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Some Thoughts on Training Apprentices.

By P. McLaren, Machinery Expert, Grand
Trunk Railway.

Amongst the many questions that give the present day superintendents and master mechanics food for earnest thought and consideration, one which holds a very prominent place, is the technical education and training of apprentices. Having taken considerable interest in this matter, I have ventured to give you some of the impressions received from my study of the subject, both from personal observation and otherwise. The first thing that strikes the student of this subject is that nearly every technical school and machine shop in the country has a different system of education. In fact, there seems to be about as many different conceptions of what a machinist or an engineer ought to know as there are teachers trying to instil that knowledge. Therefore, although not a teacher, I suppose I am in order in giving my humble opinion.

I read somewhere once that the training of a machinist could be placed under three headings. First, cutting metals with intelligence; second, putting together the work out; and third, the laying out and inventing means of doing it. Now, although the first was the only division mentioned as requiring intelligence, I presume that it will be granted that there are degrees of it wanted in the two latter. But the thing which impressed this paragraph more especially upon my mind was the peculiarly broad divisions which were made of the whole education of a machinist.

As I take it, the machinist in his simple form is one who can manipulate the various classes of machines used in the average shop, with sufficient intelligence and understanding to make him a paying investment to his employer. Now, to do this, and do it well, it is not indispensable that he should have any training either in mathematics or drawing. I call to mind just now one of the best workmen I ever knew, one who could not sign his own name, yet in every way he was a thoroughly capable machinist. What he thoroughly capable machinist. What he might have been had he had the present-day education I am curious to know. And that is the reason we who take an interest in this matter are so anxious to see some good form of technical education more generally adopted than stands at present. It has been a great pleasure to me to see how many large corporations on this continent are going so seriously into the matter of education. I must say, however, that I think that several of the conditions under which this education is given by some of these companies are rather against my ideas of what should be. To begin with, I think that compulsory

education right through is a mistake, and in many instances a waste of the company's money and the teacher's time and temper, as quite a proportion of the lads in a shop are not gifted with the ability or ambition to make satisfactory students, although they may make good workmen, and are quite content to be machinists and nothing more, which is very satisfactory in its way. As you know, "if we are all skippers, there will be nobody to row the boat ashore." But I would insist upon attendance at classes for the first year apprentice. Then if it

either mentally or physically to give his attention to the work at night, unless he is particularly anxious to improve himself. All those present of my generation remember that the way we imbibed our technical knowledge was through the medium of the evening classes, to all of which we went, not only voluntarily, but gladly paying for the same, and therefore we look with somewhat envious eyes on the opportunities which the present-day apprentice has of obtaining a first-class technical education. This is why I say that it is only the lad who is anxious to improve himself who gives his whole attention to the night class. But how much better attention he could give if he were not already bodily and mentally tired, those who have been through the mill know.

It used to be the pride and the pleasure of a mechanic to be able to handle any machine in the shop. With the coming of the specialist, however, this is not so much the case. He should have a fair knowledge of the working of all the various classes of machines, and for this reason in many shops the apprentice is first placed in the machine shop, and if he prove apt at machine work, is kept at it for a time considerably out of all proportion to the time he has to serve, and becomes a good deal of a machine himself. In my opinion, a lad should be sent first of all into the erecting shop for a few months, where, working with a journeyman or an older apprentice, he gets a general idea of where the various parts of the machine or engine go and how they are put together. Thus, when he starts his training in the machine shop, he brings more intelligence to bear on the job which he is machining.

Having arrived in the machine shop, it is of the utmost importance that his career should be closely followed and charted, so that he should, as we said before, get a general knowledge of the various classes of machines. I use the word "general" advisedly, as it is not to be expected that the average lad will become expert on any one machine in the time he can be kept

there if he is to get a fair passage through the shop, although, in these days of contract prices and standard times, he is required to give pretty close attention to the work in hand if he is to earn any bonus. Here is where the necessity for charting and following up comes in, as two reasons combine to keep the bright youth stationary in the shop. One is, if he becomes proficient in any one class of work, he finds himself at the end of each month with a good bonus, which he is loth to give up for a problematical one on another or untried machine. In the second place, the foreman who is harassed with the necessity of keeping the other departments going with finished



W. A. James,
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is found that the lad has not the necessary mental equipment but is making fair shop progress, I would allow him to drop out of the classes and stick to his work. "You can bring a horse to water, but you cannot make him drink," and it is just as hard to make an apprentice stick to his mathematics and drawing if he has no heart in it. In the case of the lad who is not making good in the shops either, the best thing to do is to drop him, and to advise his parent or guardian to try him at something else.

Again, I think that all classes should be held in the daytime, for I consider that when a lad has done ten hours solid work in the shops during the day he is not fit

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work, finds that he is getting such good results from this particular machine that he just hates to let such a good producer go. But it must be done if this lad is to have his fair chance of training and another to have his chance. Therefore, the necessity of a chart showing the progress of the lad through the department, the time he was at each class of work, and his percentage of marks for progress made during the time he worked on each class or division of machines on which he was employed. These charts, I would say, by the way, should follow the lad from his first start until he becomes a journeyman, when a certified copy of same should be handed to him.

After passing through the machine shop, I would then send the lad to the fitting bench, there to be thoroughly instructed and practised in the arts of chipping and filing, for I consider nothing else is of so much importance to a mechanic as to be able to use his hammer, chisel and file well—an accomplishment which, in these days of air hammers and accurate milling machines, I am afraid is very apt to become obsolete in our large workshops. Of course you must not imagine that I am not aware of the value and profit to the shop in the use of the above-mentioned tools. At present, however, I am talking of the making of the mechanic and not of the making of money. We all assume that when the mechanic is made he represents a good investment, which he surely does, if not to the company which trained him, at least to the country at large.

We must always keep in mind that it is the man of hands and head that we want as a mechanic. The head without the hands is of little value, and while the pneumatic tools and accurate machines are what we want, and must have, to run the shop, still I have seen more time wasted waiting to get a hammer, or the hose, or perhaps to hunt up a special chisel, than would have done the work two or three times over by hand. The same applies to taking a job back to the machine shop to have it eased a bit, while a man who can use a file well would have it finished and up into place in the time that was consumed in carrying it out and back. It is a bit like the Mexican who will spend half an hour to catch a pony to ride half a mile.

During his progress through the fitting shop the lad gets a good insight into the motion work, air brakes, tool-room practice; and a particularly useful school is a spell with the millwrights, after which he may be handed over to the erecting shop foreman as a good, useful member of his staff to complete his time. With regard to patternmakers' apprentices, I would have them serve at least one year in the foundry.

So much for the mechanical part of the training. Let us now look at the theoretical side, where there is room for a great diversity of opinion. With the G.T.R. Co., the first thing a would-be apprentice is required to do is to show that he is physically and mentally equipped, the former being decided by the company's medical officer, while the latter is attended to by an examination held in the master mechanic's office. This examination is usually conducted by the chief clerk, and consists of reading and writing, also a few examples from the first three rules in arithmetic. Having satisfactorily passed these tests, he is eligible for a probationary term of one month in the shops, after which he is indentured as an apprentice. In this indenture he agrees "to attend such classes for instruction in mechanical drawing and practical mechanics as the company may arrange for." These classes have been very successful indeed, and the development of the boys, from year to year, is most satisfactory. The company has been most happy in its choice of instructors, the results obtained being ample evidence

of this. The classes extend from Oct. to April inclusive, two per week of two hours each—one in mechanical drawing, the other in practical mechanics. Both are carried out under lines and from books prepared by the company's Chief Draughtsman at Montreal. For the drawing classes, the boys are provided with drawing board and T and set squares. The class of work is very carefully graded according to the year of the apprentice, and the same with the practical mechanics. The first year boys, commencing at addition, proceed by easy stages as far as square root, the second year, in addition, taking levers, pulleys, uniform motion, and centrifugal force. Third and fourth year students take extra work to the extent of a thorough grounding in work and horsepower, whilst the fifth, or last year apprentices' studies include properties of metals and a general lot of problems on useful subjects. You will thus see that when a lad has taken in the whole course properly he has got a first-class groundwork, supposing he wishes to qualify himself for the higher positions. At the termination of each year of the lad's time, he goes up for an examination in mechanical drawing and the theory of shop tools and practice. After passing this, he receives his advance in pay. In this examination, the first, second, and third year boys draw from small blue prints, making their drawings either to a full or half size scale as may be required, while the fourth and fifth years are required to sketch from the part of an engine which is brought in from the shop for the purpose, and then lay it down to scale with all the necessary dimensions on. In every instance the drawing is inked in and fully finished. The marks for this examination are divided into three equal divisions: drawing, theory, and practical or shop work. The two former are awarded by the examiner, and the latter by the foreman under whom the lad is working at the time. By these means a fair average of the boy's ability and industry is arrived at.

The system is working very well, and the company is very liberal in its prizes to the most proficient in each year at each centre where the classes are held. At the close of the term, when the examinations are all finished, the boys gaining the highest percentage of marks in each centre are brought together at one point and compete for the company's system prizes of \$25 for each subject. By this means a good, healthy rivalry is set up between not only the boys individually as classmates, but also between them and their teachers as representing one centre against the system at large. This gives an added interest to the examinations.

There is still a side of the apprentice question which is not to my idea sufficiently taken care of. His work hours are well looked after and his play hours partially. I expect to be considered Utopian in my ideas, but I am sure that we have always a larger percentage than we give credit for of seriously minded and smart lads who would, if they had the opportunity, make very extensive use in their spare time of what I might term an experimental workshop or laboratory, fitted with several small machines, forge, etc., in which they could try out their many ideas. Which of us has not had the idea at one time or another that he would be another Stephenson if he only had the opportunity to work out his ideas? But it is only given to very few lads to possess even a lathe of his own, and, assuming he has one, he is groping along in the dark, and just for want of a little guidance here or there finds himself at a standstill, and eventually throws the thing up in disgust and drops off into idle habits. Now, if this experimental workshop were placed at the disposal of such for one or one and a half hours two or three nights a week, under the care of a capable instructor—who would also re-

quire to be a man of tact and patience—I am sure we would foster the taste for the work to a high extent. I would provide the boy with the raw material at cost price, and have him make his design first, and submit what he proposed to make to the instructor, who, on examining it, would be able to point out the weak spots to the lad or help him over any difficulties in his design. This would teach the lad how to use his brains in designing work and make him much more useful in the shops in the way of reading and understanding any drawings he might be called upon to work from. The opportunity to do drawing alone would be of no use unless he could manufacture the model and see it going for himself, because he would not be quite satisfied that what was told him was right until he had encountered the practical difficulties in the making. Besides this he would be able to gratify his desire to make things in a legitimate way, instead of, as we all have seen, dodging the foreman whilst doing a bit of private work, which he has to smuggle out of the gate under his coat, and feel mean and lose his self-respect in so doing.

The foregoing paper was written for presentation before the Canadian Railway Club.

Duluth, South Shore and Atlantic Ry.

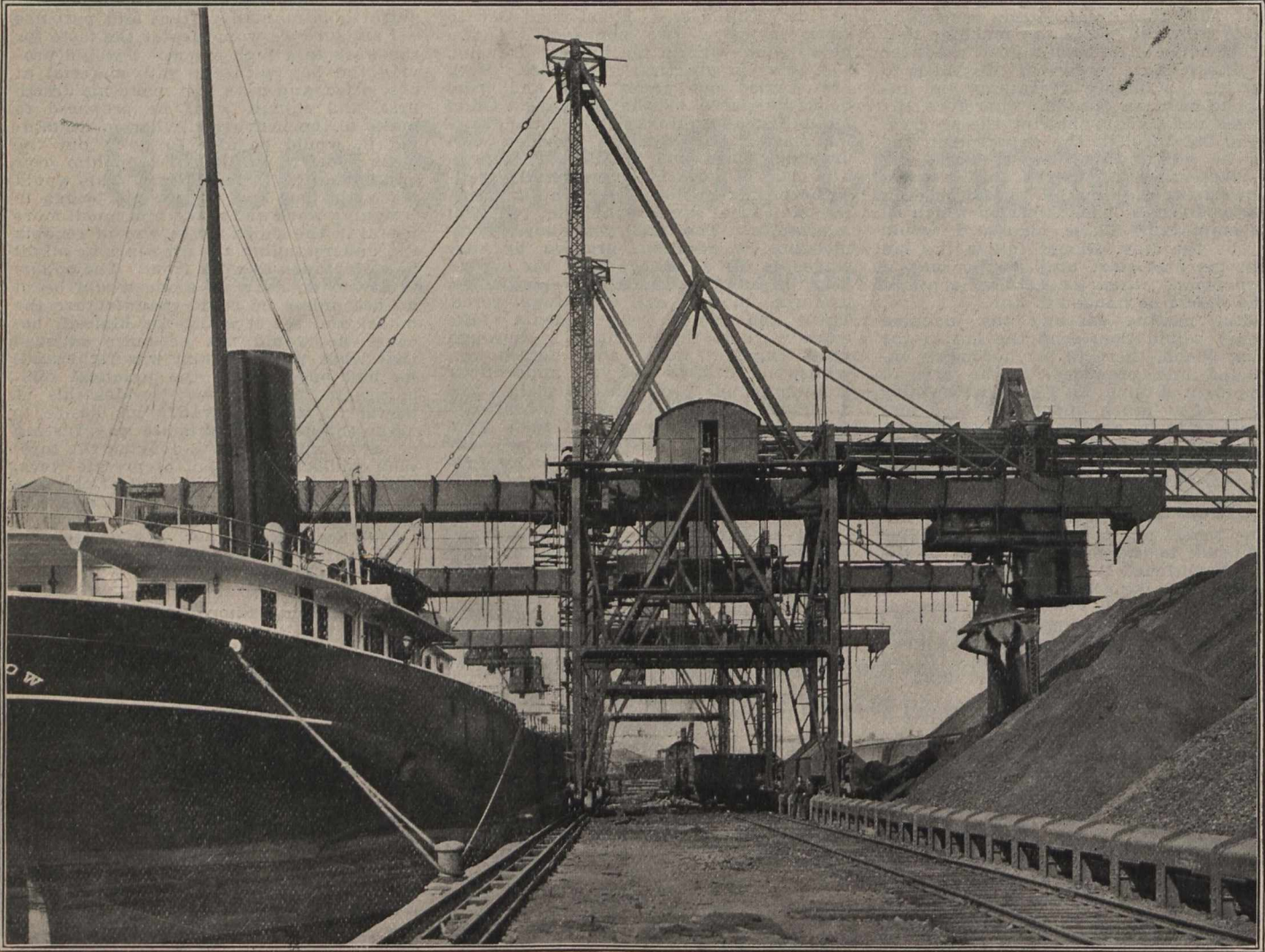
The report for the year ended June 30, shows the following results, as compared with those of the previous year:

Railway operations:	1910.	1909.
Operating revenue	\$3,302,147.03	\$2,719,337.86
Operating expenses	2,269,247.84	1,979,518.07
Net oper. rev'e.	\$1,032,899.19	\$ 739,819.79
Outside operations:		
Revenue	69,942.62	66,248.97
Expenses	61,351.79	58,382.76
Net revenue	\$ 8,590.83	\$ 7,866.21
Total net revenue	\$1,041,490.02	\$ 747,686.00
Taxes accrued	225,917.63	203,599.70
Operating income	\$ 815,572.39	\$ 544,086.30
Other income	61,322.44	146,208.67
Gross income	\$ 876,894.83	\$ 690,294.97
Int. on bonds	\$ 876,219.17	\$ 862,805.00
Other deductions	352,390.62	28,936.81
Total deductions	\$1,228,609.79	\$ 891,741.81
Net loss	\$ 351,714.96	\$ 201,446.84

The general balance sheet shows assets of \$49,270,144.66, and liabilities of \$52,880,840.84. The charges to additions and betterments during the year were \$381,401.12, including additions to rolling stock, which covered three locomotives, 400 box cars, 310 ore cars, five charcoal cars, two cabooses, one boarding car, and air brake equipment. The rolling stock owned by the company includes 85 locomotives, 65 passenger cars, 3,092 freight cars, and 93 miscellaneous cars. The company, which is controlled by the C.P.R., owns 517.44 miles of main line, 67.54 miles of branch lines, and has trackage rights over 20.83 miles of other companies' lines.

There were 3,695,469 tons of freight carried during the year, with an average of \$3,546.91 per mile of road, and \$1,965.9 per train mile, and 719,169 passengers were carried, with an average of \$1,850.65 per mile of road, and \$1,225.18 per train mile.

The first locomotive taken by the C.P.R. to Winnipeg—the Countess of Dufferin—now restored to its original condition, has been placed on a pedestal in the William Whyte park, opposite the C.P.R. station on Higgins Ave., Winnipeg. An illustration, and some notes as to the history of the locomotive have already appeared in our columns. A tablet is to be affixed to the pedestal and it suggested that the names of the crew of the first train be recorded on it. They are Geo. Lindoff, engineer; Harry Redpath, fireman; Jas. Doig, conductor; Jas. Trotten, assistant conductor; Robt. Kirkkruff and Wm. Thorton, brakemen. The latter is the only one now resident in Winnipeg.



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Improvements in Locomotive Boilers.

By H. H. Vaughan, Assistant to the Vice President Canadian Pacific Ry.

(CONTINUED FROM OCTOBER ISSUE.)

B.—Boilers with water tubes.—Steam superheaters and valve gear for superheated steam.—Feed water heaters.

WATER TUBES.—None of the replies received indicate that any water tube boilers are in use.

STEAM SUPERHEATERS.—The replies received from the various administrations with respect to the use of superheated steam are extremely meagre and with one exception those roads which have equipped engines with superheating appliances have done so as an experiment only. The C.P.R. has, however, adopted it extensively and has at present about 475 engines using superheated steam. In 1901 this road applied a Schmidt smoke-box superheater to an 18 by 24 in. cylinder, 4-6-0, freight engine with 62 in. wheels, and the results obtained from this experiment being satisfactory, two years later, two 4-6-0 compound freight engines were equipped with superheaters of the Schmidt smoke tube type. These engines also showed a substantial economy over similar engines without superheaters, and in 1904, 41 simple 2-8-0 freight engines were constructed, 20 of which were equipped with Schmidt smoke tube type of superheater and 21 with the Cole superheater of the Field tube type. The Cole superheaters did not prove satisfactory and were removed after about a year's service, but the engines with the Schmidt smoke tube superheaters were entirely successful and during their first six months service showed a saving of 18% in fuel compared to compound 2-8-0 engines of a similar though slightly smaller type which had been constructed two years previously. This economy was not entirely due to the use of superheated steam, as the compounds were not in as good condition as the newer engines, but it was regarded as showing that the superheated steam engines were more efficient, and that they could with economy be used in place of compound engines which had proved expensive to maintain.

Following these engines the C.P.R.

constructed fifty 4-6-0 simple freight engines, 10 of which were equipped with the Schmidt smoke tube, 30 with the Cole return bend smoke tube and 10 with Vaughan-Horsey smoke tube superheater, which is a design developed on that road. Since that time, with the exception of 25 engines equipped with the Cole return bend superheater, all new freight and passenger engines constructed have been equipped with the Vaughan-Horsey smoke tube superheater and 55 engines with the Cole return bend design have also been converted to that type. In addition this superheater has been applied to twelve 4-6-0 simple passenger engines and one 4-4-2 passenger engine. A list of the engines now equipped is as follows:

paring simple superheater steam engines with four cylinder compound engines in passenger service, but as compared with simple saturated steam engines, in addition to the economy above mentioned, superheated steam engines of identical design develop at least 10% greater sustained power and also run more freely and faster.

The figures for economy given above are not for the purpose of showing the best results that have been obtained, but rather a conservative estimate of the average saving that has been effected on a large number of engines working under average conditions, and on which no effort was made to obtain good results from engines using superheated steam rather than from other engines

Number.	Type.	Cylinders.	Driving wheels.	Boiler pressure.	Weight on drivers.	Total Weight	Type of superheater.
1	4-6-0	18 x 24	62 inches.	180	95,425	119,225	Schmidt Smoke Box.
1	4-6-0	22 and 35 x 26	63 "	200	128,000	169,000	" " Tube.
1	4-6-0	22 and 35 x 30	63 "	200	147,075	192,150	" " "
10	4-6-0	21 x 28	63 "	200	141,000	190,000	" " "
105	4-6-0	21 x 28	63 "	200	141,000	190,000	Vaughan-Horsey.
115	4-6-0	22 1/2 x 28	63 "	180	141,000	190,000	" " "
12	4-6-0	20 x 26	69 "	200	129,450	166,000	" " "
1	4-4-2	20 x 26	84 "	200	97,310	170,250	" " "
17	4-6-2	21 x 28	75 "	200	139,000	212,600	" " "
83	4-6-2	21 x 28	69 "	200	139,300	214,300	" " "
20	2-8-0	21 x 28	57 "	200	168,150	192,350	Schmidt Smoke Tubes.
110	2-8-0	22 1/2 x 28	57 "	180	171,900	195,500	Vaughan-Horsey.

The results obtained have been on the whole exceedingly satisfactory. Figures derived from extensive service on all sections of the road, and based on the total quantity of fuel delivered to the engines have shown an economy in fuel of from 10 to 15% in passenger service.

A noticeable difference between simple engines using superheated steam and two cylinder compound engines using saturated steam is also found in the greater flexibility of the simple engine. Under conditions favorable to the compound engine when it is working on a level road or otherwise uniformly worked at slow or moderate speeds, its efficiency is equal or but slightly below that of the superheater engine, but when on a undulating road or when worked at high speeds the economy of the superheater engine is decidedly superior. No opportunity exists on the C.P.R. of com-

and it is fairly representative of the saving that may be expected.

Experiments to determine the amount of superheat obtained show that with the Schmidt superheater on a 2-8-0 freight engine, having a boiler pressure of 200 lbs. per square inch corresponding to a temperature of 388 deg. Fahr., the temperature of the steam in the steam chest averaged from 440 deg. Fahr., to 480 deg. Fahr., according to the way in which the engine was worked, the higher temperature occurring when the engine was worked to a greater capacity.

Tests of the Vaughan-Horsey superheater in passenger service with the same boiler pressure showed an average temperature in the steam chest of 540 deg. Fahr., averaging from 520 deg. Fahr., to 560 deg. Fahr., according to the way in which the engine was worked

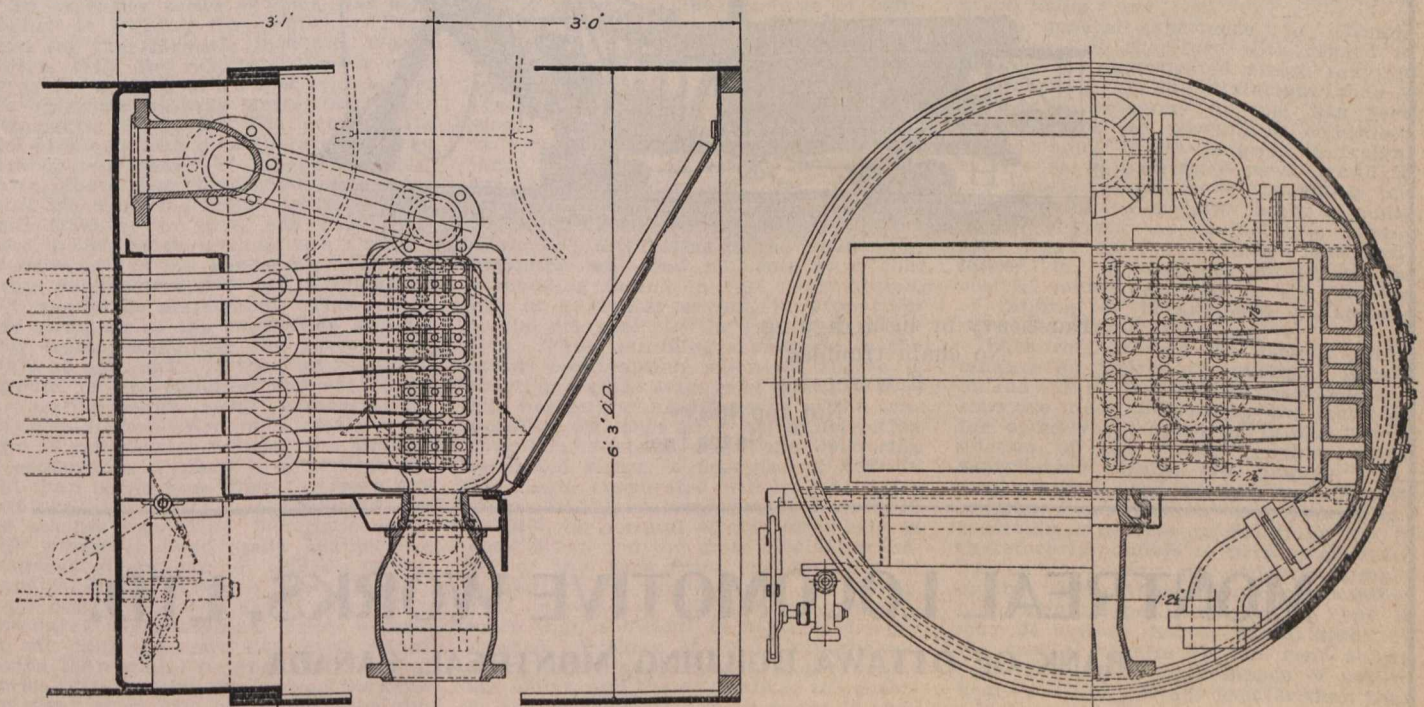
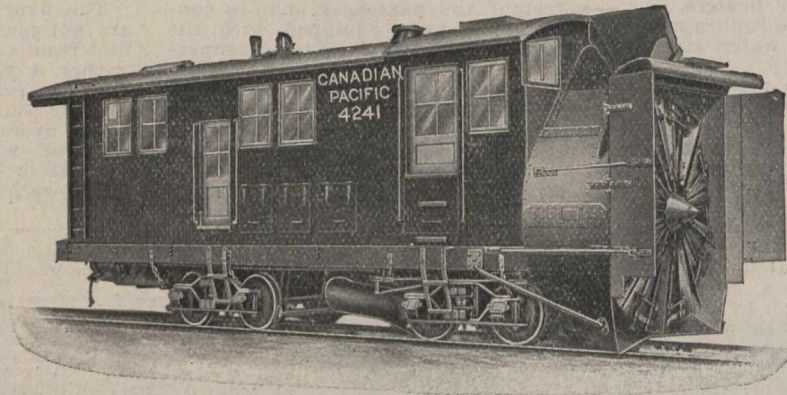


Fig. 40.

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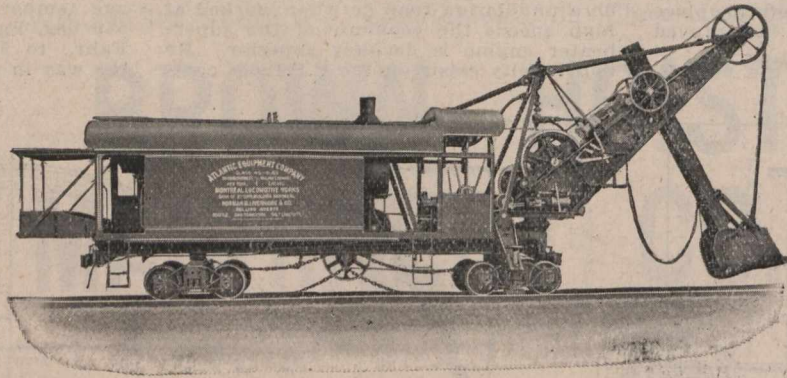
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and in some instances a temperature of 580 deg. Fahr., was slightly exceeded. The Vaughan-Horsey superheater in freight service showed a temperature in the steam chest of 500 deg. Fahr., averaging from 480 deg. Fahr., to 520 deg. Fahr., according to the working of the engine. Experiments that have been made appeared to show that with this style of superheater a rather higher degree of superheat is obtained with a corresponding number of superheater tubes than with the Schmidt superheater, probably due to the form and arrangement of the headers, but it has been found that no increase in the temperature of the superheated steam is obtained when four superheater pipes are included in one element, or in other words, when the steam is caused to travel through four superheater pipes in its passage from the superheated steam header to the saturated steam header. With the Schmidt superheater, this increase takes place and the superheat obtained is practically the same as with the Vaughan-Horsey arrangement.

Fourteen administrations in the U.S. have experimented with engines using superheated steam, the number of engines reported being 70 in all. The majority of these are equipped with the Vauclain superheater which is somewhat similar to the Schmidt smokebox superheater, with the exception that the large flue used in the latter design by which a high temperature is obtained in the superheater is not used. Information is not available as to the actual result obtained by this superheater, but the tests reported would indicate that the temperature of the steam in the steam chest is from 25 deg. to 40 deg. Fahr.; above that corresponding to the pressure of the steam in the boiler. This test also showed a saving in coal consumption of 11% as compared to a corresponding simple engine. Results reported by other administrations using superheaters of the Schmidt or Cole return bend type are universally favorable to a more extensive use of this device.

Accurate figures are not obtainable but the saving reported in fuel varies from 10 to 28% as compared to corresponding simple engines. Neglecting the extreme figures given it would appear that the experience on these roads very well confirms the average results reported for the C.P.R.

An extensive series of tests was conducted at Purdue University by Prof. Goss for the Carnegie Institute, Washington, D.C., the results of which were presented by him in a paper read before the American Railway Master Mechanics Association in 1909. The economy in fuel obtained with a temperature of the superheated steam of about 150 deg. Fahr., above that corresponding to saturated steam at the boiler pressure averaged from 10 to 15%, and deductions were drawn to show that with a boiler pressure of 180 lbs. per square inch and steam superheated 200 deg. a saving of 19% should be anticipated. This report was criticised at the convention as possibly under-estimating the saving that could be obtained. In the first place, on account of the boiler of the engine on the testing plant being comparatively small, the application of a smoke tube type of superheater reduced the amount of evaporating surface to a greater extent than is the case when the same apparatus is applied to a larger boiler. In the second place the comparisons at high pressures were made against the saturated steam engine under testing plant conditions in which steam leaks of every description were as far as possible eliminated thus obtaining better results on the high pressure saturated steam engine than would be possible in actual service. The results obtained on the testing plant, were also compared upon the basis of equal rates of evaporation,

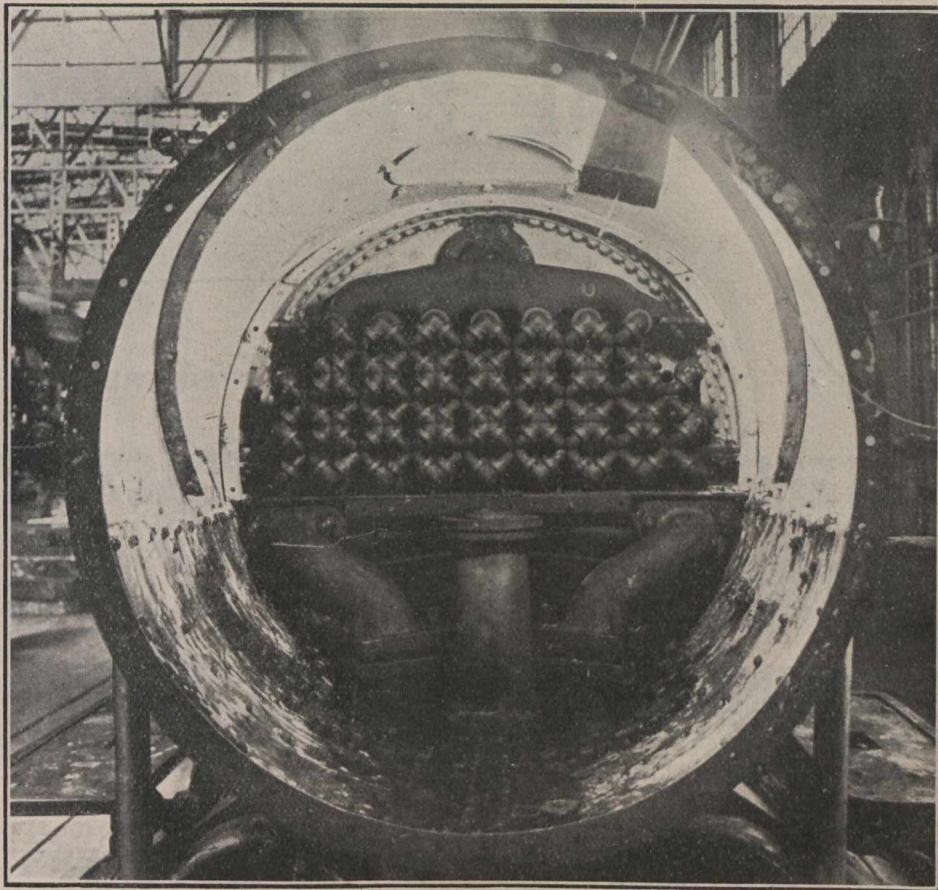


Fig. 41.

while under service conditions, in which an engine using superheated steam is worked in comparison with one using saturated, the comparisons are actually referred to equal amounts of power developed. This leads to two possible explanations of the greater economy reported in road service than that obtained in a testing plant. The first is that whereas with the smoke tube type of superheater, in which steam of a greater thermal value is delivered to the engine, and a portion of the products of combustion are ejected at the front end of the boiler at a higher temperature than would be the case in an engine using saturated steam, it would be expected that the economy in water consumption would be greater than that in fuel, it is universally reported that actual experience shows the reverse. This would at first appear contradictory but consideration will show that as the efficiency of the boiler varies with the rate at which it is worked, any saving in the steam consumption will lead not only to a corresponding saving in fuel consumption, but to a greater saving, in proportion to the decrease in the rate of combustion. Thus, assuming a decrease in the steam consumption when an engine is exerting a given amount of power of 20% and neglecting the difference in the evaporative efficiency of a boiler delivering superheated steam from one delivering saturated steam, a decrease of 20% in the steam evaporated will lead to a decrease in the coal consumed of from 25 to 30%, on account of the lower rate of combustion and the more efficient transfer of the heat from the products of combustion to the water in the boiler. This increase in efficiency is evidently more than sufficient to balance the decreased efficiency of the superheated steam boiler as compared to the ordinary boiler, and the anomaly of the greater saving in coal than in water is thus explained. In the second place any cause

leading to a reduction in the demand on the fireman enables him to fire more carefully and by doing so obtain better results than when his energies are over-taxed. On a test plant this condition does not exist as the firing is uniformly performed with the greatest care in order to obtain comparative results, but in road service the reduced consumption of steam of a superheater engine may lead to a greater economy than anticipated owing to more economical firing.

The general experience in Canada and the U.S. therefore with regard to the use of superheated steam may be summarized by the statement that a substantial economy in coal has been effected, that on account of conditions this economy is not as great in freight service as in passenger service, and in the latter a considerable benefit is obtained from the increase in the capacity of the engine. As against this advantage there are two possible disadvantages, viz., an increase either in the cost of maintenance or in the number of failures or breakdowns on engines when hauling trains.

With reference to the cost of maintenance no figures are available except on the C.P.R. and on this road comparisons are made difficult, by the fact that for some years previous to the introduction of the simple engine using superheated steam, the engines constructed had been of the two cylinder compound type which have proved exceedingly expensive to maintain. It is therefore impossible to present accurate figures comparing an ordinary simple engine with those of a corresponding type using superheated steam, but it may be stated, that a careful study of the cost of repairs on this road shows that the cost of maintenance of superheaters is little, if any greater than that which would be expected from an ordinary engine. The addition of any de-

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STEEL CASTINGS SWITCHES AND TRACK WORK

(Acid Open Hearth System)

for Steam and Electric Roads

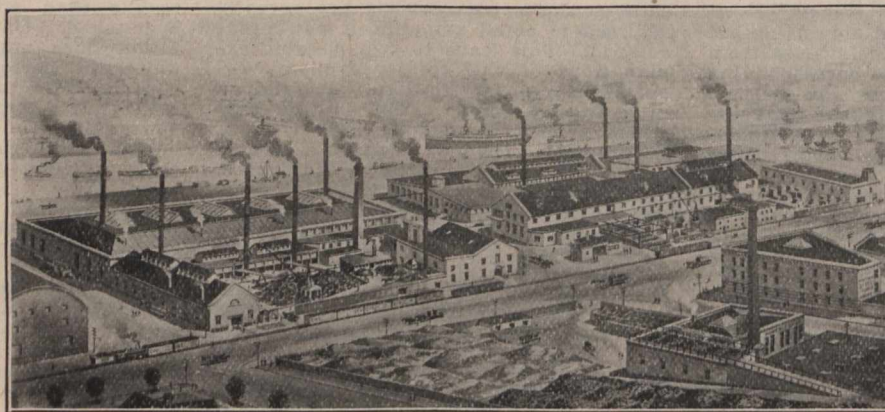
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vice of this nature must necessarily entail some increased cost of maintenance. This additional cost would be offset to a certain extent, or possibly entirely by the elimination of the damage occasionally caused by the presence of water in the cylinders, and the engines have, on the whole, proven exceedingly economical in maintenance, and it is not felt that in this respect the addition of a superheater is likely to prove at all serious.

The increase in engine failures on account of the application of a superheater was at first very small. As the number of engines in service increased, it became more serious, which led to steps being taken to remedy such trouble as developed, and during the last year or more, difficulties have been almost entirely overcome. Most of the troubles occurred through leaking at the connection of the superheater pipes to the headers. This developed on both the Schmidt and the Vaughan-Horsey types, but especially with the latter. With the Schmidt superheater, leaks would occasionally develop between the flanges into which the superheater pipes are expanded and the face of the header; if neglected, and experience showed that these leaks might easily be neglected as they did not appear to at first affect the steaming quality of the engine, the face of the header became eroded and the work of remaking the joints would be rendered difficult and expensive. This difficulty was entirely overcome by the fastening of each flange to the header by four studs in place of the clips used in the original design, and with this alteration the trouble from leakage at this point has practically disappeared. In the Vaughan-Horsey superheater, considerable trouble has occurred through the nuts getting slack, which connect the superheater pipes to the header fittings. This was found to be largely due to their not being of a sufficiently good fit, and has been overcome by better workmanship, a heavier design of nut, and the application of a simple type of lock nut which prevents any movement taking place.

Both designs of superheater are liable to one other and very annoying trouble, the occasional burning out of the return bends which connect the superheater pipes to the fire-box end. This is caused entirely by not properly maintaining the dampers which prevent the heated gases passing through the superheater tubes when steam is not being used by the engine and the superheater pipes are empty. The difficulty does not develop immediately, and if the dampers are not kept in proper operating condition, some time may elapse before any effect is shown. When the failure of a return bend occurs the superheater pipes or return bends are found to have been badly damaged by exposure to high temperature for a considerable length of time. The remedy for this class of failure is of course the proper maintenance of the dampers, and this in turn is largely affected by their proper design, so that it is important that they be arranged so as to work properly, and the possibility of their binding or becoming stuck in an open or shut position must as far as possible be avoided.

Reference has been made to various designs of superheater. The Schmidt smoke box and smoke tube superheaters used in the U.S. and Canada are of practically the same design as those which have been extensively used in Europe. The Cole superheaters are not now used, but have been superseded by a design of smoke tube superheater which has recently been developed by the American Locomotive Co., and is illustrated in figs. 40 and 41. The superheated and saturated steam headers are arranged on either side of the smoke-box and the

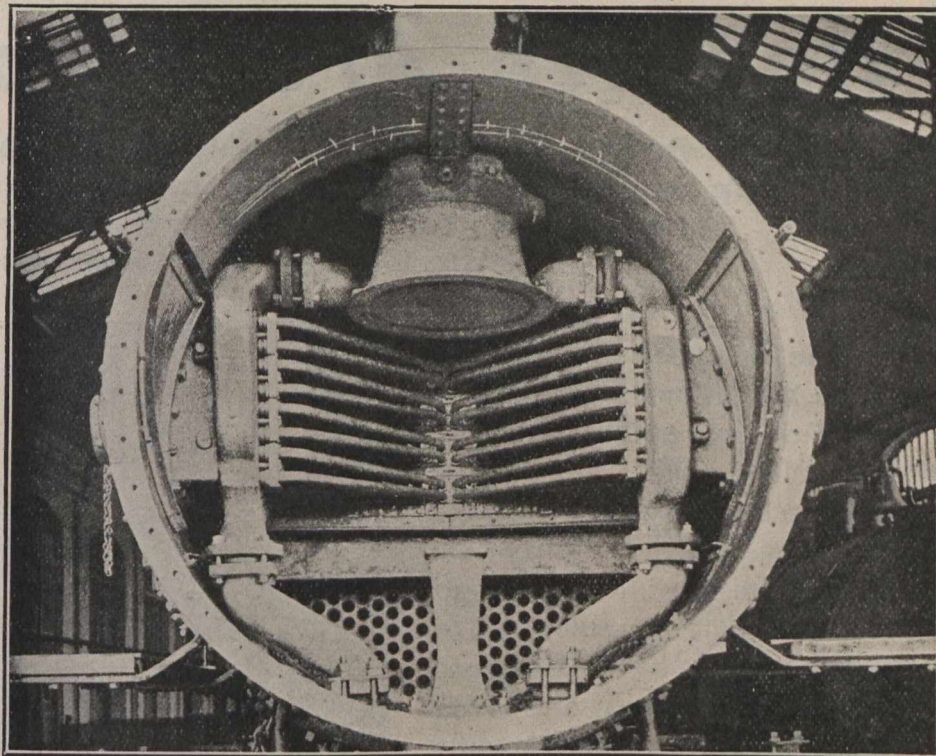


Fig. 42.

superheater pipes are bent to these headers, the connections being made by ground rings having a flat face on one side and a spherical face on the other, similar to those used for making steam pipe joints in American practice. The superheater pipes pass through a diaphragm plate in the front of the tube sheet, and small malleable iron fittings are used to fill up the spaces around the tubes and support the pipes where they pass through the diaphragm plate. The arrangement of this superheater is clearly shown in the drawing, and does not call for any explanation. It has been applied, or is being applied, to 25 engines on 10 different railways and should apparently prove entirely successful, as it combines the requirements of flexibility in the superheater pipes to allow of expansion, together with ease of accessibility to the joints and superheater pipes.

The Vaughan-Horsey superheater which has been referred to, is illustrated in figs. 42 and 43. In this superheater, the headers are placed directly in front of the tube sheet, and each header is provided with a number of sub-headers. The sub-headers attached to the saturated and superheated steam headers respectively being disposed alternately in vertical rows. To each sub-header superheater pipes are connected, passing through the superheater tubes on each side of the sub-header, while the connections between the superheater pipes and the sub-headers are made by union nuts and fittings, shown in detail in fig. 44. It will be seen that these two designs of superheaters, the American Locomotive Co.'s and the Vaughan-Horsey, are in many respects similar to the Schmidt smoke tube superheater, but vary from it in the design and arrangement of the headers and superheating pipe connections.

In American practice, no advantage is gained by exposing the ends of the large superheater tubes at the smoke-box end, for the purpose of cleaning, as tubes are invariably cleaned from the fire-box end, and the chief objects desired have been found to be ease of accessibility to the joints between the superheater pipes and the headers for the purpose of in-

spection and tightening of joints, and the possibility of removing one element or pair of superheater pipes without disturbing any others.

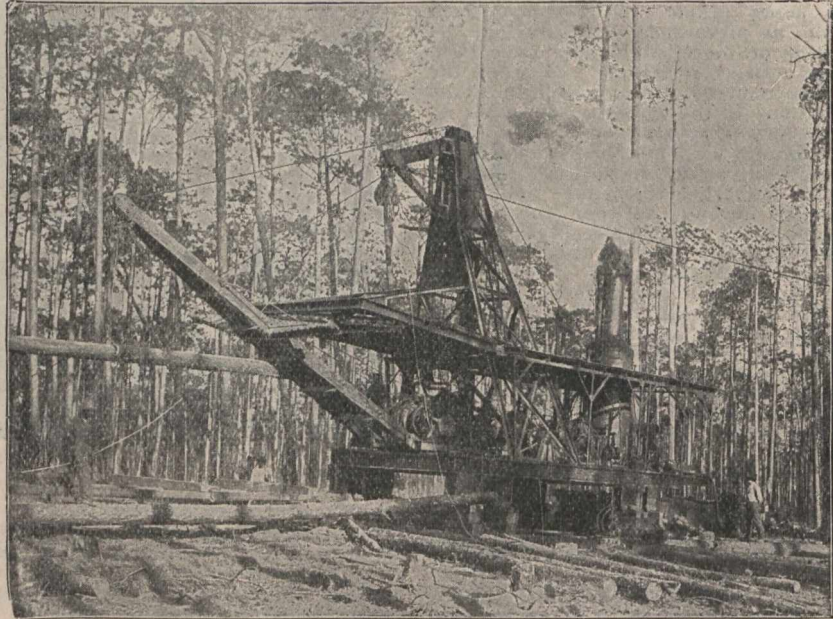
With the later design of Schmidt smoke tube superheater, this can easily be effected, but with the earlier designs the removal of one element of superheater pipes from one of the top rows of superheater tubes, necessitated the removal of two or three sets of joints, and possibly loosening and disturbing others. With the short time available for repairs on engines in America, on account of the large amount of mileage they are expected to make, any device causing delays at terminals for repairs is strongly objected to. With the Vaughan-Horsey type of superheater, any pair of superheater tubes may be easily removed without disturbing others, and this advantage is also found to an almost equal extent in the American Locomotive Co.'s superheater. In both cases also, if superheater pipes are defective they can be removed and blank joints applied to the headers in their place, and the pipes replaced at the first convenient opportunity.

With the exception of the original engine referred to as having been equipped with the Schmidt smoke-box superheater all engines equipped with superheaters in the U.S. and Canada have used the ordinary type of piston packing, piston rod packing, piston valve and piston valve packing rings, commonly used in the U.S. for saturated steam. The practice varies slightly on different roads but fig. 45 shows the design of these various details used on the C.P.R., which may be accepted as fairly representative. The only detail in which any difficulty is experienced is with the packing rings in the piston. These are found to wear considerably more quickly in engines using superheated steam than in those using ordinary saturated steam, the average life in the former case being about two months against eight to ten months in the latter. It is not due to any absence of lubrication as the cylinders and pistons when examined appear to be thoroughly well lubricated and it is affected considerably by the

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The latest Russel Machine has some distinct improvements that save time and trouble, consequently money. Note the new method of suspending the skidding sheaves. They are hung from a vertically hinged jib or triangle the outer end of which is guyed by two lines, one on each side, which are power tightened and can be set while skidding lines are going out. The guy lines lead back so they do not interfere with either skidding or loading.



The uppermost leg of the jib has a spring connection to the tower, reducing shocks. All strains due to skidding are absorbed by the guy lines. The swinging boom is operated by wire ropes passing through sheaves suspended from a steel frame projecting from the tower and leading to two drums on loading engine, controlled by one lever. Machine is raised or lowered by hydraulic or patented geared jacks.

Built for 2 or 4 lines with stiff or swinging boom. Constructed entirely of steel, except loading boom.

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LOGGING CARS AND DUMP CARS**

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quality of the material used in the rings. If the latter are of hard, close-grained cast iron considerably better service is obtained, but the wear becomes exceedingly rapid if the quality of the iron is soft, and this is noticeable to a greater extent than in engines using saturated steam.

It has been found that the best lubrication is obtained by the use of an ordinary type of sight feed lubricator in which the oil is carried into the cylinder and steam chest by a small jet of steam. A number of lubricators of the forced feed or pump type have been used, but have not on the whole given good satisfaction. The rate at which they feed the oil does not correspond to the requirements, as it is in proportion to the number of revolutions of the engine, in place of a uniform rate per minute, whereas the greatest amount of lubrication is required per minute when the engine is working slowly up heavy grades at a small number of revolutions. The sight feed lubricator is quickly and easily adjusted to give an increased amount of oil per minute, but under these conditions pump feed lubricators work exceedingly slowly and require constant adjustment to deliver proper amount of oil. On account also of the loss of pressure in the steam passing through the superheater, there is always a sufficient difference in the pressure between the boiler and the steam chest to ensure a regular amount of oil being fed to the cylinders with the sight feed lubricator, so that it has given more satisfactory results on superheater engines than on those using saturated steam, in which the steam chest pressure is frequently very closely equal to that of the boiler.

The packing for piston rods and valve stems shown in these illustrations is to a certain extent special in form. The type of packing previously used, in which a plastic ring of metal was pressed into a cone shaped collar fitting over the rod, proved at first unsatisfactory when using superheated steam on account of the melting point of the plastic metal used not being sufficiently high. Subsequent experiments have, however, shown that when the latter contains approximately 40% of lead, 50% of copper, and 1% tin, this form of packing gives satisfactory results. In general, no special difficulty has been experienced with forms of packing successful on saturated steam engines, ex-

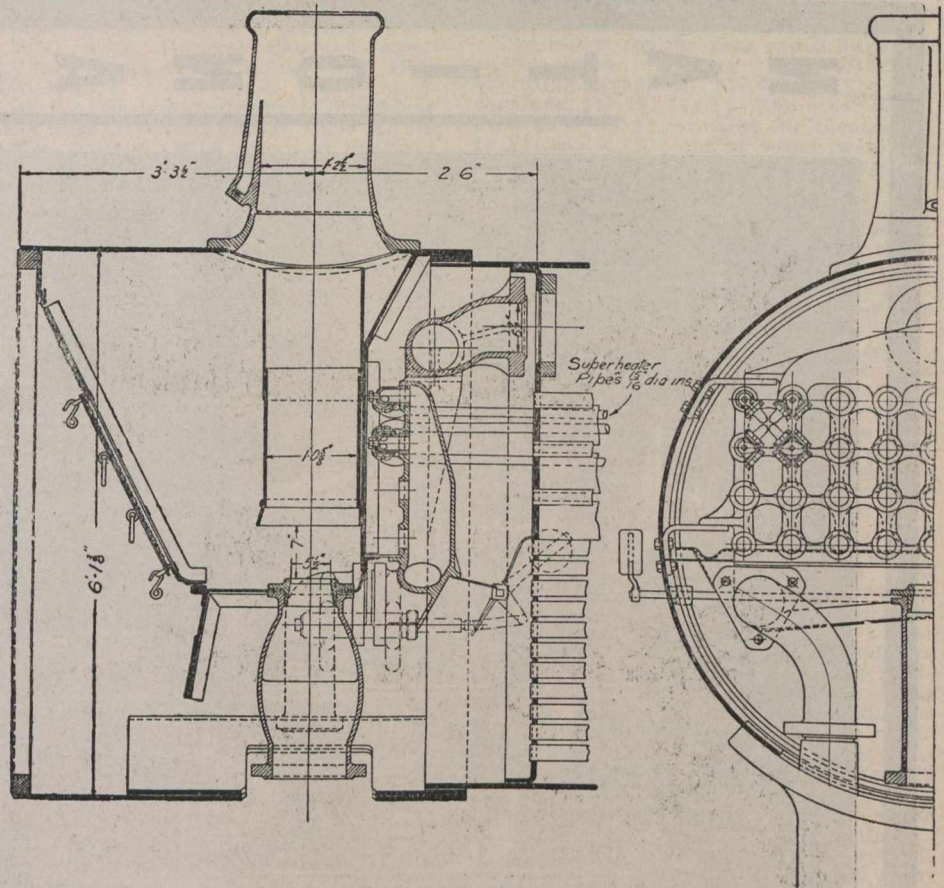


Fig. 43.

cept the occasional necessity of using a metal having a higher melting point.

FEED WATER HEATERS have only been used to a slight extent, in an experimental way. No information has been furnished by any of the administrations replying with reference to the results obtained, and your reporter is therefore unable to present any information with reference to them. The saving in fuel consumption is, as is well known, 10% for every 10 deg. Fahr. increase in temperature of the water passing through the heater, and some economy has been obtained on certain roads by passing the exhaust from the air pump into the tender. This practice has proved satisfactory, with the exception that the enginemen are obliged to watch the temperature of the water in the tender closely in order to prevent its becoming too hot to be lifted by the injectors. Roads using this practice frequently use the non-lifting type of injector which will work when the water is at a temperature of 130 deg. Fahr.

\$564,718.92. The directors have given special attention to the accounts of the subsidiary companies with a view of clearing up all outstanding accounts, many of which extend over a period of several years, and should have been attended to before. They have also similarly given attention to the investigation of the assets of the subsidiary companies, and the auditors say: "Large sums have been written off for losses found to exist in inventories of material, etc. Taken as a whole, we think there has been an earnest endeavor to clear up a large number of matters which should have been cleared up years ago." In consideration of the present position of the company's affairs, and the future prospects, the directors have felt justified

Lake Superior Corporation.

The report of the Lake Superior Corporation for the year ended June 30, states that the result of the year's operations of all the subsidiary companies shows a surplus, subject to depreciation and other charges, of \$1,194,735.22, which has been applied as follows: Losses on assets realized and bad and doubtful debts written off, \$159,031.49; written off in respect of discount on securities sold, \$160,000; reserved for renewals, doubtful debts, etc., \$90,232.54; to be paid to the trustee of the mortgage and deed of trust securing the note issue of the Lake Superior Iron and Steel Co., as a sinking fund for the payment of notes at maturity, in accordance with the provisions of the deed of trust, \$220,752.27; paid by the subsidiary companies to the Lake Superior Corporation as interest and dividends,

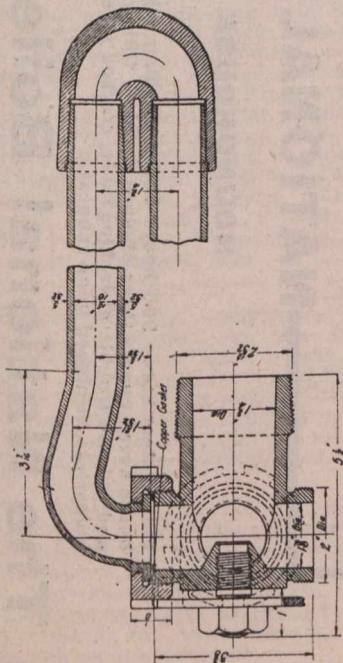


Fig. 44.

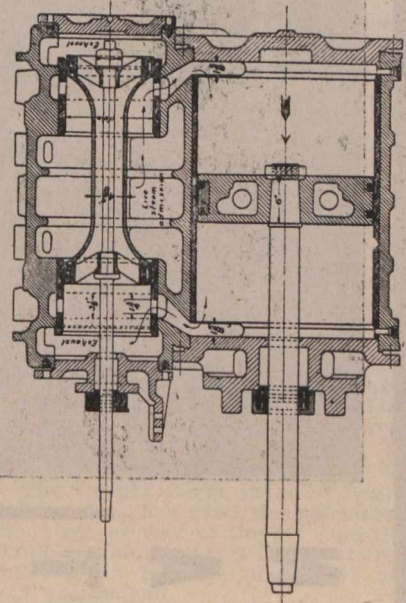
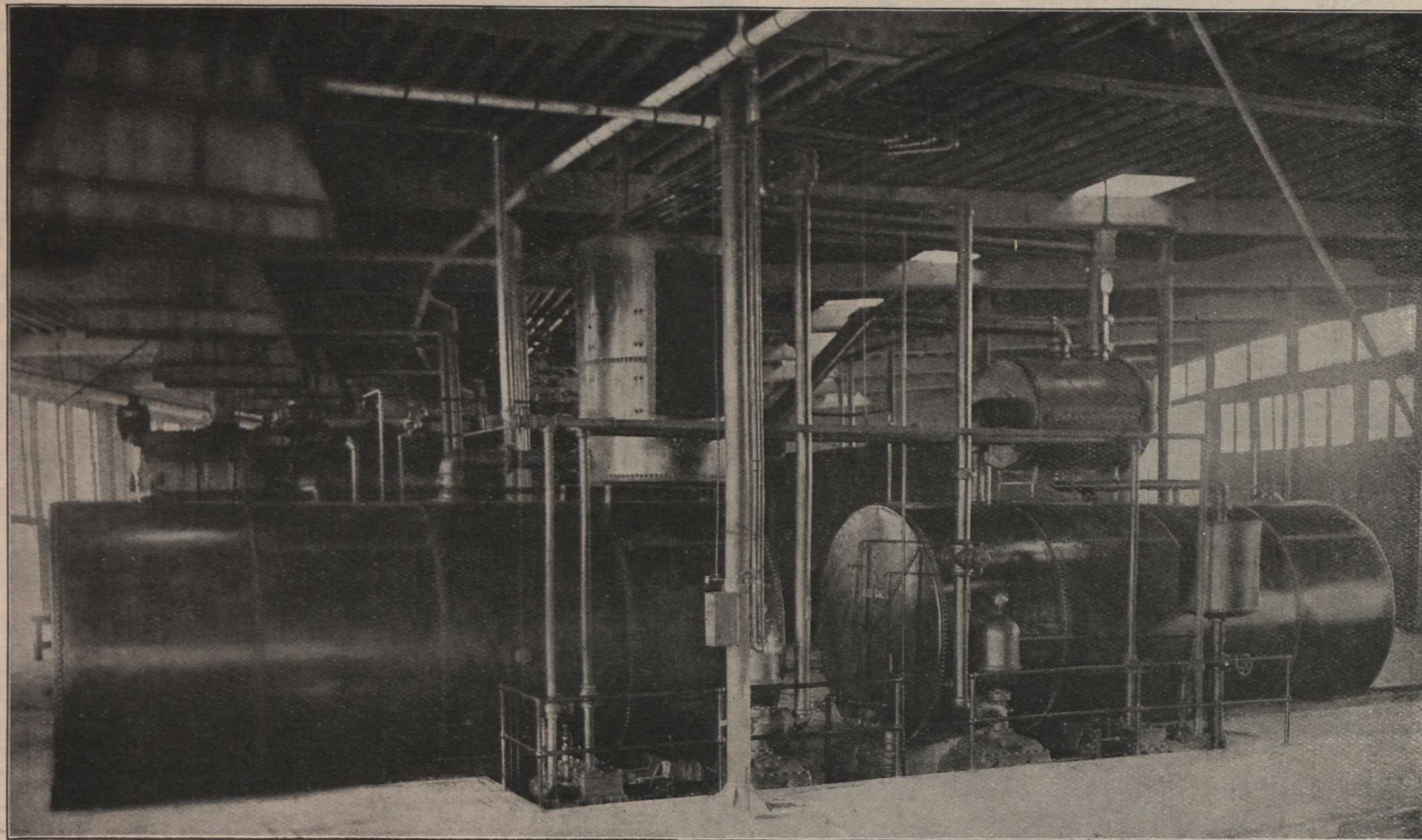


Fig. 45.

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NATIONAL BOILER WASHING SYSTEM

installed at the

**ROUNDHOUSE OF THE CHICAGO & EASTERN ILLINOIS R.R.
DANVILLE, ILL., U.S.A.**

This system saves 900 hours boiler washing labor, 537,600 lbs. of coal, 1,024,000 gallons water and 2,048 engine hours per month. Engine hours saved equals three engines per day, filling water averages 190°. This system saves and utilizes the heat units blown out of locomotive boilers and reduces trouble of leaking flues, cracked side sheets and broken staybolts. Washing water automatically maintained 140°. Estimates and blueprints furnished upon request.

The National Boiler Washing Company, Limited, Montreal

in paying interest on the income bonds at the rate of 2½% out of the surplus earnings of the corporation. The output of steel rails was 201,615 tons against 158,465 in the year ended June 30, 1909.

Referring particularly to the corporation's transportation interests, the directors say:

"THE ALGOMA CENTRAL AND HUDSON BAY RY'S earnings for the year have increased, and show an excess over the previous year. The operation of this railway has been conducted under similar conditions to those prevailing during the preceding year. On the assurances tendered to the Dominion and Ontario Governments, the railway legislation affecting this company was, last session, put on a satisfactory footing, to the extent that its land grants and subsidies were renewed, and the company is now proceeding with the construction of its road to a junction with the C.P.R. The complete project, and the entire financial proposals involved in the building of the railway were laid before the stockholders of the corporation, and the scheme was unanimously approved by them, in its entirety, at a meeting held May 6. Towards the end of the financial year the company brought into service a new steamship, especially built for the purpose of carrying steel rails, and the operation of this vessel should add to the company's earnings.

