

The Branch Line

Vol. 2 No. 5 April 1967

ELECTRIC TRAIN STAFF ON THE CANADIAN PACIFIC

By E. S. Taylor

Assistant Signal Engineer, Canadian Pacific, Montreal

The Canadian Pacific has in service a number of installations of electric train staff on single-track sections where traffic is heavy, notably on the Lake Superior division, which is not completely double-tracked and where the staff system was installed on all single-track portions in order to eliminate the delays and inconveniences due to the use of train orders. On other sections, for the purpose of providing for certain junctions and intermediate sidings, several modifications have been devised.

The staff instruments are type S miniature instruments, made by the Railway Signal Company, of Liverpool, England. Metallic circuits are used, and to prevent the possibility of a careless maintainer reversing the polarity, current for the operation of the instruments is furnished by magneto-generators equipped with two tapper keys, so that one magneto provides current for the block on either side of the station. These keys are mechanically interlocked to prevent the current from being sent in both directions at the same time. Each instrument is equipped with an indicator showing "staff out; line blocked", when a staff has been withdrawn from either instrument, and "staff in; line clear",

when no staff is out. The train staffs are made in such a manner that it is impossible for the staff belonging to one block to be inserted in the instrument of an adjoining block. Permissive movements are made by means of a staff which

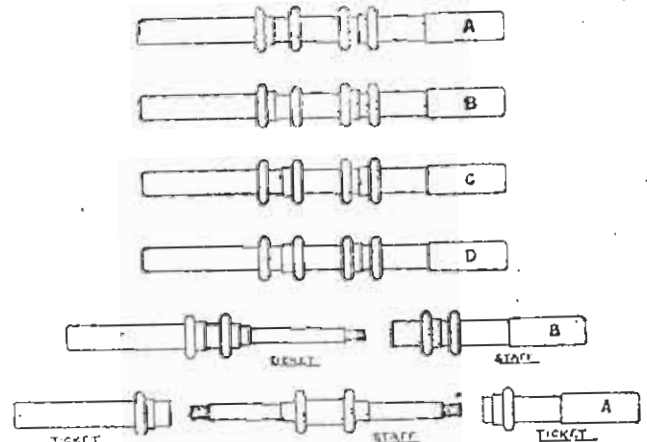


Fig. 1—Divisible Electric Train Staff

is divisible into two parts. These parts must be screwed together before the staff can be replaced in the instrument. The capacity of each instrument is 40 staffs, and at stations where the permissive feature is used, 20 of these are divisible. Each station has a telephone, which is worked over the staff line wire.

On staff sections where there are few train movements at night, an "automatic operator" has been installed. A stick relay, the armature of

which is balanced and on which there is one normally closed and one normally open contact, the other members of these contacts being on pivoted weights, provides the automatic feature. When the relay is energized the armature is rotated in a direction to cause it to lift the weight on which the normally closed contact is fixed, and when current is broken, the weight causes the armature to rotate in the opposite direction a sufficient distance to close the other contact and cut in a local battery which energizes a coil to release the staff at the opposite end of the block. It is possible to operate a staff block without an operator at either station, by using this attachment at both ends.

In a staff block between Hull and Sparks Street station, Ottawa, it was necessary to install an auxiliary pair of instruments at Manawaki Junction on account of a branch line connecting at that point. The four instruments are alike and a staff from one may be deposited in any other; and a train obtaining a staff for this block may move between any two of the instruments. When all staffs are in the instruments one or the other of the two pairs of instruments is out of phase, and a staff can be obtained only from the pair which is in phase. Thus

