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FRONT COVER: C.P.R. Budd car 9107 is the lead unit of a two-car passenger train just arrived at Megantic, Que. on a daytime run from Montreal on March 27, 1966. A month later this day train was discontinued, but overnight service to Saint John, N.B. continued on this line for many more years. Photo by Fred Angus

BELOW: One of the delightful ironies of railway history is the fact that Canadian Pacific's first locomotive was bought second-hand from its arch rival the Grand Trunk! When the CPR officially began operation, on May 1 1881, it had not yet taken possession of the locomotives of the lines it took over, and the six new engines it had ordered (Nos. 1 - 6) were not completed. Therefore it had to rely on ten second-hand engines (Nos. 7 - 16), including six from the GTR. The first two, and the only ones on hand on May 1, were Nos 11 and 12, ex-GTR 96 and 97, originally GTR 286 and 287, built by Kingston in 1870 as broad gauge, and converted to standard in 1874. Here we see 286 brand new at the factory in November 1870. This historic engine became CPR No. 11, its very first locomotive, and was scrapped in October, 1895. To learn more about Kingston-built locomotives, buy the CRHA's new book "Constructed in Kingston". Photo given by John Loye to Donald Angus about 1936.

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

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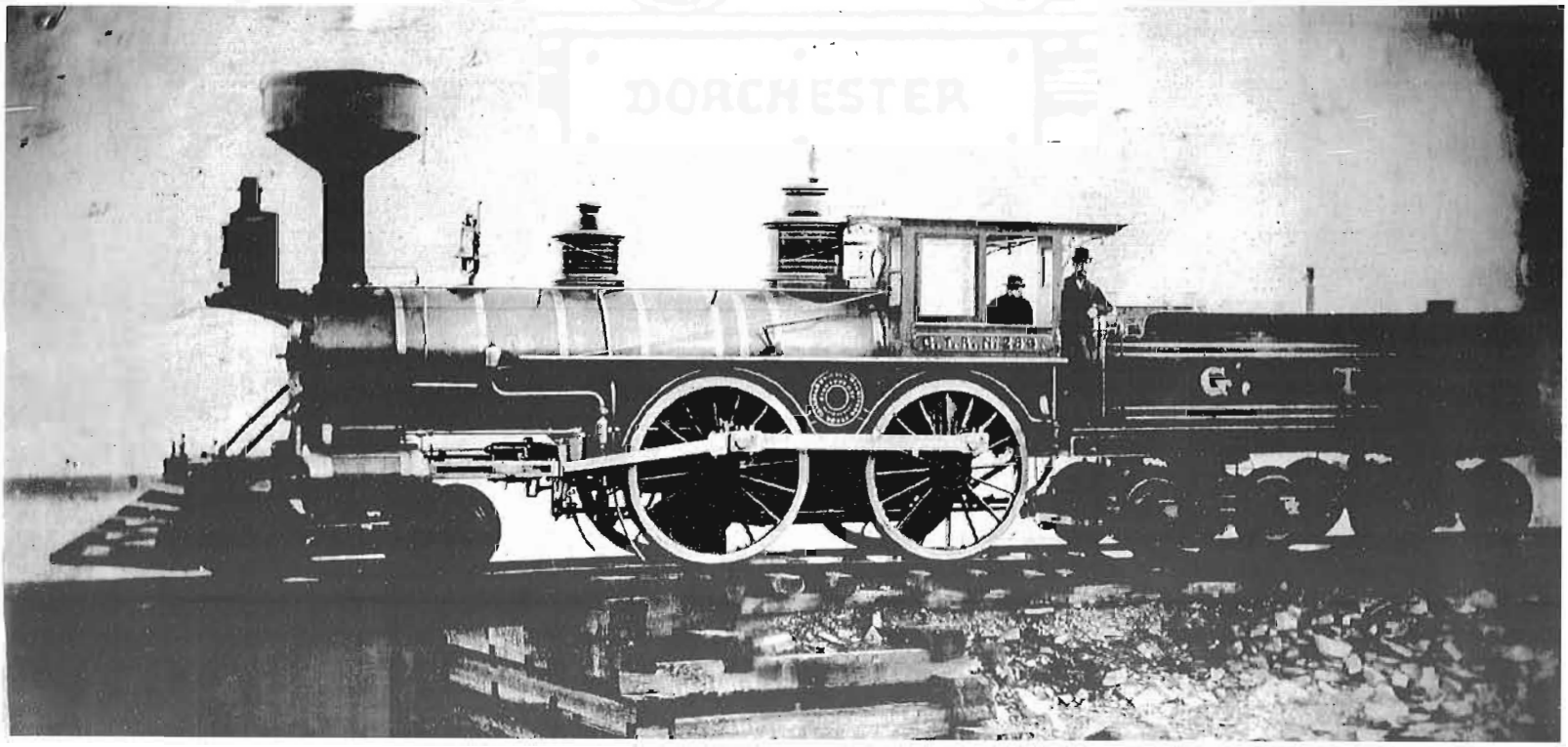
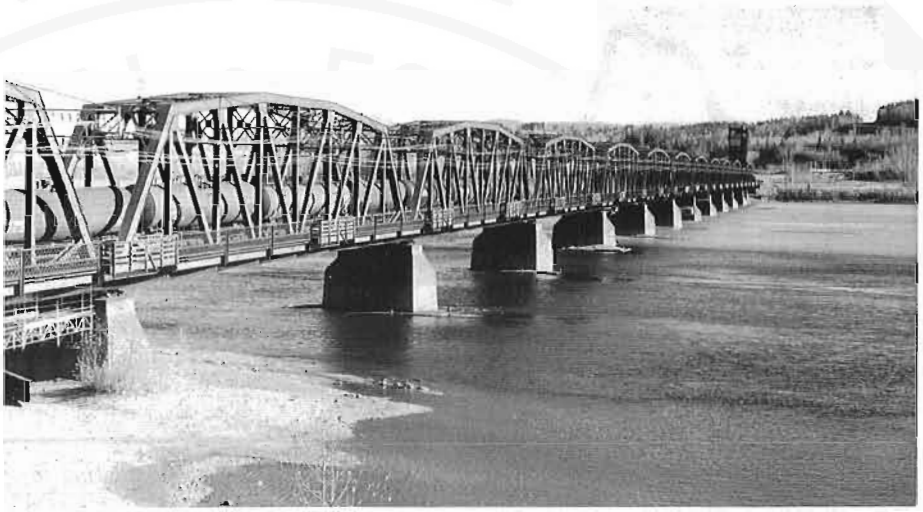


Not 'A Bridge Too Far' But One Far Enough

or How the G.T.P. Crossed the Fraser at Prince George, British Columbia

by David Ll. Davies

Author's introduction: If bridges have personalities, then the CN bridge at Prince George, central British Columbia, is very shy. It has never even whispered that it is the longest railway bridge in the province, and has certainly never told anyone about its exciting past. To get the full flavour of this bridge's history, you must appreciate that this region of Canada was remote and a pristine wilderness at the beginning of the 20th century. It was only the knowledge that the railway was going to pass through Fort George that this solitary Hudson's Bay post became a small settlement, starting in 1906. At that time it could only be reached from southern British Columbia by a tedious combination of wagon roads, sternwheelers and rough trails. In the summer of 1911 a journalist, Frederick Talbot, canoed down the upper Fraser River from near its headwaters in the Rockies to Fort George. He had this to say:- "*Until the Grand Trunk Pacific surveyors penetrated this country it was practically a closed book. Scarcely anything was known concerning its topography and natural resources. As we travelled down this magnificent waterway the solitude and silence were such as could be felt. For over 300 miles we saw scarcely a vestige of civilization.*" Two years later all the supplies needed to create the railway and sustain the 30 work camps located between Tete Jaune Cache [temporary railhead in lower slopes of Rockies] and Fort George, went down 315 miles of this river; the right-of-way when completed only occupied 185 miles. This water highway was also used to bring in all the materials needed to build the sub-structure of this bridge at Fort/Prince George, and as this story unfolds you will realize that you have stumbled upon a railway construction saga or epic tale that needs to be more widely known. This half-mile bridge is truly impressive and was built by the Grand Trunk Pacific Railway in 1913-14.



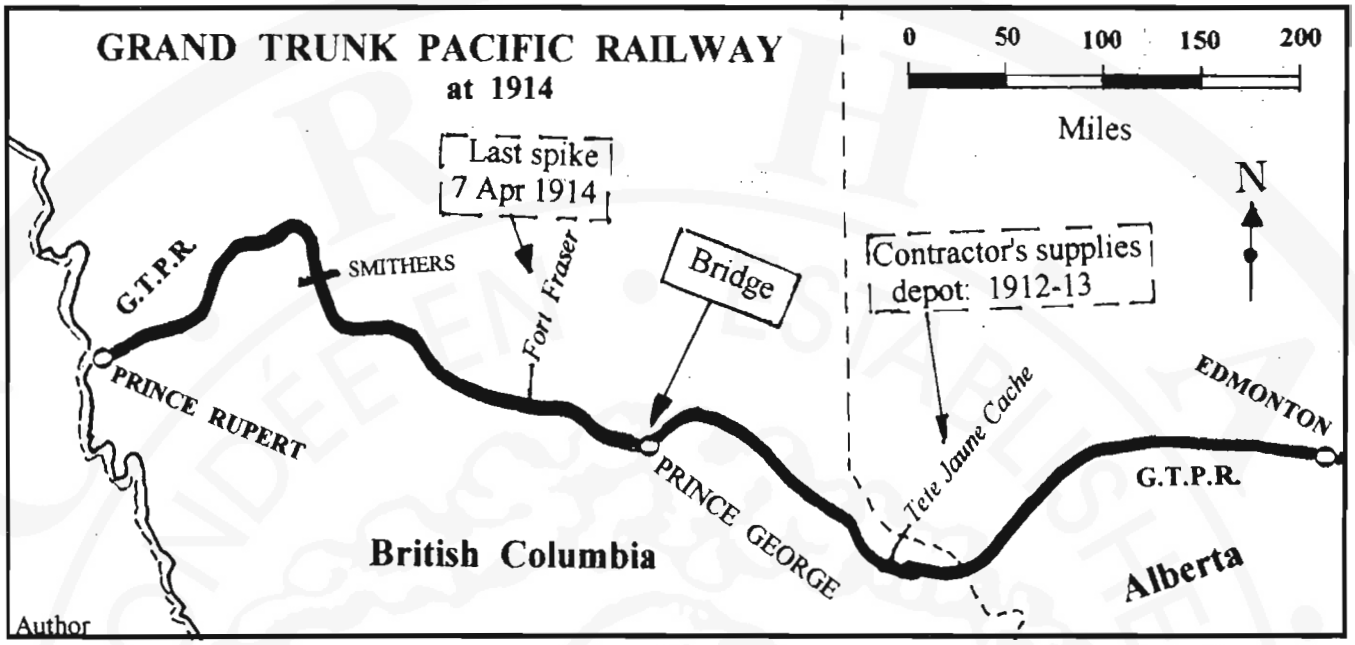
The C.N. bridge at Prince George as viewed from the west bank of the Fraser River in October, 1999. The downtown area of the city is behind the camera. Photo by author.

Why did this bridge not make headlines at the time? There are three probable answers. The bridge came into service just as World War I broke out and all eyes were focused on Europe; its owner was just completing a very expensive piece of railway and was in poor financial health and in no mood to beat drums; and it was located in wilderness country, so had little meaning to outsiders in mid and eastern Canada.

Prince George was not so named until it was incorporated as a city in May 1915 and was previously known as Fort George, having been a Hudson Bay post. For simplicity, the locality will be called Prince George in this article, irrespective of the time frame. It is now a city of 75,000.

I am interested in railway 'draw' bridges and have identified 22 of them in B.C., of which 10 still 'draw'. Of the latter, two are used constantly, and the balance vary between "quite often" and "infrequently". A railway 'draw' bridge is defined as having a span that opens, by revolving or lifting, to allow the passage of vessels. Most of those in B.C. are located at or near the coast, but seven of them were built in the interior including the CN bridge at Prince George. The majority of bridges that have ceased to 'draw' are still in use today with fixed spans. Back in 1996 I tried to amplify my notes about the Prince George bridge and came up with very little; it seemed as if it did not have a history and was very superficially mentioned in any literature. Hence this article.

This story could not have been told without the use of two valuable sources. The first is the pocket book of the engineer who designed and oversaw its building; it contains all the needed dimensions and detailed costs. The bridge engineer was Joseph G. Legrand [1861-1923]. Born in France, he received a technical education there and emigrated to Canada in 1891. Between 1893 and 1903 he worked successively as a draftsman, checker, and designer of bridge work and in 1903 was appointed assistant chief engineer of the predecessor firm that became the Montreal Locomotive Works. He joined the Grand Trunk Pacific Railway in 1906, at age 45, and assumed responsibilty for designing and overseeing the building of all the bridges on the new railway, thus becoming one of its senior managers. The second major source is a five-page article in the magazine "Engineering News", issued in October 1914, immediately after the bridge had been completed. The author was W.C. Ruegnitz, the superintendent of the company that was contracted to build the concrete piers - or sub-structure - of the Prince George bridge.



Map of the Grand Trunk Pacific line from Edmonton to Prince Rupert, showing the location of the Prince George bridge.

The vision, planning and construction of this Grand Trunk Pacific Railway bridge occupied the years 1910-14 but perhaps a useful introduction is to describe the present day railway situation at Prince George. This city is at the hub of two railway systems. From east to west the CNR line roughly bisects British Columbia, starting at a junction with CNR's transcontinental main line, just west of Jasper, and terminates at Prince Rupert on the Pacific coast. The bridge of this article is part of this line. Intersecting this trackage at right angles is the British Columbia Railway (formerly the Pacific Great Eastern Railway) which runs from the northlands of the province, southwards to tidewater at Vancouver. These two railway systems connect at Prince George and there is currently a major interchange of traffic. Open-pit mined coal in the northeast of B.C. is taken to Prince George by BCR and is then passed to CNR for furtherance to Prince Rupert, where it is loaded on ships for Japan. This westbound movement of coal commenced in November 1983 and on the 9th August 1999 the millionth carload of this mineral trundled over the single track of the Prince George bridge, thus emphasizing the bridge's importance is as great now as when it was built 85 years ago. So how did a railway reach Prince George and why ?

This story has to begin with the formation of the Grand Trunk Pacific Railway [GTPR], created in 1903 as a wholly owned subsidiary of the Grand Trunk Railway, headquartered in Montreal, and financed by British money and ultimately controlled by a board of directors in London. It was the outcome of a dream of the Canadian government and investment groups who wished to create a second Canadian trancontinental railway. This became a fact by 1915 when such a railway ran from Moncton to Prince Rupert. When all the bills came in, it was found the Canadian taxpayer had paid 60% of the cost and private investment, mostly British, paid the rest. The GTPR, commenced in August 1905 and opened in its entirety in September 1914, ran from Winnipeg to Prince Rupert. It was built, with differing start dates, from Winnipeg westwards and Prince Rupert eastwards, with the two converging tracks meeting some 100 miles west of Prince George in the spring of 1914. The GTPR's total length was 1750 miles, of which about 710 miles lay in British Columbia. So from commencement until the first through service began between Winnipeg and Prince Rupert, ten weary years had elapsed. The bridge at Prince George was the very last of the major engineering works to be completed on the project and was the largest in British Columbia by a considerable margin.

The principal contractor for building the GTPR was Foley, Welch & Stewart Co.[FWS], an American company headquartered in St Paul, Minnesota, and at the time the largest and most experienced railway contractor in North America. The company's partners were Americans except for Stewart [1862-1929] who was a Scottish-born Canadian. Though John Stewart's name came last in the Company's title, he was the principal and most active partner during the building of the GTPR. He was an able engineer and administrator and a born leader, and in World War I eventually became in charge of all British and Canadian military railways in France. Foley, Welch & Stewart was an efficient organisation and also profit smart. In the construction section described in the next paragraph, the sub-contractors charged the actual cost of the work and then added their profit margin. FWS billed GTPR for these expenses and then added a 5% management commission, an arrangement that did not encourage economy. In the case of the bridge at Prince George, the 5% commission applied only to the amount of pier concrete poured and to river freightage. However, these two jobs accounted for over $600,000 or 38% of the total bridge cost, so the 5% add-on was not a trifle - for which FWS had no input or incurred expenses.

In this article we are concerned only with the advance of steel coming westwards through the Rockies. In July 1912 the end-of-steel lay 300 miles west of Edmonton, at a newly-created camp and supplies depot called Tete Jaune Cache, close to the eastern border of British Columbia. This spot was chosen because it was at the extreme head of steamboat navigation on the Fraser River. From here the railway bed was to follow the river, which flowed in a north-westerly direction until it looped south and headed for Prince George. It was the usual practice in railroad construction to build crude tote roads paralleling the intended right-of-way. Along these roads horse-drawn wagons supplied work gangs with materials and basic necessities, so that work could proceed at many points and be eventually connected into one ribbon of roadbed. But because the country was so rugged between Tete Jaune Cache and Prince George, tote roads were deemed to be too expensive and so were replaced by improvised water transportation down the Fraser River. This was undertaken in the highwater period of May to October, with trial freightings in 1911, a little more in 1912 and a crescendo in 1913. Total tonnage carried in this fashion is not known but probably exceeded 70,000 tons; it excluded rails and track fastenings. When the ice became thick enough in the winter, horsedrawn sleds travelled up and down river making essential small-item deliveries to all the work camps strung out along the way.