"MANITOULIN AND NORTH SHORE RY.—The operations of this railway for the year have resulted in a material increase. The extension of the road to Crean Hill was duly completed on the schedule date, and on July 20 last the company commenced carrying ore from that point. The entire construction of this line to Manitoulin Island is, at the moment, receiving consideration, and in accordance with our understanding with the Ontario Government, construction is being proceeded with from Little Current towards the C.P.R.

"THE INTERNATIONAL TRANSIT CO. AND THE TRANS-ST. MARY'S TRACTION CO. own and operate the street railways on the Canadian and the U.S. sides, respectively, of the St. Mary's River, and the International Transit Co. owns and operates the ferry across the river. During the year the directors have been able to place the finances of both companies on a satisfactory footing, and the outlook, in consequence, is hopeful. The result of the year's operations shows increased earnings for all branches of operation."

At the annual meeting held in Camden, N.J., Oct. 5, the report was adopted and the retiring directors re-elected. Following are the officers and directors for the current year: President, T. J. Drummond, Montreal; Vice Presidents, J. T. Lea, Philadelphia, Pa.; J. F. Taylor, Toronto; W. K. Whigham, London, Eng.; Secretary-Treasurer, T. Gibson, Toronto; other directors, H. M. Price, Quebec; H. Coppel, J. S. Dale, J. T. Terry, New York; F. McOwen, Philadelphia, Pa.; L. N. Lovell, Plainfield, N.J.

Intercolonial Ry. Operations.—We are advised, in respect to the proposed changes in the operation of the eastern division, by which a portion of the existing line would be cut out, and the traffic operated over the 20 miles from Blackville to Chatham Jct., that the matter has been discussed, but nothing has been decided.

The Ontario Railway and Municipal Board has confirmed the assessment made by the Sault Ste. Marie, Ont., town council on the C.P.R. property in the town. The assessment was fixed in 1905 at \$50,000 for five years, and that term having expired, the town put a value of \$128,000 on the property.

November Birthdays.

Many happy returns of the day to—
J. O. Apps, General Baggage Agent C.P.R., Montreal, born at Tara, Ont., Nov. 9, 1877.

A. B. Atwater, Assistant to President, lines west of Detroit and St. Clair Rivers, G.T.R., Detroit, Mich., born at Sheffield, Ohio, Nov., 1845.

W. F. Brougham, Local Right-of-Way and Lease Agent C.P.R., Vancouver, B.C., born in Westmoreland, Eng., Nov. 25, 1865.

G. B. Burchell, General Manager Maritime Coal, Ry. and Power Co., Joggins Mines, N.S., born at Sydney, N.S., Nov. 1, 1877.

J. R. Cameron, General Superintendent Canadian Northern Ry., Winnipeg, born at Truro, N.S., Nov. 5, 1865.

L. D. Chetham, City Ticket Agent C.P.R. and District Passenger Agent Esquimalt and Nanaimo Ry., Victoria, born at Matlock, Eng., Nov. 5, 1869.

F. H. Clendenning, Assistant General Freight Agent C.P.R., Pacific Division, Vancouver, B.C., born at Montreal, Nov. 9, 1881.

F. Conway, acting General Superintendent Kingston and Pembroke Ry., Kingston, Ont., born at Ernestown, Ont., Nov. 19, 1850.

W. L. Crighton, Advertising Agent Intercolonial Ry., Moncton, N.B., born at Derby, Eng., Nov. 9, 1871.

W. Cuthbert, Fuel and Tie Agent G.T.R., Montreal, born at Longueuil, Que., Nov. 9, 1856.

W. Downie, General Superintendent C.P.R. Atlantic Division, St. John, N.B., born at Rock Currie, Ireland, Nov. 12, 1850.

Jos. Dubrule, Jr., Manager Canadian Pacific Car and Passenger Transfer Co., Prescott, Ont., born at Spencerville, Ont., Nov. 14, 1872.

R. L. Fairbairn, District Passenger Agent Canadian Northern Ry., Saskatoon, Sask., born at Stillwater, Minn., Nov. 24, 1880.

Grant Hall, Superintendent Motive Power and Car Department, C.P.R. Western Lines, Winnipeg, born at Montreal, Nov., 1863.

C. R. Hosmer, director C.P.R., born at Coteau Landing, Que., Nov. 12, 1851.

J. McGillivray, Superintendent Inverness Ry. and Coal Co.'s lines, Inverness, N.S., born at Nairn, Scotland, Nov. 13, 1867.

T. E. Martin, Local Freight Agent C.P.R., Quebec, Que., born at Beauharnois, Que., Nov. 23, 1852.

C. Murphy, General Superintendent of Transportation Eastern Lines, C.P.R., Montreal, born at Prescott, Ont., Nov. 20, 1865.

F. Nicholls, Vice President Toronto Ry., director Canadian Northern Ry., born in England, Nov. 23, 1856.

H. P. Sharpe, General Agent Dominion Express Co., Toronto, born at Brockville, Ont., Nov. 24, 1864.

G. H. Shaw, Traffic Manager Canadian Northern Ry., Winnipeg, born at Smith's Falls, Ont., Nov. 25, 1859.

J. S. Sheppard, Contracting Freight Agent C.N.R., Winnipeg, born at Teeswater, Ont., Nov. 27, 1881.

F. M. Spaidal, General Superintendent Canadian Northern Quebec Ry., and Quebec and Lake St. John Ry., Quebec, born at Gananoque, Ont., Nov. 13, 1858.

J. Sparks, Assistant General Baggage Agent C.P.R. Western Lines, Winnipeg, born in London, Eng., Nov. 25, 1874.

H. P. Timmerman, Industrial Commissioner C.P.R. Eastern Lines, Montreal, born at Odessa, Ont., Nov. 6, 1856.

H. E. Whittenberger, Superintendent Eastern Division G.T.R., Montreal, born at Peru, Ind., Nov. 9, 1864.

Minneapolis, St. Paul and Sault Ste. Marie Ry.

The report for the year ended June 30, shows gross earnings, \$24,335,403.98; operating expenses, \$14,014,269.81; net earnings, \$10,321,134.17. The other earnings, \$921,283.34, brought the income up to \$11,242,417.51, out of which was met the fixed charges, taxes, etc., \$6,004,830.59, leaving \$5,237,586.92 surplus. The accounts of the M., St. P. and S.S.M. R., together with the various statistical tables, are shown separately from those of the Wisconsin Central Ry., which is operated as the Chicago Division. During the year the company acquired the Cuyuna Iron Range Ry., 37 miles, connecting with the main line at Lawler, Minn., on the new Bemidji and Cass Lake Division, paying for it out of the proceeds of the issue of \$2,200,000 of first consolidated mortgage bonds. The Wisconsin Central Ry. for years owned and operated the Abbotsford and Northeastern Rd., 15.16 miles, and this was on Jan. 29 amalgamated with the W.C.R., the entire stock and bond issue being retired. The W.C.R. terminal property in St. Paul and Minneapolis has been sold to the Chicago Great-Western Rd., and the business is now handled through the Sault line terminals under a 99-year lease. So far as can be ascertained, the directors state, the consolidation of management of the two lines brought about by the lease of April 1, 1909, will be highly beneficial. The full benefit of the consolidation will be more apparent when the several lines entering Duluth are in operation.

The general balance sheet shows assets of \$109,315,706.06 to the credit of the M., St. P. and S.S.M.R., with liabilities of \$98,977,680.49, leaving \$10,338,025.57 at the credit of profit and loss account; and assets of \$71,499,642.08 to the credit of the W.C.R., with liabilities of \$69,252,806.67, leaving \$2,246,835.41 to the credit of profit and loss account.

The Wisconsin Central Ry. owns 986.67 of main lines, has 90.91 miles of trackage rights over the lines of other companies, and 402.66 miles of side tracks and spurs, making altogether 1,480.24 miles of line over which its trains are operated. The Minneapolis, St. Paul and Sault Ste. Marie Ry. owns 2,476.15 miles of main and spur lines, and has trackage rights over 18.94 miles of other companies' lines. Adding to these figures the net mileage of the W.C.R. (1,037.96 miles), the company operates its trains over 3,533.06 miles of track. The 83.37 miles of track land on the Bemidji-Cass Lake line, and the Cuyuna Iron Range Rd. are not included in the figures given.

It was reported at the annual meeting, at which the retiring directors were re-elected, that an issue of \$3,600,000 of 4% bonds had been sold.

Following are the officers and directors for the current year: President, E. Pennington; Vice President and Traffic Manager, W. L. Martin; other directors, W. D. Washburn, C. H. Pettit, H. Lowry, A. H. Bright, G. R. Newell, all of whom are at Minneapolis; E. A. Young, St. Paul; Sir Thos. G. Shaughnessy, R. B. Angus, I. G. Ogden, Montreal; Treasurer, C. F. Clement; Secretary, G. W. Webster; General Manager, G. R. Huntington; Comptroller, C. W. Gardner; these officers reside in Minneapolis.

H. W. McAll, Resident Engineer, Northern Division, G.T.R., Allandale, Ont., writes: "Herewith I remit renewal subscription for your excellent paper, which is one of the most useful I know."

The County Court judge at Sault Ste. Marie, Ont., has fixed the assessment on the right of way of the old Ontario and Sault Ste. Marie Ry., a G.T.R. charter, at \$28,000, an increase of \$17,000 on the old assessment.

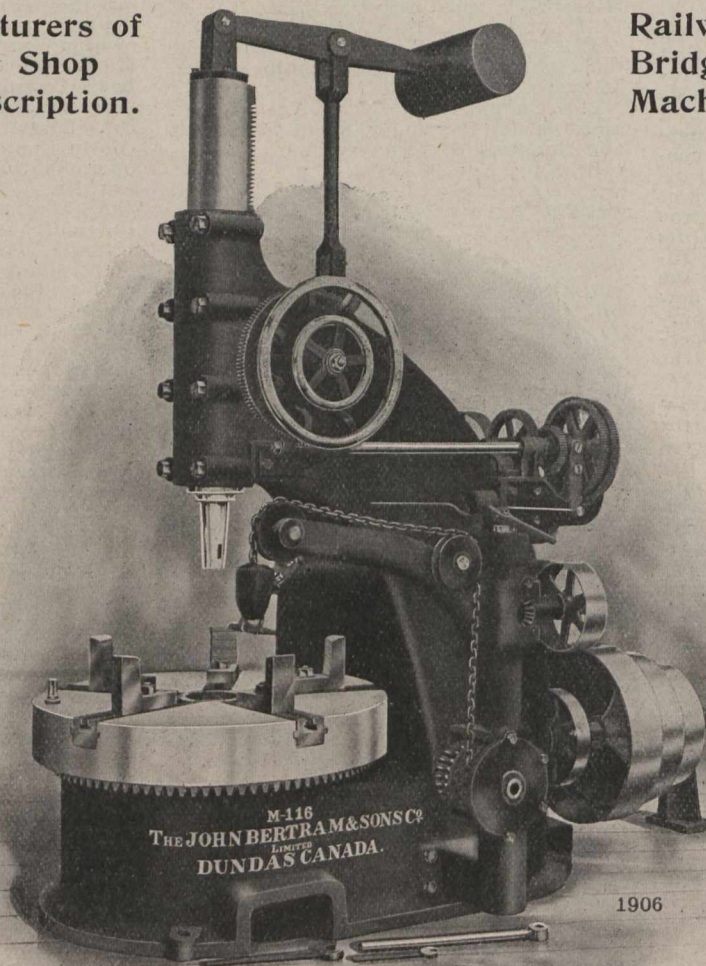


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Tools of every description.

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Repairing C. P. R. Boiler Tubes.

In the method of repairing boiler tubes, as done at the C.P.R. shops, West Toronto, there are several features of particular interest, which are worthy of note. In old boilers, the tube ends sometimes become so rusted and corroded, that they must be removed, the ends cut off, and new ones welded on. As a large number of tubes require this treatment, several labor-saving devices have been improvised at the shops with the object of reducing expense, and at the same time improving the quality of the work.

In many shops where new ends are welded on, it is quite customary to merely expand the end, introduce the new piece, and weld in that position, without tapering the ends to fit each other. This method, owing to the sharp ends coming on the flat of the other part of the tube, always leaves a seam around the tube, which tends to weaken it, often producing fracture. The C.P.R. always reams out the end of the tube with a taper reamer to a sharp edge at the end, and the new end is tapered down similarly to fit in.

In reaming out the ends, an improvised machine, fig. 1, is used, unique in

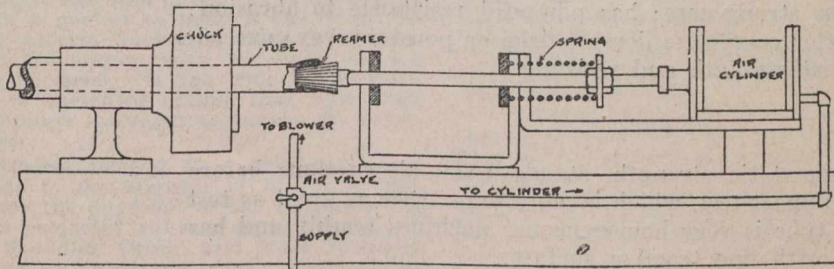


Figure 1.

some respects. Essentially it is a lathe, the original idea being the feed, which consists of an air cylinder which shoves forward the reamer. Air is controlled by a two-way valve, which allows air out of another passage as desired, to a piece of rubber hose, used to blow the chips away. When the cylinder is released, the piston resumes its initial position by the spring expanding. The make-shift construction of the lathe is interesting. It is formed of two 7 x 7 in. scantlings, on which are attached several wrought iron straps for securing the cylinder, etc. The reamer has a square shank which works in square holes in the cross-sectioned cross-pieces, which prevent it turning. The tubes are rapidly reamed by this method, a greater pressure being given than if fed by hand.

When ready to be welded, the two parts are placed together, and shoved into a furnace as in fig. 2. The heat has a tendency to loosen the pieces

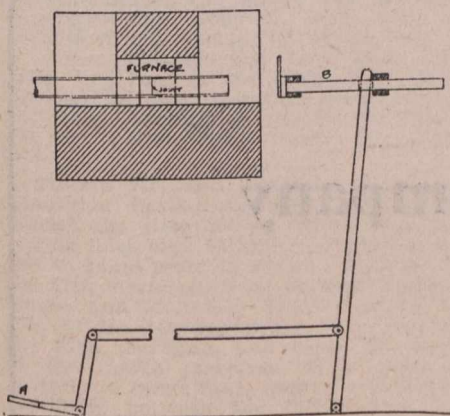


Figure 2.

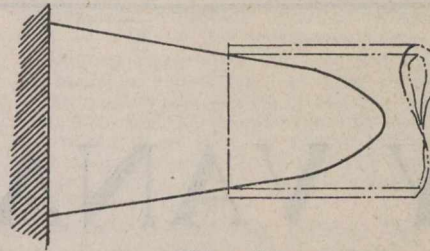


Figure 3.

which were lightly placed together, so, if removed when heated without precautions, they would probably part. A simple expedient prevents this. When ready to remove, a tread A, some 4 or 5 ft. back from the furnace, is pressed which slides bar B in its guides, the plate on the end striking the short piece of tube sharply, driving it further into the tube to be repaired, for the pieces are soft from the intense heat. This act in itself practically welds the pieces together, as well as doing what was originally intended, i.e., preventing the pieces falling apart before welding.

The welding is done under a quick-acting air hammer, the tube being slipped over a mandrel during the operation.

The process insures a very nearly perfect joint, without mark, the size of the

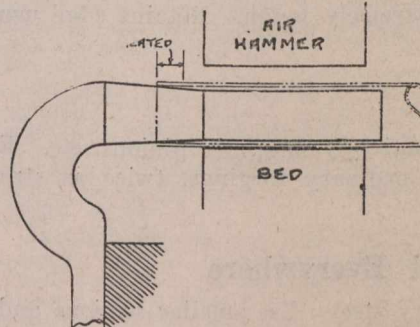


Figure 4.

pipe being but slightly below the standard.

Before putting into the boiler the back end must be expanded slightly so as to fit the tube sheet better. Formerly, this was done as in fig. 3, by first heating the end of the tube for about an inch, and driving the tube up on a tapered pin, by a couple of men swinging back and forth on to the pin, driving it further each swing till expanded the proper amount, a very slow job.

Fig. 4 shows the method used now for expanding the end. As before, the end is heated, but with the difference that it is now placed on a mandrel, tapered at one end, and under an air hammer. The oscillations set up in the pipe by the quick acting hammer striking the cold part, back from the heat, causes the end to swell, the operation being practically instantaneous, the blows being so rapid. The method is very much quicker and better than the old way, and the production is greatly increased.—Canadian Machinery.

Trade and Supply Notes.

The matter which appears under this heading is compiled, in most cases, from information supplied by the manufacturers of, or dealers in, the articles referred to, and in publishing the same we accept no responsibility. At the same time we wish our readers to distinctly understand that we are not paid for the publication of any of this matter, and that we will not consider any proposition to insert reading matter in our columns for pay or its equivalent. Advertising contracts will not be taken with any condition that accepting them will oblige us to publish reading notices. In other words, our reading columns are not for sale, either to advertisers or others.

L. M. Booth Co., 136 Liberty St., New York, is distributing a leaflet describing its new type of Booth water softener.

In an article in our last issue on G.T. P.R. machine repair cars, it was stated that the power used is a Fairbanks 6 h.p. gasoline engine. The engines are of Fairbanks-Morse manufacture and supplied by the Canadian Fairbanks Co.

The Goldschmidt-Thermit Co.'s quarterly, *Reactions*, contains a number of well illustrated articles on the use of thermit for the welding of rails and for welding repairs on steamships, etc., in addition to a discussion on the welding of locomotive frames.

W. C. Cuntz, for 18 years with the Pennsylvania Steel Co., has been appointed Vice President and General Manager of the Goldschmidt-Thermit Co. of New York, which has a Canadian branch in Toronto. He succeeds E. Stutz, who has retired from the company.

G. McAvity, President T. McAvity and Sons, Ltd., St. John, N.B., is reported to have stated, recently, that it was absolutely necessary for the company to increase its plant, and it was probable that a brass or iron foundry would be established at Port Arthur, Ont., and possibly a branch works at Montreal.

The Safety Car Heating and Lighting Co. has commenced the publishing of a house journal under the name of the *Safety Heating and Lighting News*. The first number is well illustrated, and contains a lot of useful information regarding the heating and lighting of railway cars, one article being devoted to postal cars, with opinions as to the adaptability of gas over electric light, by various railway officials, amongst whom is H. H. Vaughan, Assistant to the Vice President, C.P.R.

The Galena-Signal Oil Co. has introduced a new locomotive headlight oil, "Galena Railway Supply Oil B." We are advised that recent government tests, made by the Bureau of Standards at Washington, show this oil to produce, with headlights of ordinary construction, a minimum of 1,800 candle power, and with a headlight equipped with 16 inch optical lens, costing no more initially than the ordinary reflector, and much less for maintenance, a minimum of 2,400 candle power; and exhaustive service tests on a prominent railway have proven its adaptation to this purpose. The high fire test of this oil enables it to withstand the great heat generated by headlight burners without becoming gaseous, a condition developing with inferior oils and resulting in the consumption of much more oil than is necessary. The use of this oil insures immunity from danger resulting from smoked chimneys, damaged reflectors and the frequent burning up of headlights, and reduces, to a great extent, the labor necessary in caring for headlights.

Railway Lands Patented.—Letters patent were issued, during August, for railway lands in Manitoba, Saskatchewan, Alberta and British Columbia, as follows:

	Acre.
Canadian Northern Ry.	184.13
Canadian Pacific Ry.	2.77
Total	186.90

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RAILWAY DEVELOPMENT.

Projected Lines, Surveys, Construction, Betterments, Etc.

Alberta and Great Waterways Ry.—The report of F. J. P. Crean, C.E., of an exploration which he made for the Department of the Interior, in northern Saskatchewan and Alberta, during 1909, has been issued. He reports generally favorably of the land and climate, and in conclusion says the difficulties of reaching a large section of the area explored will no longer exist "when the railway to McMurray, which is now proposed to be built, is completed." Numbers of papers continue to be filed in the courts at Edmonton arising out of the company's affairs. (Oct., pg. 825.)

The Alberta and Saskatchewan Central Ry. Lines was incorporated last session of the Alberta Legislature, to build the lines mentioned in our April issue. The provisional directors are: J. F. Ashe, J. Archer, Edmonton, Alta.; N. F. Hagel, H. W. Adcock, Winnipeg. The bonding power is fixed at \$18,000 a mile of railway built. (April, pg. 271.)

Alberta Boundary to Peace River Land-ing.—A recent dispatch from Edmonton, Alta., states that W. C. Teter, a New York banker, has been in the city in connection with a project to build a line from the U.S.-Alberta boundary, through Calgary and Edmonton, with an outlet to the Pacific coast, via the Pine River Pass. He is quoted as stating that New York capitalists are ready to finance the enterprise.

Alberta Central Ry.—Application was made to the Minister of Railways, Oct. 5, for the approval of the route map of this projected railway from mileage 40 to Sounding Creek, and from Sounding Creek to Moose Jaw, Sask. From Moose Jaw the map shows a line westerly close beside the C.P.R., as far as Caron, where it strikes northerly, following close to the western side of Pelican Lake, crossing the Saskatchewan River almost directly north of Morse, and then westerly via Sounding Creek to mileage 40. The Board of Railway Commissioners has approved of the location of the company's projected line from Red Deer easterly, for 40 miles.

Construction is being pushed forward rapidly on the section from Red Deer to Rocky Mountain House, Alta., about 75 miles. Two camps are at work between Red Deer and Medicine River, and an additional grading outfit has been started west of Medicine River. Gangs are at work at Sylvan River and further west, clearing the right of way. The company is letting its contracts direct, and the grading is being done up to the specifications of a main line, the work being under the supervision of the Chief Engineer, J. Grant MacGregor. It is said that the cement piers for the bridge across the Red Deer River will be built during the winter and the steel superstructure, 1,000 ft. long, will be erected in the spring, by which time it is expected track will have been laid from Red Deer to the bridge site. It is reported in Red Deer that the company will build through to the Pacific Coast, via the Yellow Head Pass. (Oct., pg. 825.)

Alberta Ry. and Irrigation Co.—The Dominion Parliament will be asked to extend the time within which the following lines may be built:—From Cardston to some point in range one, west of the fifth meridian; from between Springcoulee and Mountain View, westerly to the C.P.R., between range two, west of the fifth meridian, and range 27, west of the fourth meridian; from Sterling easterly to range four, west of the fourth meridian, between the C.P.R. and the International boundary; and from be-

tween Lethbridge and Sterling to the International boundary between ranges 24 and 30 west of the fourth meridian.

Alberta Railways.—In a recent speech at Macleod, Alta, the Alberta Premier, dealing with the policy of railway extension, said the Government would insist on the completion of work for which bonds had been guaranteed, and would not tolerate a policy of renewing bonuses from year to year.

Algoma Central and Hudson Bay Ry.—T. J. Drummond, President Lake Superior Corporation, has recently completed an inspection of the A.C. and H.B.R., owned by the Corporation. The work at present being done on the line includes the building of the main line to a junction with the Michipicoten branch, an extension to Hobon, on the C.P.R. transcontinental line, and a branch to reach the Magpie iron mines, now being developed. (Oct., pg. 825.)

Atlantic, Quebec and Western Ry.—A receiver has been appointed for the Charing Cross Bank, London, Eng. The assets were stated in a recent report to be £1,607,000, with liabilities to depositors at about £1,000,000. The bank was owned by a private partnership, a Mr. Carpenter being the principal owner. The Carpenters have large interests in the Gaspé peninsula, of which the most important is the A., Q. and W. Ry., now under construction by the New Canadian Co. The Managing Director of this company is C. B. K. Carpenter, and its head offices are in Montreal.

A London cablegram of Oct. 18 says that Carpenter, who filed his own petition, denies insolvency and says he took the step in consequence of threats of certain persons to institute criminal proceedings against him in relation to the investment of the bank's money in a Canadian railway scheme.

Bangor and Aroostook Ry.—Grading is practically completed on the extension of the line along the valley of the St. John River, for 29 miles, ending at Fort Kent, Me., just south of Clair, N.B. Track has been laid for a considerable distance, and it is expected to have the line completed by Dec. 31. (May, 1908, pg. 328.)

The Bow River Collieries Ry. was authorized by the Alberta Legislature last session to build a line from tp. 17, r. 17, 4 m., southerly to Taber, and to the International boundary at Coutts, in addition to lines previously authorized. (April, pg. 271.)

British Columbia and Alaska Ry.—Application will be made to the Dominion Parliament for the incorporation of a company with this title to build from near Lytton, B.C., along the Fraser River to Fort George, thence to a crossing of the Nechaco River at the mouth of Stewart River, following the same by way of Stewart Lake, Thatcher River, Trembleur Lake, Middle River, North Tacla Lake, Driftwood River, Bear Lake, passing through Fort Conley, along the valley of the Skeena River to a summit between the Skeena and the Stickine Rivers, down the Stickine River to Telegraph Creek, and thence up Telegraph Creek to the headwaters of Teslin River, following the same to the northern boundary of British Columbia, and from there by the most practicable route to Dawson, Yukon. A. T. Thompson is solicitor for the applicants.

A company with this title was incorporated by the B.C. Legislature last session, to build the line above described from Lytton to the B.C.-Yukon boundary. This charter has been acquired by the B.C. Railway and Development Co., which has been incorporated under the laws of the State of Delaware, with offices in New York, and a capital of \$12,000,000. The company states that its plans contemplate the building of about 850 miles, from

Vancouver to the Alaskan boundary. The route, for which reconnaissance surveys have been made, is stated to be the most feasible and forms the shortest link between the main U.S. territory and Alaska. Two survey parties are said to be in the field, locating the line between Vancouver and Fort George, B.C. The cost of construction of the line is estimated at \$25,000 a mile. Application will be made, the prospectus states, to the Dominion and the Provincial Governments for subsidies. The officers and directors of the B.C.R. and D. Co. are: President, H. G. Villard; Vice Presidents, W. G. Conklin, J. Wolkstein; Treasurer, J. W. Howie; Secretary, W. C. Pratt; other directors, E. Ashforth, S. D. Townsend, F. M. Van Horn. All these reside in New York. The consulting engineers are L. M. Rice & Co., Seattle, Wash. Recent press reports state that location surveys have been completed from Fort George down the Fraser River to Lytton, on the C.P.R., and that a gradient of 0.6% has been secured. The engineers in charge of the parties were J. Early and W. Simpson. (Oct., pg. 825.)

British Columbia and Dawson Ry.

Application will be made to the Dominion Parliament to incorporate a company with this title to build a railway from near Lytton, B.C., along the Fraser River to Fort George, to a crossing of the Nechaco River at the mouth of Stewart River, following this river by way of Stewart Lake, Thatcher River, Trembleur Lake, Middle River, North Tacla Lake, Driftwood River, Bear Lake, passing through Fort Conley and along the Skeena River valley to a summit between the Skeena and the Stickine rivers, along the valley of the latter river to Telegraph Creek, and along this creek to the headquarters of the Teslin River, following the same to the northern boundary of British Columbia, and thence to Dawson, Yukon; also a line from Ashcroft to the confluence of the Big Bear and the Fraser rivers, and also from Lillooet along the south side of Seaton and Anderson lakes, and via Lillooet Lake and river, and Harrison Lake to Vancouver. It is also desired to have power to amalgamate with the British Columbia and Alaska Ry. A. T. Thompson, Parliamentary Agent C.P.R., Ottawa, is solicitor for applicants. See British Columbia and Alaska Ry.

Burrard Inlet Tunnel and Bridge Co.

—The Vancouver, Westminster and Yukon Ry. and the city of Vancouver opposed the B.I.T. & B. Co.'s application for approval of route maps, before the Minister of Railways, at Ottawa, Oct. 4, and the matter was adjourned. (Sept., pg. 725.)

Canada and Gulf Terminal Ry.—The first section of this railway, extending from Mount Joli, near St. Flavie, on the Intercolonial Ry., to Matane, Que., 35 miles, is expected to be opened for traffic Nov. 1. (Oct., pg. 825.)

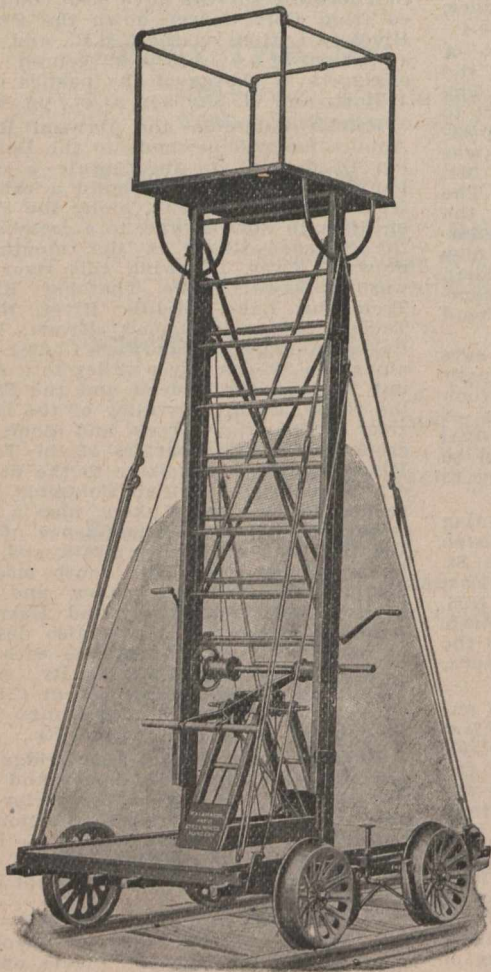
Detroit River Tunnel.—Although freight trains were run through this tunnel between Detroit, Mich., and Windsor, Ont., Sept. 17, it was not until Oct. 15 that passenger trains were run and the ferry service discarded. The gradient is a 2% one on the U.S. side, and a 1.5% one on the Canadian side. A good deal of work has yet to be done in the yards at each side of the tunnel before everything is complete.

The regular operation of passenger trains through the tunnel was begun Oct. 15.

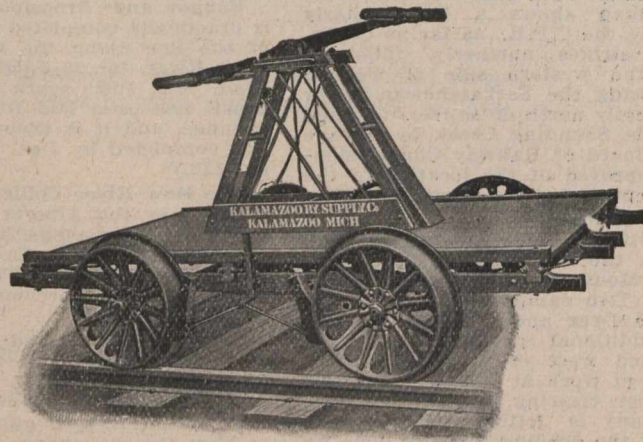
Diamond Coal Co.—The Alberta Legislature last session authorized the company to build a railway to connect its mines with the C.P.R. Crow's Nest branch, and approved the work then done. The line has been built and operated by the company for over a year. (May, pg. 349.)

Durham Collieries.—Six thousand acres of coal lands on the Little Bow River, 36

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miles north of Lethbridge, Alta., are being developed by a company with this title. A. Laidlaw, Spokane, Wash., and H. W. Galor, Vancouver, B.C., are reported to have sold a half interest in the property to Duluth, Minn., capitalists, who are providing money for development. As soon as the property is sufficiently developed it is proposed to build a railway from the collieries to the C.P.R., for the shipment of the output.

A press dispatch from Carmangay, Oct. 4, states that the company is proceeding with development about 15 miles from there and that a spur line will be built almost immediately.

Halifax and Eastern Ry.—We were recently advised that nothing definite had been done in the way of letting contracts for building this projected railway. (Oct., pg. 825.)

Hudson Bay and Pacific Ry.—Prince Albert, Sask., dispatches state that G. Atwood, Chief Engineer, has received instructions to proceed with the grading of the line from Prince Albert towards Hudson Bay, and to have a survey made southerly from Prince Albert to Pacific Jct., a station on the Great Northern Ry. near Havre, N.D. The Prince Albert-Hudson Bay line will be built, said Mr. Atwood recently, if not by this company, by another one. A dispatch dated Oct. 7, stated that the Canadian Northern Ry. was negotiating for the purchase of a controlling interest in the company, and had secured control of another charter authorizing the building of a line from Prince Albert to Port Nelson. This latter charter is controlled by Senator Davis and other Prince Albert people. (Sept., pg. 727.)

Intercolonial Ry.—The Halifax, N.S., Board of Trade has been informed by the Government Railways Managing Board, that plans are under consideration with a view of increasing the facilities at the piers for the coming winter.

New cattle sheds are being built at Marsh Road, St. John, N.B., and they are expected to be ready for the winter traffic. It is said that the present sheds at Gilbert's Lane will be abandoned as soon as the new sheds are completed.

The Halifax Board of Trade was informed by letter, Oct. 13, that it was expected to begin work shortly on the enlargement of the shed, and the other improvements at no. 4 pier.

The land valuers have completed the work of putting prices on the land and other property through which the proposed new line will pass, from Nelson station to the point where it will join the present Loggieville line. W. B. McKenzie, Chief Engineer, was in Chatham, N.B., recently looking over the route in Chatham, and inspecting the progress of the work on the portion of the line being built. The right of way has been cleared and fenced as far as the cemetery, and the contractor's camp has been moved to Bacon road, where grading is in progress. (Oct., pg. 825.)

Kettle Valley Lines.—Reports from Merritt, B.C., state that the grading of the new line in the Nicola Valley is being pushed forward rapidly. The work of clearing the right of way is well advanced over the mileage under contract, and grading is in progress. Murchison and McMillan are the subcontractors on the first 17 miles, Holley and Owens the next 4.5 miles, Bright and McDonald the next 4.5 miles, and Lungo and McDonald the next four miles. About a mile and a half from Merritt the course of the river is being diverted to do away with the necessity of bridge construction. The company's officials are said to be arranging for starting up construction work at Penticton and Midway. The survey parties have been reinforced by the engineers freed from the Merritt end of the line. It is ex-

pected that a tunnel of some length will have to be bored between Wilkinson Creek and Penticton Creek, so as to avoid heavy gradients.

The Spokane and British Columbia Ry., which is the extension of the line from Grand Forks into the U.S., now terminates at Republic, Wash. The company has power to extend this line to Spokane, and a contract for building a section is reported to be let to L. M. Rice & Co., Seattle, Wash. (Oct., pg. 827.)

The Lacombe and Brazeau Ry. Co. has been incorporated by the Alberta Legislature to build from Lacombe, where connection may be made with all lines entering the town, westerly to Bentley, thence northwesterly to Rimbey, and to the Brazeau River, and along its valley to its headwaters, with a branch to Edmonton or Strathcona. The provisional directors are: E. R. C. Clarkson, D. W. Alexander, C. Miller, Toronto. (May, pg. 351.)

Lethbridge Collieries.—Extensive development work has been done by the company on the coal lands owned in the vicinity of Lethbridge, Alta. It is proposed to build a spur line from the C.P.R. Lethbridge-Macleod line to the collieries opened in sec. 21, tp. 3, range 22, about 2½ miles from Kipp, and about a mile from the line of the Diamond Coal Co. The principal officers of the company are: President, E. B. Greenshields, Montreal; Chief Engineer and Managing Director, C. Fergie; Manager, W. Maxwell; Construction Engineer, N. C. Pitcher; Accountant, G. B. Saunders; construction foreman, A. Morrison.

Manitoulin and North Shore Ry.—The Board of Railway Commissioners has authorized the opening for traffic of the extension of the line from about 13 miles west of Sudbury to Kream Hill, Ont., 10 miles. (Oct., pg. 827.)

The Michigan Central Rd. is making considerable improvements to its tracks, bridges and trestle work at Niagara-on-the-Lake, Ont.

The company's electrical experts had a conference with the St. Thomas, Ont., city officials, Oct. 13, with reference to the use of hydro-electric power for driving the machinery at its roundhouse, shops, and turntable there.

New Brunswick Coal and Ry. Co.—Tenders are under consideration for building a two-stall engine house at Minto, N.B. P. S. Archibald and J. R. Stone are the commissioners in charge of the line for the New Brunswick Government. (Oct., pg. 827.)

Pincher Creek, Cardston and Montana Ry.—Application will be made next session of the Alberta Legislature to change the name of the company to the Alberta Pacific Ry.; to extend the time for building the lines already authorized; to increase the bonding powers from \$15,000 to \$30,000 a mile; and to give power to build the following additional lines: from the previously authorized line at tp. 6, r. 1, w. 5 m., generally northerly, west of the Porcupine Hills to Calgary, continuing northerly, west of Snake, Gull and Pigeon Lakes to Edmonton, thence northwesterly to the western boundary of the province between latitude 55 and 56; and a line from the said line near Edmonton northeasterly and easterly to the eastern boundary of the province. O. E. Culbert, Pincher Creek, is solicitor for the applicants.

J. A. Taylor, in a recent interview in Calgary, is reported to have said arrangements had been made to build some 15 or 20 miles this year in the vicinity of Pincher Creek. The line will run from near Coutts, at the International boundary, to Pincher Creek, and on to Calgary, through the pass between the foothills of the Rocky Mountains and the Porcupine Hills, and along the Upper Sheep Creek.

The company has a charter to build a line through the North Kootenay Pass in B.C. The projected line between Pincher Creek and Cardston will, it is said, cross the south fork of the Old Man River, by a steel bridge 1,100 ft. long and 170 ft. above high water.

The plans for 100 miles of the line from the International boundary to the west side of sec. 34, tp. 6, r. 2, w. 5 m., are said to have been approved by the Alberta Premier on behalf of the Government. The route shown is that followed by the engineers in making surveys for the line referred to as the Calgary, Alta., to Butte, Mont., railway. This survey from Calgary south runs west of the Macleod branch of the C.P.R., crossing Highwood River 25 miles west of High River and south through the valley between the Porcupine and Livingstone ranges. After crossing the C.P.R. Crow's Nest branch between Pincher Creek and Cowley, the projected line passes through Pincher Creek, through the Fishburn valley to Cardston, crossing the International boundary at Whiskey Pass. It is proposed to connect with the Great Northern Ry. at or near Shelby Jct., Montana. (Oct., pg. 829.)

Portland Canal Short Line.—A recent press dispatch from Stewart, B.C., states that Engineer Lewis has found an easy pass through the divide leading to the Naas Valley. The engineering difficulties are reported to be small, and include a short tunnel and one snow shed.

Notice has been given that application will be made to the British Columbia Legislature for authority to extend the line from the present proposed terminus generally easterly to the eastern boundary of B.C., where the Peace River intersects the boundary, by way of Pine River pass, with power to build a branch line down the valley of the Naas River to the Pacific coast; a branch line from near Stuart Lake to connect with the G.T. Pacific Ry., and a branch to the northern boundary of B.C.

A Victoria, B.C., dispatch of Oct. 7, states that in addition to the application for additional powers in B.C., the Alberta Legislature will be asked to authorize the building of lines from the boundary to a junction with the Canadian Northern Ry. near Edmonton, and that the Dominion Parliament will be asked to grant incorporation to a company for the building of the whole of the lines in the two provinces. Another report states that it is proposed to locate the eastern terminus of the line on Hudson Bay, with a view of establishing a trade route between western Europe and eastern Asia. Such a water and rail route would be exceptionally direct and economical.

G. G. S. Lindsey, who has returned to Toronto, after a visit to the mining camps in northern British Columbia, stated in an interview Oct. 15 that track was expected to be laid on this line from Stewart to Bitter Creek, about 10 miles, this year, and that the whole line to Bear Creek would be completed early in 1911.

A machine shop is being erected at Stewart for the line, and F. W. McLeod is Master Mechanic in charge of its erection and fitting up. (Oct., pg. 829. See also Canadian Northern Western Ry., in C.N.R. Construction, etc., on another page.)

Reid Newfoundland Co.—W. D. Reid, President, is reported to have stated in an interview at St. John's, Nfld., Oct. 1, that on Sept. 30, track had been laid for 50.5 miles on the Bonavista branch, and would be in Trinity within a few days thereafter. The grading gangs had completed 62.5 miles and were then working within five miles of Catalina, where there were several very heavy rock cuts. A steel trestle, 400 ft. long and 40 ft. high has been com-

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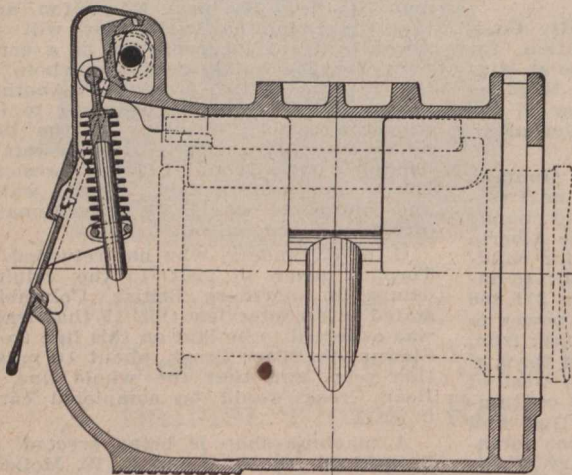
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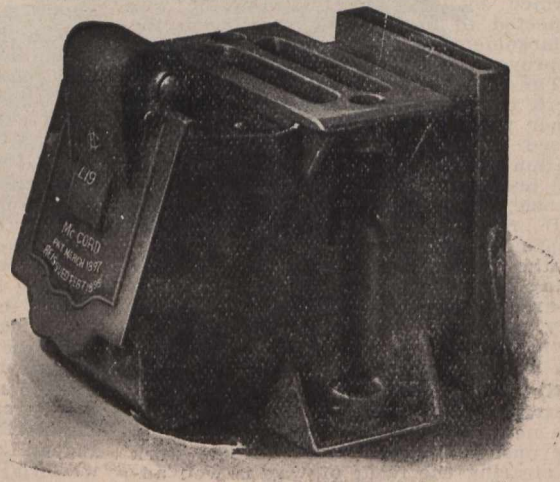
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pleted near the first pond going into Goose Cove, Southwest Arm, Trinity. By the erection of the trestle a loop of over a mile is formed, the trains going under the trestle and then gradually ascending, leaving it at a higher level. (Oct., pg. 831.)

Roberval and Saguenay Ry.—Application will be made to the Quebec Legislature for the incorporation of a company with this title to build from Roberval westerly and northwesterly to Peribonka, thence north of Lake St. John and the Saguenay River to a deep water port on the river, with branches to connect with the Quebec and Lake St. John Ry. at Hebertville and with the Ha Ha Bay Ry. at its junction with the Q. and L. St. J. Ry. in the Jonquieres district. The application is being made on behalf of J. E. A. Dubuc, J. E. Grenon, J. E. Cloutier, S. Lapointe, Chicoutimi, Que.; A. Pelletier, J. B. Carbonneau, Roberval, Que.; B. A. Scott, Quebec; W. Low, Brooklyn, N.Y.; by Lapointe and Langlais, attorneys, Chicoutimi. Of the applicants named above, J. E. A. Dubuc is Vice President, B. A. Scott is a director, and J. E. Grenon is Chief Engineer of the Ha Ha Bay Ry.

St. John River Valley Ry.—Field work on the surveys for this projected railway from St. John to Grand Falls, was expected to be completed by Oct. 31, and it is said that the plans and estimates will be ready for submission to the New Brunswick Government by Dec. 31. Maxwell is Chief Engineer in charge of surveys. (Aug., pg. 631.)

South East Kootenay Ry.—A press report from Hosmer, B.C., quotes T. Davis, President, as saying that construction will be started on this line from McGillivray to the International boundary in the spring. Twelve mining companies are reported to be developing coal areas in the territory through which the line will pass, and a wagon road has already been built to get in machinery, etc. The company was incorporated by the B.C. Legislature in 1906, and in 1909 obtained an extension of time for construction. (April, 1909, pg. 249, and Aug., 1906, pg. 457.)

Temiskaming and Northern Ontario Ry.—The branch line from Cobalt to Kerr Lake, Ont., five miles, has been opened for traffic. The question of a line to the Elk Lake country from Charlton is still in abeyance. Those interested in the development of the country express themselves strongly in favor of the Government building the line at once.

Engineers who have been making surveys from North Bay with a view of securing a route which would give better gradients and shorten the line to Liskeard, have almost completed their work, and their report was expected to be ready for presentation to the Commissioners by Nov. 30. During the year a good deal of work has been done on the line in the way of strengthening bridges and spreading additional ballast, to permit of heavier trains being run over it. (Oct., pg. 831.)

Toronto.—Work is being proceeded with on the spur line which the Toronto city council is building along the east bank of the Don River to the Ashbridge's Bay manufacturing district. The line will connect with the C.P.R. at Winchester St., and with the G.T.R. south of Eastern Ave., and will be about 6,000 ft. long. The work is ordinary cut and fill. The heaviest cut is north of Gerrard St., opposite the Isolation Hospital, where there is a heavy bank of blue clay. It is expected to have the work completed this fall, except the portion at the proposed Queen St. high level bridge. The work is being done by day labor, under the direction of E. L. Cousins, of the Engineer's staff. (Oct.,

The Board of Control passed a resolution Oct. 18, authorizing an application to the Board of Railway Commissioners for permission to connect the line with the C.P.R. and G.T.R.

Vancouver North to Grouse Mountain.—Application will be made to the British Columbia Legislature to incorporate a company with this title, to build a line, to be operated by steam, electric or other power, from North Vancouver to the summit of Grouse Mountain. W. A. Macdonald, Vancouver, is solicitor for the applicants.

Canadian Northern Ry. Earnings, Etc.

Gross earnings, working expenses and net profits from July 1, 1910, with increases over, or decreases from, those of 1909-10:

	Earnings.	Expenses.	Net Earnings.	Net Increase
July	\$ 1,225,100	\$376,900	\$348,200	\$118,000
Aug.	1,093,000	830,000	263,000	58,600
	\$2,318,100	\$1,706,900	\$611,200	\$177,200
Inc.	\$ 667,000	\$ 490,300	\$177,200

Approximate gross earnings for Sept., \$1,279,900, and for two weeks ended Oct. 14, \$667,700, against \$1,076,800, and \$598,800 for same periods, 1909.

C.P.R. Earnings, Expenses, Etc.

Gross earnings, working expenses, net profits, increases or decreases over 1909-10, from July 1, 1910:

	Earnings.	Expenses.	Net Profits.	Net Increase
July	\$3,869,214.32	5,384,594.73	5,484,619.50	1,004,748.86
Aug.	9,255,331.67	5,563,659.14	3,691,672.33	727,614.46

\$ 18,124,545.99 \$10,948,254.07 \$7,176,291.92 \$1,732,363.32
Inc. \$3,557,531.44 \$1,825,168.12 \$1,732,363.32

Approximate gross earnings for Sept., \$9,115,000, and for two weeks ended Oct. 14, \$4,577,000, against \$8,148,000 and \$4,313,000 for same periods, 1909.

DULUTH, SOUTH SHORE AND ATLANTIC RY.—Operating revenue for Aug., \$336,479.15; operating expenses, \$209,892.08; net revenue, \$126,587.07, against \$308,439.92 operating revenue; \$137,844.73 operating expenses; \$110,595.19 net revenue for Aug., 1909. Aggregate operating revenue for two months ended Aug. 31, \$648,462; operating expenses, \$405,350.54; net revenue, \$243,111.46, against \$593,674.10 aggregate operating revenue; \$401,133.43 operating expenses; \$192,540.67 net revenue for same period, 1909. Approximate gross earnings for Sept., \$310,331, and for two weeks ended Oct. 14, \$139,948, against \$321,45 and \$147,045 for same periods, 1909.

MINERAL RANGE RY.—Operating revenue for Aug., \$64,366.60; operating expenses, \$59,675.02; net revenue, \$5,291.58, against \$76,301.05 operating revenue; \$60,392.78 operating expenses; \$15,908.27 net revenue for Aug., 1909. Aggregate operating revenue for two months ended Aug. 31, \$122,500.33; operating expenses, \$131,627.55; net expenses, \$9,127.22, against \$149,966.38 aggregate operating revenue; \$123,242.78 operating expenses; \$26,723.60 net revenue for same period, 1909. Approximate gross earnings for Sept., \$69,506, and for two weeks ended Oct. 14, \$32,842, against \$75,766 and \$31,548 for same periods, 1909.

MINNEAPOLIS, ST. PAUL AND SAULT STE. MARIE RY.—Operating revenue for Aug., \$1,183,408.68; expenses and taxes, \$742,146.61; operating income, \$441,262.07, against \$1,204,104.17 operating revenue; \$714,493.84 expenses and taxes; \$489,610.33 operating income, for Aug., 1909. Aggregate operating revenue for two months ended Aug. 31, \$2,412,063.77; expenses and taxes, \$1,518,963.51; operating income, \$893,100.26, against \$2,348,625.99 aggregate operating revenue; \$1,451,658.42 expenses and taxes; \$896,967.57 operating income for same period, 1909. Approximate gross earnings for Sept., \$2,053,512, and for two weeks ended Oct. 14, \$1,039,132, against \$2,504,701 and \$1,169,176 for same periods, 1909.

CHICAGO DIVISION.—Operating revenue for Aug., \$811,065.16; expenses and taxes, \$585,085.56; operating income, \$225,979.60, against \$729,866.95 operating revenue; \$462,482.02 expenses and taxes; \$267,384.93 operating income for Aug., 1909. Aggregate operating revenue for two months ended Aug. 31, \$1,617,726.23; expenses and taxes, \$1,130,680.81; operating income, \$487,045.32, against \$1,448,279.03 aggregate operating revenue; \$926,712.08 expenses and taxes; \$521,566.95 operating income for same period, 1909.

Grand Trunk Ry. Earnings, Expenses, Etc.

The following figures show the earnings, expenses, etc., of the G.T.R., C.A.R., G.T. Western Ry., and D.G.H. & M.R. for Aug., 1910 and 1909, respectively:—

GRAND TRUNK RAILWAY.		
	1910.	1909.
Earnings	\$3,067,600	\$2,939,400
Expenses	2,213,700	2,092,800
Net earnings	\$ 853,900	\$ 846,600

CANADA ATLANTIC RAILWAY.		
	1910.	1909.
Earnings	\$ 162,500	\$ 190,300
Expenses	157,900	168,700
Net earnings	\$ 4,600	\$ 21,600

GRAND TRUNK WESTERN RAILWAY.		
	1910.	1909.
Earnings	\$ 498,200	\$ 576,700
Expenses	399,500	370,300
Net earnings	\$ 98,700	\$ 206,400

DETROIT, GRAND HAVEN AND MILWAUKEE RY.		
	1910.	1909.
Earnings	\$ 156,600	\$ 172,900
Expenses	144,700	130,900
Net earnings	\$ 11,900	\$ 42,000

Approximate gross earnings for Sept., \$4,107,955, and for two weeks ended Oct. 14, \$1,843,722, against \$3,949,004 and \$1,817,637 for same periods, 1909.

TRAFFIC RECEIPTS OF THE SYSTEM.

	1910.	1909.
Grand Trunk	\$1,813,107	\$1,791,456
Canada Atlantic	95,403	108,744
G. T. Western	292,226	322,331
D. G. H. & M. R.	95,064	103,414
Totals	\$2,295,800	\$2,325,945

Quebec Public Utilities Commissar.

The following orders have been passed:—

16. Oct. 4.—A. P. Robitaille vs. Quebec and Lake St. John Ry.—Complaint is made of the company having increased its rates illegally and without proper notice in respect of Charlesbourg station, as follows:—Return 1st class from 15c. to 20c.; series of 10 tickets from 75c. to \$1.00; series of 55 tickets from \$2.75 to \$5. That the company does not maintain a blackboard at Charlesbourg and announce thereon the time of passing of its various passenger trains. That the extra train leaving Quebec at 6.20 p.m. and leaving Charlesbourg to return at 7.30 p.m. has not been put on, and that the platforms of the cars are crowded for lack of seating accommodation. That near Charlesbourg station is a dangerous crossing, protected by gates, properly attended during the day, but left open in the evening and at night.

Considering that in respect of rates the charge respecting 55 trips has been dealt with in the case of Hamel vs. the Q. & L. St. J. Ry. and the Canadian Northern Quebec Ry., and the order therein is applicable to the present case. That the single rate and return fare are not excessive, but that the charge for a series of 10 trips should be reduced to 75c. As regards the maintenance and use of a blackboard for notifying the time of trains, Charlesbourg, not being a station where a regular telegraph operator is employed, the complaint is unfounded and is dismissed. The complaint respecting the extra train and overcrowding having been withdrawn, no order is made. Considering that it appears the crossing near Charlesbourg station is dangerous and should be protected at all times, the Q. & L. St. J.R. is directed forthwith to instal an automatic electric alarm bell, subject to the approval of the Commission's Engineer, and keep the same in proper operation.

17. Oct. 4.—Authorizing Turner Lumber and Pulpwood Co. to erect electric wires over the Quebec & Lake-St. John Ry.

CROSSEN CAR MFG. COMPANY

OF COBOURG, LIMITED

MODERN HIGH-CLASS

ROLLING STOCK

Passenger, Freight and Electric Railway

Ruggles' Rotary Snow Plows

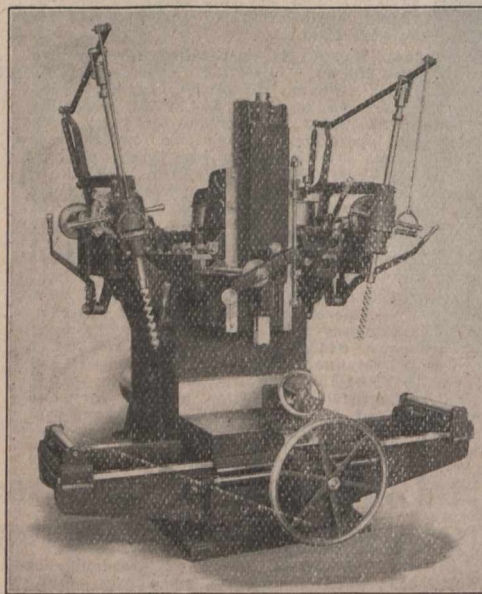
CAR CASTINGS, FORGINGS AND REPAIR PARTS

Greenlee Bros. & Co.

CHICAGO, ILL.

ROCKFORD, ILL.

SPECIALISTS
IN
CAR
SHOP
MACHINERY



Maximum
Economy
OF
Production
Guaranteed

NO. 238 MORTISER

MODERN DESIGNS FOR MOTOR CONNECTION

Fort William Union Station

The C.P.R. has erected a new station building at Fort William, Ont., which will be used as a joint station with the G.T. Pacific Ry. It is of fireproof construction, the main portion being three stories high, with extensions at each end, one for baggage and the other for express. The main building has a frontage of 105 ft. and a depth of 50 ft. Entrance is obtained by granite steps to a vestibule, which leads into a general waiting room 71½ by 32 ft., and from this granite steps lead out to the train shed, 167 by 34 ft. To the right of the vestibule are women's waiting room, retiring room, and toilet room, the three rooms having a total length of 42 ft. and a depth of 16 ft. 8 in.; to the

G. T. R. Construction, Betterments, Etc.

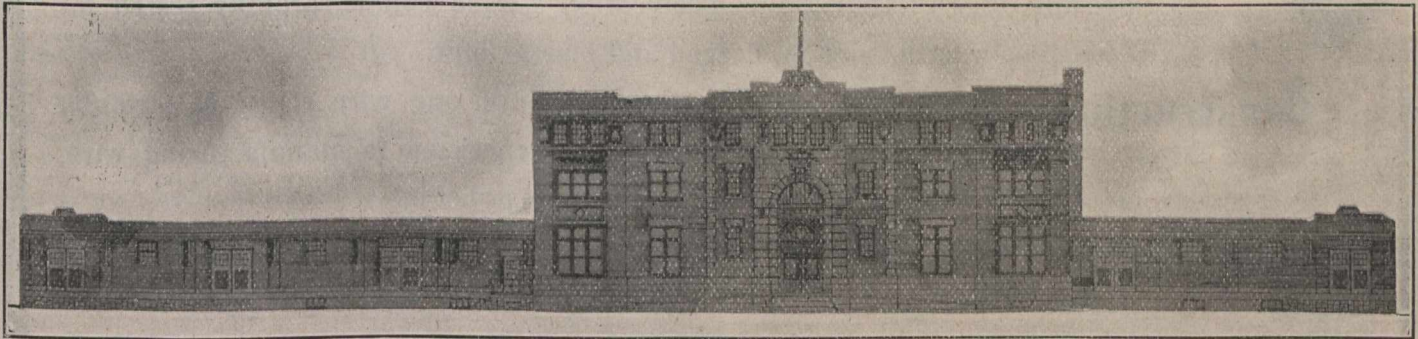
Shops at Richmond, Que.—The building of the new shops at Richmond, Que., is being rapidly pushed forward.

Montreal Grade Elimination.—We are advised that the matter of the elimination of the grade crossings in Montreal is still in the hands of the engineers, and it is not yet possible to give out any details as to the plans.

Ottawa, Rideau Valley and Brockville Ry.—The power behind this company was disclosed at a meeting held at Ottawa, Oct. 5, when W. Wainwright, Second Vice President G.T.R., and W. H. Biggar, G.T.R. counsel, were present. It is said to have been decided that the line should be built at once, the work to be done by the O.R.V. and B. Ry., and then

Shops at Allandale, Ont.—E. H. Fitzhugh, First Vice President, is reported to have told the Mayor of Barrie, Ont., recently, that the delay in beginning the erection of the new shops at Allandale was due to the fact that the plans originally prepared were found not to be on a sufficiently large scale for the work contemplated to be done, and the company's engineers had been looking over the ground with a view to the building of more extensive works than were promised in the agreement with the town. The plans for the new shops were in preparation, and if they were adopted work would be started in the spring. There was no idea of removing the works elsewhere.

London Improvements.—Certain properties acquired by the G.T.R. in connec-



Fort William Union Station, C.P.R. and G.T.P.R. Front elevation.

left of the vestibule is a waiting room for men, 33 ft. by 16 ft. 8 in., and a lavatory. Adjoining the women's waiting room is the telegraph office, and right across from this is the joint ticket office, 14 ft. 7 in. by 18 ft., and on the left is the news office and parcel room. Adjoining the men's washing room is the stairway leading to the operating, divisional and other offices on the second and third floors. The baggage annex on the left of the main building is 104 by 34 ft., and contains offices for the station agent, baggage master, baggage checkers, a public office, and a section for valises. It is equipped with a suction scale, and an elevator to take baggage for storage to the basement.

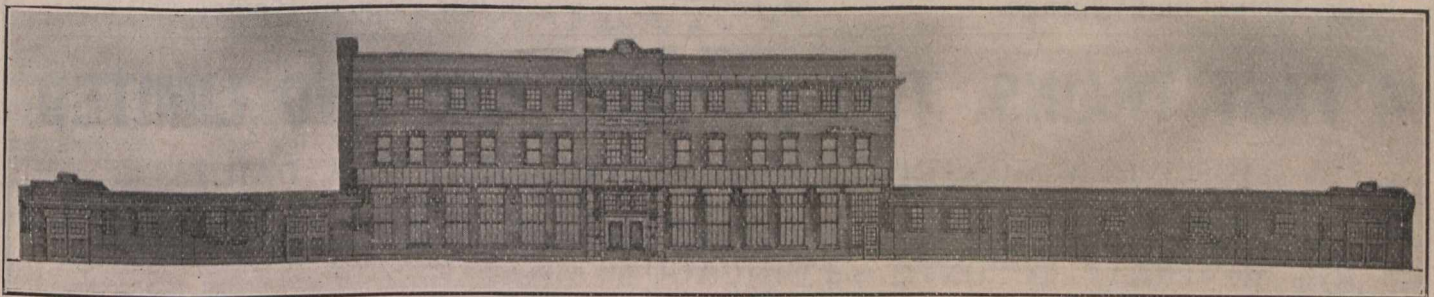
operated by the G.T.R. A decision was also reached that the final surveys would be gone on with at once. The line will, it is said, be built from Ottawa through the southern parts of Carleton and Leeds counties to Brockville, connecting with the G.T.R. at both ends.

Following are the directors and officers, as recently elected:—President, Andrew Haydon; Vice President, D. H. Maclean; other directors, G. E. Kidd, W. C. Greig, S. Rosenthal; Secretary-Treasurer, H. W. Cooper, of the G.T.R. Treasurer's Department, Montreal.

