs FPA4 et FPB4 et construites pour le Canadien National en 34 et 12 exemplaires, respectivement.

C'est alors que Alco et MLW, sentant la compétition accrue de EMD et GE, développèrent d'autres versions du moteur 251 afin d'égaliser les puissances des moteurs de leurs concurrents. Le moteur 251 fut alors produit selon une version de 16 cylindres produisant 2500 ou 2750 cv appelée 251C. Un modèle plus petit, le 251E, fut aussi produit sur la base de 6 cylindres produisant 1500 cv pour un nouveau modèle de locomotive de manoeuvre. Le moteur 251E était aussi disponible en version de 16 cylindres produisant 3000 cv. Enfin, le modèle 251F était disponible en version de 16 cylindres produisant 3600 cv. Le design de ces moteurs fut raffiné par la MLW pour sa série de locomotives « M », incluant le moteur de 18 cylindres produisant 4000 cv utilisé pour la locomotive de modèle M640.

Alco et MLW ont révisé le design de toute la locomotive en plus de celui du moteur : on a apporté des améliorations à presque toutes les composantes électriques et mécaniques et le résultat de cet exercice fut la série « Century » de modèles de locomotives que l'on pouvait identifier aisément par les lignes élégantes de la carrosserie, les arrondissements plaisants du « nez » surbaissé et le toit arrondi de la cabine. La série « Century » incluait les modèles suivants de locomotives « B-B » produits par Alco : la locomotive de manœuvre et de transfert de 1500 cv C415, et les locomotives de grandes lignes et de manœuvre C420 (2000 cv), C424 (2400 cv), C425 (2500 cv), et la C430 (3000 cv). Les modèles de locomotives « C-C » comprenaient la C628 (2750 cv), la C630 (3000 cv) et la C636 (3600 cv). Bien que la MLW ait produit les modèles C424 et C630, elle apporta suffisamment de modifications au design original du modèle C630 pour avoir ce modèle désigné comme la C630M et, plus tard, la M630. Le changement majeur était le bogie de trois essieux fabriqué par Dofasco et très différent des bogies équipant les locomotives fabriquées par Alco : le bogie appelé « tri-mount » et le bogie appelé « Hi-Adhesion ». MLW poursuivit le développement de ces locomotives et produisit les modèles M636 et M640. On se doit de mentionner brièvement deux autres modèles qui faisaient partie de la série « Century » : les locomotives à deux moteurs C855 et C855B (sans cabine), des monstres de 5500 cv qui furent vendues au



*Ex-CP Rail C630 #4500, with the lettering altered to read "CRI", was found in Canadian National's MacMillan Yard in Toronto, Ontario, on 2 August 1995. Photo by Hugues W. Bonin.*

*L'ex-CP Rail C630 #4500, avec le lettrage modifié pour indiquer "CRI", se trouvait au triage MacMillan du Canadien National à Toronto, Ontario, le 2 août 1995. Photo par Hugues W. Bonin.*

mention here to two models that were part of the « Century » line : the twin-engined C855 and C855B (cableless) 5500 hp monsters which were sold to the Union Pacific in 2 and 1 copies, respectively. Finally, another similar-looking model was produced in 3 copies for the Southern Pacific, the DH643, equipped with an hydraulic transmission and scrapped at age 9 in 1974 as it was not successful in demanding road service.

With only 660 locomotives of the « Century » line sold in the U.S. and Mexico (all models included), Alco decided in 1969 it was time to quit the locomotive market. MLW carried on in Canada with its line of « M » locomotives, which was even expanded to include the M420TR and M420TR-2, an endcab road switcher, the M420W, M420B and M420R models with a 2000 hp engine, and the similar-looking M424W sold to Mexican railways. Further development of the M420W produced the HR412 in the late 1970s, « HR » standing for « High Reliability ». A C-C unit was also produced in the HR-line, the HR616 of which only 20 units were sold to the CN, whereas only 11 units were built for the HR412 model, 10 sold to the CN and 1 demonstrator unit. These disappointing results prompted Bombardier, which had bought MLW in 1979, to exit the freight locomotive market in the early 1980s in order to focus on the fast passenger train market, having acquired the LRC program from MLW. In 1989, GE bought the Dickson Street plant from Bombardier, and used it for a short time to refurbish some Santa Fe, Union Pacific, Western Pacific, Delaware and Hudson and Milwaukee Road locomotives into « Super Seven » units for the second hand locomotive market. Again, the sales were poor, and the MLW plant was shut down for good.

chemin de fer Union Pacific en 2 et 1 exemplaires, respectivement. Finalement, un autre modèle comparable qui fut construit en 3 exemplaires pour la compagnie Southern Pacific Railroad était la DH643, équipée d'une transmission hydraulique, et envoyée à la casse à l'âge de 9 ans en 1974 en raison de l'échec de ce concept en service exigeant sur les lignes de montagne de ce chemin de fer.

Avec seulement 660 locomotives de la série « Century » vendues aux États-Unis et au Mexique (tous modèles inclus), Alco décida en 1969 qu'il était temps de se retirer du marché des locomotives. La MLW continua ses opérations au Canada en misant sur sa série de locomotives « M », qui fut étendue pour inclure de nouveaux modèles tels que les M420TR et M420TR-2, une locomotive de ligne et de manœuvre avec la cabine en bout, les modèles M420W, M420B et M420R avec un moteur de 2000 cv, et la M424W presque identique d'aspect et vendue à des chemins de fer mexicains. Des développements ultérieurs de la M420W produisirent le modèle HR412 vers la fin des années 1970, le « HR » indiquant la « Haute Fiabilité » (« High Reliability »). Une locomotive « C-C » fut aussi produite dans la série « HR », la HR616 qui fut construite en 20 exemplaires pour le CN, alors que seulement 11 locomotives HR412 furent produites, dont un démonstrateur (#7000) et 10 vendues au CN. Ces résultats décevants eurent l'effet de convaincre Bombardier, qui avait fait l'acquisition de MLW en 1979, de se retirer du marché des locomotives de trains de marchandises au début des années 1980 pour concentrer les activités dans le domaine des trains rapides de voyageurs, ayant acquis le programme du train LRC en achetant la MLW. En 1989, la General Electric acheta

l'usine de la rue Dickson de Bombardier, et l'utilisa durant un court laps de temps pour reconstruire quelques locomotives du Santa Fe, Union Pacific, Western Pacific, Delaware and Hudson et Milwaukee Road en locomotives « Super Seven » pour le marché des locomotives usagées. Encore une fois, les ventes s'avérèrent médiocres, et GE ferma les ateliers de la MLW pour de bon.



*A very unusual sight on 17 August 1990 was a big MLW freshly painted (without the multimark logo). M636 #4708 was one of the trailing units powering a westbound freight train in Smiths Falls. Photo by Hugues W. Bonin.*

*Une apparition très rare le 17 août 1990 fut une grosse MLW récemment peinte (sans le logo « multimark »). La M636 #4708 était l'une des locomotives tirant un train de fret vers l'ouest à Smiths Falls, Ontario. Photo par Hugues W. Bonin.*

### Canadian Pacific Railway and the M630

It is in this general context that CP Rail M630 #4563 was built in November 1969. In the mid 1960s, many of the oldest first generation diesel locomotives on the CPR roster were approaching the end of their careers. In particular, the cab units were worn out and less appreciated by the crews than the road switchers, especially when switching cars was part of the day's tasks. The merits of the 6-wheel trucks for fast mainline freight service, and especially for coal trains in the Rockies, were also recognized by the decision makers at CPR. In 1966 and 1967, CPR received two orders of General Motors SD40 model locomotives (DRF30a #5500-5531 and DRF30b 5532-5564). These were intended for service in Western Canada, on the coal trains notably, and were the last GM units delivered in the maroon and grey livery of the CPR. It is interesting to note that the first batch was ordered as #5100-5131. With many of these units in service in the Rockies, CPR was soon disappointed with them because the locomotives were quite unreliable due to faulty wheel slip control systems and turbocharger failures.

In 1966, MLW convinced CPR into testing two Union Pacific Alco C630 (#2903 and 2904) for a month period during which these units were used in several types of service on a transcontinental basis. At the end of the testing period, the units were returned to the Union Pacific, leaving the CPR personnel favourably impressed with their performance. At that time, Alco had introduced the following C-C locomotive models in their « Century » line : the C628, the C630 and the C636. The first C628 built was Atlantic Coast Line #2011 (later

### Le Canadien Pacifique et la M630

C'est dans ce contexte général que la CP Rail M630 #4563 fut construite en novembre 1969. Au milieu des années 1960, plusieurs des locomotives diesel les plus âgées du parc du Canadien Pacifique approchaient le temps de la mise à la retraite. Plus particulièrement, les locomotives de type « à cabine » étaient usées à la corde et moins populaires auprès des équipages que les locomotives de route et de manœuvre, spécialement au cours des opérations de triage lorsqu'il fallait retirer ou ajouter des wagons aux trains. Les avantages des bogies à trois essieux pour les trains de ligne rapides, et en particulier les trains de charbon dans les Rocheuses, furent aussi reconnus par les dirigeants des compagnies ferroviaires et du CPR notamment. En 1966 et en 1967, le CPR reçut deux commandes de locomotives de modèle General Motors SD40 (DRF30a #5500-5531 and DRF30b #5532-5564). Ces locomotives étaient prévues pour servir dans l'Ouest du Canada, notamment pour les trains-blocs de charbon, et devinrent les dernières locomotives de GM livrées aux couleurs gris et rouge vin du CPR. Il est intéressant de savoir que le premier groupe de SD40 avait été commandé en tant que les #5100-5131. Avec la plupart de ces locomotives en service dans les Rocheuses, le CPR fut rapidement déçu de leur performance parce que ces locomotives étaient peu fiables à cause de leur système anti-glissement des roues et de la défaillance du turbochargeur.

En 1966, la MLW réussit à convaincre le CPR d'essayer deux locomotives Alco C630 de l'Union Pacific (#2903 et 2904) pour une période d'essai d'un mois durant laquelle ces locomotives seraient utilisées pour une variété de services à l'échelle transcontinentale. À la fin de la période d'essai, les locomotives furent retournées au chemin de fer Union Pacific, laissant le personnel du CPR avec une impression très favorable sur la performance de ces grosses Alco. À cette époque, Alco avait introduit les locomotives « C-C » de modèles suivants dans leur série « Century » : la C628, la C630 et la C636. La première C628 construite était la Atlantic Coast Line #2011 (renumérotée Seaboard Coast Line #7513) et était la première locomotive diesel-



*Unique M640m #4744 was mostly used for transfer train service toward the end of its life. On 8 April 1990, it is seen near Hochelaga Yard in Montréal, Québec, between C424 #4213 and RSD17 #8921. At that time, it had become an A-1-A locomotive provided with alternating current electrical motors powering the outer two axles of each trucks, while the inner axles were left unpowered. Photo by Hugues W. Bonin.*

*À la fin de sa carrière, l'unique M640m #4744 était surtout utilisée pour le service des trains de transfert. Le 8 avril 1990, on la voit près du triage Hochelaga à Montréal, Québec, entre la C424 #4213 et la RSD17 #8921. À cette époque, la #4744 était devenue une locomotive du type "A-1-A" munie de moteurs électriques à courant alternatif propulsant les deux essieux extérieurs de chacun des bogies, tandis que l'essieu du milieu de chacun des bogies n'était pas un essieu moteur.*

*Photo par Hugues W. Bonin.*

Seaboard Coast Line #7513) and was the first North American diesel-electric locomotive using an AC transmission. A total of 133 C630s were produced, of which 56 were built in Canada (Canadian National #2000-2043, Canadian Pacific #4500-4507 and Pacific Great Eastern #701-704).

In 1967, CPR decided to try the MLW product and ordered 8 C630 units (#4500-4507). To lower the costs, CPR sent to MLW 8 sets of traction motors from retired CLC H24-66 « Train-master » locomotives to be used for the new C630s. These locomotives were delivered in July and August 1968 and were the very last new locomotives delivered in the maroon and grey livery. When additional locomotives were needed, CPR (now CP Rail) returned to MLW as the C630s were performing satisfactorily and the ills of the SD40s were yet not cured. Some of the new power was needed for increased coal train business in the Rockies to the new Robert Banks harbour near Vancouver. An order was placed on 18 February 1969 for 20 M630s, 29 M636s and 1 M640, with these units delivered over several months in 1969 and

électrique nord-américaine pourvue d'une transmission à courant alternatif. Un total de 133 locomotives de modèle C630 ont été construites, dont 56 au Canada (Canadien National #2000-2043, Canadien Pacifique #4500-4507 et Pacific Great Eastern #701-704).

En 1967, le CPR décida d'essayer le produit de la MLW et commanda 8 locomotives C630 (#4500-4507). Afin de réduire les coûts, le CPR envoya à la MLW 8 ensembles de moteurs électriques provenant de locomotives CLC H24-66 « Train-master » récemment mises à la retraite afin d'être utilisés pour les nouvelles C630. Ces locomotives furent livrées en juillet et en août 1968 et étaient les toutes dernières locomotives neuves livrées dans les couleurs rouge vin et gris du CPR. Lorsqu'il fallut acquérir de nouvelles locomotives, le CPR (alors devenu le CP Rail) retourna à la MLW car les C630s offraient une performance satisfaisante et les problèmes des SD40 n'avaient pas encore été solutionnés. Certaines des nouvelles locomotives étaient requises pour le service des trains de charbon qui avait pris de l'expansion dans les Rocheuses jusqu'aux

nouvelles installations portuaires de Robert Banks près de Vancouver. On signa une commande le 18 février 1969 pour 20 M630, 29 M636 et 1 M640, ces locomotives étant livrées sur une période de plusieurs mois en 1969 et en 1970. La commande originale fut suivie en juillet 1969 d'une autre commande pour 8 M630 et 8 M636 supplémentaires. Une troisième commande fut bâclée avec la MLW en septembre 1969 pour 7 M636 additionnelles.

En décembre 1970, 29 M630 et 44 M636 avaient été livrées, et l'unique M640 fut livrée en mars 1971. Toutes ces locomotives arboraient la



*On 20 December 1995, the 4563 stands freshly repainted and refurbished outside the St. Luc roundhouse, with a team of CP Rail employees and representatives of the Canadian Railroad Historical Association and the Canadian Railway Museum posing proudly for posterity. The occasion was the official donation of this magnificent locomotive to the CRHA. Standing left to right: André Jacob, Yvon Lauzon, Yvon Chalifour, Mario Bergeron, Charles de Jean, David Johnson, Giulio Capuano, Claudio Pace (partially hidden), Tim Hreniuk (in the stairwell), Gordon Rushton, Al Blackburn, Robie Blackburn. On the locomotive: André Pontbriant, Derek Lecours, Jacques Lauzière, Michel Ducyk, Lucien Ouimet, Robert Monette, François Turgeon, Robert Giguère, Daniel Archambault, Steve Lecours. CPR Photo*

*Le 20 décembre 1995, la #4563 pose fièrement fraîchement repeinte et restaurée en dehors de la rotonde Saint-Luc, derrière un groupe d'employés du CP Rail et de représentants de l'Association Canadienne d'Histoire Ferroviaire non moins fiers. L'occasion était la présentation officielle de cette magnifique locomotive à l'ACHF. Debout de gauche à droite: André Jacob, Yvon Lauzon, Yvon Chalifour, Mario Bergeron, Charles de Jean, David Johnson, Giulio Capuano, Claudio Pace (partiellement caché), Tim Hreniuk (dans l'escalier), Gordon Rushton, Al Blackburn, Robie Blackburn. Sur la locomotive: André Pontbriant, Derek Lecours, Jacques Lauzière, Michel Ducyk, Lucien Ouimet, Robert Monette, François Turgeon, Robert Giguère, Daniel Archambault, Steve Lecours. Photo CFCP*

1970. The original order was followed in July 1969 with another order for 8 additional M630s and 8 M636s. A third order was concluded with MLW in September 1969 for 7 more M636s.

