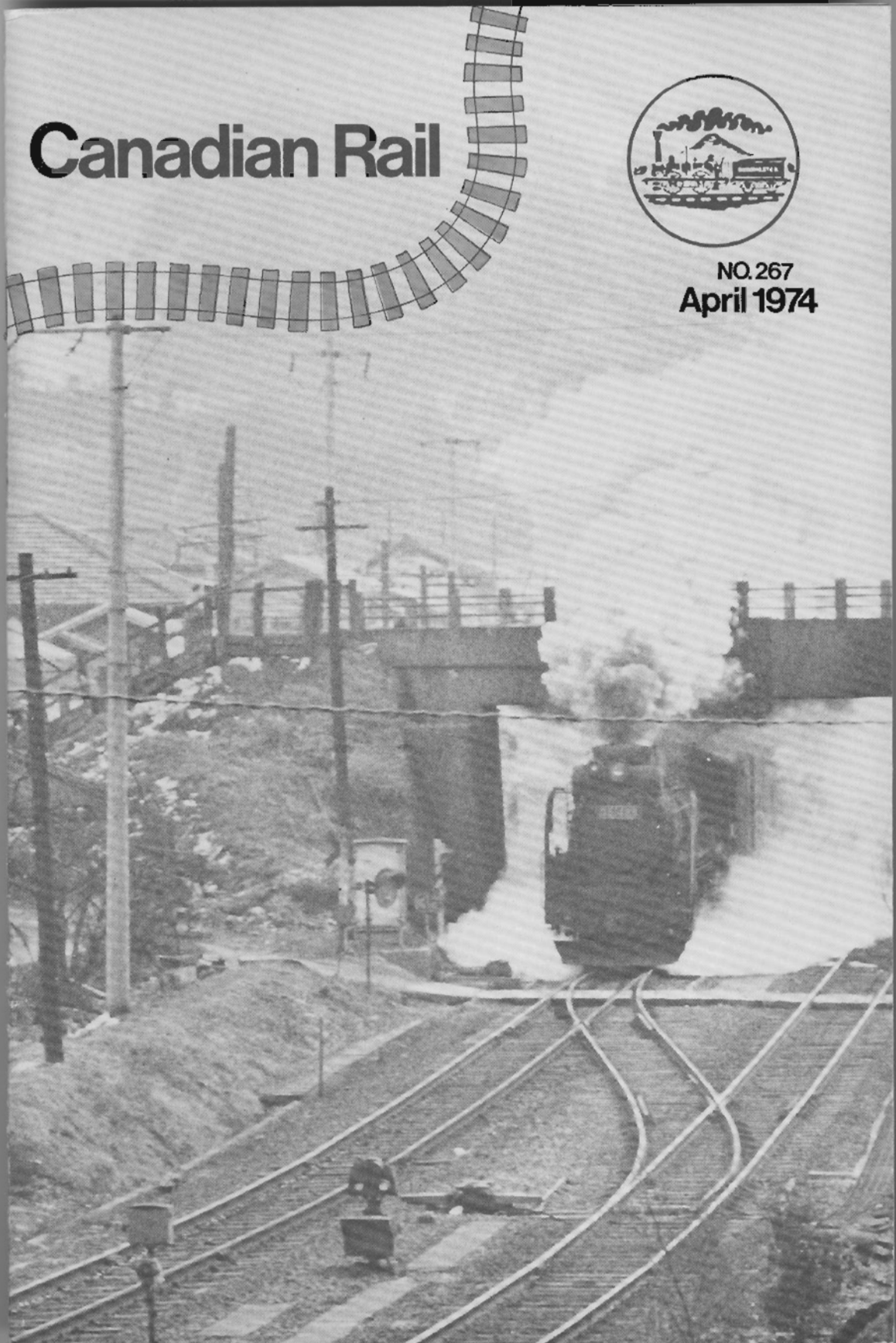
Canadian Rail

NO. 267
April 1974




D 51 179

JAPANESE NATIONAL RAILWAYS

1872-1972

国鉄百年

William D. McKeown

Photography by Lee Coulter

The weather was brisk and clear on October 14, 1872, when the diminutive tank engine and its train of four-wheeled cars, all of English manufacture, puffed out of Tokyo, Japan's Shimbashi Station - today, Shiodome Freight Terminal - and rattled off in a westerly direction to the Sakuragicho Station in Yokohama, 18 miles distant. Who could have guessed that the monolithic organization, which today is the Japanese National Railways, had thus been placed in operation?

次の世紀をめざして

At the throttle of the little tank locomotive was Mr. Thomas Hart, a "true Briton", and on board the first train, fresh from officiating at the opening ceremonies, was His Imperial Majesty, the Emperor Meiji, and his courtiers and distinguished guests. In spite of any apprehension which some of the passengers may have manifested, the little train reached Yokohama without incident and in half the estimated time.

On the following day at 08:00 hours, everything having gone as planned on the previous day, the railway was opened to the public. The expression "opened to the public" , while true in one sense, was misleading in another. All three classes of transportation made available on Japan's first railway, cost a great deal more than what the "general public" could afford to pay. Apparently, the railway was then intended as a luxury, rather than a necessary means of transport.

Nevertheless, Japan's first railway managed to attract a clientel and, for the first six months of operation, an average of 2,800 passengers were carried daily. Business was deemed to be good.

OPPOSITE, D 51 179 DRIFTS DOWNGRADE INTO NIIMI YARD WITH A FREIGHT train. Niimi had a large stable of D 51 2-8-2s for freight working and a few C 58 2-6-2s for passenger trains. The delivery of a group of diesel road-switchers changed the picture.

ON THE COVER, A SCENE FROM THE TOWN OF NIIMI IN WEST-CENTRAL JAPAN, the last stronghold of the steam engine on the Island of Honshu. At the foot of a formidable grade, double and triple-headed trains with steam power made it well worth a visit. Here, a D 51 2-8-2 takes a run for the hill, assisted by a sister D 51 behind the van.

In the first months of operation, two trains were used. They left Tokyo and Yokohama simultaneously, on the hour. There were four trips per train in the morning from 08:00 to 11:00 and, following a lunch-break, five trips in the afternoon, from 14:00 to 18:00. The trip over the 18 miles was scheduled to take 53 minutes, with four station stops. The lunch-break was later eliminated.

The Government of Japan had commissioned an English company to build the country's first railway, although the Americans, among others, had first proposed and fostered the idea. When Commodore Perry of the United States Navy entered Yokohama harbour in 1854, he had on board his ship a complete miniature railway, a gift to the Tokugawa government from the President of the United States.The miniature railway was set up and operated on the beach at Yokohama.

Little is known of its history, except that it is thought to have been one-quarter the size of the U.S. standard-gauge train used as the prototype. The locomotive is said to have been built by the Norris Brothers of Philadelphia, U.S.A. The miniature train was subsequently stored and, some time before the turn of the century, it was destroyed by fire.

Construction of the first commercial railway from Tokyo to Yokohama began in 1870, with Englishmen providing their engineering expertise, in addition to most of the materials, including the rolling stock and motive power. It is reported that about 100 Englishmen were employed in supervisory capacities, among them the first engine-driver for the locomotive, Mr. Thomas Hart. Some of these men remained with the-then Imperial Government Railways all of their lives and are buried in Japan.

The new railway was constructed to English standards throughout, an expensive but very permanent procedure. Since the three-foot-six gauge (1.067m) was, at that time, very popular in English colonies and also economical to construct, it is not surprising that this was the gauge adopted. Trains followed the "rule of the road" to the left, with the engine-driver on the left-hand side of the cab. This is still the practice today.

To commemorate the centenary of railway operation in Japan, on October 14, 1972, the Japanese National Railways held a re-enactment of the first trip. A freshly-scrubbed light 4-6-2, class C 57, and a train of equally spotless standard coaches, were specially prepared for the event. The engine and train-crews wore period costumes and the coaches were colour-coded to indicate the class of travel. A 12-inch-wide colour stripe ran the length of each car, between the vestibules and under the belt-rail, on the otherwise dark brown sides of the cars. The practice of colour-coding passenger cars was customary until recently, when a "clover" symbol was introduced to indicate first-class accommodation.