Roundhouse at Belleville, Ont.—The new roundhouse at Belleville, Ont., which has been under construction since Aug. 10, is expected to be finished by

tion with its projected improvements in London, Ont., have been ordered to be cleared, and it is believed locally that this is preparatory to beginning work on the rearrangement of the tracks, and the building of new passenger and freight station. It is said that the new station will be built on the site of the present one, but that it will have a frontage on Bathurst St.

Tillsonburg-Brantford Line.—On the occasion of his recent visit to Brantford, Ont., E. H. Fitzhugh, First Vice President, had an interview with the city council in reference to a proposed change of the route of the Tillsonburg-Brantford line, so that it might serve the Holmedale manufacturing district.



Fort William Union Station, C.P.R. and G.T.P.R. Track elevation.

The express annex is to the right, and is approached from the general waiting room, between the telegraph and ticket offices. It is 63 by 34 ft., and is divided into two by a partition. The G.T.P. section immediately adjoins the main building, and is 16 ft. 3 in. by 34 ft.; the C.P.R. section being 45 by 34 ft. There are three entrances to the baggage room and one to each express room from the street, and a similar number from each annex to the station platform.

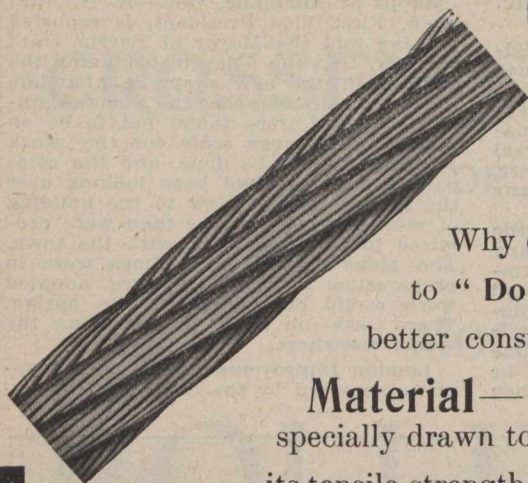
The excavation for the foundation was commenced in Aug., 1909, and a contract for the superstructure was let in Nov. to J. McDiarmid & Co., Winnipeg. The estimated cost of the building was \$100,000.

Nov. 1. The building, which will have a capacity of 42 locomotives, is of reinforced concrete, with steel roof, covered with asbestos. The walls are 19 ft. high, 22 inches thick at the bottom, and 9 in. at the top. Adjoining the roundhouse is a machine shop 50 by 200 ft., and a store room 30 by 80 ft. A large number of new sidings have been laid in the yards.

Toronto Union Station.—E. H. Fitzhugh, First Vice President, in an interview at Toronto, Oct. 6, said the plans for the new Union Station were all prepared, and the company was ready to go ahead with the work. He could not say when a start would be made, but it was not contemplated to do anything at present.

He promised to consider the suggestion and to make a proposition to the council at an early date. (Oct., pg. 835.)

During August, 18 employes were killed and 21 injured, in the course of their work on Canadian railways. Of the fatalities, 11 were due to being run over, two each to flying material and to collisions, and one each to falling material, to being caught between cars and to drowning, while of the other accidents, seven each were due to falls and to being caught between cars, three to being run over, two to collisions, and one each to being struck by an object in passing, to a fall and to flying material. of."



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Material—All our ropes are made from the best quality of wire specially drawn to our rigid specification. Each coil is carefully tested for its tensile strength, torsion, flexion and elastic limit.

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All Lengths and Sizes Carried in Stock for Immediate Shipment

The Dominion **WIRE ROPE** Company Ltd., MONTREAL

The Longest Continuous Double Track Railway in the World under One Management and the only Double Track Line Between Montreal, Toronto, Niagara Falls, Detroit and Chicago.



Finest Roadbed in Canada. Modern and Luxurious Trains. Courteous Employees. Beautiful Scenery. The Best of Everything on this Popular Route.

4 FAST TRAINS, TWO EXPRESS AND TWO LIMITED

BETWEEN MONTREAL AND TORONTO, EACH WAY, DAILY

THROUGH TRAINS between BOSTON (via Boston & Maine R.R. and Cent. Vermont Ry.) MONTREAL, TORONTO and CHICAGO.

THROUGH TRAINS between NEW YORK, TORONTO and CHICAGO via Lehigh Valley R. R. and Niagara Falls.

Dining and Parlor-Library-Cafe Cars on Day Trains.

Pullman Sleeping Cars on Night Trains.

THE "INTERNATIONAL LIMITED"

The "Railway Greyhound of Canada," the finest and fastest train in the Dominion, runs every day in the year between Montreal and Chicago.

The Lines of this Great System reach all the Principal Cities and Towns in Quebec and Ontario

W. E. DAVIS, Passenger Traffic Manager, Montreal.

G. T. BELL, Asst. Pass. Traffic Manager, MONTREAL.

G. W. VAUX, Gen. Passenger Agent, MONTREAL

Railway Commissioners' Traffic Orders.

Summaries of other traffic orders are given on another page under "Orders by Railway Commissioners":—

WHITE PASS & YUKON RY. ORE RATES.

11819. Sept. 7.—Re complaint of J. H. Conrad, alleging excessive freight rates charged by the White Pass & Yukon route on ores from Carcross to Skagway and on mining machinery and camp supplies from Skagway to Carcross. Upon hearing the complaint in presence of complainant and S. H. Graves, representing the White Pass & Yukon Route, it is ordered:

1. That the British Yukon Ry. Co., the British Columbia Yukon Ry. Co., the Pacific and Arctic Ry. and Navigation Co., and the White Pass and Yukon Ry. Co. forthwith cease and desist from discriminating against the applicant and in favor of the Atlas Mining Co., R. R. Neil and W. D. Greenough, and any and all of the said parties.

2. That the said railway companies cease and desist from discriminating in favor of the locality in which the Atlas Mining Co.'s properties are located and against the locality in which the applicant's mines are located.

3. That the said railway companies file with the Board tariffs showing the rates granted to the Atlas Mining Co., pursuant to the contract entered into between the Pacific and Arctic Ry. and Navigation Co. and the British Yukon Ry. Co. and the Atlas Mining Co., dated March 21, 1910.

4. That the said railway companies file with the Board a tariff amending, or supplemental to C.R.C. 9, issued Sept. 16, 1909, by the Pacific and Arctic Ry. and Navigation Co., the British Columbia Yukon Ry. Co., and the British Yukon Ry. Co., forming, as appears from the said tariff, "The White Pass & Yukon Route," giving carload rates of \$1.75 a ton on ore and concentrates from Caribou to Skagway.

5. That the said railway companies grant to all shippers of ore and concentrates upon their line or lines of railway, proportionate rates and privileges at least as favorable as those granted to the Atlas Mining Co. under the said contract.

6. That the said railway companies, in due course, obtain for the applicant, if he notifies them in writing that he requires them so to do, the same or as favorable ocean rates as they have obtained for the Atlas Mining Co.; or, in the event of the said railway companies being unable to obtain the same or as favorable ocean rates for the applicant, then they are to cease and desist from obtaining discriminating ocean rates for the Atlas Mining Co.

7. That the said railway companies grant to the applicant exactly the same treatment as to wharfage at Skagway as that granted by the contract to the Atlas Mining Co., and handle the applicant's ore, and that of all other shippers over their lines, upon terms and conditions as to wharfage and otherwise exactly similar to that granted by the contract to the said Atlas Mining Co.

8. That the tariffs referred to in paragraphs 3 and 4 be filed on or before Nov. 1, 1910.

9. That the other matters covered by the applicant's complaint stand for disposition in connection with the complaints of the Dawson Board of Trade against the White Pass and Yukon Route.

CANADIAN CLASSIFICATION CHANGES.

11866. Oct. 4.—Re order 11599, Sept. 2, 1910, approving, subject to certain exceptions and additions, the proposed Supplement 3 to Canadian Classification 14; and re application of Canadian Freight Association for order approving a revised rule 6 to replace rule 6 as it appears in

the present Canadian Classification 14, the said revised rule to be incorporated in the new Canadian Classification 15, to be published forthwith; and re the matter of the application of the Canadian Freight Association for an order approving a revision of the classification of asphalt and asphaltum; upon considering the oral representations made to the Board by the Canadian Freight Association's Advisory Committee, Sept. 20, and upon reading the letter dated Sept. 22 from the chairman of the committee with respect to the proposed revised rule 6 to Canadian Classification 14, the said revised rule being more favorable to the shipper than the old one, and the Board having this day rescinded its orders 11463 and 11631, dated Aug. 3 and Sept. 12, 1910, respectively, it is ordered that the revised rule 6, to appear in the forthcoming Canadian Classification 15, be approved, to read as follows:

(a) Unless otherwise specified in this Classification, or subsequent amendments thereto, articles too long or too bulky to be loaded in a box or stock car through the side door thereof, and which are loaded on a flat or gondola car, will be carried at actual weight and tariff (class or commodity) rate, subject to a minimum of 5,000 lbs. for each car used, at first class rate for each consignment from one shipper to one consignee; except that when the Classification provides for any article a lower minimum weight than 5,000 lbs. when loaded on a flat or gondola car, such lower minimum weight will apply, instead of the minimum of 5,000 lbs. referred to, for each car used.

(b) Articles too long to be loaded in a box or stock car through the side door, and which are loaded through the end door or end window thereof, will be carried at actual weight and tariff (class or commodity) rate, plus 50%, but subject to a minimum charge of 1,000 lbs. at first class rate for each shipment.

(c) Articles too bulky to be loaded in a box or stock car through the side door, and which are loaded through the end door thereof, will be carried at actual weight and tariff (class or commodity) rate, plus 50%, but subject to a minimum charge of 1,000 lbs. at first class rate for each shipment, except that when articles are provided with specific minimum weights in this Classification they will be carried at such minimum weights and at the class ratings specified therefor.

And upon considering the letter dated Sept. 30, 1910, from the chairman of the Canadian Freight Association's Advisory Committee, proposing a revision of the classification of asphalt and asphaltum, and it appearing to the Board that the said proposed revision is more favorable to the shipper than the present ratings of the said articles, it is ordered that the following be stricken out, viz.: The words "except the product of petroleum as shown on pg. 53," relating to asphalt or asphaltum, from the amendments to the hardware list, pg. 10 (index no. 9), and the ratings of japan, or liquid asphaltum, pg. 2 (index no. 4), from Supplement 2 to Canadian Classification 14; also "asphaltum" from the list of petroleum and petroleum products, pg. 18 (index no. 4) of the proposed Supplement 3 to the said Classification, approved (with certain exceptions and additions) for publication and filing by 11599, Sept. 2, 1910. And it is further ordered that the following additional ratings be incorporated in the new Canadian Classification 15, to be published forthwith:

Asphaltum, liquid (see note)—
 In bulk in barrelsl.c.l. 4 c.l. 7
 In tank cars (to be furnished by shippers), subject to section (g) of rule 1 c.l. 7
 Note.—These ratings will not apply on black asphaltum varnish (japan).

PAINTS AND VARNISH.

Varnish:
 Black asphaltum (japan):

In cans, not boxed, crated, or jacketedl.c.l.d. 1
 In cans, jacketedl.c.l.d. 1
 In wood, o.r. pkge., or in cans, crated or boxed.....l.c.l.d. 3 c.l. 5

and that the letters "n.o.s." be added after "varnish," as the ratings therefor appear in the present Classification 14, pg. 55, item 7.

O. & N.Y. RY. INTERSWITCHING CHARGES.

11883. Re application of F. J. Balch, General Freight Agent Ottawa and New York Ry., for permission to reduce the company's interswitching charge from 2c. to 1c. per 100 lbs. on 17 carloads of cement used in April last in the construction of a canal wall at Cornwall, said shipments having originated at Hull, Que., and moved over the C.P.R. and G.T.R. to a connection of the G.T.R. with the applicant company's railway at Cornwall Jct., Ont., and from there switched by the applicant company. It is ordered that the terms of order 4988, July 8, 1908, prescribing an interswitching toll of 1c. per 100 lbs., and not more than \$3 as a minimum and \$8 as a maximum per carload, were applicable to the traffic in question at the time it was moved, and that the amount charged by the applicant company in excess thereof was unlawful.

A Railway to Hudson Bay.

It is said that at a conference between W. Mackenzie, D. D. Mann, and W. H. Moore, of the Canadian Northern Ry., and the Minister of Railways, at Ottawa, Sept. 23, the question of the railway from The Pas, Sask., to Hudson Bay was under discussion. Press reports state that a proposal for the leasing of the line, when built by the Dominion Government, to the Canadian Northern Ry. on an agreement similar to that with the G.T. Pacific Ry., for the operation of the National Transcontinental Ry., Eastern Division, was proposed, but the Minister of Railways said there was nothing of a definite character suggested or considered in regard to the line.

T. Turnbull, C.E., has recently returned to Winnipeg from Port Nelson, where he had been making surveys for the location of a suitable townsite. He is reported to have said that there is not much choice, but if the south side of the Nelson River were selected there would not be any necessity for building a bridge. That point, however, could not be finally settled until the surveys now in progress under J. P. Gordon, and the hydrographic surveys were completed.

In an interview at Norway House, Oct. 13, W. Ogilvie stated that there was sufficient water power on the Saskatchewan and Nelson rivers to develop all the electricity required for the operation of a railway twice the length of the proposed railway to Hudson Bay. On the Nelson River the chief falls are at White Mud falls, where he estimates 350,000 horse power could be developed; Bladder rapids, where 100,000 h.p. could be developed, and at Manitou falls, where the line is planned to cross the river, he estimates that 200,000 h.p. could be developed. At the Grand Rapids on the Saskatchewan River he estimates that 350,000 h.p. could be developed. There are other smaller falls and rapids on the two rivers, in addition to falls on a number of swift flowing tributaries to both rivers.

The Countess of Antrim, sister to Earl Grey, the Governor General, sailed from Montreal for England recently, having spent the summer with her son, Hon. Angus MacDonnell, who is engaged in contracting on the Esquimalt and Nanaimo Ry. on Vancouver Island.

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HAMILTON - - - CANADA

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Track Spikes Bolts and Nuts

Pig Iron

Bar Iron - - - Bar Steel

Forgings of every description

in Rough, Rough Turned or Smooth Finished

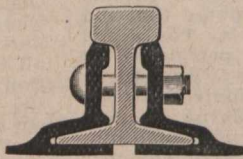
ADDITIONAL SAFETY AND ECONOMY IN

TRACK MAINTENANCE

has been proved by the use of Continuous, Weber and Wolhaupter base-supported rail joints—after fifteen (15) years' service, having a record of over **50,000 miles in use**—the extent of which is evidence of their excellence. Made in Canada.

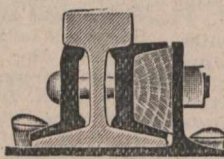
HIGHEST AWARDS

Paris, 1900;
Buffalo, 1901; St. Louis, 1904



Continuous Joint

Over
50,000
miles
in use



Weber Joint

Rolled
from Best
Quality
Steel



Wolhaupter Joint

Catalogues at Agencies

Baltimore, Md.
San Francisco, Cal.

Boston, Mass.
Portland, Ore.
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Chicago, Ill.

Denver, Colo.
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Makers of Base Supported Rail Joints for Standard and Special Rail Sections, also Girder, Step or Compromise, Frog and Switch, and Insulating Rail Joints, protected by Patents.

National Transcontinental Railway.

Judge Cassels has decided in the Court of Exchequer that, the Crown is not liable to be sued on contracts made by the National Transcontinental Ry. Commissioners, and that actions on such contracts should be brought directly against the Commissioners.

An inspection of the line in New Brunswick was completed by C. O. Foss, District Engineer, Oct. 5, and in an interview at St. John, he is reported to have stated that section 1 would be ready for acceptance by Oct. 31; section 2 was ready for operation; section 3 could be taken over at any time, and section 4 would be completed by the end of the season. There was more delay in section 5 between the Tobique River and Grand Falls, the viaduct over the gorge of the Little Salmon River, and some other viaducts not having been completed. These would be completed in the spring, by which time section 6, which included the terminals at Edmundston, would be completed. The line in the province would be ready, and fully equipped for operation by the end of the summer of 1911.

The last day for receiving tenders for the erection of the superstructure of the bridge over the St. Lawrence River, at Quebec, was Oct. 1, when it was reported that four tenders were handed in by Canadian, British and other bridge builders. It will take some time to figure out the tenders, as they are made on the various shapes which enter into the construction of the bridge. The tenders have been turned over to the commission of engineers which prepared the plans for examination and report. With regard to the work going on at the piers, it was stated Oct. 10 that the caisson was being raised and would be examined to ascertain the extent of the damage sustained.

The plans of the union station which it is proposed to erect on the site of the Champlain market, Quebec, have been prepared by G. E. Tanguay, and have been submitted to the Commissioners.

S. R. Poulin, District Engineer, Winnipeg, completed an inspection of the work in progress in his district, extending easterly from Winnipeg, Sept. 30. He reports that work is progressing satisfactorily, considering the shortage of labor at all construction points. He expected to see the track laid from end to end of the district by Dec. 31, 1911. Track has already been laid for 25 miles easterly from Lake Superior Jct., and it is expected to add from 40 to 50 miles more by the end of the year.

The Commissioners have approved of standard plans for freight sheds, and storehouses, to be erected at different points on the line, and contracts have been let for the erection of such buildings at Lake Superior Jct., Ont., Redditt and Springfield, Man. The plans for the freight sheds show a frame structure, 28 by 60 ft., on posts, with a flat roof. One end of the building is arranged as an office, while the remainder, 50 by 28 ft., is devoted to a freight room. Two sets of sliding doors are provided on the track side, and an equal number on the opposite side, while there is a single sliding door leading into the freight room from a 9 ft. platform at the end. A room 10 by 14 ft. is built adjoining the office for perishable freight. A coal bin to hold 30 tons of coal is to be built under the office part of the building. The plans for the storehouse show a building 74½ ft. by 20 ft. 2 in. The casement is to be built of concrete, with an 8 in. concrete floor, and the rest of the building is to be of brick, with a tar and gravel roof. The basement store will be divided into two, the general store, 45 by 16 ft., containing the furnace and heating plant, and the second compartment being the oil

vault, 25 by 16 ft. The main floor is divided into three sections, public office, foreman's office and store room. The basement store room is to be equipped with shelves, while the main store and foreman's office have shelves, drawers, plan cabinets, drawing tables, etc. This part of the building is heated by hot water from the boiler in the basement. The oil tanks, pumps and piping for the same, heating and lighting systems are to be installed under separate contracts.

Tenders were received to Oct. 18 for the machinery required for the equipment of a roundhouse at Lake Superior Jct., Ont., and for the centrifugal pumps and motors required for the sewage pumphouse at the Winnipeg shops. The specifications for the latter provide for the supply of one centrifugal pump, volute pattern, with a capacity of 16,000 galls. a minute, against a head of 48 ft., to be direct connected to a vertical motor of sufficient capacity; one centrifugal pump, volute pattern, with a capacity of 2,000 galls. a minute, against a head of 15 ft. to be direct connected to a vertical motor of sufficient capacity.

The arrangement for the temporary operation of the line from Winnipeg to Lake Superior Jct. was put in effect Oct. 6, when G.T. Pacific Ry. trains were run over the C.N.R. line in Winnipeg to the N.T.R., coming from the east, and so on to the G.T. Pacific branch line from Lake Superior Jct. to Fort William, Ont. The members of the N.T.R. Commission arrived in Winnipeg, Oct. 13, from Fort William, Ont., having made their first official inspection of the newly opened line.

GRAND TRUNK PACIFIC RAILWAY.

Speaking at Montreal, Oct. 3, Senator J. P. Casgrain advocated the building of a line from Montreal to the National Transcontinental Ry. by the Provincial Government, and leasing it to the G.T. Pacific Ry. The G.T.P. Branch Lines Co. has charter powers to build such a line.

It was expected that the G.T. Pacific Ry. would be able to enter into possession of some part of the new union station at Winnipeg towards the end of Oct.

The arrangement between the G.T.P. R. and the Canadian Northern for the building of a loop to connect with the National Transcontinental Ry. at St. Boniface, Man., was not carried out, but a temporary arrangement was made, Oct. 4, by which the G.T.P.R. trains could connect with the N.T.R. over C.N.R. tracks.

In regard to the proposed lines from Regina to Moose Jaw, Sask., we were recently advised that the company was waiting to have the location maps approved by the Government. Since this information was received the plans have been approved, an arrangement having been made between the C.N.R., the C.P.R. and the G.T.P.R., by which the difficulties have been avoided, and satisfactory routes found for the two new lines without interfering with the C.P.R.

The Board of Railway Commissioners has approved of the location of the projected branch line from sec. 31, tp. 40, range 26, west second meridian, mileage 55.148 to mileage 111.536. The branch will start at Young, mileage 422.3, on the main line, and will terminate in Prince Albert. The question of the route into that place was under consideration at a meeting of the Prince Albert Board of Works, Oct. 11.

Reports from the construction camps Oct. 9, state that the grading gangs are working within 16 miles of Calgary, on the branch line from Tofield, Alta. The route was deflected to the east of Irricana, so as not to interfere with a C.P.R. spur. Contracts have been let for the building of a bridge across the Red Deer River. The bridge will be about 1,100

ft. long and about 170 ft. above high water, and is expected to be completed in about a year. Track has been laid to the site of the bridge at Red Deer, but it is doubtful if any further tracklaying will be done until the bridge is completed.

Construction on the line west of Edmonton, towards the Yellowhead Pass, is being proceeded with rapidly. A 12-stall roundhouse, with an addition for a repair shop, is being built, and a large acreage is being laid out for yard accommodation at Edson, the first division terminal point west of Edmonton.

At the Prince Rupert end of the line, according to an interview with G. G. S. Lindsey, who returned to Toronto Oct. 13, from a trip through Northern British Columbia, "The Hazelton section of the G.T.P.R. is progressing. Steel is laid, or will be, before the end of Oct. to Kitselas, 104 miles up, and grading is fast finishing to Hazelton, 81 miles farther on, and even to Aldermere, another 55 miles still farther east, to which point the rails will be down, it is said, early next year." A train service is in operation to mileage 65 for freight purposes, and the construction trains run for some miles further.

Resulting from the recent trip of inspection over the line by President Hays and Chairman Smithers, of the G.T.R., application was made to the British Columbia Government, Oct. 11, for an order-in-Council to permit the employment of Asiatic labor on the building of the line in the province. After hearing D'Arcy Tate, the company's solicitor, fully on the question, the Government decided not to grant the application.

The surveys for the branch from near Fort George to Vancouver are being proceeded with. A party under W. I. Bassett, is working from Agassiz north via Harrison River, Harrison Lake and Lillooet River to Lillooet. The trial lines from Lillooet to Lytton run early in the season are not considered satisfactory as to gradients, and the heavy rock work involved. It is expected that a low gradient will be secured by the new survey, and if this should prove to be the case, the line will parallel the C.P.R. from Agassiz to Vancouver, unless it is decided to adopt a line into North Vancouver. (Oct., pg. 845.)

Subway at Brock Ave., Toronto.—The Board of Railway Commissioners has ordered the construction of a subway under the railway tracks at Brock Ave., Toronto, plans to be submitted at once. The work is to be completed within six months of the approval of the plans, and an order will be made later on apportioning the cost. The tracks crossing Brock Ave. are G.T.R. line to North Bay, G.T.R. line to Stratford, etc.

The C.P.R. ran an immigrant train from Montreal to Winnipeg, via North Toronto, passing through that station Oct. 13. The immigrants for Toronto changed at Leaside Jct., for Toronto union station.

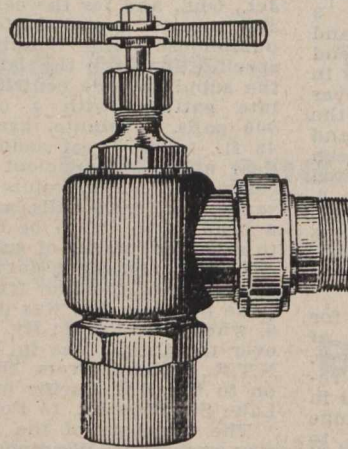
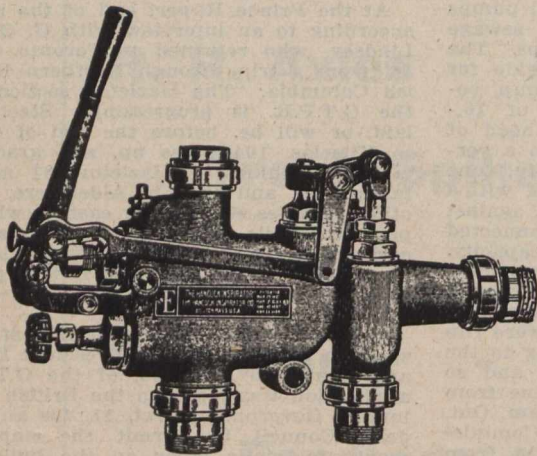
J. Arbuthnot, Winnipeg, Man., President of the Pacific Coast Coal Mines Co., stated Oct. 6 that there was no truth in the reports that the C.P.R. was about to purchase the company's collieries at South Wellington, Vancouver Island, for \$4,000,000.

Boston & Maine Rd. officials confirm the report that the Hoosac tunnel is to be electrified. It is stated that the preliminary estimate of the cost of the change, including the cost of the electric locomotives, will be \$1,000,000. Passenger and freight trains will be taken through the Hoosac mountain by electric locomotives between Tunnel station on the east and North Island on the west.

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Orders by the Railway Commissioners.

Beginning with June, 1904, we have published in each issue summaries of orders passed by the Board of Railway Commissioners, so that subscribers who have filed our paper have a continuous record of the Board's proceedings. No other paper has done this.

The dates given of orders, immediately following the numbers, are those on which the hearing took place and not those on which the orders were issued. In many cases orders are not issued for a considerable time after the date assigned to them.

Orders 11616 to 11631 were omitted from our Oct. issue, the summaries of them not having been dispatched from Ottawa in time.

11616. Sep. 7.—Dismissing application of city of Toronto for order directing G.T.R. to allow applicant to carry its transmission line on lands expropriated by it under by-law 5433, passed March 14.

11617. Sept. 9.—Authorizing C.N.R. to erect wires under Kaministikwia Power Co.'s wires near Kakabeka, Ont.

11618. Sep. 8.—Authorizing F. J. Ure, Woodstock, Ont., to lay drain under G.T.R. on county road, between Cons. 11 and 12, East Zorra tp., Ont.

11619. Sep. 7.—Authorizing G.T.R. to take additional lands in Toronto, to enable it to comply with orders 8487 and 10169, Oct. 15, and Dec. 8, 1909, re Toronto grade separation.

11620. Sep. 8.—Authorizing G.T.P. Branch Lines Co. to build across highway on its Prince Albert branch, between secs. 20 and 29, tp. 37, r. 26, w. 2 m., Sask.

11621. Sep. 8.—Approving C.N.O.R. location of part of its Sudbury-Port Arthur Division through unsurveyed territory in Sudbury mining division, Algoma District, mileage 200 to 220, from Sudbury Jct.

11622. Sep. 13.—Authorizing C.P.R. at expense of B. C. Public Works Department, to build two level crossings about 5,000 ft. apart, east of Kault station, B.C.

11623. Sep. 9.—Authorizing C.P.R. to build spur for Overbrook wheat farms, Eyebrow, Sask., on its Moose Jaw North Westerly branch.

11624. Sep. 13.—Authorizing C.N.R. to cross C.P.R. Forward branch with its Moose Jaw extension, near Forward, Sask.

11625. Sep. 12.—Authorizing Chatham, Wallaceburg and Lake Erie Ry. to open for traffic that portion of its branch line to Pain Court, Ont.

11626. Sep. 9.—Authorizing Ontario Hydro-Electric Power Commission to use transmission wires erected across G.T.R. at lot 114, Thorold tp.

11627. Sep. 9.—Authorizing G.T.P. Branch Lines Co. to cross at grade C.P.R. Pheasant Hills Branch, in s.w. ¼ sec. 33, tp. 34, r. 27, w. 2 m., Sask.

11628. Sep. 9.—Authorizing Manitoulin and North Shore Ry. to open for traffic that portion of its line from about 13 miles west of Sudbury to Kream Hill, Ont., about 10 miles.

11629. Sep. 12.—Authorizing G.T.P.R. to build between secs. 11 and 12, tp. 53, r. 4, w. 5 m., Alta.

11630. Sep. 12.—Certifying correction of error in plan approved by order 10323, Apr. 23.

11631. Sep. 12.—Amending order 11463, made upon application of Kingston, Portsmouth and Catarqui Electric Ry.

11763. Sep. 9.—Dismissing application of Burnaby District Board of Trade, B.C., for relief respecting G.N.R. freight rates between Vancouver and New Westminster.

11764. Sep. 22.—Extending to Dec. 31, time within which G.T.R. was authorized, by order 9344, to build branch in Goderich, Ont.

11765. Sep. 13.—Approving proposed separation of grades by C.P.R. over Yonge St. and Avenue Rd., Toronto.

11766. Sep. 22.—Ordering C.P.R., within 90 days, to install an electric signal bell at public road crossing, between Moffatt and Corwin stations, Ont.

11767. Sep. 23.—Limiting speed of C.P.R. trains over its Kipp-Aldersyde Branch, Alta., from mileage 0 to 28.2, to 20 miles an hour.

11768. Sep. 22.—Authorizing town of Paris, Ont., to erect wires across G.T.R. on Broadway St. from south to north of the depot at east end of station.

11769. Sep. 21.—Authorizing Ontario Power Co. to erect wires across M.C.R. Buffalo branch, between lots 22 and 23, con. 7, Crowland tp., Ont.

11770. Sep. 23.—Approving Alberta Central Ry. location from Red Deer easterly, 40 miles.

11771. Sept. 23.—Authorizing Niagara, St. Catharines and Toronto Ry. to build spur on Pine and Water Sts., Thorold, Ont., through Montrose Paper Mills' property.

11772. Sep. 24.—Authorizing Canadian Niagara Power Co. to erect wires across Bell Telephone Co.'s wires at Courtwright and Robinson Sts., Bridgeburg, Ont.

11773. Sep. 24.—Extending to Nov. 1 time for publishing and filing C.P.R. revised westbound tariff on coal and coke.

11774. Sep. 23.—Authorizing Simcoe Ry. and Power Co. to erect wires across Bell Telephone Co.'s wires, between cons. 2 and 3, opposite lot 17, Tay tp., Ont.

11775. Sep. 23.—Authorizing London, Ont., Water Commissioners to erect wires across G.N.W. Telegraph Co.'s wires at Colborne and York Sts.

11776. Sep. 23.—Authorizing Ontario Hydro-Electric Power Commission to erect wires across G.T.R. at lot 32, con. 1, Saltfleet tp.

11777. Sep. 23.—Authorizing Simcoe Ry. and Power Co. to erect wires across Bell Telephone Co.'s wires between cons. 4 and 5, opposite lot 15, Tay tp., Ont.

11778. Sep. 23.—Authorizing Ontario Hydro-Electric Power Commission to erect wires across G.T.R. wires in New Hamburg tp.

11779. Sep. 23.—Relieving C.P.R. from providing further protection at crossing two miles east of Methven Man.

11780. Sep. 23.—Approving Algoma Central and Hudson Bay Ry. standard passenger tariff C.R.C. 41, providing maximum passenger toll between stations on its line of 4c. a mile or fraction thereof.

11781. Sep. 23.—Authorizing the building of drain under G.T.R., con. 7, Malahide tp., Ont.

11782. Sept. 24.—Authorizing G.T.R. to build siding on Mowat Ave., Toronto, according to new plan filed, instead of as shown on the plan in connection with order 4816, May 19, 1908.

11783. Sep. 24.—Authorizing G.T.R. to build siding from siding on Mowat Ave., Toronto, which it was authorized to build by order 4816, upon and across Mowat Ave., and on lots 44 to 37, inclusive, to H. Disston and Sons' premises, and that C.P.R. has right to use it on equal terms, and that it be completed within three months.

11784. Sep. 24.—Authorizing town of Swift Current, Sask., to lay pipe under C.P.R.

11785 and 11786. Sep. 24.—Authorizing Burroughs Falls Power Co. to erect wires under Boston and Maine Rd. at crossings south and north of Ayer's Cliff station, Ont.

11787. Sep. 24.—Authorizing M. Richardson to lay pipe under G.T.R. between Brant and Haldimand counties, Seneca tp., Ont.

11788. Sep. 24.—Authorizing London, Ont., Water Commissioners to erect wires across Bell Telephone Co.'s wires at Beaconsfield Ave. and Wharnccliffe Road.

11789. Sep. 26.—Approving C.N.O.R. standard building plans for signal cabin 12x14, freight house 23x35, freight house 30x70, section dwelling house, section tool house, 40,000 gallon tank, station no. 2, station no. 3, single and double closets, on its Toronto-Ottawa section.

11790. Sep. 26.—Approving Niagara, St. Catharines and Toronto Ry. Standard Passenger Tariff C.R.C. 13, between all points on its railway, at 3c. a mile, or fraction thereof.

11791. Sep. 24.—Approving C.N.R. location between Edmonton and Camrose, Alta., mileage 0 to 44.40, through tps. 47-52, r. 20-24, w. 4 m.

11792. Sep. 24.—Amending order 11228, which authorized building of a spur at Medicine Hat, Alta., by substituting "Medicine Hat" for "Lethbridge," where it occurs in the order.

11793. Sep. 26.—Approving C.N.O.R. plans for station building at Port Hope, Ont.

11794. Sep. 26.—Authorizing C.N.O.R. to build across Quetton St., Washago, North Orillia tp.

11795. Sep. 26.—Approving C.N.O.R. location of part of its Sudbury-Port Arthur Division through unsurveyed territory in Sudbury mining division, Algoma District, mileage 220 to 240, from Sudbury Jct.

11796. Sep. 26.—Approving C.N.O.R. plans for station building at Cobourg, Ont.

11797. Sep. 26.—Relieving G.T.R. from providing further protection at crossing at Park Hill, Ont., con. 21, West Williams tp.

11798. Sep. 26.—Authorizing C.N.O.R. to build across G.T.R. spur to Lehigh Valley cement works, subject to certain conditions.

11799. Sep. 26.—Authorizing Toronto, Hamilton and Buffalo Ry. to change signalling system where its main line crosses G.T.R. east of Victoria Ave. South, Hamilton, Ont., and that the speed of its trains over the crossing be limited to 10 miles an hour.

11800. Sep. 26.—Authorizing C.N.O.R. to build across G.T.R. spur to Belleville cement works, Point Anne, subject to certain conditions.

11801. Sep. 24.—Amending order 9900, which authorized C.P.R. to open for traffic the portion of its Langdon North branch from mileage 0 to 38.88, Alta., by deleting clause limiting speed of its trains.

11802. Sep. 13.—Authorizing G.T.R. to build branch from the siding on Mowat Ave., Toronto, which C.P.R. was authorized to build by order 4816, to H. Disston and Son's premises, and that C.P.R. has the right to use it jointly with G.T.R., the G.T.R. to complete branch within three months from date, and that order 11783 be rescinded.

11803. Sep. 28.—Relieving G.T.R. from providing further protection at first highway crossing north of Langford station, Ont.

11804. Sep. 27.—Authorizing C.P.R. to build spurs for Metals Limited, Tees and Perse, and Campbell and Griffin, Calgary, Alta.

11805. Sep. 28.—Authorizing C.P.R. to build under Orillia municipality's wires between cons. 4 and 5, North Orillia tp.

11806. Sep. 13.—Authorizing C.P.R. to use jointly with G.T.R. the branch authorized by order 11802; that C.P.R. pay half cost of the construction, and half-yearly, half cost of maintenance; that the cost of construction and maintenance be established by G.T.R. Division Engineer's certificate, subject, in case of dispute, to Board's Chief Engineer, and rescinding order 11741, Sept. 13.

11807. Sep. 29.—Authorizing London, Ont., Water Commissioners to erect wires across G.N.W. Telegraph Co.'s wires at Beaconsfield Ave. and Wharnccliffe Rd.

11808. Sep. 19.—Authorizing G.T.P.R. to complete building of bridge in East Clover Bar District, about two miles west of Ardrossan station, between sec. 4 and 5, tp. 53, r. 22, w. 4 m.

11809. Sep. 19.—Authorizing Local Improvement District 24-S-4 to extend Alexandra St. across Calgary and Edmonton Ry. (C.P.R.), and authorizing Calgary and Edmonton Ry. to remove the switch outside the limit of crossing.

11810. Sep. 17.—Authorizing city of Calgary, Alta., to build overhead bridge across C.P.R. Macleod branch.

11811. Sep. 19.—Adding Clover Bar Sand and Gravel Co. as party to application of W. Humberstone, Edmonton, Alta., for order directing G.T.P.R. to build branch to his mine, in n.w. ¼ sec. 7, tp. 53, r. 23, w. 4 m.

11812. Sep. 19.—Authorizing G.T.P.R. to expropriate lots 36, 37, 38 and 46 in Dwyer subdivision, Edmonton, Alta., and within 10 days file plan for carrying its line over Norton St., and on approval, to complete all work necessary for the crossing on or before July 1, 1911, and to complete all necessary work to connect Nanton St. and Fort Saskatchewan trail in accordance with the standard regulations affecting highway crossings, as amended May 4 within one month from date; the Saskatchewan trail not to be closed for public travel until completion of Norton St. bridge.

11813. Sep. 19.—Adding C.P.R. as party to North Battleford Lumber Co.'s complaint on behalf of the retail lumbermen of North Battleford, Sask., alleging discrimination in lumber rates between Warman and Lloydminster, by C.N.R., and postponing hearing of application until C.P.R. answer is filed or time for filing has elapsed.

11814. Sep. 8.—Authorizing C.N.R. to extend siding from station 277-46, Vancouver, B.C., south for 300 ft. for the Prudential Builders.

11815. Sep. 12.—Dismissing application of Greenwood, B.C., board of trade, and O. McKay, for operation by V. V. and E. Ry. and Nav. Co. of branch near Myncaster.

11816. Sep. 19.—Ordering G.T.P.R. within 30 days to build highway crossing between secs. 25 and 30, Kirk, Alta.

11817. Sep. 1.—Dismissing Esquimalt and Nanaimo Ry.'s application to maintain in its present condition passage for foot passengers only, at crossing of old Esquimalt road, or to divert old Esquimalt road between William and Dalton Sts., Victoria, B.C.

11818. Sep. 6.—Dismissing C. J. Piper's application for order directing C.N.R. to build siding at Piper siding, B.C.

11819. Sep. 7.—Re ore rates, etc., on White Pass and Yukon route. This order is given in full on another page.

11820. Sep. 19.—Authorizing Alberta Government to cross Calgary and Edmonton Ry., according to plan on file, and ordering that if old crossing was one which C. & E. Ry. was bound to maintain, it shall maintain new crossing; if any dispute as to maintenance arises, either party may submit evidence to the Board as to company's liability.

11821. Sep. 16.—Authorizing C.P.R. to file plan showing location of spur to S. Houlton's premises, Calgary, Alta., and after ap-

Electric Headlight Saves Train

(From Daily Papers)

"Wednesday night B—— forgot to deliver an order to hold Eastbound Passenger Train No. 6, and only the fact that the Electric Headlight of the oncoming Passenger train was seen at a great distance by the Engineer of the Westbound Freight prevented a head end collision in the —— Canyon near ——, The warning light was seen in time to enable the freight to get back on to the siding at ——."

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proval to build spur, and if it becomes necessary, to protect the crossing at Fourth St., S. Houlton to bear such portion of the expense as Board may determine.

11822. Sep. 17.—Postponing question of subway under C.P.R. on Fourth St. west, Calgary, Alta., and ordering C.P.R. to file plan within 30 days, showing location of gates on Fourth St. west; and within 60 days after the approval to erect them and to operate them day and night, the erection of gates not to prejudice rights of parties under agreement of Sept. 14, 1906.

11823. Sep. 19.—Authorizing G.T.P. Branch Lines Co. to file within 30 days, plan of overhead bridge over its line, n.e. ¼ sec. 34, tp. 45, r. 21, w. 4 m., the local improvement district, and the Alberta Government to deposit \$200 and \$500 respectively on or before Dec. 1 towards the work, to joint credit of the district council, the Alberta Government, and G.T.P. Branch Lines Co.; the company to complete the work on or before June 15, 1911; the local improvement district to complete approaches at both ends, and upon completion \$700, together with accrued interest, be paid to the G.T.P. Branch Lines Co.

11824. Sep. 16.—Ordering C.P.R. to file, within 30 days, plan showing location of gates where Main St., Medicine Hat, Alta., crosses its right of way, and within 60 days after approval to erect gates, the cost to be apportioned: C.P.R. 40%, city of Medicine Hat, 40%, Railway Grade Crossing Fund, 20%.

11825. Sep. 26.—Amending order 11605, which provided for installation of interlocking plant where National Transcontinental Ry. crosses C.N.R. Dundee branch at mileage 246, near St. Boniface, Man., by providing that interlocking plant be installed, maintained and operated at expense of National Transcontinental Ry., by C.N.R., and rescinding order 11735, Sept. 20.

11826 to 11829. Sep. 29.—Temporarily approving Bell Telephone Co.'s agreements with Manitoulin and North Shore Ry.; Sandwich South tp., Ont.; Kitley Rural Telephone Co., and H. H. Coffey and J. A. M. Armstrong, for interchange of service, provided it does not authorize higher tolls than were authorized previous to May 13, 1906.

11830. Sep. 1.—Ordering British Columbia Government to build a level crossing over Esquimalt and Nanaimo Ry., according to plan.

11831. Sep. 30.—Authorizing Ontario Hydro-Electric Power Commission to erect wires across Toronto, Hamilton and Buffalo Ry. at Hunt St., Hamilton.

11832. Sep. 30.—Authorizing Montreal Light, Heat and Power Co. to lay pipe under C.P.R. on St. Denis St.

11833, 11834. Sep. 30.—Authorizing Shawinigan Water and Power Co. to erect wires across C.P.R. near Three Rivers, and across St. Maurice Valley Ry. at Mont Carmel, Que.

11835, 11836. Sep. 30.—Authorizing Erindale Power Co. to erect wires across Bell Telephone Co.'s wires at Birmingham Ave. and Sixth St., New Toronto, Etobicoke tp., and at Middle and Centre Roads, Toronto tp., Ont.

11837. Sep. 30.—Authorizing Shawinigan Water and Power Co. to erect wires across St. Maurice Valley Ry. at Marchand's station, Que.

11838 to 11841. Sep. 30.—Authorizing Erindale Power Co. to erect wires across Bell Telephone Co.'s wires at intersection of Evans Ave. and Church St., Mimico, at New Toronto and Sixth Sts., New Toronto; at Church and New Toronto Sts., and at Evans and Mimico Aves., Mimico, Ont.

11842. Sep. 30.—Relieving G.T.R. from providing further protection at first highway crossing south of St. Jacob's station, Ont.

11843. Sep. 27.—Authorizing C.N.O.R. to divert Princess St., Orono.

11844. Sep. 30.—Temporarily approving Bell Telephone Co.'s agreement with McKillop tp., Ont., for interchange of services.

11845. Sep. 30.—Relieving G.T.R. from providing further protection at highway crossing at Mitchell, Ont.

11846. Sep. 27.—Dismissing application of G. N. Smith, Clarke tp., Ont., for order directing C.N.O.R. to build overhead bridge on lot 3, con. 4, Clarke tp.

11847. Sep. 30.—Approving location of G. T.P.R. Alberta coal branch, mileage 0 to 37, from sec. 6, tp. 53, r. 18, to tp. 48, r. 21, w. 5 m., North Alberta District.

11848. Sep. 30.—Amending order 9980, made upon application of C.P.R., authorizing it to open for traffic the extension of its Lacombe Branch from Stettler to Castor, Alta.

11849. Sep. 30.—Authorizing C.P.R. to build bridge over South Saskatchewan River, near Outlook, Sask.

11850. Oct. 1.—Authorizing C.P.R. to reconstruct bridge 42.1 on its London subdivision, Ontario Division.

11851. Oct. 1.—Authorizing C.P.R. to build spur across Tucker St., Arthur, Ont.

11852. Oct. 1.—Amending order 11224 authorizing C.P.R. to build across and divert highways on the Macleod division of its Crow's Nest Branch, from mileage 0 to 30.7.

11853. Oct. 3.—Authorizing Ste. Cecile de Levraud municipality to construct highway across Quebec, Montreal and Southern Ry. in lot 258, cadastral 450, con. 4, Nicolet co., Que.

11854. Oct. 3.—Approving Esquimalt and Nanaimo Ry. revised location between Dun-cans and Cowichan Lake, B.C., from station 893-31 to 967.

11855. Sep. 27.—Amending order 9652, authorizing C.N.O.R. to build between lots 2 and 3, con. 4, Clarke tp.

11856. Oct. 3.—Authorizing town of Orillia, Ont., to lay pipe under G.T.R. about 1300 ft. west of road allowance between cons. 5 and 6.

11857. Oct. 3.—Authorizing Guelph, Ont., Water Works Department to lay pipe under G.T.R. on Dufferin St.

11858. Oct. 4.—Authorizing G.T.P.R. to divert highway between secs. 28 and 33, tp. 23, r. 8, w. 2 m., Yorkton District, Sask.

11859. Oct. 4.—Approving C.N.O.R. revised location between stations 617-65 and 696-15, St. Andrew's village.

11860. Sep. 27.—Authorizing C.N.O.R. to build a subway carrying Choate Road under its line from lot 5, con. 2, to and under crossing at Cavan St., lot 5, con. 1, Hope tp.

11861. Oct. 3.—Authorizing G.T.R. to build steel bridge across highway where its line crosses south of Chesley, Ont.

11862. Oct. 4.—Authorizing C.P.R. to use bridges 8.05, 14.2 and 15.6 on its Tobique section, N.B.

11863. Oct. 4.—Rescinding order 11463, Aug. 3, made upon application of Kingston, Portsmouth and Cataract Electric Ry., and rescinding order 11631, Sept. 12, amending same, re loading of long or bulky articles through side doors of box cars, upon application of Canadian Freight Association.

11864. Oct. 4.—Authorizing C.P.R. to use bridge 10.6 on its Fredericton section, N.B.

11865. Oct. 4.—Approving G.T.R. plan showing remodelling of passenger station at Windsor, Ont.

11866. Oct. 4.—Approving revised rule 6 in Canadian Classification 15, respecting articles too long and bulky to be loaded in box cars through side doors, also providing additional ratings for asphaltum, paints and varnish. This order is published in full on another page.

11867. Oct. 4.—Authorizing C.P.R. to build a Y and make connection with British Columbia Electric Ry. in n.w. ¼ sec. 2, tp. 16, r. 3, w. 7 m.

11868. Oct. 4.—Approving C.P.R. location sec. 12, tp. 33, r. 22, w. 3 m., to sec. 3, tp. 39, r. 28, w. 3 m., Sask.

11869. Oct. 5.—Authorizing Ontario Minister of Public Works to build a highway crossing over C.P.R. on lot 5, con. 3, Dowling tp., Sudbury District.

11870. Oct. 5.—Ordering C.P.R. to install gates and maintain day and night watchman at intersection of Westminster Ave., Montreal West.

11871. Sep. 26.—Ordering G.T.R. to build subway at level crossing at Brock Ave., Toronto.

11872, 11873. Oct. 4.—Approving G.T.R. diversion of line as constructed between lot 25, con. 1, Brighton tp., Ont., and lot 29, con. B, and to cross C.N.O.R. by a bridge.

11874. Oct. 5.—Authorizing C.P.R. to close two crossings between Churchville station and Eldorado Park, Ont., and to build a roadway in lieu of same.

11875. Oct. 5.—Authorizing C.P.R. to build spur for Standard Lumber Co., near Cranbrook, B.C.

11876. Oct. 5.—Approving Kootenay Central Ry. location from mileage 24.9 at Fort Steele, to 35.9 at Wasa, B.C.

11877. Sep. 27.—Rescinding order 11392, Aug. 9, authorizing C.N.O.R. to cross at grade between lots 10 and 11, con. 4, Clarke tp., the company to submit within 30 days detail plan of subway authorized by order 9562, Feb. 15, for approval of Board's Engineer, the work to be completed by May 1, 1911.

11878. Oct. 4.—Rescinding order 11736, dated Sept. 20, authorizing C.P.R. to operate branch from mileage 9.56, lot 6, con. 4, Etobicoke tp., to connection with G.T.R. in lot 7, con. 1, Etobicoke tp., and permitting it temporarily to put in switches and semaphores to be operated by hand.

11879. Oct. 5.—Authorizing Ontario Hydro-Electric Power Commission to erect wires across C.P.R. telegraph wires at Strange St., Waterloo.

11880. Oct. 5.—Approving G.T.P.R. Standard Freight Mileage Tariff, C.R.C. 7, for mileage 1 to 200, inclusive, to enable it to operate parts of its line between Prince Rupert, B.C., and Thornton, Alta., already completed.

11881. Oct. 5.—Authorizing C.P.R. to build under Erindale Power Co.'s wires between cons. 2 and 3, Etobicoke tp., Ont.

11882. Oct. 5.—Ordering C.N.R. to complete work required by order 9173, Jan. 6, which directed it to provide suitable accommodation for traffic between Rainy River and Fort Frances, Ont., by Nov. 15.

11883. Oct. 6.—Declaring that interswitching charges by Ottawa and New York Ry., in excess of 1c. per 100 lbs., and \$3 and \$8 as minimum and maximum per car load, respectively, as prescribed in order 4988, July 8, 1908, are unlawful.

11884. Oct. 6.—Ordering C.P.R. within 90 days to install improved electric bell at crossing at Mechanicsville, Ottawa.

11885. Oct. 6.—Extending for three months time within which G.T.R. was authorized to build branch to W. Knechtel and Son's premises.

11886. Oct. 5.—Authorizing C.P.R. to build spur for Dougall Varnish Co., Montreal.

11887. Oct. 6.—Authorizing C.P.R. to build spur to J. Hanbury's sawmill, Vancouver, B.C.

11888. Oct. 7.—Authorizing town of Berlin, Ont., to move Berlin and Waterloo Street Ry. tracks where they cross G.T.R. on King St.

11889 to 11893. Oct. 7.—Authorizing Ontario Hydro-Electric Power Commission to erect wires across C.P.R. telegraph wires at five points.

11894. Oct. 7.—Authorizing Seymour Power and Electric Co. to erect wires across Bell Telephone Co.'s wires in Thurlow tp., Ont.

11895. Oct. 8.—Authorizing C.N.R. to build across certain highways as shown on profile approved by order 9722, Feb. 26.

11896. Oct. 7.—Authorizing G.T.R. to install, within 90 days, improved type electric bell at first highway crossing west of Wales, Ont.

11897. Oct. 7.—Authorizing C.N.R. to open for traffic that portion of its line from Ochre River to end of steel on Ste. Rose du Lac branch, 15 miles.

11898. Sept. 27.—Ordering C.N.O.R. to cut timber 200 ft. south of its track across public road between lots 4 and 5, con. 4, Clarke tp., to make a clear view 700 feet westerly from the highway.

11899. Oct. 7.—Ordering that a building material list be provided in the forthcoming new Canadian Classification 15.

11900, 11901. Oct. 8.—Approving location of C.N.R. Goose Lake extension through tps. 30-31, r. 11-15 and r. 16-20, w. 4 m., Alta., from junction with Qu'Appelle, Long Lake and Saskatchewan Ry. at Saskatoon, Sask.

11902. Oct. 10.—Authorizing Ontario Hydro-Electric Power Commission to erect wires across C.P.R. telegraph wires at King and Sophia Sts., Hamilton.

11903. Oct. 10.—Authorizing C.N.O.R. to build between lots 13 and 14, con. 4, Hope tp.; to divert highway along the north side of right of way to connect with road between cons. 3 and 4; and divert highway between cons. 3 and 5 to cross its line at right angles, by a subway; and rescinding orders 10666 and 10357.

11904. Oct. 10.—Approving revised location of portion of C.P.R. main line as constructed from mileage 70.4, Thomson subdivision, near Spence's Bridge, B.C., to mileage 90; mileage 101 to 121.4, Thomson subdivision; and mileage 0 to 49.06, Cascade subdivision, at Ruby Creek.

11905. Oct. 10.—Authorizing C.P.R. to build additional track across first street east and first street west of Robert St., and across two intervening streets, in Hastings, B.C., and to build an extension to the under-crossing and bridge on which to carry the extra track.

11906. Oct. 10.—Extending, for six months, time within which C.N.R. was authorized by order 9072 to install interlocking plant at crossing near Midale, Sask.

11907. Oct. 10.—Approving G.T.R. plan of side track and location of building at Wye-bridge, on branch line authorized by order 10514.

11908. Oct. 10.—Authorizing Toronto, Hamilton & Buffalo Ry. to build branch with spurs, from east of Harvey's Lane north-westerly to International Harvester Co.'s lands, Hamilton, Ont.

11909. Oct. 10.—Authorizing C.P.R. to build extension to spur for Hamilton Powder Co., near Barnet station, B.C.

11910. Oct. 10.—Authorizing C.N.R. to build branch across Alberta Ave., Lloydminster, Sask.

11911 to 11913. Oct. 10.—Authorizing C.P.R. to use bridge over highway at Bala, Ont.; Marion Ave. subway, Parry Sound; Little Bridge, St. Almonte; and bridges 82.1, 105.0, 105.3, and 123.9, on its Chalk River section, Ont.

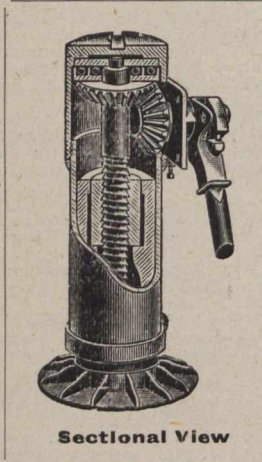
11914. Oct. 10.—Authorizing Walkerton and Lucknow Ry. to use bridge 16.35.

11915. Oct. 10.—Authorizing C.P.R. to use four bridges on its Listowel branch, Ont.

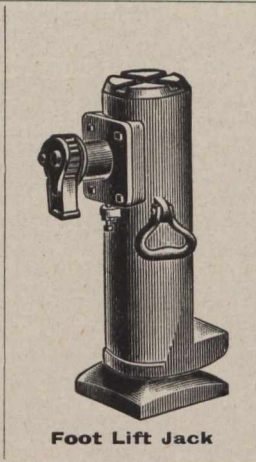
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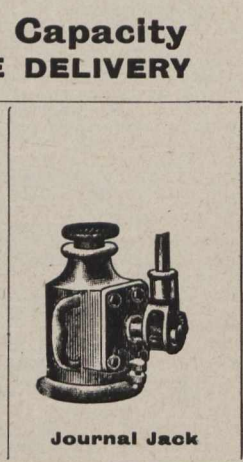
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— OFFICE AND WORK —

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C. P. R. Annual Meeting.

11916, 11917. Oct. 10.—Authorizing Montreal Terminal Ry. to build extension to Dominion Light, Heat and Power Co.'s works and United Soap Co.'s works, Maisonneuve, Que.

11918 to 11921. Oct. 10.—Authorizing C.N.O.R. to build between lots 604 and 607, South River range, and across roads on lots 646 and 647, North Rouge River range; 596 and 597, South Rouge River range; 630, 631 and 632, Rouge River range, St. Andrew's parish.

11922. Oct. 10.—Approving location of C.P.R. Lauder extension from mileage 0 to 3.23, w. p. m., Man.

11923. Oct. 10.—Authorizing C.P.R. to use bridges 43.79, 84.9, 9.3, 35.4, 115.4, 71.2, 50.4, and 62.5, on its Chalk River section, Eastern Division.

11924. Oct. 10.—Authorizing W. J. Aikens, of Dunnville, Ont., to lay gas pipe under G.T.S. near Onondaga station.

11925. Oct. 10.—Authorizing Seymour Power and Electric Co. to erect wires across G.T.R. at lot 13, con. 1, Thurlow tp., Ont.

11926 to 11932. Oct. 11.—Temporarily approving Bell Telephone Co.'s agreements with Apsley Telephone Co., Nov. 3, 1908; Fingal Telephone Co., July 13, 1908; North American Telegraph Co., July 1, 1909; Camden Independent Telephone Co., Sept. 16, 1910; Houghton and South Walshingham Telephone Co., May 21, 1907; Little Nation Telephone Co., Dec. 28, 1905; and Hawthorne Hill Telephone Co., Aug. 18, 1908.

11933. Oct. 10.—Approving plan of drain to be built under M.C.R. in Harwich tp., Ont.

11934. Oct. 11.—Authorizing C.P.R. to build bridge 72.6 over Little Key River, on its Lake Superior Division.

11935. Oct. 11.—Authorizing C.P.R. to build spur for Saskatoon Brick and Supply Co. at Dunfermline, Sask.

11936. Oct. 11.—Authorizing G.T.R. to build branch with spurs, from C.P.R. district 16, Middle Division, near Watford station, to National Fire Proofing Co.'s premises, East Flamboro tp., Ont.

11937. Oct. 11.—Approving Western Union Telegraph Co.'s tariff of maximum tolls for messages between its offices in Nova Scotia, New Brunswick and Quebec, filed as Tariff C.R.C. 6.

11938. Oct. 11.—Temporarily approving agreement between Bell Telephone Co. and North Huron Telephone Co., Sept. 27, 1910.

11939. Oct. 11.—Authorizing town of Farnham, Que., to lay culvert under C.P.R., St. Guillaume branch.

11940. Oct. 11.—Authorizing city of Montreal to lay sewer under Montreal Park and Island Ry., at Sixth Ave., Notre Dame de Grace.

11941. Oct. 11.—Authorizing Chatham Gas Co. to lay pipe under G.T.R. at Lacroix St., Chatham, Ont.

11942. Oct. 11.—Authorizing Seymour Power and Electric Co. to erect wires across Bell Telephone Co.'s wires between Sidney and Thurlow tps., near Belleville, Ont.

11943. Oct. 11.—Authorizing Welland Electrical Co. to erect wires across G.T.R. on Major St., Welland, Ont.

11944. Sept. 22.—Ordering C.P.R. to place watchmen at Main and Tupper Sts., Portage la Prairie, Man., where its railway crosses; the C.N.R. to appoint watchman on said streets where C.N.R. and G.T.P.R. cross, each company to bear half the expense; that leave be reserved to the city to apply for additional protection where the C.N.R. and G.T.P. cross if it is found that one watchman for the two roads is insufficient.

11945. Oct. 12.—Authorizing Ontario Hydro-Electric Power Commission to erect wires across C.P.R. telegraph wires at John St., Waterloo.

11946. Oct. 12.—Authorizing C.P.R. to use bridge over Wellington St., Ottawa.

11947. Oct. 12.—Approving Campbellford, Lake Ontario and Western Ry. location from near Toronto to western boundary of Port Hope, Ont., with the exception of portions through Whitby, Oshawa and Bowmanville.

11948. Oct. 12.—Approving bylaw 11, authorizing General Manager of British Yukon Ry. to prepare and issue tariffs of tolls.

The G.T. Pacific Ry. Co. has issued writs against a number of companies in Vancouver, B.C., to have them prohibited from using the words "Grand Trunk" as part of their titles.

The first of a series of actions involving altogether over \$600,000, in which the C.P.R. is the defendant, is being heard in the U. S. Circuit Court, Portland, Me. It is alleged that extensive forest fires in northern Maine in 1908 were caused by sparks from C.P.R. locomotives, and that in the fires camps, machinery, bridges, cut timber, etc., were destroyed.

The 29th annual meeting of shareholders was held in Montreal, Oct. 5. Sir Thos. G. Shaughnessy, President and Chairman of the Board, in moving the adoption of the report for the year ended June 30, which was published in our last issue, said:—In round figures the gross revenue of your railway lines, exclusive of ocean steamships, shows an increase as compared with the previous year of \$18,600,000, working expenses an increase of \$7,700,000, and net earnings an increase of \$10,900,000. The actual result was somewhat better than this, because the directors thought it wise to create at the cost of working expenses an additional fund of about \$3,700,000 to provide for maintenance works of one kind or another contemplated, but not completed in the current year. These figures furnish conclusive evidence of the growth and progress in Canada, and of the earning power of your property, and show in a most emphatic way that the large sums provided during the past seven or eight years for improvement and facilities of every description over the whole system are yielding handsome returns in the efficiency and economy with which your traffic is being handled.