By December 1970, 29 M630s and 44 M636s had been delivered, and the unique M640 was delivered in March 1971. All were delivered in the new Action Red CP Rail paint scheme. While the numbering of the M636s and the M640 was straightforward (#4700-4743 for the M636s and #4744 for the M640), it was quite more complicated for the M630s. The first 20 M630s were to be numbered #4508-4528, but the #4508-4511 became #4550-4553, the #4512-4515 became the #4570-4573, the #4516-4517 became the #4574-4575, the #4518 became the #4508, the #4519-4526 became the #4509-4516 and the #4527-4528 became the #4554 and the #4555. The reasons for these changes in the locomotive numbering were due to a desire to group the locomotives according to the equipment on-board. This way, locomotives #4500-4512 were equipped with Pacesetter receivers (to control the trains at low speed when loading and unloading coal). The #4570-4573 group had Locotrol equipment (for remote operation), and the #4550-4555 group was provided with Pacesetter master equipment. This group was augmented by the #4556-4557 delivered in February 1970.

The second order for M630s had the 8 units numbered as follows: #4508-4516 and were the first new

Les 8 locomotives M630 de la seconde commande furent numérotées comme suit: #4508-4516 et furent les premières unités reçues arborant la nouvelle livrée du CP Rail. Cette livrée avait à l'origine l'emblème « Multi-mark » s'étendant sur toute la hauteur du capot et était situé à l'arrière de celui-ci, et avait les barres obliques rouges et blanches couvrant la façade de la cabine et celle du « nez » surbaissé. L'arrière de la locomotive arborait des barres obliques noires et blanches. En 1969, on équipa les C630 avec le système récepteur Pacesetter pour le service des trains de charbon.

En 1971, le nombre de trains de charbon dans l'Ouest canadien avait crû au point que le CP Rail a dû revoir l'utilisation de ses locomotives. Cette année-là, toutes les M630 avaient été livrées. Un groupe de 24 locomotives devant être numérotées #4550-4573, devaient être équipées avec les équipements Pacesetter émetteur et Locotrol. Les locomotives #4550-4557, qui avaient déjà l'équipement Pacesetter, ne reçurent que l'équipement Locotrol. Les locomotives #4513-4516 devinrent les #4558-4561, et les #4574-4581 furent renumérotées #4562-4569. Les locomotives du groupe #4570-4573 conservèrent leurs numéros et, étant déjà équipées du système Locotrol, elles ne furent équipées que du système émetteur Pacesetter. CP Rail avait son propre système de classement de ses locomotives et les C630 et M630 formaient les classes suivantes : DRF-30c à

DRF-30f, avec les « D », « R » and « F » signifiant respectivement « Diesel », « Road » and « Freight », le « 30 » dénotant 30 centaines de chevaux-vapeur (3000 hp) et la lettre minuscule indiquant la sous-classe. La sous-classe DRF-30c comprenait les locomotives #4500-4507, la sous-classe DRF-30d incluait les #4508, 4550-4553, 4570-4573, et 4574-4575.

La sous-classe DRF-30e comprenait les locomotives #4509-4512, 4558-4561 (ex-#4513-4516), 4554-4555 et 4562-4563. Enfin, la sous-classe DRF-30f incluait les groupes #4556-4557 et #4564-4569.

Au début des années 1970, deux événements causèrent d'importants



CP Rail M630 #4563 riding the turntable at the St. Luc roundhouse on 20 December 1995. The locomotive was fresh from fully refurbishment and was operational. CPR Photo

La M630 #4563 de CP Rail est posée sur le pont tournant de la rotonde Saint-Luc le 20 décembre 1995. La locomotive était alors récemment restaurée et repeinte et était en ordre de marche. Photo CFCP

units delivered in the CP Rail « Action Red » livery. The original paint scheme had the « Multimark » logo the full height of the locomotive hood at its rear end, and oblique red and white safety stripes covering the front of the cab in addition to the front of the short hood nose. The rear end of the locomotive was adorned with black and white oblique safety stripes. In 1969, the original C630s were retrofitted with the Pacesetter receiver equipment for coal train service.

In 1971, the coal trains in Western Canada had increased in number and CP Rail reviewed the utilization of its locomotive fleet. At that time, all the M630s had been delivered. A group of 24 locomotives, to be numbered #4550-4573, were to be equipped with both Pacesetter master and Locotrol equipment. Locomotives #4550-4557, already provided with the Pacesetter equipment, just received the Locotrol systems. Locomotives #4513-4516 became the #4558-4561, and the #4574-4581 were renumbered #4562-4569. Locomotives #4570-4573 retained their numbers and, being already Locotrol equipped, they were provided with the Pacesetter master equipment.

CP Rail had its own locomotive class designation system and the C630s and M630s formed the following classes : DRF-30c to DRF-30f, with « D », « R » and « F » standing for « Diesel », « Road » and « Freight », respectively, the 30 denoting 30 hundred horsepower (3000 hp) and the lower case letter indicating the sub-class. Sub-class DRF-30c included #4500-4507, sub-class DRF-30d was made of #4508, 4550-4553, 4570-4573, and 4574-4575. Sub-class DRF-30e included #4509-4512, 4558-4561 (ex-#4513-4516), 4554-4555 and 4562-4563. Finally, sub-class DRF-30f was made of #4556-4557 and the #4564-4569 group.

During the early 1970s, two sets of events meant important changes in the careers of the C630s and the M630s, as well as the M636s. First, General Motors found a cure for the ailments of the SD40 model and launched the « Dash-2 » series with the SD40-2 model replacing the SD40 in the sales catalogs. CP Rail acquired

changements dans la carrière des C630 et des M630, et dans celle des M636. D'abord, la General Motors réussit à apporter les remèdes aux problèmes de ses SD40 et lança la série « Dash-2 » avec le modèle SD40-2 remplaçant la SD40 dans les catalogues. Le CP Rail fit l'acquisition de ses premiers groupes de SD40-2 en février et en mars 1972 (#5565-5588) et, au cours des années suivantes, ces locomotives furent suivies de plusieurs centaines de congénères de ce modèle performant. À la même époque, les grosses MLW commençaient à devenir de plus en plus problématiques à cause, parmi bien d'autres défaillances, de leurs turbochargeurs qui tombaient en panne fréquemment. Elles devinrent les locomotives avec les coûts d'entretien les plus élevés par unité de distance parcourue. En 1973 et en 1974, les locomotives du parc des grosses MLWs furent graduellement envoyées aux Ateliers Angus de Montréal pour avoir leur équipement Pacesetter et Locotrol enlevé, cet équipement étant par la suite réinstallé sur des SD40-2 de la série 5800. Une C630 et une M630 ont été épargnées de cette ignominie: la C630 #4506 fut démolie le 13 juin 1974 lors de l'effondrement d'un pont à l'est de Fort Steele, C.-B. Quant à la M630 #4552, elle fut accidentée le 17 mars 1974, et fut démantelée aux Ateliers Angus le 5 mai 1974. La C630 #4506 fut démantelée peu après avoir été mise officiellement à la retraite le 23 septembre 1974.

Les grosses MLW furent mises en service de trains de fret général dans le centre et l'est du Canada, s'aventurant rarement à l'ouest de Winnipeg, Manitoba. Ces locomotives continuèrent à être coûteuses en entretien et à être peu fiables, mais, lorsqu'elles étaient en bon état de marche, elles avaient leur admirateurs parmi les équipages dont certains appréciaient leur force de traction supérieure. Cependant, elles étaient les premières locomotives à être entreposées dès qu'un ralentissement des affaires survenait. Mais, la demande se relevait assez tôt pour nécessiter le retour en service de ces locomotives, au lieu d'être mises à la retraite et envoyées à la casse, au grand plaisir des ferroviophiles qui

s'émerveillaient des spectacles « sons et lumières » présentés par les grosses MLW en action : beaucoup de bruit guttural et syncopatique émis par le moteur diesel surtout en accélération, et de superbes nuages de fumée noire qui seraient certes politiquement incorrects ces jours-ci alors que l'on s'inquiète de la pollution atmosphérique et des gaz à effet de serre.



Another view of M630 #4563 riding the St. Luc turntable on 20 December 1995. CPR Photo

Vue différente de la M630 #4563 sur le pont tournant de la rotonde Saint-Luc le 20 décembre 1995. CFCP Photo

the first groups of SD40-2s in February and March 1972 (#5565-5588) and, over the years, these were followed by hundreds of new locomotives of that successful model. At about the same time, the big MLWs were starting to be increasingly unreliable, with frequently failing turbochargers among other ailments, and soon became the locomotives with the highest maintenance costs per mile on the CP Rail roster. In 1973 and 1974, the fleet of

Durant les années 1980 et 1990, le CP Rail continua à maintenir les grosses MLW en service malgré leurs importants coûts d'exploitation, parce que le prix des locomotives neuves avait augmenté dramatiquement. De nouveaux règlements exigeaient que les locomotives en position de tête soient équipées d'un système de sûreté appelé « Reset Safety Control ». En 1988 et en 1989, 11 M630 et 22 M636 furent munies de cet équipement, ce qui



*CP Rail #4563 had another burst of life when she was allowed to run on Canadian Pacific's mainline on 5 July 2005. The occasion was the donation of commuter coach #827 to CRHA's Exporail and a special train was assembled and positioned at the site of former Windsor Station in Montréal, now operated as Station Lucien L'Allier. The train was hauled to the museum site by #4563, and made up of coach 827, new bilevel cab-coach 2002 and Agence Métropolitaine de Transport's locomotive #1323, a recent GMD F59PHI model. Photo by Peter Murphy.*

*La CP Rail #4563 a eu un sursaut de vie lorsqu'on lui a permis de rouler sur la ligne principale du Canadien Pacifique le 5 juillet 2005. L'occasion était la présentation de la voiture de train de banlieue #827 au musée Exporail de l'ACHF. Un train spécial fut alors assemblé et positionné au site de l'ancienne Gare Windsor de Montréal, présentement en service sous le nom de Station Lucien-L'Allier. Le train a été tiré jusqu'au musée par la #4563, et était constitué de la voiture #827, de la nouvelle voiture à impériale (avec cabine) #2002 et de la locomotive #1323 de l'Agence Métropolitaine de Transport, cette locomotive étant un modèle récent F59PHI de la General Motors. Photo par Peter Murphy.*

big MLWs was gradually sent to Angus Shops in Montréal to have the Pacesetter and Locotrol equipment removed, this equipment reinstalled on SD40-2 in the 5800 series. One C630 and one M630 were spared this ignominy : C630 #4506 was wrecked on 13 June 1974 when a bridge collapsed east of Fort Steele, B.C. As of M630 #4552, it suffered a similar fate on 17 March 1974, and was scrapped at Angus Shops on 5 May 1974. C630 #4506 was scrapped shortly after being officially retired on 23 September 1974.

The big MLWs were put in general freight service in Central and Eastern Canada, rarely venturing west of Winnipeg, Manitoba. They continued to be high maintenance units and rather unreliable, but when they were in good working order, they had their fans among the crews as they were appreciated for their superior pulling power. However, they were the first locomotive to be put in storage whenever a downturn in business occurred. It turned out that business picked up soon enough for these units to be put back in service rather than being retired and scrapped, much to the joy of the railfans who raved at the « sounds and lights » shows displayed by the big MLWs in action : lots of guttural syncopatic sound from the big diesel engine, unmistakable during acceleration, and superb black clouds of smoke that would be indeed politically incorrect in these days of concern about atmospheric pollution and greenhouse gas effects.

In the 1980s and 1990s, CP Rail continued to keep the big MLWs in service in spite of their large operating costs, since the price of new locomotives had increased substantially. New regulations demanded that locomotives in the leading position were to be equipped with a safety system called « Reset Safety Control ». In 1988 and 1989, eleven M630s and 22 M636s were provided with this equipment, thus allowing these units to lead locomotive consists. Another asset meant a wider usage of the big MLWs. Since they were regularly used on the « Short Line » linking Montréal with Saint John, New Brunswick, via the State of Maine, they had their duty fees paid up and could operate south of the border. They started showing up in the Chicago area, hauling the « Railrunner » container trains between Montréal and Chicago. Their presence in Chicago was consolidated when the SOO Line acquired part of the Milwaukee Road's network in the Mid West, and was fully integrated into the CP Rail system. The CP Rail network was further expanded to reach New Jersey and Philadelphia following the acquisition of the Delaware and Hudson Railroad. The big MLWs were frequent visitors on these lines, much to the delight of the American railfans.

By 1990, age was catching up with the big locomotives. Taking advantage with a slow business period, CP Rail retired in 1991 13 units that had been sidelined following major mechanical failure : C630s #4502, 4504, 4505, M630s #4509, 4510, 4553, 4554, 4558,

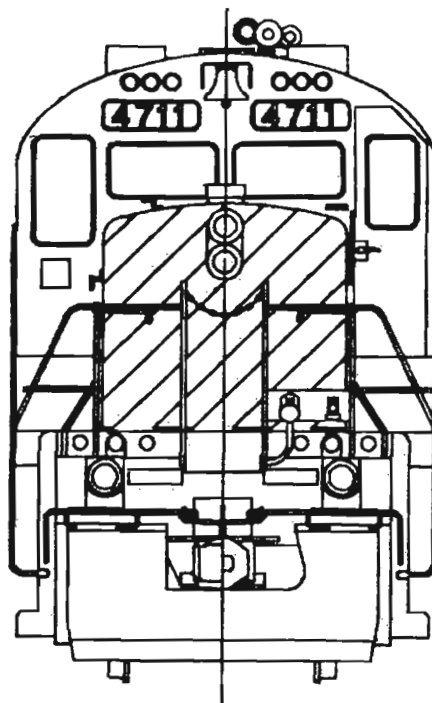
leur permettait de mener les groupes de locomotives à la tête des trains. Les grosses MLW avaient aussi un autre atout dans leur jeu, jouant en faveur de leur survie. Comme elles étaient en service régulier sur la ligne « Short Line » reliant Montréal et Saint-Jean, Nouveau-Brunswick, via l'État du Maine, elles avaient leurs frais de dédouanement payés et étaient autorisées à rouler au sud de notre frontière. Elles commencèrent à apparaître dans la région de Chicago, tirant les trains de conteneurs « Railrunner » entre Montréal et Chicago. Leur présence à Chicago s'amplifia lorsque la SOO Line acquit une partie du réseau de la Milwaukee Road dans le Mid West, et, par la suite fut totalement intégré au système du CP Rail. Le réseau du CP Rail s'étendit davantage jusqu'à atteindre le New Jersey et la ville de Philadelphie grâce à l'acquisition de la compagnie Delaware and Hudson Railroad. Les grosses MLW visitaient fréquemment ces lignes, au grand plaisir des amateurs de trains américains.

Vers 1990, les signes de vieillesse étaient apparents pour ces grosses locomotives. À l'occasion d'un creux dans les affaires, le CP Rail mit à la retraite en 1991 13 locomotives qui avaient été mises au rancart à la suite de défaillances majeures: les C630 #4502, 4504, 4505, les M630 #4509, 4510, 4553, 4554, 4558, 4560, 4564, et les M636 #4722, 4724 et 4732. L'hiver 1991-1992 se révéla être une saison très affairée pour le service du transport des céréales, ce qui permit de déferer temporairement d'autres mises à la retraite. Malheureusement, la demande pour le transport ferroviaire piqua du nez au printemps de 1992, avec comme résultat que toutes les grosses MLW non équipées pour mener les trains furent mises en entreposage. Ceci procura au CP Rail l'occasion de mettre à la retraite d'autres locomotives, incluant un groupe de 11 grosses MLW comme suit : la C630 #4507, les M630 #4512 et 4516, les M636 #4700, 4701, 4717, 4720, 4728, 4737, 4741, et la M640 #4744. En novembre 1992, toutes les locomotives encore actives étaient en entreposage, pas pas pour bien longtemps puisque les affaires reprirent en 1993, et 40 grosses MLW se retrouvèrent une fois de plus au travail, avec certaines d'entre elles toujours équipées pour mener les trains, ce qui rendait un tel événement plutôt rare. À cette époque, le CP Rail achetait des SD40-2 usagées, ce qui permit de diminuer les cohortes des grosses MLW graduellement par des mises à la retraite qui furent effectuées jusqu'en décembre 1993.