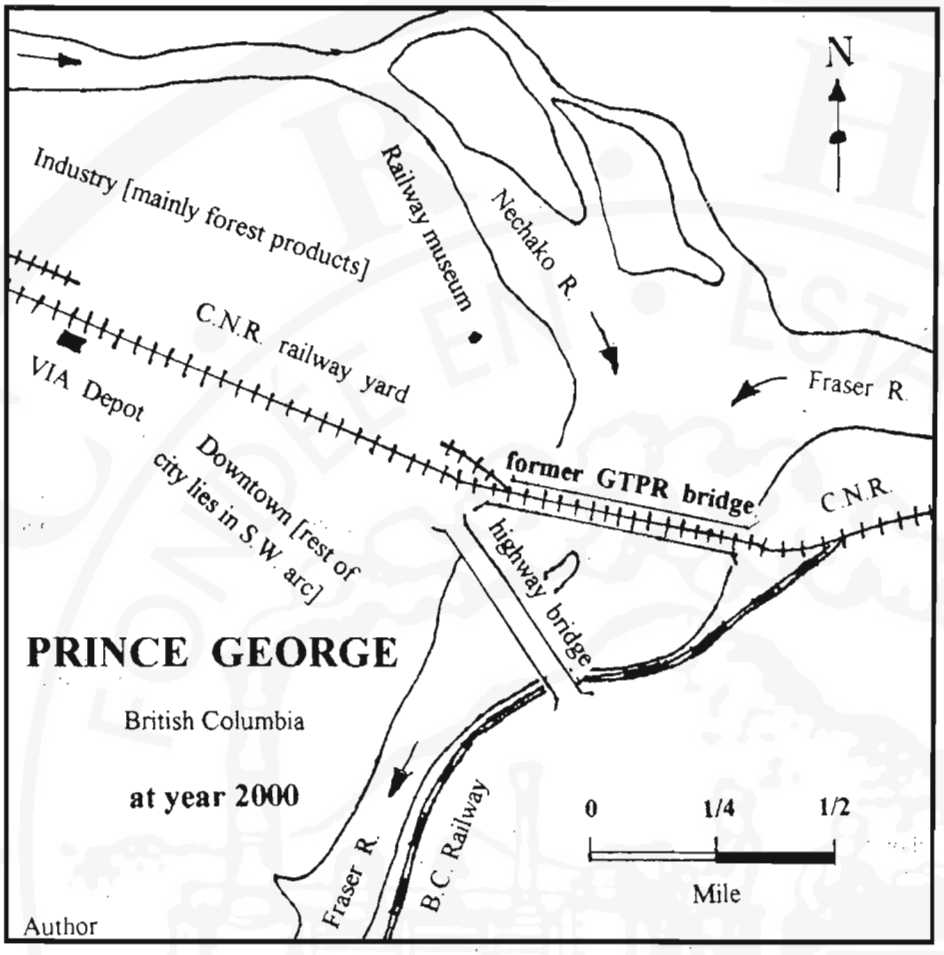
Everything that was required to build a track bed [but not the track itself] and maintain a labour force between Tete Jaune Cache and Prince George was carried either in two contractor's sternwheelers (launched May 1912 at former location) , plus other steamboats on contract, or in scows - each of which made only one downstream trip. The FWS sternwheelers were called '*Conveyor*' and '*Operator*' and in 1912 worked downstream from Tete Jaune Cache for nearly 200 miles to a forbidding water obstacle. In 1913 they worked the lower part of the river and first reached Prince George in early June, where one was soon busy unloading a 70-ton steam shovel to be used to create the railway yards. These steamers could carry 170-200 tons of freight on an enclosed main deck and large items, such as dinkie locos or steam shovels, perched precariously on a small open foredeck. They could also accommodate up to about 200 passengers.

The scows carried a third of the total tonnage sent down the river and because they played a vital role in the building of the bridge at Prince George, they will be described in some detail. It was the responsibility of the principal contractor to build these scows and it is said that a thousand of them were put together in the winter of 1912/13, with the first ones being launched in May 1913 at the rate of 15 to 20 per day. They were built at Tete Jaune Cache and measured about 36 to 40 feet long, were 12 to 14 feet wide, and had 36 inch sides but only drew 12 inches when loaded. Each could carry 20 to 25 tons of supplies. They were fitted with a long single sweep at each end, each sweep being handled by two experienced rivermen. The scows travelled on average some 30-40 miles a day and since the river ran 315 miles (versus 185 miles by rail) between Tete Jaune Cache and Prince George it took about 8-10 days to make the total journey. However the majority of scows landed at varying points upstream of Prince George. At its prearranged destination, the scow was unloaded and then was carefully dismantled so that the lumber could be further used in some way. These scows carried all manner of things from 40-ton steam shovels to horses, hay, handtools, and hardtack. The scow crews were then returned up river by sternwheeler to repeat the performance.

This water journey was no picnic because the river fell about 500 feet in its 315-mile journey and contained five major hazards, of which the worst was the Grand Canyon sited nearly two-thirds of the way downstream. Its high walls and constricted channel started with a nasty dogleg, followed immediately by sucking whirlpools, then a breather of a millpond before exiting in a similar manner to the entry. It created so many scow wrecks and some drownings that Foley, Welch & Stewart institued a special service for the 1913 season. Just before reaching the Canyon, a scow's four-man crew were augmented with two canyon pilots who saw the craft through this bottleneck. In addition the Provincial Government set up huge warning signs upstream of the worst hazards. An FWS lifeboat was stationed in the millpond to serve as a ferry and to rescue any unfortunates who had capsized at the entrance and had made it through the whirlpools. In the three years that the river was used by scows and private rafts, there were 79 recorded drownings but the total number probably exceeded a hundred because private adventurers, unconnected with the railway project and unknown to anyone, would come to grief in poorly assembled craft. FWS was much concerned at the continual loss of capsized freight and in mid-1913 said the value of these losses equalled the provision of a third sternwheeler. All this detail has been supplied to show how demanding and hazardous was the business of building the railway between Tete Jaune Cache and Prince George.

In the 1912 and 1913 seasons there were between 2,000 and 3,500 men at work between Tete Jaune Cache and Prince George. They were aided by about 25 steam shovels and 40 dinky locos and short sections of narrow gauge track. Foley, Welch & Stewart Co. were responsible for overall administration, supplies of all types, living quarters, catering, medical coverage and like matters, but the construction of the roadbed itself was handled by four principal sub-contractors, each much experienced in such work. The last 90 miles of grade preparation to Prince George was awarded to Sims, Carey & Co., with W.F. Carey as site manager.

Originally FWS had appointed several small contractors to build the bridge piers at various locations but it soon became apparent they were not qualified to do the work. This is the time to explain the basics of building a bridge like the one at Prince George. Civil engineers describe it as having a 'sub ' and a 'super' structure. The foundations, piers and abutments are the SUB-structure and the steel spans are the SUPER-structure and the expertise required to put them in place is so vastly different that separate contractors are employed to do the two types of work. An owner or an engineering consulting firm oversees and co-ordinates the work. In this instance, the owner - GTPR - gave this task to its own bridge engineer, Joseph Legrand, who in turn delegated on-site supervision to a resident engineer.



At the beginning of June 1912 two men from a Chicago bridge company arrived in a rowboat at Prince George, having examined all the potential bridge sites en-route from Tete Jaune Cache. The outcome was that in July 1912 a new single contractor was appointed to build the sub-structures of the four crossings of the Fraser from Tete Jaune Cache to Prince George. These ranged in length from a single span to one of half-a-mile. The chosen contractor was Bates & Rogers Construction Co. of Chicago, of much experience and which had handled other contracts on the GTPR line and for the parent, Grand Trunk Railway; it put its superintendent, William Ruegnitz, in charge of this section. The bridge at Prince George was the last of the four going downstream and during construction was called 'Fourth Crossing of the Fraser'. It appears that Bates & Rogers earned $1,999,449 for building the sub-structures of the four bridges, of which the one at Prince George contributed $927,000 or 46% of the total. In September 1912, two months after the contract was signed, a scow floated down to Prince George, carrying a GTPR bridge engineer, five men, and drilling equipment. Their task was to drill down through the river bottom and find bedrock. This they never found, only clay and like material.

The firm selected to fabricate and erect the steelwork for the super-structures of these bridges was the Canadian Bridge Co. of Walkerville, Ontario, a town now absorbed by the city of Windsor. This company was formed in 1900 with capital of one million dollars, probably of British origin. An up-to-date plant covered 45 acres and in 1913 employed one thousand workers and consumed 40,000 tons of steel in that year to make bridge components. It was strategically sited on the Great Lakes to receive raw steel and ship-out bridge components by boat. The company had its own bridge designers and draftsmen and it detailed the basic design and specifications set out by the GTPR bridge engineer, Joseph Legrand. The Company was absorbed by Dominion Steel and Coal Corporation Ltd in 1958 and became a branch plant; it was closed in the 1960s.

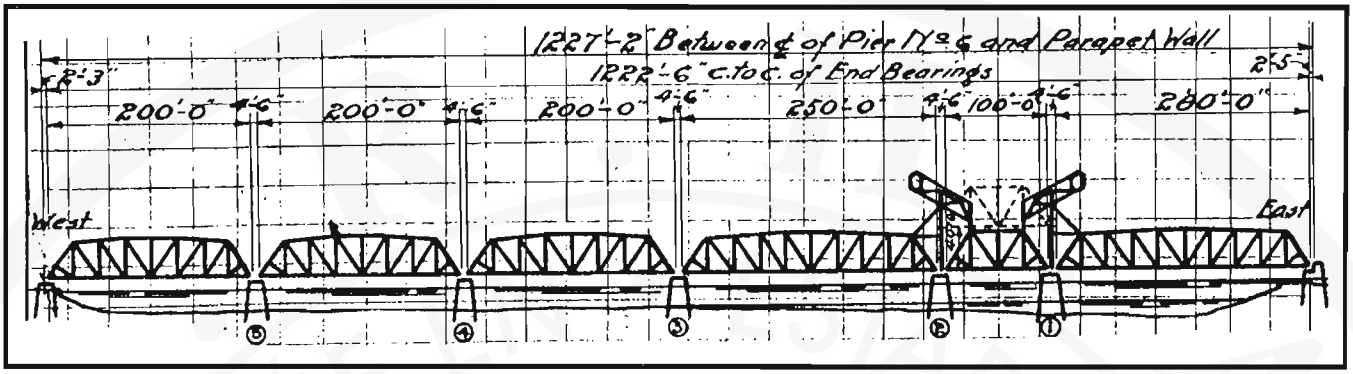
The GTPR was responsible for surveying the route and deciding on its precise location and it is thought the initial detailed surveys at Prince George were carried out in 1910. A firm decision had been made by the end of 1911 both as to grade alignment and the site of the river crossing. The tributary Nechako river joins the Fraser immediately northeast of downtown Prince George and in so doing creates a waterways 'T', with the west arm being the Nechako and the east the Fraser. These two combine and the Fraser continues southwards to the sea; see map. The GTPR decided to cross the Fraser at Prince George, just below the neck of the 'T' at about the widest part of the river in the immediate vicinity, which would give a perfect entry to its station and yards and provide ample room for its new townsite immediately to the south of the yards. A crossing lower downstream, where the river was half the width, was vetoed because of land ownership problems and inferior access alignments.

At the point where the proposed bridge was to be built, the river is a half-mile wide and at the time was neatly divided in two at midpoint by a long, thin, island, shaped like a willow leaf and lying parallel to the current. To the east of this island flowed the Fraser with its deeper channel, whilst to the west lay the much shallower Nechako channel. It had been decided that the eastern channel [Fraser] would be crossed by a steel bridge of six spans and the western channel [Nechako] by a conventional timber trestle. The island, which first came to be known as Railway and now is called Goat [for a period it was a goat farm], was conveniently located at the point where the two styles of bridges met. Its silt composition had a surface lower than the bridge deck and was known to be unstable so at no time was it envisaged as some kind of anchoring point, but it became a most suitable working platform in midstream. It is thought that this choice of composite bridge design was partly motivated by a desire to cut costs as by this time the GTPR had serious financial problems.

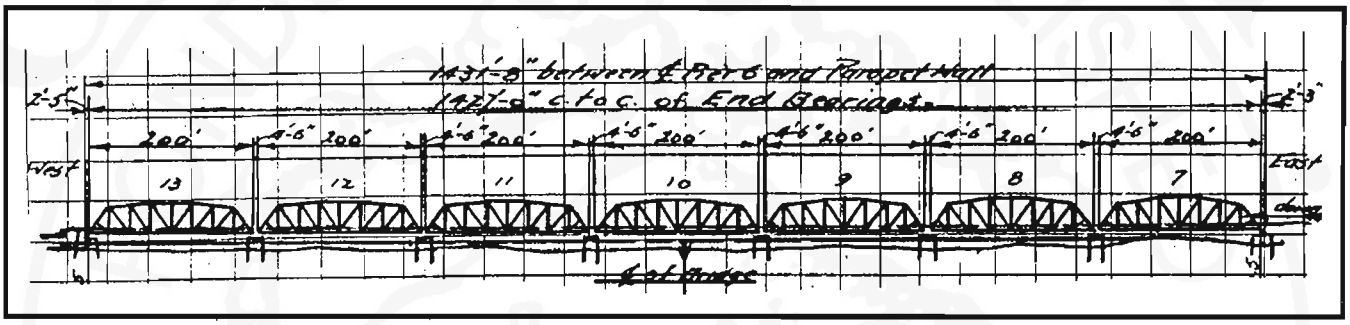
Aerial photo of Prince George, British Columbia [population 75,000], taken in early 1990s, showing CN's extensive yard and the downtown. The view looks eastward, with the Nechako tributary in the foreground, meeting, in the left rear, the Fraser River which continues to flow southwards at the right edge. The half-mile bridge, the subject of this article, is clearly visible in the middle distance.

By kind permission of Charlotte Aircraft Photos Ltd., Prince George, B.C. Image 592.

Sometime in 1913 bridge engineer Legrand and his subordinates must have had serious doubts as to whether the western channel trestle would be able to withstand winter ice flows. By then there were at least three winters of local ice behaviour known to inhabitants and GTPR employees and what was seen was not favourable to the chosen design. What happened was that the Fraser froze solid first, whilst the Nechako was still sending down splinters of ice. These formed into a dam against the Fraser ice and then a water backup and eventually the whole broke loose in a torrent of water and big chunks of ice. In late 1913 the chief construction engineer of the GTPR, B.B.Kelliher, was forced to the decision that the western part of the bridge would have to be built in steel to match the eastern half. This proved to be a wise move but added over another half million dollars to the project, dollars that the GTPR could ill afford. All this is evidenced in Legrand's pocket book. Dimensions and costs are listed separately for the two sections - never consolidated - and the contracts for the steel super-structure were issued separately, No 1453 for the eastern section being dated 30th January 1913 and No 1536 for the western section on 31st January 1914. This second contract is listed as 'Extension'. This major change of plan much affected Bates & Rogers, the sub-structure contractor. By the time of the switch decision, it had already ferried down the Fraser all its equipment and materials needed for the eastern half and in fact had been at work for a couple of months or more. Instead of building six piers, it would now have to provide double that number and would still have to complete its contract by spring 1914. But relief was at hand. Both GTPR and FWS assured the company that end-of-steel would reach the eastern abutment of the bridge in mid January 1914 and that all the extra lumber, cement, machinery, food and other incidentals, needed for the western sub-structure of the bridge, would be delivered promptly to the site by rail. Panic over ! In his magazine article, tactful Ruegnitz does not refer to this major hiccup in the project, but it must have given him acute worries.



Eastern section of Prince George bridge. From Legrand's pocket book.



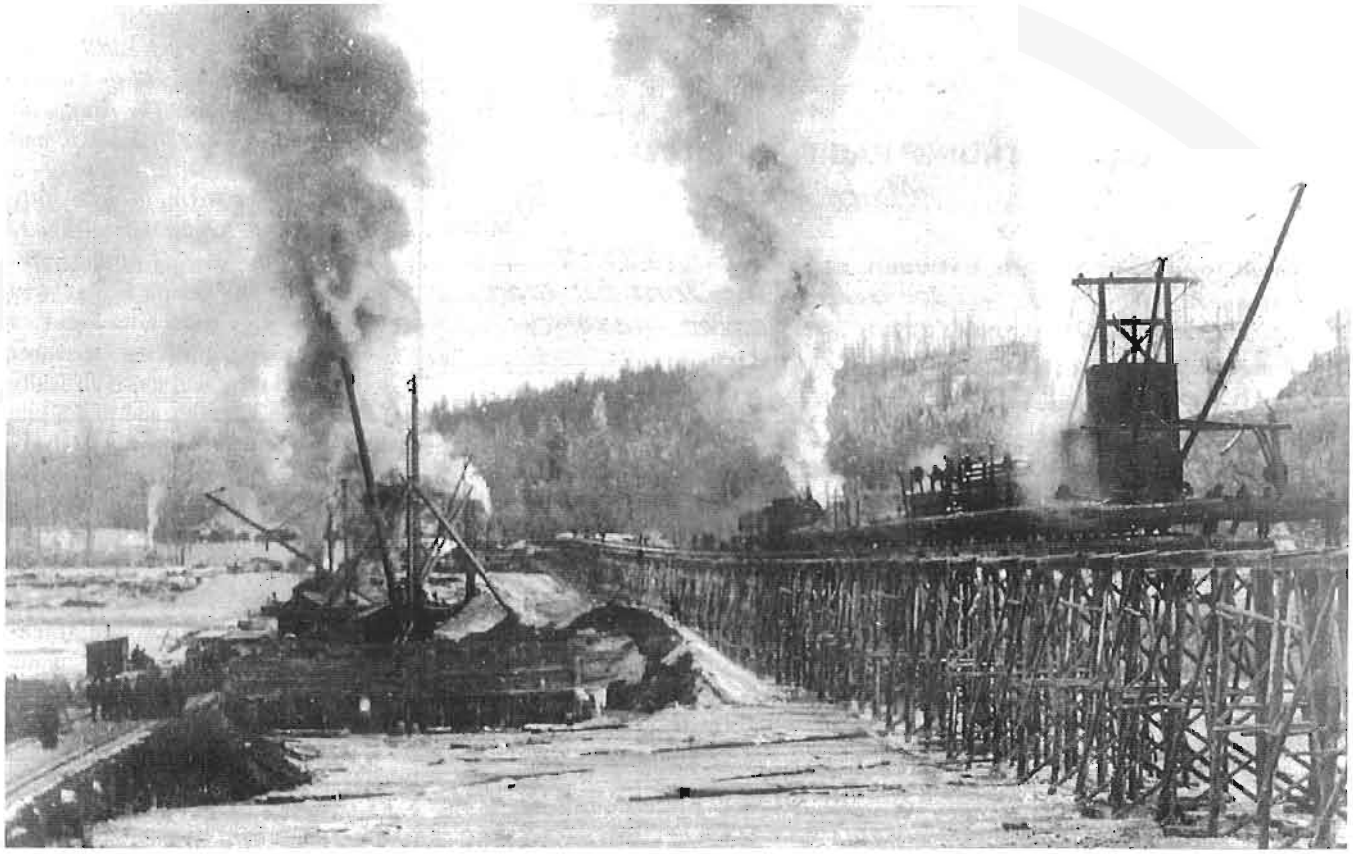
Western section of Prince George bridge. From Legrand's pocket book.

