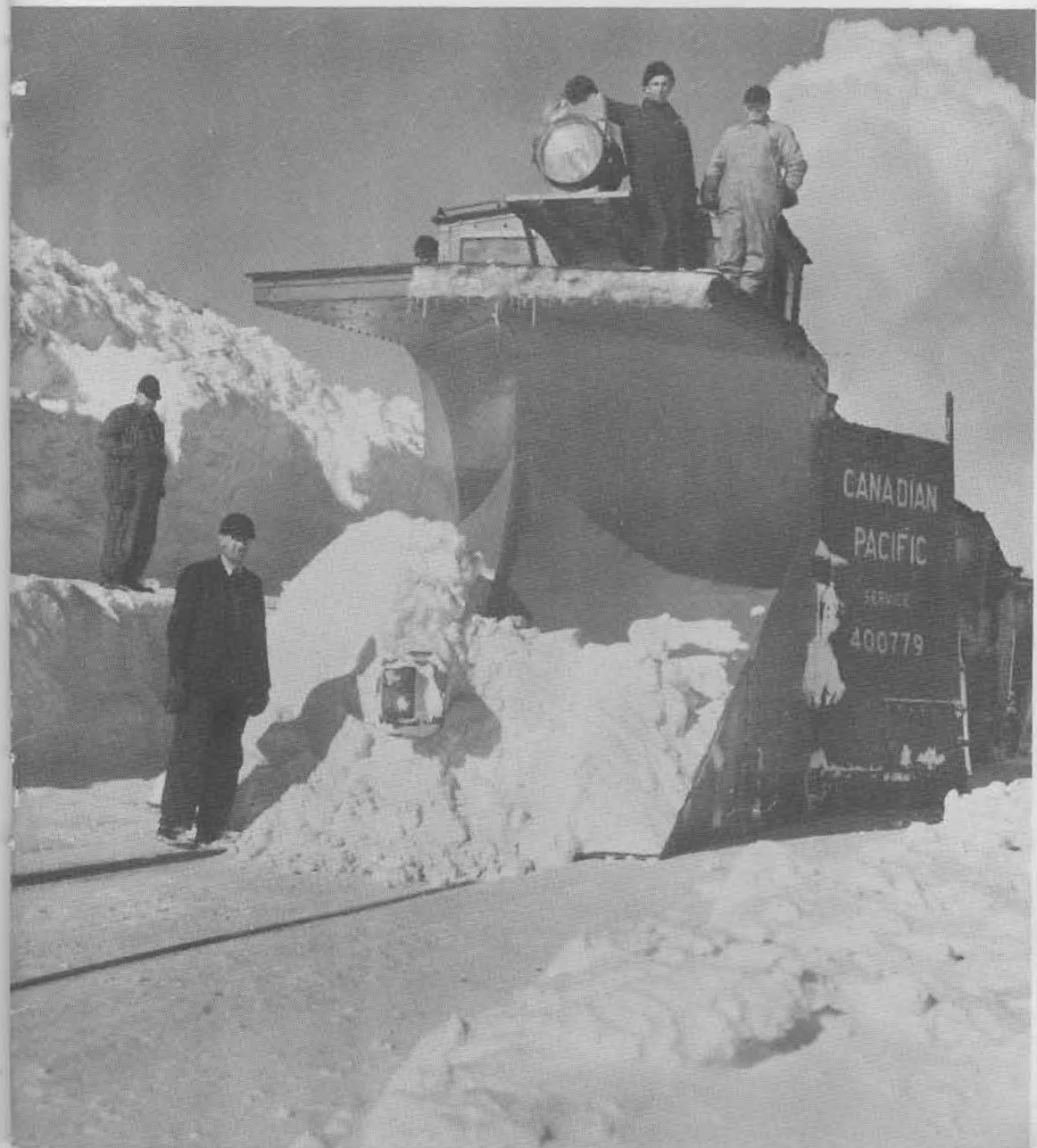


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FRONT COVER

CANADIAN PACIFIC SNOW PLOW 400779
stops briefly in its work so that
it and its crew can be photogra-
phed. The date and place is not
known, but it is certainly in the
steam days as can be seen by the
locomotive partly hidden by the
plow's wing.

Canadian Pacific photo #3886.

OPPOSITE

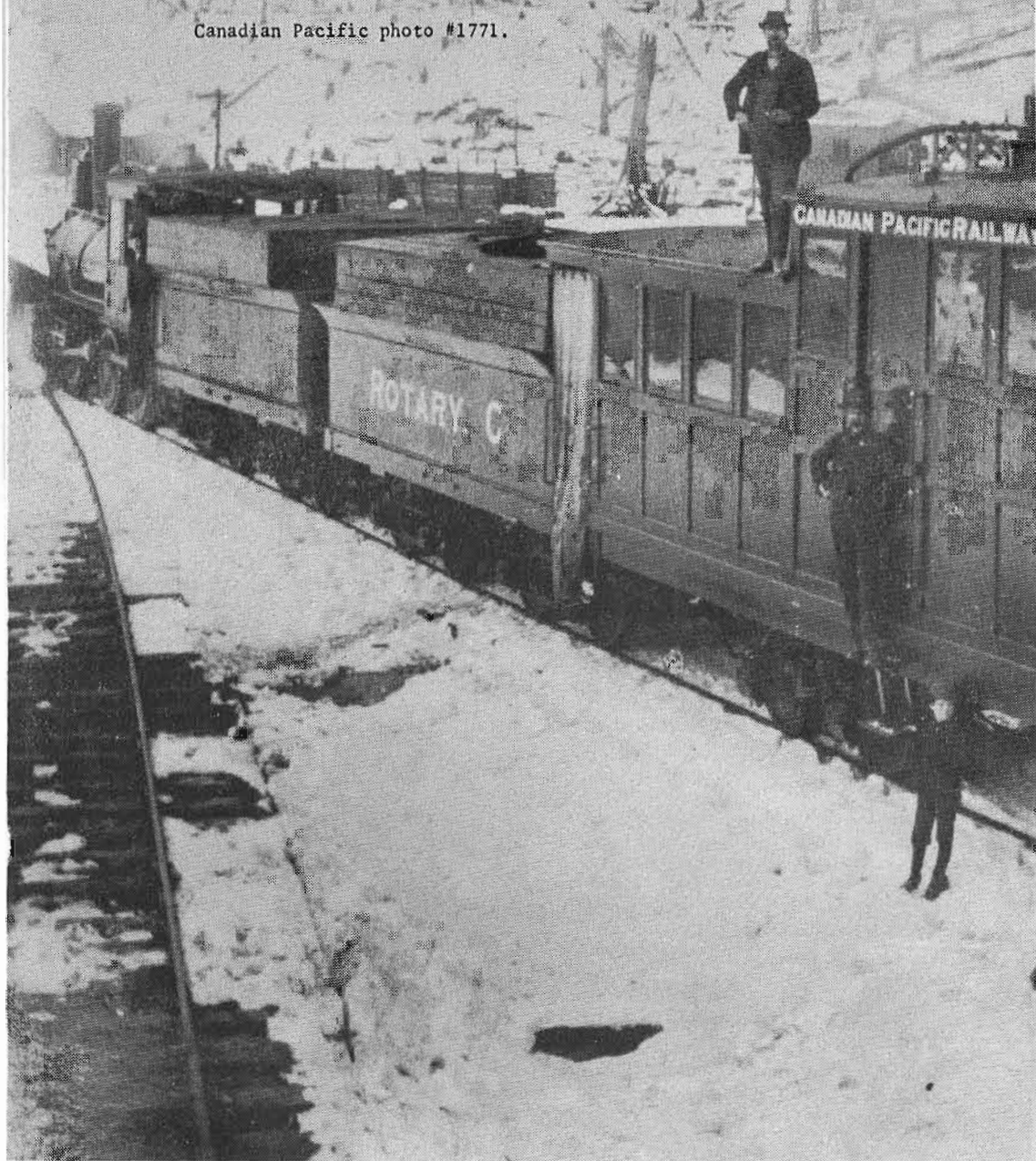
ANOTHER VIEW OF C.P. 400779 at
work clearing a siding. One can
almost feel the cold crisp air!
Note the water tank just around
the curve in the background.

Canadian Pacific photo #3882.