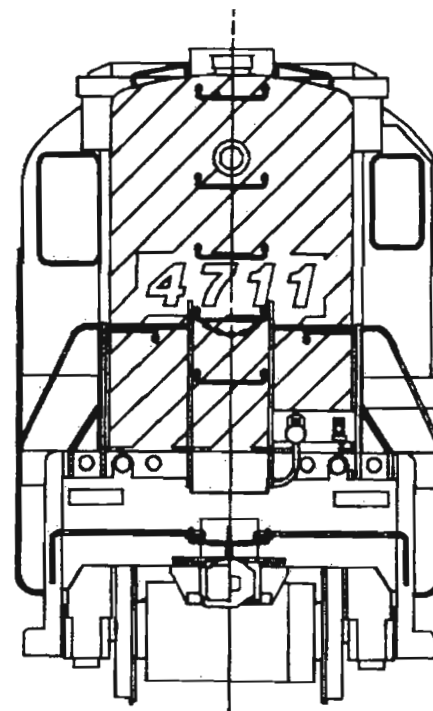
Les dernières M630 mises à la retraite furent la #4555 (le 14 décembre 1993), la #4573 (le 19 décembre), et la #4563 (le 22 décembre). À 1600 h le 24 décembre 1993, la M636 #4706 arriva au Triage Saint-Luc de Montréal, et, après une brève cérémonie présidée par M. Ron Ritchie, Président du CP Rail, son moteur fut arrêté et la locomotive officiellement mise à la retraite, mettant fin par le fait à une riche partie de l'histoire de ce grand chemin de fer. La petite histoire relate que, peu après la cérémonie, on re-démarrà la 4706 pour une session



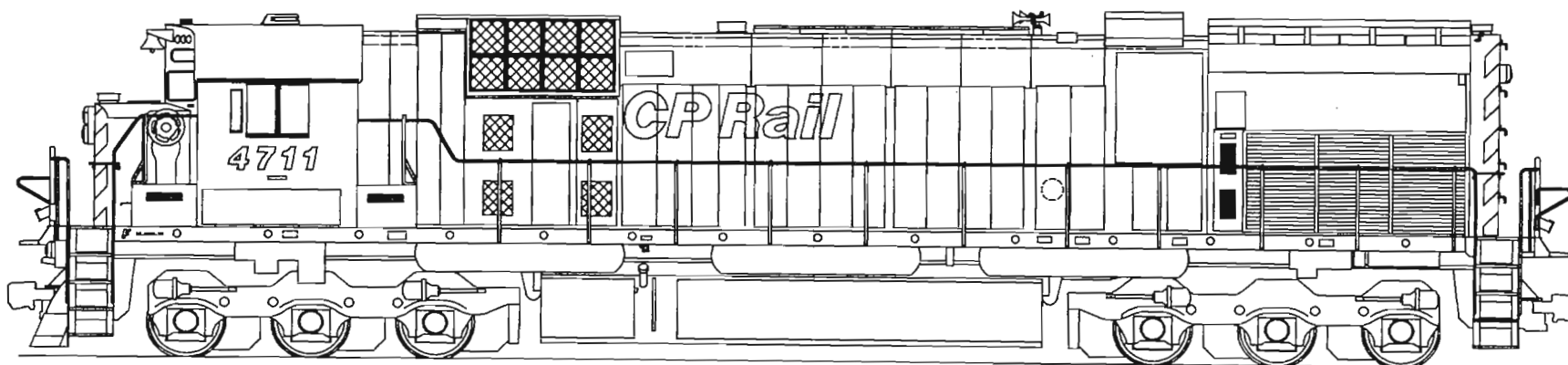
QTY	DESCRIPTION	MATERIAL	ITEM
<b>PAINTING LAYOUT</b>			
DRAWN: M.E. HUGHES	SCALE	WEIGHT	REFERENCE
DATE: 89-02-09	N.T.S.		
CHECKED: H. RIDDLE	<b>CPRail</b> MECHANICAL DEPARTMENT MONTREAL, QUEBEC		
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Front Elevation



Rear Elevation



Side Elevation

4560, 4564, along with M636s #4722, 4724 and 4732. The 1991-1992 winter season turned out to be a very busy period for grain traffic, delaying further retirements for a while. Unfortunately, the demand for rail transportation took a nose dive in the Spring of 1992, resulting in all the big MLWs not equipped to lead trains to be put in storage. This provided CP Rail with the opportunity for additional retirements, including 11 units as follows : C630 #4507, M630s #4512 and 4516, M636s #4700, 4701, 4717, 4720, 4728, 4737, 4741 and M640 #4744. By November 1992, all the non-retired units were in storage, but not for too long since business picked up in 1993, and 40 big MLWs were on the road again, with a few of them still equipped with the RSC equipment, making the sighting of a train lead by a big MLW a rare event indeed. At that time, CP Rail was purchasing second-hand SD40-2s allowing the gradual thinning of the big MLW cohorts through retirements which lasted until late December 1993.

The last M630s retired was #4555 (14 December 1993), #4573 (19 December), and #4563 (22 December). At 1600 h on 24 December 1993, M636 #4706 arrived at Saint-Luc Yard in Montréal, and, after a brief ceremony presided by Mr. Ron Ritchie, President of CP Rail, its engine was shut down and the locomotive was officially retired, thus concluding a significant part of the rich history of this great railway. Small history relates that shortly after the ceremony, the 4706 was re-started for a sound recording and photography session for the employees, then shut down for good.

For good? Well, this was what was thought by all present at the ceremony. But not quite for good... By mid March 1994, CP Rail experienced an acute power shortage, and, fortunately, the big MLWs were still around. Several of them could be re-activated with only modest efforts from the mechanics so it was decided to « un-retire » some of the old locomotives. On 20 March 1994, M630 #4573 and M636s #4704 and 4734 were back in service. CP Rail planned to re-activate 19 more locomotives, with #4563, 4572, 4706-4709, 4713, 4716, 4723, 4736, 4739 and 4743 being the first 12 of them. Fifteen more units were in the planning to be put back in service, and CP Rail reopened the old Angus Shops, recently closed, to carry out the work necessary for the resurrection of these units. For a few more months, the big MLWs were seen doing their share of work to propel the freight trains, mostly as trailing units. Their appearance was quite sad with peeling and faded paint, and with sometimes parts missing such as bells and classification lights. Table 2 below presents the details on the re-activation and the final retirement of these locomotives. In the mean time, the other 4500s and 4700s not reactivated were gradually sent to Sidbec in Contrecoeur, Qué, to be scrapped. As the Summer progressed, the big MLWs were retired again following major failures, with the last one, M636 #4736, retired on 29 August 1994.

d'enregistrement du son et de photographie à l'intention des employés, après quoi la locomotive fut arrêtée pour de bon.

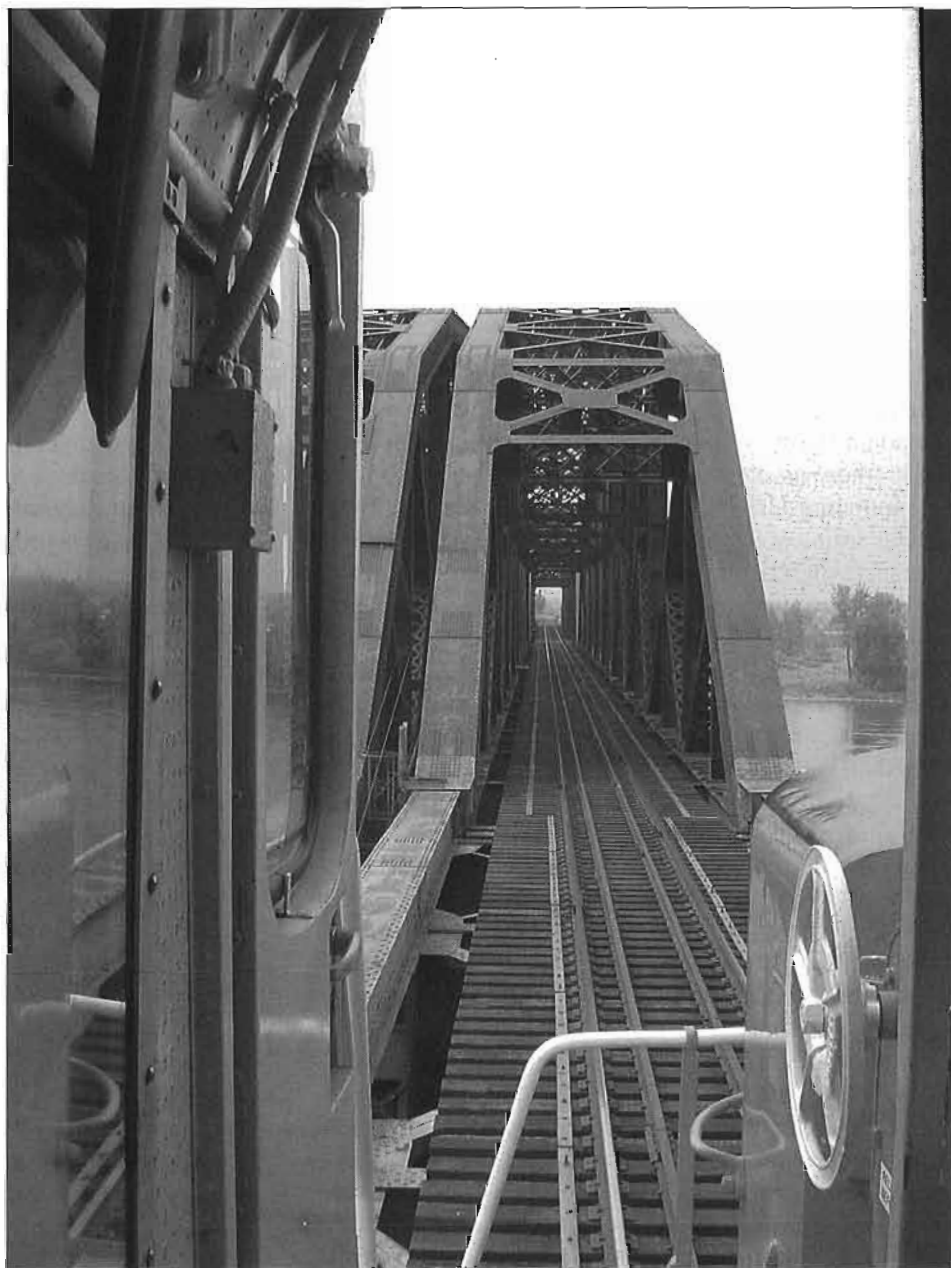
Vraiment? Eh bien, ceci était ce que chacun présent à la cérémonie avait à l'esprit. Mais ce n'était pas vraiment pour de bon... Au milieu de mars 1994, le CP Rail se trouva très à court de locomotives, et, heureusement, les grosses MLW étaient toujours dans les parages. Plusieurs d'entre elles pouvaient être remises en service au prix de seulement un minimum de travail de la part des mécaniciens. On décida alors de remettre en service quelques-unes des vieilles locomotives. Le 20 mars 1994, la M630 #4573, les M636 #4704 et 4734 étaient de retour en service. CP Rail entreprit alors de réactiver 19 locomotives de plus, avec les #4563, 4572, 4706-4709, 4713, 4716, 4723, 4736, 4739 et 4743 constituant le premier groupe de 12 de ces locomotives. On planifia alors la remise en service de quinze locomotives de plus. Le CP Rail réouvrit alors les vieux Ateliers Angus récemment fermés, pour effectuer le travail nécessaire à la résurrection de ces locomotives. Pour encore plusieurs mois, les grosses MLW faisaient encore leur part du travail pour tirer les trains de fret, presque toujours à la suite de d'autres locomotives. Elles avaient triste mine avec leur peinture défraîchie et écaillée, et souvent avec des morceaux manquants comme leur cloche ou leurs feux de classification. Le Tableau 2 présente les détails comme les dates de réactivation et de leur remise à la retraite définitive. Durant ce temps, les grosses MLW qui n'avaient pas été réactivées étaient acheminées à la compagnie Sidbec de Contrecoeur, Qué, pour y être démantelées. Au cours de l'été suivant, les grosses MLW furent mises à la retraite à tour de rôle à mesure que des bris mécaniques importants se produisaient, et la toute dernière, la M636 #4736, fut retirée le 29 août 1994.

### Efforts de Préservation

La préservation d'une grosse locomotive de MLW a été dans les plans à long terme de l'Association Canadienne d'Histoire Ferroviaire pour son Musée Ferroviaire Canadien de Delson-Saint-Constant, Qué. (maintenant appelé Exporail). Lorsque le présent article a été rédigé (octobre 2005), Exporail était très fier d'avoir deux grosses locomotives de MLW dans sa collection : la M630 #4563 et la M640m #4744, en plus de la C424 #4237. La M630 #4563 fut le premier choix parmi le groupe de locomotives MLW réactivées puisqu'elle représentait le premier groupe de locomotives neuves acquises dans la livrée du CP Rail, et était l'une des actrices de l'exploitation des premiers trains utilisant la technologie du contrôle à distance dite « Robot ». Elle se trouvait alors à être la locomotive du groupe dans le meilleur état, tellement que, grâce aux efforts dévoués d'une équipe de 23 employés du Triage Saint-Luc, la #4563, fraîchement repeinte, était en état

*Engineers view from 4563 crossing the Adirondack bridge on July 5, 2005. This bridge was the site of a spectacular and most unfortunate derailment of some seven double stacked empty container cars which were blown off their tracks by gale force gusts on Friday, February 17, 2006. Fortunately there were no injuries but the CPR mainline south out of Montreal was out of service for almost three weeks. Photo Charles de Jean.*

*Vue de la cabine de la locomotive 4563 traversant le pont Adirondack le 5 juillet 2005. Ce pont a été récemment le site d'un déraillement tout autant spectaculaire que malencontreux alors que sept wagons transportant des containers vides ont été poussés hors de la voie ferrée par des rafales de vent le vendredi 17 février 2006. Heureusement, personne n'a été blessé, mais la ligne principale du CP vers le sud de Montréal fut hors service pour presque deux semaines. Photo par Charles de Jean.*



### Preservation efforts

Preserving a big MLW locomotive has been in the long-term planning for Canadian Railroad Historical Association's Canadian Railway Museum in Delson/Saint-Constant, Qué. (now called Exporail). By the time of this writing (October 2005), Exporail is proud to have two big MLW diesel locomotives in its collection, M630 #4563 and M640m #4744, in addition to C424 #4237. M630 #4563 was selected first among the group of re-retired big MLW locomotives since she represented the first group of new locomotives delivered in the CP Rail livery, and was one of the actors of the first trains using the Robot remote control technology. She was also the locomotive of this class in the best condition, so much that, as the results of much devoted work of 23 employees of the Saint-Luc Yard, the freshly painted 4563 was

de marche lorsqu'elle fut photographiée le 20 décembre 1995 sur le pont tournant, servant de fond on ne peut plus approprié pour la photo d'un groupe de gens très fiers. La #4563 fut livrée au Musée Ferroviaire Canadien peu après cette cérémonie.

Beaucoup plus récemment, la #4563 partagea la gloire au cours d'un autre événement important pour Exporail, lorsque l'une des voitures de trains de banlieue de la série 800 du Canadien Pacifique, la #827, fut donnée et acheminée au Musée. À cette occasion, la voiture, construite en 1953 par la Canadian Car & Foundry comme partie d'une commande de 40 voitures, fut officiellement présentée à Exporail par l'Agence Métropolitaine de Transport (AMT) qui succéda au Canadien Pacifique pour exploiter le service de trains de banlieue du Lakeshore en 1983 (alors comme la

operational when it was photographed on 20 December 1995 on the turntable, serving as a suitable background for a group photograph of a very proud team. The 4563 was delivered to the Canadian Railway Museum shortly after this ceremony.

More recently, the 4563 shared the spotlights in another important event for Exporail, when one of the famous ex-Canadian Pacific 800-series commuter coaches, the #827, was donated and delivered to the Museum. On this particular occasion, the coach, built in 1953 by Canadian Car & Foundry as part of a 40-unit order, was officially donated to Exporail by Agence Métropolitaine de Transport (AMT) which took over the Canadian Pacific's Lakeshore commuter train service in 1983 (then as the Commission de Transport de la Communauté Urbaine de Montréal). On 5 July 2005, a special train, powered by M630 #4563, ran from the Lucien-L'Allier Station in Montréal (formerly Windsor Station) to Exporail in Delson/Saint-Constant. Following the 4563 was coach #827, then brand new AMT bi-level cab-coach #2002, and AMT F59PHI #1323. This was the first time a locomotive from the Exporail collection was allowed to haul a train on the Canadian Pacific's main line.

It turns out that #4563 is not the first M630 displayed at the Canadian Railway Museum. When General Electric, a few years after having purchased the MLW plant on Dickson Street, decided to close it for good, there were two ex-BC Rail M630s on the property : #706 and 715. The 706 was shipped to the GE plant in Erie, Pennsylvania, and the 715 was sent to the Canadian Railway Museum on 10 April 1994. While the CRHA members, the friends of the Museum and the railfans were extatic with this development, their joy was short-lived as the directors of the Museum were reminded that official property documentation must always be acquired along with the artifacts. What happened was that the #715 was delivered to the Museum by mistake, and the actual owner of the big MLW, used locomotive dealer Andrew Merrilees, made sure that the big locomotive was sent to its property in Mascouche, Qué.