Insufficient rainfall in some sections of Western Canada during the growing season had a damaging effect upon grain crops, with the result that the quantity of wheat to be moved during the next few months is considerably less than it would have been had normal weather conditions prevailed. Up to the present this has had no material effect upon the revenue, but it is not improbable that later on there will be some shrinkage in gross earnings.

At the meeting of directors in August it was decided to increase the dividend on common stock to 7% per annum, exclusive of the 1% paid from land revenue, making a total distribution of 8%. Your directors are aware of the feeling amongst the shareholders that, taking into account the income and financial position of the company, this is scarcely sufficient, and if last year's returns be taken as a basis, that feeling is not without reasonable foundation, but we must not lose sight of the fact that conditions may not always be so favorable, that we may have lean years, and that in such contingency a large cash reserve will be a source of convenience and strength. But then apart from surplus earnings you have extraneous assets in deferred payments, or land mortgages, cash proceeds of land sales, and other items of like character in process of realization, that may be roughly estimated at \$50,000,000, without taking into account unsold lands, and in ordinary course this amount should be substantially augmented within the next few years. In the opinion of your directors the best interests of the company and its shareholders will be subserved by keeping intact a considerable portion of these assets instead of resorting to the policy ordinarily characterized as melon-cutting, which has not always proved a boon to the beneficiaries. At the same time there is every reason why shareholders of the present day should expect such advantage in the way of income from these assets as may be possible without unduly encroaching on principal, and it is the intention of your directors to determine during the coming year how this can best be brought about.

There has been a very striking expansion in passenger traffic between this continent and Europe through Canadian ports since your two steamships, Empress of Britain and Empress of Ireland, were put into service, and the time has now arrived when steamships of

greater size and speed should be provided for the route in the interest of Canadian ports, the country generally and rail transportation lines. While there has not been the same increase of traffic on the Pacific, there has been a steady growth, and your steamship line has been securing at least its proper share. While your Pacific boats are still in excellent condition, they are now too small for the trade, and should be replaced. Plans for meeting the situation on both oceans are receiving attention, and your directors expect that, within the next few weeks, they will be able to complete an arrangement.

Among measures that will come before you for approval at this meeting is a bylaw amending existing bylaws, so as to remove the necessity for closing books in Montreal, London and New York, before payment of each dividend on common shares. This will make it practicable to deal with the dividend quarterly instead of half-yearly, and your directors propose to do this, commencing with the first quarter of the current year.

Quite recently Sir Wm. Van Horne, who since his resignation as President in 1899 has been Chairman of the Board, decided to retire from that office, but, of course, to retain his seat on the board. The directors, in common I know with all shareholders, have a keen appreciation of the splendid services rendered to the company by Sir William, first in the early days of construction, when there were physical and financial difficulties to overcome that seemed almost insurmountable, and later when the railway, having been completed to the Pacific coast, it became his duty to formulate a policy of branch line construction, to establish relations with connecting railways for the interchange of business, and to complete and perfect an organization for securing traffic and for handling it as economically as circumstances would permit. With the pessimism that then prevailed at home and abroad he might easily have been discouraged, and the location and building of branch lines with great rapidity in a territory so vast furnished ample opportunity for error, but he was not given to discouragement, and the soundness of his judgment, as well as the accuracy of his work, have stood the test of time and experience. When he surrendered the Presidency I am quite sure that he was actuated, not so much by the call of growing years or the desire for leisure as by the wish that his chief lieutenant and his friend might have scope and opportunity; and during the intervening 11 years that have marked the development of what might be called a new C.P.R. he has been among the foremost directors in support of every measure of progress and enlargement, and it is a source of great satisfaction to me, as I know it is to him, that after 30 years of intimate business association, nearly all of them with the C.P.R., we are still colleagues and co-workers in the promotion of the welfare of the great company in which we all take such pride. For the directors and shareholders I express the earnest hope that Sir William will be with us for many years to sit at our board and to share in our councils.

Sir Thomas then moved the adoption of the report which was carried. The following resolutions were also adopted:

That the lease of the New Brunswick Southern Ry. be sanctioned and approved, which lease, among other things, demises to this company for 999 years the whole of the railway now constructed from St. John to St. Stephen, N.B., about 83 miles, and its appurtenances, at an annual rental equal to the interest payable on its bonds at present outstanding amounting to \$500,000 at 3% per annum, and on such bonds as may

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be issued by the N.B.S.R. Co. to replace or redeem the said outstanding bonds at such rate as may be agreed upon by the two companies.

That the lease of the St. Maurice Valley Ry. be sanctioned and approved, which lease, among other things, demises to this company for 999 years the railways as now constructed from Three Rivers to Shawinigan Falls, thence to Grand Mere, Que., about 27½ miles, and all other railways or branches hereafter constructed by that company and their appurtenances at an annual rental equal to the interest payable on all bonds carrying interest at a rate not exceeding 4% per annum payable half-yearly it may issue at the request of this company expressed in writing under its corporate seal, the payment of such interest being guaranteed by this company, and the aggregate of all such bonds outstanding, not to exceed at any time \$35,000 a mile of railway then either constructed or under contract to be constructed.

That the lease of the Kootenay Central Ry. be sanctioned and approved, which lease, among other things, demises to this company for 999 years the whole of the railways and branches which the Kootenay Central Ry. Co. has been by law authorized to construct, and whether constructed or to be constructed, including the railway from Fort Steele to about 5½ miles east of Wardner and from Fort Steele to Golden, B.C., and all other railways or branches hereafter constructed by that company and their appurtenances at an annual rental equal to the interest payable on all bonds carrying interest at a rate not exceeding 4% per annum, payable half-yearly, which it may issue at the request of this company expressed in writing under its corporate seal, the payment of such interest being guaranteed by this company and the aggregate of all such bonds outstanding not to exceed at any time \$30,000 a mile of railway actually constructed and handed over to this company from time to time in sections for operation.

That the action of the directors in authorizing the construction of irrigation works for the purpose of irrigating the eastern block of the company's land grant in Alberta, east of Calgary, at an estimated cost of \$8,500,000, be approved.

The directors are hereby authorized, whenever it is competent for the company to do so, to purchase the preference stock of the Dominion Atlantic Ry. Co., consisting of £270,000, at 60% of Co., consisting of £230,000 at 20% of face value, and to acquire all or any portion of its securities at such prices and upon such terms as they may deem advisable, and to take a lease of the railway for such term as may be agreed upon, which lease shall, as nearly as circumstances permit, be in the form usually adopted by the company and may contain a clause providing for the guarantee of payment by this company by way of rental of the interest upon the existing securities and such other securities as it may issue with the consent of this company.

That whereas the branch lines and extensions set forth below have been constructed or are in course of construction, and it is deemed desirable that authority be given to the directors to issue consolidated debenture stock to meet the requisite expenditure in connection therewith, it is therefore resolved that the construction and equipment of the following branch lines and extensions of other branch lines which have been authorized be approved; an extension northwesterly of the Moose Jaw branch, now known as the Moose Jaw-Outlook branch, from the westerly end of the

branch and extension heretofore authorized, to the Pheasant Hills branch at or near Macklin, about 118 miles. A branch westerly from Weyburn on the northwestern extension of the Souris branch, and now known as the Weyburn-Lethbridge branch, 50 miles. An extension northerly direction of the Stonewall branch, and known as the Teulon extension from Stonewall via Teulon to Icelandic River, about 56 miles. An extension westerly direction of the Lauder branch, now known as the Lauder-Griffin branch, from or near Broomhill, 20 miles west of Lauder on the Souris branch, 33 miles. A branch northerly and northeasterly from Regina via Craven to Colonsay on the Pheasant Hills branch, and known as the Regina-Colonsay branch, 134 miles. A branch northwesterly direction from Craven on the Regina-Colonsay branch, and now known as the Craven-Bulyea branch to or near Bulyea, about 21 miles. A branch northerly and northwesterly from or near Kipp on the Crow's Nest Pass branch, to be known as the Kipp-Aldersyde branch, 58 miles. A branch northerly from the main line at or near Langdon, to be known as the Langdon branch, 40 miles. An extension easterly of the Snowflake branch from Mowbray to Windy Gates, about 7 miles. A branch northerly direction from Virden on the main line to or near McAuley on the Pheasant Hills branch, and now known as the Virden-McAuley branch, about 36 miles.

And that for the purpose of aiding the construction and equipment of the said branch lines and extensions the directors may issue and dispose of consolidated debenture stock to such amount as they may deem expedient, not exceeding in the aggregate an amount equal to £6,000 a mile in respect of the Moose Jaw-Outlook branch extension, the Regina-Colonsay branch, the Langdon branch and the Virden-McAuley branch; £5,000 a mile in respect of the Weyburn-Lethbridge branch, the Stonewall branch extension, the Craven-Bulyea branch and the Kipp-Aldersyde branch, and £4,000 a mile in respect of the extensions of the Lauder-Griffin and the Snowflake branches.

Amendments to a number of bylaws as passed by the directors were approved.

Sir Wm. Van Horne, in moving the re-election of the retiring directors, took the opportunity to express his appreciation of the remarks respecting himself, made by the Chairman, and stated that he felt that the greatest service that he had been to the C.P.R. was in being instrumental in inducing Sir Thos. Shaughnessy to come to Canada, and that the shareholders may congratulate themselves in having at the head of affairs of the company in which they are so much interested, so able, so energetic and so upright a man as Sir Thomas.

The retiring directors, Lord Strathcona, Sir Thos. G. Shaughnessy, and T. Skinner were re-elected for a further term of four years.

At a meeting of directors held after the shareholders meeting, the following officers were re-elected for the current year:—President, Sir Thos. G. Shaughnessy; Vice President, D. McNicoll; Executive Committee, R. B. Angus, D. McNicoll, E. B. Osler, Sir Thos. G. Shaughnessy, Lord Strathcona, Sir Wm. C. Van Horne.

Damages of \$13,500 were awarded at London, Ont., Oct. 3, in the case of a fireman against the C.P.R. for injuries sustained through coming in contact with a water column, while leaning from his locomotive at Ayr station. In evidence it was stated that the distance between the locomotive cab and the water column was 18 inches.

Great Northern Ry. Lines in Canada.

Midland Ry. of Manitoba.—The Mayor of Winnipeg informed Jas. Fisher, solicitor for the company, Oct. 3, that unless the company's representatives immediately signed the agreement to proceed with the erection of terminals in the city, the streets closed would be declared open, and all negotiations with the company would be at an end. Mr. Fisher appeared before the Board of Control, Oct. 4, and stated that the company, he understood, was prepared to go ahead with the work on its projected terminals at Ross Ave. in the spring. He was in communication with St. Paul, Minn., on the subject, and was awaiting instructions. The wording of the agreement had not been definitely settled, but everything could be arranged if he had his instructions. The Mayor said the city was anxious to have the matter settled, the agreement signed, and the work started as soon as possible.

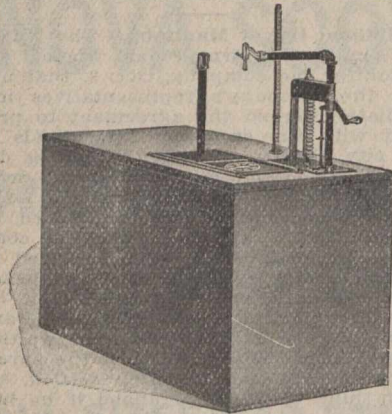
Projected Lines in Alberta.—A press report from Calgary states that Great Northern Ry. interests are planning to extend its railways through Alberta. The idea is to secure a line from near Sweet Grass, at the International boundary, which is a terminal point of the G.N.R., just south of Coutts, Alta., to Pincher Creek, to Calgary and Edmonton, and thence to the Peace River, with a branch through the Kootenay country to connect up with the Vancouver, Victoria and Eastern Ry. The report states that the Pincher Creek, Cardston and Montana Ry. charter will be acquired. This company is making surveys for a Coutts-Pincher Creek line, and applying to the Dominion Parliament for powers to build the additional lines named. The New York people at present interested in the P.C., C. and M. Ry. are said to be friendly to G.N.R. interests. (See Pincher Creek, Cardston and Montana Ry. under Railway Development.)

Vancouver, Victoria and Eastern Ry. and Navigation Co.—A spur line is being built from near Princeton, B.C., to the United Empire coal mine. No further construction is being gone on with at this end of the line, but the contractors are still pushing forward the work between Abbotsford and Chilliwack. Survey work from Chilliwack, through the Hope Mountains is still being proceeded with, and the engineers are hopeful of getting a route with a maximum gradient of less than 2%. Nothing has been announced as to when construction will be gone on with.

The improvements at False Creek, Vancouver, which are to be carried out under an arrangement between the company and the city council, have been held up by the Provincial Government declining to give its consent to certain parts of the plans. The matter is still under consideration and it is expected that something will be done, so that the work can be gone on with. The question of fixing a date for the voting on the bylaw has been postponed until this matter is settled. (Oct., pg. 845.)

The Reid Newfoundland Co. has offered to give a free site at Fort William, St. Johns, Nfld., to put in the foundation, and to subscribe \$50,000 towards the capital of the projected tourist hotel there.

The application of Hon. W. Pugsley, Minister of Public Works, to have a special accounting made of the affairs of the New Brunswick Coal and Ry. Co. and the Central Ry. of N.B., has been dismissed by the New Brunswick courts. Mr. Pugsley subsequently criticised the action of the commission which investigated the railway's affairs, and Oct. 12 invited the commissioners or their solicitor to bring an action against him for libel.



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to machinery and to save power, is one of the functions of the Bowser Battery Equipment, Cut No. 64. This is accomplished by keeping the lubricants in the cleanest condition, free from grit and dirt. The outfit consists of one or several rectangular steel tanks—one for each kind of oil used—fitted with self-measuring pumps. It is a practical example of how

Bowser Oil Storage Systems

have been adapted to meet all needs such as they exist, for railroad shops, roundhouses, engine rooms, etc.

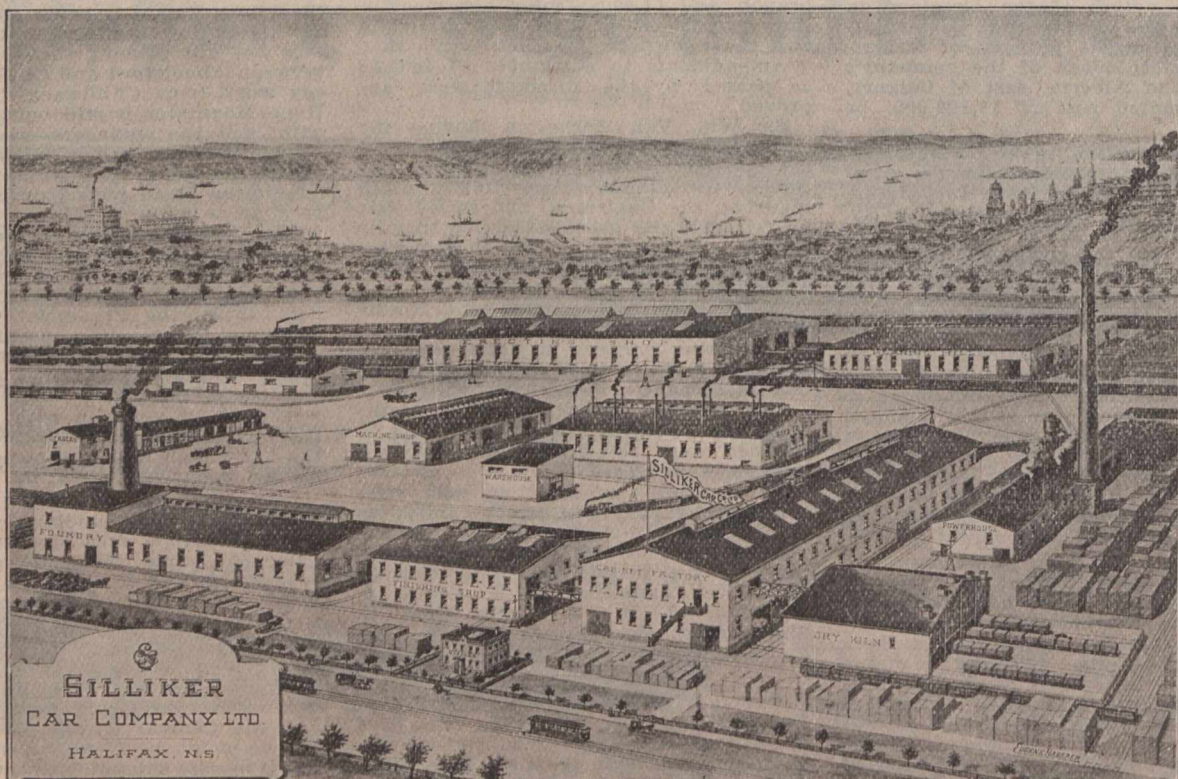
The first stroke of the pump brings a rapid flow—a quart, pint or half-pint as desired—without the use of measures or funnels. The pumps can also be adjusted to fill different sized oilers. By this method much time or labor is saved in handling the oils, and there is no loss through leaky barrels, drip, overflow, or spilling. Every gallon bought can be checked against every gallon used. It is the only business-like method of handling lubricants and soon saves its own cost.

WRITE FOR BOOKLET NO. 18

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HEAVY FORGINGS AND CASTINGS

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Canadian Northern Ry. Construction, Etc.

Canadian Northern Quebec Ry.—The Board of Railway Commissioners has authorized the building of a Y to connect the main line with the spur line to the St. Marc quarries in Grondines parish, Portneuf county, and the acquirement of certain lands for right of way.

A connection between the C.N.Q.R. and the National Transcontinental Ry. at River Charest, Que., has been authorized by the Board of Railway Commissioners.

Canadian Northern Ontario Ry.—An arrangement has been made, subject to sanction by the Board of Railway Commissioners, between the company and the Ottawa city council, by which the C.N.O.R. will be carried across Hurdman Road, temporarily. In a recent interview President Mackenzie stated that the company's Toronto-Ottawa line would be completed to Sydenham, within 90 miles of Ottawa, this year. In the spring the balance of the line would be taken in hand and rushed to completion. The route for this 90 miles has been approved by the Board of Railway Commissioners. As to the entrance into Ottawa, Mr. Mackenzie said the company had been terribly handicapped, but he hoped that by the spring everything would be straightened out.

Good progress is being made all along the sections of the line under construction between Toronto and Trenton, and in the vicinity of Belleville. Those in

Canadian Northern Ry.—M. H. McLeod, General Manager and Chief Engineer, recently completed an inspection of the betterment work done on the line between Port Arthur and Winnipeg during this year. The principal work done has been in the way of straightening out the track, and the building of a cut-off in the vicinity of Stanley, Ont. At the time of the inspection all the work had been completed, with the exception of about two miles of tracklaying, and this was expected to be finished by Oct. 31. Nothing more in the way of betterments would be undertaken, Mr. McLeod stated, this year.

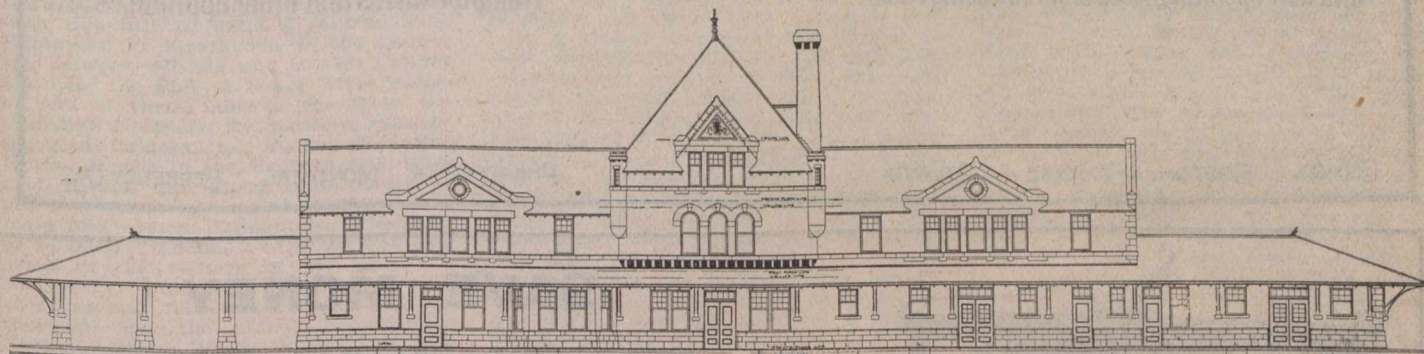
In the course of some very extensive forest fires in northern Minnesota and the Rainy River district of Ontario, considerable damage was done to the railway at different points between Fort Frances, Ont., and Beaudette, Minn.

A permit has been granted by the Winnipeg city council for the erection of freight sheds, offices and cold storage plant, to cost about \$87,000. The buildings will be situated near the new station on Main St., at the foot of Broadway. With the exception of the office, which will be of brick, the buildings will be of steel on concrete footings. They will cover an area of 664 by 60 ft., the freight shed taking up 542 ft. of the frontage. The architect is R. B. Pratt, and the contract has been let to Carter, Halls and Aldinger.

The ballasting on Oak Point extension was expected to be completed by Oct. 31. A train service is being operated

to the C.P.R., particularly from the western boundary of range 25, between tps. 16 and 17. The question of the entry of the line into Moose Jaw has yet to be settled, not only with the city, but with the G.T. Pacific Ry.

The station at Saskatoon, Sask., illustrated on this page, and which was completed a short time ago, is located on First Ave., at the intersection of 23rd St., from which a good view of the central tower of the station, which is about 58 ft. high, can be seen. The total length of station is 218 ft., including a covered platform 40½ ft. long at the end. The width is 62 ft., including canopied platform at either side. The platform on track side is 20 ft. wide, and is reduced to 14 ft., extending along main line 250 ft. both ways from centre line of building, making a total length of 500 ft. The building has full basement, with ample rooms for boilers, fuel and storage, on which is built three floors forming the central main tower, having a two storied feature extending 52 ft. on either side, with stone facade in centre. The extreme ends are one story high, with foundation strong enough to allow of them being increased by an additional floor. The main entrance to building is from First Ave. into ticket lobby, located close to ticket office, and situated between general waiting room, 29 ft. 2 ins. by 29 ft. 2 ins., and ladies' waiting room, 20 ft. by 29 ft. 2 ins., with necessary toilet rooms attached. The parcel room and baggage room, 30 ft. by 30 ft., are located convenient to gen-



Canadian Northern Railway Station at Saskatoon, Sask.

charge of construction at the latter point are said to have received instructions to get the work finished by Jan. 1. In consequence work will be rushed as fast as possible. Good progress is being made west and east of the city, and nearly all the property required in Sydney and most of that for the route in Belleville has been purchased. The Dominion Bridge Co., which has the contract for bridges over the Trent at Trenton and Moira at Belleville will commence operations immediately.

Track was reported, Oct. 14, to have been laid to near Cobourg, Ont. Station buildings at Grafton and Colborne are being built, and the preliminary work for the bridge over the Trent at Trenton is under way.

The Board of Railway Commissioners has approved of plans for station buildings at Port Hope and Cobourg, and of standard plans for various buildings to be erected on the Toronto-Ottawa line.

Representatives of Parry Sound, Ont., had an interview with President Mackenzie Oct. 11, and it is said that a proposition will shortly be submitted to the town for the establishment of repair shops, and the erection of a 500,000 bushel elevator.

The Board of Railway Commissioners has approved of the location plans of the line through unsurveyed territory in the Sudbury mining division, Algoma, mileage 200 to 220, and from mileage 220 to 240, from Sudbury, Ont.

for the accommodation of the settlers by the contractors.

In connection with the company's application to the Board of Railway Commissioners for approval of its plans for building a transfer railway along certain streets in Brandon, Man., Chief Commissioner Mabey, stated recently that the compensation to be paid to those whose property would be injuriously affected would have to be as the commissioners directed. The application was subsequently withdrawn.

The Board of Railway Commissioners has authorized the opening for traffic of an additional 15 miles from Ochre River to the end of steel, on the Ste. Rose du Lac branch, Man., and has also approved of the location of the Goose Lake extension through tps. 30-31, ranges 11-15 and ranges 16-20, west 4th meridian, Alta.

The Minister of Railways has approved of plans for the building of a line from Regina to Moose Jaw, Sask. The plans show a line running into sections 24, 3, 21, 20 and 19 in township 17, range 21, through the same sections in 17-22, through sections 24, 23 and 22, southwesterly into 15, 17 and 18 in 17-23, along 13, 14, 15, 9, 8 and 7, in 17-24, through 1, 2, 3, 4, 5, 6, in 17-25, between the borders of 16-26 and 17-26 into Moose Jaw. The line is about two miles distant from the route approved for the G.T. Pacific Branch Lines between the same places, and is very close

to the accommodation of the settlers by the contractors.

eral waiting room, and the express room and offices are large enough to take care of the ever increasing express business. The exterior is built of Menomonic sand brick, moulded red brick, red mortar joints with trimmings of white Tyndall limestone, rock faced. The interior finishing throughout was selected, keeping in mind the necessity for a complete sanitary finish, as well as a good general appearance. The ticket lobby, general waiting room and toilet rooms have tile floors, base and dados, the remainder of the floors are polished maple floors. The baggage and express rooms have hardwood dados 7 ft. high. The remainder of the trim on this floor is hardwood finished mission style. From this floor are two stairs communicating with floor above, one for use of general offices of the executive and engineering staff, which occupy the north end of the first floor; the other stair to the superintendent's quarters in the south end. This floor is finished throughout in clear B.C. fir, natural finish. The superintendent's quarters are so arranged they can be turned into offices at any future date. The building is steam heated and electric lighted throughout. The toilet rooms are complete with the most up to date sanitary fittings. The canopy round the outside of the building has a complete system of fixtures to light platform, which is controlled by switches from ticket office.

Application was made Oct. 4, for the

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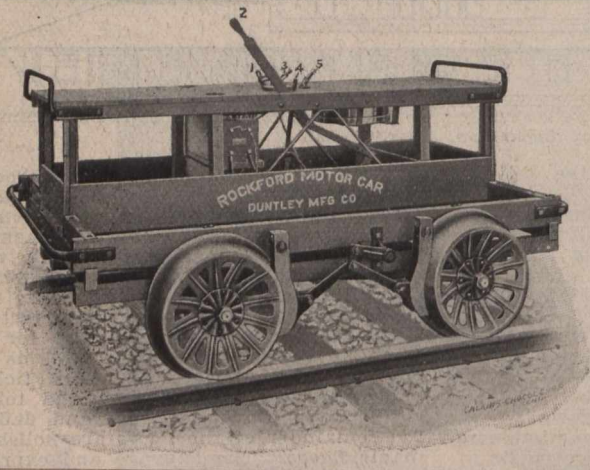
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approval of a revision of the location of the Prince Albert-Battleford, Sask., line. It was contended on behalf of those opposed to the plans that the company was building the line without having secured approval either of the general route or location plans. After considering the matter it was finally arranged that a revised location from near Prince Albert to the west side of Red-berry Lake be approved. A press report states that the object of the diversion of this line is to run it westerly to connect up with the line northerly from Edmonton at St. Albert, and so open up a large area of farming land.

The work on the development of the coal fields on the Brazeau River Valley by the General Development Co., was reported to have been suspended Sept. 22, and D. D. Mann, Vice President, stated that this was brought about by the fact that the C.N.R. Co.'s plans for the building of its line had not been approved by the Board of Railway Commissioners, and the C.N.R. had to suspend construction work on the line it was building. Owing to the difficulty of taking in supplies, work on the mines had been suspended until the spring.

The location plans for the Edmonton-Camrose line from mileage 0 to mileage 44.40, through tps. 47-52 and ranges 20-24, west of the fourth meridian, have been approved by the Board of Railway Commissioners.

Canadian Northern Western Ry.—Application will be made to the Alberta Legislature to incorporate a company with this title to build a railway from Edmonton or Strathcona to the boundary between Alberta and British Columbia, near the Pine or Peace River passes or one of them; also a line from the Canadian Northern Ry. between Edmonton and Calgary, to Rocky Mountain House, thence to the Brazeau and Macleod Rivers, and along those rivers or either of them to a point on the C.N.R. main line west of Edmonton; with power to build branches to the various coal areas in the vicinity of the line, and such other branches within the province as may from time to time be authorized by the Lieut.-Governor-in-Council. Short, Woods, Biggar and Collison, Edmonton, are solicitors for the applicants.

Canadian Northern Pacific Ry.—The agreement with the British Columbia Government for the building of this line did not make any provision for the granting of a right of way through Crown lands, consequently the company has made a further agreement by which the land necessary for right of way, station sites and yards may be acquired from the Government on the basis of \$5 an acre for agricultural land, \$2.50 an acre for upland, and \$1 an acre for wild land.

On the line between the Alberta boundary and Port Mann, B.C., survey work, we are advised, is still being gone on with, and it is being closed up as between New Westminster and 100 miles above Kamloops. No further work has been done between Yellowhead Pass and 100 miles up the North Thompson River since the trial location was made last year. Plans have been filed for a 45 mile section reaching from the crossing of the North Thompson River west, showing a route crossing the river just above the Frankland's home farm, following the contour of Garde Lefferty, along the foot of which plateau yard limits a mile in length are laid out.

Tenders will, it is said, be asked for at an early date for building the line between Chilliwack and Lytton, at the junction of the Fraser and Thompson rivers, a distance of about 90 miles. A. R. Mann, President of the Northern Construction Co., went over the route

recently, with a view of submitting a tender.

On the 60 miles from near Port Mann, let to the Northern Construction Co. sub-contracts have been let as follows:—C. Johnson, 29.5 miles; W. P. Tierney, 5.5 miles; C. Johnson, 1.5 miles; McDonald Bros., 20.5 miles. The work is being done under the direction of T. H. White, Chief Engineer, with W. G. Swan as Resident Division Engineer, and the following engineers in charge of sections:—D. A. Graham, F. H. Chesnut, J. H. Devey, R. M. Taylor, G. H. Reed. The construction headquarters are at Langley, and J. M. Mercer is manager for the Northern Construction Co. There are about 500 men at work grading and building culverts, trestles, etc. The three sub-contractors named have let out their sections into smaller mileages, and the following are reported to be engaged in grading contracts on different parts of the 60 miles:—F. C. Lane, Schacht & Co., D. Matheson, H. Noreen, Burrell Bros. and McClure.

The Port Mann site is not yet laid out. It is situated about two miles above the Fraser River Bridge at New Westminster, on the south side of the river. Tenders for the clearing of the site were received to Sept. 26, and are under consideration.

A site of 30 acres has been acquired in Fort Langley, fronting on Main St., and running back a considerable distance parallel with the river. It is stated that a station will be built on the street, and a storage yard, with accommodation for about 1,400 cars laid out.

In a recent interview the Mayor of New Westminster said he had had long consultations with T. G. Holt, the company's Executive Agent in Vancouver, and T. H. White, Chief Engineer, who had assured him that New Westminster would be made the principal port of the railway, and that the shops would be located at Port Mann. Plans have been made of three possible entrances into New Westminster. One, over the Great Northern Ry. tracks, going no nearer the city than the Fraser River bridge; the second along the water front beside the C.P.R., and the third by a tunnel. The waterfront route appeared to be the most favored.

We were advised, Oct. 18, that the company's officers have no information with respect to the tenders for grading between Chilliwack and Lytton, which, press reports quoted above, stated were to be called for at once. A contract has been let for a wharf 1,000 ft. long by 100 ft. wide, with sheds, at Port Mann. The work is to be proceeded with at once.

Vancouver Island.—G. B. Hughes is Engineer in charge of surveys on Vancouver Island, with headquarters at Victoria. The plans for the location of lines on the island show one from Deep Cove, which will be the landing place of the car ferry from Port Mann, to Victoria. From Victoria the route located to Barclay Sound is by way of Goldstream to Mill Bay, then to the Cowichan River, along the valley of that river to Cowichan Lake, thence to Nitinat Lake, reaching Barclay Sound in the neighborhood of Coleman Creek. A route via Serito was also surveyed, but it involved considerable difficulties in the way of construction. A Victoria dispatch, Oct. 10, stated that a serious hitch had occurred in carrying out the agreement between the company and the Government as to construction, and that the agreement so far as Vancouver Island was concerned, was in danger of not being carried out. In an interview Oct. 12, D. D. Mann stated that the report had absolutely no foundation in fact. "There is no trouble nor unnecessary delay in construction of our road at all," he said emphatically. "The difficulties

of locating and building a road in British Columbia are very great, and we have had engineers working for years in the country. And as for the construction of the road on Vancouver Island that is spoken of, we are awaiting the final report of our surveyors; that is all there is in it. We have had no complaints from anyone in connection with delays in actual work, and we have sent no message to Premier McBride refusing to carry out the contract we entered into with him." (Oct., pg. 855.)

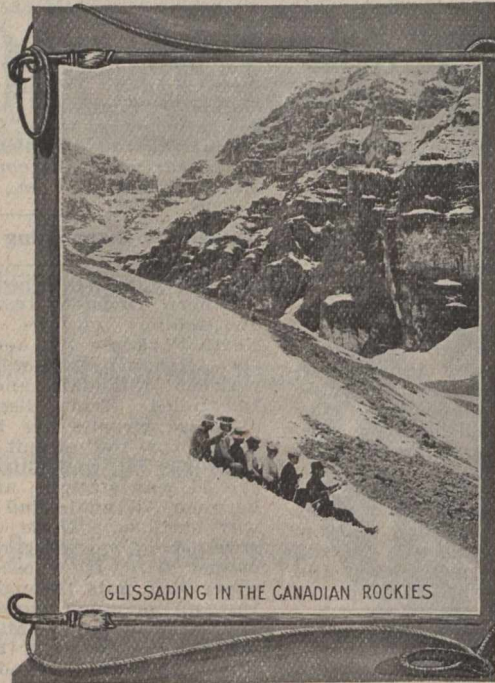
Telephone Dispatching on the G. T. R.

The G.T.R. has recently put in on its Northern Division, two telephone train dispatching circuits. One between North Parkdale Jct. and Burlington Jct., via Allandale, 145 miles, and another between Allandale and Nipissing Jct., 165 miles. Train dispatchers on each of these circuits are located at Allandale. On the circuit between North Parkdale Jct. and Burlington Jct. there are 21 way stations, and on the circuit between Allandale and Nipissing Jct. 20 way stations. These circuits are constructed of no. 9 gauge hard drawn copper wire, transposed at intervals of every half mile through the open country and as much more frequently as is necessary in the vicinity of high voltage power lines, in order to avoid inductive influences and to render the telephone circuits absolutely quiet. The station equipment consists of a swinging arm transmitter and head band receiver for each way station, thus giving the operator free use of his head, hands and body while using the telephone; the apparatus is swung to one side out of the way while not in use. The train dispatching office is equipped with a selector system for calling offices and the duration of the ring in each way station is controlled by the dispatcher, who plainly hears the ring through his receiver. Any office on the line can be signalled within eight seconds, and as the signal bell in each office consists of a four inch gong there is little doubt that the operator will hear his call, even though outside of the office and at a distance from it. The dispatcher has absolute control of the circuits and way stations must obtain his co-operation when desiring to communicate with one another.

The telephone is considered as being superior to the telegraph as a medium for dispatching trains, both as a factor of safety and a saving of time. By telephone each station and numeral is first pronounced and then spelled out, letter by letter, by the dispatcher, for verification when an order is issued, and repeated in like manner by the receiving operator, while by telegraph stations and numerals can only be spelled out in Morse characters.

During the past three years the telephone has made rapid strides on trunk line railways in Canada and the United States for train dispatching purposes and to-day over 30,000 miles of railway is being so dispatched, the C.P.R. having a considerable portion of its mileage so equipped. While the expense for constructing and equipping telephone circuits greatly exceeds that of telegraph lines, the railways have obtained so much better results with the telephone that they feel justified in spending the money. It is the intention of the G.T.R. to extend the use of the telephone over its more important lines in the near future.

The new system has met with the immediate favor of the dispatchers and operators, the transmission being so excellent that the work is transacted in fully 50% less time and in a more personal and satisfactory manner than is possible with the telegraph.



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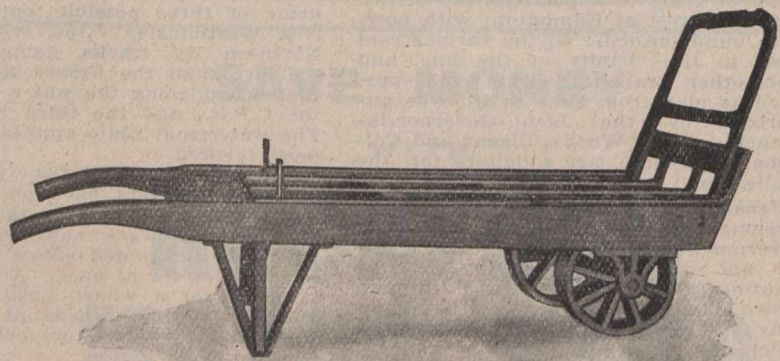
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MONTREAL TORONTO ST. JOHN, N.B. WINNIPEG SASKATOON CALGARY VANCOUVER

C.P.R. Betterments, Construction, Etc.

Developments in Nova Scotia.—D. McNicoll and G. M. Bosworth, Vice Presidents, having visited Halifax, N.S., recently, and made a trip of inspection over the Dominion Atlantic Ry., which will be taken over by the C.P.R. in the spring, Mr. Bosworth stated that a through freight service would be established between Montreal and Halifax over the Dominion Atlantic Ry., but for the present there would be no car ferry placed on the Bay of Fundy.

Improvements at St. John.—It was announced at a meeting of the St. John, N.B., city council, Oct. 4, that the certain shore lots on the west side of Courtenay Bay would be transferred to the C.P.R., upon which extensive terminal facilities would be established. This, according to a statement made by Vice President McNicoll, refers to an exchange of property which had been under consideration for some time past. The property which the company hands over has a frontage of 1,600 ft. and stretches out into the bay. This is the property referred to in the resolution recently passed by the city council authorizing the making of the necessary agreements in conjunction with the Dominion Government, with the C.P.R., for the surrender to the city by the company of certain lands, upon which there shall be erected a retaining wall for the reclaiming of the area so required. When the leases at Blue Rock are relinquished, and the land reclaimed, the C.P.R. will remove its tracks to the eastward, so as to allow the present right of way to be used as a public highway.

In connection with this transfer of property, Mr. McNicholl stated that the company had big plans, which would take some time to carry out, for the development of St. John as a winter port. He hoped shortly to be able to announce what those plans were.

Hotels.—Vancouver, B.C., papers quote G. Ham, of the C.P.R. head office staff, as having stated in an interview during a recent visit there, that the company proposed to build 12 hotels along its line during 1911. One of these would be at St. John, N.B., one at Ottawa, one at Toronto, one at Golden, B.C., and one at Nelson, B.C., while the remaining seven would be distributed along the line at suitable points.

The company is carrying out an extensive programme of additions to its existing hotels, and adding some new ones. It is said that another wing is to be added to the Chateau Frontenac, Quebec. At the Place Viger, Montreal, extensive alterations will be made as soon as the new building for station purposes down stairs and hotel purposes up stairs is ready. Enlargements are going on at Banff, Lake Louise and other places. A new hotel is being built at Balfour, a contract having been let to C. W. Sharp, Winnipeg. This hotel is situated on Kootenay Lake, opposite Proctor, B.C., and is to be completed by May, 1911. It is to be a frame structure 205 by 150 ft., and will be about 48 ft. high above the first floor, which is to be raised about 10 ft. above the ground on a foundation of boulders embedded in cement. The building will be three stories, and will accommodate about 100 guests.

At Vancouver, the foundations for the first addition to the present hotel have been completed for some time, and W. S. Painter, architect, stated recently that the active construction of the building may be looked for at an early date.

St. Lawrence Boulevard, Montreal.—The C.P.R. has the tunnel carrying its tracks over the boulevard well advanced, but the contractor for other parts of the work has not got on as well as was anticipated, owing to unforeseen delays. The

Board of Railway Commissioners has granted an extension of time to Dec. 30 for the completion of the work.

Lachine Bridge.—A good deal of work is being done in the way of preparing foundations for widening existing piers and new piers for the double track bridge across the St. Lawrence River at Lachine.

The Montreal city council is asking the company to consider an arrangement by which a separate road can be constructed for vehicles, and foot passengers. The present bridge carries only a single railway track, and the plans for the new bridge provide only for a double railway track. The city is extending in the direction of the bridge, and the opinion is expressed that the Dominion and the Provincial Governments should be asked to bear a portion of the cost of providing a roadway on the bridge for general traffic.

Ottawa Tunnel Proposals.—A resolution has been passed by Ottawa real estate men favoring the adoption of the C.P.R. plans for a tunnel through the city. The proposal is to close up the Rideau canal from the deep cut, using the bottom of the canal as a roadbed, and tunneling under Wellington St.

Ottawa, Northern and Western Ry.—Application will be made to the Dominion Parliament to extend the time within which the company may extend its line from Maniwaki to James Bay, and to Lake Timiskaming, Que.

Campbellford, Lake Ontario and Western Ry.—In connection with the approval of the route plans of the Toronto and Eastern Ry., Oct. 12, the Minister of Railways intimated that unless the C.P.R. began the construction of the line surveyed along the lake front within 18 months, he would confer with the Board of Railway Commissioners with a view of having the approval of the route cancelled.

Application will be made to the Dominion Parliament to authorize the company to build from the C.P.R. between Sharbot Lake and Smith's Falls, southwesterly to Cobourg, thence westerly and northwesterly to between Locust Hill and Leaside Jct., instead of the line authorized by sec. 8, chap. 54 of the statutes of 1904.

Toronto Grade Separation.—An order has been issued by the Board of Railway Commissioners approving of the proposed separation of the grades of the C.P.R. over Yonge St. and Avenue Rd., Toronto.

Toronto Terminals.—In an interview at Toronto, Oct. 7, Sir Thos. G. Shaughnessy, President, is reported to have said that while the company was planning the best possible facilities for itself, it was at the same time considering the needs of the citizens. The C.P.R. had spent hundreds of thousands of dollars in buying property in Toronto, and would spend millions in laying out terminal facilities. The contract for using a union station with the G.T.R. had still 40 years to run, and it could only be broken by mutual consent. Some other understanding, apart from a union station at the waterfront might be arrived at. While the company had prepared very elaborate plans for Toronto, it must proceed gradually in carrying them out.

West Toronto Yards.—For some years past the C.P.R. has been steadily acquiring areas of land westerly of its original yards at West Toronto, on the south to Dundas St., and also on the north, and has been laying down additional tracks, so that the yards, as they now exist, extend up to Lambton station and a considerable distance north of the through line. A large area of land owned by the company has not been touched, but some gangs were set at work Oct. 14, grading outside the existing yard tracks. Press

and other statements are to the effect that the yard accommodation is to be largely increased, trackage being laid for an additional 400 cars. The company has been negotiating for some time past with the York township council for permission to close up Jane St., and put in an 8 ft. subway. The matter came up before the council Oct. 3, but was not finally disposed of.

At a meeting of the York township council, Oct. 17, an arrangement was made for the construction of a 26 ft. subway at Jane St., and a 30 ft. subway, with a deviation of St. Clair Ave., instead of the closing up of Jane St. and Scarlett road, as originally proposed.

In connection with the proposed developments at West Toronto, the matter of the subway under Elizabeth St., which is within the city limits, was considered by the Board of Railway Commissioners, Oct. 14. The C.P.R. proposed a 40 ft. subway, while the city asked for a 60 ft. one. After hearing evidence, the Board made an order for one having a roadway 56 ft. wide, the C.P.R. to bear the total expense.

New Freight Route.—As soon as the connection has been completed with the G.T.R. tracks at Mimico, Ont., the C.P.R. will run its freight trains, which now run over the G.T.R. Toronto-Hamilton line, via the Mimico-Islington cut-off, direct into its own yards at West Toronto. This will considerably reduce the traffic in and out of Parkdale station.

Islington-Mimico Branch.—The Board of Railway Commissioners' Chief Engineer inspected the line from Islington to Mimico, Ont., Oct. 18, and approved of its being opened for traffic. J. Osborne, General Superintendent, stated that the spur would not be opened for some time owing to the delay in the installation of the interlocking plant at Mimico by the G.T.R.

Liskeard, Ont.—At a meeting of the Timiskaming Board of Trade, at Liskeard, Ont., Oct. 10, a resolution was passed in favor of increased railway accommodation, and suggesting the opening up of negotiations with the C.P.R., which, through a subsidiary company, has power to build an extension of its Lake Temiscamingue Colonization Ry. from Timiskaming or Kippewa, Que., to Ville Marie and other points north, and a branch could be built round the head of the lake to Liskeard.

Thessalon Station.—Reports from Thessalon, Ont., state that work has been started on a new station at the junction of the Thessalon and Northern Ry. with the C.P.R. Algoma branch, and that the old station is to be abandoned.

Guelph and Goderich Ry.—Application will be made to the Dominion Parliament to extend the time within which the company may build the branch lines authorized by sec. seven, chapter 81 of the statutes of 1904.

Walkerton and Lucknow Ry.—The Dominion Parliament will be asked to extend the time within which the company may build its authorized line from Walkerton to Lucknow, via Teeswater, Ont.

St. Mary's and Western Ontario Ry.—Toronto papers of Oct. 12 stated that the C.P.R. has taken over the St. M. and W.O. Ry. charter, thereby gaining the right of entrance to Stratford and surrounding country, and the right to build a line to Grand Bend, Ont. The line from Stratford to Grand Bend was originally intended to be an electric one, but it is now said that it will be built as a steam road, and that a line will be built from Stratford to Linwood, a station on the Guelph and Goderich Ry. There is a good deal of truth, a good deal of error, and some omissions in these reports.

The St. M. and W.O. Ry. was incor-

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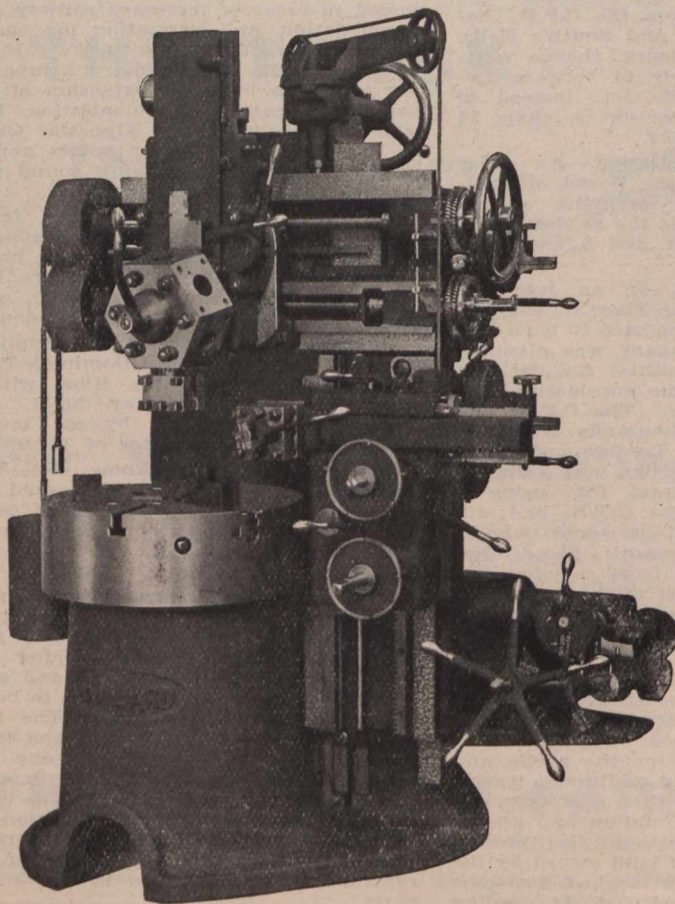
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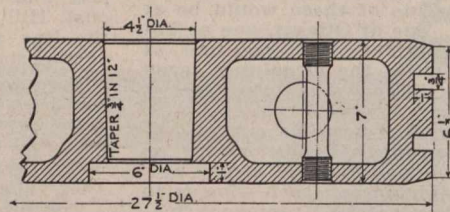
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porated by the Dominion Parliament in 1905, to build from near Woodstock to Sarnia, via St. Mary's and Exeter, and in 1909 it was given power to build additional lines, including one from St. Mary's to Stratford and Linwood, and one from St. Mary's to Grand Bend via Exeter. Under the original act a line was built from St. Mary's to Exeter in 1907-08, where connection was made with the C.P.R., Tillsonburg, Lake Erie and Pacific Ry., and other connections are now being built, so as to make the connection between those lines and the Toronto-Windsor line more perfect. From the first the line has been operated under a 99-year lease by the C.P.R., at a rental equal to 4½% on the bonds issued with the consent of the C.P.R., which also has power under the lease to purchase the entire capital stock of the company at any time within 12 years, for the sum of \$25,000.

The Linwood-Stratford line was surveyed as a branch of the Guelph and Goderich Ry., and the St. Mary's-Stratford line as a branch of the St. M. and W.O. Ry., in 1907, but the negotiations for a right of way through Stratford did not result satisfactorily and the matter has been in abeyance. The Tillsonburg, Lake Erie and Pacific Ry., which is now part of the C.P.R. system, has power under its act to extend its line from Ingersoll to the Georgian Bay, proceeding either via Stratford or Berlin.

Collingwood Southern Ry.—Application will be made to the Dominion Parliament to extend the time within which the company may build the line authorized in 1907 from Collingwood to Baxter, on the Sudbury branch of the C.P.R., and from Collingwood to Orillia, Ont., also on the C.P.R.

Georgian Bay and Seaboard Ry.—Construction is reported to be progressing rapidly on the extension from Coldwater Jet., where it crosses the C.P.R. Toronto-Sudbury line, via Atherly Jct. to Orillia, Ont. Survey work is being gone on with from Orillia easterly, C. W. P. Ramsey being in charge.

The Dominion Parliament will be asked to increase the company's bonding powers and to authorize it to connect with the C.P.R. Toronto-Montreal line between Burketon Jct. and Have-lock, Ont.

London Improvements.—Nothing definite has been announced as to the work to be undertaken at London, Ont., but we understand that the company has acquired the necessary property and proposes in the near future to erect a roundhouse, shops, stores, coal chutes, the necessary tracks for the same, some additional sidings, a yard office, and probably a local station in the vicinity of Quebec St.

South Ontario Pacific Ry.—Application will be made to the Dominion Parliament to authorize the company to build a line from near Guelph Junction to Hamilton, Ont.

The Sault Ste. Marie, Ont., Station is being moved a short distance north of its present site, and some new buildings added for baggage, express and immigration detention rooms. The present curve in the track is to be eliminated and an additional track laid.

Rosport—Pays Plat—Port Arthur.—Considerable work has been done during the season on the track between these points. A number of trestle bridges have been filled in, and concrete and steel bridges have been built at several places. New station buildings are in course of erection at Loon Lake and Dorion.

Fort William Terminal and Bridge Co.—Tenders have been asked by the C.P.R. Assistant Chief Engineer at Winnipeg for the construction of piers and abutments for a bridge across the McKellar

River at Fort William, authorized to be built by the F.W.T.R. & B. Co.

Parliamentary Powers.—Notice is given of application to the Dominion Parliament for an act increasing the company's bonding powers in respect of its Toronto-Sudbury branch; authorizing it to make the terminus of its Lauder branch at Weyburn, Sask., and extending the line for building the following lines:—From north of Teulon to between Marsh Point and the north boundary of tp. 25, Manitoba; from Estevan northwesterly, with power to terminate at Forward, Sask., on the Weyburn branch; from tps. 6, 7, 8 or 9, range 30, west of the second meridian, westerly with power to terminate at Lethbridge, Alta.; from Outlook, Sask., to a junction with the Lacombe branch of the Calgary and Edmonton Ry.; from Lanigan to Prince Albert, Sask., and from Wilkie northerly and westerly towards the Battle River, thence southerly to a junction with the Lacombe branch of the Calgary and Edmonton Ry.

Power will also be asked to build the following additional lines:—From near Boissevain, on the Manitoba and South Western Colonization Ry., to near Lauder, Man.; from near Wilkie, on the Pheasant Hills branch, southerly to a junction with the Moose Jaw branch, in tp. 32, 33 or 34, ranges 22 or 23, west of the third meridian, Sask.; from near Wilkie southerly to a junction with the Moose Jaw branch in tps. 31, 32 or 33, ranges 18 or 19, west of the third meridian, Sask.; from near Conquest, on the Moose Jaw branch to near Asquith or Dunfermline, on the Pheasant Hills branch; from the Crow's Nest branch in sec. 12, tp. 9, range 26, west of the fourth meridian, westerly along the north side of Old Man River, to sec. 36, tp. 7, range four, west of the fourth meridian, 55 miles.

Manitoba and Northwestern Ry.—The Dominion Parliament will be asked to extend the time for building the following lines:—From Yorkton to Prince Albert, Sask.; from Russell to the northern or western boundary of Manitoba; from between Portage la Prairie and Arden to the northern or western boundary of the province; from between Westbourne and Beautiful Plains northwesterly in the direction of Lake Dauphin or Duck mountains; from between Theodore and Insinger to tp. 32, range 18 or 19, west second meridian, with power to terminate in range 16 or 17, and from Bredenbury to Kamsack.

Winnipeg-Brandon Second Track.—The second track between Winnipeg and Portage la Prairie, Man., 55 miles, was handed over to the operating department Oct. 4, and that portion of the line is now being operated as a double track line. The contractors are continuing the grading for a second track from Portage la Prairie to Brandon, but, as we have previously stated, no track will be laid on it this year. A press report from Brandon states that the grading for a second track will be continued from Brandon to Regina, and that the work will probably be completed next year.

Brandon, Man.—Local press reports state that the C.P.R. is preparing plans for a new station for Brandon, Man., and that the building will be gone on with next year. The report also states that it is possible that the company will build a hotel in the city, for which purpose options on certain properties have been secured.

British Columbia Southern Ry.—Application will be made to the Dominion Parliament to extend the time within which the following lines may be built:—From near Michel to Kananaskis, B.C.; from the Elk River and the Kootenay River to the 49th parallel and the

Tobacco Plains, B.C.; from the Lower Kootenay River to New Westminster and Burrard Inlet, with a branch to Nelson, via Salmon River, B.C.; from Michel Creek to Martin Creek, B.C.; from the main line 36 miles west of the eastern boundary of B.C., southerly and easterly, not exceeding 10 miles, and such branch lines from its main line and from the line between Fort Steele and Golden, as may hereafter be authorized by the Governor-in-Council.

Subway at Regina, Sask.—The Board of Railway Commissioners has ordered the C.P.R. to immediately file plans for a subway under its tracks at Broad St., Regina. The subway will carry 19 tracks, and will be 400 ft. long. J. E. Schwitzer, Assistant Chief Engineer, Winnipeg, is reported to have stated that the superstructure will require about 950,000 lbs. of steel, and that that subway will cost altogether about \$1,000,000. The Board of Railway Commissioners will make a further order apportioning the cost of the subway between the company and the municipality.

Estevan Westerly.—In reference to the grading going on north-westerly from Estevan, Sask., we are advised that no track laying will be done this year. It is intended to connect up the mileage thus graded with the line projected from Weyburn to Lethbridge. The reason the work was undertaken was that there was some damage to the crops in the southern portions of Alberta and Saskatchewan, due to lack of rain, and in order to tide the farmers over the winter with cash, the company made an arrangement with J. D. McArthur to do 15 or 20 miles of grading. The company gave a reduced rate from points as far west as Gull Lake, and Mr. McArthur advanced the freight on outfits, holding the teams as security until the money advanced was repaid out of earnings.

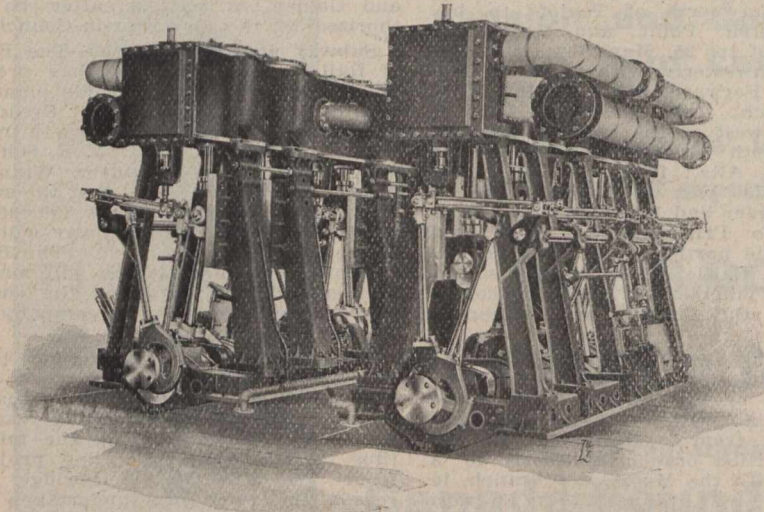
Kipp Jct.—Cassills or Brooks.—Press reports state that C.P.R. engineers are making surveys for a line from near Kipp Jct. to near Cassills or Brooks, Alta., on the main line, and that the survey will be continued through to Saskatoon or some other point in Northern Saskatchewan. The route being surveyed follows the Little Bow River till the Durham Collieries are reached, then strikes north easterly to Bow City, and then on to the main line between Cassills and Brooks.

Wetaskiwin, Alta.—Three new through sidings have been laid in the yards at Wetaskiwin, Alta., and two others are being laid. This will give accommodation for about 200 cars beyond the old facilities. It is reported that four stalls will be added to the roundhouse, making it a 10-stall one. The present one is too small, and to meet the requirements for repairing engines, a quantity of new machinery has been installed in the repair shop.

A press report from Wetaskiwin states that the company proposes to build another dam at Bigstone Creek in the spring, so as to make an additional storage reservoir for 1,000,000 galls., connected up to the local water tank. Some time ago the company made a proposition to the town council with a view of a joint pipe line to Pigeon Lake to provide a water supply for the railway and the town, but after some negotiations the matter was dropped.

Strathcona-Edmonton High Level Bridge.—The bylaw confirmed last session of the Alberta Legislature respecting the contribution to be made by the city of Edmonton towards the building of the high level bridge across the North Saskatchewan River, to connect Strathcona with Edmonton, by the Calgary and Edmonton Ry. (C.P.R.) provides for the raising of \$154,000 by means of debentures for the provision of

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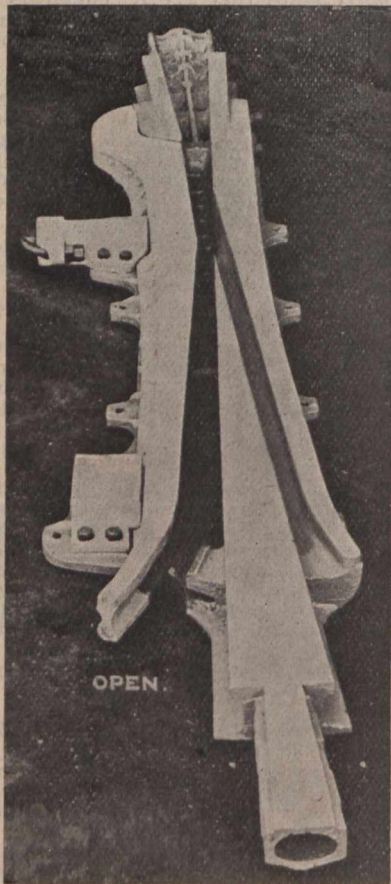
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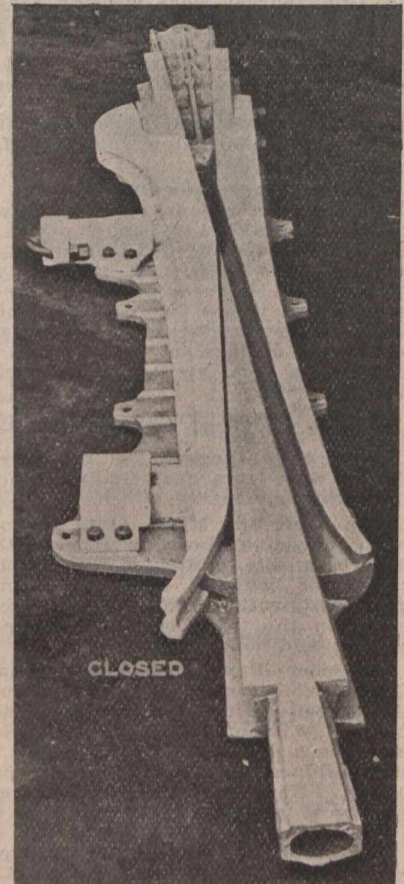
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a traffic deck and other attachments. The agreement attached to the bylaw grants the C. and E. Ry. the right to lay its track along certain streets from the south side of Saskatchewan Ave. to Mackenzie Ave., and westerly to the west limit of Sixteenth St., but this street is not to be crossed until the company is ready to extend the line to the western limits of the city. The city has the right within four years to apply to the Board of Railway Commissioners for an order for an under or overhead crossing of the railway at Sixteenth St. The city further agrees to stop up and close certain streets, and to extend certain avenues across the track by means of overhead bridges, and to carry Jasper Ave. by a subway under the tracks, while the railway company is to build a bridge to carry the track across Saskatchewan Ave. The agreement also contains a great deal of detail as to the dimensions of the bridges to be built, the subways to be constructed, etc., the most important being that the Jasper subway is to be 80 ft. wide, the city to pay \$5,500 for the extra 20 ft. of the right of way.