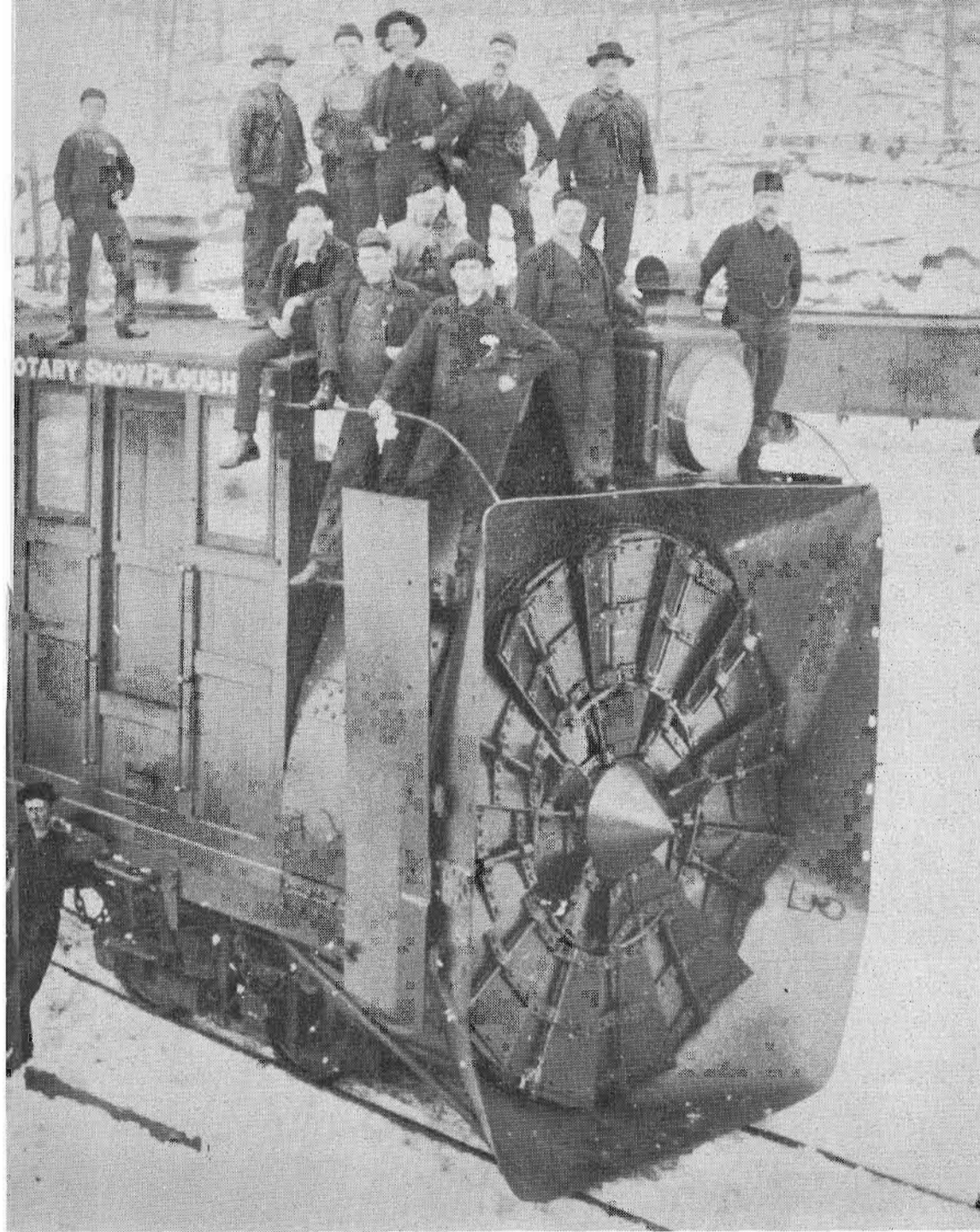
SNOW ON

WHEN THE CANADIAN PACIFIC MAIN LINE WAS OPENED through the mountains the rotary snow plow soon became an indispensable part of winter operation through the heavy snow in the mountain passes. This photo was taken in the 1880's or early 1890's and shows C.P.'s rotary "C" posed with crew in mountainous country.

Canadian Pacific photo #1771.



RAILWAYS





THE ROTARY IN ACTION WAS A SPECTACULAR SIGHT as can be seen from this photo taken in 1910. The scene is probably Rogers Pass after a disastrous snow slide. Pieces of broken trees mixed with the snow were always a hazard to operation of rotary plows.

Canadian Pacific photo #19268.

SNOW ON RAILWAYS

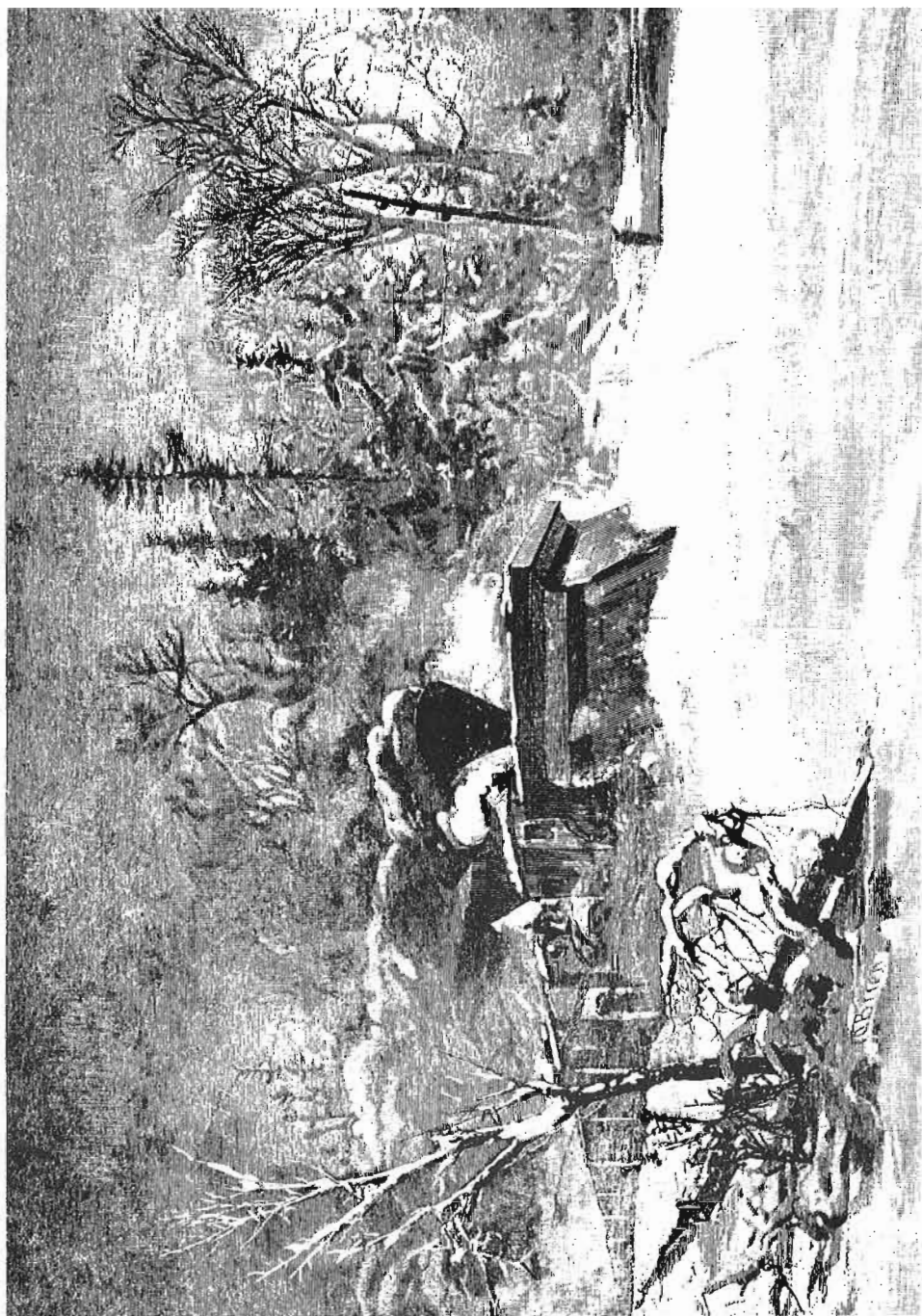
Since the middle of the nineteenth century snow has been a major concern to the railways of Canada. In the very earliest times there was little problem. The Champlain and St. Lawrence Rail Road, opened in 1836, simply did not run in winter the first few years. This is understandable since it was a portage railway between two waterways, and there would be little use in operating when these waterways were frozen over. Even the Montreal and Lachine had little or no operation its first winter. Opened in November 1847, it soon curtailed most or all of its service, and it was not until the spring of 1848 that it began to realize its full potential. In those times winter travel, when performed at all, was mostly by horse-drawn sleigh, and there was little need for extensive clearing of snow from the right-of-way.

By 1850, however, the situation was changing. Railways were now becoming an important year-round means of transportation and this meant the end of winter isolation for much of Canada. Of course it was vital to clear the snow, and Canada was a leader in snow-fighting equipment. The Grand Trunk Railway was the first to experience the problem in a marked degree. They started very early to equip locomotives with snow plows, and very soon had developed large snow-plow cars, not unlike the ones still in use, which were pushed ahead of as many as six locomotives in forcing through heavy drifts.

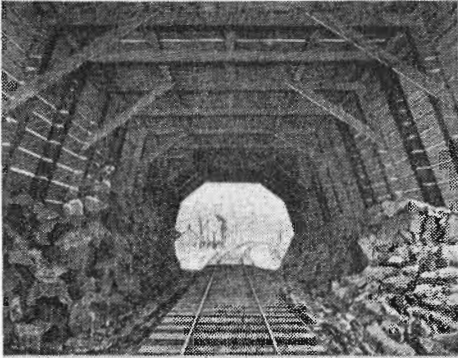
In later days newer inventions were made to ease the problem of snow removal. One notable Canadian invention was the rotary plough which was invented by a Canadian dentist, possibly inspired by a dental drill scaled up many times. The rotary really came into its own when the trans-continental railways were built, and, pushed by several locomotives and with the rotating blades powered by a locomotive-sized boiler, they could drill through the largest drifts in the mountain passes.

Street car systems too had their troubles with snow. In the horse car era many systems did not clear the tracks but employed large sleighs, much like street cars on runners, during winter months. This was not due to laziness, but simply because no one wanted the streets cleared as it would interfere with private sleigh traffic. With the coming of electric cars, however, year-round rail operation became necessary, and even in the last days of horse cars some clearing was done; for example Toronto had a sweeper hauled by twelve horses in 1891. Clearing of street lines in the electric era was often done by sweepers which had a big revolving brush. But on more rural lines regular plows were used and even rotary units (some double-ended) saw service on electric lines.

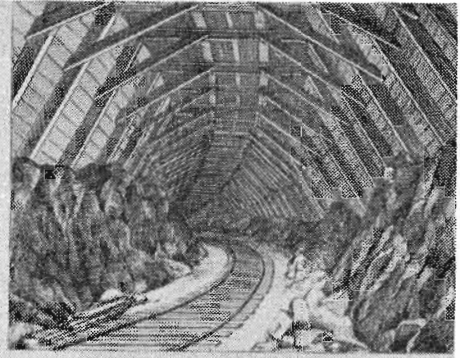
Today snow clearing is still an important part of running railways in Canada in winter. Every storm sees fleets of plows and bulldozers out on the lines clearing the tracks, although cases of snowbound trains still occur despite the best efforts. In this snowy month of February we are devoting the entire issue of Canadian Rail to snow fighting on the railway and tramway lines in Canada. As the winds howl and the snow comes down, think of the railway men out in the storm trying to keep the line open for the passage of trains on the thousands of miles of railway track in Canada.