Legrand's pocket book shows the bridge's final design. It was to have 13 through-truss spans with 12 piers and two abutments. The 'eastern' section was to be 1,225 ft long and have six spans. Two of these were to be of 250ft length, three of them of 200ft length, and one 'draw' span of 100ft width. This draw span was to be a vertical lift and was the second span from the eastern shore, at a point where deepest water existed. The 'western' section was 1,428ft long and consisted of seven spans, each of 200ft length. In engineering terminology, the through-truss spans were of the 'curved-chord Pratt' type. The bridge was so designed that there was a range of clearance between water and the bottom chord of the spans of about 32ft and 15ft at minimum and maximum flows of the river, since river levels could vary by some 17ft in a normal twelve-month period. The top of the piers had a common elevation but because the depth of the river bottom excavations varied, so did the height of any one pier. As a result the piers ranged in depth between about 60ft and 70 ft.

For the preliminaries of the bridge construction, we are indebted to Ted Williams of Prince George, son of George Williams who was a member of a GTPR survey party in 1906-13 covering the routes Prince Rupert to Jasper and Prince George to Squamish. In 1984 Mr Williams related his father's memories, which carried no dates; it is thought the work commenced in September 1913: *"They moved a lot of fill from part of Fort George to the waterline to form the western approach to the bridge. Here they set up the piledriver which carried the first temporary bridge out to the island and across to the eastern shore. It was a very low bridge and I don't know why."* A 1913 photograph taken at Prince George of building up the railway yard confirms this type of work, for it shows a Marion steam shovel digging out gravel from a bank and loading it into a string of narrow-gauge dump cars headed by dinkie loco # 36.

William Ruegnitz, Bates & Rogers' superintendent, made the point that very careful planning and preparation was needed as the bridge was being built in the wilderness and that everything needed to build the sub-structure and maintain the labour force had to come down the Fraser and would have originated in the States, eastern Canada, Winnipeg or Edmonton, often taking several weeks in transit. He had his own fleet of scows, possibly more than 200 of them, which were built at Tete Jaune Cache for $250 apiece, probably by FWS on contract. Some items, such as 40ft lengths of steel piling and derrick boilers, travelled by steamer. The kinds of diverse items needed for the work would have included:- lumber of all types and dimensions, saws and axes, donkey engines, flour and tinned food, shovels, heating stoves, cofferdam pumps, spikes and nails, steam boilers, enamel crockery, pipes and hoses, capstans, blankets, crane cables, pots and pans, and wheel barrows. In addition vast quantities of firewood had to be stockpiled at the bridge site, which would be used to fire steam and hot water boilers, donkey engines, and heating and cooking stoves. It is presumed that Bates & Rogers' labour force reached the work site as passengers on sternwheelers and that the scows were handled by river boatmen.

Ruegnitz will be quoted verbatim from his October 1914 article in several places and this first quotation describes how cement, packed in wooden barrels, reached the site. *"Cement was delivered by scows that were from 5 to 14 days on the way. False bottoms, covered with straw to absorb the moisture, served as a floor to receive the cement. The sides*

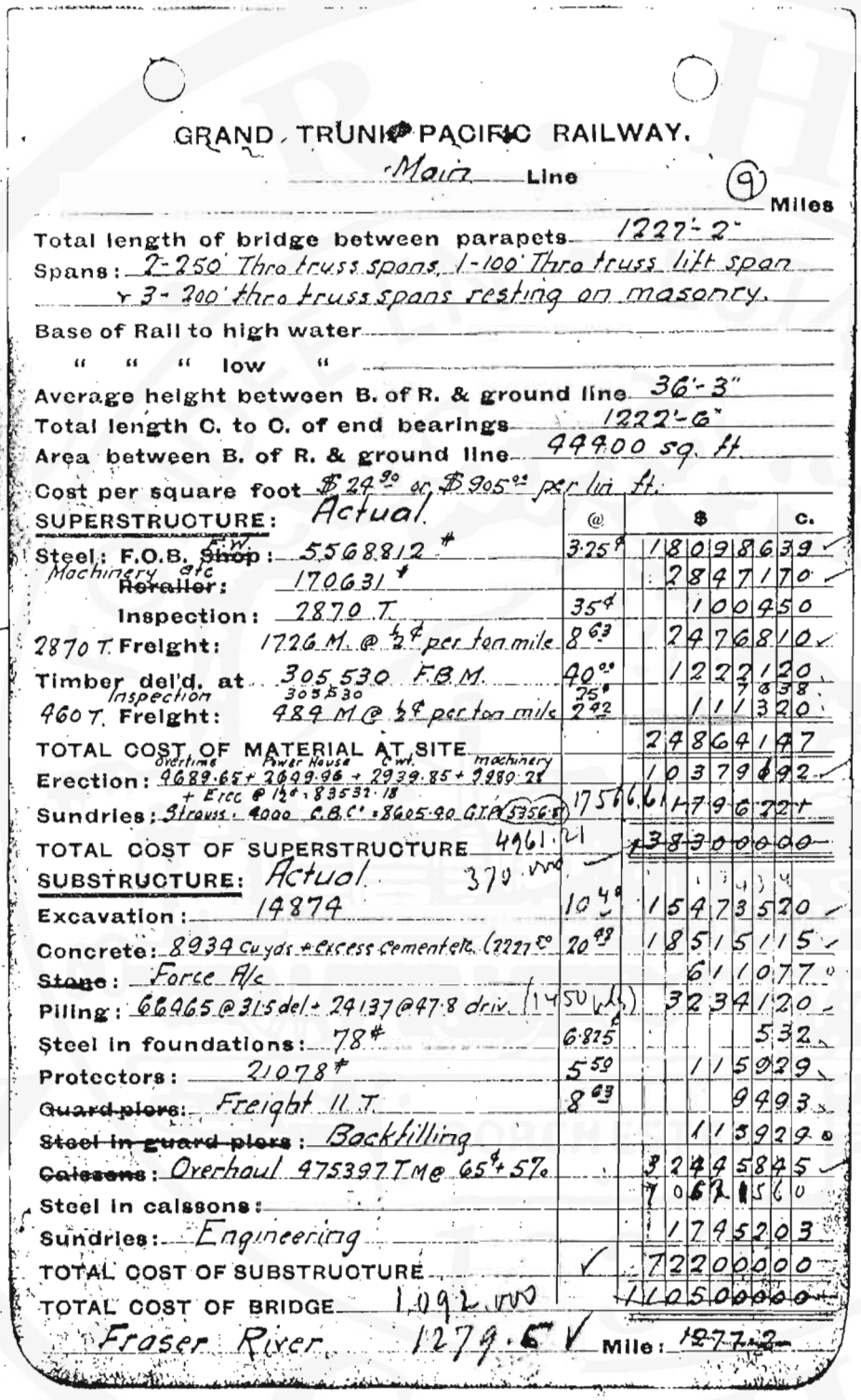


View of work in progress in January 1914, looking east. At left is the tote bridge, in the centre coffer dams are being built to create the piers, whilst at right is the brand new temporary trestle bridge. This trestle bridge will carry rail traffic for the next nine months, whilst the permanent steel bridge is being built. The very first train to cross it is the track-layer shown here. The British Columbia Archives. Print D-07398.

and the ends of the cargo were also protected by straw, while the top was covered with a heavy oiled canvas. Run-boards were provided to protect the cargo from the boot calks worn by the rivermen. From the time the cement left the mill until stored on the job, it was handled eight times." The first six piers and the eastern abutment needed close to 1,700 tons of cement and would have come down the Fraser in about 70 scows. Like FWS, it is known that Bates & Rogers had its fair share of lost cargoes, which included cement.

From May to August 1913, Bates & Rogers built its work site, storage area and camp for 600 men on the mid-river island which would be bisected by the future bridge. The bunk houses were wood-frame buildings and their sides were partly covered with heaped-up dirt to keep out the cold. Storehouses were crudely framed log structures covered with tarps. An auxiliary camp to accommodate 100 men was established on the east bank, because of the great danger in taking labourers across the main channel before a tote bridge had been completed. We know by inference that there were boilers supplying both steam and hot water on the island and the east bank and also a steam-driven electrical generator that provided lighting at each pier site and in the two camps. Ruegnitz made no mention of catering services but a well run cookhouse with ample and varied food was pivotal to any construction project, especially this one in frigid weather. All food came down the Fraser in sacks, barrels or tins but was augmented by fresh beef supplied by the abbattoir of Pat Burns & Co. on the edge of Prince George, which in turn bought its cattle from the Cariboo to the south. There would have been a primitive first aid post on site but an FWS doctor and small hospital [opened February 1914] were to be found on the west bank in Prince George. It is presumed the men would sometimes frequent the numerous bars in the town in their limited off-duty hours. The needed beer and liquor were delivered from the south at Ashcroft on the Canadian Pacific Railway, 300 miles away. Unlike the gangs who laboured in the isolated right-of-way camps, there was more than a hint of civilisation close at hand. In 1914 a local census showed 1,784 persons lived in the new GTPR townsite, whilst about another thousand lived in two older adjoining townsites - that is older by four to eight years !

For clarification, it should be explained that three bridges were built at Prince George by Bates & Rogers. The first was a relatively crude wooden tote bridge, wide enough to take horse-drawn wagons, and low to the water so that it and the lips of the cofferdams were somewhat at the same level. This was positioned upstream of the piers to be built. The second bridge was a typical railway trestle and was built just downstream of the pier sites. The third bridge was the permanent steel structure. The railway trestle was quite substantial as it had to carry all GTPR traffic for a period of up to a year and its deck was of the same height as the future



GRAND TRUNK PACIFIC RAILWAY.

Main Line (9) Miles

Total length of bridge between parapets 1227'-2"

Spans: 2-250' Thro truss spans, 1-100' Thro truss lift span & 3-200' thro truss spans resting on masonry.

Base of Rail to high water

" " " low "

Average height between B. of R. & ground line 36'-3"

Total length C. to C. of end bearings 1222'-6"

Area between B. of R. & ground line 44900 sq. ft

Cost per square foot $24.90 or $905.00 per lin. ft.

SUPERSTRUCTURE: Actual	@	$	c.
Steel: F.O.B. ~~Shop~~ F.W.: 5568812#	3.25¢	180986	39
Machinery etc ~~Reraller~~: 170631#		28471	70
Inspection: 2870 T.	35¢	1004	50
2870 T. Freight: 1726 M. @ ½¢ per ton mile	8.63	2476	81
Timber del'd. at Inspection 305530 F.B.M.	40.00	12221	20
460 T. Freight: 484 M @ ½¢ per ton mile	25¢ 2.42	1132	20
TOTAL COST OF MATERIAL AT SITE		24864	97
Erection: Overtime 4689.65 + Power House 2699.96 + Cwt. 2939.85 + machinery 9980.21 + Erec @ 12¢ 83531.18		103799	92
Sundries: Strauss: 4000 C.B.C. + 8605.90 GTP (5356.81)	17566.61	14796	72
TOTAL COST OF SUPERSTRUCTURE 4961.21		38300000	
SUBSTRUCTURE: Actual 370 yrs			
Excavation: 14874	10¢	15473	52
Concrete: 8934 cu yds + excess cement etc. (2227.80)	20.73	18515	15
~~Stone~~: Force A/c		6107	70
Piling: 66965 @ 31.5 del + 24137 @ 47.8 driv. (1450 lb)		3234	20
Steel in foundations: 78#	6.875		5 32
Protectors: 21078#	5.59	1150	29
~~Guard piers~~: Freight 11 T.	8.63		94 93
~~Steel in guard piers~~: Backfilling		1139	29
~~Caissons~~: Overhaul 475397 T M @ 65¢ + 5%		32445	84 5
Steel in caissons:		7062	56 0
Sundries: Engineering		17452	03
TOTAL COST OF SUBSTRUCTURE		72200000	
TOTAL COST OF BRIDGE 1092 yrs		110500000	

Fraser River 1279.5 Mile: 1277.2

Sample of "best copy" page in bridge engineer Legrand's pocket book, showing final actual costs at the end of 1914 for the East section containing the lift span. Actual size.

steel bridge because it utilized the same track approaches. Ruegnitz comments on the building of the tote or work station bridge. "*The tote bridge from which all work was directed was started in Sept 1913* [from the west bank] *and was carried across as far as navigation laws permitted. Later when floating ice stopped navigation, it was found a very difficult task to drive the remainder of the bridge and it was not until January 1914 that it was entirely completed. The river, with a current of 4-1/2 to 5 m.p.h. and filled with ice, presented a formidable obstacle not only against this bridge but seriously hindered the placing of the coffer dams.*" The trestle bridge was started a little later and a newspaper report of 31st December 1913 said there was much difficulty in driving the piles and that a pile hammer was broken daily or every other day. However, a few days later it was reported that "*the work is well advanced*" and on 21st January 1914 the railway trestle bridge was complete.

In the meantime the track-laying machine had made substantial progress on its way westward to Prince George. The 'Third Crossing of the Fraser' at Hansard (46 rail miles east of P.G.) had track laid across it on 26th November 1913 and Willow River (20 rail miles east) was reached on 31st December. The track-layer 'Pioneer' appeared on the east bank of the Fraser at Prince George on 12th January 1914 and then had to kick its heels for the next ten days. Seven Dominion Government auditors arrived at Prince George at the same time, having examined earth and track work done in this sector. It is to be remembered that the Government subsidized the creation of the railway by paying an agreed sum per mile, and the GTPR paid the balance from its own funds, so it was essential for the former to check adherence to the specifications before a cheque was issued.

The ten days from 21st January 1914 to month-end were ones of much excitement and some drama to all those who worked or resided at Prince George. The track-layer moved onto the trestle bridge on the 22nd and reached the western shore on the evening of the 26th. This means it was used to lay the deck of the bridge as well as place the rail. The next day, in 17F degrees below and by prearrangement, it laid track as far as the new townsite where a short ceremony was held at 2.00 pm, in front of over a thousand people. The GTPR had finally arrived at Prince George and FWS declared

View taken from the west bank of the Fraser River looking upstream on a date presumed to be in mid-1914. Span No. 13 has been erected. The river is in flood.
British Columbia Archives. Print B-00315.

a half-holiday to celebrate the event. But there was a joker in the deck. On the very next day, the Nechacko broke its ice dam and the debris removed four piles and damaged 25 others of the railway trestle. Several scows also piled up against it and for a time it looked as if a section would be carried away. This incident certainly underscored the GTPR decision that the permanent crossing must be one totally of steel. The track-layer was now stranded and denied its supply of ties and rails, so the trestle bridge was very promptly repaired and returned to service on the 31st January.

Roadbed construction and tracklaying continued westwards and on 7th April 1914, at an insignificant spot 93 rail miles west of Prince George, the eastern crews met up with the Pacific western crews and the Grand Trunk Pacific Railway finally had its main line track in place. Unfortunately, the chief promotor of the Grand Trunk Pacific, and founder of Prince Rupert, was not around to see this moment of triumph. Almost exactly two years earlier, on 15th April 1912, Charles Hays, President and General Manager of the GTPR , had drowned in the sinking of the '*Titanic*'. It was largely his vision and tenacity - and a streak of ruthlessness - that made this particular dream come true, so linking Winnipeg and eastern Canada with Prince Rupert and hopefully creating more trade with the Orient.

We now come to the most incredible aspect of this enterprise. Winters at Prince George range from about -10C to -40C and the wind chill factor can make it drop even lower. In the lower ranges these temperatures are quite inimical to man and the pouring of concrete. Yet the pouring of the concrete piers was carried out in this weather and was done continuously day and night, six days a week, until the job was done! These punishing conditions and schedule were created by the need to do the work in the low water period of November to April and to ensure that the railway's opening in mid 1914 was not impeded by the lack of a vital bridge. Even today, with improved technology, mixing and pouring of concrete is not recommended in below freezing temperatures unless special precautions are taken.

Ruegnitz describes the work scheduling. "*A complete day and night organisation was maintained for the entire work, each pier having a complete plant layout as well as an individual crew. Night and day foremen for each pier worked together, shifting their crews turnabout every two weeks. Each pier foreman reported to the general foreman, there being one general foreman for each shift. The general foremen reported to superintendent Houston, who was located on the work. The latter in turn submitted a detailed written progress report to Bates & Rogers head office in Chicago each week.*"

Soundings of the river bottom had shown it consisted of a gravel bed with an underlying strata of very stiff sandy clay with layers of quicksand. Twelve cofferdams were needed for the twelve piers and each site presented a slightly different challenge but the construction method was essentially the same. The river bottom was excavated of its gravel by clam shell and then the gravel was stored until being used in the concrete mix. Next, wooden sheet piles were driven into the river bottom to make an oblong box or cofferdam. Piers 1 and 2, closest to the eastern shore and the ones to hold the lifting span, were the deepest of the twelve and here the contractor was forced to use 40ft long steel pilings to make the cofferdams.

With the water still inside the cofferdams, the base was further excavated by clamshell, and then into the bottom of each cofferdam some 200 wooden pilings were driven into the substrata for about 20ft depth. These were then cut off flush to the ground and a layer of concrete was then 'floated' on top of them to form the base of a pier. The concrete was allowed to set for two to six days in water and then the cofferdam was pumped dry. Wooden forms were then built inside the cofferdam to create the shape of the pier and at this point the work became super critical as the concrete had to be very carefully mixed and cured in acceptable temperatures. The first cofferdam to be started was for pier # 6 lying immediately east of Goat Island, for the simple reason that it was the most accessible.