This reference to ex-BC Rail M630s makes it hard to pass another anecdote about one of them, #705, which was upgraded by GE in Montréal and became the prototype for the M630-S7, a model equipped with the « Super Seven » components package. Almost all the Super Seven locomotives produced by GE were extensively rebuilt GE « U-Boats » and the « B-B » and « C-C » versions of the « Universal » line of GE models. While these rebuilt locomotives were intended for smaller railways and short lines, they were not equipped with the full « Dash-7 » and « Dash-8 » microprocessors, but had more modest computer packages monitoring and managing fuel utilization, thermal parameters and wheel slip control, among others. The first « Super Seven » demonstrators were put in service in 1989. When GE

Commission de Transport de la Communauté Urbaine de Montréal). Le 5 juillet 2005, un train spécial, mû par la M630 #4563, relia la Station Lucien-L'Allier à Mont-réal (anciennement la Gare Windsor) à Exporail à Delson/Saint-Constant. Derrière la 4563 se trouvait la voiture #827, puis la voiture à impériale avec cabine toute neuve AMT #2002, et la locomotive d'AMT #1323 de modèle F59PHI. C'était la première fois que l'on permettait à une locomotive de la collection d'Exporail de tirer un train sur la ligne principale du Canadien Pacifique.

Il se trouve que la #4563 n'est pas la première M630 à être en montre au Musée Ferroviaire Canadien. Lorsque la General Electric, quelques années après avoir acheté l'usine de la MLW de la rue Dickson, décida de la fermer pour toujours, il y avait deux M630 anciennement de BC Rail sur la propriété : la #706 et la #715. La #706 fut envoyée à l'usine de GE d'Erie, Pennsylvanie, et la #715 fut livrée au Musée Ferroviaire Canadien le 10 avril 1994. Les membres de l'ACHF, les amis du Musée et les ferroviphiles en général étaient très heureux de cette acquisition, mais leur joie fut de courte durée lorsque les directeurs du Musée se sont rendus compte qu'il fallait toujours se procurer les titres de propriété avec les artifacts. Ce qui s'est alors produit est que la #715 avait été livrée au Musée par erreur, et le vrai propriétaire de la locomotive, le vendeur de locomotives usagées Andrew Merrilees, s'assura de bien recevoir la locomotive à sa propriété de Mascouche, Qué.

Cette référence aux M630 du BC Rail rend difficile de passer sous silence une autre anecdote impliquant l'une de ces locomotives, la #705, qui fut reconstruite par GE à Montréal et qui est devenue le prototype du modèle M630-S7, une locomotive équipée des composantes du programme « Super Seven ». Presque toutes les locomotives « Super Seven » produites par GE étaient des locomotives GE de la série « U » ou « U-Boats » de types « B-B » et « C-C » reconstruites de façon intensive. Puisque ces locomotives reconstruites étaient à l'intention de chemins de fer plus modestes et de petites entreprises, elles n'étaient pas équipées des ordinateurs avancés des séries « Dash-7 » et « Dash-8 », mais avaient néanmoins de petits ordinateurs capables de faire un suivi de paramètres comme l'utilisation du carburant, les données thermiques ou le contrôle du glissement des roues, entre autres. Les premières « Super Seven » de démonstration furent mises en service en 1989. Lorsque GE fit l'acquisition de l'usine de la MLW, la production des « Super Seven » y fut transférée et c'est comme cela que la ex-BC Rail #705 devint la GECX #5000, utilisée comme locomotive de démonstration et, plus tard, comme locomotive du parc de locomotives de location de GE. Le programme « Super Seven » ne connut que peu de succès au Canada et aux États-Unis, mais plusieurs chemins de fer mexicains achetèrent plus de 200 locomotives. Quant à la GECX #5000, sa nouvelle

acquired the MLW plant, the « Super Seven » production was transferred there and this is how ex-BC Rail #705 became GECX #5000, used as a demonstrator and later as part of GE's leased locomotive fleet. The « Super Seven » locomotive program saw only a limited success in Canada and the United States, but more than 200 units were acquired by various Mexican railways. As for GECX 5000, its whereabouts were rather obscure and it is believed that it rests on the grounds of the GE plant in Erie, PA, if not already scrapped.

In addition to the few big MLWs locomotives preserved at Exporail, there are a few more either preserved or even still at work! M636 #4723 is presently displayed in Farnham, Qué. After lingering during several months in the Toronto area, C630 #4500 was eventually purchased by the Arkansas & Missouri Railroad and renumbered 70. It was later resold to the Western New York & Pennsylvania Railroad in 2003, where it operates as their #630. M636 #4743 is now operating as Delaware-Lackawanna Railroad #3643 in the Scranton, Pennsylvania, area. Finally, M636m #4711 lasted longer on the CP Rail roster thanks to the Caterpillar engine conversion carried out by CP in 1988. Upon retirement by CP, this unit was sold to the Minnesota Commercial Railway in July 1998.

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« vie » fut plutôt obscure et on croit qu'elle repose présentement sur les terrains de GE d'Erie, PA, si elle n'a pas déjà été envoyée à la ferraille.

En plus des grosses MLW préservées au Musée Exporail, il y en a quelques-unes encore parmi nous, soit préservées ou encore actives! La M636 #4723 est présentement en montre à Farnham, Qué. Après avoir résidé durant plusieurs mois dans les environs de Toronto, la C630 #4500 fut éventuellement achetée par le chemin de fer Arkansas & Missouri Railroad et renumérotée #70. Elle fut ensuite vendue au chemin de fer Western New York & Pennsylvania Railroad en 2003, et elle est encore active comme la WNY&P #630. La M636 #4743 est présentement active comme la Delaware-Lackawanna Railroad #3643 dans la région de Scranton, Pennsylvanie. Enfin, la M636m #4711 demeura au service de CP Rail plus longtemps que les autres à cause de sa conversion effectuée par le CP Rail en 1988, alors que son moteur original fut changé pour un moteur diesel Caterpillar. Après sa mise à la retraite par le CP Rail, elle fut achetée par la compagnie ferroviaire Minnesota Commercial Railway in July 1998.

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**Table 1: Canadian Pacific Railway and CP Rail Roster of C630 and M630 Locomotives.  
Tableau 1: Locomotives de Modèles C630 et M630 du Canadian Pacifique et de CP Rail.**

<i>Final Road Number</i>	<i>Interim Road Number</i>	<i>Initial Road Number</i>	<i>Class</i>	<i>Builder's Number</i>	<i>Building Date</i>	<i>Retirement Date</i>	<i>Notes</i>
<i>Numéro final</i>	<i>Numéro intermédiaire</i>	<i>Numéro initial</i>	<i>Classe</i>	<i>Numéro du fabricant</i>	<i>Date de construction</i>	<i>Mise à la retraite</i>	
4500	4500	4500	DRF-30c	M6002-1	7-9/68	1993	8
4501	4501	4501	DRF-30c	M6002-2	7-9/68	1993	
4502	4502	4502	DRF-30c	M6002-3	7-9/68	1991	
4503	4503	4503	DRF-30c	M6002-4	7-9/68	7 3 95	7, 9
4504	4504	4504	DRF-30c	M6002-5	7-9/68	1991	
4505	4505	4505	DRF-30c	M6002-6	7-9/68	1991	
4506	4506	4506	DRF-30c	M6002-7	7-9/68	23 9 74	5
4507	4507	4507	DRF-30c	M6002-8	7-9/68	1992	
4508	4508	(4518)	DRF-30d	M6030-11	11/69	1993	
4509	4509	(4519)	DRF-30e	M6030-12	12/69	1991	
4510	4510	(4520)	DRF-30e	M6030-13	12/69	1991	
4511	4511	(4521)	DRF-30e	M6030-14	1/70	21 6 94	
4512	4512	(4522)	DRF-30e	M6030-15	1/70	1992	
4550	4550	(4508)	DRF-30d	M6030-1	9-10/69	1993	
4551	4551	(4509)	DRF-30d	M6030-2	9-10/69	1993	
4552	4552	(4510)	DRF-30d	M6030-3	9-10/69	5 5 74	6
4553	4553	(4511)	DRF-30d	M6030-4	9-10/69	1991	
4554	4554	(4527)	DRF-30e	M6030-20	2/70	1991	
4555	4555	(4528)	DRF-30e	M6030-21	2/70	16 8 94	7
4556	4556	4556	DRF-30f	M6036-1	2/70	1993	
4557	4557	4557	DRF-30f	M6036-2	2/70	27 6 94	7
4558	4513	(4523)	DRF-30e	M6030-16	1/70	1991	
4559	4514	(4524)	DRF-30e	M6030-17	1/70	6 2 95	7
4560	4515	(4525)	DRF-30e	M6030-18	1/70	1991	
4561	4516	(4526)	DRF-30e	M6030-19	1/70	1993	
4562	4574	(4516)	DRF-30d	M6030-9	11/69	1993	
4563	4575	(4517)	DRF-30d	M6030-10	11/69	6 2 95	7, 10
4564	4576	4576	DRF-30f	M6036-3	2-3/70	1991	
4565	4577	4577	DRF-30f	M6036-4	2-3/70	1993	
4566	4578	4578	DRF-30f	M6036-5	2-3/70	1992	1
4567	4579	4579	DRF-30f	M6036-6	2-3/70	30 1 95	2,7
4568	4580	4580	DRF-30f	M6036-7	2-3/70	1993	3
4569	4581	4581	DRF-30f	M6036-8	2-3/70	1993	4
4570	4570	(4512)	DRF-30d	M6030-5	10/69	8 8 95	7
4571	4571	(4513)	DRF-30d	M6030-6	10/69	15 2 95	7
4572	4572	(4514)	DRF-30d	M6030-7	10/69	18 4 95	7
4573	4573	(4515)	DRF-30d	M6030-8	10/69	23 8 95	7

General Notes: Number 4500-4507 are model C630, with the others are model M630, sometimes referred to as C630M to account for the 6-wheel Dofasco trucks and improved electrical equipment. Number 4500-4507 weigh 393,000 lbs (178.4 tonnes), and all others 392,000 lbs (178 tonnes). All have a gearing ratio of 65 :18 for freight train service.

Notes générales: Les numéros 4500-4507 sont des locomotives de modèle C630, alors que les autres sont de modèle M630, parfois appelé C630M pour tenir compte des bogies à 3 essieux de Dofasco et d'équipement électrique amélioré. Les numéros 4500-4507 pèsent 393,000 lbs (178.4 tonnes), et toutes les autres 392,000 lbs (178 tonnes). Toutes ont un rapport d'engrenage de 65 :18 pour le service de trains de marchandises.

Specific Notes: 1: Original road number was 4513, but ordered as 4523.

Notes spécifiques: Le numéro original était le 4513, mais commandé comme le 4523.

2: Original road number was 4514, but ordered as 4524.

Le numéro original était le 4514, mais commandé comme le 4524.

3: Original road number was 4515, but ordered as 4525.

Le numéro original était le 4515, mais commandé comme le 4525.

4: Original road number was 4516, but ordered as 4526.

Le numéro original était le 4516, mais commandé comme le 4526.

5: Wrecked and burned when a bridge collapsed on 13 June 1974 east of Fort Steele, B.C., and scrapped shortly after retirement.

Accidentée et brûlée lors de l'effondrement d'un pont le 13 juin 1974 à l'est de Fort Steele, C.B., et démantelée peu après son retrait.

6: Wrecked on 17 March 1974, retired on 5 May 1974 and scrapped at Angus Shops shortly after retirement.

Accidentée le 17 mars 1974, mise à la retraite le 5 mai 1974 et démantelée peu après aux Ateliers Angus.

7: Please see Table 2.

Veuillez bien consulter le Tableau 2.

8: C630 #4500 was sold by CP to an individual who eventually sold it to the Arkansas & Missouri Railroad as their #70. It was later resold to the Western New York & Pennsylvania Railroad in 2003, where it operates as their #630.

La C630 #4500 fut vendue par le CP à une personne qui l'a vendue par la suite au chemin de fer Arkansas & Missouri Railroad qui l'a renumérotée #70. Elle fut revendue en 2003 au chemin de fer Western New York & Pennsylvania Railroad, sur lequel elle est toujours en service portant le numéro #630.

9: #4503 (and #4710) were stored inside the St. Luc roundhouse for preservation purposes. However, #4503 was scrapped on 30 November 1995.

La #4503 (et la #4710) ont été gardées dans la rotonde de Saint-Luc pour des fins de préservation. Éventuellement, la #4503 a été envoyée à la ferraille le 30 novembre 1995.

10: #4563 was refurbished and painted by the employees of the St. Luc Yard and donated to the Canadian Railway Museum, Delson/Saint-Constant, Qué., in December 1995. She is kept in operating condition.

La #4563 a été restaurée et repeinte par les employés du Triage Saint-Luc et offerte au Musée Ferroviaire Canadien de Delson/Saint-Constant, Qué., en décembre 1995. Elle est conservée en ordre de marche.

**Table 2 : Un-Retirement and Re-Retirement of CP Rail's C630s, M630s and M636s.**  
**Tableau 2 : Remise en Service et Mise à la Retraite Finale des C630, M630 et M636 du CP Rail.**

<i>Locomotive Model and Number</i>	<i>First Retirement Date or Year</i>	<i>Un-Retirement Date</i>	<i>Re-Retirement Date</i>
<i>Modèle et Numéro de la Locomotive</i>	<i>Date ou Année de la Première Mise à la Retraite</i>	<i>Date de la Remise en Service</i>	<i>Date de la Mise à la Retraite Définitive</i>
<b>C630</b>			
4503	1993	8 4 94	7 3 95
<b>M630</b>			
4511	1993	18 5 94	21 6 94
4555	4 12 93	23 4 94	16 8 94
4557	1993	12 5 94	27 6 94
4559	1993	10 5 94	6 2 95
4563	22 12 93	8 4 94	6 2 95
4567	1993	5 10 94	30 1 95
4570	1993	22 6 94	8 8 95
4571	1993	27 4 94	15 2 95
4572	1993	13 5 94	18 4 95
4573	19 12 93	21 3 94	23 8 95
<b>M636</b>			
4704	1993	1994	26 2 95
4706	1993	28 3 94	19 1 95
4707	1993	22 4 94	21 6 94
4709	1993	1 4 94	6 2 95
4710	1993	29 4 94	3 5 95
4712	1993	16 4 94	10 11 94
4713	1993	1 4 94	30 6 95
4715*	1993	22 4 94	26 2 95
4716	1993	30 3 94	6 2 95
4718	1993	3 5 94	25 8 95
4719	1993	20 5 94	21 6 94
4721	1993	17 6 94	5 6 95
4723	1993	4 4 94	20 5 95
4729	1993	12 5 94	26 2 95
4730	1993	5 4 94	19 4 95
4734	1993	30 3 94	7 3 95
4736	1993	31 3 94	29 8 95
4738	1993	5 4 94	24 5 95
4739	1993	9 4 94	6 2 95
4740	1993	16 4 94	6 2 95
4742	1993	12 4 94	15 8 95
4743	1993	27 3 94	28 8 95

\* Note : M636 4715 was reactivated as a « B », with a vandalized cab which was boarded up.

La M636 #4715 a été remise en service comme une unité « B ». Sa cabine étant endommagée, elle fut alors barricadée. fut plutôt obscure et on croit qu'elle repose présentement sur les terrains de GE d'Erie, PA, si elle n'a pas déjà été envoyée à la ferraille.



## Building a model of CNR 5606

Preamble by Lorne Perry; construction story by Ed Farley

As a student of CNR steam locomotives since my youth, I have been fascinated by detailed scale models of them, especially when the scale is large. This story is about the construction of one such model, with some words at the beginning about the prototype locomotive that inspired it. What prompted the article is the decision by the model-maker, Ed Farley, to donate his model of CNR 5606 to Exporail. It will become a significant display item in the section devoted to locomotive and other railway models.

Number 5606, sub class K-3-d, was a 4-6-2 Pacific type, built in July 1910 by Baldwin Locomotive Works (builder's number 34910) for the Grand Trunk Railway as class P4, and originally bore number 297. It served first on the Grand Trunk Western and later almost all of the sub class immigrated to Canada, with 5606 spending most of its time in CNR passenger service in South-Western Ontario. It was scrapped in November 1960.