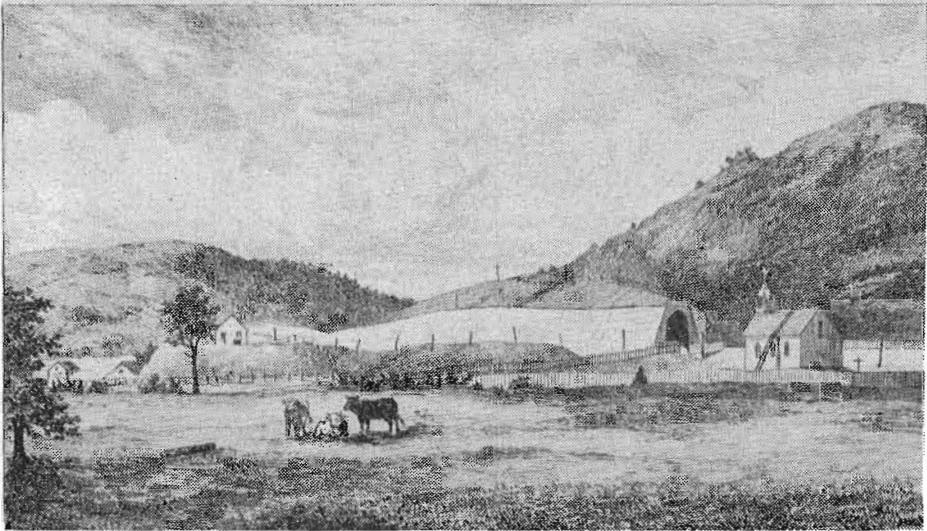
THE SHAPE OF THE RAILWAY SNOW PLOW has changed little over the years. This illustration of about 1870 shows a plow in front of two engines on the Grand Trunk railway.



INSIDE OF SNOW-SHED AT CARLETON PLACE, N. B.



INSIDE OF SNOW-SHED AT METAPEDIA.



WHEN ONE THINKS OF SNOW SHEDS those of the Canadian Rockies come to mind. However they were not the first in Canada as we see here from these views on the Intercolonial Railway at Metapedia in 1876, the year the I.C.R. main line was opened. Crows used to say that running through snow sheds was like "railroading in a barn".

Courtesy New Brunswick Museum.

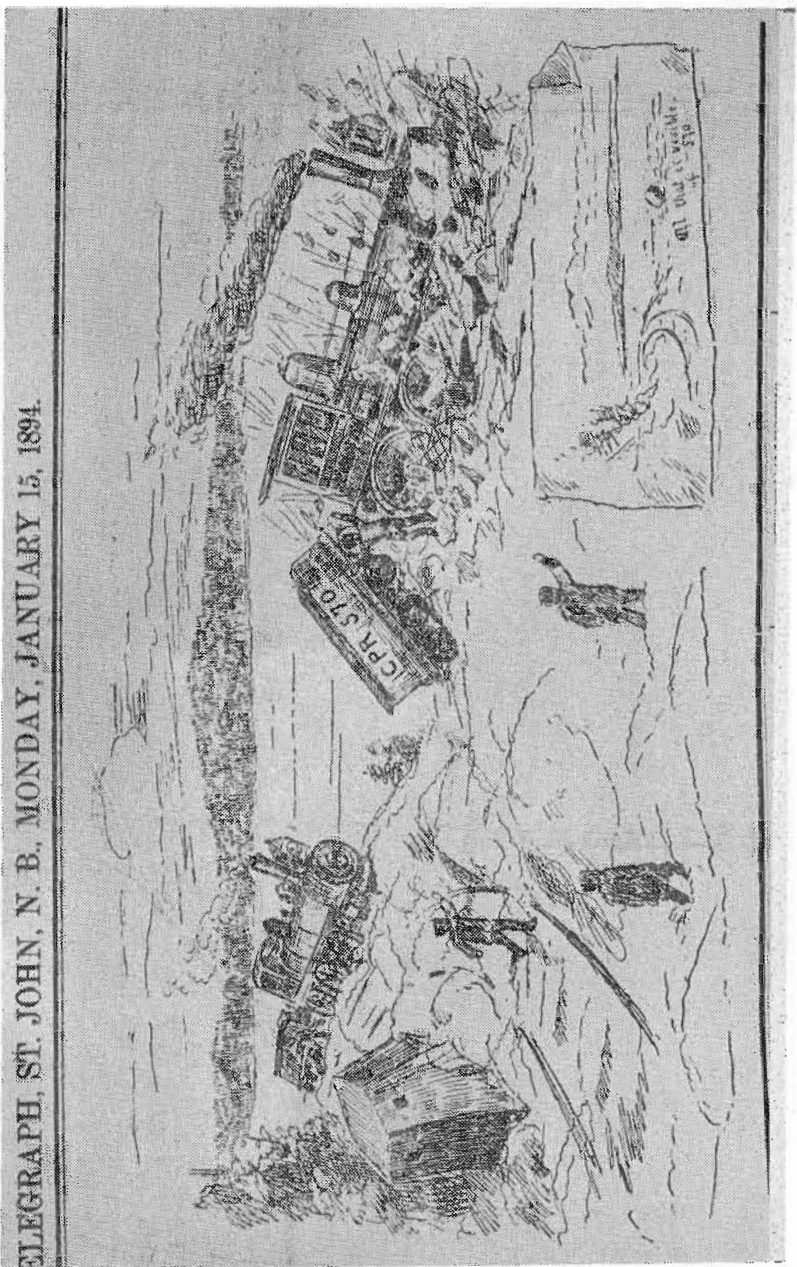




ONE OF C.P.'s EARLIER PLOWS is seen with a large crew in the Selkirk mountains in the 1880's. This photo is from an 1880's Christmas card by Boorne and May.

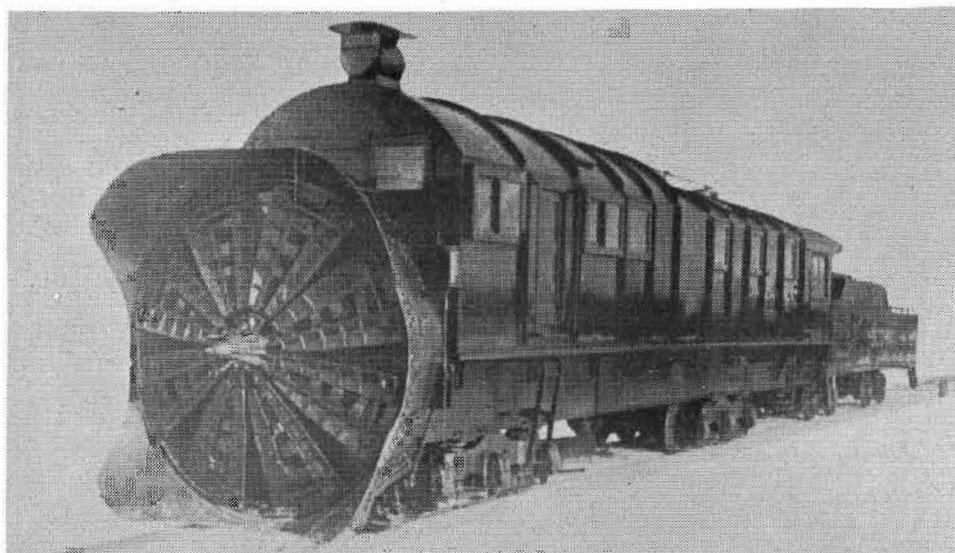
Canadian Pacific photo A650.

TELEGRAPH, ST. JOHN, N. B., MONDAY, JANUARY 15, 1894.



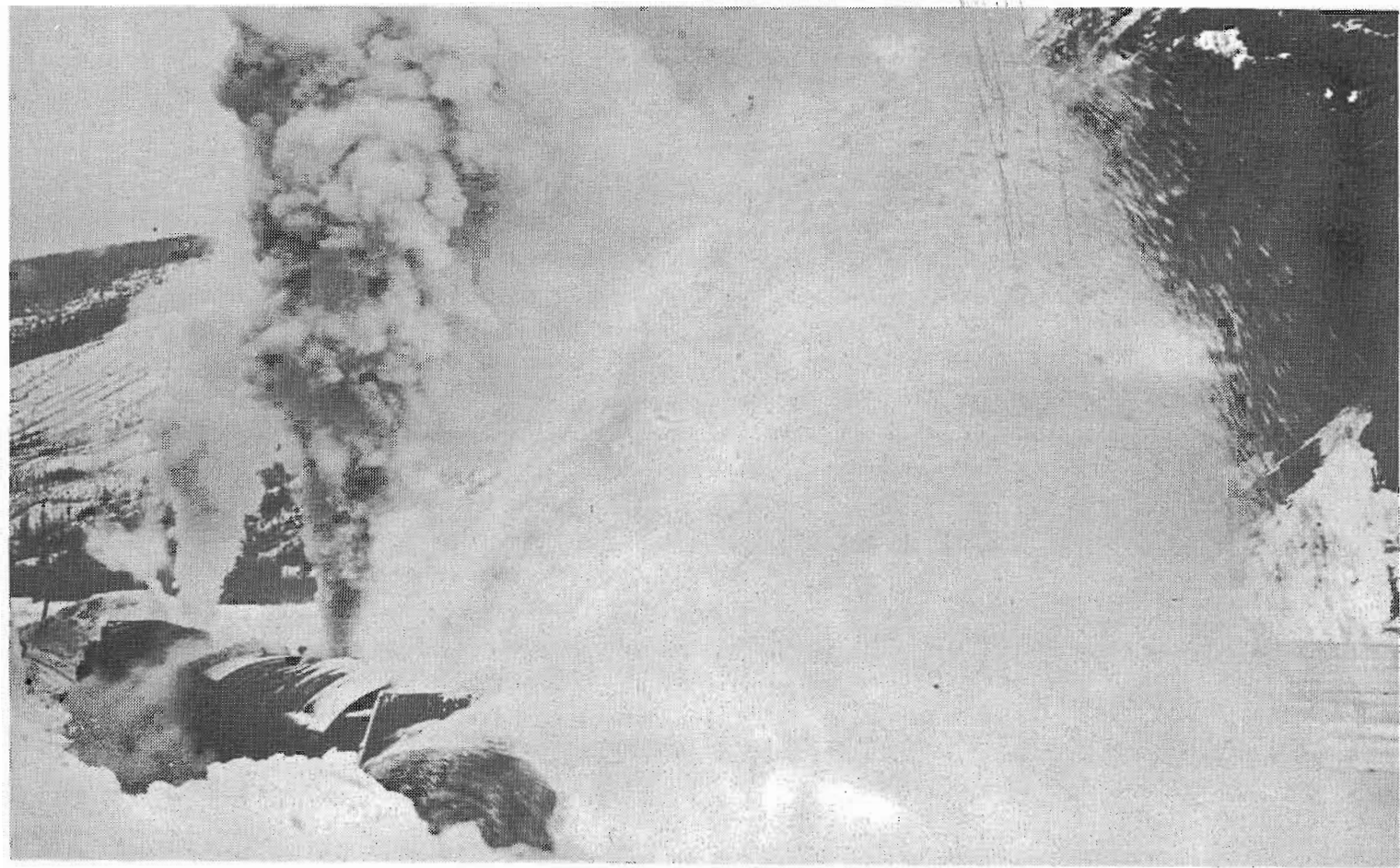
SNOW PLOW WORK WAS DANGEROUS for no one knew what obstacles might be hidden in a snow drift. On January 14 1894, C.P.R. plow extra 570 was rounding a curve at Harvey New Brunswick when it struck a rock buried in snow on the track. The plow swung to the right, and both engines to the left with No. 570 crashing through the ice and disappearing in the waters of Harvey pond. The artist of the Daily Telegraph of Saint John N.B. captured the action of this fatal crash. By the way, No. 570 was raised from its involuntary ducking and it survived until 1924.