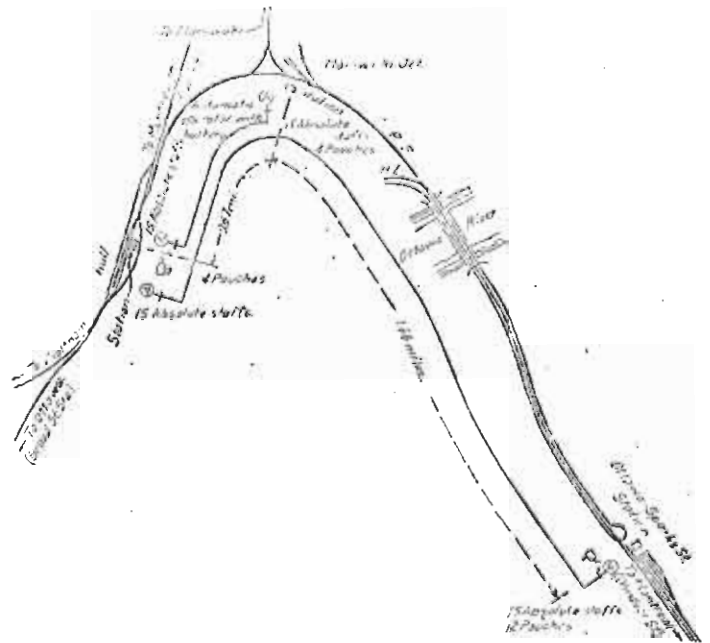
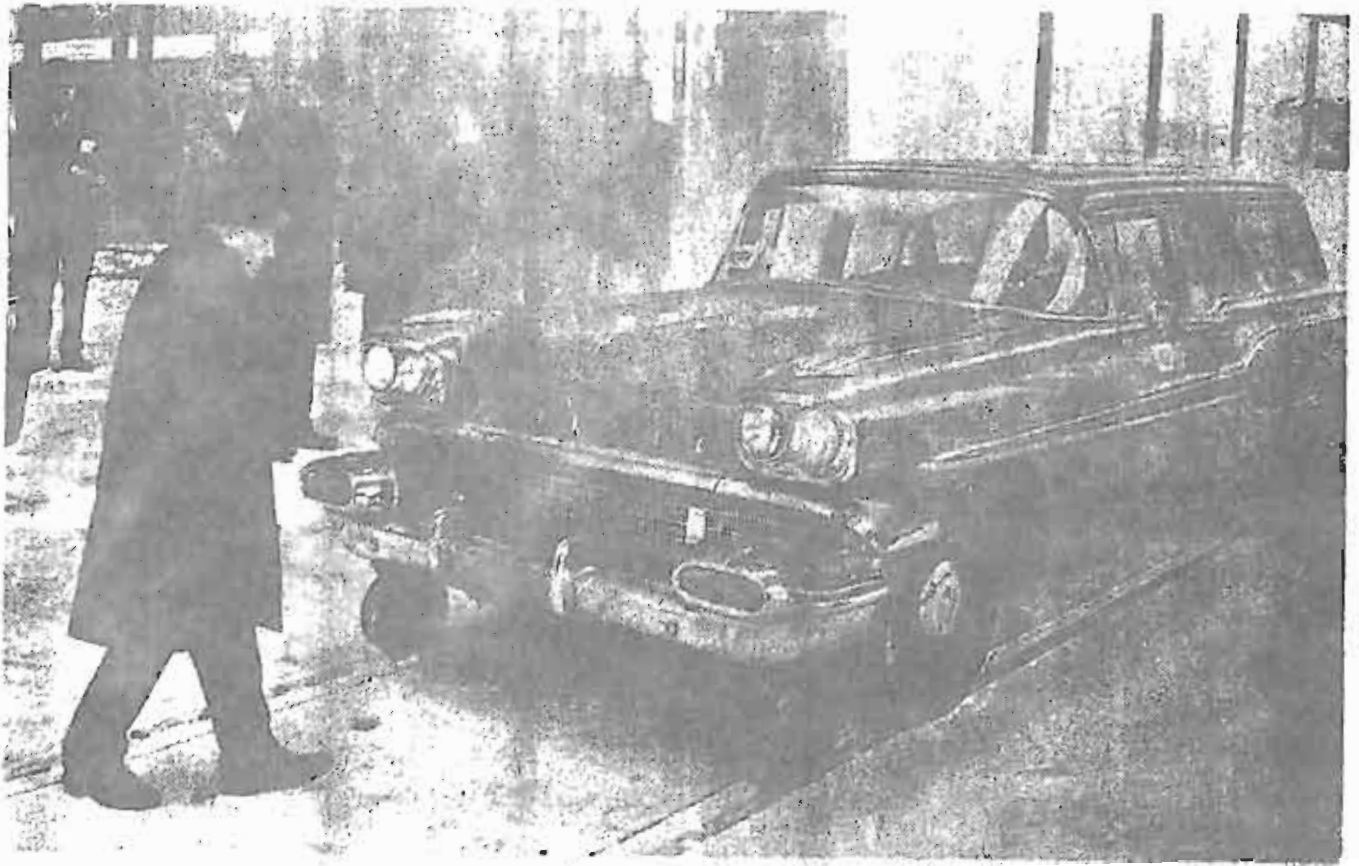


Fig. 2—Hull-Ottawa Staff Section

when a train starts from one block instrument, having taken a staff out of the only pair which is in phase, this throws the remaining pair of instruments out of phase at the opposite end of the block so that no staff can be obtained at that end. This arrangement could be used with a greater number of auxiliary pairs.