After entering service 5606 underwent a series of modifications that somewhat altered its appearance.

Examples include the addition of power reversing gear (which forced transfer of the main air reservoir to just in front of the cylinders); addition of cross compound air pump to some but not all of the series; addition of ladder-type steps from pilot to running board; removal of the skirting around the top of the tender tank to prevent water collection and possible freezing; and the addition of rear foot boards once the regular assignment was branch line trains. Ed Farley elected to depict the locomotive as it operated in Canada in the 1930s.

Niagara Fruit Trains

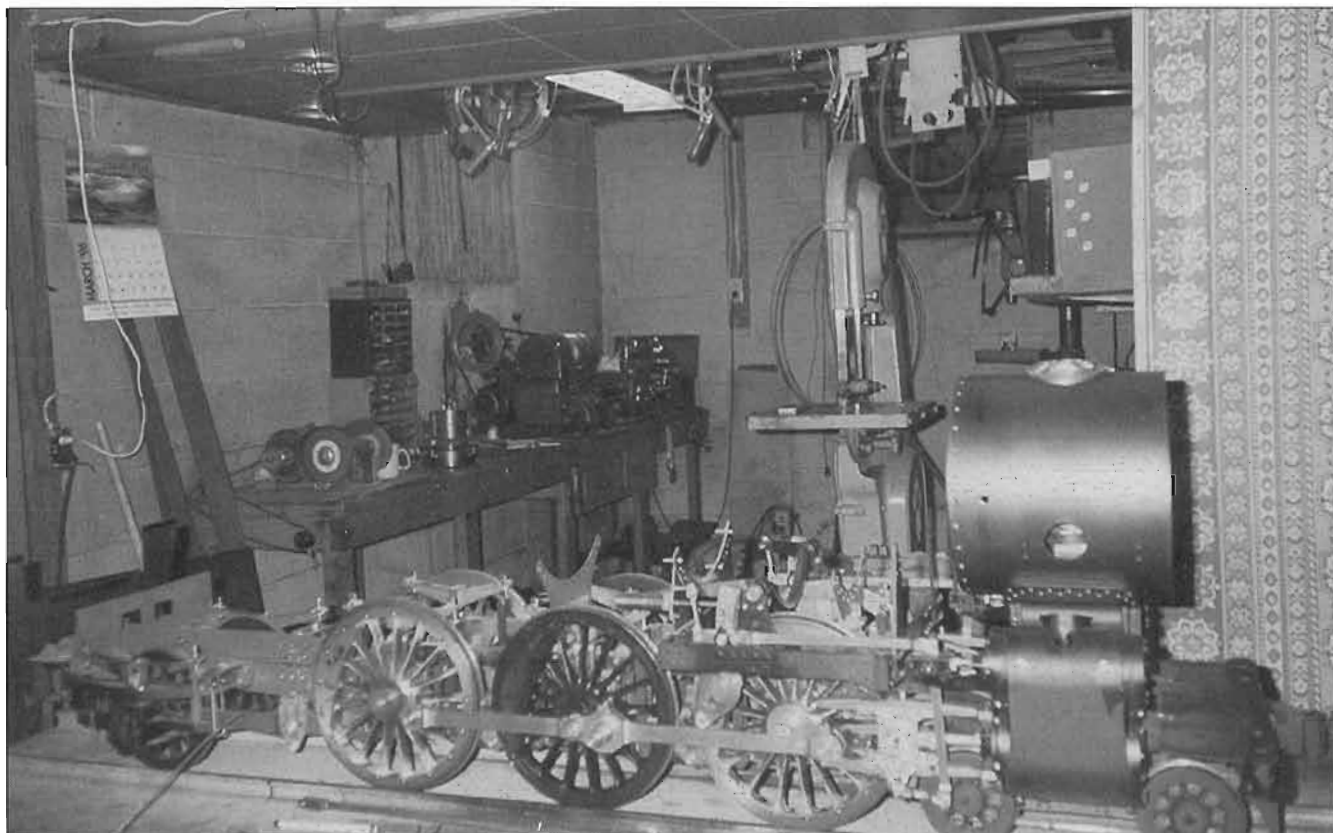
For part of its 50-year career, Ed Farley was a locomotive fireman working on the Hamilton spare board. He remembers 5606 well in the 1950s, operating in regular passenger and occasional helper service out of Hamilton ON. One of the periodic duties for Ed and 5606 was at the head end of fruit trains which started at Merritton ON, picking up fruit express cars along the line towards Hamilton, and from there dashing along the



Ed Farley with his first model, Grand Trunk 4-4-0 2195, a wooden model which is now part of the CRHA collection at Exporail. Photo Ed farley.



*Readying the moulds at the foundry, preparatory to casting the cylinders for locomotive 5606. Photo Ed Farley*



*The locomotive starting to take shape in the Farley Locomotive Works. The magnitude of the task starts to become evident when you realize that Ed hand-crafted every piece of metal exactly according to the original drawings. Photo Ed Farley*

speedway to Toronto. These trains ran to ten cars in length, and it was not unusual to attain 80 miles per hour (over 130 km/hr).

A fairly regular assignment for a while was the early morning commuter train from Hamilton to Toronto. The later train in the morning rush hour was longer and often rated a 4-8-2 Mountain type, most often 6027.

### A Hand Bomber

Otherwise 5606 worked on local trains in various directions from Hamilton including the run to Palmerston and Owen Sound. It also operated between Toronto, Stratford and London. On a typical run Ed was called upon to shovel two or more tons of coal. No automatic stoker!

There is a steep climb from Bayview Junction, near Hamilton, to Copetown at the top of the Niagara escarpment. In the steam days this called for a helper on freight trains westbound from Toronto to Sarnia. Although 5606 was not the ideal unit for this service (customarily provided by a 2-8-2 Mikado in the 3300 series), when the need arose it drew the assignment. Ed described the job as coupling on ahead of the regular locomotive, whistling off, putting the reversing lever in the bottom corner and working it up to full throttle. After a bit, the reversing gear was notched up gradually to about midway on the quadrant (between full forward and centre) and the long slug up the hill continued.

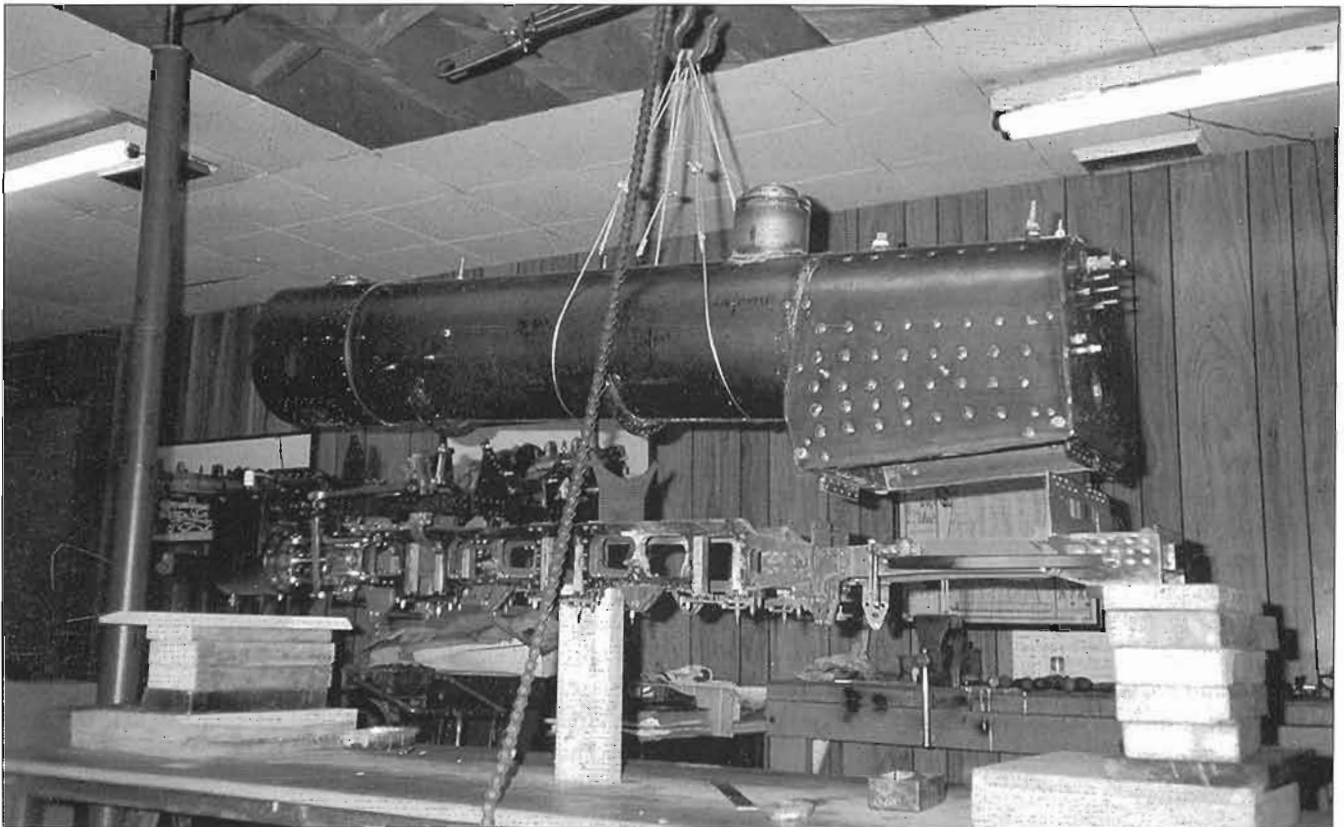
### Ed Farley picks up the story from here:

My decision to build a model of 5606 was really a toss-up between this and the 900 series (80-90) class E-10-a, both being my favourite engines to work on. They were good steaming engines and easy to fire. The 5606, the bigger and more impressive of the two, it became my choice. The scale selected was 1½ inches to the foot, ending up with a model over nine feet long (just short of three meters). The track gauge is 7¼ inches. I was able to work from erecting drawings obtained from CNR's mechanical department, essential because I wanted everything to be meticulously to scale.

I started on 5606 around 1980 when I was nearing completion of an earlier project to build a model in the same scale of a Grand Trunk 4-4-0. This has also become part of the CRHA collection. When I retired from CN in 1985 the pace of construction picked up, but in the end it was spread over a good number of years.

### Framing It Up

Work on 5606 began with the engine main frames, made of two steel plates ground to ½ inch thick. They were cut to shape using a band saw, hack saw and drill press, and finished to size by hand mill filing; that is, using hand tools to accomplish what a milling machine could do in a proper machine shop. Next came the frame extensions under the firebox and cab, which were cut from ¼ inch plate. The next big job was fabricating and silver



Lowering the boiler onto the frame to test the fit of components. Photo Ed Farley.



*Ed Farley stands beside the finished locomotive. Photo Ed Farley.*

soldering together all the frame spreaders, which on the big engine were steel castings. These were the transverse members that joined the two mainframe pieces together.

Then began the process of making the patterns for the cylinders. They were composed of a number of cores and core boxes. Just to explain this in non-machine shop terms; a complicated casting like the cylinders required something to form the outside configuration, plus some cores to take care of forming the inside shape. The cores were made in core boxes.

The patterns were taken up to London ON to Wells Foundry for casting. There, the owner, George Wells, personally prepared the moulds, and with my assistance, all the cores were set in place. The pouring of the molten iron was done with hand ladles, and after several attempts two good castings emerged.

#### **Cylinder Castings**

The machining of the cylinders was done by chipping and mill filing the saddle radius (where the

smoke box rested upon the cylinder casting) and to smooth out the joint connecting the two cylinder castings. The cylinders and valve chambers were bored out in a machine shop since my lathe was too small to handle them. Then I made the patterns for the No. 1 and No. 3 drivers, which were identical, as well as the main, or No. 2, drivers, engine truck and trailing truck. The castings were made by McCoy's foundry in Troy, a hamlet near Hamilton. All machining of these was completed on my 6" by 24" Atlas lathe.

The boiler was made from 3/16-inch thick steel plate. The barrel and firebox wrapper sheets were sheared to size and rolled into shape. The steam dome was cut from a piece of pipe. All these pieces were assembled using small tabs of steel, then taken to the shop and butt-welded together. The same process was used in making up the firebox, first drilling out all the stay bolts and flue sheet holes. The mud ring was cut out and fastened to the firebox along with the fire door ring.

*This illustrates the bridge structure Ed constructed to properly display his model of CNR 5606. Built into it is a set of rollers permitting the driving wheels to rotate under air pressure. Photo Ed Farley.*



*The CRHA engaged Burlington Movers Ltd. as well as a crating sub contractor to handle the move from Ed Farley's basement to a rental truck for the transfer to Exporail. When it was all over, the lead hand said that he would rather have moved two grand pianos than the 5606. Here we see the locomotive being rolled onto the bed of the crate prior to being tied down and blocked in all directions. Because of the usual basement stair configuration, the crated locomotive had to be stood on end (front end down) to be lifted up the stairs. The estimated weight of the crated locomotive (less tender) was about 750 lbs. Photo Peter Murphy.*

Before installing the firebox, the throttle valve, standpipe and dry pipe, along with the throttle lever reach rod, had to be fastened into place.

The firebox was lowered into its wrapper sheet and clamped along its bottom edge. The boiler was taken back to the sheet metal shop where the mud ring and the firebox door opening ring were solidly welded to the firebox wrapper sheet and to the back head. After that, the firebox stay bolts and the longitudinal stay rods were pushed into place.

The boiler was again taken back to the shop where all stays were end welded. Then threaded ferrules were welded in places where there were steam outlets. This ended the welding operations.

### The Acid Test

Next, the copper tubes, intended to lead the fire from firebox to smoke box, were expanded in and beaded over. After plugging all openings, the boiler was hydrostatically tested to 1½ times its working pressure (100 lbs. per square inch). Other than a bit of weeping around two or three of the tubes, everything appeared satisfactory.

Since the steel boiler barrel was a straight tube on my boiler and the real one was tapered, steel bands of varying size had to be fitted around the barrel and firebox in order to bring it out to the true scale diameter. When

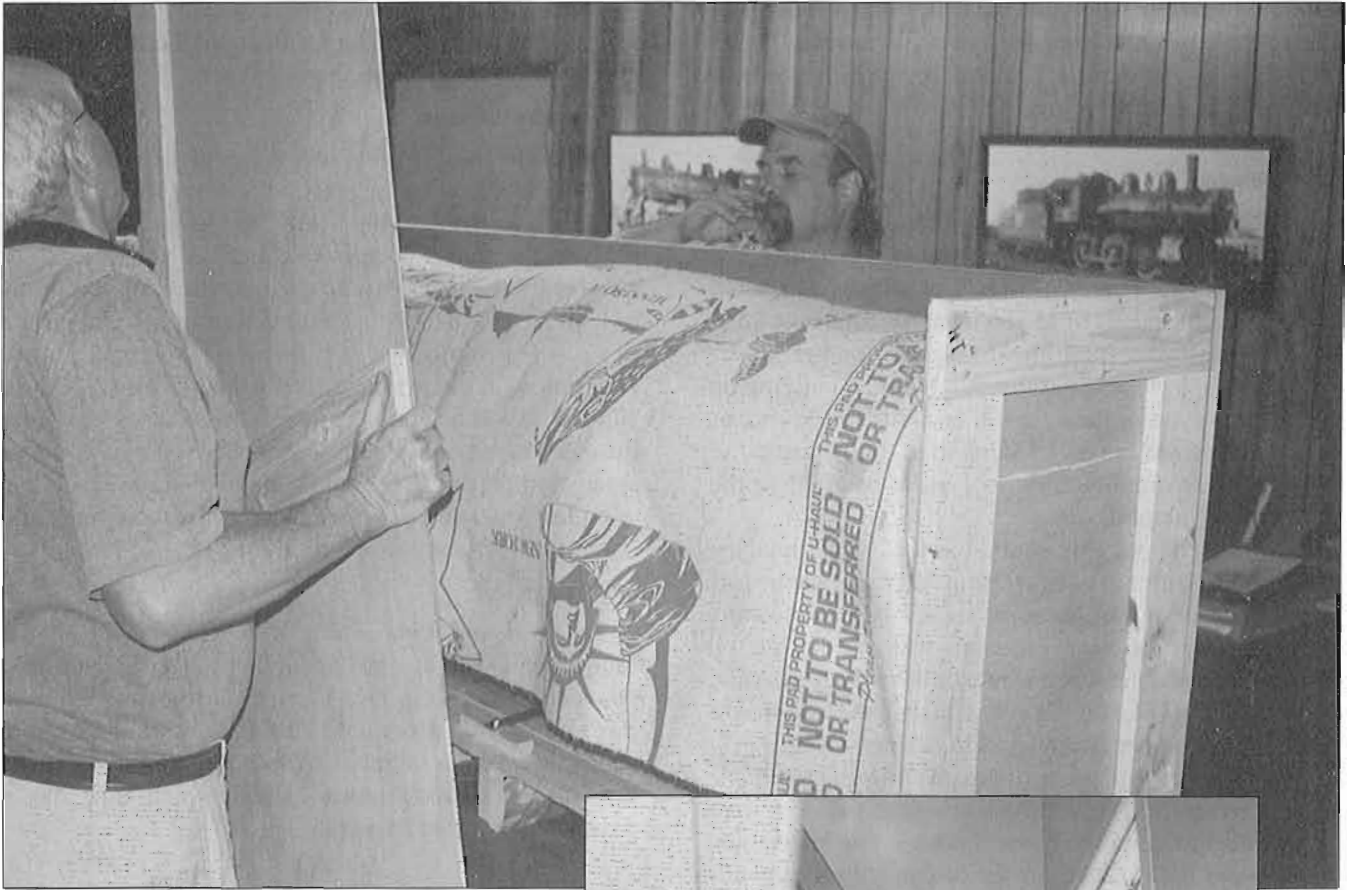
the aluminium sheet lagging was applied all was the right size. The assembly of the cylinders and main frames was handled by fastening the main frames to angle plates on a smooth tabletop that acted as a large surface plate. The tailpiece and front pilot beam casting were set in place and everything made square and level all around. Then the bolt holes were marked and drilled out, following which the assembly was permanently bolted together.