Courtesy New Brunswick Museum,



ROTARY SNOW PLOWS CONTINUED ON THE C.P.R. for many years. These photos show the more modern type in three characteristic poses: Standing alone, with locomotive ready to go into service, and finally in full action with snow flying. The photo of 400811 was taken in January 1926, and the other two about the same time or a little earlier.

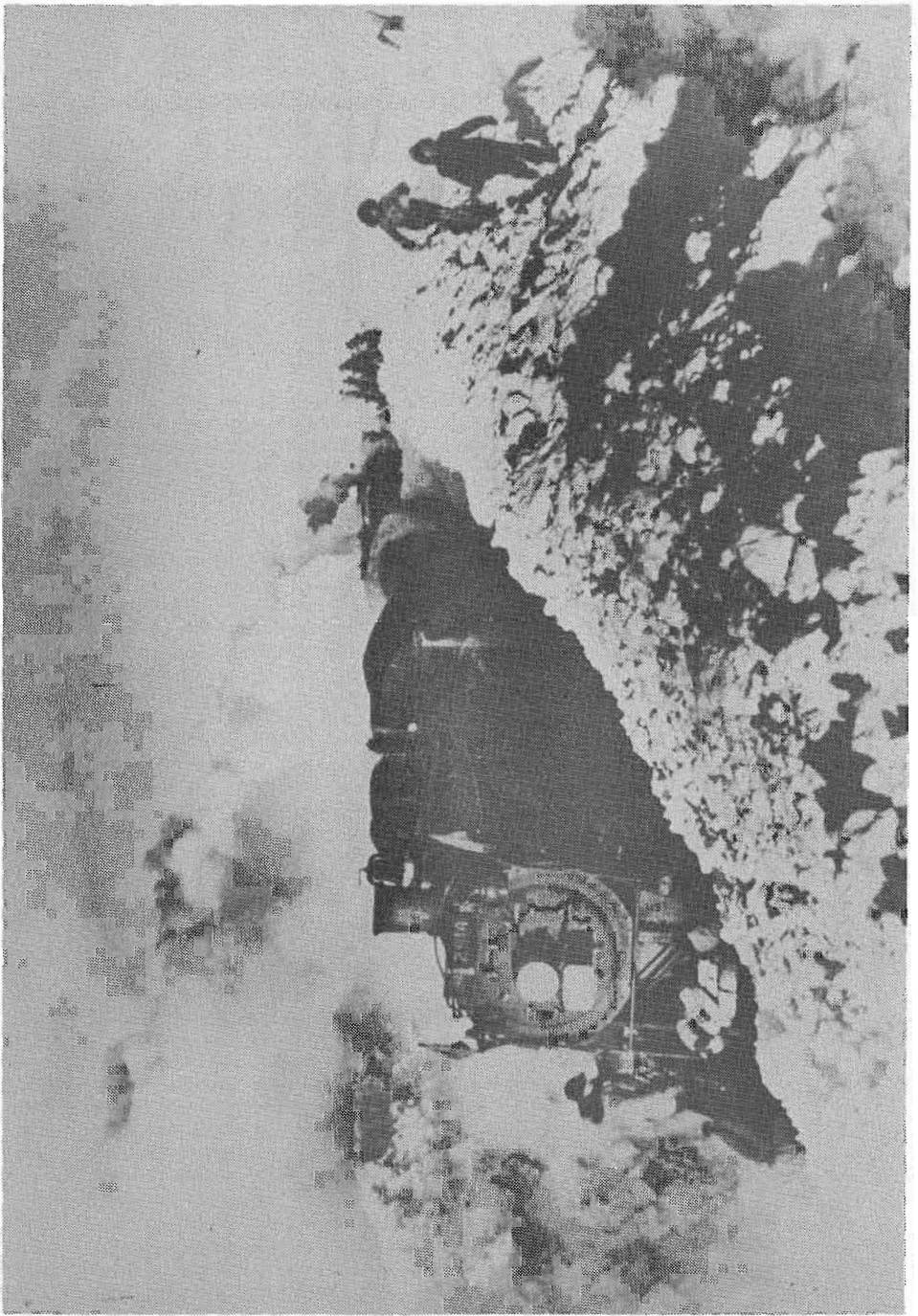
Canadian Pacific photos 1147, 9039, 17768.





THESE TWO PHOTOS DATE FROM 1909 and show the effects of snow on passenger trains. One view is captioned "The first train through Jan 31 09" and the other depicts efforts being made to free an open-platform wooden postal car from a drift.

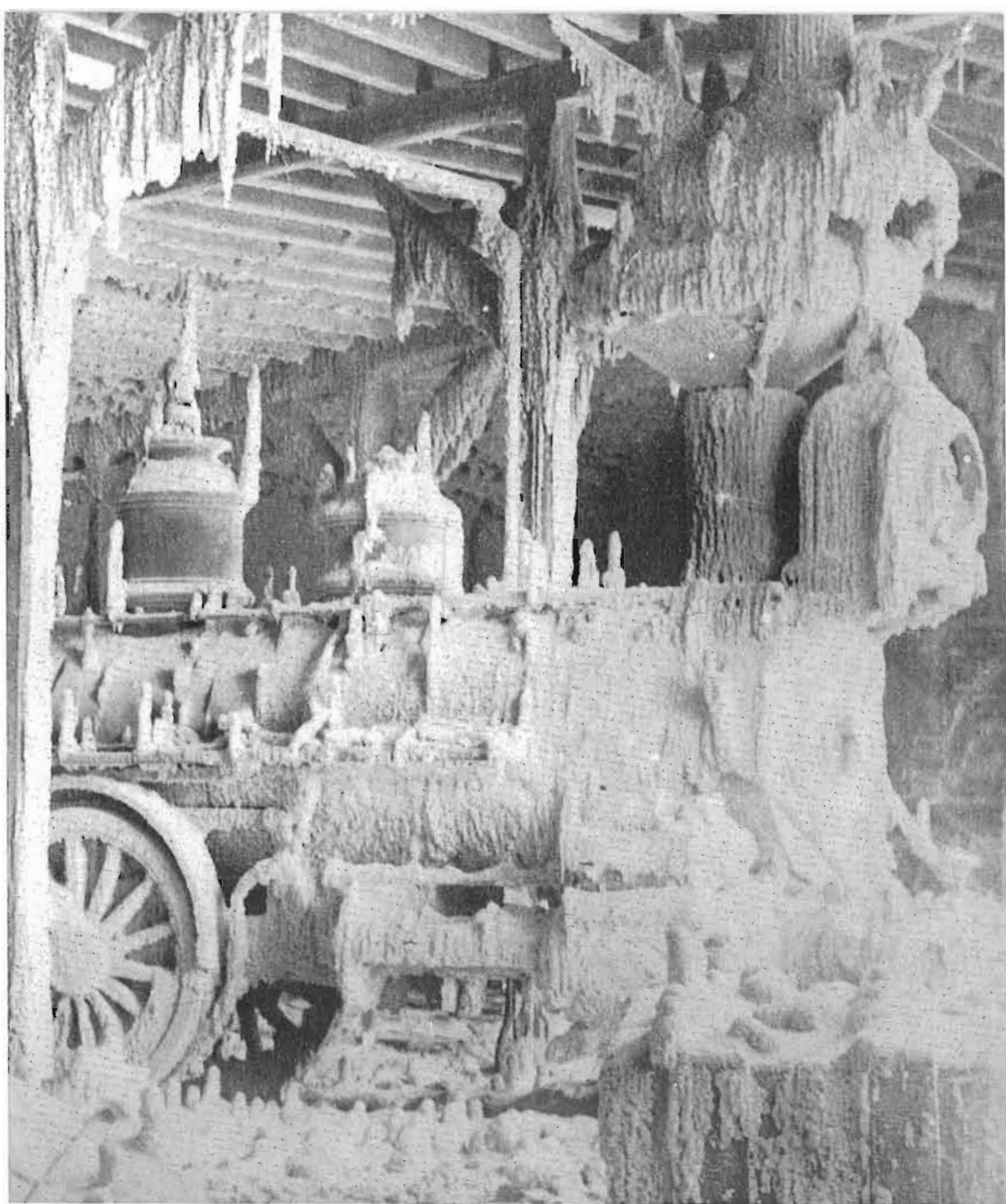
Canadian Pacific photo #9039.



CANADIAN NATIONAL 2-8-0 LOCOMOTIVE 2814 in the snow in Saskatchewan about 1950. Possibly this is a C.N.R. train rerouted on to C.P.R. lines since this is a C.P. photo.

Canadian Pacific photo #12496.





TAKEN IN THE MID-1880'S, this photo shows C.P.R. engine number 30 looking more like a piece of snow sculpture than a locomotive! The location is supposed to be the engine-house at Rogers Pass, but this is by no means certain. No. 30 was built by Dubs in Glasgow Scotland, and was delivered in 1882, one of the earliest engines acquired new by the company. Sister engine 22 still exists as Winnipeg Hydro No. 3 and is used on the "Prairie Dog Central" train at Winnipeg. Note the wide smokestack and raised cab lettering which tell that this is a very early picture.

Canadian Pacific photo # M1282.

