

making notation in the time book, "Time transferred to (home station) on transfer form," at the same time instructing the employe to report himself to the home station timekeeper immediately on arrival. The timekeeper at home station takes up the form, checks up the departure and arrival hours, records the travelling time and transfers all the time from the form to the time book. The time-cards, representing a distribution of this time, are promptly forwarded to the home station time office and taken to account in the labor accounts of that office. This form permits of a proper supervision over an employe whilst travelling, eliminates the possibility of his time overlapping, and removes the necessity of reporting an employe more than once upon the same set of pay rolls, which is very desirable. All certificates, etc., covering time not recorded on the clocks are numbered in consecutive rotation and entered into the time voucher register before being credited to the employe affected in the time book, after which they are filed away in numerical order.

From the foregoing the advantages of the mechanical register in the settlement of disputes arising in regard to the allowance or disallowance of time, are, I think, evident. Every employe becomes his own timekeeper; you have his registration upon the clock borne out by his signed declaration on his time-card, and the check of the clock watcher, which is verified by the timekeeper.

As in the case of time registration, there are various methods in vogue of taking up and distributing shop labor to the accounts upon which it is expended. The first method that I experienced was that of time distribution clerks making the rounds of the shops with the time distribution books once per day and taking up the distribution of the time worked the previous day; a page was assigned to each man, the description of the work performed and number of hours, etc., recorded in the column headed up for the purpose. By this method a competent distribution clerk could take up the distribution of, on an average, 250 men. Barring clerical errors and lapses of memory on the part of employes, this method should give a correct distribution of the pay roll, but to draw off the distribution and assemble it to the individual jobs entailed a great deal of clerical work at the close of the month or at any time when it might be required to know the cost of any specific job to date. By a reversal in the headings of the time distribution book, that of assigning a page or pages to the job instead of the man, the distribution clerks' capacity was increased about 100%, and the assembling operation decreased 50%, and the aforementioned difficulty regarding cost of any job to date was largely obviated. Still, these methods were not altogether satisfactory; whenever the question of apparent excessive shop costs came up, the opportunity to excuse the shop management at the expense of the distribution clerks was always open, and in some instances the excuse was probably well founded.

By the time-card system the responsibility cannot be conscientiously shifted. The approval by the foreman of the distribution must be considered binding, also the capacity of the distribution clerks is increased so that they can handle the distribution cards of from 1,200 to 1,500 men. I have explained the method of collecting the time-cards from the boxes, how the hours and rates are checked, and how the verification as to the accuracy of the distribution is obtained. Upon the cards being returned to the time office, after receiving the signature of the foreman, they are handed over

to the distribution clerks, who compute the value of the distributed hours by the wage rate on the card, transferring the distribution in dollars and cents into distribution sheets to the various jobs. This method removes the necessity of drawing off and assembling the distribution; as a matter of fact, a weekly progress report, or, in other words, a daily or weekly distribution of the pay roll, can be reported inside of 24 hours after the completion of the period, providing, of course, that there are no delays in the handling of the cards to and from the shops. Further, by following out the system in all its details, an absolute distribution can be obtained barring the possible value of cards delayed under investigation or the changing of an employe's rate during a broken period, and of which change the time office has not received the necessary approval. Periodical checks are made upon the distribution clerk's work by tabulating the value of the cards against the sum total of the entries upon the distribution sheet for any given period. At the large plants a check of the men at their work is taken care of by shop constables or watchmen, whilst at the smaller plants where the distribution clerk's time is not entirely occupied with the cards, he makes the rounds of the shops.

It is argued that the system of the workman writing up his own card is more costly than that of the distribution clerk making the rounds of the shops, and that too much time is lost. If time is never lost to a better advantage than in giving a company an accurate accounting for the wages paid, there might be grounds for the contention. From my own personal experience I question very much if any more time is taken up by the men in making up their cards than in giving their time verbally to a timekeeper, and the incidental delays thereto. For instance, in the machine shop it very often necessitates the stopping of a machine; in the blacksmith shop the smith will let his heat cool or fire die down, whilst in the boiler shop it often happens that a whole gang has to be silenced before a timekeeper can get a hearing, and so on. This, coupled with the discussion of various matters of mutual interest, causes a loss of time over which the shop management has little or no control.

The method by which employes doing contract work record themselves on and off duty, and that of reporting the distribution of their time, is the same as if working day work with the additional check of the contract timekeeper. Whilst it is very undesirable that an employe should work both day and contract work, it cannot always be avoided, and to meet this contingency the foreman is required to initial the time-card at the time the change is made from contract to day work, or vice versa.