The frame was then blocked up and the cylinders and all the other spreaders (the one in front of the cylinder saddle to support the leading truck, and the one behind the drivers to which the frame extension was attached) and valve gear frame were then fastened on. The locomotive started to take shape once the boiler was lowered onto the frame and aligned into its proper position. It was then permanently bolted in place. The engine was blocked up a sufficient height to clear the driving wheels, which were then placed in position and hoisted up into their pedestals and secured. The trailing truck was lifted up and set in place, after which the engine was lifted clear of the blocks by an overhead balancing beam, not unlike the rig used to lift locomotives in a back shop, and lowered down onto the front truck.

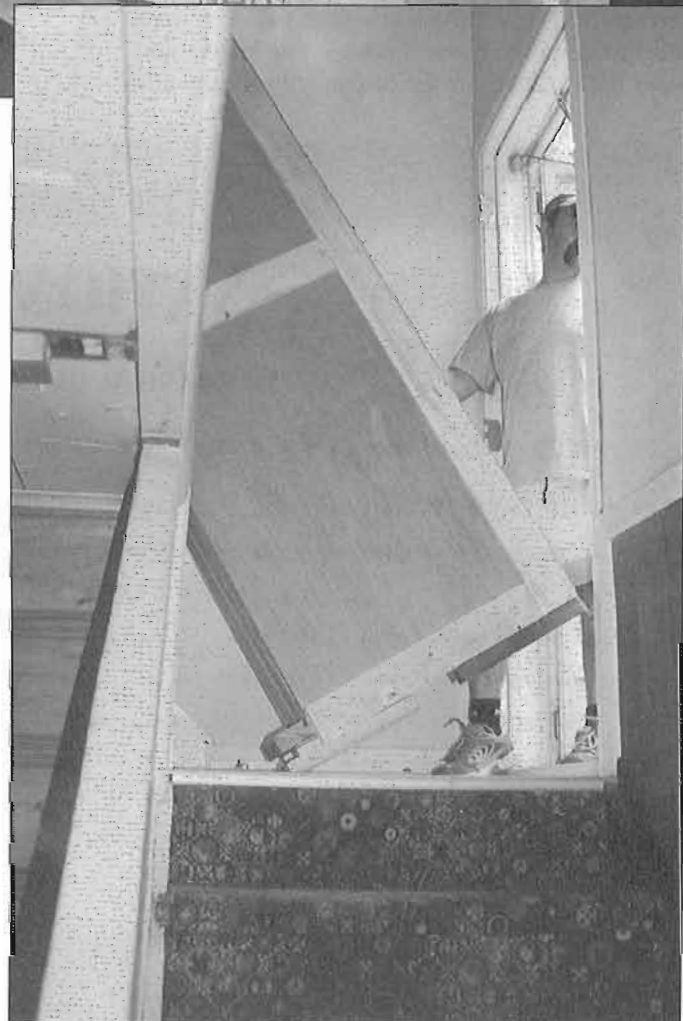
When the engine was tested under air pressure it was found that there was binding in the side rods. After taking the rods off and easing the bearings out with a file, the engine was able to run freely. There are several



*The tender prior to padding and crate sides being applied. Photo Peter Murphy.*



*The padded locomotive, tied down, just prior to topside blocking and side of crate being nailed in place. Photo Peter Murphy.*



*After much grunting and questionable language, the crated locomotive has made it to the top of the stairs and will soon be in the rental truck for the trip to its permanent home at Exporail. Photo Peter Murphy.*

additional reasons why side rods will bind - the wheel centres could be out of proper alignment - the rod centres might not be dead on - perhaps the drivers are not properly quartered. Any one of these will cause problems with wheel rotation.

**Tender Rising**

The tender was a project unto itself. One of the difficulties was the rivet heads everywhere; perhaps 1,000 in all. I had purchased a bunch of rivets from a US supplier, but the heads were a bit oversize, requiring filing one by one. Rather than make castings for the tender truck frames, I elected to fabricate them by building up sheet steel, layer by layer, and then filing to the proper shape. The front coupler I purchased, but I wanted to make the rear one operable so I again resorted to the "build-it-up" method.

As the engine and tender were nearing completion I came to the conclusion that there was no way I could steam up the engine in my basement shop. Ventilation and possible problems with the firebox oil burner convinced me that it would be too risky to attempt. It was then that I had the idea of setting up the locomotive on a treadmill and operating it with compressed air.

The next thing was to design and build a suitable support structure. I settled on a bridge of the deck truss type resting on imitation cement pieces. The engine and tender were then placed on the bridge with the drivers

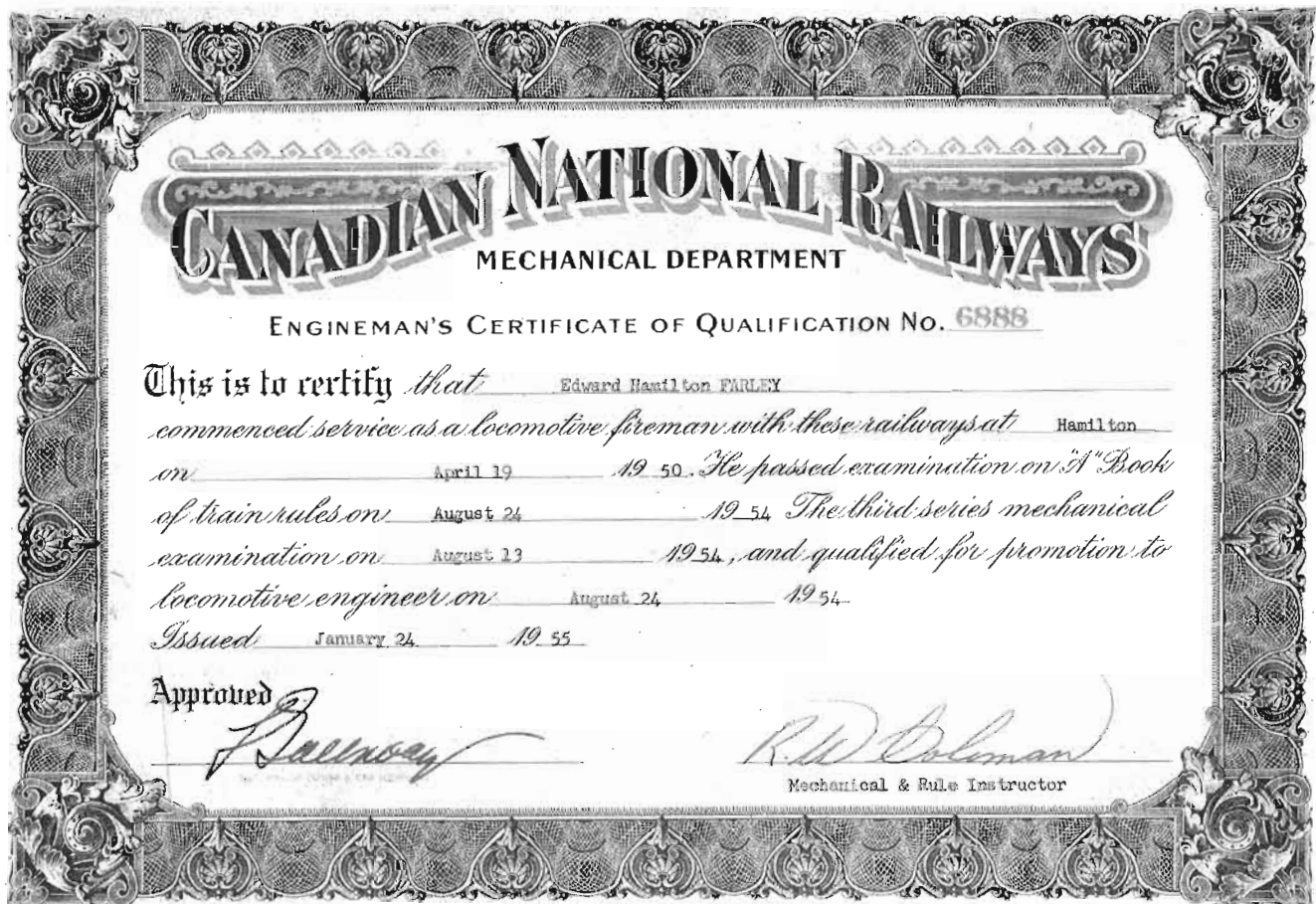
spotted on the rollers. The compressor was turned on, and after a few minutes I gently opened the throttle and everything went into motion as expected.

**A Permanent Home**

The locomotive was now complete and ready for display. Until its major move to St. Constant QC it had never been out of my house. At 750 pounds, more or less, it was more than I could move around, and I began to wonder if the movers would successfully get it out of my basement, but they did. I am pleased that it will have a place of prominence at Exporail so that future generations can enjoy seeing the rods and valve motion in action. Workhorses such as 5606 went about their business more or less unsung during their days under steam, but they were the backbone of the railway, pulling countless passengers and tons of freight through the countryside without complaint.

**5606 Unveiling**

Ed and Lida Farley will officially unveil the model of 5606 at the upcoming CRHA / CARM convention on Saturday, May 20 during the Exporail portion of the program! The CRHA and Exporail sincerely wish to thank Ed and Lida Farley for the donation of this fabulous exhibit which now has a permanent home at Exporail.







*We are fortunate that James Brown made four exquisite photographs of the prototype 5606 and he is pleased to share them with us. In this first photo Jim caught 5606 being coaled in London, Ontario on December 29, 1958.*



*5606 photographed pulling train No. 169 at Palmerston, Ontario on May 14, 1958. Photo James Brown.*



*In a typical branch line scene 5606's headlight illuminates the winter right of way near St. Mary's, Ontario on December 30, 1958. Photo James Brown.*



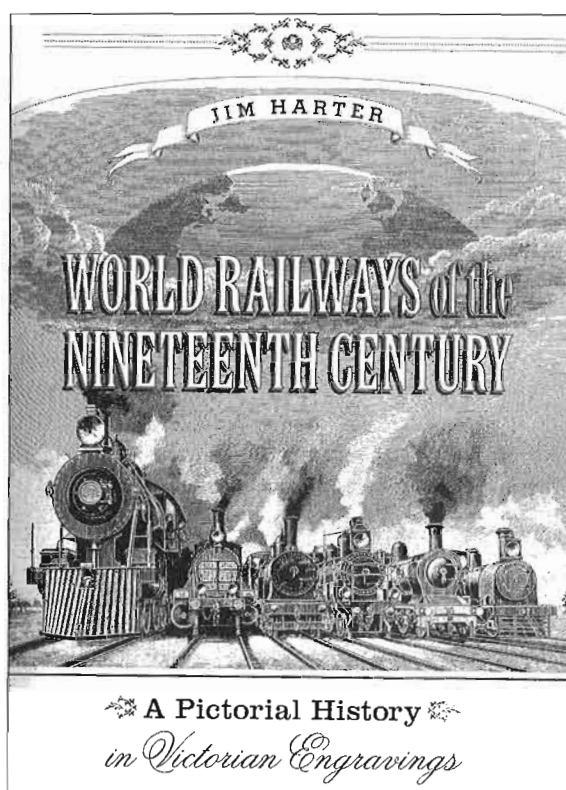
*5606 pulling out of St. Mary's Ontario with train No. 29 on February 9, 1959. Steam was in its final year and the locomotive was scrapped in 1960. Photo James Brown.*

# World Railways of the Nineteenth Century, a Pictorial History in Victorian Engravings

By Jim Harter

Published by: The Johns Hopkins University Press  
2715 N. Charles Street  
Baltimore, Maryland  
21218-4319 U.S.A.

Price: \$75.00 U.S.



This very large 550 page volume, weighing more than 7 pounds, is of extremely great interest to anyone with an interest in railroading in the nineteenth century. It is about the rise, development and expansion of railways worldwide in the 1800s, the time of one of the greatest, if not the greatest, advances in transportation in the history of the world. This claim is amply justified when one considers that in 1800 no one had traveled faster than the speed of a galloping horse, yet by 1900 passengers were being carried, in luxurious surroundings, at speeds up to 100 miles an hour.

The book starts with the railways associated with the collieries of northern England about the year 1800; however there is a discussion of earlier railways going as far back as ancient Greece, where carts were pushed or pulled between parallel lines of stone slabs. The reader is then carried, in 29 chapters, through

the nineteenth century, and around the world, ending with such strange innovations as the Heilmann steam-electric locomotive and the armoured trains used in the Boer War of 1899-1902. The chapters are as follow: British railways 1800-1850, British railways 1851-1900, American railroads before the Civil War, American railroads after the Civil War, Steam locomotive development 1851-1900, French and Belgian railways, Railways of the German and Austro-Hungarian empires, Railways of the Russian Empire, Other European railways, Canadian and Latin American railways, Asian Australian and Pacific railways, African railways, Passenger service, Passenger stations, Freight and goods service, Railway signaling, Railway construction and operations, Railway bridges, Mountain railways, Military railways, Hazards and difficulties of rail travel, Rail accidents and disasters, Horse car tramways,

Atmospheric traction systems, Steam tramways, Cable traction, Electric traction, Mass transit railway systems, Monorails and other anomalous modes of traction.

Each chapter is divided into two parts. First is a history and description of the topic of that particular chapter. Then follows the feature that makes this book so special; numerous high quality reproductions of original drawings, engravings and woodcuts of the features told about in this chapter. All these illustrations (no photographs) were made in the 19th century, at the time the equipment was new, and they are reproduced exactly as they appeared between 100 and 200 years ago. In total there are about 850 of these illustrations covering all aspects of railroading between 1800 and 1900.