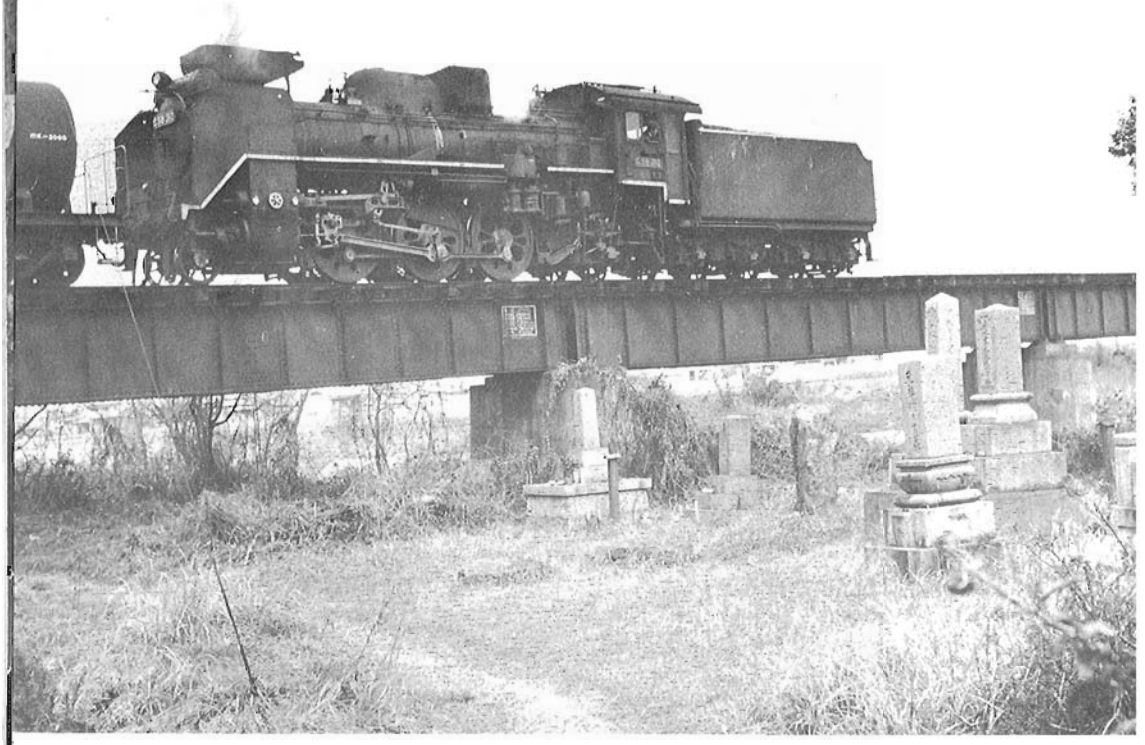
The special Centennial Train followed the original route quite precisely, although the location of the old Shimbashi Station in Tokyo is today the centre of a very busy freight yard.

The class C 57 4-6-2 was a very appropriate choice for motive power, as these engines are very popular with Japanese railway enthusiasts and because they have a certain "Imperial" dignity of appearance and performance not shared by larger motive power.

"Railway Memorial Day", as October 14 was called, might have been a little anticlimactic for some of the citizens of Japan. Some years prior to 1972, the mass media - newspapers, magazines, radio and television - had "discovered" railways in general and the steam locomotive in particular. From that time, the citizens either en-

joyed or endured the boom, depending on their individual point of view. Stamps were issued, medallions struck, books published and posters printed, in an attempt to cope with the various individual and commercial enthusiasms. The phrase " dago-ee-chee" - D 51 - became part of everyone's vocabulary.

D 51 is the class designation for the JNR's most numerous locomotive type, a 2-8-2, known appropriately enough in North America as a "mikado". As hundreds of "berry-pickers" flocked to ride JNR-sponsored steam locomotive excursions, Japanese railway enthusiasts sputtered and muttered darkly about the intrusion of these uninformed pseudo-enthusiasts into their private domain. Commercial interest has now levelled off somewhat; however, the steam locomotive continues to enjoy substantial public interest and this has led, in turn, to greater public interest in railway exhibitions and museums.



RUNNING TENDER-FIRST, THE ENGINE ON THE SHIGRAKI BRANCH LOCAL FREIGHT waits for the block to clear at Kibukawa, junction with the main line. The bridge respectfully spans the cemetary in the foreground - and the river. This steam assignment is one of the very few remaining on the main Island of Honshu, as of August 1973. Leaving Kibukawa, the tiny 2-6-2 will be coupled to the rear of a diesel-hauled freight to Kameyama on the JNR's Kansai line, the steamer's base. En route, the 2-6-2 will act as a helper engine.

THE TRAIN CONDUCTOR- ON THE LEFT WEARING THE UNIFORM CAP - SUPERVISES the uncoupling of a D 51 helper in Tsuge yard on the JNR's Kansai line. The yardman on the right signals the engineman with a green flag to back off. D 51 882, paint pitted, bearings worn, leaking steam, carries a few cosmetic touches - an effort to hide all too obvious deterioration. Jumping deer on smoke deflectors and crimson main rods are non-standard, certainly the work of an artistic shop staff. In service as a helper between Kameyama and Tsuge, the D 51 is assigned to Nara, where deer roam the suburbs, which may explain the artistic touches.

For the railway historian, one of the most important events of the Centennial Year was the opening of yet another railway museum in Japan. The new museum, opened October 10,1972, is the Umekoji Roundhouse in the historic city of Kyoto, ancient capital of Japan. Displayed at the new museum are 17 steam locomotives, beautifully restored, with white trim and gleaming brass. Significantly, most are serviceable and will be available for excursion service from Kyoto.

This new display of motive power at Kyoto complements handsomely the already-existing railway museums of Kanda (Tokyo) and Bentencho (Osaka). These latter feature smaller items of railway interest generally, although they, too, have large prototype displays.

The engines preserved at the new Umekoji Museum are:

Class	Road number	Type	Class	Road number	Type
B 20	10	0-4-0T	C 61	2	4-6-4
C 11	64	2-6-4T	C 62	2	4-6-4
C 51	239	4-6-2	8620	8630	2-6-0
C 53	45	4-6-2	9600	9633	2-8-0
C 55	1	4-6-2	D 50	140	2-8-2
C 56	160	4-6-2	D 51	1	2-8-2
C 57	1	4-6-2	D 51	200	2-8-2
C 58	1	2-6-2	D 52	468	2-8-2
C 59	164	4-6-2			

It is unfortunate and inevitably so that the above selection does not represent all the major classes of steam motive power. But there are also numerous static exhibits throughout Japan,which will be of great help in completing the representation. Some notable exceptions from the list above are the 2-8-4 tender engines of the D 61 and D 62 classes and the large tank engines of the 0-10-0 and 2-10-4 wheel-arrangements, the latter being the most powerful steam engines to have operated in Japan. It is regrettable that these classes have been scrapped or are otherwise unavailable for preservation.

The locomotive which is most missed by the Japanese enthusiasts is the tiny tank engine that pulled the first train in 1872 and which has passed into oblivion. Perhaps a working replica will one day be built.

Considering the evolution and success of the railways of Japan from the location where they were born, we find that the original Tokyo-Yokohama section is now four-tracked and electrified, using 1500v DC catenary. Mile-a-minute MU trainsets of up to 16 cars make the 18-mile trip in 25 minutes with three stops for express trains, while 10-car local trains take 41 minutes with 12 stops.

Frequency of service, incredible to the North American, is normal to the Japanese: expresses run on 12 to 15-minute headway, while locals are on 2 to 7-minute headway. Service is offered for 20 hours out of the 24. An additional 70 express-train runs are available throughout the day. For those in a hurry, or who do not mind paying an extra fare, there are numerous non-stop services in each direction.

This "super-commuter" service, while in fact most comprehensive, falls far short of the demand for transportation between the two metropoli. Curiously enough, while funds seem to be readily available for Japanese business activity in other parts of the world, the capital necessary to upgrade and expand the services and facilities of the country's railways seems to be in painfully short supply.

Anyone from a western country who has ridden the Japanese National Railways during rush-hours will certify the fact that the


331
普通


姫路

"general public" are very much a part of the contemporary scene. Rush-hour trains are indescribably crowded. It is safe to say that there is no equivalent anywhere else in the world. On an average, every Japanese citizen makes a total of 170 train-trips annually. This results in a figure of 19,500,000 passengers who ride the JNR somewhere, sometime, every day.

OSAKA STATION, 21 JUNE 1973, 08:30 HOURS: COMMUTERS POUR DOWN THE ESCALATORS from the platforms to the ground-level exits. Railway police and station personnel manage the people-flow through the judicious use of megaphones and muscle during the morning rush-hour. The frequency of train arrivals between 07:30 and 08:30 makes for an uninterrupted avalanche of people, as many as two hundred thousand daily!

Top opposite;

UTILITARIAN - BUT HARDLY BEAUTIFUL. A HUGE FLEET OF THESE CARS PROvides JNS's basic (local) commuter services in metropolitan areas. Colour-coded for different lines, this pastel blue set runs between Kyoto, Oaska, Kobe and Akashi. Here, the train is leaving Tarumi station, west of Kobe, for Akashi. The characters on the destination board indicate "local service". June 20,1973.

Opposite;

THE 153-CLASS CARS, SIMILAR IN APPEARANCE TO THE 111-CLASS, BUT WITH fewer doors, run in main-line, long-distance express service. This set of six, in silver and light blue livery, provide "New Rapid Service", as proclaimed by the sign across the vestibule door. The destination sign says the train is bound for Kyoto. This new service runs non-stop between the cities of Kusatsu, Kyoto, Oaska, Kobe, Akashi and Himeji between 09:00 and 17:00, supplementing existing services. Trains run at 15-minute intervals. June 20, 1973.

THE "MIDORI", LONG-DISTANCE,LIMITED EXPRESS, PAUSES AT SANNOMIYA station in Kobe, on its way from Shin-Osaka and Shimonoseki. These trainsets are beautifully appointed, smooth riding and fast. They are the mainstay of the JNR's crack train services. In spite of their modest dimensions (by western standards) and 3-foot 6-inch gauge, one of these trains, in tests, bettered 100 mph. and carries a plaque recognizing this feat. June 20, 1973.