Prepared by D.H.L. Thomas from the article by E.S. Taylor (Ass't. Signal Eng'r., C.P.R., Montreal) in Railway Age Gazette, v 58, Jan. 15, 1915, p 100-101. The author's use of the present tense has been retained.



Our first acquisition - Hy-Rail car

GENERAL MEETING Tuesday

April 11

8:30 PM

THE CENTENNIAL TRAIN - ITS PREPARATION

An illustrated lecture by
Mr. Tom Spaulding
who was commissioned to prepare the train.

NRC Sussex Dr.

REFRESHMENTS

ADMISSION 50¢

ANNUAL REPORT BY THE CHAIRMAN, OTTAWA BRANCH C.R.H.A., 28 FEBRUARY 1967

1. This is the second annual Report on the progress of this Branch that I have given and I regret to say that it will be my last as I not standing for re-election for the coming year. The year that we have just concluded has, as was to be expected, a mixture of achievements and frustrations. However the achievements predominated and I am happy to be able to report that the Branch is in very good shape.

2. On the achievement side there has been a steady growth in the membership. We now have 75 names on our list. We have at last managed to get the Branch Line going on a regular basis of six issues a year. This is the result of a good deal of effort by John LeBlanc, Ted Emond, Dave Thomas, Ross Peever, Bruce Chapman and Bill Williams. The size and quality of this publication, in future, will largely depend upon further participation by the membership as part-time or occasional contributors. An example is the excellent column by Bruce Chapman. If contributions don't come from the membership the magazine will consist chiefly of available reprints. A lively publication filled with local railroad and Branch information is the mortar that cements an organization such as this together. Let us all make a contribution to the Branch Line a priority task in the coming year.

3. With regard to the acquisition of a display site and equipment this has been a year of considerable achievement. We have leased 1,500 feet of track at Ramsayville from the C.N.R. a \$1.00 per year. The lease has finally been signed and the track is our own. This is a key development. Without it our display project could not have made any further progress. With regard to equipment, we have now made very good connections with the C.N.R. and expect much help in the future. Our first acquisition was a semaphore signal which we purchased during the period of demolition of the old Union Station and which was moved to our site last Fall. Our first acquisition of rolling stock came about on February 14th, when we were presented in a ceremony at the new Ottawa Station with a High-Rail car. This was presented to the Branch by Mr. Fast, the officer in charge of the Rideau Region of the C.N.R. and accepted on behalf of the Branch and myself. At the meeting a number of valuable contacts were made, including Mr. Fast, Dr. Baird, the new Director of the Science and Technology Museum, and General Clark and Mr. Thrift of the N.C.C.

4. With regard to future acquisitions, we have tentatively accepted a steam crane which may be delivered in the Spring. According to Denis Peters and Don Gordon who went down to St. Albans with Omer Lavallee to view it, this is a real gem. In addition our good friend, Norman Lowe, is keeping his eye open for suitable wooden passenger coaches if and when they become available. With regard to a steam locomotive, representations have been made on our behalf to the Ontario Government to try and secure for us a former Grand Trunk Mogul held by the Ontario Government for the Ontario Museum of Technology and believed to be surplus to their requirements. Further action on this matter will have to be taken by the incoming Executive.

5. We failed in our attempt to move the Chaudiers Station which resulted in much wasted effort and disappointment. Looking back, I now realize that this failure assumed undue importance due to the fact that it was our first major attempt and it ended in failure giving us a zero average at that point. However, I think that the lesson to be learned from that project is never undertake to preserve a major item until you have a site ready and available. And before you start make all arrangements for moving and preservation of the item. Only by careful advance planning can such headaches be avoided.

6. And we have been less than successful in our relations with our parent organization in Montreal. Whilst individual relationships have been uniformly friendly, nevertheless, in spite of repeated requests we have been unable to get a letter authorizing the existence of the Branch. As a result legally we do not exist. This lack of legal existence has caused much difficulty and hindrance to members of the administrative side, in their attempts to carry out the business of the Branch. For example, we shall have difficulty insuring ourselves against third-party claims now that we have property and unless speedy action is taken by Montreal, it may be necessary to set up a purely local organization to hold our property in order that we can protect ourselves against possible loss. In this regard Dr. Nicholls has stated that he has set up a Committee under Mr. Beatty to study the relationship between Branches and their Constitution. We have set up a small group to negotiate with them and I hope that the work of these two groups will finally settle a vexatious situation.