A LONG WEEKEND IN SASKATCHEWAN

By R.F.P. Bowman
as told to P. Webb

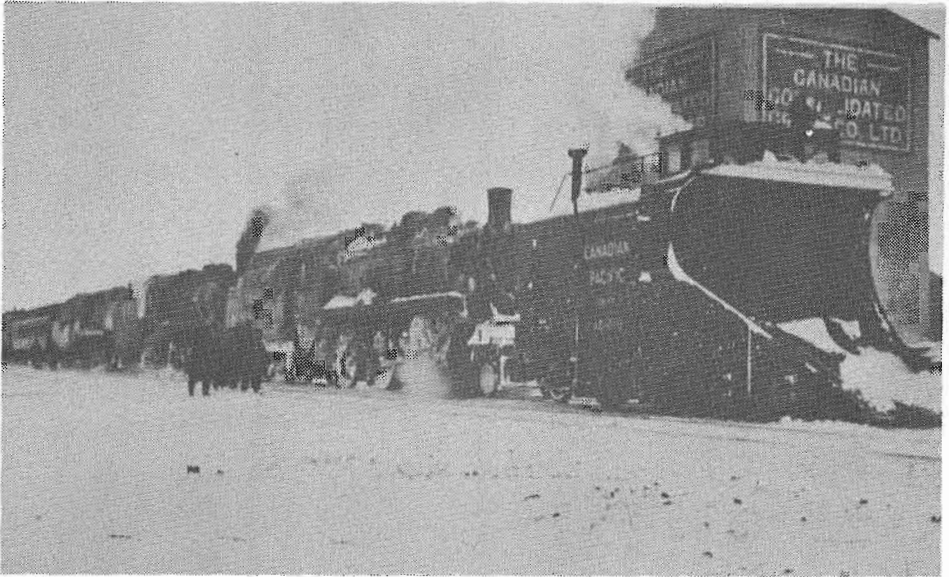
In February 1947, the West was still deeply frozen in. The first snowfall of October would not emerge until the warm days of April while February was living up to its reputation as the most severe month on the prairies.

It was Thursday - with the temperature below zero and dropping, an ominous northwest wind and driving snow threatened southeastern Saskatchewan and southwestern Manitoba. In Brandon the Estevan passenger train left on time for its 170 mile run, but at its destination, a blizzard was in full force. Eight miles east of Estevan, at Bienfait, the storm was quickly swallowing the small yard where Canadian Pacific blocked and assembled the cars from the Manitoba and Saskatchewan Coal Company spur. Attempting to keep the yard open, a work train and spreader were fighting a losing effort, and on one of its backup moves it derailed at the east switch fouling the main. With the passenger train due the dispatcher called the Frobisher agent, 18 miles east, and ordered the train held there. Frobisher was enough of a village that at least creature comforts of the crew and passengers could be taken care of until the Bienfait situation could be cleared. Simultaneously he ordered a light engine west from Souris to assist in the rerailling at Bienfait. What was not realized in distant Brandon, was the intensity of the storm which was now threatening the track at a hundred points. The engine with only its crew aboard, had little chance, terminating its run in a snowbank nine miles short of Frobisher.

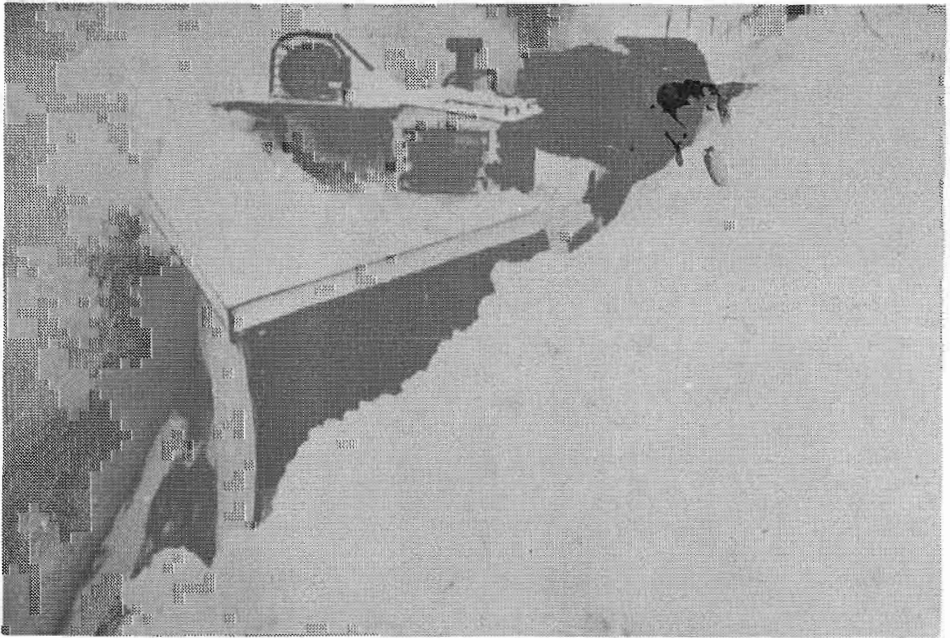
It was now Friday and the magnitude of the situation was becoming apparent: The line was blocked at two points by engines, a passenger train was caught between, and an entire subdivision was being threatened. Early Friday a pair of D-10's pushing a Russell plow clanked out of Souris and inched its way southwestward, the train's snail-like progress being telegraphed in by each agent in turn. Clearing Oxbow, they started down the curving sidehill approach to Moose Mountain Creek where drifting in the depression was even heavier, and in one of the frequent bunts-- charging and backing up - the caboose derailed. Resisting all efforts at rerailling, it was uncoupled and abandoned. Once again the fight was resumed, bunting and shovelling to Rapeard, a point only five miles west of Oxbow, where they attempted to keep the engines alive by using snow. Here, night overtook, and exhausted they quit.

Saturday morning, and the situation was now even more desperate. At Brandon, crews and a shovelling gang were called for 11 a.m., the train consisting of three D-10's, a stockmen's car and a pair of cabooses. Because of the clearing done by the earlier train, it was

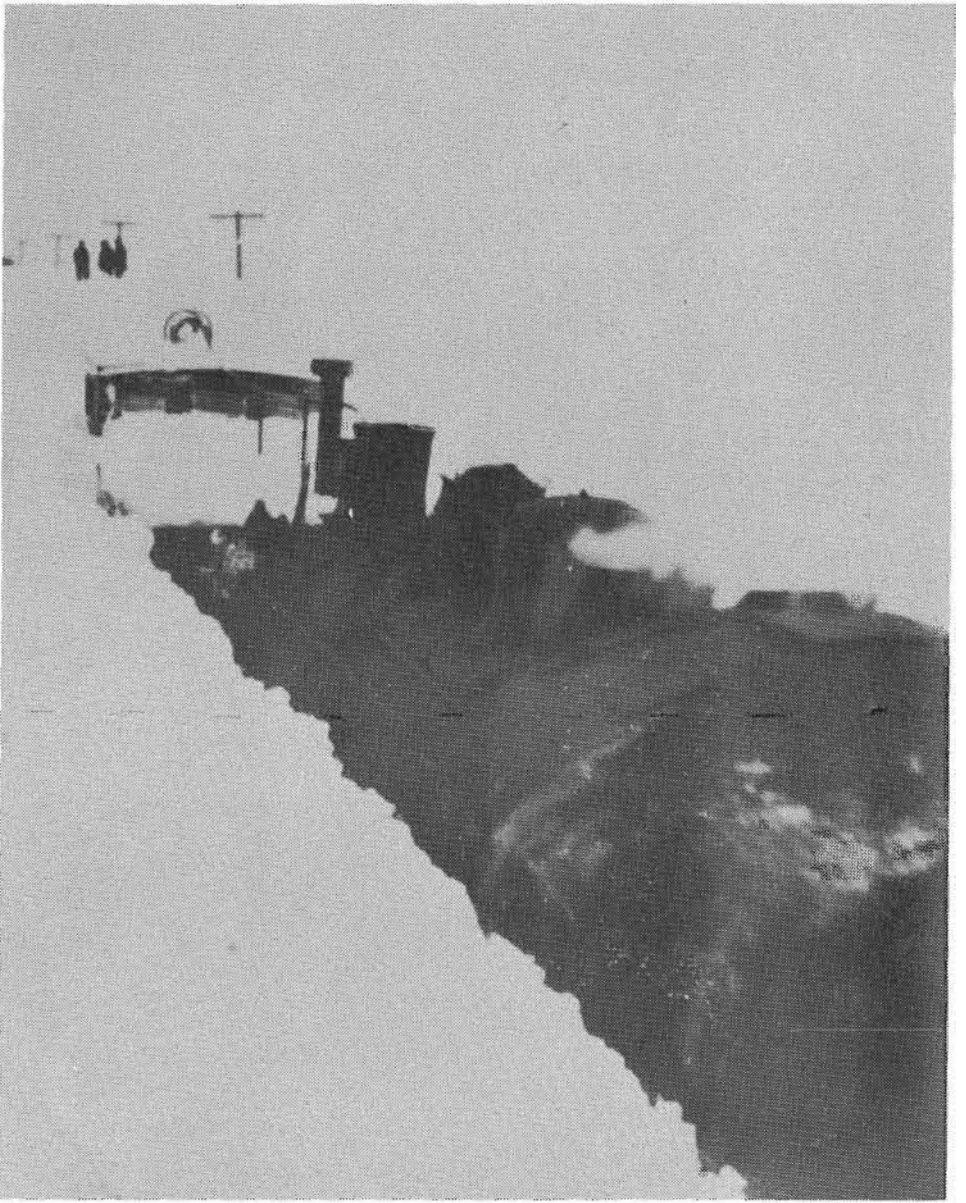
All pictures by R.F.P. Bowman



The relief train at Frobisher, Saskatchewan, after its arrival Sunday afternoon.



Particular large drifts had to be shovelled down to size before the plow could attempt to cut through. A shovelling gang was also handy in case the entire train became locked in a drift.



In classic understatement, crews referred to snow clearing as bunting or blind flying. When two engines were used conditions were obviously extremely severe. One would cut off while the lead engine and plow ran at a drift at 20 mph. If it did not get through, it backed up and tried again, thence the term bunting. If it got stuck the other engine was able to come to its assistance. When conditions were not so severe a single engine and plow at speed were used. The effect of the wedge knifing a drift would at times send an explosion of caved snow back over the tender, thus the tarp over the coal bunker. In the accompanying pictures a plow extra is bogged down on the Rosemary Sub in eastern Alberta in 1951.

able to get through to Oxbow fairly quickly. Bunting and shovelling their way down the curving approach to the creek crossing, they were able to dig out and reraill the caboose, dragging it back into Oxbow out of the way. Again the extra, labored west, gaining Rapeard, where the first plow train patiently awaited rescue. It too was hauled back into Oxbow where by now it was after midnight. The crews were worn out so it was decided to remain there until Sunday morning.