With a total track mileage comparable to the Atchison, Topeka and Santa Fe Railroad, the Japanese National Railways have 41 times as many employees. This extraordinary figure is due primarily to the JNR's labour-intensive passenger services, which perform the functions of an urban transport system rather than a country-wide or transcontinental railway. Add to this an inflated payroll, general inflation, unprofitable branch-lines and short-haul freight service, and the inevitable result is a substantial annual operating deficit. This, of course, is not a phenomenon peculiar to the JNR!

Passenger rail-fares in Japan are regulated by the Government and are, by any standard, a bargain. The only service where the fare seems to reflect the cost of the service provided is the Shinkansen or New Tokaido Line. This modern portion of the JNR amounts to but one-fourtieth of the total system. However, it contributes one-quarter of the total annual revenue. Service notwithstanding, the new Shinkansen routes are good business!

In spite of tremendous geographical, economic and human pressures, the JNR are uncommonly punctual. Its trains are frequent, relatively fast, clean, safe and reliable. The principle negative aspect is the incredible overcrowding at rush-hours, from which all

THE ELECTRIC MU TRAINSET OF SLEEPING CARS, "SHIOJI", PICTURED HERE at Tarumi Station, is bound for Iwakuni, from Maibara. These trainsets, a recent innovation on the JNR, are used in both day and night services for maximum utilization. Full dining car facilities, in addition to coach accommodation, are provided, but the greater part of the train has open-section berths which make down, as in North America, for daytime travel.

A SLEEPING CAR TRAIN OF TRADITIONAL TYPE: AN ELDERLY EF 58 ELECTRIC locomotive pulls the relatively new equipment of Train 3, "Akatsuki" through Tarumi, bound for Shin-Osaka and a connection with the Shinkansen line for Tokyo. Originating at Nishi-Kagoshima on the southern Island of Kyushu the night before behind a new AC electric locomotive, at Shimonoseki, where the DC voltage begins, the EF 58 came on to haul the "Akatsuki" ("Red Moon") to Shin-Osaka.

AN RDC-TYPE SHIGARAKI TRAINSET. JAPANESE NATIONAL RAILWAYS HAVE HUNDREDS of these trainsets in service and the one shown in the picture is among the newest.

trains suffer. Critics of the JNR argue - and with some justification - that if you cannot board a train, then all the other virtues are worthless. However, you can always try the next train, or the next, or the next.....

As one might expect - and to anticipate and resolve the multitude of problems of railway operation in confined and crowded conditions - the Japanese National Railways have a Research and Development Centre, second to none. This "think-tank" has developed some very revolutionary systems, just in time to cope with transportation crises. One system, the "Shinkansen" - formerly called the New Tokaido Line - mitigated the Tokyo-Osaka corridor problem, although it did not resolve it. Other systems have, to date, kept the JNR from complete operational paralysis, especially in the corridor sections, and hopefully will continue to do so.

Happily, a wise and benevolent government with a "money tree" is always at hand and, with some reluctance, will respond at budget time. As in any country, it is often difficult to harvest an interim crop from the money-tree. But there is not much doubt in the mind of the observer of the Japanese National Railways that the Company will continue to be an innovative and dynamic enterprise, despite the stresses and strains on its structure and facilities. In populous, land-poor Japan, there is just no other way.

- - - - - - - - - -

Bill McKeown, the Canadian Railroad Historical Association's Far East Representative, has resided in Japan for some ten years. He is a keen railway enthusiast and observer of the Japanese National Railways and has written several articles over the years for CANADIAN RAIL.

Lee Coulter, who provided the photographs for Mr. McKeown's article, is a native of Toronto, Ontario, presently making his home in Kobe, Japan, where he teaches at the Shoin Women's College. His interest in railways began at the age of four, when he used to flag the CPR's Toronto-bound "Dominion" at Otter Lake. Living in Japan has revived his interest in railways and has provided an outlet for his avocation of photography.

- - - - - - - - - -

POSTSCRIPT

In a recent communication, Mr. McKeown points out that there may be some confusion as to whether or not steam locomotive Number 1 od the Japanese National Railways still exists. Recent sources indicate that there is a steam engine in the Kanda Transportation Museum in Tokyo, Japan which, while drastically rebuilt, is JNR's Number 1. The following statement appears in the JAPAN GUIDE-1966:

> "One of the interesting exhibits is the Number 1 locomotive manufactured in 1871 by the Vulcan Foundry Company in Lancashire, England, which was first used when the Tokyo-Yokohama line was opened in 1872."

Unfortunately, writes Mr. McKeown, we are not told whether this Number 1 indeed hauled the inaugural train in 1872, or was merely among the first class of engines purchased for the railway.

Mr. McKeown intends to pursue this point and hopes to clarify it in the near future.

The Editor.

Adhesion Testing

Article and Photographs by B.A. Biglow

Railways world-wide have been developed to provide the most economical method of moving people and goods from one place to another. One important characteristic of a railway is the ease with which the cars run on the rail. The resistance to motion, per pound of weight carried, of a well-designed railway vehicle, is one of the lowest known to man.

Normally, only the perfect fluid lubrication enjoyed by a boat in motion through the water has a lower resistance to motion and then only at relatively slow speeds.

The force required to move the cars in a train, commonly called tractive effort, results from the friction between the steel driving wheels of the locomotive and the steel rail. Unfortunately, the friction or adhesiveness between the wheel and the rail is extremely variable. Both the driving wheels and the rails are exposed to "contamination" by oil, water, earth, steel particles from the brakeshoes and sand, to name the most common contaminants. As an additional complication, the weight on the driving wheels, and hence the friction or adhesiveness, varies with truck suspension, rail geometry and surface finish of both the wheel and the rail.

The economic requirements of modern railway operation have resulted in diesel locomotives with high available horsepower, compared to their weight on the driving wheels. This high-horsepower requirement leads to correspondingly high forces at the driving wheels, which must be transmitted through an area of less that one-quarter of one square inch, at the point where the wheel comes in contact with the rail.

It is easy to imagine the result when the wheel and rail are even momentarily separated by a foreign film of any kind. The wheel slips! And a slipping wheel is not providing any tractive effort and is not pulling its share of the load. Moreover, since it is attached to the axle and thereby to its companion wheel, that one also slips. For this reason, all modern diesel locomotives have wheel-slip indicators and controls.

Let us suppose that one locomotive could exert a force or tractive effort twenty percent greater than another model, under the same conditions. The weight of the train that could be hauled would be twenty percent greater. But please pay attention to the operative phrase "under the same conditions" . Foreign materials may contaminate the rail in a notoriously variable manner. On one occasion, it was noted that the friction force for wheel slippage fell by fifty percent in ten minutes on the same rail and for the same locomotive, when a few drops of rain came down! Under such variable conditions, how do you prove "twenty percent more" ?

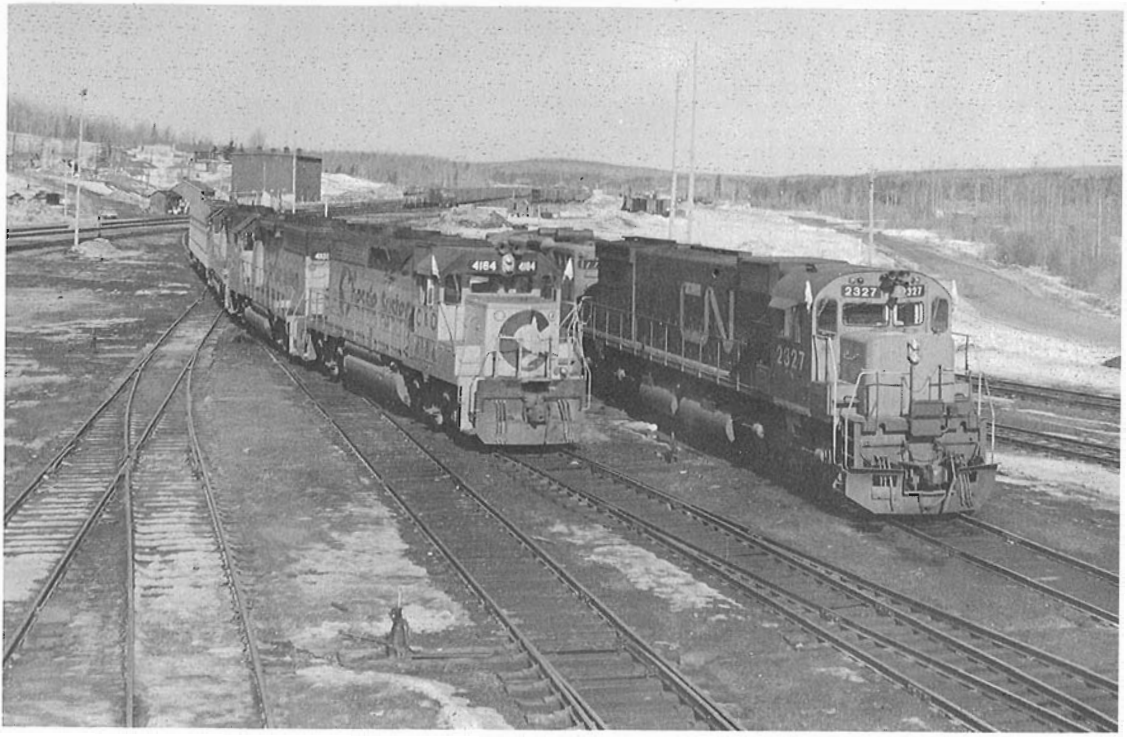
Locomotive haulage ratings have been the subject of many adhesion tests over the years. Rules of thumb, such as "tractive effort equals 0.18 times weight on driven wheels" are used for initial rating. Road tests are often used to confirm an increase in the tractive-effort figure. Unfortunately, test results vary widely. Almost every textbook on locomotive practice gives a different graphical result for adhesion.