7. Lastly, I should like to make a few observations with regard to the display project. I feel here that we should move carefully. I think it would be a mistake to acquire rolling stock too fast, and that we should put in good order our track and the equipment already spoken for or in our hands before additional commitments are undertaken. I myself believe we can do this but I think we have to demonstrate that we can, both to ourselves and our benefactors. It is also important that we do not lose sight of other projects such as historical research. Several projects are in the works along this line. An organization such as ours has many facets and can encompass diverse forms of activity and it is the duty of the Executive to ensure that no one form of activity is allowed to assume undue importance.

8. After I conclude I shall ask for a report from the Treasurer and I shall give a brief report on Fan Trips organization prepared by the Vice-President who is out of town and unable to be present.

9. In closing, I should like to thank two members of the Executive who were forced to retire during the year for private reasons. Ross Peever and Don Gordon, and to assure them on behalf of the membership that their efforts were appreciated. Finally I should like to thank my fellow members of the Executive and the Branch for their help and support during my two terms of office and to wish my successor, whoever he may be, great progress in the year ahead.

Hugh Stowell

Chairman

President Reports to Branch Line

May I take this opportunity of thanking the membership for electing me to the Executive of your Branch for the coming year. Your executive has chosen me to be your President for 1967 and this makes me feel very humble and deeply honoured. It is going to be a challenge to follow in the footsteps of Commander Hugh Stowell our first President who got this Branch on the rails for the first time. I have accepted the challenge, and with the great offers of co-operation from all members of the executive, a year of further achievement is anticipated. We will look to every last member to do their part, however small it may be. If you are not already on a committee, join one, and put your talents to work for the Branch. At the next general meeting I hope to go into our plans in much greater detail. Meanwhile a list of your committees and their chairman follow. Keep this list handy, and use it when needed.

| | | Office | Residence |
|-----------------|---------------------|----------|-----------|
| President | W.F.G. Williams | 234-7274 | 733-3272 |
| Vice President | John J. LeBlanc | | 749-4527 |
| Secretary | Major S.R. Elliot | | 729-7214 |
| Treasurer | Ted Emond | | 236-4460 |
| Committee | Chairman | | |
| Planning | John A.D. Magee | | 236-9426 |
| Restoration | Ken Chivers | | 235-4418 |
| Historical | D.H.L. Thomas | | 746-8654 |
| Publication | John J. LeBlanc | | 749-4527 |
| Excursion Trips | R. Lafleur | | 731-3644 |
| Programme | G. Hawley | | 722-1716 |
| Membership | Douglas B. Campbell | | 729-1542 |

W.F.G. Williams
President

- - - - -
R E M I N D E R
- - - - -

Memberships for 1967 are now due.

Payment of these dues would be

appreciated at your earliest convenience.

Please remit your \$5.00 to Membership Chairman, C.R.H.A., P.O. Box 352,

Terminal "A", Ottawa 2, Ontario.

THE TRAIN LINE

by Bruce Chapman

CN had another of their run-offs near Armstrong January 24th, but they apparently got fed up paying \$P for trackage, so decided to run the trains over their line through Port Arthur, the same line which is presently trying to rid itself of passenger trains. Anyway, it turned out to be a mistake...trains both freight and passenger, were over 20 hours late for two days, the cake being taken by train No. 202, the remnant of "The Continental", it was 41 hours late, due in at 0915 Tuesday, it arrived at approximately 2300 Thursday.

Passengers in Ottawa certainly aren't going for the CN's new 24 hour system, as I am continually finding out from their information clerks. The only ones who like it are those fog-bound air passengers, who are well accustomed to the cool system by now. This dislike for the new system is further aggravated by the CNR itself, putting times up in the new system on the board, but still having the old 12-hour clock right above the board.

CP still having a crisis with power shortage, and five more DM & IR units were added to the leased power picture on Dec. 4/66. Added were units 138, 142, 153, 162 and 165. CNR has also leased several from the DM&IR, though the only definite one of which I have word is the 149. CP also has on winter lease from the PGE units 621, 622 and 623. Leased power as of Dec. 15th totalled 52 units, consisting of 20 Boston & Maine; 6 Delaware & Hudson; 4 Chicago Great Westerns; 3 Pacific Great Easterns; 14 Duluth, Mesabe and Iron Range; and 5 Bessemer and Lake Erie's. (Quite a menagerie!) All units except for the D&H's; BLE's; and Alco B&M's are on Western Lines, but some do venture east.