Early the next morning, the ten wheelers stormed the Moose Mountain Creek curves for a third time, repetatively charging and backing up, eventually punching through to the light engine. Its crew had managed to drain the boiler but failed to get the condensed steam from the cylinders, locking the drivers as if in concrete. The relief crew set to work removing the connecting rods and once free, were able to tow the engine back into the nearest siding, Alameda, and laboriously again start for Frobisher.

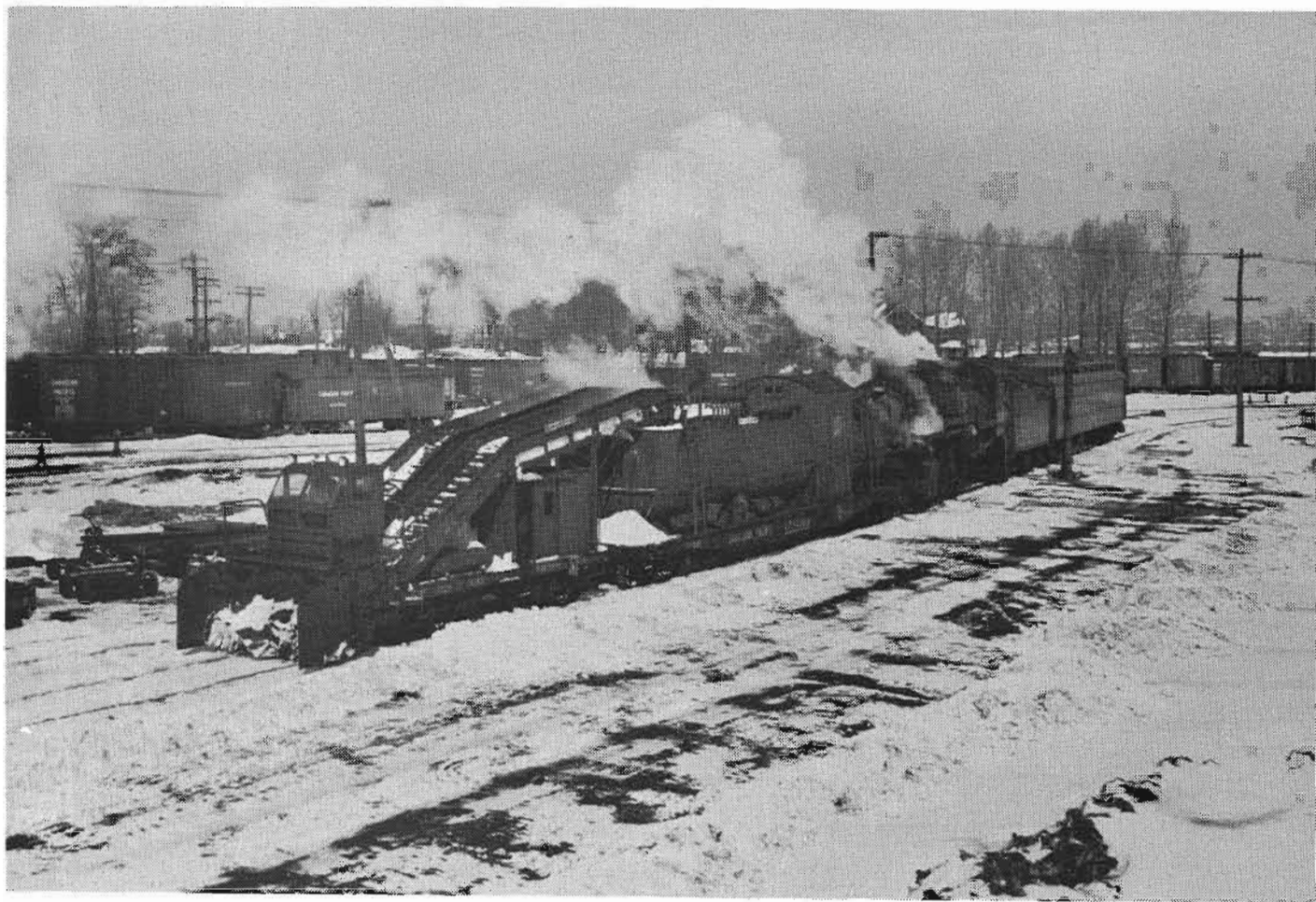
Meanwhile at Bienfait, the Manitoba and Saskatchewan's own engine had been called to assist in rerailling the C.P. engine. A gang of shovellers worked its way from the mine into the Bienfait yard where they managed to reraill the equipment, then tow the drained engine back to the little engine shed where it was thawed out, steamed up, and returned to Bienfait to continue the job started Thursday.

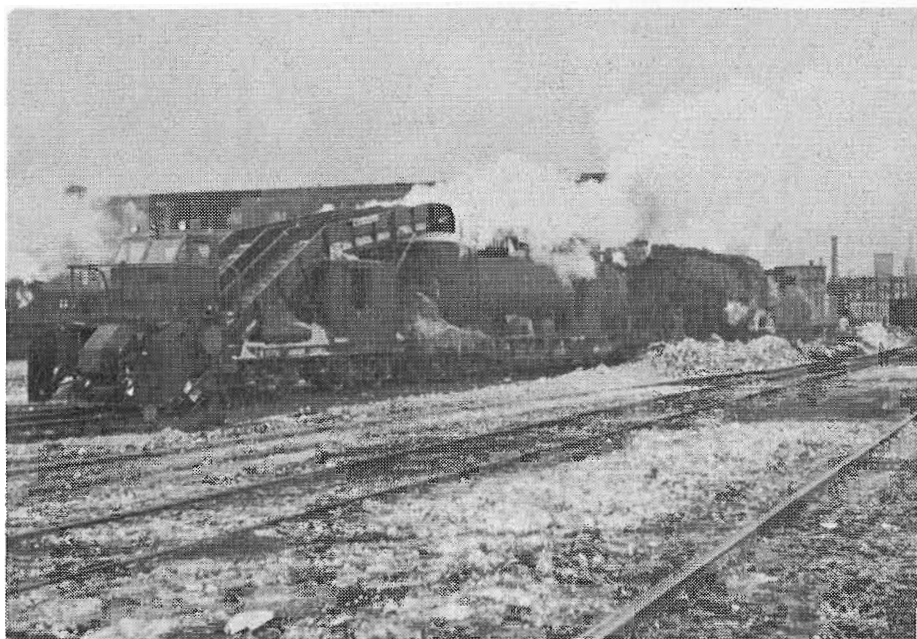
Now the battle shifted to just west of Alameda. Alternately blind flying--charging the smaller drifts--and bunting, separating the two trailing engines and train, the lead engine and plow charging the drifts, the fight continued. At times, progress was measured in feet as the gang shoveled but yard by yard, they gained track while the rescue plow train patiently followed. Eventually, they broke through to Frobisher, where after a brief pause they battered through to Bienfait. The second plow train picked up the expertly drained G-5 and its train, and dragged it westward following the signs of battle, punctuated by a column of smoke on the darkening horizon. It was late Sunday when the first train broke through to Estevan.

Overnight the Estevan roundhouse crew steamed up the G-5 and serviced and turned the D-10's and plows so that by Monday morning the three trains were ready to try it again. The original plow train got out first, clearing the tracks for the varnish, while the relief train skulked along behind doing clean-up work on the sidings. All three trains were back at Brandon by late Monday night, however, time has clouded the details of the return of the rodless D-10 at Alameda.

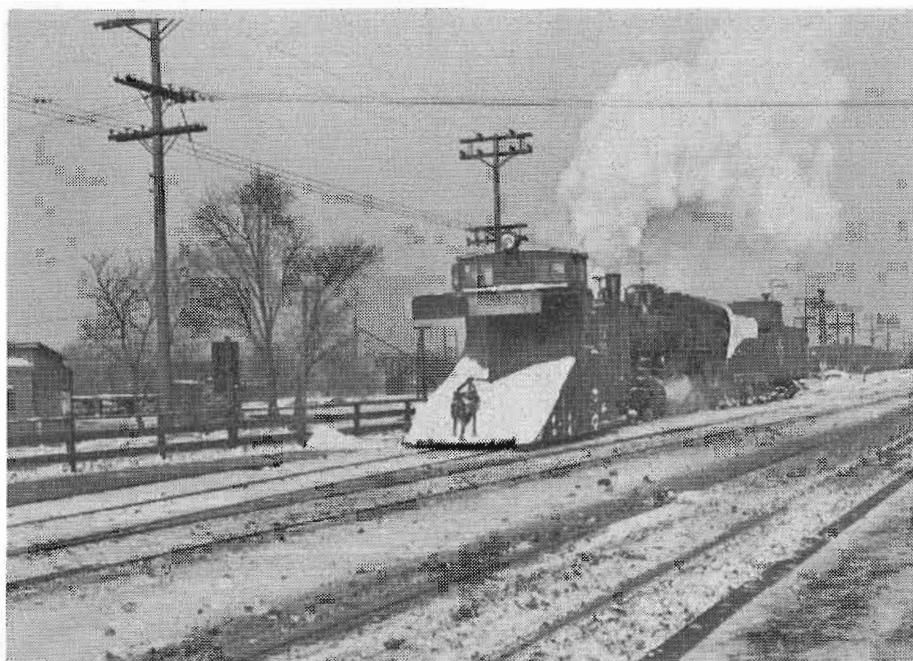
Author's Note:

R.F. Paddy Bowman began a fascinating railroad career in 1926 with Canadian Pacific. By 1940 he was roadmaster when he went overseas, undertaking a military career which saw him assigned to the intelligence section to Montgomery's invasion planning staff and later being made a Member of the Order of the British Empire. He returned to Canadian Pacific as Division Engineer in Brandon and moving up through a series of promotions, he retired as Superintendent of the Lethbridge Division in 1965. A graduate engineer, he is a publisher in his own right, having authored the highly successful Railways In Southern Alberta for the Historical Society of Alberta in 1973.





IN YARDS WHERE IT IS DIFFICULT TO FIND SPACE TO THROW SNOW, the problem can be solved by snow melters. Both these views were taken in February 1948, one on the C.P.R. (Canadian Pacific photo #12418), and the other on the C.N.R. at Turcot (Toohey collection, C.R.H.A.). The two units are almost identical and were then pushed by steam locomotives.