But by this time, the electric motors and equipment would have become too hot for any further testing!

How in the world, then, can you compare two systems? When bad-rail conditions are encountered, usually each passage of the test train will clean the rail surface in a reasonably predictable manner.

The resolution of this dilemma should then be simple. By doing the odd-numbered test runs (1, 3, 5, 7 etc.) with System A (locomotive to be compared) and the even-numbered runs (2,4,6,8 etc.) with System B (locomotive used as the standard), a pretty fair comparison can be obtained. Since the rail surface improves fairly linearly, if System A had been used for Run 2 rather than System B, it is probable that a result equal to the average of Runs 1 and 3 would have been obtained.

CANADIAN NATIONAL RAILWAYS UNIT NUMBER 5018, CLASS GF 30, BEING TESTED with Chessie System unit Number 4184, with British Columbia Railway unit Number 69, Chessie System units Numbers 4181 and 4182 and Canadian National unit Number 2007 providing the dynamic brake load. The test was conducted on Track 029, Turcot Yard, Montréal, on March 14, 1973.



CHESSIE SYSTEM UNITS NUMBERS 4184, 4182 AND 4181, GP 40-2 UNITS, WITH British Columbia Railway Number 69, stand on the ready track at Hornepayne, Ontario, waiting for the head-end crew, during performance testing by CN's Headquarters Transportation Department. On the adjoining track is a CN MF 36-class, Number 2327. The date was March 25, 1973.

Let us consider a train going from station A to station B. The most significant question is whether or not the locomotive can exert sufficient average force to haul the train over the longest and/or steepest grade. The train on the grade will reach a balance where the average tractive force would just keep the train rolling at a constant speed: that is, the balance speed.

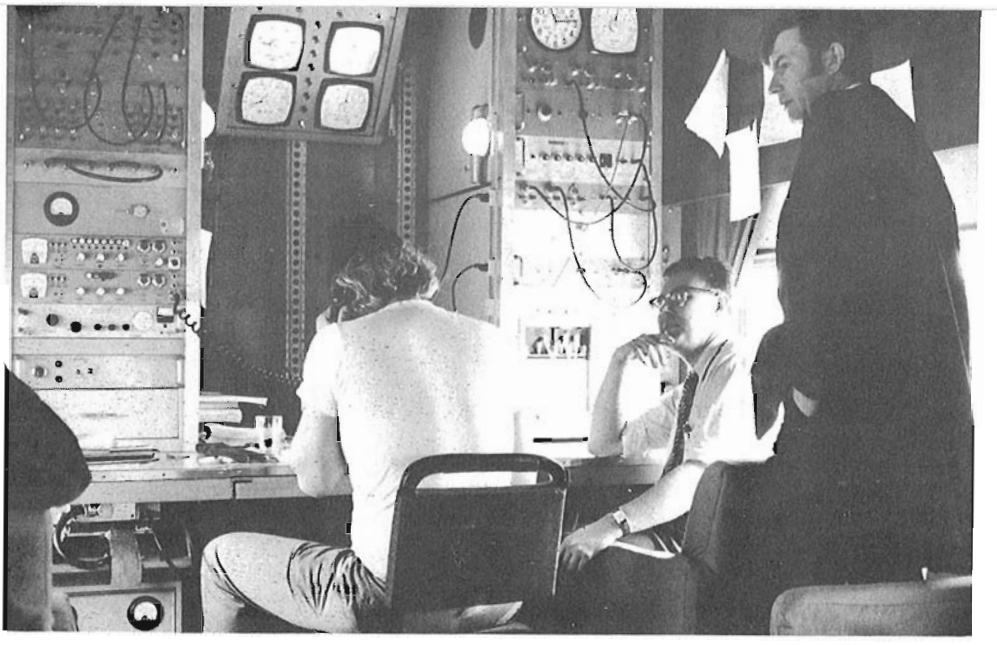
In the CN test method, the resistance of the grade is simulated by dynamic brakes on trailing locomotives. The braking force is varied to maintain the speed constant, since even a heavy train on a grade will not begin to lose speed immediately because of its momentum. The tractive effort exerted by the locomotive being tested is measured over a particular section of track at this constant speed by a calibrated drawbar and is suitably recorded. Further, since the limit of tractive force is required, the speed selected is that which will make the locomotive's wheels slip frequently. The force required and so recorded, then, is what the locomotive can exert. Or is it?

Let's reverse the locomotive to the starting point and try again. Do we get the same result? Generally, no. Probably, we would record an increase in the tractive force on the second try, since the initial passage of the test train over the stretch of track cleaned off a portion of the surface film on the rails. Logically, the adhesiveness between the wheels and the rails increased. Additional runs would further improve the rail surface and we would find less slipping and increased tractive force, until finally, even with a much reduced speed, no slipping would occur.

THE ADHESION TESTING TRAIN WITH ALL-CNR UNITS WORKING ON THE TEST track at Turcot Yard, Montréal, on May 17,1973. Number 3224, an MR 24-class, is being tested against Number 4006, a GR 30a, with Business Car 69 (dynamometer car) and units Number 2000 and 2001, MF 30a-class, as the dynamic brake load.

Galton's results, obtained in the late nineteenth century, are still used, especially in airbrake work. Improved locomotive accessories, wuch as low weight-transfer trucks, parallel-connected motors and better wheel-slip controls must be able to demonstrate a practical "in service" improvement, such as an increase in haulage rating, as well as being theoretically desirable. Demonstrating the "in service" improvement has been a very difficult task for many locomotive design engineers.

Canadian National Railways faced this problem when the Technical Research staff were developing a better wheel-slip control. The test method slected kept constant as many as possible of the variables, so that the frictional force between the wheel and the rail was the only major variable.



THE CONTROL PANEL IN CANADIAN NATIONAL RAILWAYS' BUSINESS CAR NUMBER 69, the dynamometer car for the adhesion testing train. On the left side of the panel is a 27-pin jumper board, a notch decoder and the recorder input. The centre portion includes the display panel, speed recorder, tractive effort indicator and brake gauges. On the right is the standard clock, tractive effort indicator, distance and speed marker and a chart recorder.

The comparison taken, then, is Run 2 using System B, against the average of Runs 1 and 3 with System A. See Figure 1.

Similarly, Run 3 is compared with the average of Runs 2 and 4. Note that the train, the speed, the rail, the direction of travel and the time are not really variables under these conditions. Even the same locomotive has been used on some tests, ruling out truck suspension and diesel engine condition. The test method has produced predictable and reproducible results. Locomotive positions in the train (system) can be varied between test-run series, but locomotive position has not proved to be of significance with this test method.

Therefore, only one test condition of importance remains to be discussed. This is rail contamination. Oil-lubricated car journals have a great tendency to leak from the journal-box to the wheel-hub, thence to the wheel-rim and finally to the rail surface. During the conduct of the adhesion test, if the rail surface is found to be relatively clean, little wheel-slip can be created. The rail is then deliberately made slippery by sprinkling some low-viscosity lubricating oil on the rail head. The oil film is thereafter worn off during the course of the test runs over the track.

Canadian National Railways have used this test method in the development of a new wheel-slip control, called "Positive Traction Control" . This system is now applied to some of CN's GR 30 class diesel locomotives. The method has also been used by CN's Transportation Department to evaluate several classes of diesel units against the GP 40-2 model demonstrator locomotives from the Chessie System (C&O-B&O). Strengths and weaknesses of MLW Industries and DD GMC four and six-axle locomotives were explored.

When the results are fully analysed, it is certain that these data will indicate ways in which the performance of diesel units from these and other manufacturers can be improved. The result will be the more economical movement of goods and people by Canadian National Railways everywhere in Canada.

The Directors' Special

Jim Shaughnessy

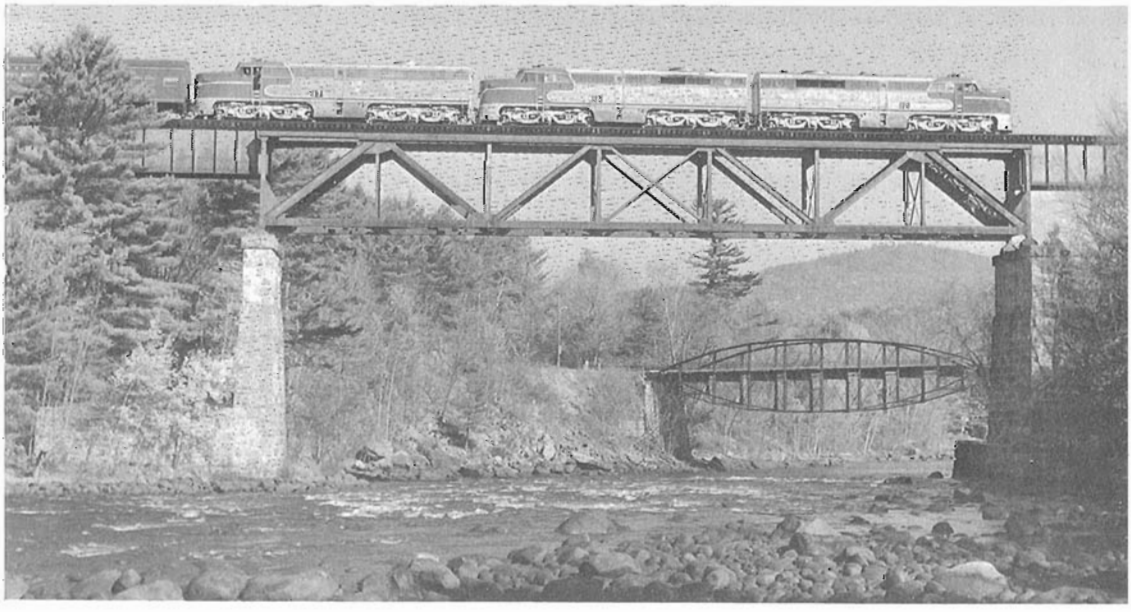
About once a year, President Bruce Sterzing and the Directors of the Delaware & Hudson Railway Company make an inspection of the fixed plant and equipment. In 1973, the dates selected for this examination of the property, north of Albany, New York, were 25 and 26 October.