Improvements at Fernie.—The yard tracks at Fernie, B.C., are being extended northward to the towerhouse at the crossing of the Great Northern Ry. tracks, and to the south as far as the site of the new roundhouse. This will nearly double the yard capacity. The new roundhouse will be built near the site of the old coal chutes, at an early date. A steel bridge has been erected in place of the old wooden one at Coal Creek, just south of the yards. All along the line from Lethbridge to Wardner, heavier steel rails have been laid.

Kootenay and Arrowhead Ry.—Application will be made to the Dominion Parliament to extend the time within which the company may build its projected line from Gerrard to Arrowhead, B.C.

Kootenay Central Ry.—Reports from Wardner, B.C., state that grading is being proceeded with on this line northward from that point; that another grading gang has been working out of Fort Steel for some time, and that about 15 miles of grading has been completed southerly from Golden. It is not likely that any steel will be laid before spring.

Donald Forest Reserve.—An order-in-Council has been passed by the Dominion Government granting the company a lease for 21 years of 6.70 acres of land in the Donald Forest Reserve, B.C., at \$1 a year, for use as a ballast pit.

New Bridge at Cisco.—A new three-span bridge, which has been built at Cisco, B.C., by the Canadian Bridge Co., to replace the old cantilever bridge, was inspected and approved by F. F. Buxteed, General Superintendent British Columbia Division, Oct. 1.

Port Moody and Indian River Ry.—After being held up for some days until the Board of Railway Commissioners had settled some difficulties as to the route, construction has been restarted on this line. The commissioners have decided that the line must be moved for some distance, about 70 ft. back from the right of way previously staked.

Vancouver and Lulu Island Ry.—The Dominion Parliament will be asked to extend the time within which the company may build the branch lines authorized by sec. 3, chap. 86 of the statutes of 1901.

Esquimalt and Nanaimo Ry.—The first 30 miles of the extension of the line from Wellington to Alberni, Vancouver Island, was not opened for traffic Oct. 1, as was anticipated. The necessary authority was subsequently received, and Oct. 19 fixed as the day for

putting on a regular service. The section of the line opened extends from Wellington to Cameron Lake.

A recent press report stated that a contract had been let to Janse, Macdonald and Timothy, for clearing the right of way and grading on the projected branch line to Cowichan Lake. This branch is to be built for the development of the 54,000 acres of timber lands recently purchased by the Empire Lumber Co. of New York, out of the E. and N.R. land grant. While the press dispatches state that the contract has been let, we understand that the matter is not definitely settled, and also applies to the invitation for tenders for the building of the branch line to Comox. (Oct., pg. 859.)

Machinery for N. T. Ry Shop.

The specifications for the supply of the machine equipment for the National Transcontinental Ry. repair shop at the 18-stall roundhouse, at Lake Superior Junction, Ont., as the place is called in the advertisement, or Graham, Ont., as it is called in the specifications and accompanying blue prints, provide for the supply and erection complete of the machinery, with the necessary motive power, as follows:—

ENGINE, GENERATOR AND SWITCHBOARD.—One 50 k.w., d.c. generator, 250 volts, to be mounted on extension base of engine; calculated to deliver its full rated load continuously, with a rise in temperature not to exceed 40 deg. C., in any part of the machine, and of carrying 25% overload for a period of two hours immediately following the above, with a temperature not exceeding 55 deg. C.

One simple non-condensing steam engine, to be direct connected to above generator both units to be mounted on the same base. The engine to be of the enclosed type, horizontal sidecrank; steam pressure 110 lbs., maximum back pressure 5 lbs.; it shall develop its full load rating at $\frac{1}{4}$ cut off, and shall be designed to carry an overload of 50% continuously without overheating in any part.

The switchboard is to consist of one generator panel and one feeder panel.

AIR COMPRESSOR.—One horizontal, duplex, steam driven air compressor, designed for steam pressure at 110 lbs., maximum back pressure 5 lbs., capacity 700 to 800 cubic ft. of free air a minute, at a speed not exceeding 100 revolutions a minute. Automatic speed and pressure regulator to be provided, and to be operated by the air pressure in the receiver.

One vertical air receiver 54 by 12 in., of the best steel, rivetted, and to be tested to 175 lbs. water pressure, and guaranteed safe and tight for a working pressure of 125 lbs., and equipped with necessary screwed openings, valves, etc.

MACHINES.—One 28 in. by 16 ft. motor driven gap lathe complete, with 26 in. four-jaw independent chuck, large and small face plates, six lathe dogs and standard equipment.

One 20 in. by 10 ft. motor driven double back geared engine lathe with taper attachment, with 18 in. four-jaw independent chuck, large and small face plates, six lathe dogs, three tool holders, with tools, complete with standard equipment.

One 16 in. by 8 ft. motor driven high speed double back geared engine lathe with quick change gears, 16 in. four-jaw independent chuck, etc., as for the 20 in. lathe.

One 14 in. by 6 ft. portable motor driven bolt turning lathe, with standard equipment.

One 30 in. by 30 in. by 8 ft. bed motor driven planer, with one tool head

on cross rail, and standard equipment.

One 4 ft. motor driven radial drill, with set of taper sockets and standard equipment.

One 20 in. motor driven vertical back geared drill, with set of sockets, and standard equipment.

One motor driven crank shaper, one motor driven pipe machine to take from one to four inch, right and left hand; one motor driven single head bolt cutter, one motor driven combined punch and shear, 12 in. throat, $\frac{3}{4}$ in. hole, $\frac{3}{4}$ in. plate and to cut $\frac{3}{4}$ in. plate; one 500 lb. motor driven self-contained power hammer, 18 lb. stroke; one 6 in. by 36 in. motor driven grindstone; one double emery grinder, with two 16 in. wheels; one 30 in. motor driven band saw, one 20 in. motor driven buzz planer, two 60 in. updraft circular forges with tanks, complete with stacks; two electric forge blowers, with motors direct connected.

One 50 ton portable forcing press, mounted on four wheels, four column type, with hand operated pump; one three ton portable crane, two swage blocks, 150 lbs., planed true, and the necessary complement of miscellaneous tools necessary in a repair shop of this size.

Atlantic, Quebec and Western Ry.

Since page 909 went to press a London cable to the Montreal Star says:—"Canada is, it seems, directly responsible for the suspension of the Charing Cross Bank, with estimated liabilities of £2,000,000. The bank is trading under the name of A. W. Carpenter, who says he filed his petition in consequence of threats of certain persons to institute criminal proceedings against him in relation to investments of the bank's money in a Canadian railway scheme. It is understood the railway is the Atlantic, Quebec and Western, of whose bonds Carpenter or the bank is believed to hold £800,000. The company here refuses to give the amount of the bonds issued. Carpenter's son is an official of the company in Canada. Carpenter himself is also associated in Canadian oil enterprises. The effect of the suspension is very far-reaching, as the bank had branches in forty leading provincial centres in England, Wales, Scotland and Ireland, and the depositors are largely artisans."

Dominion Railway Subsidy Contracts.

—A contract has been entered into, under the act respecting aid to certain railways, between the Dominion Government and the Halifax and Eastern Ry. for the building of the following line of railway:—From the Intercolonial Ry., near Dartmouth, to Dean's Settlement, 80 miles, thence to Melrose, 2 miles; thence to New Glasgow, and on to Guysborough, with a branch to Country Harbor, 116 miles.

An action has been entered in the Montreal Courts arising out of some transactions between D. Russell and J. E. Greenshields of Montreal in connection with the Qu'Appelle Long Lake and Saskatchewan Rd. and Steamship Co., Russell clearing \$1,250,000 as damages.

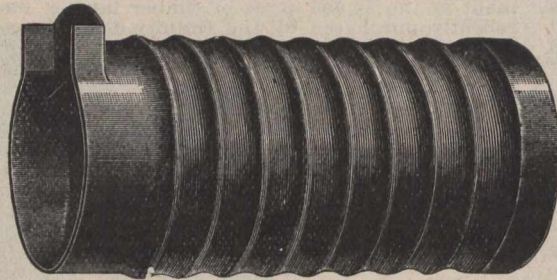
The G.T. Pacific Ry. and the Quebec Central Ry. are reported to be interested in a project for the erection of a hotel at Levis, Que., to cost about \$1,000,000. The city council has promised to give Shaw Park as a site for the hotel.

The statement above referred to was contained in a dispatch sent from Levis, and purporting to give particulars of a resolution passed by the town council at a meeting held Sept. 27. We were advised Oct. 17 that the management of the Quebec Central Ry. is not aware of there being anything in the report, and on the same date, the G.T.R. management advised us that there was no truth in the report.

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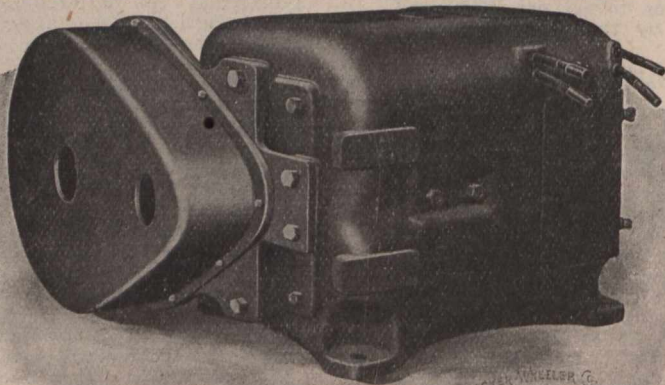
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Canadian Ticket Agents' Association.

The annual gathering of the members of the Association was held in Quebec, Oct. 5, 6 and 7, the Chateau Frontenac being the headquarters. It was one of the most successful in the Association's history, 113 members and a large number of ladies being in attendance. As usual all arrangements had been most carefully made in advance by the secretary, E. de la Hooke.

The business meeting was held Oct. 5, at 10 a.m. J. P. Hanley, President, occupied the chair, and was assisted by S. B. Morris, First Vice President. Mayor Drouin, of Quebec, welcomed the members in French, Alderman Cannon, promayor speaking in French. F. W. Churchill C.P.R. ticket agent Collingwood, Ont., responded for the Association.

The Secretary-Treasurer E. de la Hooke, presented his annual report, in which he congratulated the Association on the fact that death had not invaded its ranks during the year. In referring to the membership he said: "It seems a hard proposition to exceed the 200 mark in our membership, and it is only occasionally that we even number that many, but we are always thereabouts. Twenty-five new members enrolled during the year, which if added to the number 192 reported on the roll last year, would have given us 217 but, alas, the withdrawals numbered 19, so that 198 in good standing is all that we can boast of. Some of the shrinkage arises from men retiring or going into other business, but the greater number are caused by men still eligible, who in spite of persuasion to renew their subscription, maintain an undignified silence. Do members do what they should do, viz. introduce to agents eligible for membership the advantages of joining the Association? I quite believe that were an effort put forth in this direction by each member in his immediate vicinity, good results would follow. That some do this, I know from experience, and our membership is increased thereby. Bear in mind the interests of the Association and its objects at all times, and speak out to your brother agents at every convenient season, as it is only by such means that the Association can grow and be of the power and numerical strength that it should be. When kindred and senior associations acknowledge us by sending delegates to represent them at our meetings, should we not be encouraged to bestir ourselves and prove that we are worthy of such acknowledgment. Let 'Excelsior' be our motto.

"It has often occurred to me that members are not the help to one another that they should be. For instance when a member has ticketed his passengers to a given point, why not then give them his card, suggesting that they call on the member in that place for further transportation, (advising him in the meantime). The passengers would accept it as a mark of attention and it would probably be a profit to your fellow member. Again, if a member visits a city, town or village where a brother is located, call on him (whether you know him or not) get acquainted with him, pass the compliments of the day, compare notes, buy yourself a cigar and say 'So Long.' It is astonishing what these little exchanges of courtesies produce and undoubtedly establish a bond of union much to be desired. Good seed sown in good ground cannot fail to bring forth a bountiful harvest."

The receipts of the year were \$544.25, which, with a balance of \$123.82 from the previous year, made a total of \$668.07. The expenditures were \$498.49, leaving a balance of \$169.58 carried forward.

PRESIDENT'S ADDRESS.

J. P. Hanley said:—"It is with feelings of pleasure beyond expression that I welcome you to our annual convention in this historic city. Probably there is no place in this broad Dominion so suggestive of our past history and of our future possibilities as the hallowed spot wherein we are now assembled. It was from old Quebec in bygone days that the brave and dauntless men set forth through untravelled forest and unknown waters, to lay broad and deep the foundation of Canada's commercial greatness. With what engineering skill they blazed their right of way, with what unerring instinct they selected their line of route and their stations is best shown by the fact that our great railway systems now occupy the trail of these hardy, adventurous travellers of olden days.

"It is with pardonable pride that we as Canadians can reflect on the marvellous growth and development of the business with which we are so intimately associated. It seems but a short time ago when the work of our transcontinental line was projected by the Canadian people. There was grave searching of hearts as to the wisdom of the undertaking. Now there are three lines running from ocean to ocean, practically on Canadian soil, with branch after branch piercing into every corner where business exists, and forming a net-work of railway lines not excelled in commercial excellence and importance the world over. And we seem only at the beginning of our career. This year alone there are thousands of miles of railway under construction. We seem a great empire without bounds, without limitation. By sea as well as by land has our progress been remarkable. It is not long after all in the history of nations, since the canoe of the wandering Indian was the only medium of communication on our Great Lakes and rivers; now this fair Dominion boasts a commercial fleet, her flag may be seen waving proudly aloft over valuable cargoes, in trim and valiant ships that are officered and manned by brave and fearless men, born of the soil of Canada.

"This is the calling with which we are proud to be associated, advancing year by year in public value and benefit. We are in daily association with the traveller, and with his wants and desires we are intimately acquainted. There is therefore on our part a double obligation, to the Company and to the public, for we are in a great measure the agents of both and trusted by both alike. It is therefore with great pleasure I welcome to our meeting the representatives of the American Association of General Passenger and Ticket Agents and also the representatives of the American Association of Passenger Agents, whose presence here cannot but be productive of the greatest good. We will welcome their sound advice and ripe judgment while at the same time they form an important link and bring our association closer to our various administrative heads. The stores of information gained by us in our daily life may through this medium be of wide benefit to our companies and our patrons.

"I draw your attention to our continued growth in numbers as well as in influence. We are to-day 198 strong, the largest in our history. And there are many of our calling whose presence we earnestly desire, whose wise counsel and able assistance we are anxious to secure. To you I appeal. Use every legitimate means to have these enrolled. Let every man here be a missionary in this work. In the words of the Scripture let me say: 'Go ye forth and gather them into the barn.'

"Once more I welcome you. Sincerely do I hope our labors may be crowned with mutual advantages. Let us have a

good time too. We are in a city of hospitality and among a people famed the world over for good cheer and merriment. Let us make our meeting here one that we will recall with pleasant remembrances in the years to come."

AMERICAN ASSOCIATION OF PASSENGER AGENTS.

N. Mooney, General Agent New York Central Lines, Montreal, said: "I have been selected by the American Association of Passenger Agents, many of whom are scattered over the Dominion of Canada, to represent them at this meeting in Quebec. They wish me to convey to you their greetings and the assurance of that brotherly love which keeps the world going. Within the past year I came among you to live, having been appointed General Agent of the N.Y.C. Lines at Montreal. The treatment which I have received from the railway men has been most cordial and greatly appreciated by me. Going to Montreal—a stranger—I was received with open arms.

"I have been asked by President Andrews, of the American Association of Passenger Agents, to say a few words at this meeting. I find the question of transportation, both passenger and freight, is at this moment one of the greatest problems which we have to deal with, both on this and the other side of the border. The passenger department of a railway has in times past been termed the silk stocking end of the corporation—the freight department the money-maker. In other words the freight department the dog, and the passenger department the tail, but conditions have changed. A few years ago, every merchant and manufacturer who shipped a pound of freight over any railway could, for the asking, get transportation for himself, his family or any of his friends, and the consequence was that the passenger trains were running crowded with people but comparatively little revenue coming into the treasury for the service performed. Today, on account of our Interstate Commerce Law in effect in the United States, everyone is treated the same and there is no discrimination, whether it be one of the largest shippers in the country, or one of the most humble citizens, and instead of carrying passengers on free transportation the passenger department is now receiving the revenue which in former years the freight department got all the credit for, while we, the passenger men, did all the work.

"The relation of the passenger and freight departments should be most cordial. You will often hear passenger men say 'That does not concern me, that is a freight matter,' or vice versa. This condition should not exist—we are all working for one cause, to get revenue for the company we represent, whether it be passenger or freight, as the money all goes into the same locker and we all get our pay from the same pay-car. Co-operation is one of the essential things to bring success. Within the past few weeks there have been conferences between the members of the Canadian Board of Railway Commissioners and the Interstate Commerce Commission in regard to this very co-operation, with the sole object of mutual benefit to the railways on each side of the border. I would heartily recommend that each individual member of this Association do everything in his power to bring about this agreement.

"I am sorry I shall have to limit my visit here to a day, as the meeting of the American Association of Passenger Agents takes place in Dallas, Texas, on the 10th and 11th of this month, and business of importance makes it necessary for me to attend. It will be a pleasure for me to convey to that Association

(Continued on pg. 947.)

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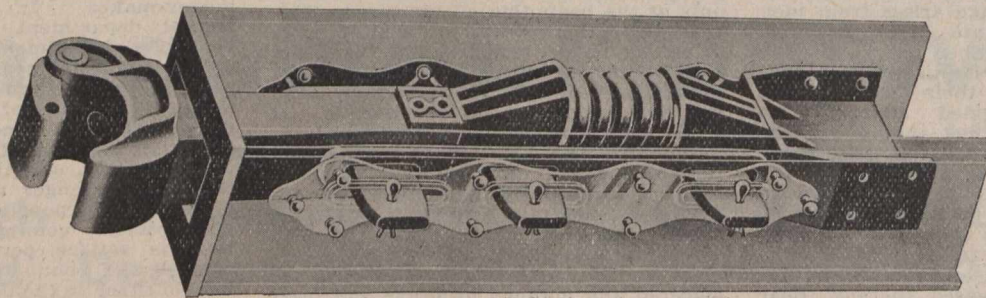
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TORONTO, CANADA, NOVEMBER, 1910.

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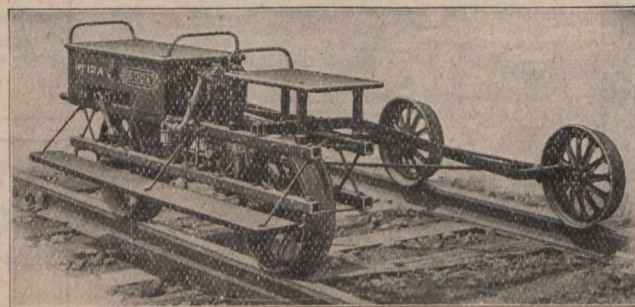
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(Continued from pg. 939.)

the greetings of the Canadian Ticket Agents' Association."

AMERICAN ASSOCIATION OF G. P. & T. A.

The Secretary read a letter from G. A. Cullen, G.P.A., Delaware, Lackawanna & Western Rd., New York, who had been delegated to represent the American Association of General Passenger and Ticket Agents, expressing his regret at being unable to be present and sending the following paper to be read:

"I esteem it a great honor to be invited to address you, representing as you do, so worthily and so fully, the passenger transportation interest of this great and growing division of the British Empire. Standing in this, one of the most historic cities of the New World, viewing the scenes where British valor and British genius have established this Dominion and, with wise laws firmly enforced, have practically created this land of opportunity, it is but natural that our minds should dwell upon at least one (and that one far from the least) of those sturdy virtues that have made England the majestic world power that she has been now these centuries.

"It is told of Prof. Huxley that in the course of a conversation with some savant Huxley was deploring the fact that men of learning were not as a rule better versed in the ordinary facts of every-day life and especially in the facts of nature. The savant took issue, contending that he, himself, being fairly representative of his class, was familiar above the average man with those facts, and challenged Huxley to stump him. Said Huxley: 'Well, well, suppose you define a crab.' 'Oh,' said the learned doctor, 'a crab is a small, red fish that swims backwards.' 'Exactly right,' said Huxley, 'except that a crab is not red, it is not a fish and does not swim backwards.' It was doubtless this sort of thing that led our homely American humorist, Josh Billings, to remark in his crude way, 'The trouble with most folks is, not that they don't know enough, but that they know too darned much that ain't so.'

"Bravery is rightly regarded as the greatest of all virtues, for no other virtue is effective without it. But bravery is not enough. England does not owe her achievements through all these centuries solely, nor even principally, to being braver than her enemies. Was Napoleon less brave than Wellington? Ask Kit-chener if the Dervishes were cowards? Did Havelock's men so greatly surpass the Sepoys in courage? No, England owes her pre-eminence to a far less spectacular virtue than bravery (much as she has had of that), to a virtue without which no nation in the history of man has done great things for so long. If there is one word that expresses the secret of England's long supremacy better than another that word is 'thorough.' Thorough in preparation, thorough in investigation, thorough in execution and administration, and back of it all, thorough in the conscientious daily life of her people. I do not suppose anyone can be educated to be thorough who has not the elements of thoroughness in the fibre of his character, (and that may be why so many practical failures are turned out of our schools and colleges), but the great majority of us Anglo-Saxons have that goodly heritage, although often undeveloped. Thoroughness is made up of an active imagination stimulated by an ambition to get at the facts, of a scorn of superficial half-knowledge, and above all of a readiness and eagerness to work and dig into the very heart of a problem. Thoroughness it is that leads our little ships of life off the treacherous shoals of 'I think' out into the deep and safe channel of 'I know.' Thoroughness is the very cardinal principle of successful railroad administration. As I see

what it is that goes to make an exceptionally eminent railroad president. I am reminded of what someone has said—'Genius is an infinite capacity for taking pains.' We cannot all of us be railway presidents, just as we do not all of us have that infinite capacity that spells genius, but I venture the broad assertion that the man who wishes to travel in the direction of the presidency, rather than towards the other end of the ladder, will do well to develop his capacity for thoroughness. I know of nowhere that thoroughness is more necessary, nor at the same time where the temptation to a lack of thoroughness is greater, than in the important office of railway ticket agent. Temptation to slur over work is always greater where one is removed from daily contact with some supervising officer and deals largely with those who know far less than himself about his business, and it is to the everlasting credit of the ticket agents, both of Canada and the United States, that they have so largely resisted and triumphed over this temptation. Indeed, it is to their thoroughness in mastering the details of their business that their high standing in their various communities and with the travelling public is due. And I may say that a good part of the travelling for pleasure that is done today (and it is a large part of the total), would not be done at all were it not that the 'crooked paths have been made straight' in advance by the well informed, interested and capable ticket agent, and the apprehensions of discomfort allayed by his manner of confidence based on knowledge.

"You have not invited me here to preach a sermon or deliver a lecture, but I trust you will bear with me if I express the contempt both moral and intellectual which I feel for the man who, occupying the dignified and responsible position of ticket agent, representing the passenger department of a great railway Company, attempts, either through the desire to secure business or the even worse desire to cover up his own ignorance to give a passenger information that, as Josh Billings says, 'Ain't so.' 'Bluffing' is poor policy in the railway business. Bluffs always come home to roost, if not to the agent himself, certainly to his company. You and I can remember the day when men had the effrontery to boast of this sort of thing. Thank God it isn't 'good form' in the railway business today.

"Industry and intelligence are things that have made the ticket agent a personified encyclopedia of information in the past and—there is no royal road—these must be relied upon to keep him in that role in the future. I will only refer in passing to two features of a ticket agent's responsibilities that tend to develop his thoroughness and enhance his value to himself and to his company. The first is travel—who would expect a salesman in any other line of business to be successful who had not even seen his 'line of goods?' Particularly should a man know his own line and through car connections, not by the folder and guide merely, but by actual observation. I think many companies make a great mistake in not encouraging their agents, especially at the more important points, to familiarize themselves with the one thing the companies have to sell—transportation. Another means of development for the ticket agent is in employing some of his spare time in soliciting business outside of his office. This not only improves his acquaintance but develops capacities that are very apt to be of much use to him personally.

"But I must not be didactic. You 'know the game' quite as well and probably better than your preacher. I am your guest today. Let me be your host when you can find time to take a trip over the Lackawanna."

A TRIP ROUND THE WORLD.

M. McNamara, G.T.R. ticket agent, Walkerton, Ont., read the following paper: "Some two or three weeks ago I received a note from our esteemed secretary, Mr. de la Hooke, reminding me that I was booked for an address at this meeting, covering a trip around the world on British soil. I certainly felt frightened at his reminder, for I could not see how I was going to manage it. There are considerable stretches of water on the journey and our aeroplanes have as yet an unpleasant habit of tumbling to earth or the sea when required for carrying passengers.

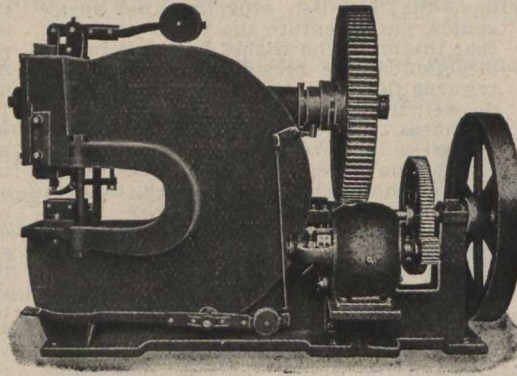
"Last year Mr. McIlroy gave us a most interesting trip around the world starting from Peterboro. A two dollar rate for a certain trip then prevailed in that celebrated town and quite a number took advantage of the figure rate and found the trip most enjoyable. This year I determined to start from Walkerton, the enterprising capital of the county of Bruce. I had seen it stated in print that all sensible people travel by the Grand Trunk. Wishing to be considered a sensible man myself I determined to travel by that route. But instead of going around the world on British soil I decided to make the trip under the British flag. The flag of Britain represents the British soil wherever it flies and is the proud emblem of our nationality in every quarter of the globe. After many great battles all the nations of the earth and all the ships that sail the sea, have been forced to acknowledge its supremacy.

"Setting out from Walkerton by the G.T.R. we soon reach Montreal. Here we have a choice of several fine steamship lines all flying the British flag. We make our choice and sail down the majestic St. Lawrence fringed with beautiful scenery and alive with inspiring historical associations. We pass the grand old city of Quebec peopled with noble memories of the past and not unmindful indeed of the many inspiring attractions of the present. We sail on through the Gulf of St. Lawrence, pass the bleak Island of Anticosti, known in song and story as the graveyard of the Atlantic. The bones of many a noble ship lie bleaching on its desolate shores. On we sail through the straits of Belle Isle and out into the broad Atlantic. The first point of interest that we reach on the other side of the ocean is the Emerald Isle, dear old Ireland, that sweet gem of the sea, that for more than a thousand years has exerted a greater influence on the history of the world than any other place of its size on the habitable globe. When all Europe was a prey to barbarism after the downfall of the Roman Empire in the sixth century, Ireland alone kept the lamp of learning burning. From the time of St. Patrick in A. D. 432, down to the first English invasion under Henry II in 1155, the great university of Armagh, often containing more than 7,000 students, sent forth teachers and missionaries who spread the gospel and founded institutions of learning in every country in Europe.

"Sailing across the Irish Sea, we soon reach England. In many respects England contrasts strongly with Ireland. The union of the two countries has not always been peaceful, but it has produced great results. Liberty trickles down slowly from the founders of empires to the common man and indeed not much of it has yet reached the multitudes in some countries of Europe. By contrast, England may well be considered the cradle of liberty. It unites liberty with security in more just and equal proportions than any other country in Europe. Its union with Scotland under James I in 1603 has produced the happiest results. The Scotch and Irish did the fighting and the English pocketed the proceeds. They did not get the whole

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A HISTORY OF THE PAY-AS-YOU-ENTER CAR AND ITS LESSON

The following cities are using Pay-As-You-Enter Cars: Chicago City Railway, 839 cars; Chicago Railways, 1,328; Public Service Corporation of New Jersey, 466; New York City Railway, 555; Third Avenue Railroad, New York, 550; International Railway, Buffalo, 200; Buffalo & Lake Erie Traction Co., 10; Washington Ry. & Elec. Co., Washington, D.C., 100; Capital Traction Co., Washington, D.C., 51; Municipal Traction Co., Cleveland, Ohio, 180; United Rys. Co. of St. Louis, Missouri, 310; Portland Ry., Lt. & Pwr. Co., Portland, Ore., 25; Columbus Ry. & Lt. Co., Columbus, Ohio, 10; Wichita R.R. & Lt. Co., Wichita, Kan., 14; Jacksonville Elec. Co., Jacksonville, Fla., 5; Dallas Elec. Co., Dallas, Texas, 20; Houston Elec. Co., Houston, Tex., 41; Northern Texas Trac. Co., Ft. Worth, Texas, 25; Ithaca Street Ry., Ithaca, N.Y., 2; Peoria Street Ry., Peoria, Ill., 13; Urbana & Champaign Ry., Champaign, Ill., 3; Mutual Lt. & Water Co., Brunswick, Ga., 4; Rochester Ry. Co., Rochester, N.Y., 25; Ft. Dodge, Des Moines & So. R.R. Co., 2; Muskogee Elec. Trac., Muskogee, Okla., 6; Union Traction Co., Dubuque, Ia., 4; Topeka Ry. Co., Topeka, Kas., 12; United Rys. & Elec. Co., Baltimore, Md., 32; Detroit United Ry., Detroit, Mich., 225; Cincinnati Traction Co., Ohio, 50; Montreal Street Railway, 400; British Columbia Elec. Ry., 30; Calgary Street Railway, 18; Metropolitan Street Ry., Kansas City, Mo., 50; Edmonton Radial Ry., 4; San Antonio Traction Co., San Antonio, Tex., 6; Rockford & Int. Ry., Rockford, Ill.; Cairo Street Ry. & Lt. System, 6; Des Moines City Railway, Iowa, 12; Macon Ry. & Lt. Co., Macon, Ga.; Virginia Ry. & Power Co.; Columbia Elec. St. Ry. & Lt. & Power Co., Columbia, S.C.; Aurora, Elgin & Chicago Ry., Chicago, Ill.; Wichita Falls Traction Co., Wichita Falls, Tex.; Ottawa Electric Ry. Co., Ottawa; Bloomington & Normal Ry. & Lt. Co., Bloomington, Ill.; Corsicana Transit Co., Corsicana, Tex.; Compania Electrica y de Ferrocarriles, Mexico; The Milwaukee Elec. Ry. & Lt. Co., Milwaukee, Wis.; Springfield Street Ry. Co., Springfield, Mass.; Lynchburg Traction Co., Lynchburg, Va.; Chicago & Southern Traction Co., Chicago, Ill.; Calumet & South Chicago Ry. Co., Chicago, Ill.

THE LESSON

taught by this widespread use of Pay-As-You-Enter Cars is obvious. Increased Revenue, Accident Elimination and Schedule Improvement have been demonstrated in every case. Isn't all this sufficient to show that it always pays to operate the Pay-As-You-Enter Car? Why not remodel some of your present cars?

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of them, though, for the canny Scot pertinaciously asserted his claims to a pretty good share, and got it too. The Irish will get their reward hereafter. In our journey around the world, under the British flag, one may well pause for a while in the British Isles. Looking at a map of the world we cannot help being struck with amazement at the thought that such a little country as England, Scotland and Ireland, the whole of them not much larger than half a dozen Canadian counties, should have achieved such astonishing results. They have established the greatest empire the world has ever known. The glories of ancient Rome fade before it. It covers the world, and has brought the priceless blessing of political liberty to mankind. What is the cause of this extraordinary result? Why have not other nations risen up to dispute its achievements? France was the first in the field as the leader of civilization in Europe. We may well accord it the same claim in America. Standing here in grand old Quebec, amidst so many monuments of its ancient glory, and recalling the greatness of its history, on this continent, we may well ask why England has taken the lead? Is it due to the different character of the people, or is it the result of their different political institutions?

Proceeding leisurely across the English Channel in our good ship, still flying the British flag, we stop for a moment at Calais in France. This was the last British possession on the continent of Europe. We must remember that the kings of England from the Norman conquest in 1066 down to the death of Queen Anne in 1710, claimed to be also kings of France, and much good blood was spilled and many bloody battles fought in support of this claim. Calais was alternately French and English for a century, but was finally taken by the French in 1554, whilst Mary Tudor was Queen of England. It is a matter of history that Mary died of a broken heart at the loss of Calais. On her death bed she said that if her body were opened 'Calais' would be found written on her heart. We don't take things so seriously now, or possibly time has changed the value of their possession. But we sail on from Calais with scarcely a thought of its ancient glory. Coasting along at our leisure along the coast of France and Spain, we come to Gibraltar. What British heart does not thrill at the name of Gibraltar? It was anciently known as one of the pillars of Hercules and has been held alternately by the Turks, the French and the Spaniards until it finally fell into the hands of the British in 1704. The fortress commands the entrance to the Mediterranean and is considered impregnable. We now peacefully enter the straits and sail down the Mediterranean. In the midst of these historic waters we find the little island of Malta, with the British flag flying proudly from its government house. I need scarcely remind a religious assembly like this, that St. Paul was shipwrecked at Malta in A.D. 62. Indeed it is difficult to go to any place of either ancient or modern renown, without finding the British flag at the top of the mast. At the end of the Mediterranean we come to the Suez Canal. It is said that in the time of the Romans, Caesar had a channel for his galleys cut through from Aden to Port Said, 90 miles. But it fell into disuse afterwards and again filled up with the sands of the desert. The present canal was cut by a French company, under the celebrated French engineer, M. de Lesseps, in 1858, but became British property in 1876, through a purchase of the majority of the stock for \$22,500,000, by a vote of parliament. This is the modern way of accomplishing great things, for money is now the ruler of the world. We go through the Suez

Canal with our flag flying, and pass into the Red Sea, going down along the coast of Egypt, which in effect has become a British possession. It is surprising how a handful of British people have obtained control of this wonderful country. Its population is about 20,000,000 and its civilization dates from the beginning of the world. The first of its Pharaohs, or great kings, is said to have been a grandson of Noah. It is now a British colony.

"Passing out of the Red Sea through the Gulf of Aden, we sail on to India, picking our way through hundreds of islands all flying the British flag. India has a population of over two hundred million people, composed of all sorts of Oriental castes and races. Their internal divisions enable a handful of British people to rule this vast empire, and this again illustrates the genius of Great Britain for governing the world. From Hindustan we cross the Bay of Bengal and out into the China Sea. Here again the commercial genius of the British people is most wonderfully exemplified. They have a strong grip on China and to a large extent dominate its commerce. China is not well known to the western world. Its own people claim an antiquity of a hundred thousand years, but western historians assert that it was founded by our own ancestor Noah as soon as he got out of the ark. It has a population of four hundred million industrious, capable people, who are now studying the civil and military arts of Europe and America. Four hundred million people with guns in their hands and able to use them as well as ourselves is a threatened peril that our descendants will one day have to face. After exploring China under the protection of the British flag, we return to our ship and pass on down through the Molucca Islands and on to New Zealand, Van Dieman's Land and Australia. For want of time we have to overlook the immense British possessions in South Africa, and the swarms of British islands in the Indian Ocean, the South Atlantic and the Pacific. Van Dieman's Land was for the first half of the last century used as a convict station for political prisoners, chiefly from Ireland. New Zealand was discovered by Capt. Cook in 1770. He found potatoes there in 1773 and took them to Europe. Sir John Hawkins had found them previously in Chili and Peru in 1565 and Sir Francis Drake found them in Santa Fe in 1586, but Sir Walter Raleigh found them in Virginia in 1560, during the reign of Queen Elizabeth, and planted them in Ireland. He is fairly entitled to the credit of having first grown both potatoes and tobacco in Europe. And such is the irony of history, that Elizabeth's successor, James the First, cut off his head. His Majesty did not smoke. With the British flag proudly floating from our mast head, we arrive at Australia. It is the largest island in the world and has an area of three million square miles. It was first known as New Holland and belonged to the Dutch, but became British by the usual process in 1790. It competes with Canada for the honor of being the greatest British possession under the flag.

"And now we are approaching our own beloved Canada, from the other side of the world. Sailing from Australia up the Pacific ocean we reach Vancouver. Here we take a C.P.R. train, under the superintendency of our old friend, Mr. Foster, and in due time, reach Walkerton. And what sensible man does not rejoice at living in Walkerton, a small, modern city, with advantages that neither Caesar nor Napoleon could enjoy? Fine schools, beautiful churches, graded streets, city water, sewers, cement sidewalks, electric lights, and the most enlightened public sentiment in the proudest country that flies the British flag.

Such is our beloved home."

AFTERNOON SESSION.

The business meeting was resumed after luncheon when letters were read from D. McNicoll, Vice President C.P.R., G. T. Bell, Assistant Passenger Traffic Manager, G.T.R., and M. H. Bohreer, District Passenger Agent, Mobile & Ohio Rd., Chicago, regretting their inability to be present, W. E. Rispin, G.T.R. ticket agent, Chatham, who was prevented from attending owing to illness in his family, wrote respecting his representation of the Association at the American Association of General Passenger and Ticket Agents' meeting in Havana.

Invitations for the holding of the next annual meeting at Charlottetown, P.E.I., and Sault Ste. Marie, Ont., were received from the civic and board of trade officials of those places and were referred to the executive committee.

The question of obtaining transportation on U.S. railways for members of the Association who were not wholly engaged in the ticket business was discussed, and it was decided to ask G. A. Cullen, G.P.A., Delaware, Lackawanna & Western Ry., to take the matter up.

A resolution was passed expressing sympathy with W. Bunton, G.T.R. ticket agent, Peterboro, Ont., who was unable to attend owing to illness.

The following officers, etc., were elected for 1911:—President, J. F. Dolan, Montreal; First Vice President, S. B. Morris, Rodney, Ont.; Second Vice President, J. L. Thomson, Charlottetown, P.E.I.; Third Vice President, A. Philips, Huntingdon, Que.; Secretary-Treasurer, E. de la Hooke, London, Ont.; Auditor, F. M. Hawley, Cobourg, Ont.; Executive Committee, W. Jackson, Clinton, Ont.; M. McNamara, Walkerton, Ont.; W. McIlroy, Peterboro, Ont.; C. E. Horning, Toronto.

The re-election of E. de la Hooke as Secretary-Treasurer for the twenty-fifth year in succession, and the voting of an increase in his salary, produced much enthusiasm.

J. F. Dolan, the President elect for 1911, having thanked the members, the meeting adjourned.

SOCIAL FEATURES.

The Quebec Transportation Club had charge of the outside entertainment features of the programme, which, owing to the liberal co-operation of C. E. A. Carr, General Manager of the Quebec Railway, Light, Heat and Power Co., were carried through most successfully. On the morning of Oct. 5 the ladies of the party were taken on a sight-seeing trip around the city on special electric cars, and in the afternoon they were taken by special electric train to Montmorency Falls and the Kent House. In the evening the Association had a smoking concert at the Chateau Frontenac for the members and men guests, the ladies being entertained at a social in the parlors. On the morning of Oct. 6 the whole party went by special electric train to the Shrine of Ste. Anne de Beaupre, and then had luncheon on the C.P.R. s.s. Empress of Ireland, afterwards going on a trip round the harbor and to the Quebec bridge site, on one of the Quebec and Levis Ferry Co.'s boats. In the evening they went to see vaudeville and motion pictures at the Auditorium Theatre. On Oct. 7 the party went by special electric train to the village of Indian Lorette, where they received a hearty welcome from the Huron tribe. President Hanley was presented with an address and a bouquet, and was made a chief of the tribe, with the euphonious name of Onsedeksen-dishen. In the evening there was a reception and dance at the Kent House.

In appreciation of courtesies extended, the Association presented handsome cut glass mementoes to C. E. A. Carr, General Manager Quebec Ry., Light, Heat

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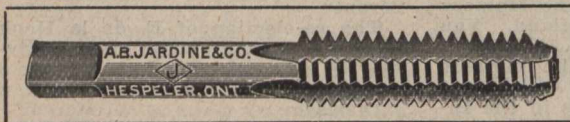
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In addition to the fuel wastage is the expense of boiler repairs made necessary by the same causes. • On bad water districts the average mileage obtained per set of boiler flues is many times less than what can be accomplished with good water.

Dearborn Treatment prevents the scaling salts from forming, and stops leaks, corrosion, and pitting.

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& Power Co., and Honorary President of the Quebec Transportation Club; also to two members of the club's committee, J. S. Blanchet, of the Quebec Ry., Light and Power Co.'s freight and passenger department, and F. O. Stocking, city passenger and ticket agent, Quebec Central Ry.

Railway Finance, Meetings, Etc.

Alberta Ry. and Irrigation Co.—Approximate net profits from all sources, exclusive of land sales, for Aug., \$27,146, against \$39,533 for Aug., 1909. Cumulative net profits for two months ended Aug. 31, \$45,881, against \$69,536 for same period 1909. Approximate traffic receipts for Sept., \$32,007, against \$33,567 for Sept., 1909. Cumulative traffic receipts for three months ended Sept. 30, \$90,013, against \$88,189 for same period 1909.

Alexander Gibson Ry. and Manufacturing Co.—The courts have fixed Feb. 11, 1911, as the date for sale by auction of the properties belonging to this company. The sale comes as the result of an equity suit brought for the foreclosure of mortgages amounting to over \$500,000. The company formerly owned the Canada Eastern Ry. and the bridge over the St. John River, which gave the line an entrance into Fredericton, N.B. The Canada Eastern Ry. was bought by the Dominion Government and added to the Intercolonial Ry., and the bridge was taken over by the Dominion Government under the agreement by which the bond issue had been guaranteed. The company's railway interests at present are nominal, consisting of short spurs necessary for connecting its mills and timber limits with the railway systems of the province.

Algoma Central and Hudson Bay Ry.—A cablegram from Paris, France, says:—"La Journale Officielle contains a notice of the Algoma Central and Hudson Bay Railway, incorporated under the Canadian company law, having head offices in Sault Ste. Marie and a capital of \$10,000,000, \$500,000 of ordinary and \$500,000 of preference shares, besides which an issue of \$6,750,000 in debentures is authorized. It is proposed to place stock valued at 3,000,000 francs in Paris."

Canada Atlantic Ry.—Following are the officers and directors for the current year:—President, C. M. Hays; Vice President, E. H. Fitzhugh; Secretary-Treasurer, F. Scott; other directors, W. Wainwright, J. W. Loud, W. H. Biggar, R. S. Logan; General Auditor, W. H. Ardley.

Canadian Northern Ry.—The Edmonton and Slave Lake Ry. application for the amalgamation of which with the C. N. Ry. is being applied for, has outstanding \$420,000 of 5% bonds. These were bought by the C.N.R. and are deposited as part of the collateral for the C.N.R. 4% perpetual consolidated debentures.

Central Canada Ry.—The second mortgage bonds will be redeemed Nov. 1 on presentation at the Bank of Montreal, or at the C.P.R. Treasurer's office.

Detroit, Grand Haven and Milwaukee Rd.—The State of Michigan has instituted a suit to recover about \$3,000,000 alleged arrears of taxes from this railway, which is one of the U.S. lines controlled by the G.T.R. The company under its charter, granted in 1860, pays a tax of 1% on its capital stock. This stock is nominally \$2,517,140, but the State contends that it is entitled to tax the capital actually invested in the line as the basis of calculation, instead of the nominal value of the common stock, as shown by the entries in the

company's books. This the State authorities estimate at \$7,000,000, and seek to collect taxes on this valuation for past years. R. S. Logan, Assistant to the President G.T.R., said in an interview recently, that this was an old claim, and had been successfully resisted on a previous occasion. He could not understand what the present suit meant, in the absence of papers.

The Dominion Atlantic Ry. will apply to the Dominion Parliament to authorize it to enter into an agreement with the C.P.R. for any of the purposes specified under sec. 361 of the Railway Act. At the annual meeting in London, Eng., recently, the President, T. Skinner, who is also a C.P.R. director, stated that almost all of the preference and ordinary stock of the company had been acquired by friends of the C.P.R. in accordance with the terms of the circular issued May 12. The report of the directors for the year ended June 30 was adopted.

Dominion Atlantic Ry.—Gross earnings for Aug., \$160,600, against \$158,380 for Aug., 1909. Aggregate gross earnings for two months ended Aug. 31, \$308,200, against \$301,737 for same period 1909.

Hillcrest Collieries.—A dividend of 1 1/4% has been declared on the preferred stock, payable to shareholders of record Sept. 30. In addition to its collieries in Alberta, the company owns a coal carrying railway, connecting with the C.P.R.

The Grand Trunk Ry. Co. will ask the Dominion Parliament for all necessary powers, to be exercised subject to approval of the shareholders, in respect of the following matters:—Semi-annual payment of dividends; providing a reserve fund for extensions, renewals, maintenance, repairs, etc.; to acquire, etc., the stocks, bonds or other securities of the Montreal and Southern Counties Ry.; to guarantee interest at 4% upon an issue of first mortgage bonds of the G.T. Western Ry., payable 50 years from date thereof; to issue such additional G.T.R. consolidated debenture stock as may be necessary in the exercise of the powers conferred by this act, and by the G.T. Ry. Act of 1910; and repealing certain inconsistent provisions of former acts.

Intercolonial Ry.—The figures for the traffic on the Intercolonial Ry. for the half year ended Sept. 30, have not yet been given out officially, but it is stated, unofficially, that they show a surplus of about \$250,000.

Massawippi Valley Ry.—Following are the officers and directors for the current year:—President, J. G. Foster, Derby Line, Vt.; Vice President, C. W. Cate, Sherbrooke, Que.; other directors, J. W. Dunklee, Boston, Mass.; C. H. Kathan, Rock Island, Que.; F. N. McCrea, C. D. White, E. O. Grundy, Sherbrooke, Que.; H. N. Turner, St. Johnsbury, Vt., and J. H. Williams, Walpole, N.H.

Quebec and Lake St. John Ry.—Total earnings for Sept., \$65,721.94, against \$56,919.49 for Sept., 1909. Aggregate total earnings for nine months ended Sept. 30, \$441,785.19, against \$444,750.21 for same period 1909. The average earnings per mile for Sept. were \$230.27, against \$199.72 for Sept., 1909, and for the nine months ended Sept. 30, \$1,559.33, against \$1,567 for the same period in 1909.

Quebec Central Ry.—Gross earnings for July, \$124,070.89; expenses, \$77,501.16; net earnings, \$46,569.73, against \$107,411.36 gross earnings; \$67,443.04 expenses; \$39,968.32 net earnings for July, 1909.

Quebec Southern Ry. and South Shore Ry.—Application will be made to the Exchequer Court at Ottawa on behalf of the Attorney General for the ap-

proval of the settlement of the claims of C. K. Lawton, J. Hesselstine and W. Bloom. The creditors of the company have been called upon to show cause why the settlement shall not be confirmed. This action arises out of the winding up of the affairs of the old companies, which were in the hands of a receiver prior to their acquisition by the Delaware and Hudson Co., by which company they were amalgamated, and are now operated as the Quebec, Montreal and Southern Ry.

Quinze and Blanche River Ry.—Following are the officers and directors for the current year:—President, Hon. E. H. Bronson; Vice President, F. P. Bronson; other directors, W. G. Bronson and H. W. Cole; Secretary-Treasurer L. Cran-nell.

Temiscouata Railway.—At the annual meeting in Quebec Sept. 27th, the General Manager's report was read by Vice President J. H. Walsh, who presided owing to the unavoidable absence of President F. Grundy, from illness. The gross earnings showed an increase over the preceding year, and operating expenses a decrease. After meeting the fixed charges, 5% on the prior lien bonds, and \$10,000 for redemption fund account, a dividend at the rate of 1% per year was declared on the consolidated mortgage income bonds, and an appropriation of \$8,000 made from net revenue for permanent betterments to the line, leaving \$5,000 to carry forward. Following are the officers and directors for the current year:—President, F. Grundy, Sherbrooke, Que.; Vice President, J. H. Walsh, Sherbrooke; other directors, E. O. Grundy, Sherbrooke; A. K. Cook, K.C., F. Murphy, K.C., A. Laurie, W. N. Campbell, Quebec; Secretary, D. B. Lindsay, Riviere du Loup; General Manager, G. G. Grundy, Riviere du Loup.

White Pass and Yukon Ry.—Gross earnings for Aug., \$227,850, against \$252,600 for Aug., 1909. Aggregate gross earnings for two months ended Aug. 31, \$442,187, against \$476,257 for same period 1909.

Railway Commissioners' Traffic Orders.

Other orders under this heading will be found on pg. 917.

CLASSIFICATION RATINGS ON BUILDING MATERIAL.

11899, Oct. 7.—The application of C. D. McGregor, of Vonda, Sask., complaining that rate charged by Canadian Northern Ry. on shipment of building material from St. Boniface, Man., to Vonda, was excessive. Upon the report and recommendation of the Chief Traffic Officer of the Board, concurred in by the Canadian Freight Association, it is ordered that the forthcoming new Canadian Classification 15 provide a building material list as follows:—

Building Material—	L.C.L.	C.L.
Brick:		
Common	4	10
Fire (not stove lining)	4	10
Hollow	4	10
Terra cotta fire-proofing	4	10
Cement:		
Asbestos	4	10
Common, in sacks or barrels	4	10
Gravel, common	4	10
Lime, common	4	10
Plaster:		
Asbestos	4	10
Calcined	4	10
Elastic pulp, in bags or barrels	4	10
Plaster of Paris, adamant and stucco, in bags or barrels	4	10
Sand:		
Asbestos	4	10
Common	4	10
Stone:		
Artificial	4	10
Dressed, not polished, carved or lettered	4	10
Blocks:		
Concrete building	4	10
Blocks, slabs or spires:		
Unwrought	4	10
Coursing and dimension	4	10

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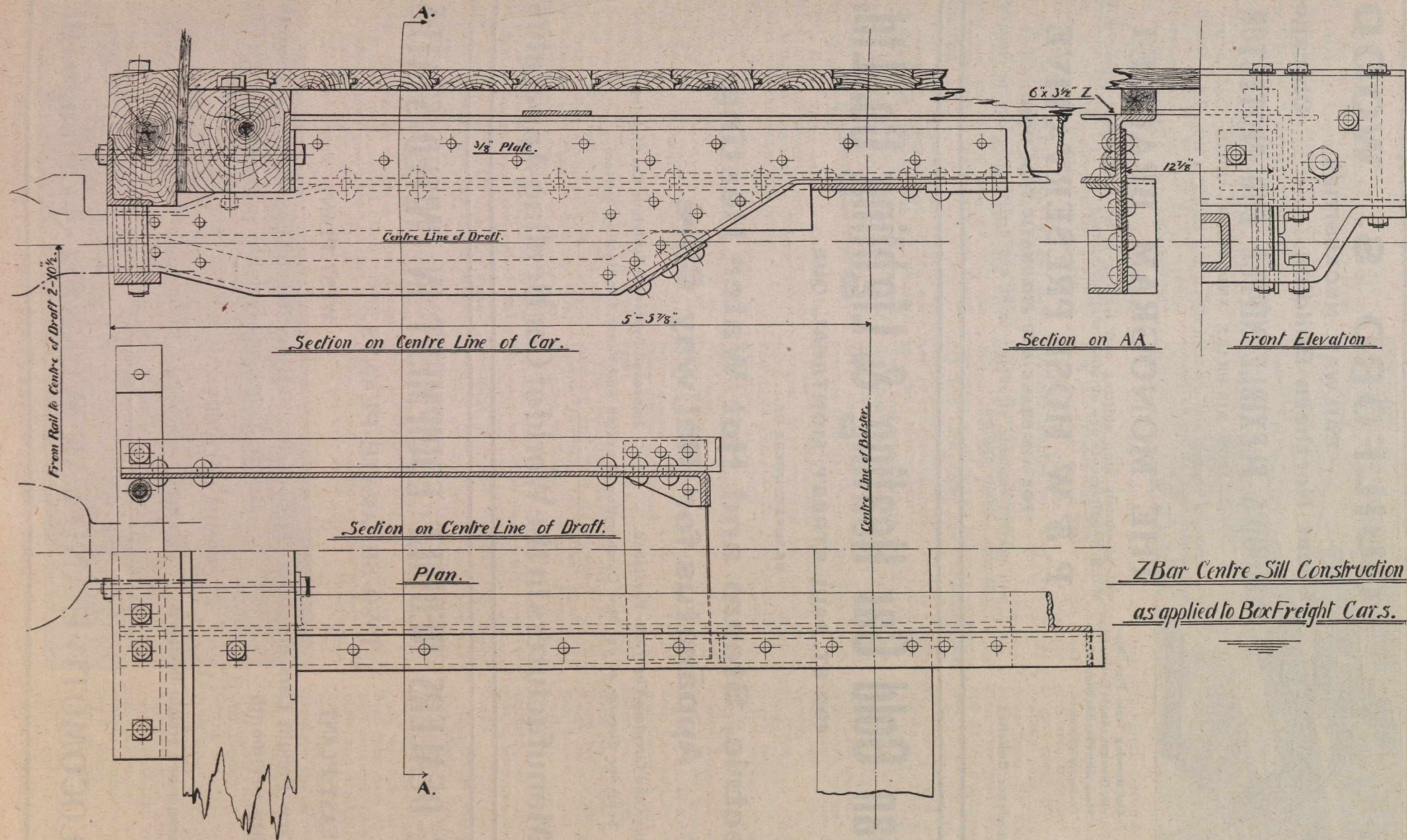
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MANAGER



Z Bar Centre Sill Construction
as applied to Box Freight Car.s.

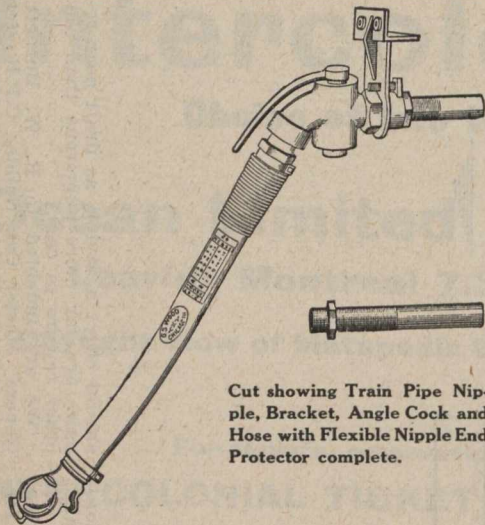
Canadian Pacific Railway Steel Centre Sills.

The plans on this page and illustrations on pg. 951 show the Z bar centre sill construction as applied to C.P.R. cars, with Farlow draft gear attached to the sills.
The C.P.R. is using this type of con-

struction on all the new wooden cars it is building. The arrangement can also be applied to old cars when the wooden centre sills require to be replaced. The arrangement can be adapted to suit any of the standard types of draw gear

It is claimed that this type of construction will reduce the cost of repairs to draft riggings and save renewals of draft timbers and centre sills, making the car practically as substantial, for draft gear purposes, as a steel car. This

should effect a saving, as draft gear repairs are far more numerous than any other repairs to cars.
We are indebted to R. W. Burnett, General Master Car Builder C.P.R., for the drawing, photographs and data.



Cut showing Train Pipe Nipple, Bracket, Angle Cock and Hose with Flexible Nipple End Protector complete.

Correspondence Solicited

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RAILWAY NECESSITIES

Great Northern Building - Chicago

WOOD'S FLEXIBLE NIPPLE END PROTECTOR

FOR AIR-BRAKE AND SIGNAL HOSE

Prevents chafing and abrasion effecting a saving of from 40 to 50% in maintenance of air-brake hose.

THE MONOGRAM BRACKET

will absolutely stop shifting and leaking of air-brake train pipes. All M.C.B. requirements are obtained and maintained.

P. & W. HOSE PRESERVATIVE

FOR AIR-BRAKE AND PNEUMATIC TOOL HOSE

will prevent cracking of rubber cover and deterioration due to climatic changes. Easily applied.

Canadian Gold Car Heating & Lighting Co. Ltd.

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Electric, Steam and Hot Water Heating Apparatus for Railway Cars

Catalogues and Circulars Cheerfully Furnished.

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LARGEST DEALERS REBUILT EQUIPMENT IN UNITED STATES

TWO SEPARATE PLANTS

EAST PLANT

Capacity, 25 New Freight Cars per day
10 New Coaches per month

WEST PLANT

Capacity, 10 Heavy Repairs Locomotives per month
Besides Coach and Freight Car Repairs

PROMPT DELIVERY

New Passenger and Freight Equipment

Rebuilt Locomotives, Passenger and Freight Equipment

HICKS LOCOMOTIVE AND CAR WORKS, = Chicago, Ill.

Railway Rolling Stock Notes.

The Standard Chemical Co., Faussett, Que., has purchased one locomotive from the Montreal Locomotive Works.

The Toronto, Hamilton and Buffalo Ry. has received two locomotives from the Montreal Locomotive Works.

The Intercolonial Ry. has received five consolidation locomotives (replace) from the Canadian Locomotive Co., Kingston, Ont.

The G.T.P.R. has received 166 box cars, nos. 312051 to 312216, and 99 refrigerator cars, nos. 340050 to 340148, from the Canadian Car and Foundry Co., Montreal.

By a typographical error the weight of the C.P.R. locomotive, class T2a, was given as 289,000 lbs., instead of 239,000 lbs., in the table showing the counter-balance record, published on pg. 819 of our Oct. issue.

The C.P.R., between Sept. 26 and Oct. 14, received the following additions to rolling stock:—172 box cars, eight vans, 48 refrigerators, 32 flat cars, one first class car, one second class car, and one D. 10 locomotive, from its Angus shops, Montreal.

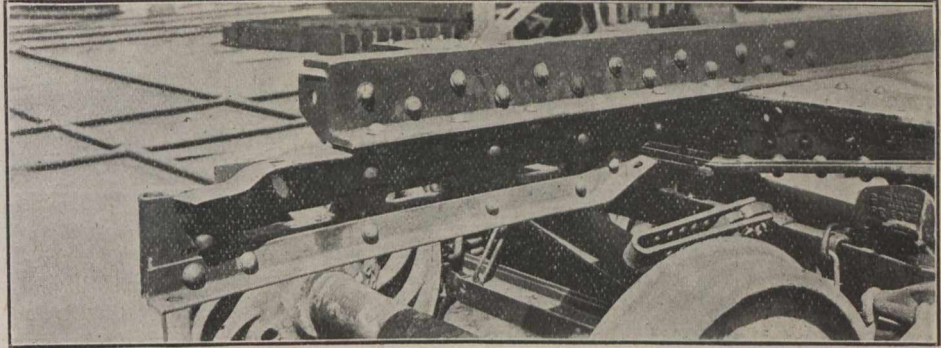
There was shipped from Vancouver, B.C., Oct. 11, a barge load of flat, box and passenger cars for the G.T. Pacific Ry., Prince Rupert, and on another barge, a locomotive, combination passenger car, two box cars and four flat cars for the Portland Canal Short Line Ry., Stewart, B.C.