A small sample of these pictures are reproduced here, much smaller than in the book. A glance at these will quickly show that the detail is exquisite, right down to the last bolt! Canadian railways are well represented, including a wonderful 1862 snow plow scene, the interior

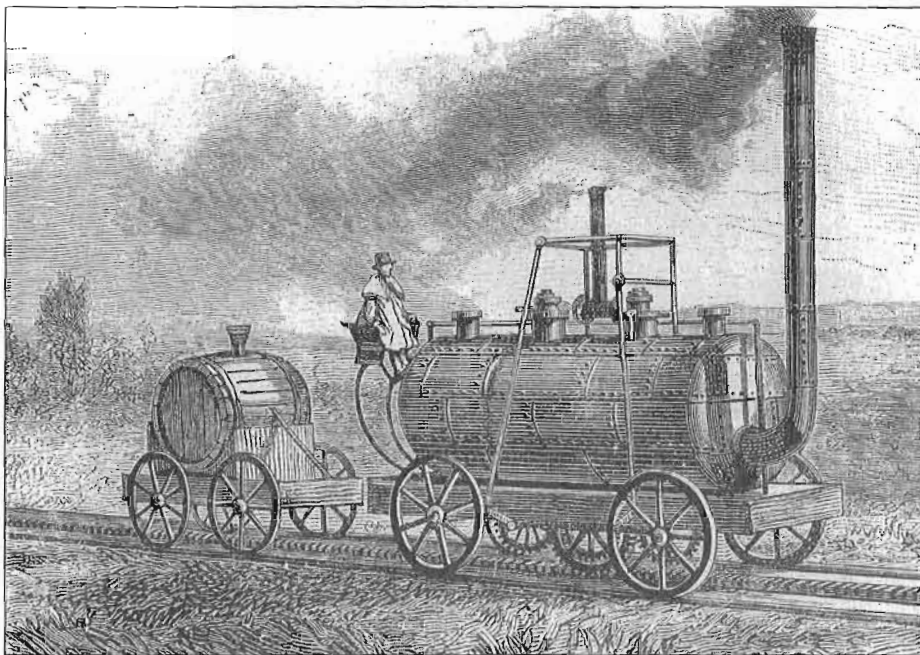
of a CPR colonist car, and the Grand Trunk and CPR stations in Montreal.

Urban transit systems are not neglected, and we see horsecars (as far back as 1855), cable cars and electric trolleys, as well as subways, elevated lines and other mass transit systems. Some of the experimental “odd ball” inventions seem quaint today, but in the 1880s they were at the cutting edge of transit technology.

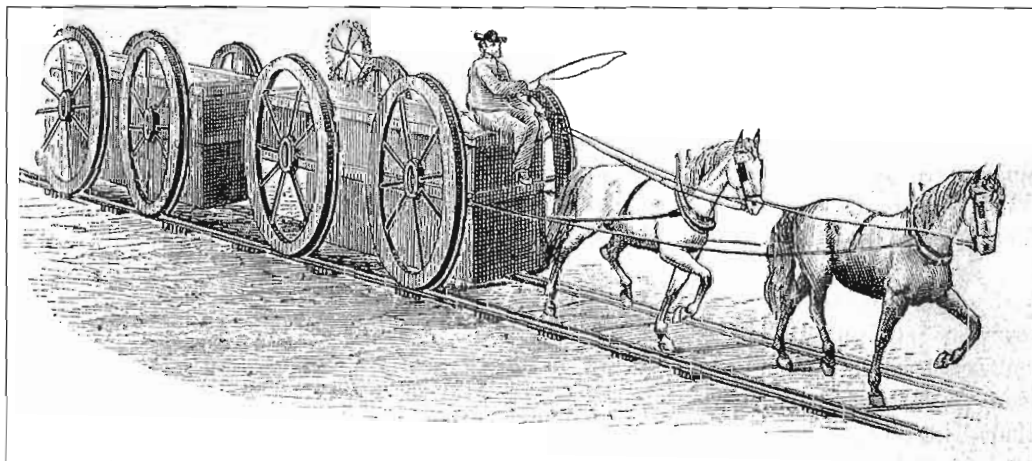
Although the illustrations are described as “Victorian engravings”, quite a number of them actually pre-date the Victorian era, which began in 1837. In fact the entire century and the entire world of railroading is covered.

Any enthusiast or historian interested in the details of how the railway systems of today came into being should have this book.

*Reviewed by Fred Angus*

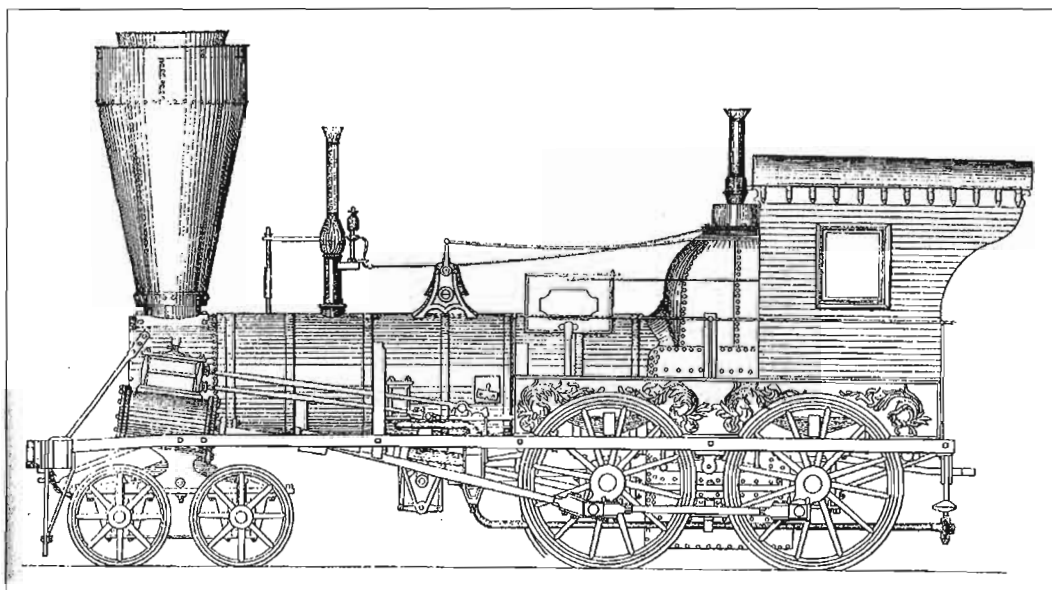
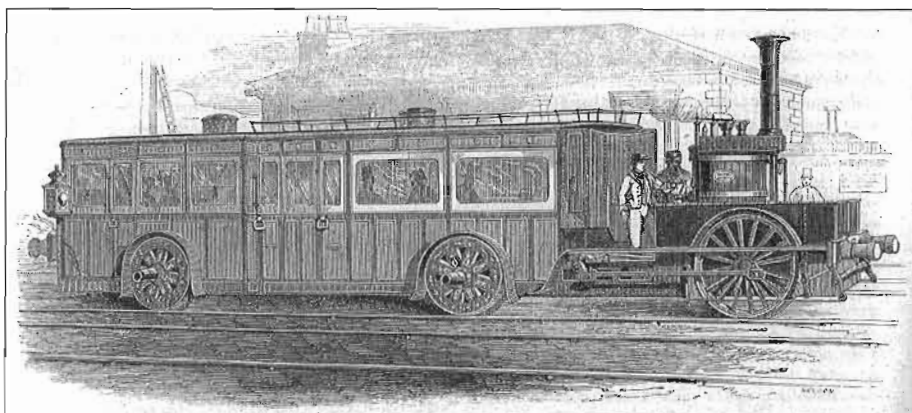


*One of the earliest practical locomotives in the world, the “Blenkinsop” of the Middleton Colliery, England, 1812.*



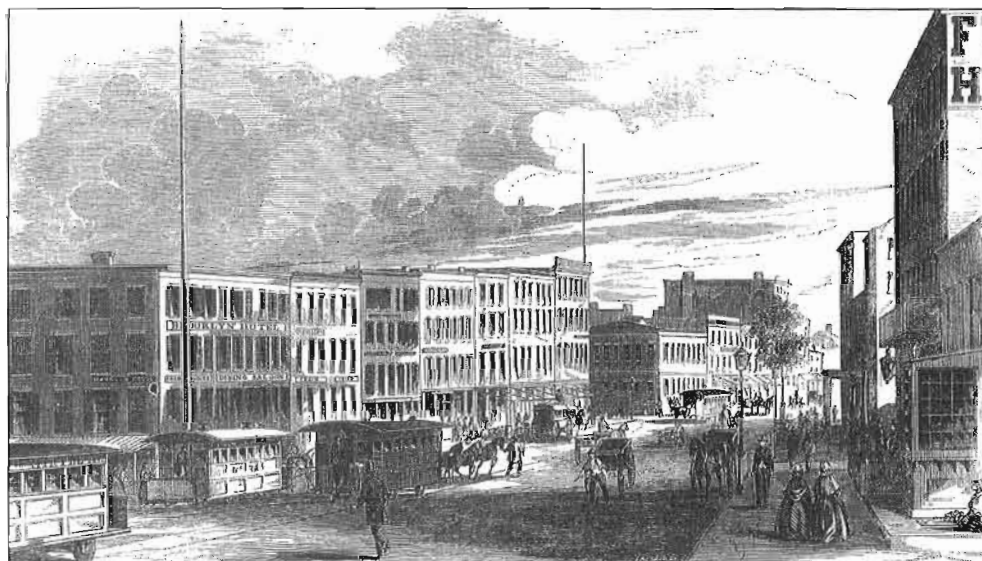
*Early American tramway, Quincy Mass., 1826.*

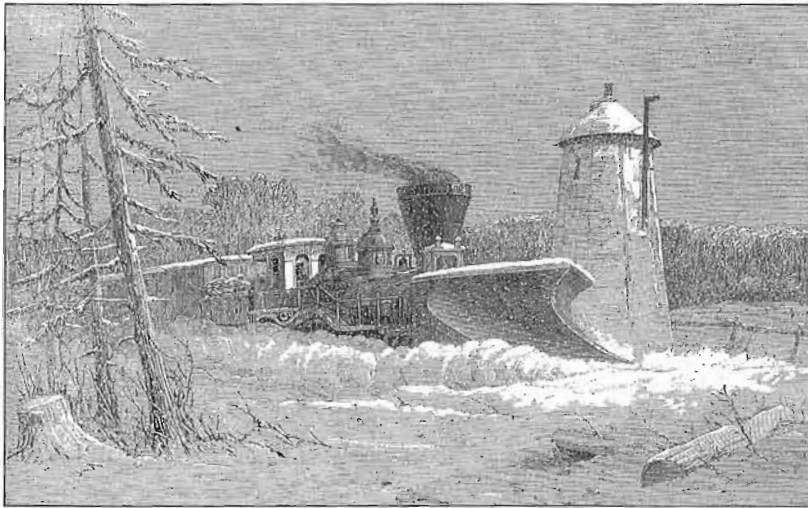
*The ancestor of the RDC! Charles H. Gregory's "Fairfield" steam car, England, 1848.*



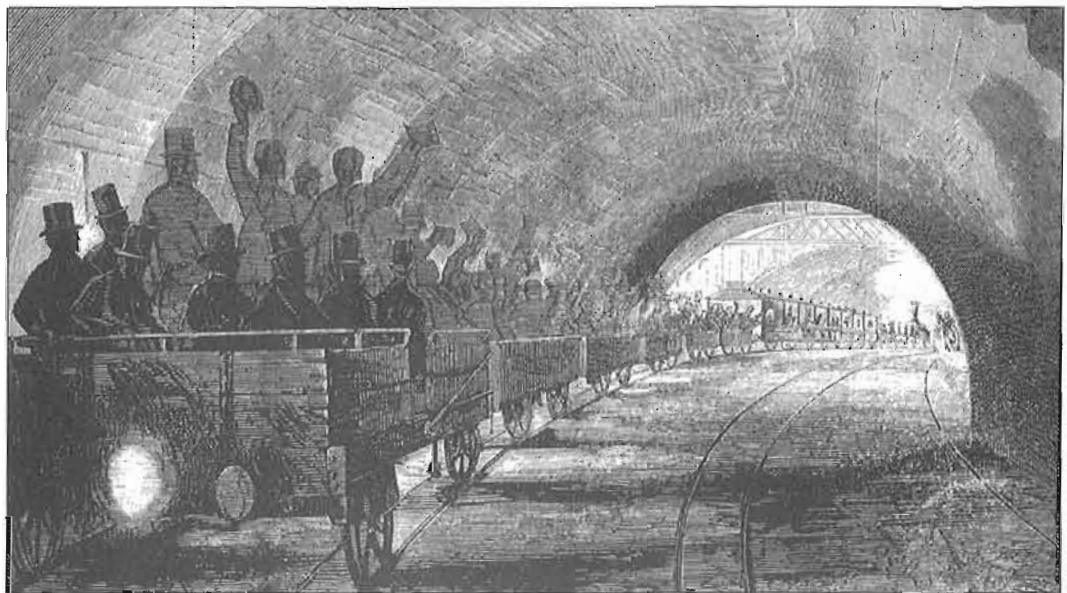
*A typical Baldwin 4-4-0 of 1848, suitable for either freight or passenger service.*

*This view, in Brooklyn N.Y. in 1855, is one of the earliest to show horsecars, which were then a very recent innovation. At that time the cars resembled small versions of conventional railway coaches; the distinctive horsecar design appeared later.*

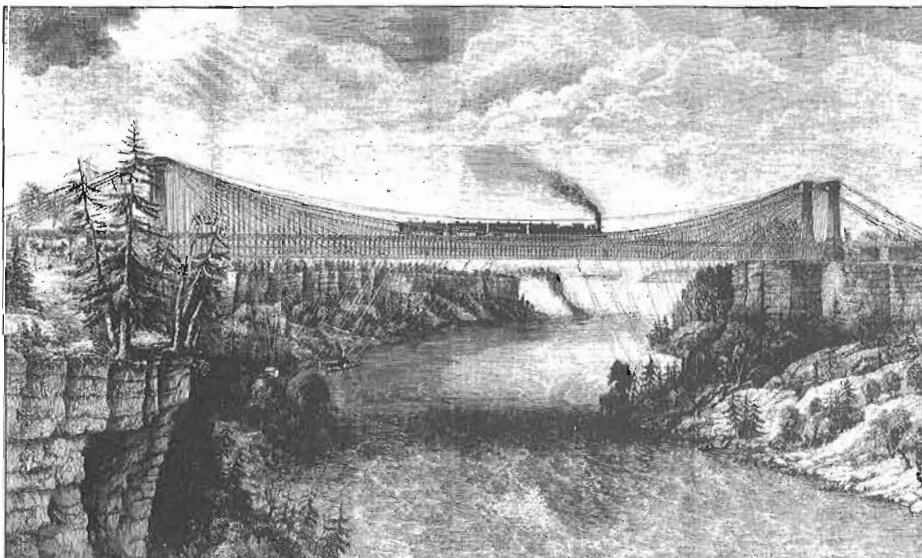




*A snow plough in use on the Grand Trunk Railway of Canada in 1862.*

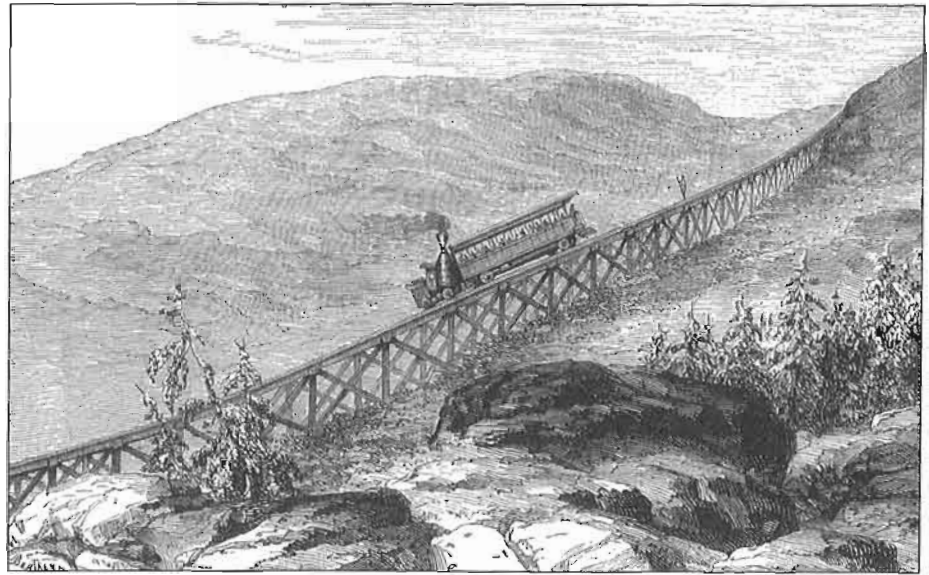


*The inaugural train of the world's first subway; London's Metropolitan Railway. The date was January 9, 1863. This line, long since electrified, is now part of the Circle Line of London's underground system.*



*The Niagara suspension bridge, opened in 1855, as it appeared in 1864. In 1897 this bridge was replaced by the present arch span.*