What better than to quote the 'super' himself. "*For the Fraser channel, two concrete plants were used, one on the island and one on the east bank. Gravel was taken from the river and stored in a network of hollow boxes into which steam was turned, thus keeping the gravel hot even during weather 50 F below. Cement was stored at both mixer plants. The concrete was taken from the mixer to the piers* [1 through 7] *in buckets on cars handled by an endless cable. It was delivered so quickly that it was not affected by the cold before being put into the forms. On the Nechaco* [sic] *channel* [piers 8 - 12], *enough gravel was obtained from the excavation of each pier, and a mixer was set up at each cofferdam; the only material to be hauled being cement.*"

"*To prevent freezing, the gravel was heated as mentioned above. Water was also heated, the mixed concrete coming to the forms very warm. The forms were entirely covered by heavy oiled canvas tarps, these extending from the top of the coffer dams to the top of the forms, so completely enclosing a pier. Between the forms and canvas covering, fires were kept in small stoves or steam heat was furnished in radiators built on the work. Both methods were good but steam was preferred and used where there was an available supply on account of danger of fire from the stoves. Steam was always turned in at the top of a pier when completed. Heating was continued for three to seven days after pouring was complete and the forms were stripped in from seven to ten days. The results obtained were remarkable with the concrete being smooth and of a uniform colour. There are no indications that frost penetrated anywhere.*"

The precise date when all the 12 piers at Prince George were complete and ready to bear steel is not known but an early April 1914 photo, taken looking east from the mid-island, shows completed piers but no steel work. Ruegnitz does say that work on all four bridges under his supervision was complete by May 1914. Our knowledge about the erection of the super-structure is incomplete as Canadian Bridge Company records about it probably have not survived; in any case they have not been located. However GTPR bridge engineer Legrand made a meticulous note about every single railcar of bridge components dispatched by Canadian Bridge Co from Walkerville [now part of Windsor, Ontario] and from this record certain helpful deductions can be made. This kind of information has not been seen in railway literature and so is worth a paragraph here.

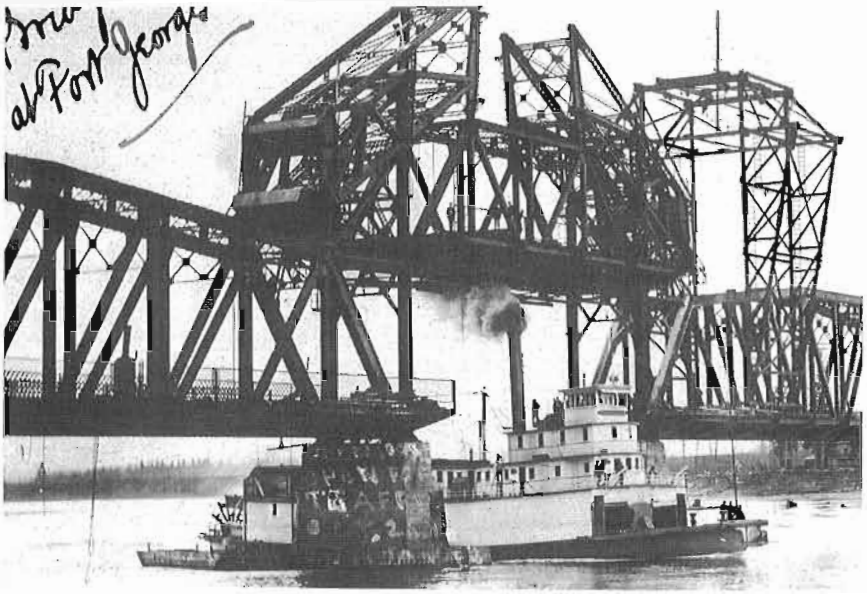
The first contract [#1453] for the eastern section of the bridge stipulated that Canadian Bridge Co. was responsible for the cost of shipping the components from its plant to Fort William on the Great Lakes. This involved a nearly 600-mile trip by steamer on lakes Huron and Superior. At Fort William [now Thunder Bay], 2,870 tons of steel were placed on flat cars for the 1,726 mile journey across mid Canada; a typical load was 29 tons per car. Ontario dispatch dates ranged from 1st December 1913 to 5th June 1914 but two-thirds of the order had left Windsor by the end of February. The log even showed ownership of the cars used, 111 being supplied by Grand Trunk, 3 by GTPR, and the remainder by four other railways.

Materials for the western section of the bridge [Contract #1536] were first shipped on 4th May 1914 and the last left Windsor on 13th July. This was a good fabrication performance considering the Company did not receive the order until the first week in February. This time because of the urgency, materials were 'free-on-board' at Windsor and all 102 cars were loaded there. They carried a total of 2,916 tons of steel and travelled 2,760 miles to the job site. Thirty five cars were shipped in May, 61 in June and 6 in July, with car ownership as follows: 88 for GTR, 5 for GTPR, 5 for NYC, 2 for CPR, and one each for B & O and PENN. Bridge components therefore totalled 5,786 tons and were shipped on 224 railcars. Rail freight, at 1/2c per ton per mile, came to $65,014 and was paid for by FWS. Bates & Rogers, the sub-structure contractor, was also allowed to charge FWS with the cost of freighting all its supplies down the Fraser, which came to a whopping $324,458 ! This did not faze FWS one bit for it simply passed on the cost to GTPR. The price tag of building a long bridge in isolated country came dearly with delivery costs at nearly $400,000 which represented a quarter of the total cost of the bridge.

Due to the lack of a primary account or documentation of the erection of the super-structure, the following description is based upon conjecture and engineering practice of the time and so must be regarded as this author's interpretation. One of the research problems encountered was that several bridge-completion dates surfaced, all of unknown origin and some contradictory. In due course it became apparent that most related to different phases of the work and parts of the operation, eg: temporary trestle bridge, east segment steel bridge, entire bridge, lifting span operational, cantilevered public roads added, structure-complete in all regards.

It was standard practice for a bridge company, after fabrication of each component, to assemble each span at its plant, using nuts and bolts as the fixer, to ensure that all was a perfect fit. Before dismantling, each piece was coded and numbered with paint and cross-referenced to the erection drawings, so as to guide the erectors at the work site. Pieces were broken down so as not to exceed the length of a railway flat car and were of a weight that a travelling steam crane could handle at its maximum radius, say not exceeding 35ft length and three tons weight.

The Canadian Bridge erecting crew arrived from Ontario via the newly built railway line on 14th March 1914 and proceeded to set up their camp and equipment. By the beginning of April they were ready to start work from the eastern abutment, at the time when the river ice first showed signs of breaking-up. Their first task was to piledrive false-work into the river underneath what was going to be span # 1. This span was then assembled by having a self-propelled steam crane on the adjacent temporary railway trestle position pieces. These were hot rivetted, all the while the falsework below supported the growing structure. At completion, the ends of the span rested on rollers to allow the steelwork to expand or contract in varying temperatures, and the falsework ceased to carry any weight. The next westward-seeking span, the # 2 and lifting span, was built in like manner but as a plain though-girder without its lifting superstructure and weights. A photo taken from the east shore and dated 27th May 1914 shows four spans erected which suggests an erection rate of about two weeks per span. Some two weeks later on 14th June 1914, Legrand, GTPR chief bridge engineer, records in his notebook "first train crossed bridge".



The first sternwheeler to pass under the lifted span was the "Operator", owned by contractor Foley, Welch & Stewart, shown here proceeding down river. On this print can be discerned the words "Opened for [river] traffic, 25 Oct. 1914". Note the bridge erectors' temporary travelling carrier, resting on span #1, used to assemble the lifting components of the draw span. Note also the (somewhat cropped) handwritten inscription "bridge at Fort George".
Courtesy of Pioneer Postcards, Kelowna, B.C.

How can one explain what appears to be the impossible? The answer lies with the discontent the GTPR was generating for closing the navigable waters, which had its seasonal opening about 1st May. The temporary railway trestle shut off any movement on the river, so that no scow or raft could pass downstream or a motor launch upstream.. The steel bridge taking form immediately upstream also stopped all sternwheeler traffic because of insufficient clearance. The GTPR was already embroiled in litigation with local steam boat companies for arbitarily closing the upper Fraser at Hansard with a low-deck bridge and so was sensitive to the issue. [For full details of legal battle see p.212-14 of 'A Thousand Blunders'] Something had to be done in a hurry and the solution was commendable. After span # 5 was in position, the temporary railway trestle had a curved piece inserted in the area to be occupied by span #6, which led eastwards to the west end of span # 5. The author's basis for all this is the time frame and a 1914 westward-looking photo showing a curving piece of trestle in the foreground made of freshly sawn lumber dovetailed to the trestle of more weathered timbers. No doubt this work interrupted all rail traffic for about a week but in the longer term it kept trains and river craft moving. Very quickly the eastern portion of the railway trestle and all falsework under the steel spans were removed making the Fraser channel navigable to all craft except sternwheelers.

It is possible that at this point the erectors moved to the west bank and commenced assembling span # 13, as being more convenient. This sequence is supported by another photo, but there is the possibilty that the glass plate negative has been reverse printed and shows span # 1 in position ! It should be added that no work on spans 7 through 13 could have started before the end of May because the first pieces for them were not dispatched from Ontario until 4th May. However, spans 4 through 13 were of identical 200ft lengths and were interchangeable in terms of sequence of erection. Work proceeded until all spans except # 6 were built. Then at this point all rail traffic was suspended for two rushed weeks whilst the 'S' trestle piece was removed and span # 6 was inserted. Curiously, there is no date anywhere for this momentous event when the steel bridge was complete and a train ran across it, but it is calculated to be the end of September 1914. At this point the temporary trestle, that had carried rail traffic for all or part of its length since February, was dismantled. It has to be remembered that World War I had started in the previous month and news of it tended to oust local happenings.

The steel erectors now turned their attention to the lifting span which had all the additional steel work and lifting mechanism added. A photo showing an FWS steamer passing under the raised span carries the notation 'open for [river] traffic Oct 25'. It is believed that November and December

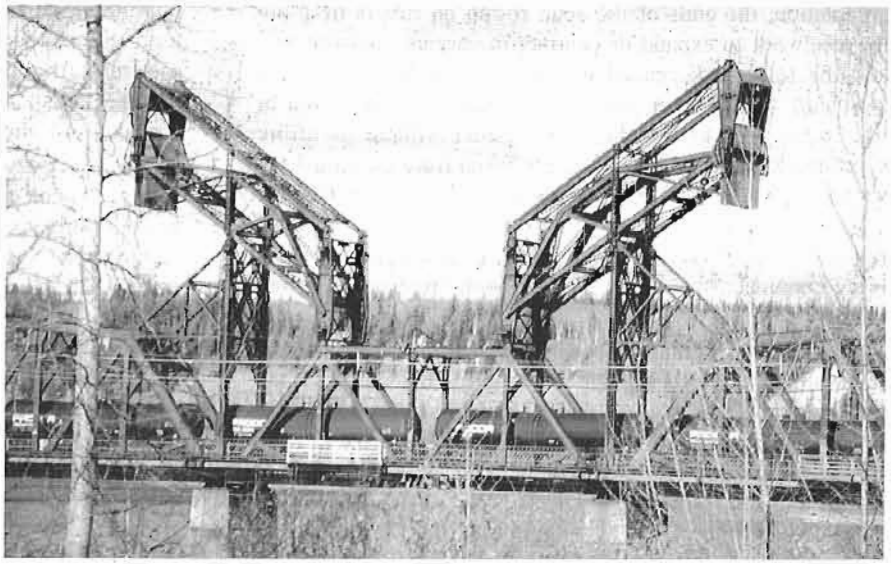
View of bridge from east bank in October, 1999. Note the loaded coal train passing over it. Photo by author.

were occupied in cantilevering the public roadways on either side of the bridge. An unconfirmed source says the bridge was fully completed about 5th January 1915. This is supported by the recollections of a Prince George oldtimer who in 1984 said the bridge was complete by late 1914 or early 1915. There is one final date of 22nd January 1915 that appears without explanation in Legrand's notebook. Was this the date when the bridge was formally handed over from the contractors to GTPR ?

A 1971 article appeared in a railway supplement of the Prince George newspaper 'Citizen', which by its prose and detail, suggested it was copied from something written soon after the bridge was completed.

The dates it provides are: excavation started 21st Aug. 1913; last pier finished by 29 May 1914; erection commenced about 1st April 1914 & completed about 5th Jan. 1915. The article usefully also contains the following. "*The loading figures for the railway track are composed of a train headed by two 180-ton locomotives, followed by cars giving a reaction of 4,750 lbs per lineal foot. Each cantilevered roadway is figured to support 4 tons per axle, 8ft centres, or 100 lbs per square foot of floor.*" The datal sequence of the building of the super-structure of this bridge, described in the paragraphs above, seems plausible. It would appear the month of September was used to fine-tune the introduction of GTPR through-services from Edmonton in October. Primitive revenue trains commenced to run between Prince George and Prince Rupert in the first week of the month to get the line into running order. In mid-month it is estimated that the last span, # 6, was started to be put in place and by month-end the bridge would be complete. This scenario is supported by the fact that the very first boxcar of fish was dispatched from Prince Rupert on 30th September 1914, by fast train to Toronto.

The 1912 design of the lifting span, built in 1914, was unusual and remains the only example in British Columbia; it was also the only 'draw' bridge owned by the GTPR. It provided a nominal opening of 100ft width and a vertical clearance of 50ft above high water, which meant that it had a maximum vertical movement of about 35ft. It was designed by Legrand, with the active assistance of Canadian Bridge Co., since this firm would have the most up-to-date knowledge about this rare bridge form. The first lifting bridge in North America was built in Chicago in 1894. In 1914 another lifting bridge was being built over the North Thompson River at Kamloops by the Canadian Northern Railway. It was similar in its function in that it provided an opening of 93ft and a lift of 55ft above high water, but the method of raising the span was quite different. At Kamloops there were two side towers and over these were draped cables carrying concrete-block counterweights. The Prince George design dispensed with the use of cables. To the upper extremities of the lifting [Strauss truss] span were attached two pivoted arms that carried counterweights. The weight of the span and the weight of the counterweights just about cancelled each other out and all that was needed was a small electric motor that caused the span to rise through a rack and pinion drive. Prince George had its own private electric utility by 1913 and this innovative use of electricity in the fledging town is mentioned in an inconspicuous paragraph of the 'Fort George Herald' dated 19th Dec. 1914. The whole



Design details of the lifting span which has been secured shut since 1954. Photo by author.

design was quite mechanically sophisticated. It also automatically closed the six guard-gates across the track and vehicle roadways and slowly altered the oil-lit river lamps from red to green, for the benefit of the river steamers. The costs of this moving span were estimated to be $98,000. It is doubtful whether the lifting span was ever used after 1920 and in 1954 the Board of Transport Commissioners permitted Canadian National Railways to make the span a fixed one. Prior to this, CNR had a statutory duty to lift the span once a year to show that navigation rights existed and the mechanism worked. This relaxation date of 1954 seems tardy when compared to an identical situation at CNR Kamloops where the lift span was immobilized in 1937.

View of eastbound cantilevered roadway in 1996. This roadway has not been used by the public since 1987. Photo by the author

It should be noted that it was a costly frustration to railway companies, advancing into remote and largely unsettled country, to be compelled by government to incorporate 'draw' spans into bridges which crossed supposed navigable waters. Before the GTPR surveyors arrived, only one pioneering sternwheeler had made a single penetration of the Fraser or Nechako rivers upstream of Prince George, simply because the region was populated only by small numbers of native Indians and trappers and offered no commerce. Anywhere the rivers went the future railway would provide a better and faster service, so it seemed pointless that the Dominion Government would demand a 'draw' span at Prince George - but it did. This situation also occurred on the Columbia and Thompson rivers in British Columbia and in these cases the sternwheeler traffic died with the coming of the railways. In lieu of providing a 'draw' span, it would have made better economic sense for the Government to have compelled the railways to make a compensatory payment to the steamboat companies equal to the latters' profits for the last season prior to a fixed bridge being built.

The Provincial Government saw the GTPR bridge as a means to carry year-round road traffic, then minimal, across the Fraser. It would replace the public ferry installed in 1911about one mile downstream of the railway bridge. Needless to say, this ferry did not operate when the river became frozen. Because the railway bridge was so long, it was impractical to plank the rail track space and allow road traffic and pedestrians to use it, so the Government suggested that two roadways, one on either side, be cantilevered out from the structure. The GTPR was receptive to the idea, providing that the Province paid for the building costs and the upkeep of the roadways. Between a lack of communication on both sides and the sudden change in bridge design, things grew testy. The Government had $150,000 maximum in mind and was startled when in the spring of 1914 the GTPR said the Government share was $420,000 out of a total cost of about $1,255,000. The Government said 'no way' and had a consultant provide an independent costing which came out at $268,474. At the beginning of 1915 there was a 'Mexican standoff' with the GTPR refusing to open the roadways, each 12ft wide with grid metal flooring, until the proper price was paid. After more negotiation and vocal local pressure the roadways were opened in the late summer of 1915 with a Government payment of $150,000. After more bickering another $200,000 was paid to GTPR in 1918. At first only the downstream road was used as it involved no crossing of the tracks but by 1924, because of the volume of road vehicles, both roadways were put into single-direction use, with westbound traffic using the upstream side. There was no room for a sidewalk on each roadway, so at a later date, projecting refuges were built on the outer faces at about 100 ft intervals to allow pedestrians to step aside when motor vehicles passed by. This improvement was undertaken and paid for by the provincial Department of Highways.

On 31st October 1987 the Provincial Goverment opened a four-lane concrete highway bridge at a short distance downstream for surburban and Alberta-bound traffic and closed the CNR bridge to the public at the same time. The roadways still exist but are gated and have found a use as CN maintenance access ways. Goat Island can still be seen, lying between the CN and the new 'Yellowhead' road bridge, but it has partly eroded and partly moved further downstream so no longer lies under the railway bridge as it did 85 years ago. The only bridge now shared by rail and road traffic in B.C. lies 45 miles to the east of Prince George at Hansard, which is at rail Mile 99.1 from McBride in the CN Fraser Subdivision. Vehicle traffic is light, as it is a minor road, with crossings controlled by a bridge signalman.