The foregoing paper was read at a meeting of the Canadian Railway Club recently.]

Recent British Columbia Legislation.

The B.C. Legislature at its current session has passed the following acts affecting railways:

Flathead Valley Ry.—Act of incorporation.
Meadow Creek Ry.—Act of incorporation.
South-east Kootenay Ry.—Extending the time for construction.

Victoria and Barclay Sound Ry.—Act of incorporation.

We are advised that the Temiskaming and Northern Ontario Ry. officials, though keeping in touch with the matter of dispatching trains by telephone, have not as yet decided to supersede the telegraph system.

Government Expenditures on Railways.

During the year ended Mar. 31, 1908, the total railway expenditure made by the Department of Railways and Canals was \$35,495,196.37; of which \$23,684,005.25 was charged to capital, \$2,215,895.69 to income, and \$9,595,295.43 to revenue. The expenditure on capital included \$18,910,449.41 for the National Transcontinental Ry.; the expenditure on income included \$2,037,629.30 paid as subsidies to railways other than Government roads, and \$123,679.22 for the Board of Railway Commissioners. The expenditure on the Intercolonial Ry. was \$13,597,491.55, of which \$4,328,494.01 was on capital account, and \$9,157,435.53 on revenue account. On the maintenance of the Windsor branch \$37,912.11 was expended on revenue account. The expenditure on the Prince Edward Island Ry. aggregated \$700,409.62, of which \$390,461.83 was charged to capital, and \$399,947.79 to revenue. The revenue from the Government railways was \$9,534,569.04. The total Government expenditure on railways prior to and since Confederation up to Mar. 31, 1908, on capital account was \$185,734,462.04, which includes \$25,000,000 granted to the C.P.R. for its main line. In addition there has been expended from the consolidated fund \$179,021,681.56, which includes \$37,616,131.84 paid as subsidies to railways in addition to the above for the C.P.R., making a total expenditure of \$364,756,143.00. Of this amount \$13,881,460.55 was expended prior to Confederation on the construction of portions of what is now the Intercolonial Ry. system.

The total revenue derived from Government railways from July 1, 1867, to Mar. 31, 1908, was \$128,614,808.72. The gross earnings of the Government railways for the year ended Mar. 31, 1908, was \$9,534,569.04; and the working expenses \$9,595,295.43, showing a loss of \$60,726.39. The I.C.R. working expenses were \$9,157,435.53, and earnings \$9,173,558.80, showing a profit of \$16,123.27. The Windsor branch maintenance expenditure was \$37,912.11, and the Government earnings \$56,430.41, leaving a profit of \$18,518.30. The Prince Edward Island Ry. working expenditure was \$399,947.79, and its earnings \$304,579.83, the loss being \$95,367.96.

The subsidies paid to railways on account of construction during the fiscal year were:

Atlantic and North West Ry.	\$ 186,000 00
Atlantic, Quebec and Western Ry.	64,000 00
Canadian Northern Ontario Ry.	244,224 00
Canadian Northern Quebec Ry.	256,870 40
Canadian Pacific Ry.	3,424 00
Central Ontario Ry.	76,861 36
Colchester Coal and Ry. Co.	12,800 00
Edmonton, Yukon and Pacific Ry.	91,200 00
Halifax and Southwestern Ry.	316,567 73
Kettle River Valley Ry.	97,771 52
Klondike Mines Ry.	101,184 00
Midland Ry. (Ltd.)	31,892 40
Minudie Coal Co.	18,544 00
Napierville Junction Ry.	173,440 00
Nicola, Kamloops and Similkameen Ry.	190,208 00
Orford Mountain Ry.	24,128 00
Ottawa Northern and Western Ry.	4,243 20
Quebec Central Ry.	55,638 69
Quebec and Lake St. John Ry.	73,472 00
York and Carleton Ry.	14,560 00
	\$2,037,629.30

The Pullman Co. paid \$2,040.15 taxation to the Ontario Government for the year 1908.

R. G. Price, Car Foreman, Quebec Central Ry., Sherbrooke, Que., writes: "Find enclosed renewal subscription to your valuable paper, which I find very instructive."

A. E. Edwards, District Passenger Agent C.P.R., Detroit, Mich., wrote, Mar. 12, 1909: "I receive THE RAILWAY AND MARINE WORLD every month regularly, and find it very interesting."