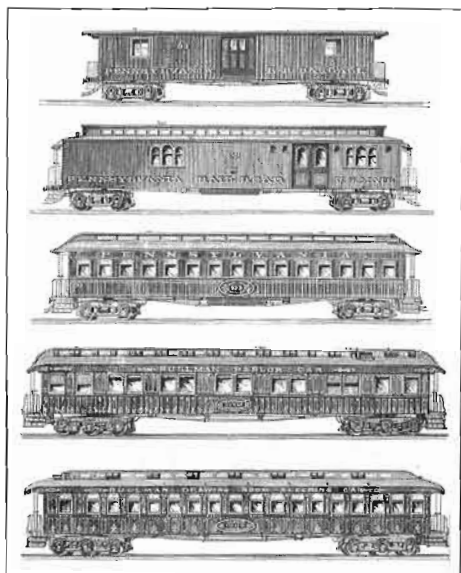
*A train of the Mount Washington Cog Railway making a trial run up “Jacob’s Ladder” in 1868, the year before it opened to the public. This line, the first cog railway in the world, appears much the same today.*



*A view of the “Battle of the Tunnel” on the Albany & Susquehanna in 1869. Two rival groups fought in the stock market and the courts for control of the line, and the rivalry exploded into a pitched battle as seen above. This event is well portrayed in the movie “Saratoga Trunk”. The A&S was later leased to the Delaware & Hudson, and is now part of the Canadian Pacific system.*

*“Started at last”. A horsecar braving a winter’s storm in New York City, one evening in 1872. It took four horses to haul the car through the snow-bound streets.*

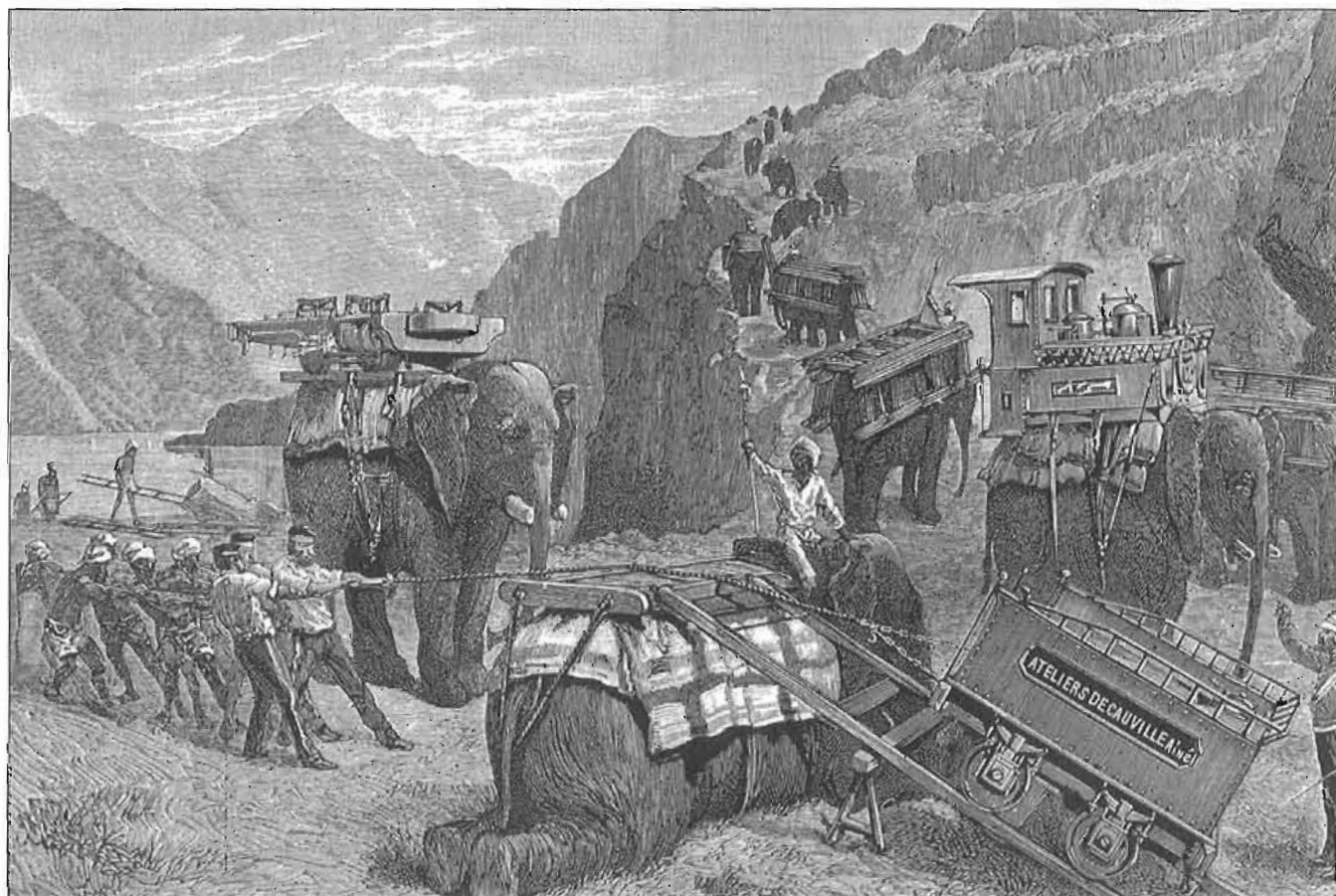




The five types of car (baggage, mail, coach, parlour, sleeper) that made up a passenger train on the Pennsylvania Railroad in 1875. At that time diners were not as frequently used. Similar cars were used throughout North America.



A blizzard scene on the New York Central and Hudson River Railroad, near Fairport N.Y., on January 3, 1879. The "Atlantic Express" had derailed, and no less than seven other engines, hauling relief trains, had also derailed in the fierce winter conditions.



British troops using elephants to transport narrow gauge railway equipment up the Bolan pass to a railhead on India's Northwest Frontier in 1885.



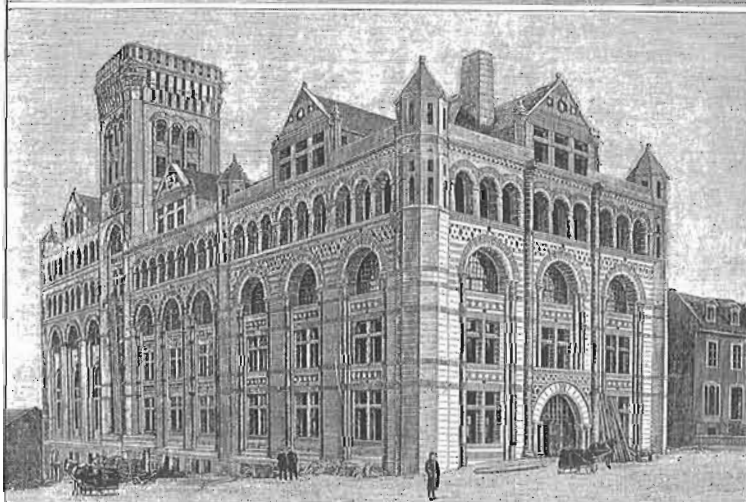
*A busy scene showing the interior of a Canadian Pacific Railway colonist car in 1888. This was only two years after the CPR opened its main line to the west coast, but they were already carrying settlers to the prairies and beyond. Their colonist cars were equal in quality to first class sleepers on many other lines.*

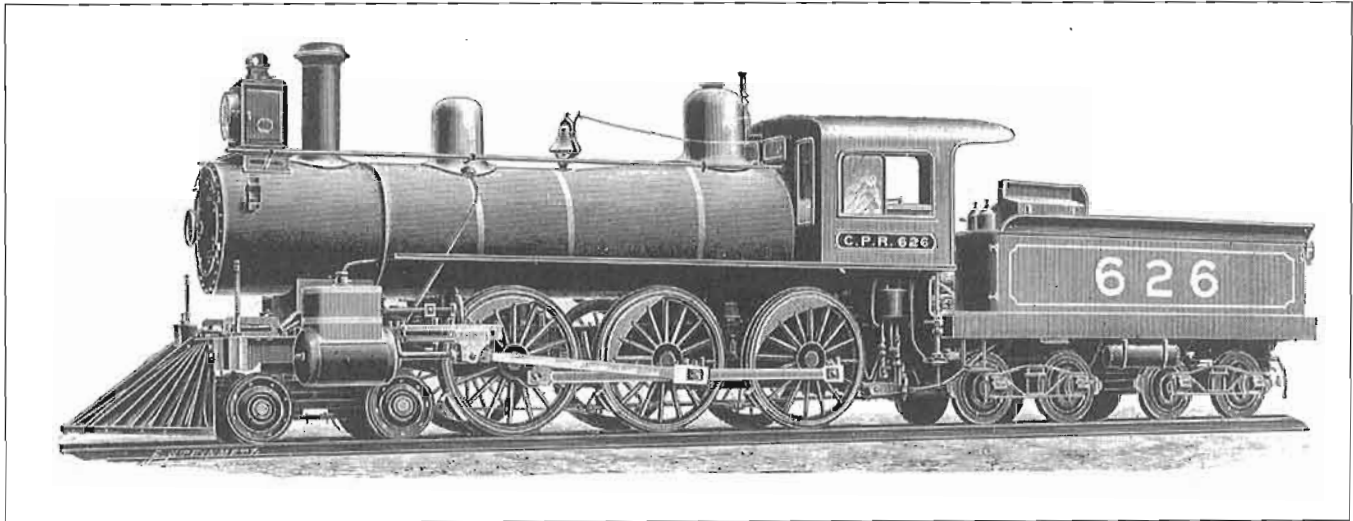


*The inaugural run of the "Orient Express" through Bulgaria in 1888. Bulgaria's Prince Ferdinand leads a delegation on horseback, riding alongside and saluting the new train.*

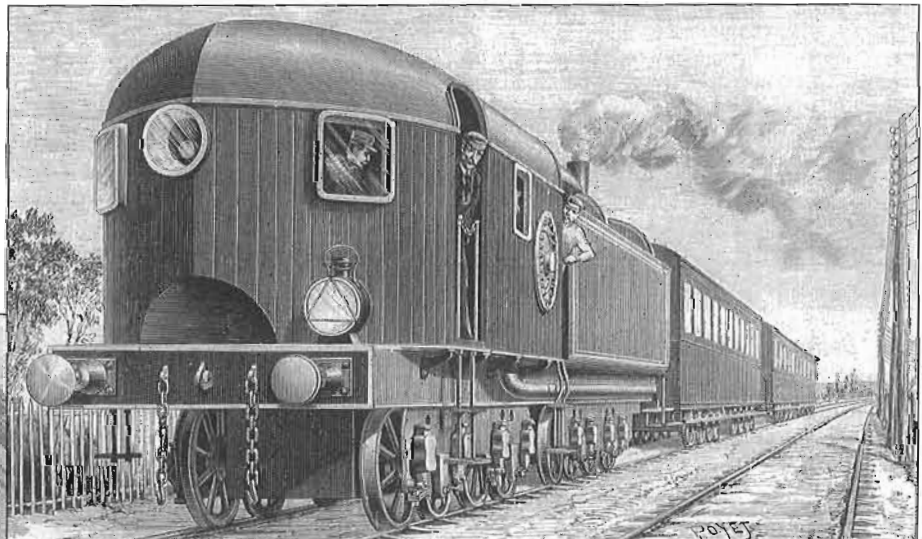


*Two new terminal stations in Montreal in 1889. At the top is the Grand Trunk's Bonaventure station, built in 1887, while below is Canadian Pacific's Windsor Street station, opened earlier in 1889. The last remains of Bonaventure were demolished in 1952, but Windsor, greatly enlarged, still stands.*





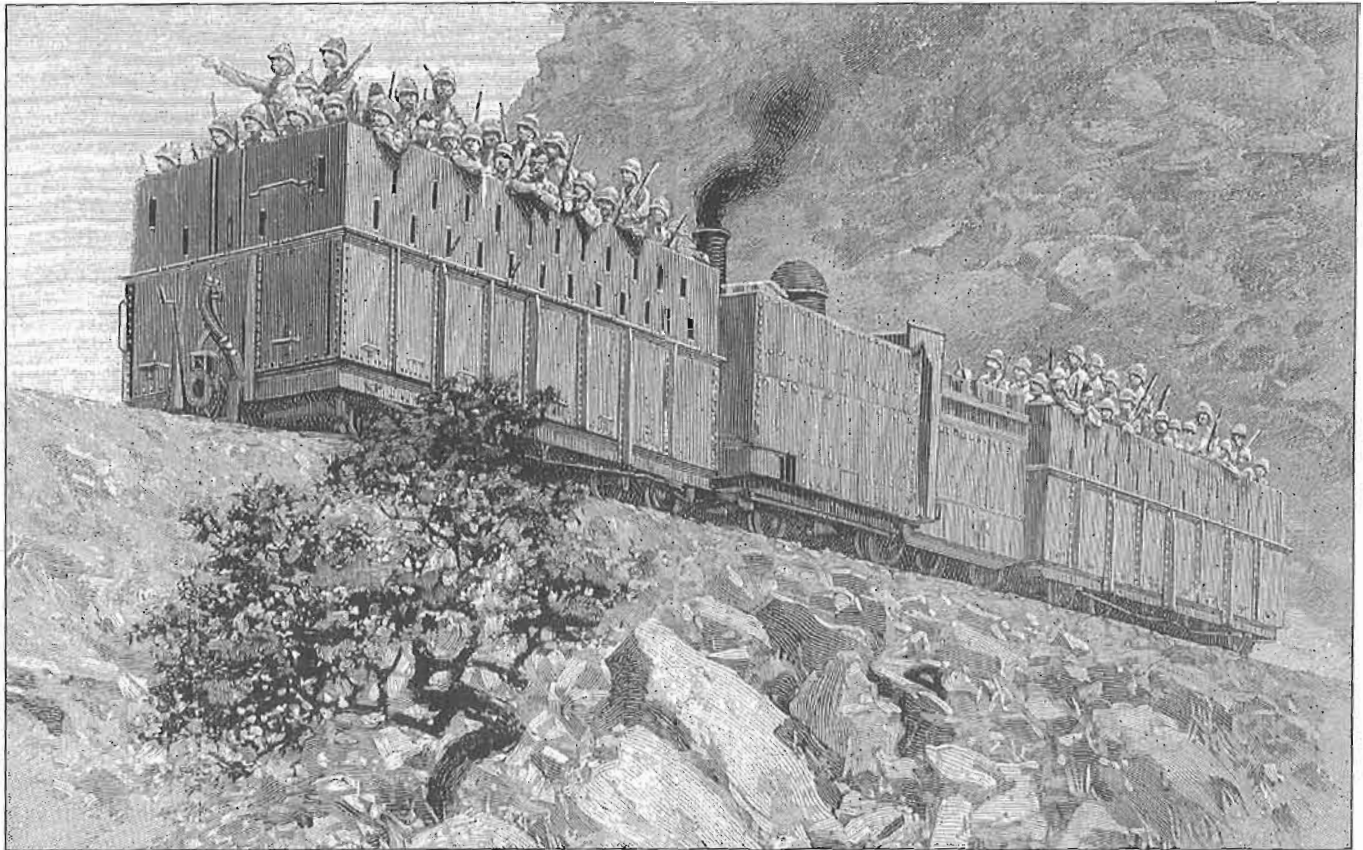
CPR ten-wheeler 626 as it appeared when new in 1893. This is frequently, and incorrectly, described as the engine that headed the "World's Fair Train" that went to the Columbian Exposition in Chicago that year. The actual World's Fair engine was 625.



An idea that was ahead of its time was the Heilmann steam-electric locomotive of 1893. The principle was that a steam engine would turn a generator; which would produce electric power to run traction motors on the locomotive. This is, of course, exactly the same principle used on modern diesel-electric locomotives, but was not suited to steam. This illustration shows the Heilmann locomotive hauling a passenger train on the Ouest railway in France in 1893.



A spectacular wreck at the Gare Montparnasse in Paris on October 22, 1895. Locomotive 721 has crashed right through the end of the station and tumbled on to the street below. One person on the street was killed, but no one else was seriously hurt.



*A British armoured train on patrol in South Africa in the autumn of 1899, early in the Boer War. It was from such a train that Winston Churchill was captured on November 15 of that year, later making a successful escape. Such trains were rather impractical, as an enemy raid could easily cut the track, making the train useless.*

*BACK COVER TOP: The special train to deliver AMT coach #827 to Exporail is seen here between Windsor Station and Westmount Station in Montréal, on 5 July 2005. Photo John Godfrey*

*BACK COVER BOTTOM: Ed Farley poses beside his 5606 immediately prior to it being crated and transported to Exporail. Photo Peter Murphy*

This issue of Canadian Rail was delivered to the printer on March 22, 2006.

# Canadian Rail

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