Reference must be made to a branchline railway at Prince George that should have commenced running in the second half of 1915. The GTPR had the intent back in about 1907 to run a subsidiary line to Vancouver and had surveys made accordingly. But by 1911 the GTPR did not have the financial resources and the project was beyond it. A highly unusual arrangement then took place when Foley, Welch & Stewart Co. offered to build the line, and then own and manage it. This move was favoured by the Provincial Government which wanted to see an 'open up the hinterland' railway in place and offered generous land grants and cash subsidies per mile of line built. It all made sense to the three principal groups involved and at the end of 1913 when the GTPR grade had reached Prince George, FWS simply wheeled most of its labour force and equipment to the left and southwards to grade the branchline, which had now acquired the name of Pacific Great Eastern Railway. At its northern terminal, this line would reach the newly emerging city of Prince George by using the new GTPR bridge and, under a 1912 agreement, would share the GTPR depot. By mid-1914 seven thousand men were at work along the projected 467-mile line and south from Prince George the grading reached Cottonwood Canyon, 15 miles short of Quesnel. The dock and rail spur for the FWS sternwheelers at Prince George lay a mile up the Nechako, but cannily FWS hauled out its two steamers for the winter of 1913-14 below the new GTPR bridge under construction. This allowed FWS to use them in 1914 to work the Fraser for 100 miles downstream to deliver construction supplies. There is no doubt that this line would have opened by the end of 1915, but it was not to be. The European Great War broke out in August 1914 and by the year-end British investment capital, upon which FWS relied, had dried up. Construction faltered and then stopped and the rest is PGE history.

Interior view of the spans, looking west, October 1999. Photo by the author.

Passenger train service eastward out of Prince George commenced the first week of February 1914, using the trestle bridge, but was of a very rudimentary kind. There was no station at Prince George and the track so recently laid east of it was not ballasted for nearly 100 miles since all the gravel pits were frozen; as a result, trains on this section would have been limited to 10-15 miles an hour. Trains were run three times per week to McBride and were primarily used to service GTPR and FWS needs for the rail staff and camps strung out along the way, but they were happy to accept fare-paying passengers. These were mixed trains that consisted of one or two colonist coaches and various freight cars. Departure times would have been firm but the remainder of the schedule would have been elastic. At the same time the GTPR institued a daily service of improved quality between McBride and Edmonton, with one sleeper added between Jasper and Edmonton. By 13th June 1914 the line was fully ballasted and the track aligned between Edmonton and Prince George and about this time freight service was instituted between these two points. By mid-1914 the GTPR had a makeshift depot and a permanent freight shed at the foot of George Street in the new Prince George townsite but it was not until 1922 that a permanent depot was built at the foot of Quebec Street.

The spring thaw of 1914 showed up a lot of grade deficiences for the 250 miles west of Prince George to Smithers and it was not until the end of August that it was deemed fit for revenue traffic. At the beginning of September 1914 two mixed-trains a week commenced to run from Prince George, taking three days to reach Prince Rupert and stopping nightly at Endako and Smithers. This leisurely pace between Prince George and Smithers was due to the unsatisfactory condition of the road bed. At the same time at Prince George the three-trains-a-week to and from the east continued but on an accelerated schedule. On 6th June 1915 a quality through-passenger service commenced with three trains a week in both directions between Winnipeg and Prince Rupert, plus two B.C. way-freights per week. During World War I freight traffic slowly built-up in B.C. but only amounted to about a fifth of what was hauled on the Prairies. Westbound freights were lightweight and carried what was needed by the few small communities scattered along 700 miles of track. Eastbound freights were much heavier. Random comment and the odd statistic suggest that for 1919 over 400,000 tons of freight moved eastwards to Edmonton and beyond in about 15,000-17,000 cars.The majority of this freight was lumber and shingles with one statistic quoting 11,716 loaded lumber cars. A profitable traffic in fresh and canned fish had

developed since 1915 and in 1919 amounted to 488 boxcar loads and about 6,000 smaller shipments. Though the National Transcontinental Railway and the GTPR became a transcontinental line in a geographical sense, they never became one economically because Prince Rupert never blossomed into the equivalent of Vancouver. In the 1920 consolidation of the GTPR and the Canadian Northern Railway, the latter's Vancouver depot became the ocean terminal of the system and the line to Prince Rupert (hiving off at Red Pass Junction) became a branch line and has remained so to this day.

The eastern end of the bridge carrying a loaded coal train bound for Prince Rupert, in October 1999. Photo by the author

And just how much did the GTPR bridge at Prince George cost ? Fortunately, for history's sake, Legrand's pocket book supplies the answer. There are many pages of calculations, the estimates are in somewhat of a rough hand but the final 'actual' is in neatly drafted figures. All the details are listed separately for the eastern section of six spans and the western section of seven spans. Some of the estimates differentiate between the bridge with and without a roadway and have this kind of range:

Evening light displays the upstream side of the Prince George bridge to good effect, as we see in this view taken in 1998. Courtesy of the Slide Farm, Vancouver, B.C.

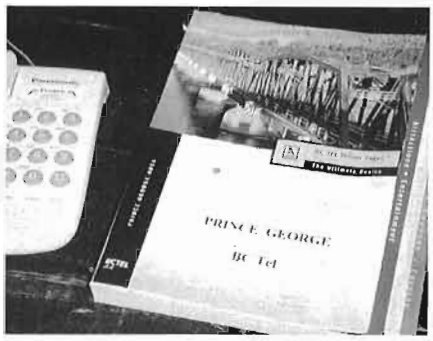
East section, without roadway: Range $715,000 to $793,000

East section with roadway: Range $830,000 to $1,105,000

West section with roadway: $409,000 to $520,000

'Actual' costs, which are undated, came to $1,612,000. It is understood that Dominion Government auditors approved payments for the sub-structure of $933,663 and $673,131 for the super-structure, totalling $1,606,794, thus disallowing only $5,206 or about 3/10ths of one percent of Legrand's submission. Legrand's pocket book permits the cost of the bridge to be broken down into major groupings and these are listed in the Appendix. One of the major costs listed is titled 'Overhaul'. This word was used in its original sense of 'to haul or draw something across or over' and not with the modern usage of 'renovation', and refers to the expense of freighting everything needed to build the sub-structure down the Fraser River in scows. Not surprisingly, this expense claimed one-fifth of the total cost of the bridge. It is thought that it cost about $110 million to construct the GTPR line between Winnipeg and Prince Rupert, so the bridge at Prince George absorbed 1.5% of the total

A subsiduary of the GTPR was the GTP Telegraph Co. Ltd which opened a public telegraph service between Winnipeg and Prince Rupert on 21 November 1914. The initial wiring hookup took place on 19th April of the same year, just two weeks after the 'last spike' ceremony. The company's telegraph reached Prince George on 18th February 1914 and by the end of the month the public there could send messages eastwards.The wires for this telegraph system were carried across the GTPR steel bridge above the track at truss-top height but, to clear the maximum elevation of the lifting span, the wires had to be taken vertically up the sides of this span to high masts and then horizontally across the gap. The original insulators used in this trans-provincial line are still sometimes seen in second-hand stores; they are of white porcelain or tinted green glass and carry ownership initials.



The bridge received deserved publicity in 1999, being on the front cover of the Prince George telephone book. Photo by the author

Today this bridge carries more traffic than could have been envisaged 85 years ago. Principal through-traffic is grain and coal moving westward and lumber products moving in both directions. Prince George generates a fair amount of traffic itself as it boasts three pulp mills, 12 sawmills, a veneer plant, and a small oil refinery. It has to be mentioned that one of the pulpmills has its own railway that crosses the Fraser on its private bridge some five miles upstream from the bridge of this article; total trackage is nearly 10 miles, of which over half is its main line connecting the mill to the CNR mainline. Reverting to CN traffic, between eight and 16 freight trains move over the CN bridge every 24 hours in either direction. Passenger traffic consists of three VIA trains per week in each direction, running between Jasper and Prince Rupert year-round, and always over-nighting at Prince George. They are mainly operated for the benefit of tourists because of the superb scenery. The bridge is located at Mile 145.0 [at western abutment] in the Fraser Subdivision, with Prince George depot at Mile 146.1. The bridge itself is within yard limits so crossing speeds do not exceed 15mph; it is frequently part occupied by switchers and their cars because the first switch at the east end of Prince George yard is sited 20 paces from the bridge's west abutment. One can only conclude this article by restating what was said at the beginning, that this half-mile long bridge was built in epic and heroic circumstances and its history needs to be documented, remembered, and marvelled at !

Appendix of Technical Data

Building Dates: Constructed between September 1913 and January 1915. Time frame: 8 months for sub-structure and 8 months for super-structure with one-month overlap in April 1914.

Length between parapets:

east section 1227'2", west section 1431'8", total 2658'10"

Length between bearing points

east section 1222'6", west section 1427'0", total 2649'6"

(One half mile measures 2,640ft, so bridge length exceeds this by a few feet).

Width: Outer edge of spans at 20ft; 2 roadways each of 12ft; total 44ft.

Spans: Total of 13 through-truss spans; two at 250ft; ten at 200ft, and one lifting (draw) span of 100ft which ascended max. of 35ft to provide 50ft river clearance above high water level.

Piers: Total of 12 (numbered from east bank) and 2 abutments; all of concrete.

Bridge capacity: Single track of railway; plus two cantilevered 12ft wide roadways in use 1915-87.

Bridge location: In datal sequence described as:- Mile 467.5 P.R.E. [stands for Prince Rupert East]; Mile 1277.2; Mile 1278.8; Mile 1279.5 [from Winnipeg which was Mile 0]. Changing mileages reflected track changes/refined measurements over time. Currently Mile 145.0 from McBride, Fraser Subdivision.

Elevations: Main channel river bottom - 1,823ft above sea level; Low water - 1,839ft; High water - 1,858ft; Rail level - 1,874ft, 4 in.

Cost: by structure and job materials as per table below.

* In LeGrand's pocket book, $324,458 for overhaul was allocated to East section only, but for this review it seems more realistic to apportion equally between East and West sections.

Cost: by Unit or Total Quantites

Excavating: 20,942 cubic yards @ $10.73 cub/yd. Concrete: 14,476 cubic yards @ $19.50 + 5% FWS commission cub/

TABLE OF COSTS FOR BUILDING GTP BRIDGE AT PRINCE GEORGE

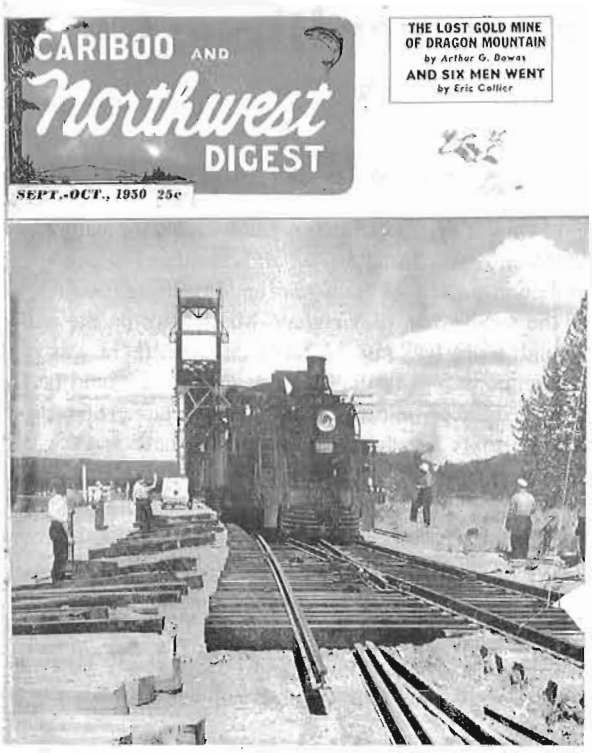
ITEM	EAST SECTION	WEST SECTION	TOTAL	PERCENT
Sub-structure	559,771	367,229	927,000	57.5
Super-structure	370,000	315,000	685,000	42.5
Totals	929,771	682,229	1,612,000	100.0
Excavating	154,735	62,340	217,075	13.4
Concrete piers	185,151	113,472	298,623	18.5
Steel itself	180,986	168,568	349,554	21.8
Steel erection	86,100	87,480	173,580	10.8
All else	160,570	88,140	248,710	15.4
Overhaul (Fraser R)	162,229*	162,229*	324,458	20.1
TOTALS	929,771	682,229	1,612,000	100.0

yd. Coffer dam piles: 2,610 piles with driving cost of $56,507. Steel fabrication in Ontario: East section @ $3.75 per lb, West section @ $2.89 per lb. Erecting: $30 per ton of steel. Engineering supervision & related costs: $24,276. Labour costs: All included in job/material costs; labourer working on railway grade in region earned about $3 to 3.50 for 10-hour day. Possibly unskilled men working on sub-structure received $3.50 to 4 because of day & night shifts and greater hazards. Scowmen & tradesmen earned $5.

Steel in structure East section = 2,870 tons; West section = 2,916 tons; Total = 5,786 tons.

200ft spans weigh approx. 420 tons; total steel in lift span about 580 tons

GTPR in nutshell: Incorporated 24th Oct. 1903; eastern end commenced near Winnipeg 29th Aug. 1905; B.C. surveys completed by 1907; western end commenced at Prince Rupert [raw coastline] 7th May 1908; east & west sections joined near Fort Fraser, B.C. on 7th April 1914, totalling 1,757.9 miles; first Winnipeg-Prince Rupert through-service commenced 6th June 1915; failing financially in 1916 due to European war - at 1,962 mileage with total investment of $192 million; placed in receivership 7th March 1919 and operated by ad hoc Cdn National Rlys created by Order-in-Council 20th Dec. 1918; CNR becomes truly official 4th Oct 1922. Current mileage Jasper to Prince George=253.4, Prince George to Prince Rupert=467.1; total 720.5 miles.



The Prince George bridge was the subject of the cover of the September-October 1950 issue of Cariboo and Northwest Digest.

SOURCES

(1) Bridge Engineer's Pocket Book (personal): 25 page extract, undated but covering years c1912-15. Compiled by J.G. Legrand [1861-1923]. Page size approx. 5" x 8". Held by CN Western Region, Edmonton.

(2) Article: 'Building Bridge Substructure on the Grand Trunk Pacific Rly' by W.C. Ruegnitz; Engineering News, 8 Oct 1914, 5pp. Contains 1 bridge plan and 8 poor grade photos.

(3) Book: "A Thousand Blunders - Story of Building of Grand Trunk Pacific Railway" by Frank Leonard, University of BC Press, 1996, 344pp. See pages 77 [contracts], 86-88 [roadways], 212-215 [navigation litigation], 252-255 [freight traffic].

(4) Local newspapers: 'Fort George Herald' and 'Fort George Tribune', 1913 and 1914, both weeklies. Very sparse references about the bridge. [understandable as readers would have walked to riverbank to see for themselves]. Startup of 1914 train service was extracted from these sources and not from official timetables.

(5) Newspaper supplements: Both published by 'Prince George Citizen'. (a) Centennial edition of 20th July 1971, called 'Grand Trunk's Final Hurdle' with 8 photos; (b) 'Seventy Years of Rail', 27 Jan 1984. Both useful.

(6) Book: "Canadian National Railways - Vol 2" by G.R. Stevens, Clarke Irwin Ltd, Toronto, 1962, 547pp., two short paragraphs on p.193 and 196, plus background on GTPR.

(7) Transcript of narrated slide show: Untitled but would be 'Some aspects of construction of GTP Railway between Tete Jaune Cache and Prince George, c1911-15'. Most slides undated. Talk given by Ted Williams at Prince George Library in Feb 1984.

(8) Article: "Construction of the Grand Trunk Pacific Railway in B.C." by J.A.Lower. p.163-181 of B.C. Historical Quarterly, July 1940. Useful for date interpolations except for incorrect bridge dates quoted as:- commence 31/8/12; completion 7/3/14.

(9) Book: "The Railway Contractors: Story of John W. Stewart" by G.W. Taylor, Morriss Pub., Victoria, 1988, 144pp. Very slight mention of Bates & Rogers Construction Co. on p.80-81. Nearly half of book is devoted to building of GTPR, so handy overview.

(10) Regulations: 'Operating Fixed and Moveable Spans of Railway Bridges'; issued by Board of Railway Commissioners; "British Columbia Pilot, Vol 1", 1951, Canadian Hydrographic Service, Ottawa.

(11) Period textbooks: Providing details of fixed and 'draw' railway bridges: [a] "Design of Steel Bridges" with 52 fold-out drawings, F.Kunz, McGraw-Hill, 1919. [b] "Moveable and Long-span Steel Bridges" with photos and plans, G.A.Hool, McGraw-Hill, 1923. Neither viewed by author.

ACKNOWLEDGEMENTS

Substantial thanks to Les Kozma, Edmonton, who supplied sources and documents, encouragement, and text reviewing; Fraser-Fort George Regional Museum & Archives; CN, Edmonton; Dr Frank Leonard, New Westminster; Kent Sedgwick, Prince George; Windsor Community Museum, Ontario. Author, David Davies, 262 Robson Dr., Kamloops, B.C. phone (250) 374-5266.

Engineer Birse: Canada's Answer to Casey Jones

by Fred F. Angus

"We're all in the river, the engine's gone, and Joe Birse is at the bottom."

One of the most famous train wrecks in history occurred exactly one hundred years ago; early in the morning of April 30, 1900 to be exact. In an era when horrendous wrecks happened with distressing frequency, this one was relatively minor. A fast southbound passenger train rear-ended a freight which was being switched and had not cleared the main line. This took place near the small town of Vaughan, Mississippi on the main line of the Illinois Central (a line now owned by Canadian National). Although there was considerable damage, there was only one fatality, and the episode did not rate being mentioned in most newspapers, except in the immediate area. It would be entirely forgotten today except for the fact that the one person who died was the engineer, named John Luther Jones (1864-1900), who has been immortalized as "Casey Jones, the brave engineer". Although there are conflicting stories, there is very strong evidence that the wreck was Casey's own fault, as he had been speeding, in an effort to make up time, and perhaps overlooked a warning signal. At any rate, a song was written by one Wallace Saunders; this became a great hit, and the story of Casey Jones has been famous around the world for almost a century.

Ten years before the immortal Casey took his "trip into the Promised Land", an accident took place on the Grand Trunk Railway of Canada (a line also now owned by Canadian National), at Lachine, a few miles west of Montreal. The same elements of the story are present; the brave engineer who saved his train, and many lives, but died at his post with his hand on the throttle. As with Casey, the engineer was the only fatality, and the passengers and crew had a very narrow escape. However there is one big difference; most people have heard of Casey Jones, almost no one has heard of Joseph Birse, the equally brave engineer who died on a cold snowy morning one hundred and ten years ago. This is his story.