The "Directors' Special", composed of two baggage cars, two coaches, a sleeper and the D&H's private car "Champlain" was hauled by the Company's three operational PA 1 units, Numbers 17, 18 and 19, with Numbers 18 & 19 running back-to-back.

On the North Creek Branch, which was inspected on 25 October, PA 1 Number 19 was on the point for the return trip to Saratoga, on the main line. The units are shown on the high bridge over the Sacandaga River at Hadley, New York, about 22 miles north of the junction.

Heading north from the junction, the inspection train travelled north through Whitehall and Port Henry to Rouses Point, on the International Boundary. The scenery along the "red Rocks" was, as usual, spectacular, as demonstrated in the accompanying picture. That night, the "Directors' Special" layed over at Rouses Point.

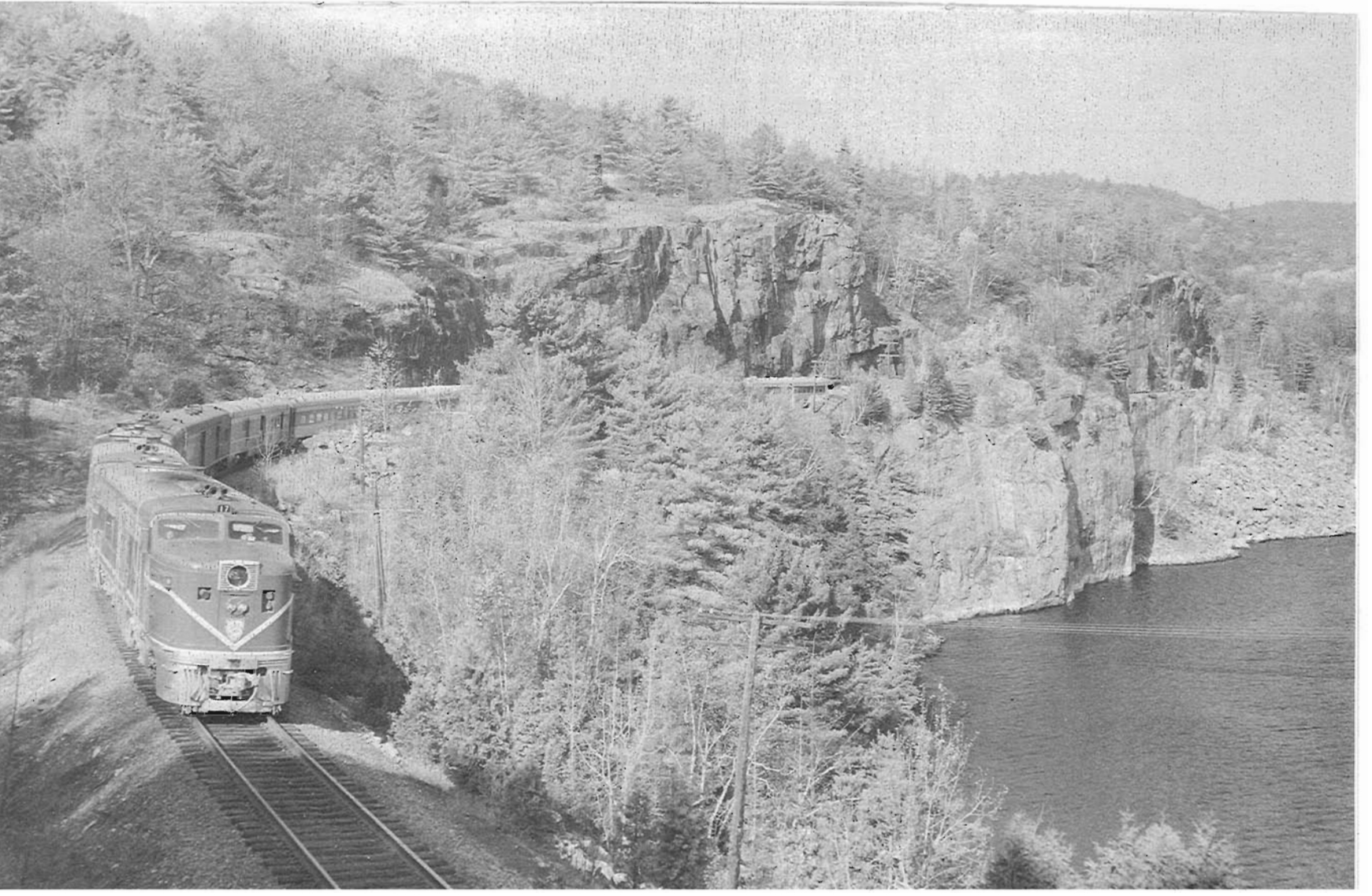
Next day, the train travelled north over the D&H's Canadian subsidiary, the Napierville Junction Railway, to Delson, Québec, where it turned on the NJ's loop for the return trip south. In the next photograph, we see the special passing behind CP RAIL's station at Delson.

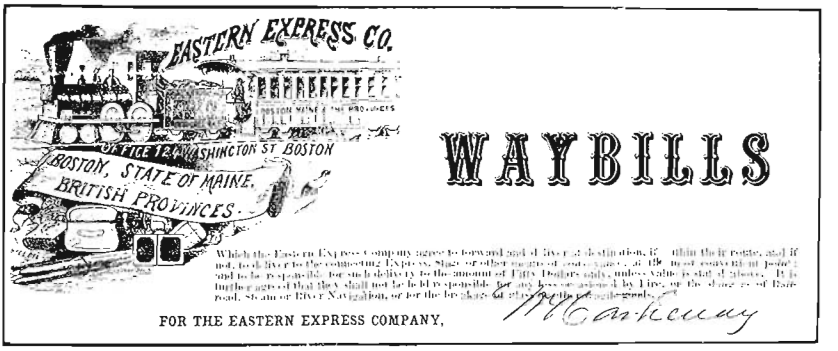


One of the most spectacular - and inaccessible - locations on the Rouses Point Subdivision of the D&H is that part of the line which runs on a ledge high above the waters of Willsboro Bay, Lake Champlain, through deep rock cuts and a tunnel in the red granite, under the shadow of Bigelow Mountain.

The reader can perhaps discover how the "Directors' Special" was photographed 'rounding the curve through the red rocks on 26 October 1973. It may be noted in passing that this is the first photograph of the D&H's PA 1 units, with a passenger train, at this location.

The Directors and Mr. Sterzing declared that they were very much impressed with the excellent condition of the railroad. The enthusiasts certainly were and are impressed by the excellent condition of the Company's PA 1 units, Numbers 17, 18 & 19, as evidenced by the accompanying photographs.





FROM VANCOUVER ISLAND, JOHN HOFFMEISTER WRITES THAT, EARLY IN OCTOber 1973, Crown-Zellerbach's Baldwin VO-1000 unit Number 7128 turned up at Coquitlam, B.C., on CP RAIL, en route to Vancouver and Squamish, B.C., where British Columbia Railway turned the unit's wheels and afterward loaded it on a car-barge, destination Campbell River, Vancouver Island, and C-Z's Duncan Bay paper mill. Here, the diesel displaced Elk Falls Limited's 60-ton, two-truck Shay Number 1, last regularly scheduled revenue freight steam locomotive in Canada. On 9 October 1973, Number 1 steamed her last.

While Crown-Zellerbach have not announced the disposition of the Shay, it is reported that Dr. David Baird of the Government of Canada's National Museum of Science and Technology at Ottawa is anxious to acquire the geared locomotive.

Canadian National Railways stubbornly hangs on to its Cowichan Bay-Youbou line, while a local group in Victoria militates to turn the whole 82.6-mile subdivision from Victoria to Youbou into a bicycle and hiking trail. The Victoria Pacific Railway, Mr. Terry Fergusson's tourist line, which operates over three miles of the subdivision, is also opposing the footpath proposal.

During October 1973, CP RAIL tried to stabilize its fleet of aging Baldwin DRS-4-4-1000 roadswitchers on Vancouver Island with two SW 1200RS units, Numbers 8125 & 8129, in lieu of GP 9 units. This duo could not cope with the stiff grades over the Malahat north of Victoria and a similar grade on the Port Alberni Subdivision and the GP 9 units had to be recalled.