The Black Lake Asbestos Co. has ordered one four-wheeled locomotive from the Montreal Locomotive Works. Following are the chief details:—

Gauge	3 ft.
Weight in working order	55,500 lbs.
Wheel base	6 ft. 3 in.
Cylinders	13 by 18 ins.
Driving wheel diameter	36 ins.
Boiler, type	Straight top.
Boiler pressure	165 lbs.
Tubes, number and diameter	100; 2 ins.
Tubes, length	10 ft.
Brake	Steam.
Capacity, water	1,000 U.S. gals.

The C.P.R. between Aug. 16 and Sept. 27, ordered the following rolling stock:—One D. 10 locomotive, one first class car, one double track plow, five single track plows, two flangers, 228 box cars, six refrigerator cars, 45 stock cars, 61 flat cars, and 12 vans at its Angus shops, Montreal; five steel snow plows, six steel frame flat cars, three steel coal cars, nine ballast cars, and three ore cars, from the Canadian Car and Foundry Co., Montreal, and one 75 ton wrecking crane in the U.S.

The Canadian Northern Ry., between Sept. 15 and Oct. 15, placed orders for the following rolling stock:—20 first class coaches, 10 baggage cars, three dining cars, eight second class coaches, four snow plows and 1,350 box cars with the Canadian Car and Foundry Co., Montreal; 250 box cars with the Silliker



Z Bar Centre Sill on C.P.R. cars, with Farlow draft gear attached.

Car Co., Halifax; 10 second class coaches with the Crossen Car Mfg. Co., Cobourg, Ont., and two combination second class and baggage coaches and two baggage and mail coaches with the Preston Car and Coach Co., Preston, Ont.

The Canadian Northern Ry., between Sept. 15 and Oct. 15, received the following additions to rolling stock:—Four first class coaches, two baggage cars and 245 box cars, from the Canadian Car and Foundry Co., Montreal; 15 cabooses and 10 refrigerator cars, from the Crossen Car Manufacturing Co., Cobourg, Ont.; one second class coach, one second class and baggage car, and 35 box cars, from the Silliker Car Co., Halifax, N.S., and four baggage and mail coaches from the Preston Car and Coach Co., Preston, Ont.

Haney, Quinlan and Robertson, contractors, have received two locomotives from the Montreal Locomotive Works, and have ordered one four-wheeled locomotive, of which the following are the chief details:—

Weight in working order	56,000 lbs.
Wheel base	6 ft. 3 ins.
Cylinders	13 by 18 ins.
Driving wheel, diameter	36 ins.
Boiler, type	Straight top.
Boiler pressure	165 lbs.
Tubes, number and diameter	100; 2 ins.
Tubes, length	10 ft.
Brake	Steam.
Capacity, water	1,000 U.S. gals.

The Canadian Northern Ry., between Aug. 15 and Sept. 15 received the following additions to rolling stock:—50 flat cars, six stock cars and 10 cabooses from the Crossen Car Manufacturing Co., Cobourg, Ont.; two dining cars, 360 box cars, one first class coach, and two second class and baggage cars from the Canadian Car and Foundry Co., Montreal; 65 box cars, four second class coaches, and two second class and baggage cars from the Silliker Car Co., Halifax, N.S., and 10 switching and 12 ten wheel locomotives from the Montreal Locomotive Works.

The C.P.R., between Aug. 16 and Sept. 27, received the following additions to rolling stock:—372 wooden box cars, six first class cars, 14 vans, 62 re-

frigerator cars, one flanger, two baggage and smoking cars, two second class cars, three dining cars, six first class and smoking cars, two first class suburban cars, five baggage cars, three sleeping cars, and nine D. 10 locomotives from its Angus shops, Montreal; 532 steel frame box cars from the Canadian Car and Foundry Co., Montreal, and 23 N. 3 locomotives from the Montreal Locomotive Works.

Following are the chief details of the 25 logging cars which the British Columbia Electric Ry. is having built by the Canadian Car and Foundry Co., Montreal, as mentioned in our last issue:

Capacity	80,000 lbs.
Length over end sills	41' 0"
Width over side sills	9' 0"
Width over flooring	9' 3"
Height, rail to centre of drawbar	2' 10 1/2"
Height, rail to top of floor	4' 0"
Couplers	Simplex, side opening
Air brakes	Westinghouse K.C-812
Wheels	33" cast iron
Journal boxes	Cast iron
Journal bearings	5" by 9" Canadian Bronze Co.
Trucks	Diamond arch bar
Body and truck bolsters	Simplex

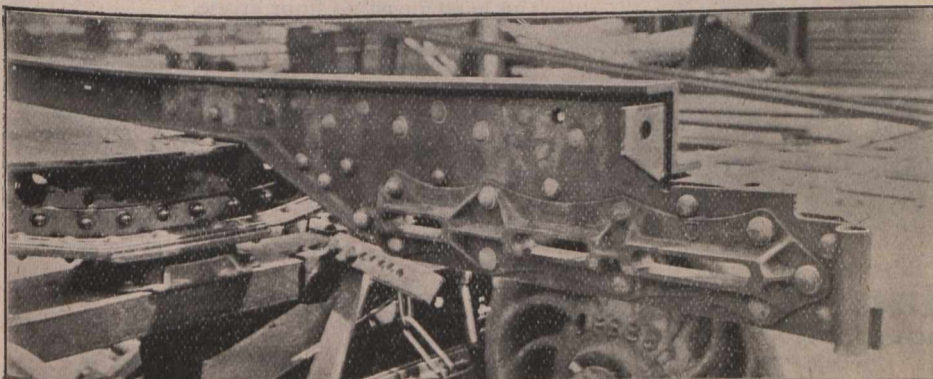
Following are chief details of the 50 logging cars which the Fraser River Lumber Co. is having built by the Canadian Car and Foundry Co., Montreal, as mentioned in our last issue:—

Capacity	80,000 lbs.
Length over end sills	41 ft.
Width over side sills	8 1/2 ft.
Width over flooring	8 ft. 10 ins.
Height, rail to centre of drawbar	2 ft. 10 1/2 ins.
Height, rail to top of flooring	3 ft. 6 1/2 ins.
Body bolsters	Cast steel.
Couplers	Simplex side opening.
Air brakes	Westinghouse KC-812.
Wheels	33-in. cast iron.
Journal boxes	5 by 9 ins.
Journal bearings	Canadian Bronze Co.
Truck bolsters	Cast steel.
Trucks	Diamond arch bar.

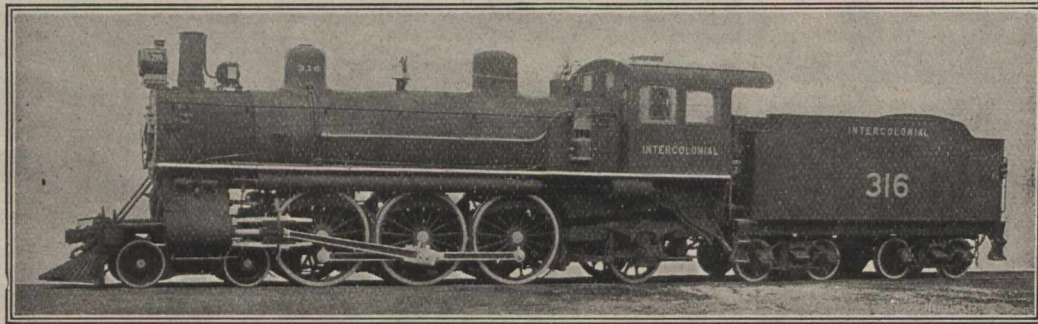
The C.P.R., between Sept. 26 and Oct. 14, ordered the following additions to rolling stock:—Three D. 10 locomotives, two observation-sleeping cars, 15 sleeping cars, two parlor cars, seven dining cars, 90 suburban cars 65 ft. long, 25 first class cars 65 ft. long, five first class and smoking cars 65 ft. long, five first class and smoking cars, 67 ft. long, five second class cars 65 ft. long, 10 tourist cars, 24 baggage and express cars, 10 baggage and smoking cars, 50 box cars, seven refrigerator cars, 13 stock cars, nine flat cars, and 12 vans, from its Angus shops, Montreal; one ore car and four coal cars from the Canadian Car and Foundry Co., Montreal.

The combination coach and parlor car which the International Ry. of New Brunswick is having built by the Canadian Car and Foundry Co., Montreal, as mentioned in our last issue, is arranged with parlor, 29 ft. 3/4 in. long, smoking compartment 7 1/2 ft. long, ordinary first class compartment 17 ft. 8 ins. long, and toilet accommodation. Following are the chief details:—

Length over end sills	60' 0"
Length over platforms	66' 4"
Width over side sills	9' 10 1/2"
Width over all at eaves	10' 2 3/4"
Width between deck sills	5' 6"



Z Bar Centre Sill on C.P.R. cars, with Farlow draft gear attached.



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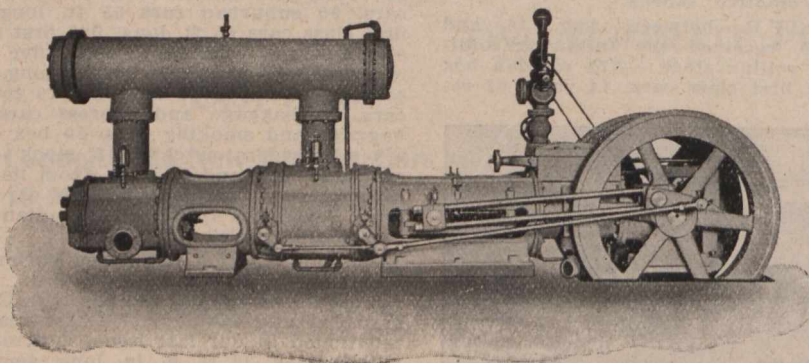
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Canadian RAND Co., Limited

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TORONTO

COBALT

WINNIPEG

ROSSLAND

VANCOUVER

HALIFAX

Vestibules	None
Hoppers	Duner Co.
Air brake	Westinghouse P. 1412
Lighting	Oil
Trucks	Four wheel
Journals	5 by 9"
Side bearings	Susemihl

The three parlor-cafe cars which the Temiskaming and Northern Ontario Ry. is having built by the Canadian Car and Foundry Co., Montreal, consist of parlor 17 ft. long, smoking room 7 ft., dining room 20 ft. 1/2 in., with accommodation for 18 persons, with pantry and kitchen 16 3/4 ft., toilets and other conveniences. Following are the chief dimensions:—

Length over end sills	70'	3 1/2"
Length over platforms	80'	3 1/2"
Width over side frame	9'	9 3/8"
Width over side sill angles	9'	8 3/8"
Width over all at eaves	10'	1 3/8"
Width between deck sills	5'	6"
Height, top of wood side sill to bottom of side plate	7'	0"
Height over roof boards	14'	1"
Centre to centre of trucks	51'	10"
Framing, underframe	Steel	Steel
Framing, balance	Steel and wood	
Vestibule	Pullman, wide	
Water supply	Air pressure	
Heating	Canadian Gold Car Heating Co.	
Lighting	Pintsch gas	
Air brakes	Westinghouse L.N. 1812	
Truck	All steel, 6-wheeled	

Following are the chief dimensions and details of the 11 D. 10 locomotives, nos. 2685 to 2697, which the C.P.R. is building at its Angus shops, Montreal:—

Weight on drivers	143,000 lbs.
Weight, total	192,000 lbs.
Cylinders	21 by 28 ins.
Driving wheels, diameter	63 ins.
Boiler, type	Radial stayed, wagon top.
Boiler pressure	200 lbs.
Heating surface, tubes	2,263 sq. ft.
Heating surface, superheater	408 sq. ft.
Heating surface, firebox	190 sq. ft.
Tubes, number and diameter	24 5-in., 240 2-in.
Tubes, length	14 1/2 ft.
Firebox	100% by 69 3/4 ins.
Grate area	49 sq. ft.
Capacity, water	5,000 gals.
Capacity, coal	10 tons.
Air brakes	Westinghouse ET. 6.
Brake shoes	C.P.R. standard.
Brake beams	Simplex diamond, inside hung.
Couplers	Tower.
Headlight	Pyle National Electric.
Journal bearings	C.P.R. standard.
Lubricators	Detroit 5 feed.
Springs	C.P.R. crucible steel.
Wheel centres	Cast steel.
Tractive effort	34,400 lbs.

The steam motor car which the G.T.R. is building at its Point St. Charles shops, Montreal, for service over the International Bridge at Buffalo, N.Y., as mentioned in our July issue, will have a pair of driving wheels and a two-wheeled radial truck in front, and a four-wheeled passenger car truck at back. It will be equipped with headlight at each end, and Westinghouse air brakes on driving wheels, and four-wheeled truck with train air connections front and back, and air signal apparatus, with 8 inch air pump. Following are the chief dimensions and details:—

Weight, total	104,000 lbs.
Cylinders	11 by 16 ins.
Boiler, type	Straight top.
Tubes, number and diameter	144, 1 1/2 ins.
Tubes, length	66 1/2 ins.
Firebox	36 3-16 by 38 1/4 by 50 ins.
Heating surface, total	360 sq. ft.
Grate area	9.6 sq. ft.
Couplers	M.C.B. automatic.
Heating	Gold system.
Length over end sills	60 ft.
Length over drawbar	68 ft. 4 ins.
Width of body at lower deck crown moulding	10 ft.
Width of upper deck	6 ft. 1 1/2 ins.
Height from rail to top of roof	13 ft. 10 ins.
Height from rail to top, over all	14 ft. 10 ins.
Height from rail to centre of coupler	2 ft. 11 ins.
Wheel base, one truck	8 ft.
Wheel base, total	52 ft.
Smoking compartment	11 ft. 7 ins.
Passenger compartment	31 ft. 6 in.
Length inside, total	58 ft. 2 ins.
Width inside	8 ft. 9 ins.
Height from floor to underside deck rails	7 3/4 ft.
Engine room	16 ft.
Wheels	34 ins. steel tired
Journals	4 1/2 by 8 ins.
Lighting	Oil
Seating capacity, body	42
Seating capacity, smoker	16

MAINLY ABOUT PEOPLE.

D'Arcy Tate, Solicitor Grand Trunk Pacific Ry., Winnipeg, has been admitted to the Manitoba bar.

Mrs. Camp, mother of W. J. Camp, Electrical Engineer C.P.R. Telegraphs, died in Montreal Oct. 15.

C. D. Jameson, formerly Master Mechanic G.T.R. Western Division, Battle Creek, Mich., died at Montreal, Oct. 10.

Jno. Moffatt, of the Canadian Northern Ontario Ry. survey staff, was married recently to Miss Eva Lancaster, of Havelock, Ont.

N. Curry, President of the Canadian Car and Foundry Co., has been elected a director of the Travellers Life Insurance Co. of Canada.

Mrs. A. McDonald, sister of Jas. Leitch, K.C., Chairman of the Ontario Railway and Municipal Board, died at Chicago, Ill., Oct. 8.

G. A. Sharp, Superintendent Prince Edward Island Ry., Charlottetown, P.E.I., was married at Sussex, N.B., Oct. 4, to Mrs. Henry Bosworth.

Miss M. L. McHattie, daughter of T. McHattie, Superintendent of Motive Power, Central Vermont Ry., was married Sept. 22, to B. S. Dixon.

H. Davidson, for 36 years in the service of the Quebec Central Ry., latterly as station agent at Sherbrooke, Que., died there Sept. 29, aged 58.

Sir Thos. G. Shaughnessy, President C.P.R., has contributed \$5,000 to the Notre Dame Hospital, Montreal, fund, which now amounts to over \$200,000.

C. E. E. Ussher was entertained to dinner by Winnipeg railway men before leaving for Montreal to assume the duties of Passenger Traffic Manager C.P.R.

F. Barlow Cumberland, Port Hope, Vice President Niagara Navigation Co., has been re-elected a member of Senate of Toronto University, to represent Trinity College.

W. R. Haldane, General Freight Agent C.P.R. Kootenay and Boundary District, Nelson, B.C., went to the Halcyon Hot Springs, B.C., recently for the benefit of his health.

C. H. Gilroy and A. Allen, civil engineers engaged on the G.T. Pacific Ry., were drowned in Woodworth Lake, near Prince Rupert, B.C., Oct. 6, owing to the upsetting of their canoe.

J. W. Pyke, Montreal, has been elected President of the Keewatin Flour Mills Co., in succession to the late Jas. Crathern. Mr. Pyke has retired from Lake of the Woods Milling Co.'s directorate.

M. J. Heney, a native of Pembroke, who has carried out a number of large contracts on the C.P.R., and who built part of the White Pass and Yukon Ry., died in San Francisco, Cal., Oct. 11.

Miss Doris Allan, youngest daughter of A. A. Allan, of H. and A. Allan, Ltd., and President of the Shipping Federation of Canada, was married to R. Cowans, of Winnipeg, at Montreal, recently.

R. Potts, formerly Master Car Builder M.C.R. at St. Thomas, Ont., died there, Oct. 10, aged 75. He held that position for about 25 years, and was superannuated in 1904.

Miss E. C. Jones, elder daughter of L. K. Jones, I.S.O., Secretary of the Department of Railways and Canals, Ottawa, was married there recently to W. G. Richardson, of the Bank of Montreal, Winnipeg.

Miss Elizabeth Irving, elder daughter of Capt. Jno. Irving, formerly manager of the Canadian Pacific Navigation Co., was married at Victoria, B.C., recently, to A. F. West, R.N. on H.M.S. Shearwater.

H. C. Jell, of the C.P.R. accounting department, was presented with a case of pipes by the C.P.R. official staff at Moose Jaw, Sask., on his leaving the service recently. He has gone to live in California.

C. S. L. Hertzberg, second son of A. L. Hertzberg, Division Engineer C.P.R., Toronto, was married there Oct. 12, to Miss J. T. Todd, granddaughter of J. S. Playfair, President Muskoka Lakes Navigation and Hotel Co.

N. Monsarrat, President of the Kana-wha and Michigan Rd., who died suddenly in New York, Sept. 30, was a native of London, Ont., but had been engaged in railway work in the U.S. for nearly 50 years.

A. W. Smithers, Chairman of the Board, G.T.R., left Montreal recently for New York en route for England, after having completed his inspection of the G.T.R., the G.T. Pacific Ry. and the National Transcontinental Ry.

The International Accident Underwriters' Association has awarded the George E. McNeill medal to T. Reynolds, the C.P.R. conductor who distinguished himself in the accident at Spanish River early in the year.

Lucius Tuttle who recently retired from the Presidency of the Boston and Maine Rd., has been elected Chairman of the Board, a new office. He was, between 1887 and 1889, Passenger Traffic Manager, C.P.R., Montreal.

M. J. Butler, Second Vice President and General Manager Dominion Steel Corporation, and formerly Deputy Minister of Railways and Canals, delivered an address to the Canadian Club at St. John, N.B., recently, on transportation.

Lieut.-Col. H. H. McLean, K.C., M.P., President and General Manager New Brunswick Southern Ry., and connected with other transportation enterprises in New Brunswick, has been elected President of the New Brunswick Rine Association.

R. W. Leonard, C.E., formerly engaged in railway construction work, was the principal guest at a dinner given recently by the graduates of the engineering department of Toronto University, in honor of his appointment to the University Board.

Thos. Skinner, director C.P.R. and member of the Hudson's Bay Co.'s board and H. Burbidge, Commissioner of Shops for the Hudson's Bay Co., arrived in Montreal, from England, Oct. 14 and proceeded to Winnipeg, on Hudson's Bay Co.'s business.

J. Hendry, President of the Vancouver, Westminster and Yukon Ry., returned to Vancouver, B.C., recently from a six months trip to Europe, for the annual meeting of the Canadian Manufacturers Association, of which he was President, recently held in Vancouver.

T. D. Kevin, Train Dispatcher Alberta Ry. and Irrigation Co., Lethbridge, Alta., returned to duty Sept. 30, after some weeks absence on account of ill health, but had a relapse on the following day, and is likely to be off duty again for some considerable period.

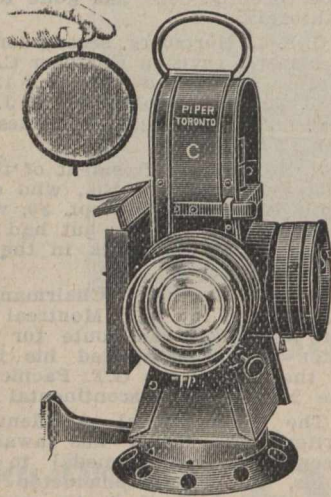
Col. Sir Henry M. Pellatt, of Toronto, who is associated with various electric railway and other transportation enterprises, was gazetted to the 3rd class of the Royal Victorian Order, in connection with the recent trip of the Queen's Own Rifles of Toronto to England.

B. W. Yates, who committed suicide in Cleveland, Ohio, recently, formerly resided in Brantford, Ont. He was a son of the late H. Yates, railway contractor, Brantford, and had himself been engaged in railway contracting, and was at one time financially interested in the Pere Marquette Rd.

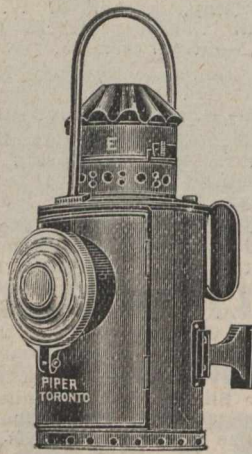
A. B. McDougall, who died in Lan-

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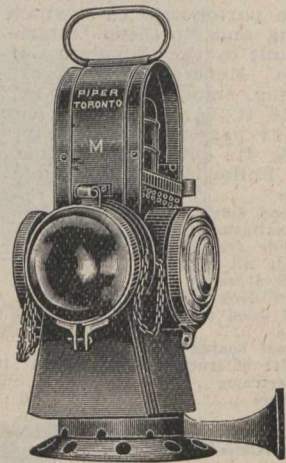
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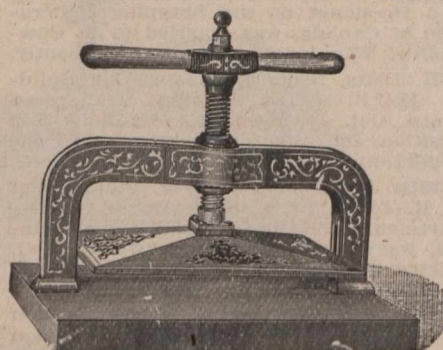
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caster tp., Glengarry county, Ont., Sept. 28, aged 84, spent a number of years as foreman and contractor on railway construction in Canada and the U.S. He is said to have been the first man to use nitro-glycerine in tunnel work, on the Hoosac tunnel.

A. E. Killam, Inspector of Bridges and Buildings I.C.R., Moncton, N.B., was married there, Oct. 11, to Miss J. H. Elliott. The wedding trip in the United States was arranged to include the convention of the American Railway Bridge and Building Association at Denver, Col., of which he is Third Vice President.

W. E. Lovelock who was recently appointed city ticket agent, C.P.R., Saskatoon, Sask., was born in London, Eng., July 1, 1870, and was from 1884 to 1903, in the Passenger Department of the old Metropolitan Ry. there. He came to Canada in 1904, since when he has been, to 1906, in Passenger Department C.P.R. Calgary Alta.; 1906 to Aug. 1910, ticket agent, C.P.R., Calgary, Alta.

A. Gauthier, North Bay, Ont., engaged on the Temiskaming and North Bay Ry., engineering staff, lost his bearings, but fell 40 ft. to the ground. When discovered by a search party he was found to have received serious injuries, including a fractured thigh. He was taken to the North Bay hospital, Oct. 9.

H. H. Adams, who has been appointed General Manager Toronto, Hamilton and Buffalo Ry., Hamilton, Ont., was born at Detroit, Mich., Aug. 13, 1876, and entered railway service, July, 1899, as draughtsman on the M.C.R. After as draughtsman in the engineering department, he was appointed Assistant Chief Engineer, Mar., 1902; secretary to the General Superintendent, Nov., 1902; Assistant Superintendent Canadian Division, Jan., 1904, and General Superintendent T.H. & B.R., Oct., 1909.

Garrett Vliet, who has been appointed Master Mechanic Western Division, G.T.R., Battle Creek, Mich., was born at Milwaukee, Wis., in 1856, and entered railway service in 1877, since when he has been, to 1879, draughtsman St. Louis and San Francisco Rd., Kansas City, Mo., Feb. 1879 to 1889, draughtsman Wabash Rd.; 1889 to July 1898, General Foreman Wabash Rd.; Oct. 1898 to Apr. 1899, General Foreman G.T.R., Battle Creek, Mich.; Apr. 1899 to Oct. 1910, Assistant Master Mechanic District 1, G.T.R. at Portland, Me.

R. L. Fairbairn, who has been appointed District Passenger Agent Canadian Northern Ry., Saskatoon, Sask., was born at Stillwater, Minn., Nov. 24, 1880, his parentage being Canadian, and entered railway service July 1899, since when, he has been, to Mar. 1904, in office of Auditor of Passenger Receipts, G.N.R.; Mar. 1904, to May 1, 1906, in Passenger Traffic Manager's office, G.N.R.; May 1, to Dec. 1, 1906, assistant rate clerk, G.N.R. Passenger Department; Dec. 1, 1906 to June 1, 1908, chief rate clerk G.N.R. Passenger Department; June 15, 1908 to Oct. 1910, chief clerk Passenger Department, Canadian Northern Ry., Winnipeg.

C. Murphy, who has been appointed General Superintendent of Transportation C.P.R. Eastern lines, Montreal, was born at Prescott, Ont., Nov. 20, 1865, and entered C.P.R. service in 1888, since when he has been, to 1885, operator; 1885 to 1890, chief operator and dispatcher; 1890 to 1899, Chief Dispatcher, Ottawa; 1899 to June, 1900, acting Superintendent, and June, 1900, to 1902, Superintendent at Chapleau, Ont.; 1902 to Nov., 1903, Superintendent, North Bay, Ont.; Nov., 1903, to Feb., 1908, Superintendent District 2, Ontario Division;

Feb. to June, 1908, relieving General Superintendent at North Bay, and at Montreal; June, 1908, to Sept. 30, 1910, General Superintendent Eastern Division, Montreal.

G. A. Montgomery, whose appointment as Superintendent Michigan Division Algoma Central and Hudson Bay Ry., Michipicoten Haroor, Ont., was announced in our last issue, was born at Bradford, Ont., Feb. 11, 1871, and entered transportation service Sept. 1, 1886, since when he has been, to Sept., 1887, assistant to agent Northern Ry., Newmarket, Ont.; Sept., 1887, to Mar., 1889, agent G.T.R., Powassan, Ont.; Mar., 1889, to Mar., 1890, freight clerk C.P.R., North Bay, Ont.; Mar., 1890, to June, 1893, chief clerk C.P.R. freight office, Sudbury, Ont.; June to Aug. 31, 1893, relieving agent, C.P.R. North Bay Division; Aug. 31, 1893, to June, 1900, chief clerk to Superintendent District 1, Lake Superior Division, North Bay, Ont.; June, 1900, to Aug. 28, 1902, chief clerk to General Superintendent Algoma Central & Hudson Bay Ry., Sault Ste. Marie, Ont.; Aug. 28, 1902, to Aug. 15, 1910, Superintendent Manitoulin and North Shore Ry., Sudbury, Ont.

Jas. Black, who was recently appointed Freight Claim Agent, Saskatchewan Division C.P.R., at Moose Jaw, was born near Seaford, Ont., Apr. 19, 1858, and entered railway service June 1, 1880, since when he has been, to July, 1881, assistant in freight office, Great Western Ry., St. Thomas, Ont.; July to Oct., 1881, assistant in freight and ticket office, same road, St. Catharines, Ont.; Oct. to Dec., 1881, freight checker, C.P.R., Winnipeg; Dec., 1881, to May, 1882, clerk in freight office, C.P.R., Winnipeg; from May, 1882, to May, 1886, he was not in railway service; May to Nov., 1886, freight checker Northern Pacific Rd., Duluth, Minn.; Nov., 1886, to Mar. 1889, he was not in railway service; Apr. to Aug., 1889, clerk to freight shed foreman, C.P.R., Vancouver, B.C.; Aug., 1889, to Aug., 1890, claim clerk, C.P.R., Vancouver, B.C.; Aug., 1890, to Apr., 1899, chief clerk and cashier, C.P.R., New Westminster, B.C.; Dec., 1899, to Feb., 1900, acting agent C.P.R., Nelson, B.C.; Feb., to Apr., 1900, chief clerk and cashier, C.P.R., Nelson, B.C.; Apr., 1900, to Apr., 1901, clerk in Claims Office, C.P.R., Winnipeg; Apr., 1901, to Dec., 1904, claim clerk, C.P.R., Winnipeg; Jan. to Dec., 1905, chief claim clerk, C.P.R., Winnipeg; Jan. to Dec., 1906, chief clerk Claims Office, C.P.R., Winnipeg; Jan., 1907, to Aug., 1910, Assistant Freight Claim Agent C.P.R., Winnipeg.

Chas. Macdonald, who has been appointed a member of the Quebec Bridge Board of Engineers, in place of M. Fitzmaurice, C.M.G., London, Eng., resigned, was born at Gananoque, Ont., Jan. 27, 1837, educated at Queen's University, Kingston, Ont., and graduated from the Rensselaer Polytechnic Institute, Troy, N.J., in 1857. His first engineering work was on G.T.R. construction in Michigan, where he remained until the completion of the line. From 1863 to 1868 he was engaged on the Philadelphia and Reading Rd., and in 1868 commenced private practice as consulting engineer in New York City, and undertook the construction of a number of bridges on the Delaware, Lackawanna and Western, Delaware and Hudson, Pennsylvania and other important railways. In 1884 he became a member of the Union Bridge Co., and later senior partner. In this connection he designed some of the largest bridges in the U.S. built by his company, amongst which are the Poughkeepsie bridge over the Hudson River, the Merchants bridge at St. Louis, over the Mississippi River; the Leavenworth bridge, the bridge over the Ohio River at Cairo, Ill; the Sixth St. bridge at Pittsburg, Pa., and the Hawkesburg

bridge in New South Wales, Australia, the construction of which he superintended in 1887. He was elected Vice President of the American Bridge Co., an amalgamation of companies in 1900, and remained in that capacity until that company was absorbed by the U.S. Steel Corporation, when he retired from active work. He has been a member of the American Society of Civil Engineers since 1869, and was Vice President in 1873-74, and President in 1908. He is also a member of the Canadian Society of Civil Engineers, member of the Institute of Mining Engineers, Trustee of the Rensselaer Polytechnic Institute, Troy, N.J., and was formerly a Trustee of the Stevens Institute and of the East River Bridge, New York. In 1894 Queen's University, Kingston, conferred the degree of LL.D. on him.

TRANSPORTATION APPOINTMENTS.

The information under this head, which is almost entirely gathered from official sources, is compiled with the greatest care, so as to ensure absolute accuracy. Anyone who may notice any error in our announcements will confer a favor by advising us.

Canadian Northern Quebec Ry.—J. J. Sunderland, heretofore Assistant Superintendent Quebec and Lake St. John Ry., Quebec, has been appointed Assistant Superintendent C.N.Q.R., vice R. S. Richardson, resigned. Office, Joliette, Que.

Canadian Northern Ry.—J. Moore, heretofore car foreman at Rainy River, Ont., has been appointed freight repair foreman, Winnipeg, vice T. Musgrove, appointed coach yard foreman, at Winnipeg. The position of car foreman at Rainy River has been abolished.

O. C. Bishop, heretofore Inspector, has been appointed Assistant Superintendent Sleeping, Dining and Cafe Parlor Car Department. Office, Winnipeg.

M. L. Flett has been appointed Inspector Sleeping, Dining and Parlor Cafe Parlor Car Department, vice O. C. Bishop, promoted. Office, Winnipeg.

R. L. Fairbairn, heretofore chief clerk Passenger Department, Winnipeg, has been appointed District Passenger Agent. Office, Saskatoon, Sask.

J. S. McKay has been appointed Dining Car Agent at Prince Albert, Sask.

Canadian Pacific Ry.—C. Murphy, heretofore General Superintendent Eastern Division, has been appointed General Superintendent of Transportation, Eastern Lines. Office, Montreal.

J. M. R. Fairbairn, heretofore Principal Assistant Engineer, has been appointed Engineer Maintenance of Way Eastern Lines. Office, Montreal.

M. G. Murphy, heretofore General Travelling Passenger Agent Western Lines, with headquarters at Winnipeg, has been appointed General Travelling Passenger Agent all lines, with headquarters at Montreal.

J. A. Canavan has been appointed agent at Windsor St. station, Montreal, vice R. Miller, who has been appointed passenger trainmaster in charge of all passenger train movements, and with special charge of all immigrants' trains and connections there.

T. Whalen, heretofore head ticket examiner Windsor St. station, Montreal, has been appointed station master in charge of constables, gatekeepers and light porters there.

W. J. Brown, heretofore locomotive foreman at Toronto, has been appointed locomotive foreman at Havelock, Ont., vice D. S. Taylor, transferred to London, Ont.

E. J. Murphy, heretofore assistant locomotive foreman at Toronto, has been appointed locomotive foreman there, vice W. J. Brown, transferred.

C. Wheeler, heretofore night locomotive foreman at London, Ont., has been appointed assistant locomotive foreman at Toronto, vice E. J. Murphy, promoted.

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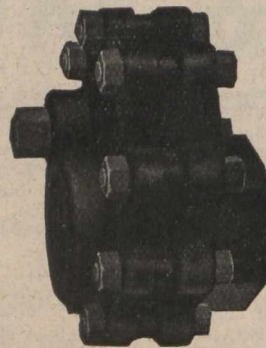
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MONTREAL

D. S. Taylor, heretofore locomotive foreman at Havelock, Ont., has been appointed night locomotive foreman at London, Ont., vice C. Wheeler, transferred.

P. Coakley, roadmaster Guelph and Goderich sub-division, district 2, Ontario Division, Guelph, is reported to have been transferred to the Windsor sub-division.

L. B. Copeland, heretofore Roadmaster at White River, Ont., has been appointed roadmaster Sudbury sub-division, vice D. H. Ford, transferred. Office, Parry Sound, Ont.

J. O'Meara has been appointed chief dispatcher at North Bay, Ont., vice A. W. Hodgson, who has been appointed track dispatcher there.

D. H. Ford, heretofore roadmaster at Parry Sound, Ont., has been appointed roadmaster at White River, Ont., vice L. B. Copeland, transferred to Parry Sound, Ont.

T. Doust has been appointed Resident Electrician at Fort William, Ont., vice M. O. Robinson, resigned.

S. C. Wilcox, heretofore transit man at Brandon, Man., has been appointed Resident Engineer District 1, Manitoba Division. Office, Kenora, Ont.

C. E. McPherson, heretofore General Passenger Agent Western Lines, has been appointed Assistant Passenger Traffic Manager Western Lines. Office, Winnipeg, Man.

The office of General Passenger Agent Western Lines, heretofore held by C. E. McPherson, has been abolished.

C. B. Foster, heretofore Assistant General Passenger Agent, Vancouver, B.C., has been appointed General Passenger Agent Western Lines, Revelstoke and east. Office, Winnipeg, Man.

The office of General Agent C.P.R. Atlantic Steamships, Winnipeg (J. S. Carter) has been removed to 450 Main St.

R. M. Binney, heretofore roadmaster La Riviere, Gretna and Emerson sub-divisions, has been appointed roadmaster Winnipeg Beach and Teulon sub-divisions, vice C. J. Panser, deceased. Office, Winnipeg.

E. Larson has been appointed roadmaster La Riviere, Gretna and Emerson sub-divisions, vice R. M. Binney, transferred. Office, Winnipeg.

G. Motta has been appointed locomotive foreman at Moose Jaw, Sask., vice R. Ivers, resigned on account of ill health.

J. D. Muir has been appointed acting locomotive foreman at Red Deer, Alta., vice J. G. Norquay, on leave of absence.

H. W. Brodie, heretofore Assistant General Passenger Agent, Winnipeg, has been appointed General Passenger Agent Western Lines, west of Revelstoke. Office, Vancouver, B.C.

Government Railways Managing Board.—Towards the end of Sept. it was reported from Quebec that A. J. Coriveau, K.C., of that city, had been appointed a member of the Government Railways Managing Board, with headquarters at Moncton, N.B. On Oct. 12 were officially advised that no appointment had been made up to that date "as contemplated from the province of Quebec in connection with the Managing Board."

Grand Trunk Pacific Ry.—The headquarters of the Division Engineer, C. C. Van Arsdol, have been removed from Prince Rupert to Hazelton, B.C.

P. H. McFadden, Superintendent Prairie Division, Melville, Sask., has resigned.

The following agents have been appointed:—Rivers, Man., F. W. Buggy; Uno, Man., R. E. Patterson; Raymore, Sask., A. M. Demings; Bradwell, Sask., T. J. Shields; Edson, Alta., B. A. Latta.

Grand Trunk Ry.—Jas. Gibson, heretofore locomotive foreman at Belleville, Ont., has been appointed Assistant Master Mechanic at Deering, Portland, Me., vice G. Vliet, promoted.

J. W. Farrell, heretofore chief dispatcher Districts 1 and 2 Eastern Division, Island Pond, Vt., has been appointed trainmaster District 3, Richmond, Que., vice P. G. Flaherty, resigned.

E. S. Cooper, heretofore dispatcher, has been appointed chief dispatcher districts 1 and 2 Eastern Division, Island Pond, Vt., vice J. W. Farrell, promoted.

A. Beausoleil has been appointed acting roadmaster Montreal Terminals, vice G. Beckingham, appointed General Roadmaster Eastern Division.

J. W. Wright, heretofore chief clerk dining and parlor car service, office Toronto, has been appointed Assistant Superintendent of the same service. Office, Toronto.

G. Vliet, heretofore Assistant Master Mechanic at Deering, Portland, Me., has been appointed Master Mechanic Western Division, vice W. Hamilton, resigned. Office, Battle Creek, Mich.

The office of trainmaster district 25 (main line) and district 26, at Battle Creek, Mich., heretofore held by T. G. Akers, has been abolished. All reports heretofore made to him are now made to the Assistant Superintendent.

The following agents have been appointed:—Oshawa Jct., Ont., W. Cross; Glen Huron and Nottawa, Ont., G. McMann; Suspension Bridge, N.Y. (Pass.), E. O. Foster; Winona, Ont., J. H. Brooks; Kippen, Ont., R. H. Reynolds; Belgrave, Ont., S. F. Babier; Aubrey, Que., J. O. Prefontaine.

Ha Ha Bay Ry.—J. E. Robitaille, heretofore Assistant Auditor Bay of Quinte Ry., Deseronto, Ont., has been appointed Accountant and Auditor. Office, Chicoutimi, Que.

Intercolonial Railway.—We are officially advised that G. R. Joughins, Superintendent of Motive Power, has tendered his resignation to the Government Railways Managing Board, and that it will be considered at the next regular meeting of the Board during the second week of November.

Quebec and Lake St. John Ry.—J. H. Davidson, heretofore chief dispatcher, has been appointed Assistant Superintendent, vice J. J. Sunderland, transferred to C.N.Q.R. service. Office, Quebec, Que.

J. E. Hamel has been appointed chief dispatcher at Quebec, vice J. H. Davidson, promoted.

Toronto, Hamilton and Buffalo Ry.—H. H. Adams, heretofore General Superintendent, has been appointed General Manager. Office, Hamilton, Ont.

C.P.R. Directors' Inspection.—Sir Thos. G. Shaughnessy, President, accompanied by R. B. Angus and C. R. Hosmer, directors, left Montreal Oct. 5, by special train, for the purpose of making the annual inspection of the line. Reaching Toronto Oct. 7, the party proceeded west over the Toronto-Sudbury line, arrived in Port Arthur Oct. 9, Winnipeg Oct. 11, Vancouver Oct. 16, and Victoria on the following day. On Vancouver Island the party went over the recently completed extension of the Esquimalt and Nanaimo Ry. from Wellington to Cameron Lake, and started on the way east Oct. 20.

A Montreal dispatch says that under the reorganization plan, raising the capital to \$5,000,000, the Pay-as-you-enter Car Co. is offering 7% preferred shares at par, redeemable at 110 after June, 1912. Each share carries the right to acquire common stock at \$25 a share. According to the brokers selling the stock, the company earned 8% on the common last year.

Alberta and Great Waterways Ry.

The statement of defence of W. R. Clarke, President, in the action brought by A. Hawes, Toronto, claiming one-sixth interest in the Athabasca Ry., the A. and G.W. Ry., and the Canada West Construction Co., or in the alternative \$250,000 damages, was filed Oct. 17. President Clarke denies all the allegations made by the plaintiff. The report of the Royal Commission which investigated the circumstances attending the formation of the company and the granting of the charter, is in the hands of the Alberta Government, but will not be made public until the meeting of the Legislature, Nov. 10.

The Quebec Central Ry. Co.'s annual meeting was held in London, Eng., Oct. 20. A cable says:—Reports submitted showed gross earnings for year ending June 30, \$1,105,867; working expenses, \$759,556; net operating revenue, \$346,311; interest earned on investments, \$5,675. The net income was \$351,986, compared with \$305,940 the previous year. Added to the net income for the year the amount brought forward from June 30, 1909, was \$46,232, making a total net revenue of \$398,218. The full interest on the 4% debenture stock, 3% debenture stock and 7% income bonds was paid, and a dividend of 10s. per share on the share capital, the par value of which is £25, was declared. During the fiscal year £75,000 of 4% debenture stock was issued for capital purposes.

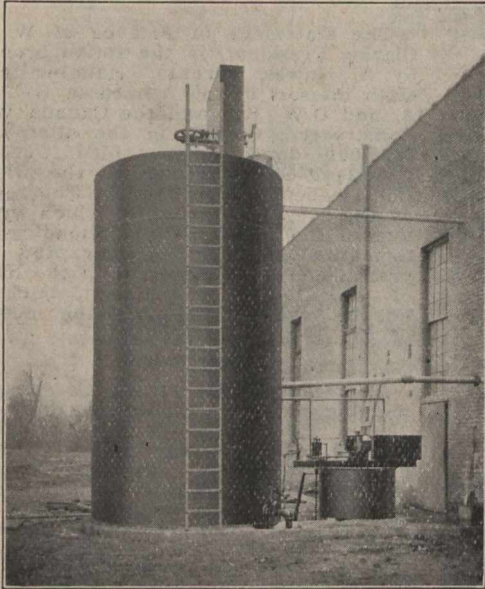
C.P.R. Office Building in Toronto.—It was reported in Toronto, Oct. 20, that arrangements had been completed by which the C.P.R. had secured all the land necessary at the corner of King and Yonge Streets, Toronto, for the erection of a large office building. The site includes that of the building at present occupied by the company as a ticket office, and office for the District Passenger Agent, and the next two properties fronting on King St. In the new building there will be centralized, according to the report, the business of the traffic departments of both rail and water lines, the telegraph department, and the Dominion Express Co.

D. Allan Earle, a St. John, N.B., solicitor, who died there Oct. 24, aged 60, was a brother of W. Z. Earle, formerly Manager of the St. John, N.B., railway, and now resident engineer of the Dominion Public Works Department at Winnipeg.

A Victoria, B.C., dispatch of Oct. 21 said Sir Thos. Shaughnessy had taken up with Premier McBride the question of the construction of a scenic line to be built by the C.P.R. from Banff, Alta., to Windermere, through the upper Columbia valley.

Kingston, Ont., Standard:—"Now that J. P. Hanley local agent of the G.T.R. of this city, and President of the Canadian Ticket Agents' Association, has been made a full-fledged Indian Chief, may we meekly ask if this gives him the right to scalp tickets."

The G.T.R. has given notice of application to Parliament for the repeal of the section of the original charter which provides that the fare for each third class passenger on the line between Montreal and Toronto shall not exceed one penny for each mile travelled, and that at least one train having third class carriages shall run each way every day throughout the length of the said line. For some time the G.T.R. has had a third class car attached to one train running each way each day, but the third class accommodation has not been much sought after by the general public.



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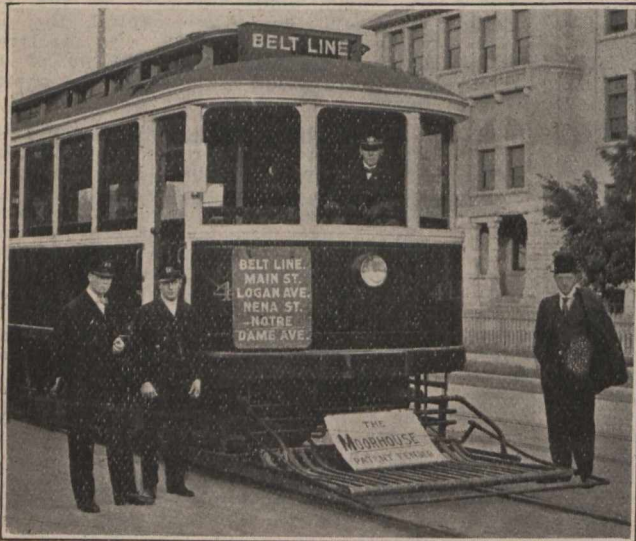
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Railway Signalling

By C. L. Hackett.

Railway signaling naturally divides itself into three general heads. Namely, interlocking, block signals and miscellaneous signals.

The primary reason for the use of signals on a railway is to convey information to the engine driver as to what action he is to take, and when to act. The difference between driving a locomotive and driving a horse and carriage is a question of momentum. In the case of the locomotive, a weight of several hundred or thousand tons is moving at high velocity, in the case of the carriage, a weight of a few hundred pounds is moving at low velocity, the control of the one is only approximate except through the lapse of a considerable interval of time, while the other is practically under instant control. Signaling has developed two types of signals, which are known as, a home signal and a distant signal. A home signal is a signal located along side of the track marking a definite point beyond which the engine driver must not proceed, unless the signal indicates that he can do so. As noted above, it is physically impossible to stop a train moving at any considerable speed instantly, therefore if the train is to be stopped before it passes the home signal, some preliminary information must be conveyed to the driver, as to what indication will be presented to him by the home signal. The means employed is the distant signal, which is set in advance of the home, a distance depending on the braking distance of the highest speed trains, and is simply a repeater of the home. When the driver finds a distant signal indicating that the home signal is at the stop position, he can apply brakes and bring his train to a stop before he reaches the home signal. If the distant signal is indicating clear the home signal must also be indicating clear.

In modern signaling the semaphore has come into general favor, as giving the best results with unfavorable weather conditions, and changing back grounds. The indications are given by the arm of the semaphore, the stop indication by the arm in the horizontal position, and the proceed indication by the arm inclined. Until recently the distant signal arm was distinguished from the home by having a V-shaped notch cut out of the end. The indications of the distant signal were the same as the home, that is the horizontal position of the distant arm indicated caution (that the home signal arm was at stop), the inclined position of the distant arm indicated that the home signal arm indicated clear. There is a confusion here quite apparent, as with the home arm horizontal an indication is given that the engineer must not proceed beyond the signal, whereas the horizontal position of the distant blade indicated caution, "proceed but be prepared to stop at the home signal," and the only distinguishing mark for the distant arm is the V-shaped notch, which is not distinguishable at any distance nor in all weathers, consequently there are serious objections to this horizontal indication having two possible meanings. The latest practice is to have each arm capable of giving three unmistakable indications, i.e., horizontal, meaning stop, inclined at an angle of 45 degrees, caution, and vertical, meaning proceed. This is more consistent, and it is impossible to mistake the indication.

The fundamental principle underlying the construction of signals, is that a failure in any part should cause the arm of the semaphore to assume the horizontal position, indicating stop. The common practice in America has been

to give the indication by moving the arm from the horizontal to an inclined position below the point of support. This necessitates the use of a heavy counterweight to bring the arm back to the horizontal should any part of the signal break; naturally the accumulation of ice and snow on the arm itself would tend to offset this counterweight, and there are cases where such accumulation has been sufficient to hold the signal clear, when it should have returned to the horizontal. The German practice has always been to move the arm above the point of support, thus doing away with the heavy counter weight, and with this still further advantage that any accumulation of snow or ice on the blade tends to bring it back to the horizontal. This practice has found favor among the American signal engineers, and also is being used on the western lines of the C.P.R. and C.N.R. This is unquestionably a move in the right direction, and has everything to commend it.

While the day indications of a signal are given by position, the night indications are given by colors. Red has al position, but for the other indications, practice has differed on different roads. The different colors are obtained by means of shutters of colored glass which are moved in front of an oil lamp attached to the signal mast. These colored glasses are fastened into the same casting to which the arm giving the day indications is attached, each indication of the arm has then a corresponding color indication. It is essential if the principle of signal construction above referred to, is to be carried out, that the day indications and the night indications should be given by the same mechanism; that is, it should not be possible to give an indication for "proceed" with the arm, without at the same time, and by the same means giving this proceed indication with the proper color. There are a good many signals in use in Canada to-day which do not conform to this requirement. The night indication in these, is given by rotating the lamp on its vertical axis, while by means of a pinion gear the arm is made to move. It is under these circumstances easy to conceive of a condition where the night indication would be one thing and the day indication the opposite. This becomes particularly dangerous when we realize that at night, when the engineer gets close up to the signal, the head light of his engine would illuminate the arm, and there are very few engineers who finding the arm indicating clear, would not accept this as sufficient authority to proceed, even though the light on the signal as he approached showed red.

With regard to the question of the proper colors to use for the night indications, as stated above, practice has differed in this respect. Some roads use white for the clear indication (white in this case meaning that the lamp flame is not covered by any colored glass), and green for the caution indication of the distant signal. On the other hand, some roads use green for the clear or proceed indication, and orange for the caution. If we bear in mind again the principle of construction, it is not difficult to arrive at the conclusion that all night indications should be given by some distinctive color, and in no case should the flame itself be used, except as a stop indication. For if the white indication is used, a broken colored glass would give this indication. Up to the present the only colors with sufficient range to be used as night indications are the red, green and orange.

Another essential point to be remembered in connection with signalling is that it must be made impossible for any of the indications except the stop indication, to be displayed except by an authorized means. That is if the signal

is operated by means of levers, then by means of the lever only can any indication be made. This necessitates the use of a rigid connection between lever and signal, or if wire is used there must be a back and front wire, if only a single wire is used to pull the signal clear, any unauthorized person could clear the signal which is manifestly an unsafe condition.

The Standard Code definition of interlocking is as follows:—"An arrangement of switch, lock and signal appliances so interconnected that their movements must succeed each other in a predetermined order." Interlocking in Canada up to the present has been confined to a great extent to the protection of the crossing of two railways at grade. This is by no means its only possible application, and indeed is probably the least important of its uses. It finds its greatest economy in terminals, junctions, and at points where a great many switches are grouped together, at such points all the switches can be handled from a central point by one or two towermen, with absolute safety to the trains, and with the greatest amount of expedition.

Under the law in Canada, all trains approaching a grade crossing with another railway, are required to come to a stop before proceeding over the crossing, unless the crossing is protected by interlocking. Aside from the safety afforded by interlocking the crossing, it can be shown that there is an actual saving in operating expense when the trains reach a certain number. Henderson, in his "Cost of Locomotive Operation," estimates that it costs in the neighborhood of 65c. to stop a train and again accelerate it to its original speed.

(Continued in next issue.)

Temiskaming & Northern Ontario Ry.

—It is said that some arrangements are being discussed between the Ontario and the Manitoba Governments, by which, with the approval of the Dominion Government, there will be a remarking of the boundaries of the two provinces on Hudson Bay, and the district of Keewatin, which was recently divided up. The idea is that Ontario's territory fronting on Hudson Bay, shall be extended to Port Nelson, so as to allow of the extension of the T. and N.O.R. to a deep water port, and that in exchange for a waterfront useless for the development of a port, Manitoba will receive a portion of the inland territory originally granted to Ontario. It is said the question will be brought up at the next sessions of the Ontario and Manitoba Legislatures.

The G. T. R. is appealing against an increase of the assessment on its waterfront properties between John St. and Spadina Ave. Toronto, from \$3,000 to \$15,000 an acre.

J. K. Griffin, of Toronto, who died at Seattle, Wash., recently, was father of F. T. Griffin, C.P.R. Land Commissioner, Winnipeg, and of A. D. Griffin, Consulting Engineer, Galt, Ont. The late Mr. Griffin was the inventor of a form of railway ticket for the old Great Western Ry. which is said to have been afterwards copied by every railway in Canada and the United States, and is still in general use.

H. P. Bell, C.E., who died at Victoria, B.C., Oct. 19, aged 69, was one of the assistant engineers on the Intercolonial Ry. construction in 1870 and 1871. He went to British Columbia and afterwards to Chili, where he spent some years in contracting, returning to B.C. he practiced there for some years, and some two or three years ago received an appointment on the Trent canal construction at Campbellford, but which he had to relinquish on account of failing health.

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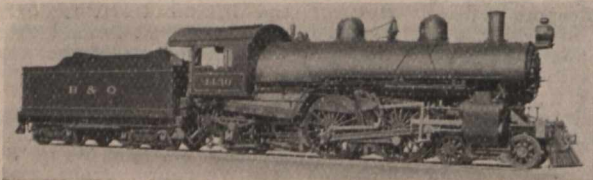
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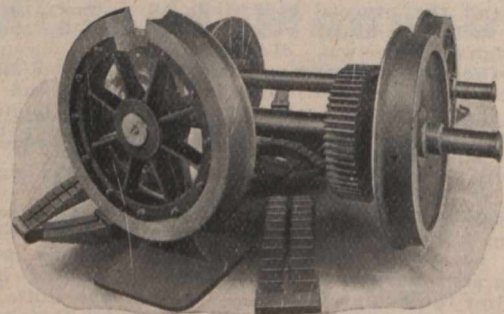
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The Canadian Northern Ex. Co. has closed its offices at Grays, Milton and Lena, Man.

H. McMorrin, heretofore acting agent Canadian Ex. Co. at Port Hope, Ont., has been appointed agent there.

The Canadian Northern Ex. Co. has opened offices at Kenville, Man., and Fairlight and Langbank, Sask.

G. H. Waterhouse, heretofore route agent at Montreal, and latterly acting agent at Kingston, Ont., has been appointed agent Canadian Ex. Co. at Kingston, Ont.

Owing to the numerous claims made in respect of shipments of raw furs, express agents have been instructed to refuse all such shipments, unless the material is boxed.

The Canadian Ex. Co., operating over the G.T.P.R., has opened an office at 115 Second Ave., Saskatoon, Sask., and has appointed A. F. Lenon, heretofore general manager Saskatoon Forwarding and Storage Co., as agent.

S. B. Buller, city agent Canadian Northern Ex. Co., Toronto, died there Oct. 9, aged 29. Prior to his appointment to the Canadian Northern Ex. Co. he was in the Canadian Ex. Co.'s Toronto office.

The British Columbia Ex. Co. is increasing its facilities for handling business during the coming year, and is reported to have arranged for the purchase of three or four large automobiles, and for the starting of additional horse stages.

J. H. Parr, heretofore route agent at St. John, N.B., has been appointed route agent Canadian Ex. Co., in charge of routes 1, 2 (east of Point St. Charles), 7, 8, 11, 52, 53, 54, 89 and 110, with headquarters at Montreal, vice H. M. Gain, resigned.

W. G. Balfour has been appointed route agent Canadian Ex. Co., in charge of routes 3 (River Beaudette to Kingston), 4 (Kingston to Port Union, inclusive), 21, 25, 77, 78, 79, 80, 81, 82, 83 and 109, with headquarters at Montreal, vice G. H. Waterhouse, transferred.

Express companies are calling the special attention of their agents to shipments for the U.S., and instructing that, for such, they must secure guarantees, in duplicate, covering duties and all other charges, one copy of which must accompany the shipment, the other being retained.

Instructions have been issued by express companies, relative to the handling of the newspaper business, stating that as the companies derive revenue from this business, it is incumbent on their messengers to give the same attention to newspaper traffic as to other merchandise, as strong complaints have been made that parcels are frequently over-carried and otherwise carelessly handled.

The Customs authorities have announced that horses entering Canada from the U.S. for 24 hrs. or less, may be admitted without inspection, or without being dealt with by the veterinary inspector in any way, and Canadian horses returning from the U.S., after being there for over 24 hrs., are subject to veterinary inspection without fee, but when returning after having been there for 24 hrs. or less, are not subject to veterinary inspection.

By the terms of a bill of lading, or agreement with a consignor, a common carrier, or express company, is absolved from liability for damage due to "the act of God," but a recent U.S. decision holds that a carrier will not be excused from liability for consequences of unusual delay in transportation, caused by

"the act of God," where the disability is known to the carrier at the time the property is received for shipment, and he fails to advise the consignor of the existing conditions, such as floods.

Grain Elevator Notes.

The Anchor Elevator Co. has built an elevator at Invermay, Sask.

The Tavistock Milling Co. has erected an elevator at Canfield, Ont.

The Alberta Grain Co.'s elevator at Fort Saskatchewan, Alta., is reported to have been sold to the Prairie Elevator Co.

The Vancouver Grain and Milling Co. is reported to have recovered \$9,000 as damages from the Alberta Pacific Elevator and Grain Co., for failure to deliver grain contracted for.

The construction of the Goderich Elevator and Transit Co.'s elevator, and the Western Canada Flour Mills Co.'s elevator at Goderich, Ont., is proceeding rapidly, the walls of the latter structure being near completion.

Alberta-British Columbia Grain and Supply Co., Ltd., has been incorporated under the B.C. Companies Act, with a capital of \$20,000, to carry on a general grain dealing business, and in connection therewith to build, own and operate grain elevators, steam and other vessels, and other transportation facilities.

The Calgary Grain and Supply Co., Ltd., incorporated under the North West Territories Companies Ordinance, with office at Calgary, Alta., and power, among other things, to own and operate grain elevators, etc., has been licensed to carry on its business in British Columbia, with C. B. McAllister, Vancouver, as its attorney.

The C.P.R. elevator at Victor's Harbor, Ont., which was opened for business Oct. 11, has a capacity for 2,000,000 bush., which, according to a statement attributed to J. Osborne, General Superintendent Ontario Division, can be increased to 12,000,000 bush., without adding to the power equipment at present installed.

A report from Fort William, Ont., Oct. 14, states that the city has decided to tax the G.T.P. Elevator Co.'s elevator there. Under an agreement, the G.T.P.R. terminal property in the city, including its elevator, is exempt from taxation for 20 years. The city claims that the elevator is the property of the railway company in name only, and is owned and operated by a distinct company.

The Alberta-British Columbia Grain and Supply Co., Ltd., has been incorporated under the B.C. Companies Act, with a capital of \$20,000, to take over the business carried on by D. A. Allan and A. G. D. Kittson, under the name of the Alberta-British Columbia Grain and Supply Co., to deal in grain, and in connection therewith to own and operate grain elevators, steam and other vessels, and other transportation facilities.

J. Richardson and Sons, Ltd., Kingston, Ont., has leased the grain elevator on the Louise Embankment, Que., owned by the Quebec Harbor Commission, and formerly operated by the C.P.R. It is stated that the lease is for 10 years, and that the lessees will spend about \$15,000 on repairs and new machinery. There is capacity for about 1,000,000 bush., and it is expected to have it in operation early in November.

The Manitoba Elevator Commission has taken over 170 elevators, situated in different districts of the province, since it commenced operations. A member of the commission is reported to have stated that while the elevator

system under Government control has scarcely had a chance to show what its benefits will be, the fact that they have been used so extensively by the farmers, goes to show that they are satisfied, and very few complaints have been received as to their operation.

The Winnipeg Grain Exchange has declared the G.T.P. elevator at Fort William, Ont., a regular house, prepared to receive vessels at any time. Press reports stated that early in Oct., a vessel was unable to reach the elevator without taking heavy risk, owing to the dredging of the Mission River not having been completed. The Great Lakes Dredging Co., the contractor, is reported to have stated that the 10 days extension granted for the completion of the work was insufficient.

The report of the council of the Winnipeg Grain Exchange, presented at the recent annual meeting, said that the investigation by the Commission appointed by the Department of Trade and Commerce, of the terminal elevator system, had injured confidence in the method of handling grain through them. It was also announced that the Exchange had introduced the system of terminal warehouse receipts registration, and the Lake Shippers' Clearance Association had been appointed official registrar of warehouse receipts for the Exchange, the registry offices being at Fort William and Port Arthur. All terminal elevators at Fort William and Port Arthur are eligible to receive contract grain, under the rules which govern the members of the Exchange, each company operating them having agreed to abide by the regulations asked for. On the question of storage on grain at the terminals, it was stated that there had been some trouble between grain men and the C.P.R. for some time, and a committee was appointed to go further into the matter with the company.