If there was ever a justification for opening a story with the time-worn cliché "It was a dark and stormy night", this was it. In fact the reporter for the Montreal Witness came close to the infamous phrase when he stated that "It was dark and stormy". The time was the early morning of Thursday, December 4, 1890, the place was Lachine, Quebec, eight miles west of Montreal, and there was a ferocious blizzard in progress, the first big snowstorm of the season.

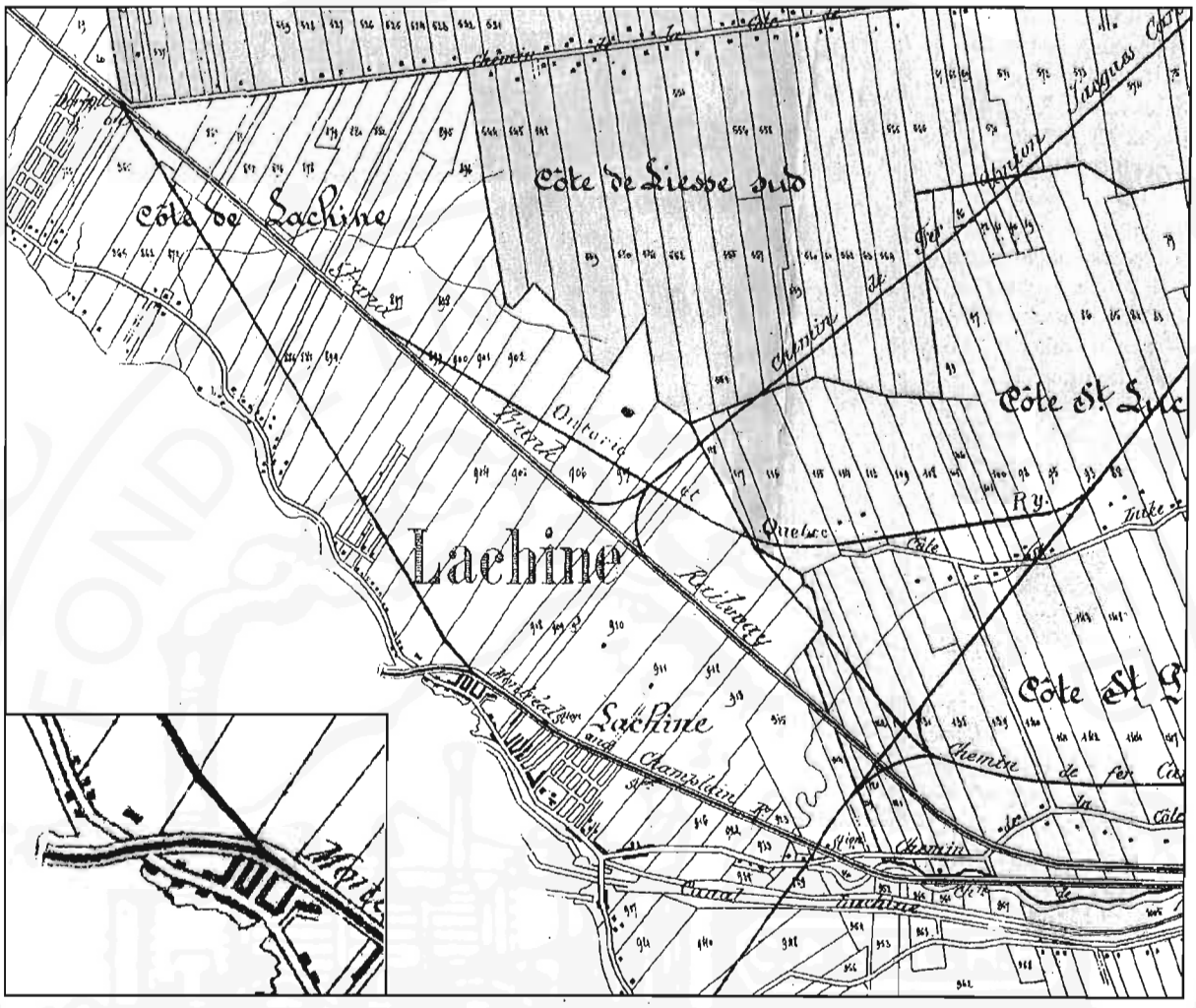
JOSEPH BIRSE, 1838 - 1890

From The Dominion Illustrated, December 13, 1890.

It had been a bad night for the Grand Trunk. The tracks out of Bonaventure, Montreal's main passenger station, had been blocked since 10:40 the night of the 3rd, and all across the system there were reports of trains running very late or being immobilized by the storm. The blockage at Bonaventure was caused when passenger engine No. 90, backing into the station, probably for the 11:35 P.M. local to Lachine, collided with a freight train that was being switched across the main line, and which the engineer did not see in the storm. Although damage was minimal, three freight cars were derailed in such a position that all lines were blocked; no trains could get into, or get out of, Bonaventure Station.

One train that was supposed to have left at 11:55 P.M. was train No. 6, the overnight express to Toronto with connections to Chicago. Its departure time was not unlike that of the present day "Enterprise", but its scheduled arrival time was very much later, 11:30 A.M., almost a 12-hour trip. In fact it was an express in name only, for it stopped at most of the local stations. A connecting train was timed to leave Toronto at 1:00 P.M., and reach Chicago at 8:10 A.M. the following day, more than 33 hours (allowing for the time difference) from Montreal. However at 5:25 A.M. this December 4 (when it should have been somewhere between Kingston station and Napanee), it had not yet even departed from Montreal! Things were bad, but they were going to get worse.

Part of the route followed by the Toronto train between Montreal and Dorval was quite new, having been in use for only two years. The original Grand Trunk main line, built in the 1850s, went quite far inland, almost the same route as the present-day main line of the CNR. However in 1888 the GTR had built a double track line branching off the former Montreal & Lachine Railway



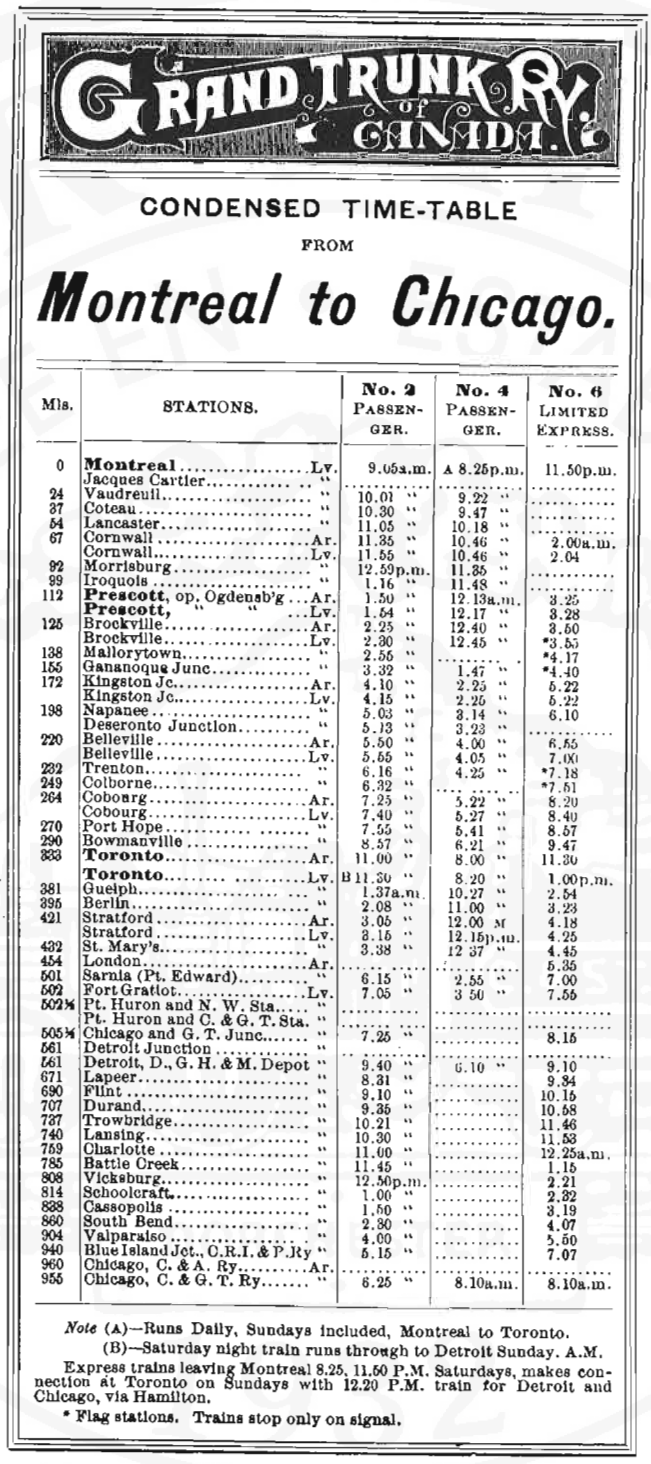
ABOVE: This map is from a large map of the Island of Montreal, printed in 1890, the year of the Lachine wreck. The connection between Lachine and Dorval had been in use only two years. The inset gives a close-up of the area near the Lachine wharf. The Y on which the Lachine local trains turned is not shown, but it was to the right of the track leading to the wharf.

BELOW: Montreal;s Bonaventure station as it appeared at the time of our story. It was new, having been built in 1887.

and running straight to Dorval where it joined the old main line. At the same time the old M&L was double tracked. This route via Lachine became the main line and remained so until 1961 when the 1888 connection was abandoned and through trains began to run on a new line which very closely approximated the original route. The point where the 1888 line departed from the M&L was called the Willows, and was only 3050 feet from the Lachine wharf which was the western terminus of the M&L. Since some local passenger trains ran only between Montreal and Lachine, with the occasional one running all the way to the Lachine wharf, a switchman was on duty at the Willows to turn the switch for the main line or the Lachine wharf line depending on which train was approaching. The Lachine local trains would turn on a Y between the switch and the wharf, and then head back towards Montreal. A whistle signal was supposed to tell the switchman which way to throw the switch, but that night something went terribly wrong.

During the night the storm intensified and the wind reached 40 miles an hour, the temperature fell to 8 degrees F. while almost 12 inches of snow fell. Meanwhile the passengers on the Toronto train waited while the work of rerailing the derailed cars continued. The line was finally open again soon after 5:00 A.M. on December 4. Whether the train crew had been on duty all night, or had been called at an early hour in the morning we do not know. In any case they were on duty by 5. The train consisted of an engine, a baggage car, a second-class immigrant coach, a first-class coach and two sleepers, one of which was the through Pullman from Boston to Chicago. The train was in charge of conductor Stone, while engineer Joseph Birse and fireman Samuel Edwards ran the locomotive. Edwards was 29 years old and had worked for the GTR since 1882. As was customary they were scheduled to run it as far as Brockville, 125 miles away. Unfortunately we have not yet been able to determine the number of the engine. In the baggage car, Mr. A. White tended to his duties as baggageman.

Engineer Joseph Birse was one of the longest-serving employees on the Grand Trunk. Born in Aberdeen, Scotland on June 24 1838, he had emigrated to Canada in the year 1856. In September, 1858 he had entered the service of the GTR. This was in the days of the broad gauge, only two years after through service had begun between Montreal and Toronto, and before the Victoria Bridge was completed. He was promoted to Engine Driver in 1864, the same year as another GTR engineer whose career was very much shorter; William Burnie of Beloeil Bridge disaster fame. Three years later (1867) he started working on the western division, running between Montreal and Brockville, and had worked there for 23 years. He was married, with six children and lived in a neat two-story house at 134 Congregation Street in Point St. Charles. Only three weeks before, his daughter had married engineman Riddell of the GTR. Birse was a very respected employee of the GTR. Steady and skillful, he added to his knowledge of his business a taste for literature which he used every opportunity to cultivate. An official said that he was a most upright man, a capital engineer. This morning he would demonstrate his sense of duty to the utmost.



GRAND TRUNK RY. of CANADA.

CONDENSED TIME-TABLE

FROM

Montreal to Chicago.

Mls.	STATIONS.	No. 2 Passen-ger.	No. 4 Passen-ger.	No. 6 Limited Express.
0	**Montreal**.....Lv.	9.05a.m.	A 8.25p.m.	11.50p.m.
	Jacques Cartier..... "	.....	.....	.....
24	Vaudreuil..... "	10.01 "	9.22 "	.....
37	Coteau..... "	10.30 "	9.47 "	.....
54	Lancaster..... "	11.05 "	10.18 "	.....
67	Cornwall.....Ar.	11.35 "	10.46 "	2.00a.m.
	Cornwall.....Lv.	11.55 "	10.46 "	2.04
92	Morrisburg..... "	12.59p.m.	11.35 "	.....
99	Iroquois..... "	1.16 "	11.48 "	.....
112	**Prescott**, op. Ogdensb'g...Ar.	1.50 "	12.13a.m.	3.25
	Prescott, " " ...Lv.	1.54 "	12.17 "	3.28
125	Brockville.....Ar.	2.25 "	12.40 "	3.50
	Brockville.....Lv.	2.30 "	12.45 "	*3.55
138	Mallorytown..... "	2.55 "	.....	*4.17
155	Gananoque Junc..... "	3.32 "	1.47 "	*4.40
172	Kingston Jc.....Ar.	4.10 "	2.25 "	5.22
	Kingston Jc.....Lv.	4.15 "	2.25 "	5.22
198	Napanee..... "	5.03 "	3.14 "	6.10
	Deseronto Junction..... "	5.13 "	3.23 "	.....
220	Belleville.....Ar.	5.50 "	4.00 "	6.55
	Belleville.....Lv.	5.55 "	4.05 "	7.00
232	Trenton..... "	6.16 "	4.25 "	*7.18
249	Colborne..... "	6.32 "	.....	*7.51
264	Cobourg.....Ar.	7.25 "	5.22 "	8.20
	Cobourg.....Lv.	7.40 "	5.27 "	8.40
270	Port Hope..... "	7.55 "	5.41 "	8.57
290	Bowmanville..... "	8.57 "	6.21 "	9.47
333	**Toronto**.....Ar.	11.00 "	8.00 "	11.30
	Toronto.....Lv.	B 11.30 "	8.20 "	1.00p.m.
381	Guelph..... "	1.37a.m.	10.27 "	2.54
395	Berlin..... "	2.08 "	11.00 "	3.23
421	Stratford.....Ar.	3.05 "	12.00 M	4.18
	Stratford.....Lv.	3.15 "	12.15p.m.	4.25
432	St. Mary's..... "	3.38 "	12 37 "	4.45
454	London.....Ar.	.....	.....	5.35
501	Sarnia (Pt. Edward)..... "	6.15 "	2.55 "	7.00
502	Fort Gratiot.....Lv.	7.05 "	3 50 "	7.55
502¼	Pt. Huron and N. W. Sta..... "	.....	.....	.....
	Pt. Huron and C. & G. T. Sta. "	.....	.....	.....
505¼	Chicago and G. T. Junc..... "	7.25 "	.....	8.15
561	Detroit Junction..... "	.....	.....	.....
561	Detroit, D., G. H. & M. Depot "	9.40 "	6.10 "	9.10
671	Lapeer..... "	8.31 "	.....	9.34
690	Flint..... "	9.10 "	.....	10.15
707	Durand..... "	9.35 "	.....	10.58
737	Trowbridge..... "	10.21 "	.....	11.46
740	Lansing..... "	10.30 "	.....	11.53
759	Charlotte..... "	11.00 "	.....	12.25a.m.
785	Battle Creek..... "	11.45 "	.....	1.15
808	Vicksburg..... "	12.50p.m.	.....	2.21
814	Schoolcraft..... "	1.00 "	.....	2.32
838	Cassopolis..... "	1.50 "	.....	3.19
860	South Bend..... "	2.30 "	.....	4.07
904	Valparaiso..... "	4.00 "	.....	5.50
940	Blue Island Jct., C.R.I. & P.Ry "	5.15 "	.....	7.07
960	Chicago, C. & A. Ry.....Ar.	.....	.....	.....
955	Chicago, C. & G. T. Ry..... "	6.25 "	8.10a.m.	8.10a.m.

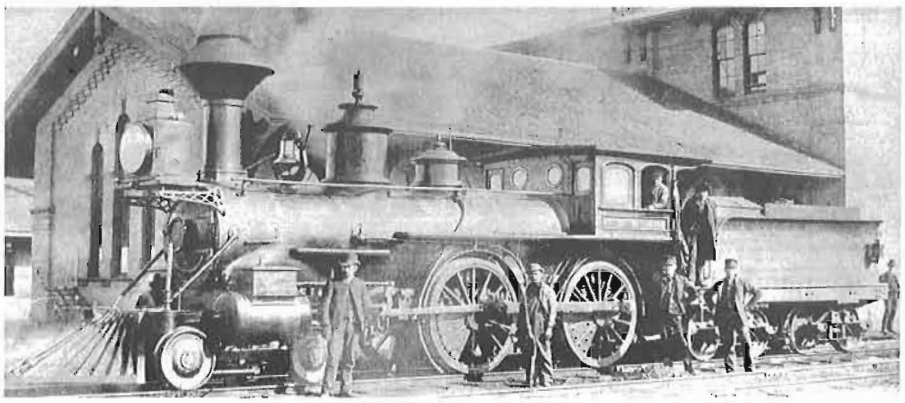
Note (A)—Runs Daily, Sundays included, Montreal to Toronto.
(B)—Saturday night train runs through to Detroit Sunday. A.M.
Express trains leaving Montreal 8.25, 11.50 P.M. Saturdays, makes connection at Toronto on Sundays with 12.20 P.M. train for Detroit and Chicago, via Hamilton.
* Flag stations. Trains stop only on signal.

This timetable, dated December 20, 1888, is similar to that of 1890 except that in 1888 No 6 departed at 11:50 P.M.