SW 1200RS Number 8111 is currently the Wellcox switcher at Nanaimo.

In January 1974, Baldwin units Numbers 8006, 8007, 8008 & 8011, damaged in the collision south of Nanaimo in June 1973, had not been repaired. Earlier, CP RAIL had intended to send Number 8007 to Ogden Shops, Calgary, where the prime mover would inherit the frame of Number 8012, but alas., 8012's frame had already been cut up.

Trains 51 & 52, the Victoria-Wellcox turn and the regular service on the Port Alberni Sub., are being powered by GP 9 units, changed frequently from the mainland (Vancouver) power pool.

The Government of the Province of British Columbia has acquired the Cowichan Valley Forest Museum at Duncan, Vancouver Island, British Columbia as part of its program of creation and acquisition of museums and historic sites. The museum, founded in 1964 and built primarily around the extensive logging equipment collection of Mr. Gerald Wellburn, today has 3 narrow-gauge steam locomotives, two narrow-gauge gasoline engines and three standard-gauge geared locomotives. The narrow-gauge equipment is operated in the summer for visitors. The name of the museum will very likely be changed.

THE LAMOILLE COUNTY RAILROAD WAS BORN ON 7 DECEMBER 1973, WHEN MR. Samuel Pinsley signed the deed of sale of the St. Johnsbury and Lamoille County Railroad to the State of Vermont for the sum of $ 1, 265,000. Trains were thereafter operated twice a week between Morrisville and Fonda Junction, Vermont, the power being supplied by ex-StJ&LCRR unit Number 204 and ex-Delaware & Hudson Number 4073. Plans were to paint the units in a yellow and white paint scheme.

Frank B. Orr.

MR. A.J.CROCKFORD, OUR MEMBER IN BLIND RIVER, ONTARIO, WRITES TO say that while CP RAIL Timetable Number 51 of April 1973 showed Algoma as an operating point at Mile 47.2 of the Thessalon Subdivision, in Timetable 52 of 28 October 1973, this operating point had disappeared.

The location known as "Algoma Mills" and later "Algoma" was first established about 1883 when the Canadian Pacific Railway built a portion of the distance from Sudbury towards Sault Ste. Marie, Ontario. When the branch was built through to the Sault in 1885-87, the name was shortened to "Algoma".

UNITED RAILWAY SUPPLY RE-MANUFACTURED UNITS CHIHUAHUA AL PACIFICO Fairbanks-Morse H-16-44 Numbers 523 & 517 were caught by Pierre Patenaude on the URS' siding at Cartierville (Montréal) on 2 December 1973. Eight days later on 11 December 1973 , Pierre snapped ex-Reading Railroad RS 3 Number 485, which had become Roberval-Saguenay Number 30, being moved around Canadian National Railways' Montréal Yard.

ALTHOUGH THE MAINE CENTRAL RAILROAD'S APPLICATION TO ABANDON ITS 55-mile Beecher Falls branch was under advisement with the Interstate Commerce Commission, by 1 November 1973 something had to be done about the CP RAIL hopper car (demurrage, $10 per day), the MeC snowplow and boxcar, isolated on the north end by the washout at Lyman Brook in Columbia, New Hampshire.

Who should come to the rescue but Seashore Trolley Museum, with its flatbed truck and tractor. MeC crews hastened to Beecher Falls, Colebrook and North Stratford about 20 October, to make ready for the car-saving operation. A special siding at Colebrook was constructed, with a 42-inch high ramp, so that the cars could be rolled up and on to the flatbed. An MeC road-rail tractor took the road to Beecher Falls and brought the snowplow, boxcar and CP RAIL hopper back to Colebrook by rail.

The Seashore flatbed moved the cars, one by one - and with more than a little difficulty - 11.7 miles down US Route 3 to another ramped siding south of the washout and about 1 mile north of North Stratford, New Hampshire. Here, the cars were replaced on the Beecher Falls Branch, where the branch-line diesel unit could get at them and bring them south to the main line at Quebec Junction.

The COOS COUNTY DEMOCRAT of Lancaster, New Hampshire, reported that the 10.6-mile portion of the branch from Waumbek Junction to Coos Junction would not be torn up if the abandonment application was ratified by the ICC, because the Boston and Maine Railroad has trackage rights over this section, enabling it to reach its own iron at Coos Junction, on the way to Groveton, New Hampshire. The B&M will probably buy this section from the MeC, while the latter will abandon the short stretch of 2.5 miles between Waumbek Junction and Quebec Junction, on the main Portland-St. Johnsbury line.

Our thanks to friend and member H. Arnold Wilder of Westford, Massachusetts, for these details.

HAVING FLEXED ITS MUSCLES WITH THE PURCHASE OF THE ST. JOHNSBURY & Lamoille County Railroad from Mr. Samuel Pinsley, the Vermont Transportation Authority set about planning a commuter service with shuttle-trains between Montpelier, the State capital, and Barrie, six miles east, over the rails of the Mont-Pelier and Barrie Railroad Company, owned by none other than Mr. Samuel Pinsley! The service is intended to accommodate State employees working in Montpelier - and others.

Simultaneously, to the south, Addison County officials were investigating the possibility of running passenger trains over the Vermont Railway north to Burlington, with a possible connection with AMTRAK service at Essex Junction, through trackage rights over the Central Vermont from Burlington.

This item from THE CALL BOARD-Mohawk & Hudson Chapter NRHS.

LATE IN 1973, ELECTROMOTIVE DIVISION OF GENERAL MOTORS U.S.A. AN-nounced the introduction of a new multi-purpose diesel locomotive. Designated as Model MP15, the 1500 hp. unit is designed for secondary service, switching and transfer work. It combines the features of the switcher and the road-freight locomo-tive in a four-axle, four-motor design. Its switcher characteristics provide high visibility and the roadability required in secondary and transfer service.

The MP15 will have standard road-freight trucks and a fuel capacity of 1100 US gallons, with a 1400-gallon tank available as an option. The cab features electrical heating.

The newly-designed unit is powered by the GM 645E-series, 12-cylinder non-turbocharged prime-mover and will incorporate cur-rent design modifications which have virtually eliminated visible smoke and substantially reduced exhaust-gas emissions.

The MP15 (Multi-Purpose 1500 hp.) was initially classed as Model SW1504 for the U.S. market. Ferrocarriles Naçionales de Méx-ico went for sixty of the SW1504s, which look like - but are longer than - the SW1500 conventional switchers. Larger to accommodate the Blomberg trucks. Look alike, except for the filter boxes on the hood, just in front of the standard cab.

K.R.Goslett.

THE RACE BETWEEN CIHB AND CNR CONTINUES. THERE APPEARED IN THE RE-gina, Saskatchewan LEADER-POST of 20 October 1973 a very large advertisement titled "CN: Canadian National: STRUC-TURES FOR SALE". Among the structures advertised for disposition were 24 stations frame stuccoed with frame addition; 16 freight and passenger shelters frame with timber platforms; 2 section-houses , frame; 2 section bunkhouses; 1 old bunkhouse and 1 charcoal storage shed, frame.

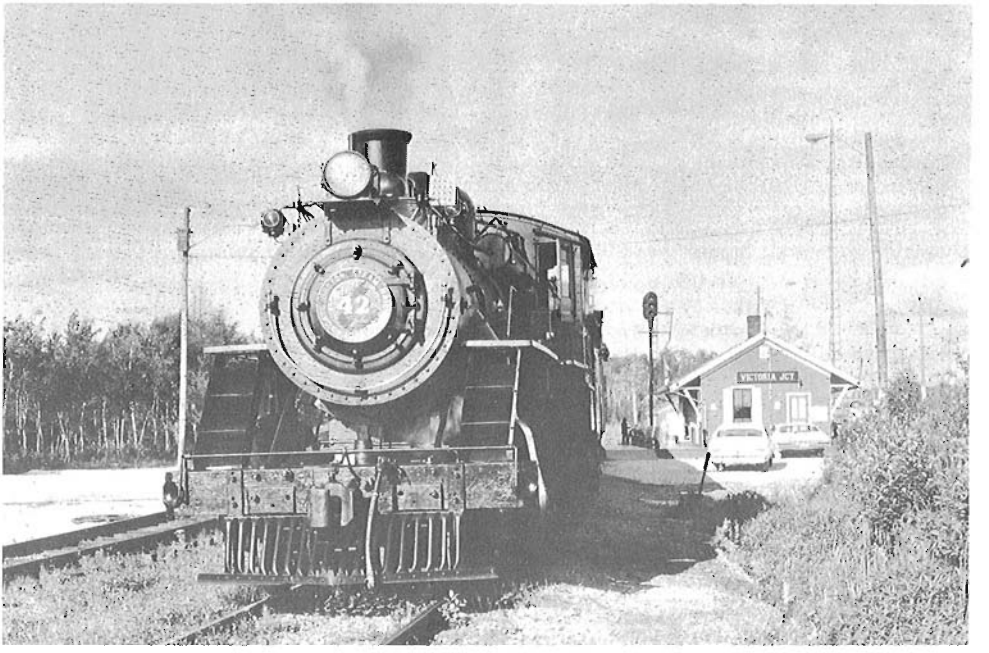
All sales were on the basis of purchasers agreeing to re-move the structure(s) from the Railway property and clearing the site to the satisfaction of the Company's engineer.