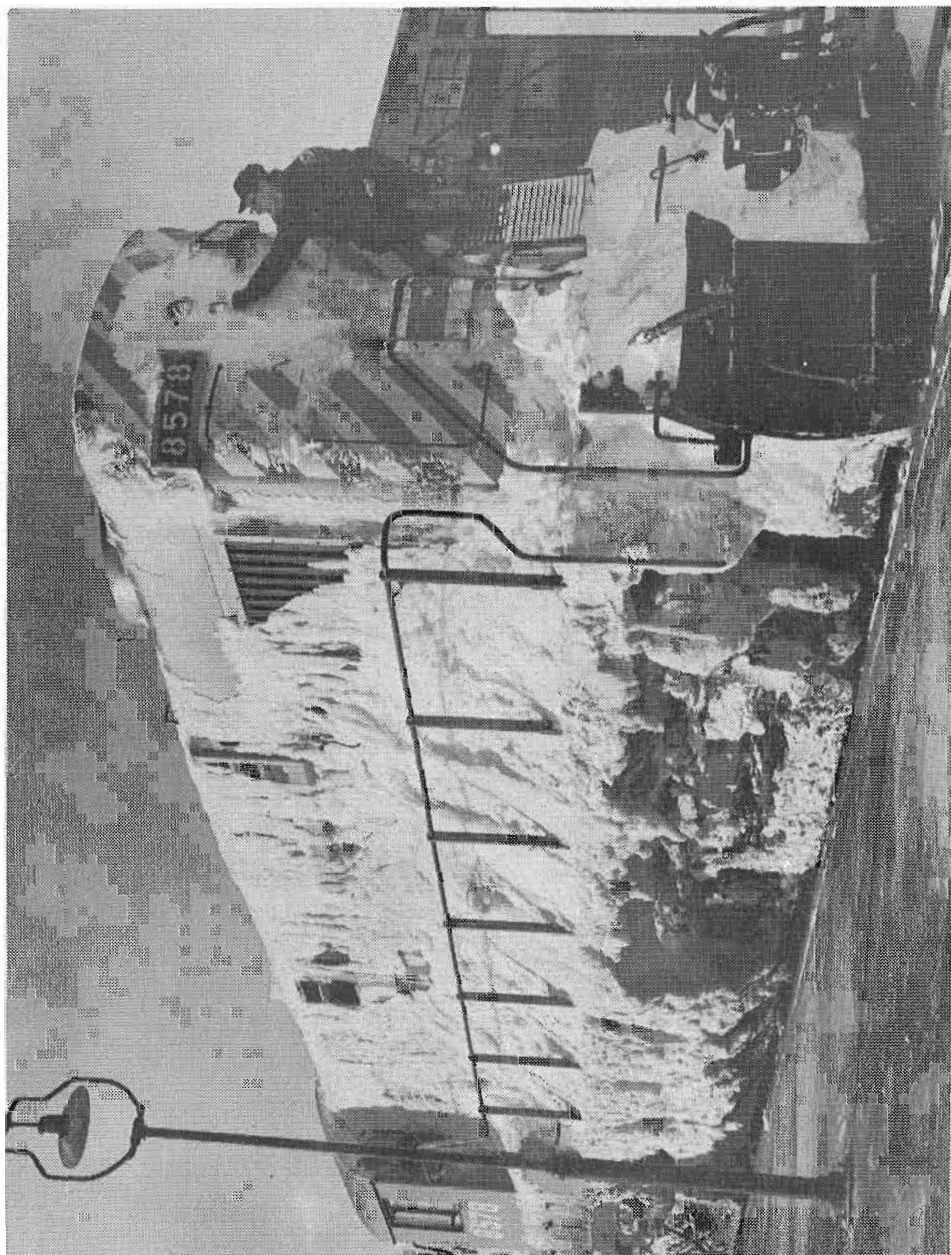
CANADIAN NATIONAL PLOW 55126 pushed by steam locomotive 1311 were photographed at St. Lambert on January 31 1948.

Toohey Collection, C.R.H.A.



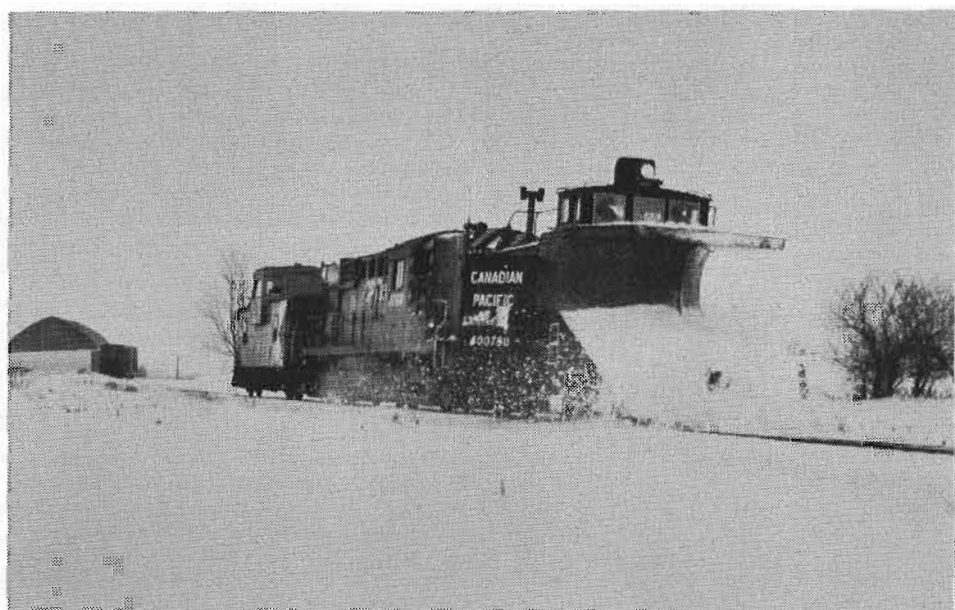
FOR OUR FINAL LOOK AT SNOW IN THE STEAM ERA we see C.P.R. No. 5144 completely snowbound in the Crow's Nest Pass area on February 2 1950. Poor old 5144 looks as if it had "just settled down for a long winter's nap", but in fact it would soon be freed and running again. We now leave the age of steam, and turn to the diesel era where we will find that problems with snow are no less serious.

Canadian Pacific photo #115.



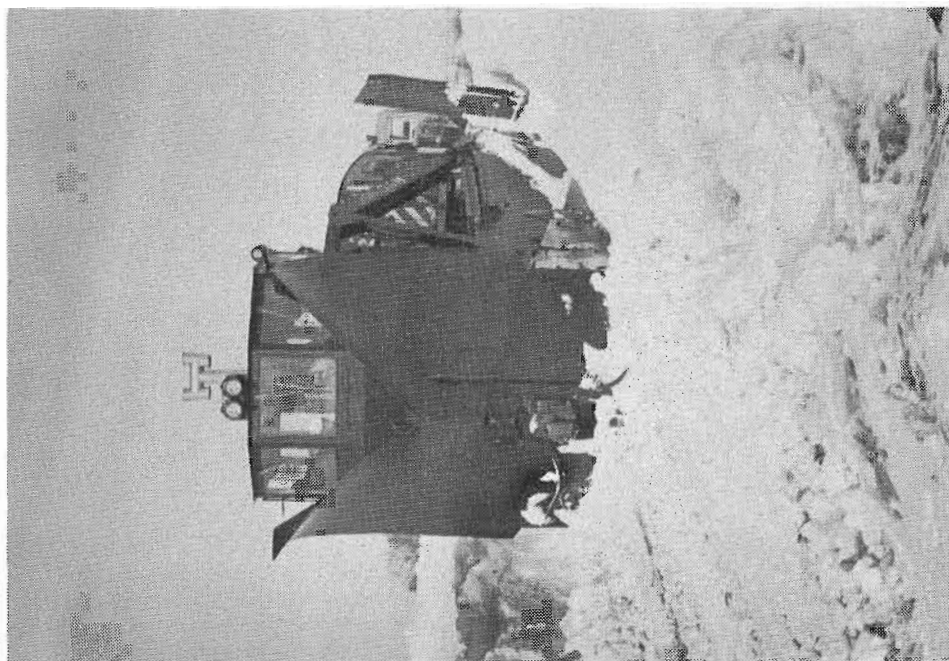
WHEN THE LOCOMOTIVES COME IN LOOKING LIKE THIS it's time to call out the snow plows! Actually the plows have probably been out all night already or else No. 8578 might not have made it through. The scene is at Windsor Station in Montreal in the winter of 1969, and No. 8578 has just arrived from Saint John N.B. at the head end of C.P. Rail's passenger train the "Atlantic Limited".

Canadian Pacific photo #25138.



THIS GROUP OF FIVE PHOTOS by Burt Van Rees shows snow clearing operations on both Canadian Pacific and Canadian National lines in southern Ontario in the years 1976 1977 and 1978. An interesting note is that C.P. plow No. 400780 shown here is a sister unit to 400779 depicted on the front cover in a view taken many years before.