The four companions who had worked with Birse on the Brockville run all had first names that began with J; Joseph Birse, J. Donohue, John Howarth and James Stewart. For many years they had been great friends, but by 1890 the other three had all died violently and only one was left. Howarth was killed in a "run-off" at Kingston in 1884, Donohue was crushed to death in another run-off at Wales in 1886, and Stewart died of terrible injuries received in a "pitch-in" at Pointe Claire in 1887. Recalling those days, Joe Birse's daughter said "Dad had many a narrow escape, but never an accident". It seemed that he was just lucky, but this luck was about to change. Little did Joe Birse realize when he climbed into the cab of the engine that December morning that within the hour he would join his friends in death.

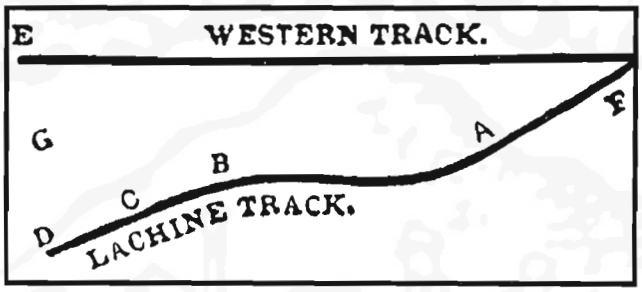
At 5:30 A.M. train No. 6, the Toronto Express, departed from Bonaventure more than five and a half hours late, the first train to leave after the line was reopened. Twenty-three minutes later the Lachine local, scheduled for 5:40, and therefore 13 minutes late, also departed. Because of the derailment, train No. 6 was routed on the north track to St. Henry, and then followed its regular route. Meanwhile eight miles west, at the Willows, the storm was even worse than it was in downtown Montreal. Switch tender Emery Dubois, who was 22 years old, was awaiting the arrival of the first train due in the morning. Under normal circumstances this would be the Lachine local which was due soon after six. Whether he realized that the Toronto train, due hours before, had not yet passed was never made entirely clear. Dubois was paid $1.00 per day as a switchman, but if he served as operator he got an extra 10 cents. That morning he had been on duty 11 hours and was nearing the end of his 12-hour day.

The procedure at the Willows was as follows. On the switch stand was a target which was visible to an oncoming train if and only if the switch was set to the Lachine line. At night a white light indicated that the main line was clear, while a purple light would show if the switch was turned. When a westbound train approached it was the rule for it to blow one long blast if it was going through on the main line, and to blow four short blasts if it was going on to the Lachine line. In addition a message was sent over the telegraph line, using code "UX", when the train left Bonaventure and when it passed Lachine Junction, some distance east of the Willows. This message could be heard by all stations from Montreal to Kingston, if the operator was listening, which he was not required to do.



There is no known photo of the engine involved in the wreck, and we do not even know its number. No. 403, seen here in 1888, is a typical GTR engine of the period, before the late 1890s when C.M. Hays, the new General Manager ordered the replacement of the diamond stacks by the straight type. John Thompson collection.

Because of the storm, and the rerouting between Bonaventure and St. Henry, train No. 6 lost some more time, and approached the Willows at 6:08 A.M., almost exactly the scheduled time of the Lachine local. Engineer Birse gave one long whistle, a fact corroborated by fireman Edwards and brakeman Little. Dubois heard the whistle too, heavily muffled by the snow. Then a headlight appeared, shining weakly through the gloom. Since this was exactly the time the Lachine local was due, Dubois, never even thinking about the Toronto train that had not yet passed, thought that he had missed the four blasts, and he quickly turned the switch to the Lachine track. As the train rolled by, and turned off the main line, the thought crossed his mind that the engine was different from the one usually on the local. Still he did not realize his mistake, that this was not the local but the Toronto express! He later claimed that he left the switch set for Lachine and went in to his shelter to wait for the train to turn on the Y and return, en route back to Montreal. Only a few minutes later he heard another train approach and sound four blasts and he realized the truth. This was the real Lachine train; the other one must have been the No. 6. Suddenly stricken by panic and shock, he was, in his own words, "confused" and he neglected to signal this train to stop, so it too headed down the branch line.



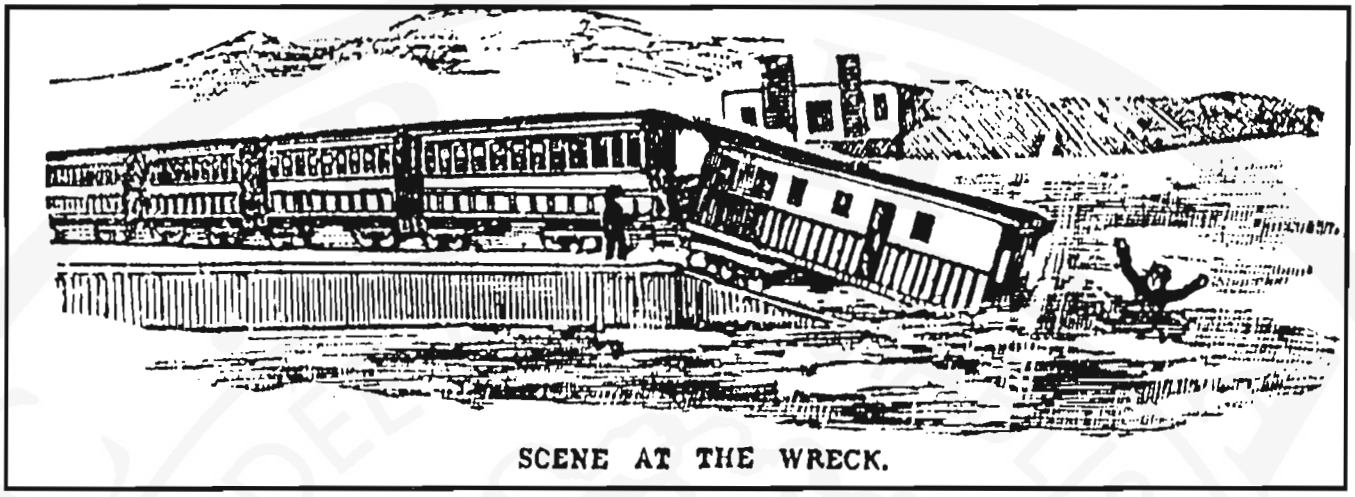
This diagram appeared in the Montreal Herald on December 5, with a description of the points indicated. The switch is at "F", while "B" marks the spot where the brakes were applied. "C" is the Lachine Wharf station.

Miles	STATIONS.	5 Pass	27 Pass	9 Exp.	29 Pass
	LEAVE	A.M.	A.M.	A. M.	A.M.
0	Montreal ▲85	†5 20	†6 30	† 6 45	†8 00
1.00	St. Cunegonde	5 25	6 35	.....	.....
1.50	St. Henri	5 27	6 37	6 52	8 05
2.09	Turcot	5 31	6 41	.....	.....
4.68	Montreal West	5 35	6 45	.....	.....
5.88	Rockfield	5 37	6 47	.....	.....
6.48	Dominion	5 39	6 49	.....	.....
6 95	Convent	5 41	6 51	.....	.....
8.00	Lachine Wh'f72	.....	.....	.....	8 18
7.82	Lachine 72	5 50	6 55	.....	.....

An 1894 timetable showing the first four trains out in the morning. In 1890 train 5 left Montreal at 5:40, arrived at Lachine at 6:10 and did not go to the wharf. The first express did not pass Lachine until after 7.

Even after the first mistake, disaster was not inevitable. The express was going fairly slowly, only 15 or 20 miles an hour, and there was plenty of time, at least a minute and a half, to stop before the wharf. All that would happen would be that the train would stop, wait for the local to clear, then back up to the switch, reverse again, and then resume its trip west. Maybe 15 or 20 minutes lost, and some embarrasing questions from headquarters, but that would be all.

But unfortunately, things did not work out that way. Fireman Edwards was too busy shoveling coal to look out, while engineer Birse was fully occupied with the engine. Due to the storm, visibility was very low, and the tracks were covered with snow. Neither man in the cab noticed the extra jolt as the train turned off the main line and neither realized that they were on the wrong track, as precious seconds went by. Evidently engineer Birse had seen the signal clear when he looked out, but Dubois had turned the switch just after the smokstack and boiler obscured it from the engineer's view. The first inkling they had that something was wrong was just before they reached Lachine Wharf station! By then it was too late. Without saying a word, engineer Birse shut off steam, applied the air brakes, turned on the sanders and desperately tried to reverse the engine. What happened is best described in the words of fireman Edwards: *"Proceeding when close upon the semaphore at the Willows, Birse slackened the speed of the train to go steadily around the curve, gave one long whistle as a warning to the switchman that we were coming, and put his head out the window to look out for the switch. Seemingly satisfied that*



A view of the wreck, sketched within a few hours of when it happened. There are some inaccuracies in depicting the rolling stock, but the proportions are all right. Notice fireman Edwards in the water, waving madly. The same picture appeared in both the "Witness" of December 4 and "La Presse" of December 5, showing that both papers shared woodcuts.

everything was all right, he started her at full speed again. I stooped to put in fire and on rising saw a dark shadow like a house passing the cab window on the other side. I was going to say that something was wrong when Birse grabbed the throttle with the intention of shutting off. The next moment I had to catch hold of the throttle to steady my feet. The train seemed to be dancing and I thought she was off the rails. Then she went downward".

After the first jolt of the applying brakes there was a continued motion as the wheels slid. There was still time for Birse to jump, but it seems he never considered this option. He remained at his post in a desperate effort to stop the train; the lives of almost 100 passengers depended on him. He pulled hard on the whistle cord, sounding a warning that the train was out of control. On went the train, the wheels still sliding on the wet, slippery rail. Past the Lachine wharf station, out on the wharf and up to a solid stop-block at the end of the track. The sheer weight and momentum broke the block loose and, with the whistle still shrieking, the engine and tender went off the end of the wharf, crashed through the ice and sank in 16 feet of water.

THURSDAY, DECEMBER 4, 1890.

A SWITCHMAN'S ERROR.

AN ENGINEER DIES WITH HIS HAND ON THE THROTTLE.

THE ENGINE OF THE MIDNIGHT GRAND TRUNK TRAIN FOR TORONTO LEAPS INTO THE RIVER AT LACHINE—MIRACULOUS ESCAPE OF THE FIREMAN AND PASSENGERS.

A switchman's mistake, a fast train, heavily loaded, turned on to a wrong track, a plunge into the icy river, a life lost, and a fearfully narrow escape of nearly a hundred passengers!

That is the story of the accident at Lachine this morning.

What a morning it was! Dark and cold, with a remorseless wind that tore around corners and flung the snow into your eyes, and beat the clothes off your back, and pierced you to the marrow.

THE CRASH.

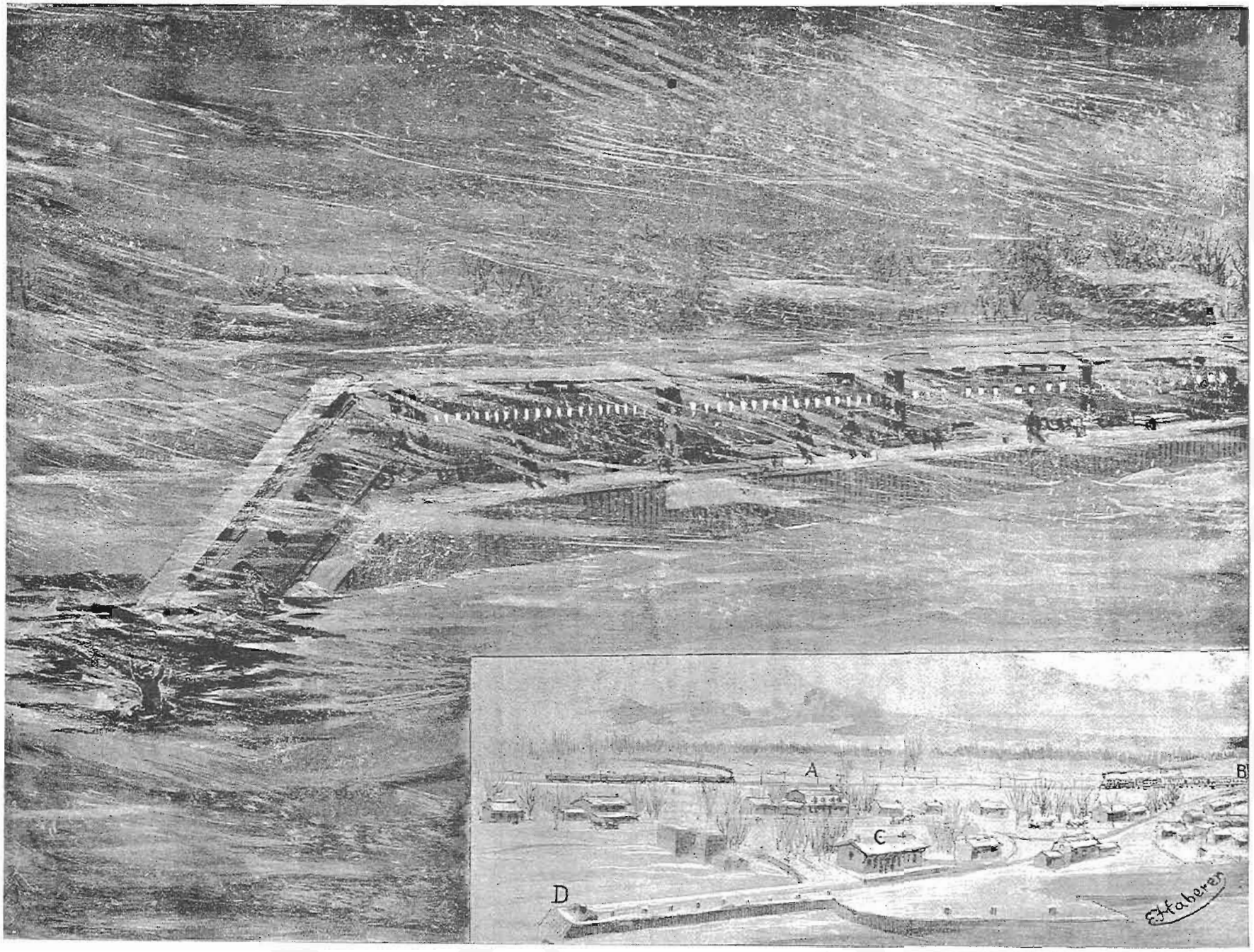
And at six o'clock a train came tearing along past the Willows about seven hundred yards from the Lachine wharf station, past the switch and past the man at the switch, and past the Lachine station, and past the tremendously strong and staunch shunting post, and—crash went the engine through the ice!

The first report; in the Montreal "Daily Witness".

The front end of the baggage car also went off the end, and the car dangled at a steep angle above the water. Behind the baggage car the rest of the train stopped with a series of violent jolts but did not even derail. Joseph Birse had stopped the train in time to save all the passengers, but in so doing he had lost his own life.

On board the train, conductor Stone was punching tickets when he felt the first shock as the brakes were applied. Then came a greater shock as the engine hit the stop block. With further jolts, bangs and jars, which thoroughly awakened any of the passengers who might have been asleep, the train came to a stop. In one of the Pullmans a lighted lamp fell to the floor with a crash, and all was in confusion. Fortunately someone smothered the flames, and conductor Stone had the presence of mind to put out the fire in the stove in the baggage car; thus saving the entire train from catching fire. He then went through the train to see who might be hurt and need help. One passenger, Rev. Mr. Acheson of Niagara Falls, was well pleased with the Providential escape, and he said, with a twinkle in his eye "It is well to have some good men on board a train".

OPPOSITE PAGE: This detailed and very dramatic view, by E. Haberer, appeared in "The Dominion Illustrated", a high quality weekly magazine, on December 13, nine days after the wreck. It shows the passengers facing the fury of the storm after disembarking from the train. Fireman Edwards is seen waving to attract the attention of rescuers, and some of the buildings near the wharf appear faintly in the background. Note that the passenger cars are still fully lit. The birds eye view in the inset is the best overall view we have of the layout of track and buildings in the area.



GENERAL VIEW.

PLAN, SHOWING MAIN LINE, WITH SWITCH TO LACHINE WHARF.
A.—Main line. B.—Switching point; where the error was made. C.—Lachine wharf station.
D.—Spot where the accident happened.

THE FATAL ACCIDENT AT LACHINE, 4th DECEMBER.
(By our special artist.)

Meanwhile the real Lachine train came up the line, and the engineer saw the tail lights of No. 6. He was already going quite slowly, so had no difficulty stopping about 300 or 400 yards behind the express. The flag man from No. 6 ran up to his train and said with some hyperbole "We're all in the river, the engine's gone, and Joe Birse is at the bottom".

Only one person, not on the train, appears to have seen the accident happen. This is not surprising since it happened soon after 6 A.M. in the midst of a blizzard. As the engine passed the street crossing near the depot, Mr. Frank Schwago of Hanna's Hotel stepped from the door of the hotel and with horror saw that the train was rushing at "tremendous" speed towards the end of the pier. It was still quite dark and all the lights in the coaches were lit. He viewed the plunge of the locomotive which smashed through the ice with a fearful crash and sank in a cloud of steam. Then followed a painful silence until the people emerged from the cars and went to the assistance of fireman Edwards.

THE LACHINE ACCIDENT

That the train wreck which occurred at Lachine yesterday morning was not one of the most terrible that has ever taken place in Canada, is well nigh miraculous. The railway wharf at Lachine, over the end of which it is not difficult to imagine a train launching itself, runs out into deep water and a strong current, and at this time it is surrounded by floe ice. The storm, which was raging at the time was a veritable blizzard, the men on the engine could not see two feet before their head-light, and the snow, as a matter of course, muffled the usual sounds of the running train. After waiting for some hours for a clear track, the train had just started, and it is probable that the engineer had not had time to become accustomed to the storm. Whether the system or the switchman was to blame for the opening of the switch is a matter upon which, at the present time, it would be unjust to venture an opinion. If, after the switch had been opened, the train had rushed straight on to the bumper at the end of the wharf, the chances are that but a small number of those on board of it would have escaped. The engineer discovered that he was on the wrong track in time to save his train, but not himself. Unfortunately, we have no railway commission in Canada, and this wreck and its causes will be investigated, on behalf of the public only by the coroner's jury. The duty which thus devolves upon this body is a very onerous one, and they should attempt to come to a conclusion as to the merits of the system under which such an important switch as that leading to a *cul de sac* like the Lachine wharf is possible.