Forgan, Wartime, Plato, Frobisher and Henribourg, Sask-atchewan, among others, lost their stations. Bapaume, Alticane, Li-velong, Hamlin and Moseley, among others, lost their freight and passenger shelters. Main Centre, Sask., lost its old carbody, which served as a section bunkhouse. And Prince Albert, Saskatchewan, bade farewell to its frame charcoal storage shed, 21' x 58' .

John D. Welsh.

THE CAPE BRETON STEAM RAILWAY, FROM VICTORIA JUNCTION TO LINGAN MINE, Nova Scotia, made its final run for the 1973 season on September 15. During the period from 2 July, well over 14,000 passengers had been carried and Cape Breton Development Corporation officials considered the project an overwhelming success. A special run was made on Thanksgiving Day weekend. It was planned to run Number 42 and train again during the Christmas holiday period, writes Mr. Barry MacLeod, our member in Sydney, N.S., but this could not be done, as Number 42 had her side-rods off and was being repaired at that time.

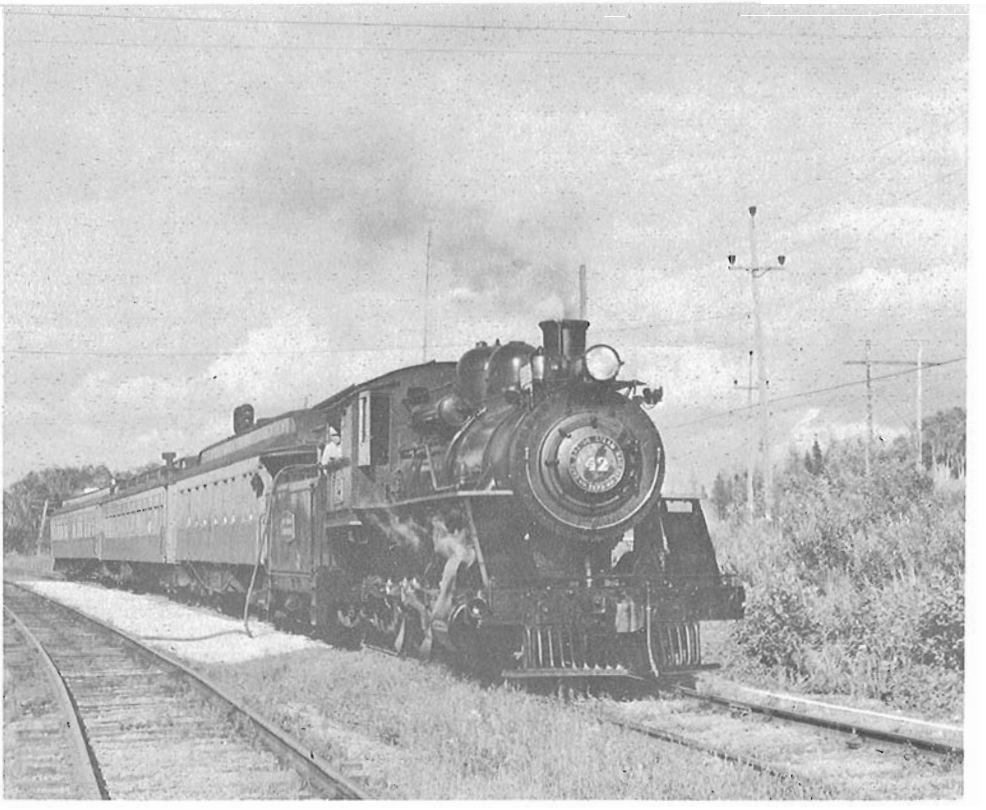
On 1 September 1973, "Old 42" and train made a special run from Victoria Junction to Glace Bay and return. No one would have ever dreamed that a passenger train would operate over this portion of the former Sydney and Louisbourg Railway in 1973. The 'round-trip took about 3 hours, leaving Victoria Junction about 11:00 hours.



Just before the train left "the Junction", the uniformed guides, all retured S&L men, gave the passengers a brief history of the S&L, DEVCO and the CBSRy. These guides were most courteous and you could tell they were enjoying themselves.

The roadbed over the 11 miles to Glace Bay was not exactly prepared for passenger service, writes Mr. MacLeod. The rail was good, though in several places bushes and small trees actually brushed the sides of the coaches. The main line from Sydney to Glace Bay is used by many DEVCO Railway coal trains daily. The recent increased demand for coal, due in part to the energy crisis, has increased the traffic on this run.

A few miles east of Victoria Junction, the "Labour Day Special" passed a one-year-old wreck, in which several DEVCO Railway coal cars and a caboose left the rails, with the caboose catching fire and burning up. The main line was cleared and repaired sh-



ortly after the wreck, but the cars and caboose were left scattered on both sides of the track, rusting away in the ditches.

The "Labour Day Special" wound its way past Gardiner Mines, Dominion (mile 10) and Bridgeport (mile 12 from Sydney). At O'Neill's Siding, there was a meet with DEVCO Railway Train 206 east. The Special rolled past Number 26 Mine and old Number 20 Mine, now abandoned.

Arriving at Glace Bay, there was a 30-minute stop-over. This allowed the passengers to take the opportunity to investigate the DEVCO Railway yards and roundhouse.

Number 42 made the return trip tender-first to Victoria Junction, Mr. MacLeod continues. He decided to wait there for the trip to Lingan Mine and it was lucky he did, for he had the good fortune to ride the observation platform of the last car during the trip. There was time enough at Lingan Mine to climb to the top of the hill and enjoy the view of the sea and the Cape Breton highlands, away in the distance.

By the end of the year, the right-of-way to Port Morien had been cleared of brush and most of the roadbed had been graded and the rails layed. Former CPR coach Number 1324 had arrived at Glace Bay from Kentville, Nova Scotia and it was rumored that another steam engine had been secured from the United States to power a second train on the Cape Breton Steam Railway in 1974.

MR. FREDERICK J. STARR, ASSOCIATION MEMBER IN THE BRONX, NEW YORK, sent a clipping from a recent issue of the New York SUNDAY NEWS, which had an article in the "Leisure" section headlined as follows: "Québec's Halls of Railway Fame".

The article described in very flattering terms the Association and the Canadian Railway Museum, Saint Constant, Québec: "In this museum, most of the equipment is enclosed in two major display buildings. This way, the restored pieces are not only protected from the weather but are accessible at all times, as well. Okay, American train fans. What can you offer to challenge this Canadian museum?". (Blush!)


661
661
661
FERROCARRIL DEL
PACIFICO
CANADIAN
NATIONAL

MLW INDUSTRIES OF MONTREAL OUTSHOPPED THE FOLLOWING M 636 UNITS FOR the Ferrocarril del Pacifico on the dates shown:

Road number	Serial number	Delivery date
659	M-6073-1	23 November 1973
660	M-6073-2	28 November 1973
661	M-6073-3	30 November 1973
662	M-6073-4	3 December 1973
663	M-6073-5	7 December 1973
664	M-6073-6	10 December 1973
665	M-6073-7	12 December 1973
666	M-6073-8	14 December 1973

Pierre Patenaude, who send the above information, includes a picture of FdelP Number 661 at CN's Longue Pointe Yard on 1 December 1973.

WOULD YOU BELIEVE THAT IN OCTOBER 1973 EIGHT BUSES OF AN ORDER FOR 39 for the British Columbia Hydro & Power Authority from Diesel Division, General Motors of Canada, made the 2862-mile trip from London, Ontario to Vancouver, B.C., as a caravan, arriving at their destination within five minutes of their scheduled time? The eight BC Hydro drivers who piloted the buses over the long route included two grandmothers. Distances covered ranged from 300 to 460 miles per day.

GMC DIESELINES.

IT IS REPORTED THAT THE CAPE BRETON STEAM RAILWAY HAS PURCHASED THE ex-Southern Railway (England) Schools-class 4-4-0 Number 926, "Repton" from Steamtown U.S.A., Bellows Falls, Vermont, USA, for use in the CBSRy operation in the summer of 1974. CBSRy have also acquired three passenger cars from the Cadillac & Lake City Railway Company of Lake City, Michigan, USA. and have already received ex-Dominion Atlantic Railway car 1324, lettered Canadian Pacific. This unique locomotive and the unusual cars should generate a great deal of interest on the CBSRy this summer. Thanks to Mr. Barrie MacLeod for this information.

WHEN WE RECITED MR. TIMOTHY DALE'S ACCOUNT OF HIS TRAVELS WITH THE weekly payroll from the bank at Island Pond, Vermont to the mill at Fitzdale, Vermont, on page 317 of the October 1973 issue Number 261 of CANADIAN RAIL, we must have had at least one finger pointed at readers in New England, particularly Mr. H. Arnold Wilder of Westford, Massachusetts. In any event, Mr. Wilder rose nobly to the occasion and discovered the most probably explanation of Mr. Dale's weekly itinerary.