THE Grand Trunk Railway Company of Canada will apply to the Parliament of Canada, at the next session thereof, for an Act conferring upon the said Company all necessary powers, to be exercised subject to the approval of the proprietors, in respect of the following matters:—

- (a) Semi-annual payment of dividends.
- (b) Providing a reserve fund for extensions, renewals, maintenance, repairs, etc.
- (c) The form of transfer of the various classes of stock.
- (d) To acquire, hold, guarantee, pledge and sell, or otherwise dispose of stocks, bonds or other securities of the Montreal and Southern Counties Railway Company.
- (e) To guarantee interest at four per cent. upon an issue of first mortgage bonds of the Grand Trunk Western Railway Company, payable fifty years from date thereof.
- (f) To issue such additional Grand Trunk consolidated debenture stock as may be necessary in the exercise of the powers conferred upon the Company by the Act now applied for and by the Grand Trunk Act, 1910.
- (g) Repealing certain inconsistent provisions of former Acts.
- (h) Repealing so much of section 3 of 16 Victoria, chapter 37, as provides that the fare or charge for each third class passenger by any train on that portion of the company's railway between Montreal and Toronto shall not exceed one penny for each mile travelled and that at least one train having in it third class carriages shall run every day throughout the length of the said line.

W. H. BIGGAR,

Solicitor for the applicants.

Dated at Montreal, the 6th day of October, A.D. 1910.

CANADIAN PACIFIC RAILWAY COMPANY.

NOTICE.—The Canadian Pacific Railway Company will apply to the Parliament of Canada at its next session for an Act authorizing it to construct the following lines of railway:—

1. (a) From a point at or near Conquest on the Company's Moose Jaw Branch to a point at or near Asquith or Dunfermline, Saskatchewan, on the Company's Pheasant Hills Branch, or between those two places.
- (b) From a point at or near Wilkie on the Company's Pheasant Hills Branch in a southerly direction to a junction with the Company's Moose Jaw Branch in Twps. 31, 32 or 33, Ranges 18 or 19, W. 3 M., Saskatchewan.
- (c) From a point at or near Wilkie in a southwesterly and southerly direction to a junction with the Company's Moose Jaw Branch in Twp. 32, 33 or 34, Ranges 22 or 23, W. 3 M., Saskatchewan.
- (d) From a point at or near Boissevain on the Manitoba and South Western Col. Ry. to a point at or near Lauder, Manitoba.
- (e) From a point on the Crow's Nest Branch in Sec. 12, Tp. 9, Range 26, W. 4 M., thence westerly along the north side of the Old Man River, to a point in Sec. 36, Tp. 7, Range 4, W. 4 M., a distance of about 55 miles.
2. Extending the time within which it may construct the following lines of railway:—
 - (a) From Lanigan to Prince Albert.
 - (b) From Wilkie northerly and westerly towards the Battle River, thence southerly to a junction with the Lacombe Branch of the Calgary and Edmonton Ry. Co.
 - (c) From Outlook to a junction with the Lacombe Branch of the Calgary & Edmonton Railway Company.
 - (d) From Estevan northwesterly, with power to terminate at or near Forward on the Company's Weyburn Branch.
 - (e) From a point in Twp. 6, 7, 8 or 9, Range 30, W. 2 M., westerly, with power to terminate at Lethbridge.
 - (f) From a point north of Teulon to a point between Marsh Point and the north boundary of Twp. 25, Manitoba.
3. Authorizing it to make the terminus of its Lauder Branch at or near Weyburn.
4. Increasing its bonding powers in respect of its Toronto-Sudbury Branch; and for other purposes.

Dated at Montreal, the 10th October, 1910.

W. R. BAKER,
Secretary.

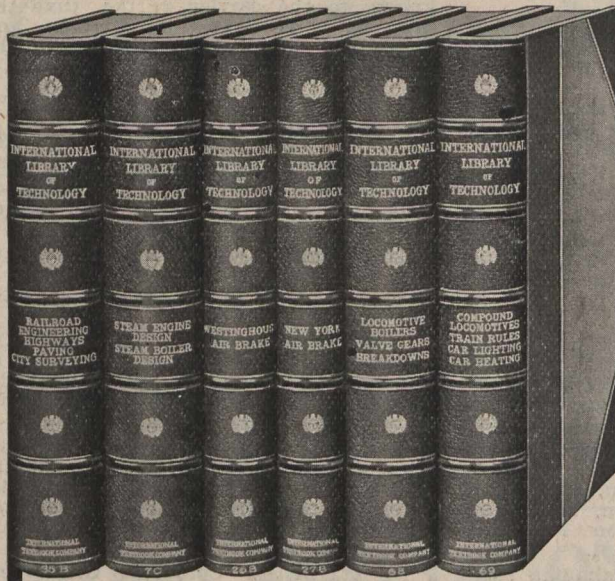
Andrew T. Thompson,
Ottawa, Agent.

NOTICE.—The Dominion Atlantic Railway Company will apply to the Parliament of Canada, at its next session, for an Act authorizing it to enter into an agreement with the Canadian Pacific Railway Company for any of the purposes specified under section 361 of The Railway Act.

Dated at London, on the 10th day of October, A.D. 1910.

O. F. WALFORD, Secretary,
Threadneedle House,
Bishopsgate Street Within, London.

Andrew T. Thompson,
Ottawa, Agent.



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ASSOCIATION'S OFFICE, 157 Bay St., Toronto. EXECUTIVE COMMITTEE.—C. E. A. Carr, General Manager Quebec Ry. Light, Heat and Power Co.; P. Dube, Secretary Montreal St. Ry.; H. M. Hopper, Secretary-Treasurer, St. John Ry.; J. E. Hutchison, Superintendent and Purchasing Agent Ottawa Electric Ry.; C. B. King, Manager London St. Ry.; W. R. McKee, Superintendent Motor and Truck Department Toronto Ry.

ASSISTANT SECRETARY, Aubrey Acton Burrows, Secretary and Business Manager Railway and Marine World.

OFFICIAL ORGAN, THE RAILWAY AND MARINE WORLD.

Toronto Eastern Railway.

Application was made to the Minister of Railways Oct. 4 for the approval of the route plan of this proposed electric railway from Cherrywood station, on the Canadian Northern Ry.'s Toronto-Ottawa line in Pickering township, about 20 miles east of Toronto, to Cobourg, with branches to Lindsay and Port Perry, Ont. C.P.R. representatives objected on the ground that this line would interfere with the proposed Campbellford, Lake Ontario and Western Ry., the route plans of which were approved by the Minister in Nov., 1906. The C.L.O. & W.R. Co.'s charter, which is controlled by the C.P.R., provides for the building of a line from the C.P.R. between Blairton and Ivanhoe, Ont., southwest through the counties of Peterboro, Hastings and Northumberland to Cobourg, thence northwesterly through the counties of Northumberland, Durham, Ontario and York to the C.P.R. between Locust Hill and Leaside Jct., passing through or near Campbellford, Warkworth, Cobourg, Port Hope, Newcastle, Bowmanville, Oshawa and Whitby. The hearing was adjourned until Oct. 12 for the purpose of giving the Toronto and Eastern Ry. and the C.P.R. the opportunity of coming to an agreement. In the meantime the Board of Railway Commissioners approved of the Campbellford, Lake Ontario and Western Ry.'s location. At the adjourned hearing on Oct. 12 the Minister of Railways approved the Toronto Eastern Ry.'s route plan and said that unless construction of the Campbellford, Lake Ontario & Western Ry. was started within 18 months, he would consult with the Board of Railway Commissioners with a view of having their approval of its location plans, rescinded. The Toronto Eastern Ry. has not yet applied to the Board of Railway Commissioners for the approval of its location plans, but will probably do so at an early date.

Surveys for the T.E.R. have been made from Cherrywood to east of Bowmanville, E. W. Oliver, of Mackenzie, Mann & Co.'s engineering staff, being in charge. It is expected that construction will be started next spring. From Cherrywood the line runs southwesterly, approaching the Kingston Road at Pickering, and from there east it practically parallels the Kingston Road on the north side, touching it at several points. The T.E.R. will be a high grade electric line on private right of way, built for fast traffic. It is said that the company's cars will run between Toronto and Cherrywood over the Canadian Northern Ontario Ry., thus obviating the necessity of obtaining a separate entrance to Toronto. It is reported that a connection will also be made with the Toronto & York Radial Ry.'s Scarborough division, but this is hardly probable.

The Toronto Eastern Ry. Co. was in-

corporated by the Dominion Parliament last session, to build a railway from Toronto to Cobourg, passing through or near Whitby, Oshawa and Bowmanville, with branches as follows:—From Cobourg or Port Hope to Peterboro; from Scarborough tp. to Markham, Stouffville or Uxbridge; from Oshawa via Lake Scugog to Lindsay, and from Oshawa southerly to Lake Ontario. The provisional directors named in the charter are W. F. Cowan, R. McLaughlin, T. E. Kaiser, F. W. Robson, Oshawa; J. H. Downey, Whitby; R. R. Mowbray, Kinsale, Ont. The capital stock is fixed at \$1,000,000, and the head office in Oshawa. The charter is now owned by the Mackenzie, Mann & Co. interests. J. E. Rothery has been appointed Manager, and G. H. Bertram is Secretary, with office at 12 Wellington St. East, Toronto.

Projects, Construction, Betterments, Etc.

Barkerville to Fort George, B.C.—A recent press report stated that a survey party had been dispatched by Gore and Gregory, Victoria, B.C., to make a survey for an electric railway from Barkerville, along the valley of the Willow River, to Fort George, B.C., about 120 miles. (See Cariboo, Barkerville and Willow River Ry., May, pg. 349.)

British Columbia Electric Ry.—The line along the Fraser Valley from New Westminster to Chilliwack, B.C., 63.8 miles, was opened for traffic Oct. 3.

The question of building a second track on the Eburne line is under consideration by the directors in London, Eng., and the proposition to build a line from New Westminster to Ladner, is under consideration by the city council. Plans were submitted to the Point Grey municipal council Sept. 29, for the proposed electric railway. (Oct., pg. 873.)

Calgary Street Ry.—The Alberta Legislature last session confirmed certain bylaws passed by the Calgary city council. These included one providing for the raising of \$226,000 by means of 30 year 4½% debentures for the purposes of electric railway construction, and a second providing for the issue of \$40,000 of 30 year 4½% debentures for extensions of the city's electric railway. (June, pg. 495.)

Chatham, Wallaceburg and Lake Erie Ry.—The Board of Railway Commissioners has authorized the opening for traffic of the branch line to Pain Court, Ont. (July, pg. 584.)

Edmonton Electric Ry.—Among the bylaws of the city of Edmonton confirmed by the Alberta Legislature last session was one providing for the issue of \$92,000 of debentures, the estimated share payable by the municipal street railway department of the city, of a street railway deck and attachments in connection with the high level bridge to be erected by the Calgary and Edmonton Ry. (C.P.R.), over the North Saskatchewan River. (Jan., pg. 57.)

Edmonton Interurban Ry.—Application will be made to the Alberta Legislature to incorporate a company with this title for the purpose of building the following electric railways:—From Edmonton to St. Albert or Morinville, or both; from Edmonton or from a point on the last mentioned line to Athabasca Landing; from Edmonton or Strathcona to Fort Saskatchewan; from Edmonton or Strathcona, or a point on the last mentioned line to Beaver Lake; from Edmonton or Strathcona, or a point on the last mentioned line to Camrose; from Edmonton or Strathcona, or a point on the last mentioned line to Wetaskiwin; from Edmonton or Strathcona, or a point on the last mentioned line to Pigeon Lake; from Edmonton to Mewassin; from Edmonton to such last mentioned lines to Lac Ste.

Anne; from Edmonton or a point on the first or last mentioned lines to Fort Assiniboine, on the Athabasca River; and from any one of the said points to any other of the said points. Power is asked to carry any of the lines along such road allowances or public highway as may be convenient. Short, Woods, Biggar and Collisson, Edmonton, Alta., are solicitors for applicants.

Halifax Electric Tramway.—The new double track from Spring Garden to Cobourg Road, Halifax, N.S., has been completed, and the regular car service has been operated over it since Sept. 20. (July, pg. 584.)

Hamilton Street Ry.—An arrangement is being considered with a view of a line being laid on Pictou or Ferrie St., Hamilton, Ont. The route favored by the city council is James and Ferrie Streets to Emerald, to Mars, and from there to Wentworth and Gilkinson streets. (June, pg. 495.)

Kincardine to Orillia, Ont.—The Mayor of Owen Sound has issued a circular letter to municipalities between Kincardine and Orillia, stating that negotiations were in progress with a Cleveland, Ohio, syndicate for building a line from Owen Sound to Meaford, and suggesting that Kincardine, Port Elgin, Southampton, Owen Sound, Meaford, Thornbury, Collingwood and Orillia should join with the intervening rural municipalities in a guarantee of bonds for a line from Kincardine or Goderich to the C.P.R. Georgian Bay and Seaboard Ry. The title given to the line proposed is the Air Line Electric Ry. to Montreal. The total distance to Montreal from Kincardine is 417 miles, and the distance from Kincardine to Orillia, where a junction could be made with the Georgian Bay and Seaboard Ry., is 137 miles. The Kincardine people favor the line, but say they cannot promise municipal aid further than the amount already guaranteed the Ontario West Shore Ry., for the Goderich-Kincardine line.

London and North Western Ry.—Those interested in the building of this projected railway from London to Sarnia, and other points in western Ontario, have been showing some activity of late, but we are advised that nothing definite has been decided upon, although arrangements are being made with a view to construction.

The company was incorporated in 1909 by the Dominion Parliament, with D. A. Stewart, T. E. Pound, J. Hall, London; D. Milne, Sarnia; T. G. Turnbull, Komoka; A. J. Stoner, Fernhill; J. C. Knapton, Parkhill, as provisional directors. The lines authorized to be built are from London to Sarnia, and from London to Grand Bend; the company was given power to make agreements with municipalities for the operation of its lines over or along highways; to generate electricity for motive power, and to sell its surplus power.

During 1909 D. A. Stewart entered into negotiations with several of the municipalities in the vicinity of London for the building of an electric railway, and some surveys were made by W. G. Swan, London. (Oct., pg. 875.)

London Electric Railway Terminal.—Local reports state that a project is on foot for the erection of a terminal station for electric railways in London, Ont. Some property at the south-east corner of Bathurst and Richmond streets has lately changed hands, and it is said that the purchasers are interested in one or other of the existing or projected electric railways. Those interested in the London and Western Counties Ry. refuse to say anything at all, and officers of the London and Lake Erie Ry. and Transportation Co. say that while it is their intention to have a station nearer the heart of the city,

NOTICE is hereby given that application will be made to the Parliament of Canada, during the next session thereof, for an Act to incorporate a Railway Company under the name of The British Columbia & Dawson Railway Company, with power to lay out, construct, equip, and operate a line of railway, telegraph and telephone lines, from a point at or near Lytton in the Province of British Columbia running along the Fraser River to Fort George to a crossing of the Nechaco River at the mouth of the Stewart River, following the same by way of Stewart Lake, Thatcher River, Trembleur Lake, Middle River, North Tacla Lake, Driftwood River, Bear Lake, passing through Fort Conley, thence along the valley of the Skeena River to a summit between the Skeena and the Stickine Rivers, down the Stickine to Telegraph Creek, and thence up Telegraph Creek to the head waters of Teslin River, following the same to the northern boundary of British Columbia and from there on by the most practicable route to the City of Dawson in the Yukon Territory, also from Ashcroft, in the said Province of British Columbia, to the Fraser River at or near a point where Big Creek enters the said River; also from a point at or near Lillooet along the south side of Seaton and Anderson Lakes and via Lillooet Lake and River, and Harrison Lake, thence to the City of Vancouver.

And to purchase or lease from, sell or lease, or to amalgamate with the British Columbia and Alaska Railway Company.

ANDREW T. THOMPSON,
Solicitors for applicants.

Dated at Ottawa, this 7th day of October, A.D. 1910.

NOTICE.—The British Columbia Southern Railway Company will apply to the Parliament of Canada, at its next session, for an Act extending the time within which it may construct the following lines of railway:—

- (a) From a point at or near Michel to a point at or near Kananaskis.
- (b) From the Elk River and the Upper Kootenay River to the 49th parallel and the Tobacco Plains.
- (c) From a point on the Lower Kootenay River to New Westminster and Burrard Inlet, with a branch to Nelson via Salmon River.
- (d) From Michel Creek to Martin Creek.
- (e) From a point on its main line about 36 miles west of the eastern boundary of British Columbia, southerly and easterly, not exceeding 10 miles, and such branch lines from its main line, and from the line between Fort Steele and Golden, as may be authorized by the Governor General in Council;

and for other purposes.

Dated at Montreal, the 10th October, 1910.

H. C. OSWALD,
Secretary.

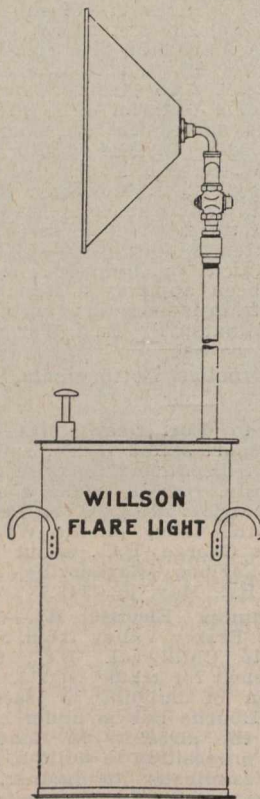
Andrew T. Thompson,
Ottawa Agent.

NOTICE.—The Georgian Bay and Seaboard Railway Company will apply to the Parliament of Canada, at its next session, for an Act increasing the company's bonding powers, and authorizing the company to connect with the Ontario and Quebec Railway between Burketon Junction and Havelock.

Dated at Toronto, the 10th October, 1910.

GEORGE A. WALKER,
Secretary.

Andrew T. Thompson,
Ottawa Agent.



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they have not done anything in the way of securing a site.

Monarch Radial Ry.—W. H. Price, Toronto, the company's solicitor, appeared before the town council of Barrie, Ont., Oct. 6, in connection with the proposed franchise for the line in that town. He stated that the company was ready to begin construction just as soon as the town granted a franchise. An application to the Toronto board of control, with respect to an entrance into the city, was referred to the City Engineer and City Solicitor, Oct. 15. (Aug., pg. 682.)

Montreal and Southern Counties Ry.—A Montreal dispatch says that arrangements are in progress under which the M. & S.C.R. will pass formally under G.T.R. control. The G.T.R. has decided to apply to Parliament for power to acquire the electric system, which, since its initiation, has become a popular medium of communication between Montreal and the south shore, and is certain, as its further expansions continue, to prove a profitable aid to the G.T.R.

Niagara, St. Catharines and Toronto Ry.—The villages of Fenwick and Ridgeway, Ont., are negotiating with the company in order to secure a branch line being built, to give them connection with Welland and the company's system. (Oct., pg. 877.)

Niagara, Welland and Lake Erie Ry.—Application will be made to the Dominion Parliament for the incorporation of a company with this title, to build an electric railway from Niagara Falls, N.Y., to Lake Erie, between Fort Erie and Port Dover, by way of Niagara Falls, Welland and Port Colborne, Ont. Power is also desired to generate electricity and to dispose of the surplus; to erect and operate telegraph and telephone lines, amusement parks, etc., with other customary powers. Griffiths and Upper, Niagara Falls, Ont., are solicitors for applicants.

Ontario West Shore Ry.—Track has been laid as far as Prince Albert, Ont., where a bridge is being built. This bridge was expected to be completed Nov. 1, when tracklaying was to be resumed. It is hoped to have the line from Goderich to Kincardine, Ont., completed this year. (Oct., pg. 877.)

Ottawa Electric Ry.—The President and other officers met the street railway committee of the Ottawa city council Oct. 12, and discussed the question of the extension of the lines in the city. The three extensions discussed were, to the cemeteries, to Ottawa South and to Dow's Lake. The result of the deliberations will be reported to the city council. (Oct., pg. 877.)

People's Ry.—A bylaw was passed Sept. 26 by the taxpayers of Guelph, Ont., subscribing for \$85,000 of preference stock in the company, and granting a franchise within the city. The line will connect Guelph with Berlin and Stratford, and radiating from Guelph lines will be built to Puslinch Lake, Hespeler, Elora, Fergus and Arthur. W. A. Bugg, the Secretary, is reported to have stated subsequently to voting that grading on the line from Guelph to New Germany would be started immediately. The line between Berlin and New Germany is under construction, and is expected to be completed by Dec. 31.

Following are the directors for the current year:—G. Clare, President; J. G. Reiner, Wellesley; J. C. Hallman, New Dundee; Dr. Groves, A. Steele, and McClellan, Fergus; — Kimmel, G. Wanless, W. J. Moody, D. Moody, W. Pieper and W. A. Bugg, Berlin. (Oct., pg. 877.)

Quebec Ry., Light and Power Co.—The upper level line to Kent House, as

recently projected, will not be gone on with, but a new route has been decided upon. This will leave the existing line at Beauport, about two miles from Quebec, gradually ascend the hill and then on to Kent House, a distance of about three miles. The maximum gradient will be about 4%, and the average gradient over the whole line about 2%. The company is acquiring the right of way.

The new line to Sillery has been completed and has been in operation since the end of Sept. (Sept., pg. 783.)

Quebec Ry., Light, Heat and Power Co.—Application will be made to the Dominion Parliament to amend the company's charter so as to give it the right of constructing, maintaining and operating railways in the Dominion. The company owns the Quebec Ry., Light and Power Co.'s lines.

Raymond, Alta.—The Alberta Legislature last session gave the town of Raymond power to acquire or construct public utilities, among which are particularly specified, street railways or tramways. All the powers usually given to companies in respect of these matters are vested in the town, to be exercised through its council, and it is provided that any profits arising out of the operation of these utilities shall, after providing for a sinking fund, be transferred to the general funds, and applied as directed by the council.

Regina, Sask.—The first section of the municipal electric railway is under construction, and is expected to be completed by Nov. 1. The piece of line being built is on Albert St. from Dewdney to Eleventh Ave., and through the subway. The contract was given to R. S. Blome and Co. for the laying of ties and rails ready for the paving at actual cost, plus 15%, to place the extra concrete required at \$8.50 a cubic yard, and the balance of the paving at \$3 a square yard. (Aug., pg. 683.)

Rural Ry. of Manitoba.—A proposition was submitted to the St. Vital, Man., township council, Sept. 26, on behalf of this company, offering, if given a franchise, to build a line of five miles from the southerly limits of either Winnipeg or St. Boniface, as far as the dividing line between the municipalities of St. Vital and Ritchot, by Nov. 1, 1912. The council received the proposal favorably, and referred the terms of the franchise to its legal adviser for consideration. The matter will be further considered at a meeting of the council Nov. 5. The municipal council of Ritchot passed a bylaw Oct. 4 granting the company a franchise in that municipality.

The Rural Ry. of Manitoba was incorporated by the Manitoba Legislature last session, and is authorized to build a line on St. Mary's road, through St. Vital and other municipalities abutting on the Red River southward as far as the International boundary. The company's officers are:—C. E. Lewis, Minneapolis, Minn.; W. Z. Peatman, and J. Bernier, M.L.A. (Feb., pg. 111.) (See also St. Vital, Feb., 1908, pg. 121.)

Saskatoon, Sask.—The Moose Jaw Electric Ry., which is incorporated under the British Columbia Companies Act to build electric railways in Saskatchewan and British Columbia, is in treaty with the Saskatoon city council for a franchise in that city. The council desires to submit the question to a vote as to whether the line should be built as a municipal enterprise or by a company. (Aug., pg. 685.)

Sherbrooke Ry. and Power Co.—Track has been laid on the extension of the line on Frontenac St., and work on the other new lines is reported to be well advanced. The new power house is ex-

pected to be completed by Nov. 1. (Oct., pg. 877.)

Stratford Ry.—The bylaw granting a franchise for an electric railway in Stratford, Ont., was finally passed by the city council at a special meeting Sept. 30. (Oct., pg. 877.)

Taber, Alta.—The town of Taber was given by the Alberta Legislature last session similar powers as to the building of street railways and tramways as were granted to the town of Raymond, and mentioned under the head of "Raymond" above.

Three Valley and Vernon Tramway Co.—Application will be made to the B.C. Legislature for the incorporation of a company with this title to build tramways and telegraph and telephone lines between Three Valley and Vernon, from the south boundary of the C.P.R. right of way, near the west end of Three Valley Lake, southerly along Frog Creek valley to the north end of Mabel Lake, along the shore to the south end, and following the Shuswap River to Bisset Creek, along Bisset Creek to Lumby, thence westerly through White Valley and Coldstream to Vernon. S. A. Mundy, A. McRae and W. E. Hodges are the applicants.

Toronto and York Radial Ry.—The Grand Jury of the county of York, Oct. 12, returned a true bill against the company for maintaining a common nuisance on its Metropolitan Division. The indictment sets out that the rails are "kept at an injurious height above the ground," thereby impeding ordinary traffic, and that the company neglects "to make proper repairs" to its line, thereby causing great inconvenience to the public. The hearing of the case was adjourned until the next Quarter Sessions.

The Chairman of the Ontario Railway and Municipal Board expressed the opinion, Oct. 7, that the only remedy for the present alleged inadequate service on the Metropolitan Division is to build a second track from the C.P.R. crossing through to Glen Grove and the golf grounds. If the Board had power to order it to be done, such an order would be issued.

Toronto tp. council has approved of an agreement made with the T. and Y.R. Ry., settling the question of damages arising from the company's failure to extend its line from Port Credit to the western limits of the township, on the payment of \$1,500 cash and a further \$1,000 if the line is not so extended within two years. (Oct., pg. 877.)

Toronto, Niagara and Western Ry.—The Board of Railway Commissioners devoted considerable time Oct. 11 and 12 at Hamilton, to a consideration of the company's application for approval of the proposed route along the north shore of the bay, reaching the city by a bridge from Carroll's point over the Desjardines canal. The city solicitor, representatives from Dundas, the Hamilton Ferry Co., and individual property owners appeared in opposition. The Board's Chief Engineer has made an inspection of the proposed route, but his report has not been made, consequently the Board's decision will not be announced for some time. (Aug., pg. 685.)

Winnipeg Electric Ry.—A plan has been filed for an extension of the line on Notre Dame Ave., from Arlington St. to the C.P.R. crossing, and it is stated that the line will be built this fall. (Oct., pg. 877.)

H. E. Smith, Comptroller Montreal St. Ry., has been elected Third Vice President American Street Railway Accountants' Association for the current year.

NOTICE.—The Alberta Railway and Irrigation Company will apply to the Parliament of Canada, at its next session, for an Act extending the time within which it may construct the following lines of railway:—

- (a) From Cardston to a point in Range 1, W. 5.
- (b) From a point between Spring Coulee and Mountain View westerly to a point on the C.P.R. between Range 2, W. 5 and Range 27, W. 4.
- (c) From Stirling easterly to a point in Range 4, W. 4, between the line of the C.P.R. and the International Boundary.
- (d) From a point between Lethbridge and Stirling to some point on the International Boundary between Ranges 24 and 30, W. 4;

and for other purposes.

Dated at London, the 10th October, 1910.

DAVID AMEY,
Secretary.

Andrew T. Thompson,
Ottawa Agent.

NOTICE.—The Campbellford, Lake Ontario & Western Railway Company will apply to the Parliament of Canada, at its next session, for an Act authorizing it to construct a line of railway from a point on the railway operated by the C.P.R. between Smith's Falls and Sharbot Lake, thence south-westerly to a point at or near Cobourg, thence westerly and north-westerly to a point between Locust Hill and Leaside Junction, instead of the railway authorized by section 8, of chapter 54 of the Statutes of 1904, and authorizing the company to increase its bonding powers.

Dated at Montreal, the 10th October, 1910.

H. C. OSWALD,
Secretary.

Andrew T. Thompson,
Ottawa Agent.

NOTICE.—The Guelph and Goderich Railway Company will apply to the Parliament of Canada, at its next session, for an Act extending the time within which it may construct the branches which it has been authorized to construct by S. 7 of chapter 81 of the Statutes of Canada, 1904, and for other purposes.

Dated at Guelph, the 10th October, 1910.

A. H. MACDONALD,
Secretary.

Andrew T. Thompson,
Ottawa Agent.

NOTICE.—The Kootenay & Arrowhead Railway Company will apply to the Parliament of Canada, at its next session, for an Act extending the time within which it may construct the railway from Gerrard to Arrowhead, and for other purposes.

Dated at Montreal, the 10th October, 1910.

H. C. OSWALD,
Secretary.

Andrew T. Thompson,
Ottawa Agent.

NOTICE.—The South Ontario Pacific Railway Company will apply to the Parliament of Canada, at its next session, for an Act authorizing it to construct a railway from a point at or near Guelph Junction to a point at or near Hamilton, and for other purposes.

Dated at Montreal, 10th October, 1910.

H. C. OSWALD,
Secretary.

Andrew T. Thompson,
Ottawa Agent.

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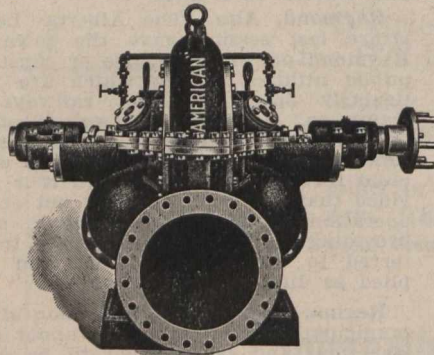
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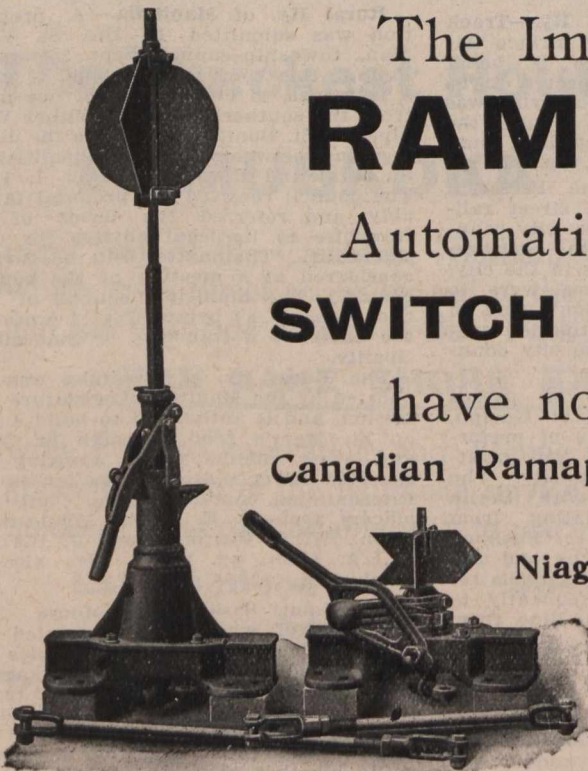
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Style No. 17

Style No. 20

Ask for Information about Six other Styles

Electric Ry., Finance, Meetings, Etc.

British Columbia Electric Ry.—Gross earnings for Aug., \$302,121; working expenses, \$170,083; net operating earnings, \$132,038; renewal funds, \$22,626; net earnings, \$109,412; approximate income from investments, \$22,000; net income, \$131,412, against \$242,016 gross earnings; \$128,442 working expenses; \$113,574 net operating earnings; \$16,394 renewal funds; \$97,180 net earnings; \$16,500 approximate income from investments; \$113,680 net income for Aug., 1909. Aggregate gross earnings for two months ended Aug. 31, \$585,656; net earnings, including approximate income from investments, \$239,277, against \$462,681 gross and \$211,698 net for same period 1909.

An issue of £600,000 additional stock has been placed on the London market to finance the building of new lines, the provision of new equipment, and work on the power development plant at Jones Lake.

Calgary St. Ry.—Passenger earnings for Sept., \$19,003.10; miscellaneous earnings, \$290.66; total earnings, \$19,293.76; operating expenses, \$474.06; maintenance and equipment, \$1,978; transportation, \$7,302.03; general expenses, \$1,250.28; total expenses, \$10,104.37; net operating earnings, \$9,189.39. Passengers carried, 464,543; mileage, 60,666 miles; earnings per mile, \$31.32; expenses per cent. of revenue, 52.371.

Halifax Electric Tramway.—Receipts for Sept., \$21,141.04, and for two weeks ended Oct. 14, \$10,407.87, against \$21,020.91, and \$9,389.61 for same periods 1909.

London St. Ry.—Gross earnings for Sept., \$26,045.64; expenses, \$15,470.80; net earnings, \$10,574.84; deductions, \$2,363.05; net income, \$8,211.79, against \$24,937.83 gross earnings; \$14,633 expenses; \$10,274.83 net earnings; \$2,363.05 deductions; \$7,911.78 net income for Sept., 1909. Aggregate gross earnings for nine months ended Sept. 30, \$190,724.73; expenses, \$134,856.98; net earnings, \$55,867.75; deductions, \$2,503.45; net income, \$34,364.30, against \$183,382.10 gross earnings; \$126,338.33 expenses; \$57,043.77 net earnings; \$2,619.13 deductions; \$35,424.64 net income for same period 1909.

Montreal and Southern Counties Ry.—Following are the officers for the current year: President, S. T. Willett; First Vice President, T. Craig; Second Vice President and General Manager, W. B. Powell; Secretary-Treasurer, H. W. Cooper.

Application will be made by the G.T.R. to Dominion Parliament for power, among other things, to acquire, hold, guarantee, pledge and sell or otherwise dispose of M. and S.C. Ry. stocks, bonds or other securities.

Montreal Park and Island Ry.—Following are the officers and directors for the current year:—President, Hon. L. J. Forget; Vice President, K. W. Blackwell; Managing Director, W. G. Ross; other directors, Sir H. M. Allan, P. Galibert, D. McDonald, T. A. Trenholme; Secretary, P. Dubee.

Montreal St. Ry.—The city treasurer, Oct. 8, received a cheque for \$276,618, being the amount due from the company as percentage on the receipts of the line within the city.

Montreal Terminal Ry.—Following are the officers and directors for the current year:—President C. H. Catelli; Vice President, C. S. Campbell; other directors, R. Forget, J. G. Ross, F. E. Meredith, W. W. Skinner, J. L. Peron; Secretary-Treasurer, L. G. Morin.

The city treasurer, Oct. 8, received a cheque for \$1,299, being the amount due from the company for percentage

on its receipts within the city for the last financial year.

Nipissing Central Ry.—A meeting of the shareholders has been called for Nov. 7 for the purpose of ratifying and confirming what has been done by the acting directors and officials; approving and confirming the building of the line, and the acquisition of various franchises, rights and properties; confirming the financial arrangements made, and the giving of such further directions respecting the future management of the company as may be advisable. S. A. Jones is acting Secretary.

Quebec Ry., Light, Heat and Power Co.—The executive of the Bourse of Paris, France, has granted the company's application to have its stock listed.

St. Thomas Street Ry.—Earnings for Aug., \$1,948.42; expenditures, \$2,203.41, against receipts of \$2,110,467 and expenditures of \$2,608.39 for Aug., 1909.

Toronto Ry.—Gross earnings for Sept., \$428,580.07; expenses, \$199,502.60; net earnings, \$229,077.38, against \$379,981.08 gross earnings; \$180,834.11 expenses; \$199,146.97 net earnings for Sept., 1909. Aggregate gross earnings for nine months ended Sept. 30, \$3,195,938.01; expenses, \$1,634,760.20; net earnings, \$1,561,177.81, against \$2,857,291.30 aggregate gross earnings; \$1,449,636.09 expenses; \$1,407,655.21 net earnings for same period 1909.

Winnipeg Electric Ry.—Gross earnings for Aug., \$247,046; working expenses, \$124,719; net earnings, \$122,327, against \$197,817 gross earnings; \$100,726 working expenses; \$97,091 net earnings for Aug., 1909. Aggregate gross earnings for eight months ended Aug. 31, \$2,031,256; net earnings, \$1,009,468, against \$1,622,809 gross earnings, and \$812,544 net earnings for same period, 1909.

Electric Railway Notes.

G. E. Moffatt, consulting engineer British Columbia Electric Ry., is reported to have resigned.

The Winnipeg Electric Ry. has recently tested an automatic fender invented by J. Milford Moorhouse, of Winnipeg.

J. F. Argue, for over 25 years in the Toronto Ry.'s service, latterly as a divisional superintendent, died in Toronto, Oct. 6.

The Montreal Board of Control has arrived at an agreement with the Montreal Street Ry. for a new method of snow removal in the city.

The Montreal Street Ry. has entered suit against the Montreal Star, claiming \$100,000 as damages, and charging defamatory libel in articles published.

A. Gaboury, Superintendent Montreal St. Ry., has been elected a member of the executive committee American Street and Interurban Railway Association for the current year.

The Toronto Ry. is said to have about 50 new cars of the latest model, completed or in course of completion, to be put in operation as soon as the extensions now under construction are completed.

W. G. Ross, Managing Director Montreal Street Ry., was elected Vice President of the American Street and Interurban Ry. Association, at the annual convention at Atlantic City, N.J., early in October.

R. J. Clark, for the past six years Assistant Comptroller of the Toronto Ry., and Comptroller of the Toronto and York Radial Ry., has been appointed Comptroller of the Kansas City Electric Street Ry., Power and Light Co.

O. J. Cherry, Superintendent upper

steel arch, Lewiston and Queenston bridges, has also been appointed Division Superintendent, Park and River Division, International Ry. E. H. Henning, Division Superintendent, continues in charge of the Buffalo & Niagara Falls local lines.

By a judgment of the Quebec courts rendered June 30, 1909, the Montreal Street Ry. was ordered to remove certain tracks laid on the property of the Harbor Commission within two months. Notice of appeal was given, and this was argued before the Court of Appeal, Sept. 20, and judgment reserved.

The fiftieth anniversary of the running of the first tram car in England was celebrated recently. The first car was run at Birkenhead by the late G. F. Train, who had as an office boy C. Robinson, who has been for years the moving spirit in connection with the tramways and light railway building in Great Britain.

The Quebec Public Utilities Commission received a report from Commissioner Laberge on recent fatal accidents on the Montreal Street Ry., and discussed it at a private sitting in Quebec Oct. 5. The Commissioners decided to hold a special session in Montreal for the investigation of the accidents, but at the time of writing no date had been announced for the session.

The Toronto board of control has instructed the city counsel to find out if the city has a case against the Metropolitan Ry. (Toronto and York Radial Ry.) for not keeping Yonge St. in a proper state of repair, and if so to prefer an indictment against the company. A report for a similar purpose is being prepared on the T. & Y.R. Ry., Mimico division.

The British Columbia Electric Ry. has received two 34 ft. passenger cars from the Preston Car and Coach Co., Preston, Ont., each 44 ft. over vestibules and 45 ft. over bumpers. They are arranged with a smoking compartment at one end with a corridor extending from the rear vestibule into the main compartment, and are finished in Honduras mahogany, with semi-empire ceilings, the seats, which are of the walkover pattern, being upholstered in rattan.

In the British Columbia Electric Ry.'s new wages schedule, which went into effect July 1, the increase of pay granted was given on the understanding that the bonus scheme, under which the employees have heretofore shared in the company's profits, will cease after the next payment of the bonus, which will take place probably in November, and will relate to the year ended June 30. The profit sharing scheme has been terminated at the men's request, they preferring an increased rate of pay to an annual bonus.

The Galt, Preston and Hespeler St. Ry. has received two 55 ft. passenger cars from the Preston Car and Coach Co., Preston, Ont. They are 43 ft. 5 ins. over bodies, 53 ft. 7 ins. over vestibules, 55 ft. over bumpers, and 9 ft. wide over sheathing, and are painted Pullman color on the outside, with semi-elliptic transom sash over the side windows and in the deck, glazed with leaded art glass. A smoking compartment is provided at one end, and a motorman's cab at each end. The trucks are equipped with Westinghouse 93 motors, 75 h.p., and multiple unit control.

J. E. Rothery, who has been appointed Manager Toronto Eastern Ry., was Superintendent of the Niagara Falls, Park and River Ry. from 1893 until its absorption by the International Ry., when he was appointed Superintendent of the Buffalo & Niagara Falls division, including the lines in Canada. In 1906 he was appointed General Manager of the Ohio Valley Scenic Route at East

NOTICE.—The Manitoba & North-western Railway Company of Canada, will apply to the Parliament of Canada, at its next session, for an Act extending the time within which it may construct the following lines of railway:

- (a) From Yorkton to a point at or near Prince Albert.
- (b) From Russell to the northern or western boundary of Manitoba.
- (c) From some point between Portage la Prairie and Arden to the northern or western boundary of Manitoba.
- (d) From some point between Westbourne and Beautiful Plains northwesterly in the direction of Lake Dauphin or Duck Mountains.
- (e) From a point between Theodore and Insinger to a point in Township 32, Range 18 or 19, W. 2nd M., with power to terminate at a point in Range 16 or 17.
- (f) From Bredenbury to Kamsack; and for other purposes.

Dated at Montreal, the 10th October, 1910.

H. C. OSWALD,
Secretary.

Andrew T. Thompson,
Ottawa Agent.

THE VANCOUVER AND LULU ISLAND RAILWAY COMPANY.

NOTICE.—The Vancouver and Lulu Island Railway Company will apply to the Parliament of Canada at its next session, for an Act extending the time within which it may construct branch lines, under the provisions of section 3, chapter 86 of the Statutes of 1901, and for other purposes.

Dated at Montreal, the 10th October, 1910.

H. C. OSWALD,
Secretary.

Andrew T. Thompson,
Ottawa, Agent.

NOTICE.—The Ottawa Northern & Western Railway Company will apply to the Parliament of Canada, at its next session, for an Act extending the time within which it may construct the extension of its main line from Maniwaki to a point at or near James Bay and the extension to Lake Temiskamingue, and for other purposes.

Dated at Montreal, the 10th October, 1910.

H. C. OSWALD,
Secretary.

Andrew T. Thompson,
Ottawa Agent.

NOTICE.—The Walkerton & Lucknow Railway Company will apply to the Parliament of Canada, at its next session, for an Act extending the time within which it may construct the railway from a point at or near Walkerton to a point at or near Lucknow, via Teeswater, and for other purposes.

Dated at Toronto, the 10th October, 1910.

GEORGE A. WALKER,
Secretary.

Andrew T. Thompson,
Ottawa Agent.

New Brunswick and Canada Rd.—Following are the officers and directors for the current year:—President, F. Todd, St. Stephen, N.B.; Vice President, J. C. Murphy, Calais, Me.; other directors, J. E. Ganong, J. T. Whitlock, G. W. Ganong, St. Stephen, N.B.; W. A. Murchie, Calais, Me., and A. W. Madigan, Houlton, Me.

The Kingston & Pembroke Ry. Co., according to a London cable, is about to make an issue of securities in England for the operation of its iron properties.



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Liverpool, Ohio, including the East Liverpool Traction & Light Co., the Ohio Valley Ry. Co., and the Stubenville and East Liverpool Ry. & Light Co. He resigned that position in May, 1910, and has been living in Toronto since.

Toronto Electric Railway Matters.

The City Engineer and the City Solicitor presented a joint report to the Toronto board of control recently on a system of civic car lines for the recently annexed districts. The plans show 9.7 miles of lines to serve East Toronto, North Rosedale and West Toronto, at an estimated cost of \$570,000, exclusive of car barns and power plant, which would bring the cost up to \$750,000. Upon consideration of the report the board directed the City Solicitor to report on the advisability of the city acquiring the suburban lines, and the Secretary was instructed to arrange for a conference with the Toronto Ry. management with a view of seeing if an arrangement could be made for acquiring the lines of that company. This conference was held Oct. 10, and at its close the Mayor stated that President Mackenzie had said he was prepared to recommend the shareholders to sell as soon as the city had power to buy, the price to be one mutually to be agreed upon, or be settled by arbitration. Nothing was said about the matter at the meeting of the council held the same day, but it was understood that it would be reported on at a later meeting. The council, however, affirmed the principle of building, equipping and operating the lines proposed for the suburban districts by a commission, and the board of control was requested to draw up a constitution for such a commission, so that the necessary authority could be asked at the next session of the Legislature.

The question of the position of the suburban lines is mixed up with that of the lines in the suburban districts. The franchise of the section of the Mimico line within the city expires Dec. 31, 1911, and it was decided Oct. 8, to give notice of the intention of the city to take it over then. The piece of line is 1.1 miles long, and is assessed at \$990 for land, and \$3,550 for rails, ties, etc.

Government Regulation of Railways or Government Operation.—The Oxford University Press, London and Toronto, has issued a book written by C. S. Vrochman, of Oxford, Eng., entitled "American Railway Problems in the Light of European Experience, or Government Regulation v. Government Ownership of Railways." The subject is dealt with in 15 chapters, and five appendices are added. The suspended sentence of nationalization is the heading of the introductory paper, and the subject matter in the different chapters are:—Railway regulation by the several States, present status of federal regulation, proposed reforms in federal regulation, varieties in railway regulation, government ownership not confiscatory, three chapters on the result of government ownership in different countries; can Americans afford safety in railway travel? the ultimate issue involved in railway accidents, European railway corruption, American railway corruption, the spoils system and state railways, the industrial state, final considerations. The appendices contain Lamartine's Warnings, the Swiss federal laws on accounting, acquisition, operation and organization, and the law as to the state operation of Italian railways. The book can be obtained through the Railway and Marine World Book Department.

The Empire Hotel, Winnipeg, is reported to have been sold by R. J. Mackenzie, of Mackenzie, Mann & Co., to T. Donley, of Simcoe, Ont., for \$250,000.

Telegraph and Cable Matters.

The Canadian Northern Telegraph Co. has opened offices at Kenville, Man., and Fairlight and Langbank, Sask.

The Marconi Wireless Telegraph Co. is now receiving messages for transmission to the European continent. Hitherto the service has been to Great Britain and Ireland only.

Contradictory reports as to the state of G. Marconi's health have appeared recently in the Canadian and British press. Statements that he is in a serious condition have been denied and reiterated.

A Government wireless telegraph station is in course of erection near Skidegate, in connection with the Queen Charlotte Islands telephone line. The station is expected to be ready for operation during November.

Operators have been placed along the G.T.P.R. and the National Transcontinental Ry. between Fort William, Ont., and Winnipeg, in connection with the operation of the railway for the moving of the wheat crop to the head of the lakes.

A. B. Smith, Manager G.T.P. Telegraph Co., announced, Oct. 14, that the telegraph line between Fort William, Ont., and Edmonton, Alta., about 1,200 miles, was open for service. About 20 new stations have been equipped between Fort William and Winnipeg.

The Dominion telegraph line, which is being erected through Northern Alberta, reached Peace River Crossing Oct. 6, and erection was proceeded with for 16 miles to the Shaftsbury settlement, where, it is stated, telephone communication will be opened up this winter.

The Great North Western Telegraph Co. has announced that after Nov. 30 it will discontinue its news service, as it believes that since telegraph companies are now classed, by law, as common carriers, the collection and dissemination of news is not properly in their province.

The cable operators at the cable station at North Sydney, N.S., were recently granted a bonus of one month's salary, in recognition of loyal service, when both of the Canso-Penzance cables were out of service. During this suspension over 3,500,000 messages were relayed at North Sydney.

The board of conciliation, consisting of J. E. Duval, chairman, H. W. Ashley and F. J. Reynolds, appointed to enquire into the grievances of the G.T.R. telegraphers, arrived at a decision, Oct. 5, which gives the operators a new schedule of rules regulating the hours for service and conditions of promotion, and increases of pay amounting to about 4%.

W. J. Camp, Electrical Engineer C.P.R. Telegraphs, is a member of the committee of the Association of Railway Telegraph Superintendents, which has in hand the erection of a monument, to be erected at Turner, N.Y., to commemorate the sending of the first telegraphic train order on the continent. The Old Time Telegraphers and Historical Association, at its recent reunion, decided to contribute not less than \$10 to the fund.

The C.P.R. has opened telegraph offices at Lake Louise Chalet, Alta.; Summit Lake, B.C.; Hallsboro, Niversville, and Shawanan, Man.; Adelard, Islington, Komoka and Point au Baril, Ont.; Ivry and Woodlands, Que.; Cross, Drake, Dysart, Jansen, Markinch and Marouis, Sask., and has closed its telegraph offices at Natal, B.C.; Firdale, Man.; Beaucage, Bismark, Bissett, Eauclair, Garden, MacLennan, Melrose and Moffat, Ont.

The cable steamship Colonia has com-

pleted the laying of a cable between New York and Penzance, Eng., via Newfoundland, in what is claimed to be record time. She commenced laying the cable at Bay Roberts, Nfld., July 18, and reached Penzance in nine days, and on Sept. 14 returned to Bay Roberts and laid the cable to Coney Island. On this last section the cable parted in deep water, the end being recovered in 24 hours.

The material for the erection of Marconi wireless telegraph stations at Macovic and Cape Harrison, Labrador, has been landed at the respective points, and the work has commenced. The erection will be completed this year, but it is not anticipated that the stations will be fully equipped, as they will be of little use until next year, when, it is stated, other stations will be erected, forming a chain from Cape Chidley, through Hudson Bay to Fort Churchill.

The annual general meeting of the G.N.W. Telegraph Co. was held in Toronto, Sept. 28. Following are the officers and directors for the current year: President, H. P. Dwight; Vice President, A. Brown; Vice President and General Manager, I. McMichael; other directors, H. N. Baird, J. Hedley, Hon. J. K. Kerr, W. C. Matthews, Toronto; R. C. Clowry, J. B. Van Every, New York; Secretary-Treasurer, G. D. Perry; Auditor, A. C. McConnell; Assistant General Manager, S. B. McMichael.

The Maritime Telegraph and Telephone Co. has laid a cable across Northumberland Strait, between Nova Scotia and Prince Edward Island. The cable leaves Nova Scotia at Waterside, near Cariboo Island, nine miles from Pictou, and reaches Prince Edward Island, at the Wood Islands, about 35 miles from Charlottetown. It is stated to be the intention to establish telephone communication by means of the cable, and press reports from Pictou state that as telegraph instruments have been sent there, the telegraph may be used, in the event of failure, with the telephone.

The Western Union Telegraph Co.'s annual report shows an increase of 7,081,966 messages and 504 stations over the previous years, while 2,847 miles of pole and cable, and 46,549 miles of wire, of which 30,515 miles were copper, were added during the year. The total mileage of wire is now 1,429,049, of which 530,517 miles are copper. The total earnings were \$32,754,111.13; operating expenses, repairs, etc., \$26,614,302.88; other income, \$1,135,091.80; interest and dividends, \$4,677,526.23; balance, \$2,597,373.82. The assets of the company, which have been re-valued, amount to \$307,737,262.07.

A St. John, N.B., dispatch of Oct. 19 says:—"J. Kent, Manager C.P.R. Telegraphs, foreshadows an extension of the company's lines along the Dominion Atlantic Ry. When asked how the acquisition of control of the railway by the C.P.R. would affect the telegraph company, he remarked that it was the usual C.P.R. policy to have its own telegraph wires over all its lines of railway. Mr. Kent said the C.P.R. is now operating 1,400 miles of single-track railway by telephone, and finds it more satisfactory than telegraph. The system is to be extended to 2,100 miles this season."

The Montreal Street Ry. Co. has entered an action for libel against the Montreal Star, claiming \$100,000 as damages suffered by it on account of statements by the newspaper at various times. The M.S.R. Co. alleges that for some months the paper has conducted a systematic campaign against it by printing unfair headings, distorting facts and giving incorrect reports of accidents or legal proceedings in which the company was involved.—Montreal Press Dispatch.

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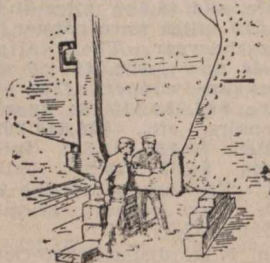
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Ont.; GRAND SECRETARY-TREASURER, Capt. H.
O. Jackson, 376 Huron St., Toronto.

Buoy Steamboat for the St. Lawrence.

The steamboat which the Department of Marine contemplates building, and for which provision has been made in this year's estimates for the buoy service on the River St. Lawrence between Montreal and Quebec has been designed with the view of meeting the increased demands and requirements of this important branch of marine work, and re-arranging the C. G. S. Shamrock, which is now considered quite inadequate and unsuited for the service. The principal dimensions of the new vessel are:—Length, 170 ft.; breadth, 31½ ft.; depth, 15½ ft.; displacement about 1,000 tons; speed on service, 11 knots.

The general accommodation is placed at the forward and after ends, the machinery being also placed aft in order to provide a large clear well and hold forward for the special work connected with the lifting and lowering of buoys and their attendant gear. The well, which is about 66 ft. long, is traversed by two derricks, one capable of lifting 10 ton weights, and the other of lifting five ton weights, the larger lift being for the handling of buoys and the smaller lift for manipulating the cables and anchors. These derricks are operated by a specially designed winch, which is situated abreast the fore mast. The general structure of the ship is largely above Lloyds requirements, special consideration having been given to those parts directly in way of the well. The structure forward and aft and along the load water line is also largely in excess of the usual requirements, in order to provide sufficient strength for working in floating ice about 12 inches thick. The vessel is divided into eight water-tight compartments, and large steam pumps of high power, and smaller hand pumps are provided for the pumping and flooding arrangements. The main and lower decks are of steel, wood sheathed, and the fore-castle, bridge and boat decks are partially plated and wood sheathed; a double bottom is fitted under the fore hold and engine room. The accommodation is ample and roomy. Under the fore-castle deck, provision is made for the housing of the seamen and firemen with their respective water-closets and wash houses adjoining. On the main deck aft abreast the e. and b. casings are placed the cabins for the officers, bath-room and water-closet, ward room, galley and pantry, and a special mess room is also provided there for the crew and firemen. On the bridge deck are situated the staff officers' quarters, two state-rooms, wireless telegraph office, dining saloon, bathroom and water-closet, and

chart room. The latter, which is for the staff officers' use, is placed at the fore end of the deckhouse and commands the working well. On the boat deck, in a teak deck-house, is the navigating position, with captain's cabin adjoining, these being surmounted by a sighting platform for the superintending engineer.

The vessel is provided with a complete installation of electric light, and also a powerful searchlight of about 16,000 candle power. The power is derived from two dynamos situated in the engine room, driven by two compound engines of the enclosed type. A set of accumulators is also provided for the running of certain lights. As is usual in the service a system of wireless telegraphy will be installed. A very efficient system of ventilation is provided for and precaution has been taken to provide fresh air to all parts of the living quarters, holds, stokeholds and engine room. The steam steering engine will be placed in a recess in the engine room, controlled from the navigating position in the wheel house, and the usual hand gear is provided in a neat teak case aft.

Three boats are fitted under davits on the boat deck, viz.:—A gasoline launch, 26 ft.; a lifeboat, 26 ft.; and 1 dinghy, 15 ft. These are all under direct control by steam power, a boat-hoisting engine being provided adjoining.

The water service arrangements are very complete. All the compartments are supplied, and also the decks, the pumps for the respective purposes being situated in the engine room. The bunkers will have a capacity capable of providing a steaming radius of 1500 knots, and a large reserve can be provided for. In order to provide a steadier rolling when lifting heavy weights, rolling keels are fitted on the bilges.

The vessel will be fitted with twin screw triple expansion engines, working at about 130 revolutions a minute. Steam will be derived from two single ended cylindrical boilers, each fitted with two Morison's patent withdrawable furnaces, and having a working pressure of 180 lbs. per square inch. All the usual auxiliaries will be installed in the engine room, viz.:—Circulating pumps, air pumps, feed pumps, bilge pumps, injector pump, general service donkey, ballast pumps, fresh water pump, sanitary pump, etc., etc., and special provision has been made at the sea inlets for the prevention of ice formation. The piping arrangements will be very complete, and in several instances will be duplicated in order that should one connection become choked, an alternative connection may be used. Each of the boilers will be fitted with an installation of a temperature balance which has given great satisfaction on the C. G. S. Earl Grey. The propellers will be of the built up type, of special mixture steel, and will be of heavy construction and specially designed for the work. The contract for this new addition to the marine fleet will be awarded shortly, as it is intended to have the vessel placed on her service as early as possible.

The name of the schooner A. K. Woodward has been changed by order-in-council to H. S. M.

An item which was running through the press, during Oct., purporting to be a "special" from Washington, D. C., regarding the number and tonnage of Canada's shipping, quotes grand totals, totals by provinces etc. and also of new tonnage, which is given as having been added "during the current year." All the figures mentioned in the "special," refer to the year ended Dec. 31 1909 and were included in the annual summary of Canadian shipping, published in our July issue.

The Canada West Indies Route.

The report of the Imperial Royal Commission appointed to enquire into trade connections between Canada and the West Indies, states that as a market from the West Indies point of view, Canada is at some disadvantage, geographically, as compared with the U.S., and that there is little hope of counteracting these disadvantages unless a good form of through communication is established, between the West Indies and Canada, as far west as Toronto, and perhaps even Winnipeg. A subsidy of £27,000 annually is paid for a fortnightly service, between St. John and Halifax alternately, and the West Indies, the agreement in this case, expiring this year. The subsidy is paid equally, by the Canadian and British Governments. The report continues: "In the course of our enquiry, it has been continually urged upon us that the present service has not been satisfactory and in both countries it was repeatedly urged that the development of mutual trade depended largely on the improvement in the means of transportation. The principal causes of complaint in Canada were the unpunctuality of the steamers and their slow speed; the inadequacy of accommodation, both for passengers and freight; the lack of care in transit, and the delay at Halifax involved to shipments from St. John. In the West Indies, the special causes of complaint brought to our notice were the inferiority of the steamers employed; the high rates for certain classes of cargo, and the uncertainty of finding space when the steamers arrived at the northern islands, although accommodation might have been reserved in advance. There was a very general opinion among the witnesses in Canada, that a weekly service was desirable, that the steamers should maintain a speed of 12 knots an hour, at least; while in the West Indies, the general opinion was that fortnightly steamers would be adequate though a few favored a more frequent service. We are of the opinion that the most efficient service might be obtained by dividing the service into two parts. In summer there should be one fortnightly sailing from Halifax, and another fortnightly sailing from Montreal, calling at Quebec and St. John. The services should be so arranged that the departures from Halifax and St. John should take place on the same day of alternate weeks, thus forming a weekly service from Canada, giving to Halifax and St. John the direct connection with the West Indies which they desire and giving Montreal and Quebec the opportunity to send their goods direct to the West Indies entirely by water, during the season of open navigation. In the winter the sailings would be from Halifax and St. John only, and in the summer it should be laid down that the steamers on the St. John route should start from Montreal a specified number of days before the due date of departure from St. John. As it is desirable that there should be no delay through the calling of the steamers for coal on the voyage, it should be stipulated that the Montreal-St. John steamers should be fully coaled at Montreal, and the Halifax steamers fully coaled at Halifax for the outward voyage, and that if additional coal were required for the homeward voyage, the arrangements should be such as to involve the least possible delay. . . . Having regard to the importance of retaining and extending as far as possible, the market which Canada offers for West Indies products, we would represent that the maintenance and improvement of the steamship service is in the highest degree essential. We cannot fail to recognize that the withdrawal of the existing service would very seriously hamper and in

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some cases entirely extinguish, the trade which is now growing up. It is possible, that if the subsidy were withdrawn, a fairly frequent, though irregular service might be maintained between Canada and the larger ports, but we cannot doubt, that in such event, the smaller islands would cease to be visited. The selection of a firm to undertake the contract for this service falls mainly with Canada, where the headquarters must necessarily be established. We have no doubt that every opportunity will be given to any responsible firm to tender for the service, if it should be decided to continue it.

"The preceding recommendations were made with a view to the establishment of an adequate cargo and passenger service between Canada and the West Indies and at the time of their preparation we had not given special consideration to the possibility of including a fast mail service. Since the conclusion of our enquiry, a new situation has arisen through the expiration of the mail contracts between England and the West Indies, and in consequence a way has been opened for the acceleration of the service between Canada and the West Indies, so as to provide an all the British route for mails between the United Kingdom and the West Indies by way of Canada. We have discussed this matter with representatives of the General Post Office and have given our assistance in preparing a scheme for a service between Canada and the West Indies, on the same general lines as the preceding, but with vessels steaming at 15 knots an hour, leaving Halifax or St. John, immediately on the arrival of the weekly mails from Liverpool, and which, in the summer, would be landed at Rimouski and conveyed by rail to Halifax or St. John."