The Montreal Daily Witness, December 5, 1890.

The escape of Edwards was almost miraculous. At the time of the accident he was busy with his shovel, and as the engine plunged off the wharf the tender fell on him. Somehow he was unhurt and managed to get himself loose and reach the surface of the frigid water. In the words of the reporter for the Montreal Herald "*No sooner had he entered the freezing-cold water than he felt the coals falling about him, and the battle for dear life began. Kicking himself free he rose towards the surface, but was struck by the large pieces of ice which had already floated over the spot where the engine went down. With his hands and arms bleeding from the fight he struggled to gain the air, and just when he thought that all was over with him his head appeared above the water. Being a good swimmer he succeeded in treading water until his cries for assistance were heard by those on the pier.*" His first words were: "For God's sake get me a rope or something, or I shall freeze to death here." Baggage man White heard his call and, although hurt himself, he grabbed an axe and chopped a hole through a partition in the car and escaped. Seeing Edwards' head in the water, he tried to reach him but to no avail. Then an "elderly Pullman passenger in an old-fashioned beaver hat", Mr. Edward F. Kernan of Charleston S.C., tore down some of the bell rope, climbed on the roof of the baggage car, and tried to throw the rope to Edwards. This was difficult because of the high wind, but someone tied a wooden stick to the rope, threw it, and eventually, after more than ten minutes in the cold water, Edwards was hauled out, cold, cut and bruised, but alive. Soon after he was brought into the warmth of the Pullman car he said "Poor Joe, He's gone. When that engine is brought up Joe will be found with his hand upon the throttle". And it proved to be so.

As soon as the shock of the impact was over, many of the passengers disembarked from the train on to the wharf. Up till then they did not know just what had happened, but when they looked around they realized what a narrow escape they had experienced. If the stop block had not been there the first cars would have followed the engine into the water, and if the block had not yielded the train might have buckled and gone sideways off the wharf. The reporter of the Montreal Herald described the scene as follows: "*People hastily wrapped themselves up and made their way to the end of the pier where a scene was enacted which completely baffles description. Thick clouds of snow were being blown with terrific violence and the cold was so intense that many had their ears frozen before they had been out of the car ten minutes. The baggage car was partially over the edge of the wharf; one end being up in the air and the passenger coach half under it. Around the pier on the thick ice could be seen the fragments of the terminus and the pieces of the front platform of the baggage car. Immediately after the accident huge cakes of ice floated over the hole made by the engine and formed a solid mass so that nothing whatever could be seen of the locomotive*".

Once the passengers realized that there was no more danger most of them re-boarded the train, and the stoves were re-lit to keep the cars warm. There they waited until the GTR sent out an engine to bring them back to Montreal. The sound of the crash had been heard even above the noise of the storm, and some of the local residents came out to give assistance. Much of the land in the area was owned by the Dawes family who owned a large brewery, and one of the first on the scene was Mr. James Dawes who supplied, among other things, a change of dry clothes for the fireman, while a doctor, who happened to be a passenger on the Pullman, rubbed him and gave him brandy to restore circulation.

News of the accident soon reached Montreal by the proverbial grapevine, as well as that relatively new invention called the telephone. At first details were few and the word spread that there had been a terrible wreck with more than 100 fatalities. Gradually more details came in and it was

BIRSE.—Drowned at Lachine, on the 4th inst., Joseph Birse, locomotive engineer, aged 51 years and 6 months. Friends and acquaintances are respectfully invited to attend the funeral from his late residence, 134 Congregation street, on Wednesday, December 10th, at half-past two o'clock, thence to Mount Royal Cemetery. Please omit flowers.

The funeral announcement, December 9, 1890.

realized that only one person had died; the rest had a very narrow escape. The GTR acted with surprising speed. An engine was sent out from Montreal and hauled the passenger cars, which were neither damaged or derailed, back to Bonaventure. Most of the passengers were able to resume their journey on the regular train scheduled to depart at 9:30 A.M. A work train with thirty men arrived about 10:30 A.M. and, after a good deal of trouble, the baggage car was pulled back to terra firma on December 5. As the Herald reporter said "*The front of the car was badly smashed, and the inside looked as though there had been a dynamite explosion*".

Some GTR employees considered the engine jinxed, as it had been in several previous accidents; not long before it had turned completely over in a ditch. One old railroader said "Let it stay there, it'll do no more damage". However work to recover it began at once. On December 7 a diver found the body of Joe Birse, but could not bring it up because it was trapped by the tender wheels which had smashed in to the cab. The tender was lifted on December 8, and the body was recovered. The report said: "*Birse was found in the posture which he was accustomed to take in his engine, with his right hand firmly gripping the lever*". Evidently he had been trapped in the cab, and drowned in the freezing water before he could escape. The prediction made by fireman Edwards just after the accident had come true. On December 9 the engine was lifted out and returned to Point St. Charles.

The funeral of Joseph Birse took place on the 10th from his house on Congregation Street. Several hundred mourners were there to show their respect. Railway employees from as far away as Brockville were present, and some of the passengers from the train attended to pay tribute to the engineer who had saved their lives. The funeral procession was almost a quarter of a mile long as it went to Mount Royal cemetery, where he was buried. Rev. Mr. Cruickshanks, the minister of St. Matthew's Presbyterian church, made the ceremony very impressive as the hearse moved away. In those days hearses were horse-drawn, and mourners frequently walked behind the hearse all the way to the grave, a distance of several miles.

Once the wreck had been cleared up there was the inevitable investigation as to what went wrong. The coroner's inquest began on December 9, the day before the funeral, and continued until December 18. The first day's proceedings were delayed for some hours while baliffs rounded up passers-by on the street to serve as jurors! Much evidence was heard and many questions asked. The two big questions were: how did the switchman mistake the Toronto Express for the Lachine local? and why did the engine crew not realize they were on the wrong track? Both the questions had ready answers. The switchman was fairly young and inexperienced and had been on duty for 11 hours. Despite the fact that "*the head-light of the Toronto train is about twice as big as that of the Lachine train, and that alone should have warned him*" the mistake is easy to make under the weather conditions that then existed. In 1890 the railways still used oil headlights which were none too bright no matter what their size, and in a blizzard it would be hard to distinguish until it was too late. The fact that the engine crew did not know they were on the wrong track is also easily explained. The curve towards the wharf is not very sharp, at least not near the switch (after all it was the main line until 1888) and, with visibility almost nil and the tracks covered with snow, the mistake is well understood. Someone also questioned why a message was not sent from Bonaventure to the Willows saying that the Toronto express would arrive on about the scheduled time as the Lachine local. The answer was "Well that's not done on a double track".

Where the fatal mistake was made; the site of the switch. This view is from between the two former lines, looking east, towards Montreal. The bicycle path on the right is where the line ran to Lachine wharf.
Photo by Fred Angus, March 24, 2000.

Looking out on Lachine wharf on March 24, 2000. The train stopped on the straight portion of the wharf, just short of the end. The light house was not there then. Photo by Fred Angus

Just to put this month of December 1890 into historical perspective, we digress briefly to mention two news items that were current topics of conversation during the eight days of the inquest. One, which looked back to the past, reported the murder of Chief Sitting Bull, an event which symbolized the end of the western frontier, while the other, looking to the future, told of the launch of the latest battleship, the U.S.S. *Maine* (of "remember the *Maine*" fame), a ship that would make so much history little more than seven years later.

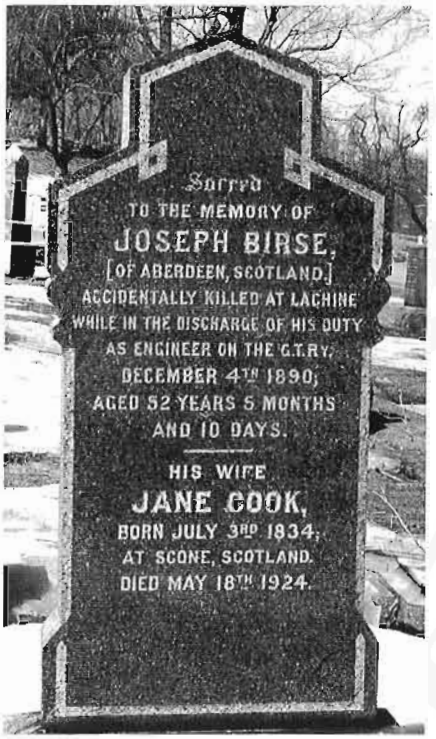
The house on Congregation Street where Joseph Birse lived. His was the left doorway of the building. Note the old style set-back door. Originally number 134, it was renumbered 516 in the 1920s. Photos by Fred Angus, March 23, 2000.

On December 18, the jury in the Birse inquest rendered its verdict, a verdict that did not really solve anything. No serious negligence was found against anyone, although, as usual, the system was criticized. However it was pointed out that the accident would not have happened if all the rules laid down by the GTR had been followed to the letter. The whole jury was tired out and fed up after their long ordeal, not to mention their "impressment", and they just wanted to see the episode come to an end before the Christmas holidays. The final conclusion was that it was an unfortunate combination of circumstances, not the least of which was the coincidence of the two train times, that had such tragic results. One juror, a Mr. Dick, thought the eight days were wasted and said "It will be a long time before I am caught in the street again to serve as a juror", and he did not sign the verdict, which he considered unsatisfactory. So "*the Coroner looked a little sadly at Mr. Dick, put the verdict in his pocket, his hat on his head, and disappeared into the cavernous darkness of the big staircase.*" It was all over.

The Lachine accident was a favourite conversation piece for several weeks, and some eulogies and poems were written, two of which we print here (the second could be sung to the tune of the "Wabash Cannonball"; we will leave it up to the reader to find a tune for the first). However the wreck had only one fatality and not much material damage, so once the hue and cry died down it passed from the public memory and has been all but forgotten for 110 years.

Today one can still see places connected with the wreck. The track is gone between 10th Avenue and Dorval, but the old right of way can still be traced. From what used to be called the Willows, the 1888 cutoff to Dorval, is now a street, and the line to Lachine Wharf is a bicycle path, but a few rails remain in the pavement. However one can stand where switchman Dubois stood that morning when he set the switch for the wrong track. One can also walk the 3050 feet to the lighthouse (not there in 1890) at the end of the wharf; the place where the engine fell into the water.

Back in Point St. Charles, the house on Congregation Street where Joseph Birse lived is still standing and in good condition. Originally number 134, it now bears, due to street renumbering, the number 516. It looks much as it must have looked when engineer Birse left it to report for his last assignment; driving the Toronto express in the early morning hours of that day so many years ago.



The tombstone of Joseph Birse in Mount Royal Cemetery, March 22, 2000. Photo by Fred Angus

Up in Mount Royal cemetery, the Birse family plot is easily visible. The large black granite tombstone is in excellent condition, unlike that of fellow GTR engineer Alonzo Dixon a few hundred yards away. The inscription on it tells that he died at Lachine while in the discharge of his duty as engineer on the Grand Trunk Railway.

So this year, when you read all the stories that will be published about the commemoration of the centennial of the death of Casey Jones, and how this brave engineer died at his post saving his train, take a few minutes to remember poor old Joe Birse, another brave engineer, who also died at the throttle saving his train and its passengers on a stormy December morning in 1890.

JOE BIRSE

Down to his death in the wild winter morning -
Down to his death without one word of warning;
All lonely he stood with his duty and God,
Nor flinched in the pathway the mighty have trod -
And died with his hand on the throttle.

Behind him the storm and the darkness of night,
Before him the first early gleam of the light;
Behind him a train-load of passengers, pent,
Who are safe if the brave engineer is content
To die with his hand on the throttle.

No driver demurs when the challenge is called,
Nor sinks back despairing, aggrieved and appalled:
Steel to steel, man and master, they die at their post,
And their names are by this time, methinks, quite a host,
Gone down with their hands on the throttle.

Who may tell of the tempest that stirred in his breast
When he marked the fell blunder, imagined the rest?
One thought to the helpless ones placed in his charge,
And so he stood firm in the terrible marge,
And died with his hand on the throttle.

And the engine lies deep 'neath the cold, wintry flood,
And Joe has gone with her - two hearts of one mood,
But those that he saved from a terrible grave
Must remember the deed of the driver who gave
His life - with his hand on the throttle.

W.H. Eland, Pembroke.

The Montreal Daily Witness, December 10, 1890.

JOE BIRSE, THE ENGINEER

Have we not still our heroes
With hearts so strong and true -
Still, in life's stress and conflict,
Ready to dare and do?
Let all who hold true manhood
And knightly courage dear,
Do honour to the hero,
Joe Birse, the engineer.

The train sweeps through the darkness
Its precious freight of lives,
Of fathers, mothers, brothers,
Of sisters, husbands, wives,
Straight to the cold black river,
None dream of danger near,
None see its deadly peril
Save Joe, - the engineer.

O'er the white flying snow-wreaths
The headlight throws its glare
On to that awful blackness,
The gulf of dark despair!
Swift speeds the panting engine
With fiery throbbing breath
Defying brake and throttle
It dashes on to death!

Oh, hearts and homes awaiting
Those husbands, fathers, wives, -
Must the dark river swallow
That treasure of dear lives?
Does he think, - in the quiver
Of nerves at utmost strain,
Of one home that is waiting
For him - and waits in vain!

No time to pause or question,
One impulse is in his breast,
If power of man can do it
Then he must save the rest!
With one tremendous shudder
The train stops - short and sheer -
But on still darts the engine,
God help the engineer!

God help him? Nay! He called him
To win life's noblest crown,
As in the cold dark water,
He went unflinching down!
What better than to follow
Where Love Divine hath trod
Himself to give, for brother-man,
Than - through the dark - to God!

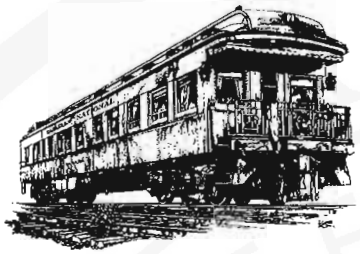
Agnes M. Machar.

The Dominion Illustrated, March 7, 1891.

Our Gallery of Murals (continued)

The murals on this page were all photographed in Edmonton, Alberta on April 3, 1999. The one at the top is at Fort Edmonton, the middle one is in Old Strathcona, the one above is a detail, showing the interurban, of the middle one, while the one on the right is at the tourist bureau in downtown Edmonton.

The Business Car



CASH FOR VIA?

Toronto - Ottawa will announce more federal funding and a new direction for Via Rail in the next few weeks, Transport Minister David Collenette said on April 3. "We're leaning to getting more money into the system and newer equipment and better service" he said. "Whatever we do, whichever route we take, there will be a new day dawning for passenger rail in Canada", Collenette said.

While it has increased its revenues and efficiency and has managed to maintain and even launch new services, Via now loses more than $190 million a year and regularly dips into its capital to keep the trains running. Collenette said Via "absolutely" needs financial help and that he's been busy in recent months convincing the cabinet for a cash injection to keep passenger rail alive in Canada.

Montreal Gazette, April 4, 2000.

NEW QUARTER SHOWS FUTURISTIC TRAIN

The latest in a series of "Millennium quarters", released by the Royal Canadian Mint in February, 2000, has the theme of Ingenuity. Prominent in the design, occupying the foreground of the view, is a high-speed streamlined train. This is in contrast to the June 1999 quarter which depicted a nineteenth century 4-4-0, in keeping with the historical theme of last year's coins. May we expect to see trains like the one on the February 2000 coin operating on VIA in the 21st century?

AUCTION AT ALLISTON STATION

RE: Major Auction of railway artifacts, collectables .... and Alliston Station itself.

P.O. Box 983, 6594 Fifth Line
Tottenham, Ontario, LOG 1WO, Canada
Tel. (905) 936-4444 Fax. (905) 936-9844
E-mail: depot@bconnex.net

After half a century of involvement in the Canadian railway scene, and building a railway collection for virtually all of that period, I have decided to downsize. It's time to pass on the stewardship of much of this material to others with the energy and enthusiasm to provide for its continuing care. To do this, an auction is planned for Saturday, 17 June 2000, in Tottenham.

To put this in context, I am not retiring from the hobby. I will be retaining all of my photos and slides, most of my library, and a number of artifacts that have a continuing personal value. And I will be looking forward to continuing to enjoy this great hobby of ours to the fullest, for many years to come.

That said, and recognizing the non-commercial nature of your excellent journal, would it be possible for you to insert the following notice (or reworked version to accommodate your style) in the Coming Events section of the appropriate issue, prior to the mid-June auction date?

Saturday, June 17, 2000: Major auction of railway artifacts, collectables and property, to be held at "Alliston Station", Tottenham, Ontario. From the collection of J.A. Brown, plus additions from other collectors. Auction will include a wooden CPR caboose; steam loco number plates and builder's plates; various locomotive appliances; signal equipment; signs; marker, switch, hand and desk lamps; two original Wentworth Folkins paintings; telephones and communications equipment; station memorabilia; benches; misc. paper, prints and collectables, and much more.

Also for sale is Alliston Station itself, built by the Canadian Pacific Railway in 1906, converted to a fine country residence while retaining an authentic railway atmosphere. The station was featured in the November and December 1991 issues of Branchline.

For information, please contact Sherwood Hume Auctions, at (905) 878-4878, or by fax at (905) 878-7647. E-mail: depot@bconnex.net, or humeauction@wwdb.org

Many thanks for your help, James A. Brown

CRHA CONVENTION

Just a reminder, Don't forget the CRHA convention in Montreal, May 19 - 22, 2000.

BACK COVER, TOP: No. 5107, built in 1919, was one of the first locomotives constructed for the newly-formed Canadian National Railways. This picture shows it on a CRHA excursion from Montreal to Sherbrooke on October 13, 1962. This engine is now preserved at Kapuskasing, Ontario. Photo by Peter Murphy

BACK COVER, BOTTOM: A CRHA fall foliage trip to the Laurentians was the occasion when this photo was taken at a runpast on October 6, 1957. Engine 2467 was built by Montreal Locomotive Works in June 1948, and was scrapped in June 1960 at the age of only twelve years. Photo by Fred Angus

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