CP has received SD-40 #5532, the first of the 1967 order of the

3,000 horsepower, 6-axled units, but to date, no other units have come east of Toronto. This unit was received from General Motors two days early, and was thoroughly tested in the east, up to January 18th, apparently the wheels were not standing up to par, but all is well now, and every unit of this class, 5500 thru 5532, is now running out of Calgary thru the Rockies, where these units apparently perform best. Trackage was not lifted prior to snows this December on the trackage from old Union Station thru to St. Henri Street in Hull. The planking in the IP bridge is, according to rumours, still not safe enough for a motor car to traverse, and thus a red flag prevents even the sectionman from getting any farther than Laurier Street in Hull, at the northern end of the bridge.

With the trains on the old Prescott Sub hitting an average of 3 cars a week, moroso on the trackage from Gladstone Ave. thru Prince of Wales Highway, the stretch of track is going to have the black-listing of the year. Fortunately for the idiots who refuse to heed crossing protection, the speed limit along this track is a maximum of 20 miles per hour....not due to the auto drivers who pile into the trains, but due to the rock cut for the new Prescott Sub, expected to be in use by April 30th, when Ottawa West moves south to Walkley. Rumours had it that parts of the tunnel were not high enough, and parts would have to be redug, no definite word has been heard that blasting would have to be restarted, although an extended eastward cut of about 6 feet may have to be made near Beech Street, where the double track southward ends... CTC bungalow has to be placed there, and this fact was apparently forgotten when digging was first undertaken. J. Norman Lowe came to visit us in his "town" private car, No. 75. Some of these relics have to be seen to be believed...true comfort in the "Good old days!" in the famous old railroading style.

Aylmer station was gutted by fire on Tuesday evening, January 30th. This had not been used by CP for quite a number of years, and was leased to a lumber firm. There was a previous fire in that station about two years ago, but was not as serious as the latest outbreak.

CP's Skyline cars in the 500 series may soon become total coaches, instead of part diners as they are now. With the removal of Tourist sleepers from the Canadian last year, the coffee shops are seldom used except by coach passengers, as all sleeping car passengers get free meal tickets for use in the main diner. Due to the cancellation of the CN-CV-BMI run from Montreal to New York, CP Ottawa now sells much of the New York-Washington-Florida rail tickets, previously handled through CFR outlets. With both railways placing the usual January 31st embargo on all grain movements from Winnipeg to the Lakehead, surplus power will now probably be much more evident in the east than formerly. The Museum Train is coming to Ottawa and will be stored at Ottawa West Roundhouse... pits 1, 2, 3, 4, and 7 have been leased for its use, and work will be performed on it while in storage in the heated part of the shop. Rental will be the same as for the Centennial Train, i.e. approximately \$.35 per square foot, and a pit has approximately 1,360 sq.ft. each. Yard engine, brought in from Smiths Falls for emergency work on the Waltham Sub for the week of Feb. 7th is 6591. Its presence was required after Ottawa veterans 6528 had a generator explosion at Waltham over a week ago. 3100, the CP 4-8-4 destined for Ottawa, left Winnipeg (?) on Good Friday bound for Ottawa West roundhouse, and was to arrive here not later than March 31st. Its cab is locked "To prevent removal of parts by railway

historical buffs."

That Museum train, up to last week silently rotting away in the CNR roundhouse at Joffre, Quebec, is still somewhere between there and Ottawa West... upon its arrival, it too will be stored and re-conditioned in the roundhouse at Ottawa. Four stalls have been leased by the Centennial Commission for its use.

The staff machine at Hull here, and the two excess machines at Hull West were removed by the signal department last week "before that railroad museum crowd get here", and are in storage at a location little known at Ottawa West. They weight about 75 lbs, and are bulky, so not too many people would want to steal it single-handedly.

There was a five hour fire in Montreal's Central Station, 10 people went to hospital, but the fire was mainly in the ventilation system, spreading lots of smoke around, and tying up the railroad.

CN had to return 7 of their leased FM&IR's last week, and the remaining 6 go back on Friday 31 March, so they got in return 8 BME A & B units... 712A, 712B, 713A, 714A, 714B, 716B, 713B, and 719A. CP had 6 of these 8 units up to March of last year, at which time, the FM&IR leased them... CP never had 712A or 719A.

Ian Sinclair was on some TV show last week, and he announced that CP is jumping back into the passenger business. Anybody see it? To prove his point, CP has started slowly painting the baggage cars that are assigned to express service on Nos 1 and 2 in a silver color to match the rest of the stainless steel train. 4235 at Carleton Place on Sat. had silver paint, as did 4733 at Union on Tuesday evening. Silver painting was begun last summer on about 3 of the Grove cars which regularly run on Nos 1 and 2 west of Regina.