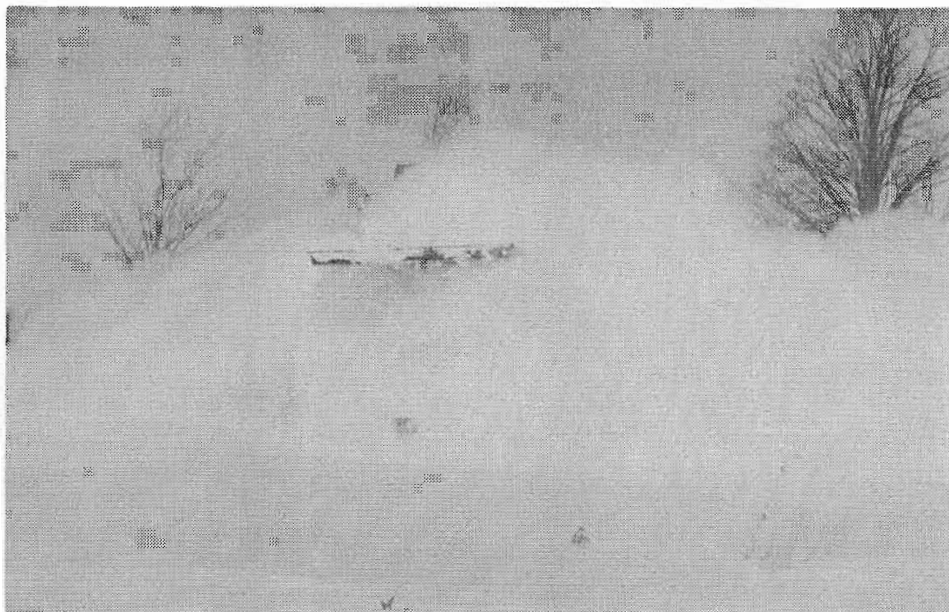
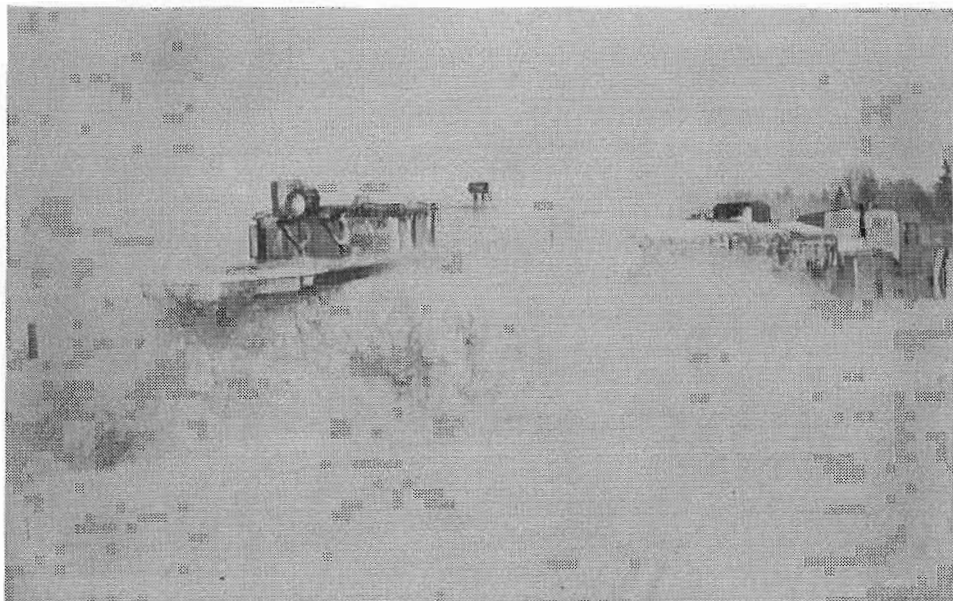
All photos by Burt Van Rees.





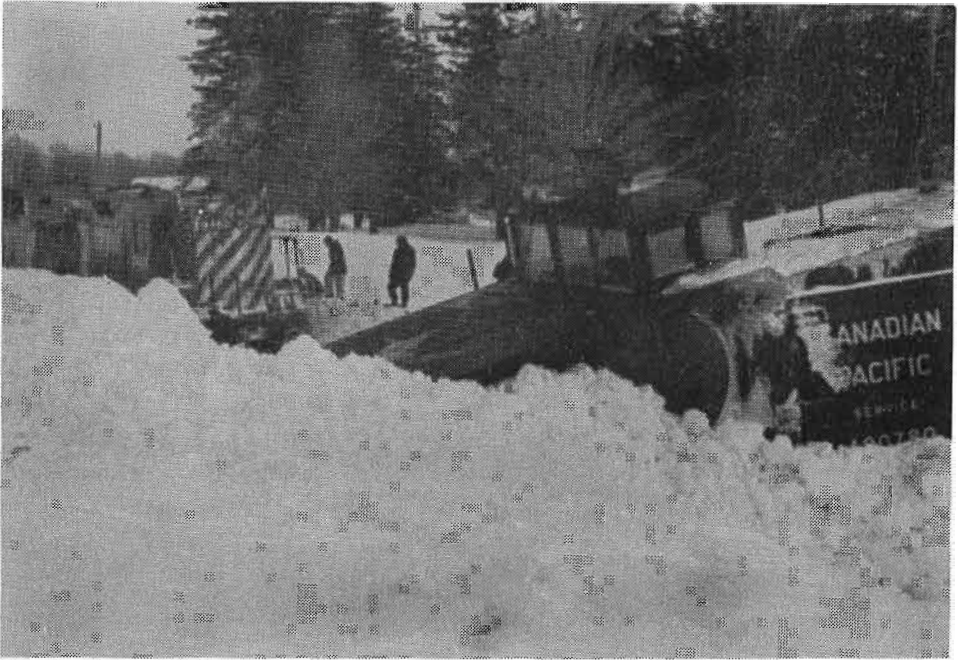
SNOW CLEARING IN YARDS is now done by modern snow blowers like this unit shown at work in St. Luc yard in January 1966.

Canadian Pacific photo #1231.



TWO ACTION PHOTOS OF C.P. RAIL SNOW CLEARING IN ONTARIO in the 1970's. The front view is at Fergus Ont. on Jan. 12 1978 where 8446, and 8767 are pushing a plow, but little is visible in the flying snow. The other photo, taken at Lakeside on Feb. 10 1976, is of extra 4061 tackling a big drift at full speed.

Both photos by Greg. McDonald. Canadian Pacific photos #E4556-11 and E4556-15.



THE DANGERS OF RUNNING SNOW PLOWS ARE STILL PRESENT. This is well shown by this derailment at Lakeside Ontario on March 2 1978. Plow 400780 ran into some hard-packed snow and derailed, making a right-angled turn in front of locomotive 8485 which also derailed. The scene is much like that shown in New Brunswick in 1894, and had it happened on a steep river-bank the results might have been the same.

Both photos by Gordon R. Taylor.



WHILE MODERN BULLDOZERS ARE NOW IN USE, the old enemy is still fighting back. In this February 1978 view at Gull Lake Saskatchewan the bulldozers are having a hard time to free the engine from the snow. So we end our "coverage" of snow in the diesel era the same way that we finished the steam days - with a locomotive buried in the snow, showing that snow will always be a problem on the railways of Canada.

Canadian Pacific photo #79-34-5.

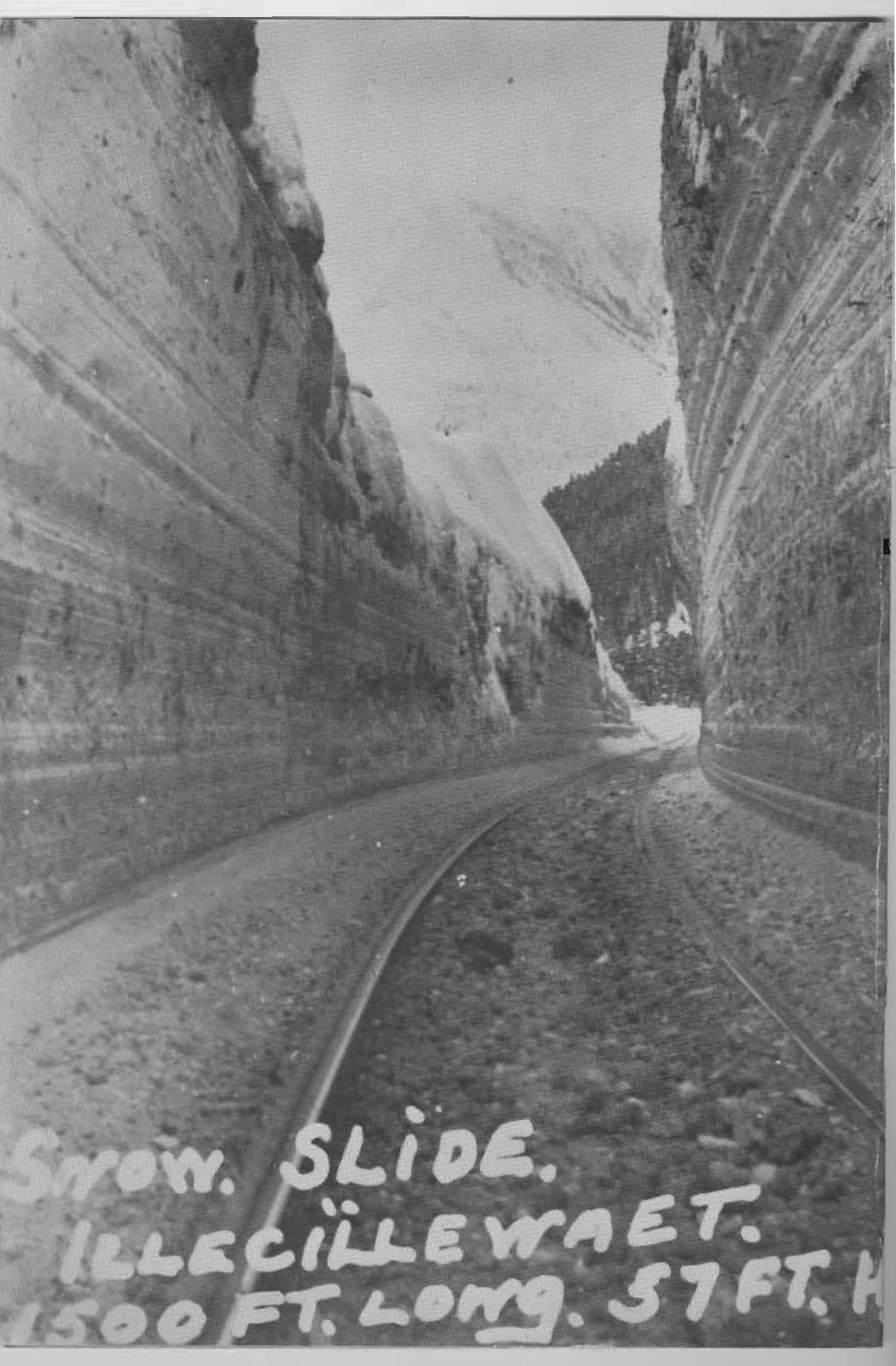
"TO BE CONTINUED"

This photo story of snow on railways was intended to include street car lines as well. However we were "snowed under" with good photos, and rather than cut some out we decided to defer the street car section until next month. So watch for the March Canadian Rail which will show how the tramway and interurban lines coped with snow which was as much a problem with them as with the main line railways.

BACK COVER.

WHAT MUST HAVE BEEN A RECORD FOR SNOW CLEARING was the job of cutting through this snow slide at Illecillewaet B.C. early this century. The slide was 1500 feet long, and the maximum depth was 57 feet; equal to the height of a five-storey building!

Canadian Pacific photo #1215.



SNOW SLIDE.
ILLECILLEWAET.
1500 FT. LONG. 57 FT. H.