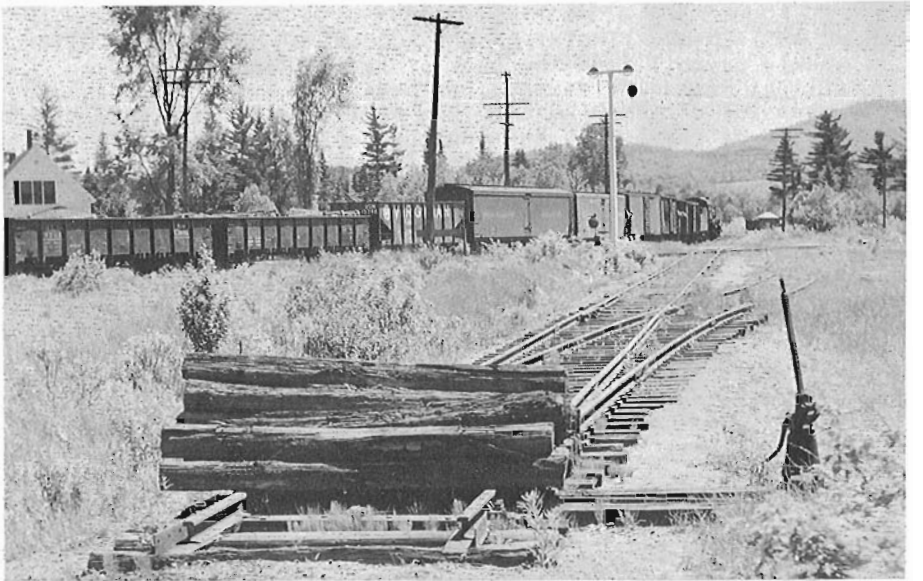
But before we depart with Mr. Dale, Mr. Wilder reminds us that, about 1913, Fitzdale had not yet become today's Gilman, Vermont and that Mr. Dale could have travelled to the station at Fitzdale only by a train arriving in mid-afternoon. Mr. Wilder proposes that Mr. Dale detrained at the station-stop of Dalton, New Hampshire on the Boston and Maine Railroad, some distance from the town of Dalton and about two miles from the paper mill at Fitzdale on the east side of the Connecticut River. This supposition at least explains the necessity for Mr. Dale's buggy-ride and the "Little Eva" act over the log-boom in the river.

Now, let us accompany Mr. Dale as he departs from Island Pond on Grand Trunk Train 8 at the early hour of 6.15 a.m. Rattling down the Nulhegan River valley, we reach North Stratford, New Hampshire at 6.42 a.m. Hurriedly, we cross the platform where Maine Central Railroad's summer-only Beecher Falls, Vt. to Intervale, N.H. and Boston Train 155 departs at 6.44 a.m. Following the Connecticut River south, we arrive at Coos Junction, N.H., just north of Lancaster, to make a close connection with Boston and Maine Railroad Train 414, Groveton to Whitefield Junction, N.H., departing at 7.33 a.m. In the 20-minute trip to the station named Dalton, N.H., we have time to regain our breath, before we detrain at 7.53 a.m., to be met by the horse and buggy or prepared to make the two-mile walk to the mill at Fitzdale, Vt.

The buggy-ride or "water-walk" takes us perhaps 20 minutes to half-an-hour, which means that we are in the Company's offices at the beginning of the day's business activity.

Let us pause for a moment to examine Phil Hasting's nostalgic picture of Coos Junction, N.H., taken on June 17, 1949. Maine Central Railroad's Train M 377, headed by ten-wheeler Number 371, is shown coming off the B&M's Coos Junction-Groveton, N.H. branch and onto the MeC iron to Lancaster and Quebec Junction. The track in the foreground, recently torn up, was part of the MeC's Upper Coos Railroads of New Hampshire and Vermont - depending on which side of the Connecticut River you were - through Maidstone and Guildhall,Vt., to the crossing-at-grade with the Grand Trunk at Mason's and the "Union Station" at North Stratford, N.H.

Back in 1913, our return trip to Island Pond, without the payroll, is a little less complicated. We stroll to the StJ&LC/MeC station at Fitzdale/Gilman and catch the 3.37 p.m. MeC Train 163 for the ride across the Connecticut River bridge, through Scott's (Junction) and Whitefield (Junction) to Quebec Junction and a connection there with northbound MeC Train 158. Two through-truss bridges and 35.2 miles later, we arrive at North Stratford at 6.58 p.m., nipping across the platform to catch Grand Trunk Railway's Train 5, arriving at Island Pond at 7.30 p.m., a little late for supper. This concludes one day in the life of Mr. Tim Dale in 1913, the times and trains being taken from the February edition of the working timetables for that year.



The summer timetables contained different train numbers and destinations, but the same service accommodated Mr. Dale's - and our - requirements. Mr. Wilder opines that this weekly jaunt was good and sufficient reason in itself for the Gilman Paper Company to transfer its banking business to Lancaster, N.H.

Not wishing to be arbitrary in selecting this routeing, Mr. Wilder indicates that the alternative trip, apparently declined by Mr. Dale, would have been to alight from MeC Train 157 at Lancaster at 7.40 a.m. After a very leisurely walk across the north side of town - possibly stopping en route for lunch - we would have arrived at the dark green and grey station of the Boston and Maine, where Train 418 departed at 1.48 p.m. for Scott's (Junction) on the MeC, arriving at 2.06. Alighting here, we would have waited for MeC Train 154, which departed at 2.19 and arrived at the station at Fitzdale at 2.29 p.m. This would have allowed about half an hour in which to leave the payroll with the Company, after which we would have departed on the afternoon train at 3.37 p.m., as described above.

Phil Hastings, in his second excellent photograph, recorded MeC Train M 378, headed by 4-6-0 engine Number 369, rattling north as an extra over the Grand Trunk Railway towards North Stratford. The torn-up line is that of the MeC, originally incorporated as the Upper Coos Railroad of New Hampshire. It had been taken up only a few weeks before June 17,1949, the date the picture was taken.

Acknowledged with thanks are the contributions of Mr. J. Leonard Bachelder of Merrimac, Mass., who used a set of 1915 MeC and B&M timetables to take Mr. Dale to the station stop at Fitzdale, thus avoiding buggy-rides and log-boom capers, but requiring about eight hours for the journey; Mr. Benjamin English, jr., Editor of the Lakes Region RRE "Order Board" selected the same itinerary. Mr. J.R. McFarlane of Cape Elizabeth, Maine, concurred with Mr. Wilder, but, using 1914 timetables, departed with Mr. Dale from Island Pond at 6.05 a.m. and arrived at Scott, N.H. at 7.54 a.m. The distance thence to Fitzdale/Gilman is about the same as from the station for Dalton, N.H.

Mr. McFarlane kindly supplied the 1914 consists of the trains he used:

GTR	4&5	Dly. ex Sun.	Mail & Express	Coaches Island Pond-Portland
MeC	157&160	D. ex S.	Coaches,Parlour Car	Beecher Falls-Boston
B&M	54	D. ex S.	Local: Coaches	Groveton-Wells River
MeC	225	D. ex S.	Express: Coaches, Parlour Car ex Montreal St. Johnsbury, Vt.- Portland,Me.	

We are very grateful to these gentlemen for sending in this information. But this may not be the end of this story.

Back cover:
ON THE BONNYVILLE SUBDIVISION, CANADIAN NATIONAL RAILWAYS, IN THE Northeastern corner of Alberta, flanger Extra 4336 South crosses the Beaver River trestle, after a two-day trip north from Edmonton. The flanger extra is returning to Abilene Junction at Mile 108.1 on the Coronado Subdivision, 115 miles north of Edmonton. Cpl. W.C.Slim of Medley, Alberta, took the picture in January 1974.

Canadian Rail

is published monthly by the

Canadian Railroad Historical Association

P.O. Box 22, Station B, Montreal, Quebec, Canada/H3B 3J5

Editor; S.S.Worthen **Production; P. Murphy**

Association Branches

CALGARY & SOUTH WESTERN
L.M.Unwin, Secretary 1727 23rd. Avenue N.W. Calgary, Alta.T2M 1V6

OTTAWA
W.R.Linley, Secretary P.O.Box 141, Station A Ottawa, Canada K1N 8V1

PACIFIC COAST
R.H.Meyer, Secretary P.O.Box 1006, Station A Vancouver, B.C.V6C 2P1

ROCKY MOUNTAIN
J.M.Meikle, Secretary, P.O.Box 6102, Station C, Edmonton, Alta.T5B 4K5

TORONTO & YORK DIVISION
P.Shergold, Secretary P.O.Box 5849, Terminal A Toronto, Ont.M5W 1P3

Association Representatives

AUSTRALIA	Prof.L.S.Launitz-Schurer, History Dept.National Univ., Canberra, Australia
FAR EAST	W.D.McKeown, 6-7, 4-chome, Yamate-cho, Suita City, Osaka, Japan
MANITOBA	K.G.Younger, 267 Vernon Road, Winnipeg, Manitoba, Canada R3J 2W1
SASKATCHEWAN	J.S.Nicholson, 2306 Arnold Street, Saskatoon, Saskatchewan, Canada
SOUTH AMERICA	D.J.Howard, Price, Waterhouse & Peate, Caixa 1978, Sao Paulo, Brazil
SOUTHERN ALBERTA	Prof. E.W. Johnson, 4019 Vardell Road N.W., Calgary, Alberta, Canada T3A 0C3
SOUTHERN ONTARIO	W.J.Bedbrook, 50 Cedarbrae Boulevard, Scarborough, Ontario, Canada
UNITED KINGDOM	J.H.Sanders, 67 Willow Way, Ampthill MK 45 2 SL, Bedfordshire, England