Stranding of the s. s. Craigendoran.

Following the enquiry into the causes of the stranding of the s.s. Craigendoran at Anticosti Island, late in August, referred to in our last issue, Capt. L. A. Demers, Wreck Commissioner, delivered the following judgment, Oct. 5, which was concurred in by Jas. Bain and J. A. Band, Assessors:—

The court, having carefully weighed the evidence adduced, finds that the captain and officers, being strangers to the Gulf St. Lawrence, failed to exercise adequate precaution in equipping themselves with necessary information concerning the prevailing winds, tides and currents, which may be found in the sailing directions, which could have been procured with facility in either Montreal or Quebec. From the time Fame Point was passed the vessel seems to have been steered in a seamanlike manner, and a course was taken intending to pass three or four miles off South Point, Anticosti, in order to make the East Point lightship. An hour prior to the stranding, when land was sighted, the master, in estimating his distance therefrom, relied absolutely on his visual observation, whereas the vessel being equipped with a deep sounding machine, supposedly in good order, a cast of the lead could have been taken without interruption to the ship's speed, thus determining the distance and allaying doubts regarding the master's uncertain estimate. The captain accordingly proceeded on that unauthenticated course, which, however, was altered at a point prior to the accident, the necessity for which seems somewhat vague and would appear uncalled for if the master's estimate of the vessel being 5 or 6 miles off, is to be accepted, but the fact that the stranding occurred almost immediately following the alteration, indicates conclusively that she must have been well inshore. Following the strand-

ing, the engines were stopped, but no attempt was made to impede the vessel's headway by reversing, and in the court's opinion some definite action should have been taken to ascertain the exact location of the stranding, which, however, was omitted, and consequently the ship, carrying the impetus imparted by her former speed of nine knots, must have traversed a distance approximating three-quarters of a mile before attaining a dead stop, at which time the cast of the lead was taken, which recorded 20 fathoms. The lighthouse was in full view, and if the possibility of a cross bearing were precluded, the exact position could nevertheless be ascertained by the measurement of the height of the lighthouse.

In view of the facts adduced, the court can arrive at no other conclusion than that the necessary precautions for the safety of the vessel were not exercised by the master and second officer, which neglect on their part is the more emphasized by the fact that they were navigating strange waters and had at all times the means available to verify the position of their vessel, the atmosphere being penetrable to a distance of six or seven miles, and even admitting that objects were not sufficiently defined for observation purposes, soundings should have been taken to authenticate the observation made by naked eye by the master and the second officer.

One of the witnesses intimated that the wreck, which has been lodged in that vicinity for 15 years, is further removed from shore than the chart indicates, but even admitting that the wreck be further out than shown by the chart, by one and a half miles, the court nevertheless contends that it would not constitute an impediment to the safe navigation of vessels whose courses are taken to make certain points or enter the Straits of Belle Isle. In view of the above, the court has arrived at the conclusion that the master has been guilty of carelessness in neglecting to supply himself with the sailing directions, and for his failure to take proper observations to ascertain the vessel's distance from the land, and the implicit reliance which he placed on his visual observation, without attempt at verification, the court holds was by no means seamanlike. Owing, however, to the fact that the vessel escaped serious damage in consequence of the said carelessness, the court will not deal with the master's certificate, but finds it incumbent upon it to severely censure him, and to also reprimand the second officer for failure in calling the master's attention, and not taking necessary bearings and soundings when land was seen.

Montreal Harbor Traffic Statistics.

Following are details of the Montreal harbor receipts from the commencement of the St. Lawrence navigation season to Sept. 30, as compared with those for the same period 1909:—

	1910.	1909.
Imports	\$181,500.00	\$144,500.00
Exports	59,000.00	58,000.00
Local traffic	43,665.11	35,715.50

Totals

Totals	\$284,165.11	\$238,215.50
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The number of vessel arrivals during the period was 571, of a total tonnage of 1,688,294, against 513 vessels and 1,441,514 tons in 1909. The previous record was in 1908, when there were 579 vessel arrivals, having a tonnage of 1,514,829. The depth of water in the ship channel, on Oct. 1, was 29 1/4 ft., a decrease of 2 1/2 ft., as compared with the depth on Oct. 1, 1909.

The name of the steamboat City of Windsor, registered at Sault Ste. Marie, Ont., has been changed by order-in-council to Michipicoten.

C. P. R. Steamboat for Arrow Lakes.

The C.P.R. is having built for service on the Arrow Lakes, B.C., a stern wheel steamboat with the following general dimensions:—

Length over all	228 ft.
Length between perpendiculars	200 ft.
Beam moulded	38 ft.
Beam over guards	44 ft.
Depth, moulded	7 1/2 ft.

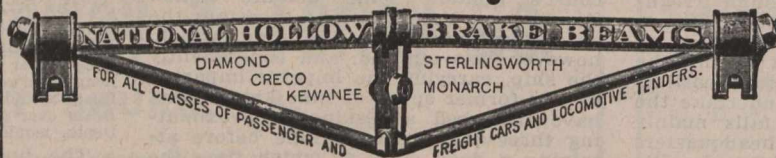
The hull proper is entirely of steel, strongly braced longitudinally by diagonal framing and bulkheads. The vessel is, by seven transverse bulkheads and the longitudinal bulkheads, divided into 20 watertight compartments, thereby ensuring greatest safety from sinking through the puncturing of any part. The shell plating forward is doubled in the bottom to further minimize the danger of damage from grounding. There are four large rudders with tillers connected to and operated by the one steering gear. The hull, which, as well as the machinery and boilers, has been constructed by Polson Iron Works, Ltd., at Toronto, in remarkably short time, has been shipped in knock down shape to its destination, there to be re-erected and riveted up complete for launching. The shipment consisted of 19 cars. On the completion of the steel work, the carpenter and joiner work will be done under the direction of J. C. Gore, Superintendent B. C. Lake and River Service, C.P.R.

The steamboat is intended for both passenger and freight service, the main deck being reserved for freight, engine and boiler room, kitchen, pantry, refrigerator and rooms for cooks, stewards, etc. The passenger accommodation, consisting of 67 state rooms, will be located in deck houses on three separate decks, first and second saloon deck and upper deck. Besides there will be a first saloon deck, smoking room, lavatories, dining room, pantry and ladies' cabin, and on second saloon deck, observation rooms fore and aft. The captain's and officers' rooms will be located on upper deck forward and above these will be the pilot house. The accommodation and public rooms will be handsomely fitted out and furnished.

The double tandem compound engines, which were designed by Polson Iron Works, and have recently been completed and tested under steam at their yard in Toronto, are said to be the first of this type to be built in Canada, and the largest stern wheel engines in the Dominion, the over all length being 75 ft. The engines were designed to give a little over 1,000 h.p. when running at 25 revolutions a minute, and cutting off at half stroke, and with 200 lbs. steam pressure at the boiler. The high pressure cylinders are 16 ins. diameter, and the low pressure 35 ins. diameter, with a stroke of 8 ft. The high pressure cylinders are placed forward of the low pressure, with a cast steel distance piece between them, which also forms the cylinder covers, and is firmly bolted to the cylinder beams. The cylinders have brackets cast on at each end, which also rest on the cylinder beams, and are bolted to them, but the holes are made oval to allow for the expansion of the cylinders, which is considerable owing to their great length. The cylinder beams which form the bed-plate or frame of the engine, are box girders built up of plates and angle bars, and carry the cylinders, the guide bars, main bearings and brackets for the valve gear. The main valves on the high pressure cylinders are hollow piston valves fitted with spring rings. The low pressure valves are balanced slide valves. The high and low pressure valves on each engine are connected to one spindle, which is worked by a valve motion with a stationary link which gives the same lead to the valve in whatever position the block is placed.



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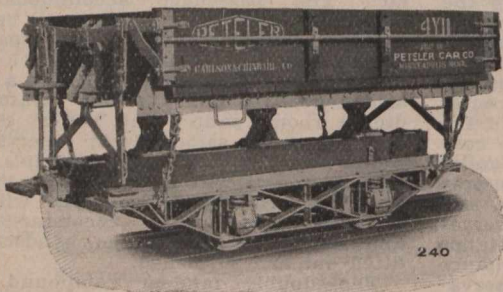
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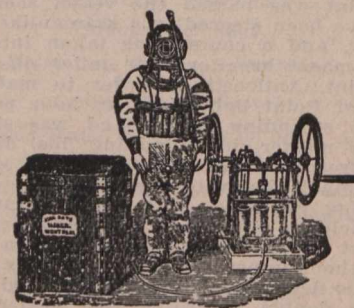
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The point of cut-off is altered or the gear reversed by moving the block in the link. A radius rod connects the block and the valve stem. The gear is actuated by a steam reversing gear of the direct type. The high pressure cylinder is fitted with a separate cut-off valve working inside the main piston valve and worked by a separate eccentric. The travel of this valve is regulated by the position of a block in a separate curved link similar to the main link, except that the link is pivoted at one end instead of at the centre. The piston rods and valve stems are fitted with special metallic packing manufactured by Polson Iron Works. The after low pressure covers are made in halves to facilitate removal for inspection of the low pressure piston. The connecting rods, which are 32 ft. long from centre to centre, are built up of steel plates, channels and tee bars, with solid forged steel ends, fitted with bronze bearings secured by straps, with gibs, cot-tingers and bolts. The crank shaft is a hollow forging of nickel steel fitted with solid forged steel webs, and weighs over ten tons. The engine has been designed throughout with very ample bearing surfaces, and a large factor of safety, as the nature of the service it is built for requires that there shall be no possibility of a break down, the boat having to be as regular in its trips as an express train.

The boiler is of the locomotive type, and is said to be the largest boiler of this type which has been built in Canada, being 90 ft. in dia. and 28 ft. 4 ins.

long, with a grate area of over 75 sq. ft. and heating surface of 2,750 sq. ft. The boiler is built for a working pressure of 200 lbs. per sq. in., and is designed to burn up 3,800 lbs. of coal per hour under forced draft, air being supplied by a fan driven by a slow speed turbine.

Salvaging the s. s. Princess May.

The recent salvaging of the Canadian Pacific s.s. Princess May, which was wrecked on Sentinel Island, while bound from Skagway, Alaska, to Seattle, Wash., Aug. 5, is of peculiar interest, owing to the position of the vessel after the disaster, and the difficulties encountered in releasing her.

About two hours after leaving Skagway, neither hearing the fog whistle on the one hand, nor seeing the lighthouse on the other until too late, the Princess May bore at full speed on to a reef just north of Sentinel Island. She was running at 12 knots and went on the rocks with an impetus that drove her up high and dry, raising the bow into the air. The position was a peculiar one. She was held on either side so that she could not slip over. At high tide, the hold filled with water. At low tide, the hull was all quite dry. The sides of the reef fall away abruptly 50 ft. and anything happening to loosen the boat would have sunk her at once, for in grinding over the rocks a long jagged tear was made in the single bottom, and it was found that 120 plates

were damaged. The crew handled their work quickly, quietly and well, and order prevailed. The passengers were taken ashore, suffering nothing more than some discomfort. Signals of distress were promptly answered and the salvaging tug Santa Cruz, of Seattle, was hastened to the scene of the accident.

The salvage feat, as difficult as it was unique, was accomplished by Capt. W. H. Logan, special agent of the London Salvage Association. The first work was to calculate the weight of the vessel to ascertain what sliding ways were required. It was decided to construct ways with a capacity of 11 tons per sq. ft., which was later reduced to 5 tons per foot. Much of the rock had to be blasted with dynamite. The tug Santa Cruz arrived at noon, Aug. 13, and two 10-in. and one 4-in. pumps were placed on board, and anchors laid astern. A 5-ton anchor was laid obliquely from the port side aft, with 250 fathoms, part cable and part wire. Two additional anchors were laid to starboard on a single 250-fathom line. The Santa Cruz made an attempt to pull her off, but did not move her. Before making the attempt, the hull was carefully patched. There was a hole about 50 ft. long and about 18 in. wide on the starboard bow and other holes on the port side about 4 ft. long. Both bilges were stove and there were holes under the engines and boilers. A large number of holes were made amidships by the steamer settling on the rocks at every tide. The majority of the holes were

LIST OF STEAM VESSELS REGISTERED IN CANADA DURING SEPTEMBER, 1910.

Name	No.	Where and When Built.	Engines, etc.	Length	Breadth	Depth	Gross Tons	Reg. Tons	Port of Registry	Owners
Adine	126,759	Bath, Me., 1909	Screw 5 n. h. p.	32.0	8.3	5.2	5	3	Montreal	C. H. Lewis, Montreal
Ailsa	126,764	Chiswick, Eng., 1909	" 1 "	21.2	5.6	2.4	2	1	"	F. I. Spielman and Alex. Solomon, J. O., Montreal
Amelia Mac	130,271	Winnipeg, Man., 1910	" 16 "	66.0	17.0	7.0	65	44	Winnipeg	Arctic Ice Co., Winnipeg, Man.
C. A. B.	126,922	St. Joseph de Levis, Q., 1909	" 5 "	55.6	15.0	6.7	30	32	Quebec	A. Bernier, St. Joseph de Levis, Que.
C. W. Moore	126,864	Allegan, Mich., 1881	" 19 "	124.0	24.0	9.4	428	259	Sault Ste. Marie, Ont.	Dominion Fish Co., Toronto
Canso	126,803	Yarmouth, N.S., 1910	" 46 "	91.6	22.0	11.7	225	47	Yarmouth, N.S.	Minister of Public Works, Ottawa
Chilcotin	126,945	Soda Creek, B.C., 1910	Paddle 21 "	54.4	12.3	6.0	26	17	Victoria, B.C.	Fort George Lumber & Navig'n Co., Vancouver, B.C.
F. H. Phippen	130,292	North Vancouver, B.C., 1910	Screw 7 "	75.0	17.0	6.0	88	60	Kenora, Ont.	Canadian Fish & Cold Storage Co., Pr. Rupert, B.C.
Forest B	126,440	Rainy River, 1895, 1910	" 4 "	56.0	11.8	2.9	33	21	Victoria, B.C.	Rat Portage Lumber Co., St. Boniface, Man.
Fort Fraser	126,944	Soda Creek, B.C., 1910	Paddle 2 "	56.0	14.7	6.8	51	20	Montreal	Fort George Lumber & Navig'n Co., Vancouver, B.C.
Gerald R.	126,760	Montreal, 1910	" 14 "	61.6	17.6	8.0	62	42	Vancouver, B.C.	M. J. Haney, et al, J.O., Toronto
Hopkins	130,294	Howe Sound, B.C., 1910	" 13 "	92.0	19.0	3.5	175	111	Victoria, B.C.	G. S. Hopkin, et al, J.O., Vancouver, B.C.
Klahowya	126,946	Golden, B.C., 1910	Pa dle 3 "	55.0	13.3	2.5	19	7	"	Columbia River Lumber Co., Golden, B.C.
Ruhane	126,942	Victoria, B.C., 1910	Screw 1 "	30.0	8.8	2.7	10	6	Montreal	I. Taylor and W. S. Drury, J.O., White Horse, Yukon
Little Verdun	126,767	Verdun, Que., 1910	" 6 "	53.8	14.8	6.6	40	19	"	E. Paul, Lower Lachine, Que.
Lyon C.	126,758	Cornwall, Ont., 1909	" 9 "	37.4	10.4	4.3	10	10	Arichat, N.S.	L. Cohen, Montreal
Napanee	130,352	Tancred, N.S., 1909	" 205 "	250.3	43.0	22.5	2179	1401	Montreal	W. Severance, Fourchu, N.S.
Newona	125,470	Wallsend, Eng., 1909	" 8 "	61.0	13.5	6.3	34	20	Port Stanley, Ont.	Canada Atlantic Transit Co., Montreal
Ray Stanton	130,231	Collingwood, Ont., 1910	" 29 "	75.4	15.6	6.2	65	6	Montreal	C. F. Stanton & P. L. Glover, J.O., Port Stanley, Ont.
Sogenada	123,766	Rutherglen, Scotland, 1909	" 3 "	33.0	8.0	6.4	11	8	"	Canadian General Development Co., Montreal
Tanina	126,765	Montreal, 1907	" 1 "	25.3	4.8	2.5	2	1	"	H. L. Henderson, Montreal
Velo	126,763	Brockville, Ont., 1910	" 1 "	25.3	4.8	2.5	2	1	"	A. Decary, Montreal
Wanderer of the North	126,762	Montreal, 1910	" 9 "	65.5	16.3	6.2	53	36	"	W. M. Birks, Montreal
Wasp B.	126,902	Mahone Bay, N.S., 1907	" 3 "	43.0	12.4	4.6	15	14	Halifax, N.S.	Halifax Graving Dock Co., London, Eng.

LIST OF SAILING VESSELS AND BARGES REGISTERED IN CANADA DURING SEPTEMBER, 1910.

Name	No.	Where and When Built	Rig	Length	Breadth	Depth	Reg. Tons	Port of Registry	Owners
C.W. 5	130,291	Vancouver, B.C., 1909	Scow	69.0	28.6	7.2	134	Vancouver, B.C.	W. W. White, Vancouver, B.C.
Cecil F. (1)	126,507	St. Pierre, Mid., 1899	Schr.	65.5	20.6	7.9	62	Sydney, N.S.	S. Fiander, North Sydney, N.S.
Crescendo	126,596	Port Greville, N.S., 1910	"	114.9	30.0	9.9	196	Parrsboro, N.S.	G. M. Cochrane, M.O. Fox River, N.S.
Dorothy Louise	126,662	Allendale, N.S., 1910	"	106.9	27.0	10.0	125	Shelburne, N.S.	G. C. Harris, M. O. Grand Bank, Nfld.
Fenelon	126,728	Peterboro, Ont., 1908	Scow	71.0	26.0	4.6	146	Selkirk, Ont.	Minister of Railways & Canals, Ottawa.
Frank Fairen	126,727	"	"	40.4	16.4	2.0	29	"	"
H. S. M (2)	122,037	Ellsworth, Me., 1869	Schr.	92.0	25.5	8.3	139	Weymouth, N.S.	H. S. Mallett, Gilbert's Cove, N.S.
Hilda R	126,904	Labave, N.S., 1910	"	104.8	26.0	10.6	100	Halifax, N.S.	Canada Sealing Co., Halifax, N.S.
N. Lafleur	126,761	St. Antoine, Que., 1901	Sloop	63.3	21.7	5.2	38	Montreal, Que.	N. Lafleur, St. Antoine de Tilly, Que.
Paradis	126,760	Lotbiniere, Que., 1907	"	75.0	17.9	4.3	42	Weymouth, N.S.	J. de Villers, Lotbiniere, Que.
Regine C.	122,038	Meteghan River, N.S., 1910	Schr.	56.0	17.8	7.0	37	Weymouth, N.S.	A. H. Comeau, Meteghan River, N.S.
Relief (3)	84,842	Mystic, Conn., 1865	Barge	118.0	29.2	8.9	196	Quebec, Que.	A. Bernier, Levis, Que.
Tenderfoot	126,943	Victoria, B.C., 1910	Schr.	33.0	10.5	5.8	9	Victoria, B.C.	H. Bird, Victoria, B.C.
True Darling	130,353	Port Felix, N.S., 1910	"	33.4	11.9	5.6	18	Arichat, N.S.	J. Belfountain, Port Felix, N.S.
V. T. B. 8	130,293	Vancouver, B.C., 1910	"	82.0	30.1	8.0	178	Vancouver, B.C.	Vancouver Tug & Barge Co., Vancouver, B.C.
Vennie May	130,351	Charles' Cove, N.S., 1910	"	38.8	11.4	5.2	17	Arichat, N.S.	T. L. Richard, Charles' Cove, N.S.
Ysabel May	126,901	Lunenburg, N.S., 1910	"	98.5	25.3	10.0	95	Halifax, N.S.	J. A. Bechtel, Victoria, B.C.
Zelah	126,903	Dartmouth, N.S., 1910	Sloop	41.5	10.8	5.7	13	"	H. M. Wylde, M.O., Halifax, N.S.

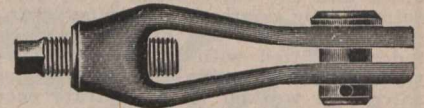
(1) Formerly, Helene. (2) Formerly, A. K. Woodward. (3) Formerly a steamer.

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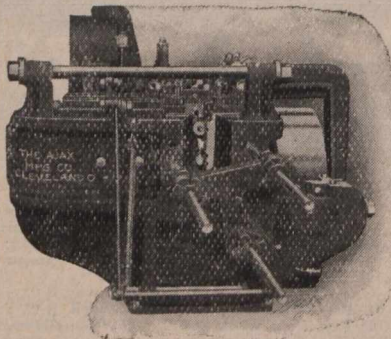


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comparatively small, but of irregular shape.

When the patching was complete, it was found that the anchors and hawsers were not heavy enough and that the tug could not move the vessel. The British Columbia Salvage Co.'s tug William Joliffe was accordingly sent for. Heavier anchors were laid out and when the sliding ways were ready the tugs made another attempt to pull the ship off, which was ineffectual, and a third pull was taken at midnight, Sept. 2, when the tide was highest, and the steamer moved about 60 ft., and at noon the following day another haul was made and she slid into deep water, the pumps keeping her afloat. The wreck was towed to Juneau and thence to Esquimalt, making but little water during the long tow from the north. Within 30 hours after the wreck was floated, one of the heaviest gales of the season occurred and had she been out on the reef at the time it would probably have pounded her to pieces. That there was no break in the hull speaks well for her construction. The floating was the thirty-second successful salvage job completed by Capt. Logan.—Marine Review.

Vessels Removed from the Register.

The following vessels were removed from the register, during Aug. and Sept. for the reasons assigned:—Steam,—Dama Quebec 37 tons, broken up; J. L. Murphy, Ottawa, 109 tons, broken up; Platea, St. John, N.B., 2,044 tons, sold to foreigners; Pydna, St. John, N. B., 1,854 tons, sold to foreigners; Relief, Quebec, 193 tons, converted into a sailing vessel; Two Brothers, Quebec, 9 tons, broken up. Sailing,—Barcelona, Lunenburg, N.S., 99 tons, stranded; Bear River, Digby, N.S., 38 tons, lost at sea; Brilliant Star, Sydney, N.S., 32 tons, broken up; Calcium, Parrsboro, N. S., 687 tons, abandoned at sea; Electric Light, Digby, N.S., 34 tons, broken up; Fanny, Digby, N.S., 7 tons, broken up; Franklin King, Charlottetown, P.E.I., 27 tons, wrecked; G. M. Dutcher, Digby, N. S., 32 tons, sold to foreigners; La France, Lunenburg, N.S., 89 tons, stranded; Lizzie Jane, Digby, N.S., 18 tons, broken up; Lumen Diei Arichat, N. S., 20 tons, broken up; Mabel T., Weymouth, N.S., 13 tons, stranded; Marie Clarisse, Quebec, 21 tons, out of existence; Marie du Sacre Cœur, Quebec, 46 tons, out of existence; Morelight, Halifax, N.S., 52 tons, broken up; Nonpareil, Lunenburg, N.S., 88 tons, wrecked; Norman B., Digby, N.S., 20 tons, broken up; Ponhook, Liverpool, N.S., 199 tons, transferred to Barbadoes; T. W. S. Greser, Digby, N.S., 30 tons, out of existence; Twilight, Digby, N. S., 14 tons, lost; Union, Arichat, N.S., 77 tons, lost; W. D. Bickford, Digby, N.S., 44 tons, out of existence; Wave, Digby, N.S., 11 tons, broken up.

Notices to Mariners.

The Department of Marine has issued the following:—

96. Sept. 21.—255. Quebec, Gulf of St. Lawrence, Harrington islands, Harrington harbor, buoys established. 256. Quebec, River St. Lawrence, survey steamer at work in vicinity of Father Point and Bicquette island, caution.
97. Sept. 22.—257. New Brunswick, south coast, Bay of Fundy, Bliss island, position of lighthouse. 258. Nova Scotia, Cape Breton island, south coast, off entrance to Louisburg harbor, change in sounding of submarine bell eastward of Harbor shoal. 259. Prince Edward Island, north coast, Cascumpeque harbor, Alberton range lights, additional information. 260. Newfoundland, east coast, Trinity bay, Old Perlican island, lighthouse established. 261. Newfoundland, Bay of Exploits, Grassy island, and Lower Sandy point, lights established.
98. Sept. 23.—262. Ontario, Georgian Bay,

east side, Waubaushene, range lights established. 263. Manitoba, Lake Winnipeg, mouth of Red River, front range lighthouse destroyed by storm, temporary light established.

99. Sept. 26.—264. Quebec, Gulf of St. Lawrence, Great Mekattina island, Treble Hill island, Flat island, and Murr islands and rocks, corrected positions. 265. Quebec, River St. Lawrence, Beaujeu bank, gas buoy moved on account of dredging operations. 266. Quebec, River St. Lawrence, ship channel off St. Thomas de Montmagny, gas buoy moved. 267. Quebec, River St. Lawrence, above St. Thomas de Montmagny, gas buoys used for dredging purposes moved. 268. Quebec, River St. Lawrence, ship channel between Quebec and Montreal, below Cap Charles, Grande Pointe shoal, buoy discontinued.

100. Sept. 29.—269. New Brunswick, Bay of Fundy, Passamaquoddy bay, Cherry island, characteristic of fog bell. 270. New Brunswick, east coast, Miramichi bay, Preston beach, life-saving station established. 271. Prince Edward Island, south coast, Hillsborough bay, Charlottetown harbor, position of Brighton beach range lights. 272. St. Pierre Island, Galantry head, fog signal reported irregular.

101. Oct. 1.—273. Nova Scotia, south coast, Port Mouton, channel dredged to public wharf in harbor, buoys established.

102. Oct. 4.—274. Quebec, Ottawa River, Way shoal light discontinued. 275. Ontario, Lake Ontario, off mouth of Niagara River, gas and bell buoy adrift. 276. Ontario, River St. Mary, Sault Ste. Marie Canadian canal, daymarks at upper entrance range light-shoals.

103. Oct. 11.—277. Quebec, Gulf of St. Lawrence, Magdalen islands, Grand Entry harbor, range light established. 278. Newfoundland, southwest coast, Port Basque, Channel head, characteristic of fog alarm. 279. Newfoundland, west coast, St. John bay, shoals discovered.

104. Oct. 13.—280. British Columbia, Burrard Inlet, English bay, False Creek, lights established. 281. British Columbia, Burrard Inlet, Second narrows, beacon destroyed.

Atlantic and Pacific Ocean Marine.

The Canada Atlantic and Plant Line s.s. A. W. Perry, became disabled during a storm off Halifax Harbor, Oct. 2, and had to put back to Halifax, where she was overhauled.

The Quebec Steamship Co. and the Royal Mail Steam Packet Co. have agreed on a joint service between New York and Bermuda.

Capt. Dugge, of the Canada Line's s.s. Prinz Adalbert, was fined \$20 on each of six charges, to which he had pleaded guilty of neglecting to report cases of sickness on board his vessel at Quebec.

The Minister of Marine, accompanied by a number of shipowners and those interested in the navigation of the St. Lawrence, inspected the improvements and works in progress in the river, Oct. 6.

The Thomson Line is reported to have decided to make a number of improvements in its steamship service between Canada and Europe, next year. It is stated that the passenger accommodation on its vessels will be increased, and a more frequent service with Italy will be given.

Furness Withy and Co.'s s.s. Ulunda, which has been calling at St. John's, Nfld., for some years, is reported to have been sold to a Greek firm for operation in the Mediterranean. The s.s. Durango has taken the place of the Ulunda, and will run between St. John's, Halifax, and Liverpool, Eng.

Officials of the White Star-Dominion Line were reported to have visited Halifax early in Sept. for the inspection of the railway terminal facilities there in connection with the arrangement, whereby the steamships Laurentic and Megantic are to call there weekly for two months and fortnightly thereafter during the winter season.

The C.P.R. s.s. Montcalm, which was in collision with the s.s. Kronprinz Olav recently, was arrested at the instance of J. Bryde, owner of the Kronprinz

Olav, which is chartered to the Dominion Coal Co., on a claim of \$15,000 for damage sustained. A bond was given for the amount and the Montcalm sailed for Avonmouth, Eng.

Press reports from Ottawa state that the Government will probably, at an early date, call for tenders on an increased subsidy, for an improved service with the West Indies, to implement the recent report of the Royal Commission on trade relations between Canada and the West Indies. It is also stated that with a faster service than at present, the West Indies mail to Great Britain will probably come through Canada.

It is reported that the Department of Marine has decided not to hold an enquiry into the causes of the recent grounding of the s.s. Manchester Engineer on the south shore of Belle Isle, as there is no question of an officer of the vessel having shown carelessness in navigation. In the act regulating these enquiries, it is provided that only when there is ground for believing that carelessness on the part of an officer of the ship has been the cause of a disaster shall it be incumbent on the Department to hold an enquiry.

The Dominion Government subsidy of \$15,000, granted to the C.P.R. for the winter service between St. John, N.B., and London, Eng., has been renewed for a year.

Maritime Provinces and Newfoundland.

The St. John, N.B., ferry committee is negotiating for the purchase of a second hand ferry boat in New York.

G. S. Mayes, of St. John, N.B., has recovered from the Dominion Government \$9,750 under several dredging contracts.

The Department of Public Works received tenders during Oct. for the construction of a breakwater at Great Salmon River, N.B.; a wharf at Barrington Cove, N.S., and a breakwater at New Edinburgh, N.S.

The Newcastle Steamboat Co., Ltd., has been incorporated under the New Brunswick Companies Act, with a capital of \$19,000, and office at Newcastle, to carry on a general steamboat and coal business. The provisional directors are P. Hennessy, D. Morrison, J. Ferguson, G. Stables, P. W. Dixon and others.

The Red Cross Line's s.s. Rosalind, which has been operated by the Black Diamond Steamship Co., between St. John's and Montreal during the summer months, has returned to the Halifax and New York route, making fortnightly trips, alternately with the s.s. Florizel.

Writs have been issued against the Dominion Coal Co.'s s.s. Bonavista, by the owners of the barges Ernest and Aurora Boreale, for \$280 and \$150, respectively, for damages alleged to have been sustained, by the Bonavista colliding with them when entering her berth at Montreal.

An Imperial order-in-council has been issued declaring that certificates of competency granted by Newfoundland to persons intending to act as engineers on British ships, in addition to those granted to masters and mates, shall be on the same force as if they had been granted under the Merchant Shipping Act.

The Menzies Construction Co., Ltd., has been incorporated under the New Brunswick Companies Act, with a capital of \$49,000 and office at Prince of Wales, Musquash co., to carry on a general construction business, and to build, own and operate steam and other vessels. The provisional directors are G. C. Carman, C. Nevins, H. M. Hopper, C.

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The Fishermen's and Sailors' Home Joint Stock Co., has been authorized to dispose of its property, to pay its liabilities, and to hand over the residue to the Royal National Mission to Deep Sea Fishermen, or other organization carrying on a fishermen's or sailors' home in St. John's, Nfld.

Press reports from Sydney, N.S., state that a daily service between Sydney and Port aux Basques, Nfld., will be inaugurated next season by the Reid Newfoundland Co., and also that Bowring Bros. have decided to have a vessel built for the St. John's-Sydney-Montreal service, to run with the Rosalind and Bonavista on a weekly schedule.

The Inglewood Pulp and Paper Co.'s steam tug *Help* which has been utilized for some time in connection with dredging near St. John, N.B., was driven ashore at Fort Dufferin breakwater during a gale, Oct. 4, and became a total loss. She was a wooden vessel, built at Liverpool, N.S., in 1903, and equipped with engine of 29 n.h.p. driving a screw. Her dimensions were:—Length, 76 ft., breadth, 27.7 ft.; depth, 8.4 ft.; tonnage, 146 gross, 78 register.

Harvey and Co.'s s.s. *Regulus*, against which damages were assessed amounting to \$155,000, in connection with the collision with the s.s. *Karema*, and which was sold by auction in New York recently, was bought in by the owners, who had her repaired in New York, loaded with cargo for St. John's, Nfld. Under the U.S. laws it is provided that no vessel adjudged responsible for an accident shall be compelled to pay damages amounting to more than her value. It is stated that this provision has been of considerable advantage to the owners. The *Regulus* was reported, Oct. 24, to have been totally wrecked, and 19 of her crew drowned while on her way to Sydney, N.S.

Bowring Bros' sealing steamer *Gonerril*, which is under construction at Glasgow, Scotland, is expected to be finished in Jan., 1911. She is stated to be the largest sealing steamer built for the Newfoundland trade, her dimensions being:—Length, 330 ft.; breadth, 48 ft.; depth, 31 ft., with a computed tonnage of 3,700. She is being fitted with accommodation for 200 saloon and 100 steerage passengers and equipped with the latest improvements, for a speed of 14 knots an hour. She will be run on the St. John's, Nfld., Halifax and New York route, in conjunction with the s.s. *Florizel*.

The steam tug *Canso*, recently completed at Yarmouth, N.S., is built under Lloyds survey to class 100 A1, and has dimensions:—Length over all, 97½ ft.; breadth, 22 ft.; depth, 8½ ft. The construction is on the frame and reverse frame system, spaced 2 ins. apart throughout her length; steel deck sheathed with hard wood; deckhouse, consisting of chief engineer's room, refrigerator room, bath, and store rooms, on the main deck; captain's quarters and wheel house on the upper deck. The men's quarters and mess room are located forward and the officers' mess room, etc., aft of the engine room. The engines are of the triple expansion type, with cylinders 12, 19 and 20 ins. diam. by 20 ins. stroke, developing about 400 h.p., making 160 revs. per minute.

J. Constant, of London, Eng., has submitted a proposal to the Sydney, N. S., city council, for the establishment of a shipbuilding yard, floating dock and repair plant, salvage plant, etc., and asks for a bonus, to be paid on such terms as the council may decide. The offer, it is stated, is subject also to Dominion and Provincial subsidies being granted. It is proposed to have the shipbuilding

yard of sufficient capacity to build vessels up to 300 ft. long; to have the floating dock capable of dealing with vessels of 6,000 tons dead weight capacity, and to have the salvage equipment include one steam tug of the most modern type, and two seagoing salvage lighters of about 1,000 tons capacity. The matter was discussed by the council Oct. 10, and a committee appointed to go into the details and report.

Province of Quebec Marine.

The Dominion Dry Dock Co. has deposited plans with the Public Works Department for the construction of a first class dry dock at Levis, to cost about \$4,000,000.

The Public Works Department received tenders during Oct. for the construction of wharves at Bic, St. Andre and Aylmer, a breakwater at Paspebiac, and piers at L'Assomption, Riviere des Prairies and St. Joseph de Sorel.

Press reports from Quebec state that the Government will have built at Quebec during the winter a vessel to be used as a transport between Quebec and Levis, in connection with the National Transcontinental Ry. It is stated that the cost will be between \$400,000 and \$500,000.

The ferry committee of the Quebec city council recently recommended that a letter be sent to the Levis Ferries, Ltd., informing it, on legal advice, that it had a contract with the city which spoke for itself and must be followed. The city council later resolved, by 16 votes to 14, to hold back the letter.

The captain of the steamboat Senator Derbyshire was recently fined \$20 and costs at Quebec for employing unlicensed pilots, and a man whom he employed was fined \$5 and costs for acting as a pilot without a license. The Quebec Corporation of Pilots, which brought the case, also recovered an amount for unpaid pilotage dues.

The Department of Marine has communicated with the Montreal board of control on the question of the overcrowding of ferry steamers, and states that it is expected that next spring the board will station men at the boats to see that they are not overcrowded, and in order to carry this out in a proper manner, automatic gates should be provided.

The Richelieu and Ontario Navigation Co.'s steamboat *Rapids Prince*, which has been built at Toronto, arrived at Montreal at the end of September, a number of the company's officials and directors meeting her at Lachine and completing the journey on board. She is to be berthed at Sorel for the winter, and not placed in service until the reopening of navigation.

The board appointed to enquire into the shipliners' grievances against ship-owners at Montreal, has reported to the Department of Labor. The report is unanimous on the question of hours and the arrangement of work, but the companies' representative dissented from the recommendation as to wages, viz., 25c. an hour for day work and 32c. for night.

The Chateau Quinte, Ltd., has been incorporated under the Quebec Companies Act, with a capital of \$20,000, and office at Ste. Marguerite du Lac Masson, to acquire and operate the hotel Bellevue there, and in connection therewith to own and operate steam and other vessels, cars and other vehicles propelled by any motive power. The provisional directors are S. G. Hyman, L. L. Pepin, C. B. Godwin, W. M. Parsons, and A. L. Rinfret, Montreal.

The Richelieu and Ontario Navigation Co. is being sued for damages for not

carrying checked baggage on the same vessel as the passenger. The company claims that it is not compelled to carry it on the same vessel as the passenger, and that delay in delivery is not good ground for damages. The point was taken under consideration by Justice Charbonneau, of the Superior Court, Quebec, Oct. 3.

The Levis Ferry, Ltd., is having two ice breaking ferry steamboats built by G. T. Davie and Sons, of Levis, for the service between Levis and Quebec. The vessels, which are being built to Lloyds' specification class 100 A1, will be named Laval and Plessis, and will be of the following dimensions:—Length, 127 ft.; beam, 32 ft.; depth of hold, 17¾ ft.

The Canadian General Development Co.'s steamboat *Sogenada*, which recently arrived at Montreal from Great Britain, under her own steam, and which is stated to have been the smallest steamboat to cross the ocean, was built at Rutherglen, Scotland, in 1909, and is a screw driven vessel with engine of 29 n.h.p. Her dimensions are:—Length, 75.4 ft.; breadth, 15.6 ft.; depth, 8.2 ft.; tonnage, 65 gross, 6 register.

The Montreal city council and the Montreal Harbor Commission again discussed the question of the building of a landing stage on St. Helen's Island, Oct. 14. The city desires that either the Government or the Harbor Commission erect the stage, without any charge on the city, while the Commission states that the island, being under control of the Commission, the Government has no authority to do any work there, and as the money for the work would have to be raised by loan, it could not carry it out without charge, and offers to erect the landing stage and maintain it, for the city, for 6% per annum of the cost.

The report of the ferry committee of the Quebec city council, calling upon the council to advise the Levis Ferry, Ltd., that it must conform to the contract in connection with the ferry service between Quebec and Levis, and which was referred back to committee, was again sent to the council, Oct. 12, with the legal opinion that any decision which the city council might make in the ferry matter, would in no way affect or have any influence whatever on the cases pending before the courts, which were rather on matters of right than matters of fact, and that the city had no right to grant any delay to the company.

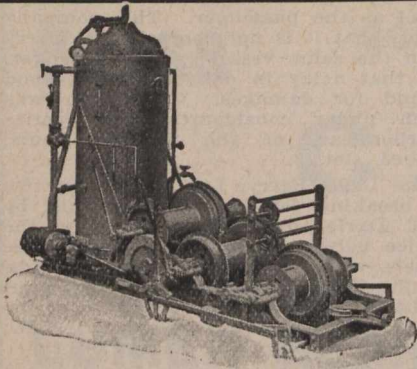
The Canada Atlantic Transit Co. has purchased the s.s. *Newona*, which was brought from England last fall, and of which we gave some details in our Nov., 1909 issue. She was built at Wallsend-on-Tyne, in 1909, and was specially designed for the Canadian lake and canal traffic. The machinery consists of tri-compound screw engines, with cylinders, 21½, 34 and 55 ins. diam. by 36 ins. stroke, supplied with steam at 190 lbs. pressure. There are six cargo hatchways, each 12 by 29 ft., and the hull is divided into three cargo holds by steel bulkheads. Her dimensions are:—Length, 250.3 ft.; breadth, 43 ft.; depth, 22.5 ft.; tonnage, 2,179 gross, 1,401 register.

Ontario and the Great Lakes.

Capt. J. A. Macdonald, who was connected with lake navigation for 50 years, and commanded vessels for about 40 years, died at Kingston recently, aged 74.

The Great Lakes Dredging Co.'s dredge, which sank recently outside Port Arthur, has been towed, under water, to Port Arthur, and floated for examination.

The Dominion Public Works Department will receive tenders to Nov. 7 for



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**Dredges - Ditchers - Derricks
Steam Shovels**

Steel Dump and Deck Scows

Submarine Rock Drilling Machinery
Mine Hoists, Hoisting Engines
Centrifugal Pumps, Clam Buckets
Steel Skips, Coal and Concrete Tubs
and other Contractors' Machinery.



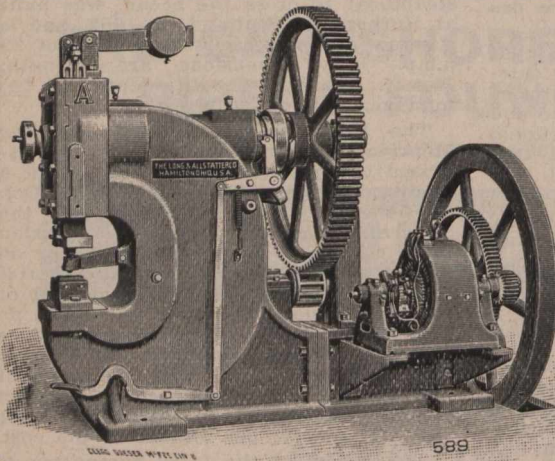
Power Punching and Shearing Machinery

of all kinds

Beam Coping Machines
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Tire Welding Machines
Armature Disc
Notching Machines

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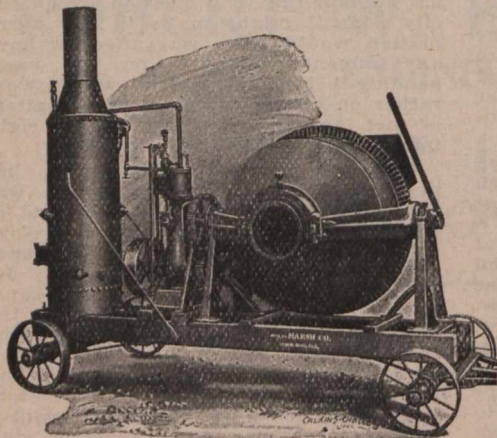
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the construction of an extension to the wharf at Providence Bay, Manitoulin Island.

The Jaques Transportation Co., Ltd., incorporated under the Dominion Companies Act, has been licensed to carry on its business in Ontario, with J. H. Hall, Ottawa, as its attorney.

The Inland Lines, Ltd., s.s. Dundurn, which ran aground near Alexandria Bay, N.Y., was released by the company's s.s. Glenellah, and taken to Kingston for examination and repairs.

The Dominion Government survey steamboat Bayfield is engaged in taking soundings and other survey work in Lake Ontario. She commenced operations at the eastern end, and is working along westerly.

The Geo. Hall Coal Co.'s steamboat Phoenix ran on the rocks about six miles west of South Bay point, early in Oct., and salvage operations have been successfully carried out, and the vessel docked for repairs.

W. M. German, M.P., is reported to have stated that the Government will provide an appropriation, next session, for the commencement of construction on a new Welland canal, about 22 miles long, starting about six miles west of Port Colborne, with its outlet on the Jordan River.

The Dominion Fish Co., Toronto, has purchased the steamboat C. W. Moore, formerly owned by A. Booth and Co., Chicago, Ill. She was built at Allegan, Mich., in 1881, and is equipped with engine of 19 n.h.p., driving a screw. Her dimensions are:—Length, 124 ft.; breadth, 24 ft.; depth, 9.4 ft.; tonnage, 428 gross, 259 register.

The Morden Transit Co.'s steamboat United Lumberman, was destroyed by fire at North Tonawanda, N.Y., at the end of Sept. She was a screw driven vessel, with engine of 46 n.h.p., and was built at Dresden, Ont., in 1884, her dimensions being:—Length, 139.2 ft.; breadth, 31.6; depth, 11.7 ft.; tonnage, 399 gross, 259 register.

The U.S. Lake Survey reports the levels of the Great Lakes, in feet above tidewater, for Sept., as follows Superior 601.99; Michigan and Huron, 580.30; Erie, 571.88; Ontario, 245.70. Compared with the average Sept. levels for the past 10 years, Superior was 1.05 ft. below; Michigan and Huron, 0.73 ft. below; Erie, 0.55 ft. below, and Ontario, 0.47 ft. below.

The Lake Coast Trading Co.'s steamboat Kaministiquia, which was burnt to the water's edge recently at Port Arthur, was built at Toronto in 1886, named Imperial, and was rebuilt and renamed at Port Arthur in 1906. She was screw driven, with engine of 13 n.h.p.; her dimensions were:—Length, 109 ft.; breadth, 22 ft.; depth, 7 ft.; tonnage, 106 gross, 72 register. She had been used for some time as a ferry and passenger boat on the Kaministiquia River.

The Ontario Gravel Freighting Co., Ltd., has been incorporated under the Dominion Companies Act, with a capital of \$50,000 and office at Windsor, Ont., to carry on the business of dredging and marine transportation on the Great Lakes and inland waters, and to build, own and operate steam and other vessels, wharves, docks, warehouses, etc. The provisional directors are:—O. E. Fleming, K.C., C. W. Cadwell, Windsor, Ont.; H. H. Oakes, B. Waller, I. B. Unger, Detroit, Mich.

Press reports state that negotiations are in progress involving the reconsideration of the proposed boundary line between Ontario and Manitoba, with the intention of giving Ontario access to the port which it is intended to open up on Hudson Bay, when the Hudson

Bay railway is constructed. The idea is to extend the Ontario line to the new port, and to give Manitoba, in return, a portion of the Keewatin territory which it was the intention to include in Ontario, when the new boundaries are settled.

The Dominion Department of Marine is reported to have arranged to take over from the U.S. all the lighthouses, lights and other aids to navigation in the Limekiln crossing in the Detroit River. Although the crossing is in Canadian territory, the aids to navigation there have hitherto been in charge of the U.S., in view of the fact that some years ago the channel was dredged and improved by the U.S. Government. It is stated that the Department contemplates considerable improvements in the lights there during next year.

A joint committee of the Toronto city council and board of trade has recommended that application be made to the Dominion Parliament to recognise the existing harbor commission and to alter and enlarge its powers, so that it may control all property on the water front, with'n the city limits, build docks, railways, elevators, etc., and impose and collect tolls and penalties. The present commission consists of five members, two of whom are nominated by the city council, two by the board of trade, the fifth being nominated by the other four and appointed by the Governor-in-Council. Under the new proposals, it is desired that the city council nominate three, the Governor-in-Council one on his own motion, and one on the nomination of the board of trade.

Manitoba, Saskatchewan and Alberta.

The steamboat recently built in Winnipeg for the Arctic Ice Co., Winnipeg, of which we have previously given some particulars, has been named *Ameia Mac*. She is screw driven, with engine of 16 n.h.p., and is of the following dimensions:—Length, 66 ft.; breadth, 17 ft.; depth, 7 ft.; tonnage, 65 gross, 44 register.

The Lake Winnipeg Shipping and Supply Co., Ltd., has been incorporated under the Dominion Companies Act, with a capital of \$1,000,000, and office

at Winnipeg, to carry on a general shipping, navigation, shipbuilding, wrecking, dredging and warehouse business. The provisional directors are E. Bickerdike, E. and R. Siderfin, W. D. Robertson, D. Howatson and C. S. Scott, Winnipeg.

The Northern Transportation Co.'s steamboat Northland Call arrived at Grouard, Alta., at the end of Sept., being, it is stated, the first steam vessel to make the through trip from Athabasca Landing to the west end of Lesser Slave Lake. She navigated the Athabasca River from Athabasca Landing to Mirror Landing, thence up the Little Slave River, through the hitherto un-navigable rapids to the east end of Lesser Slave Lake, and across the lake to Grouard. The wing dams, recently constructed in the Little Slave River, have made such a trip possible by increasing the depth of water.

A steel barge, the *Rosamond Billett*, which was launched at Winnipeg Oct. 10, has been built for Hugh Sutherland, Executive Agent Canadian Northern Ry., to transport sand and other building materials on Lake Winnipeg and the Red River. The barge is 170 ft. long, 40 ft. beam and 13 ft. deep, and will carry 1,000 tons of sand on a draught of 8½ ft. It is equipped with three hoppers, in which the sand is deposited by a powerful centrifugal pump. By a system of pipes and valves the sand is taken from these hoppers with the same centrifugal pump and discharged on shore. The barge is propelled by two compound engines of 366 h.p., operating twin screws, and there are two Scotch boilers. The barge was designed by W. E. Redway, N.A., Toronto, and built by the Doty Engine Works, Ltd.

B.C. and Pacific Coast Marine.

Capt. F. Amesbury, Manager Victoria and Vancouver Stevedoring Co.'s Vancouver branch, died there recently.

The Canadian-Mexican-Pacific Steamship Co. is reported to have chartered the s.s. *Wensleydale*, 2,568 tons.

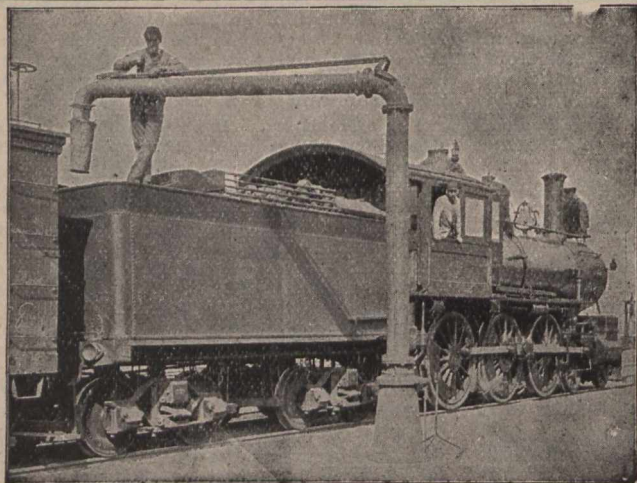
The Queen Charlotte Whaling Co., Victoria, is applying for permission to purchase certain lands at Rose Harbor, Moresby Island.

The C.P.R. commenced a double triangular weekly steamship service between Vancouver, Victoria and Seattle,

SAULT STE. MARIE CANALS TRAFFIC.

The following commerce passed through the Sault Ste. Marie Canals in September :

ARTICLES.	CANADIAN CANAL	U. S. CANAL	TOTAL
Copper..... Eastbound..... Net tons	1,528	17,055	18,583
Grain..... "..... Bushels	1,610,888	1,523,096	3,133,984
Building stone..... "..... Net tons		1,375	1,375
Flour..... "..... Barrels	241,627	733,397	975,024
Iron ore..... "..... Net tons	4,083,158	2,140,593	6,223,751
Pig iron..... "..... "		4,080	4,080
Lumber..... "..... M. ft. B.M.	3,310	94,925	98,235
Silver ore..... "..... Net tons			
Wheat..... "..... Bushels	5,669,278	2,407,327	8,076,605
General merchandise..... "..... Net tons	16,623	15,813	32,436
Passengers..... "..... Number	1,646	4,243	5,889
Coal, hard..... Westbound..... Net tons	44,800	104,230	149,030
Coal, soft..... "..... "	477,041	1,121,467	1,598,508
Flour..... "..... Barrels		10	10
Grain..... "..... Bushels		53	53
Manufactured iron..... "..... Net tons	23,281	18,911	42,192
Iron ore..... "..... "			
Salt..... "..... Barrels	4,962	24,910	29,872
General merchandise..... "..... Net tons	72,595	73,879	146,474
Passengers..... "..... Number	2,894	2,250	5,144
Vessel passages..... Number	989	2,008	2,997
Registered tonnage..... Net	3,034,284	4,059,291	7,093,575
Freight—Eastbound..... Net tons	4,335,301	2,514,421	6,849,722
—Westbound..... "..... "	618,426	1,322,226	1,940,652
Total freight..... "..... "	4,953,727	3,836,647	8,790,374



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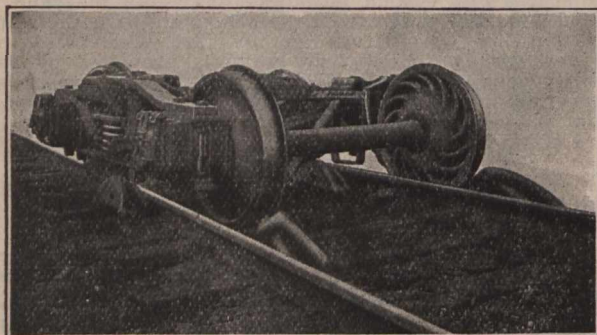
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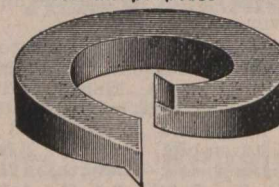
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Capital Paid up 5,450,000.00
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Oct. 30. It is intended to continue it throughout the winter.

The C.P.R. has, it is reported, owing to the tremendous growth of the northern B.C. trade, ordered another steamship to be built in England.

The C.P.R. s.s. *Princess Beatrice* ran aground in the Narrows, near Vancouver recently. It has been stated that the damage was not serious. She is a wooden vessel, and was built at Victoria in 1903.

Plans have been deposited with the Public Works Department, Ottawa, by Bullen Bros., Esquimalt, B.C., for the construction of a dry dock there. It is said that the financial arrangements for the carrying out of the work are well advanced.

Press reports from Vancouver state that the Pacific Whaling Co. is arranging to have built in Norway, five additional whaling steamers for use in B.C. waters, and that they will be of the same type as the *William Grant*, the largest of the company's vessels.

The Cocos Island Hydraulic and Treasure Co., Ltd., has been incorporated under the B.C. Companies Act, with a capital of \$300,000, to seek for treasure deposited on Cocos Island, on adjacent islands and in the vicinity, and in connection therewith to own and operate steam and other vessels.

The Portland Canal Short Line Ry. has deposited with the Public Works Department, Ottawa, and at the registry office at Prince Rupert, plans and description of site and side elevation of a proposed railway wharf and trestle approach, to be built near the mouth of Bear River at Stewart.

Canadian Collieries (Dunsmuir) Ltd., incorporated under the Dominion Companies Act, with power, among other things, to own and operate steam and other vessels, wharves, piers, docks, etc., has been licensed to carry on its business in British Columbia, with W. J. Taylor, Victoria, as its attorney.

J. McGowan, engineer of the C.P.R. British Columbia Coast Service, is in Great Britain for the purpose of inspecting the two vessels, *Princess Adelaide* and *Princess Mary*, which are now practically complete. The former, which is being built at Glasgow, Scotland, will be the first one to sail for the Pacific coast.

The Canadian Fish and Cold Storage Co., Prince Rupert, has registered its recently built steamboat, which has been named F. H. Phippen. It was built at North Vancouver this year, and is a screw driven vessel with engine of 7 n.h.p. Its dimensions are:—Length, 54.4 ft.; breadth, 12.3 ft.; depth, 6 ft.; tonnage, 26 gross, 17 register.

The Dominion Government is reported to have approved the Thompson Co.'s plans for the construction of a dry dock at Vancouver, B.C., providing for one of the second class under the subsidy act granting aid of 3½% per annum on the cost of construction, for 25 years. The dock will be 600 ft. long, and it is estimated that the cost will be \$1,000,000.

The Department of Public Works has awarded a contract for the con-

struction of a steel bow well twin screw barge loading dredge for British Columbia, to W. Simons and Co., Renfrew, Scotland, who are represented in Canada by Jno. Reid and Co., Board of Trade Bldg., Montreal.

The British Columbia General Development Syndicate, Ltd., has been incorporated under the B.C. Companies Act, with a capital of \$250,000, to carry on a general development business, and in connection therewith to build, manage or control tramways, railways, steam and other vessels, wharves, docks, etc., and to act as general carriers by land and water.

The Terminal Steam Navigation Co.'s s.s. *Belcarra* was reported to have sunk off Jarvis Inlet, Sept. 17, after striking a rock. The passengers and crew escaped in the boats. She was a screw driven vessel, built in Vancouver in 1902, and was formerly known as *Unican*. Her dimensions were, length 89.2 ft., breadth 20 ft., depth 8 ft.; tonnage, 253 gross, 172 register, with engine of 20 n.h.p.

The stern wheel steamboat *Hamlin*, which has recently been purchased by Greer, Courtney and Skene, has been altered for oil consumption, and to fit her for towing purposes, and is being operated up the Fraser River. She was built in Vancouver in 1898, her dimensions being:—Length, 146.2 ft.; breadth, 30.8; depth, 4.6 ft.; tonnage, 515 gross, 323 register. She is equipped with engine of 17 n.h.p.

The Royal City Navigation Co.'s steamboat *Paystreak*, while clearing from the wharf at Pitt river, recently, backed on to some rocks, which cut a hole in the bottom, behind the boilers. The cargo was safely removed, and the vessel floated and taken to New Westminster for repairs, which were not heavy. She was built at New Westminster this year, and is operated between New Westminster and Chilliwack.

The Westholme Lumber Co., Vancouver, is being sued by insurance underwriters for \$500, alleged to be a sum agreed to be paid by the company for the cargo of coal on the barge *Quatsino*, wrecked between Green and Grey islands, in Oct. 1909. It is stated that after a small quantity of the coal was removed, the barge slid off the reef into deep water, when the company repudiated the contract.

The Puget Sound Navigation Co. is reported to have purchased the steamships *Yale* and *Harvard*, which were operated by the Eastern Steamship Co. a year or two ago between St. John, N. B., and Boston, Mass. It is said that they will be run between Seattle, Wash., and Vancouver and Victoria. Press reports stated that the vessels were to leave Boston for the Pacific coast during October.

The Pacific Marine Brokerage Co., Ltd., has been incorporated under the B. C. Companies Act, with a capital of \$25,000, to acquire the power boat *Faloma*, and the marine brokerage business carried on in New Westminster by F. S. DeGray; to build, purchase or otherwise acquire and operate steam and other vessels for the conveyance of pas-

sengers and freight, and to carry on the general business of carriers by land and water.

The Public Works Department has awarded the contract for the construction and delivery at Vancouver of a large bucket ladder dredge to W. Simons and Co., Renfrew, Scotland, represented in Canada by Jno. Reid and Co., Montreal. It is stated to be a condition that the dredge must be delivered in six months, under heavy penalties for delay. The dredge is to be used for widening the entrance to Burrard Inlet, and will be the largest and most powerful of its kind on the Pacific Coast.

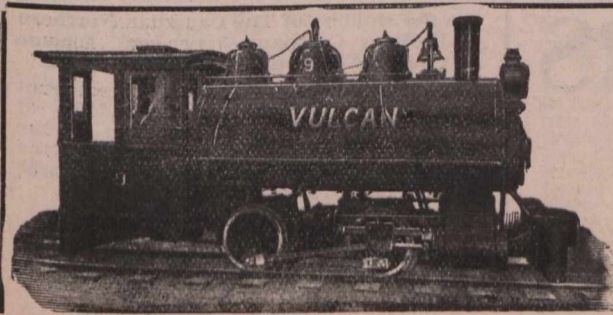
A petition, signed by those engaged in the fishing industry in the Fraser River country, has been sent to the Minister of Marine and Fisheries, asking that in future no licenses to fish be granted to Asiatics, or persons interested in the fishing industry through motives of speculation. It is pointed out that a number of fishermen have to go to the U.S. to earn a living, made possible by the fact that Asiatics are not granted licenses there.

The C.P.R. s.s. *Princess Adelaide*, which has been built at Glasgow, Scotland, for the Pacific Coast service, is a single screw steamship, with dimensions:—Length, 290 ft.; breadth, 46 ft.; depth, 17 ft.; constructed of steel throughout, with a cellular double bottom, seven transverse bulkheads, two water tight flats, and is practically unsinkable. She has 118 staterooms, and on her recent trial trip maintained an average speed of 18.25 knots an hour.

The Marine Department is reported to have acquired from the G.T.P.R., four acres of land on the south shore of Casey Cove, Prince Rupert, about 2½ miles from the city, for the establishment of a lighthouse and buoy depot. The work, which it is stated will be undertaken, includes workshops, stores, etc., connected with a wharf of reinforced concrete, projecting 30 ft. into the water, by a tramway, with houses for employes. The estimated cost is given as \$100,000.

The C.P.R. s.s. *Princess Mary*, which is being built at Paisley, Scotland, for the B.C. Coast Service, was launched there recently. She is a twin screw vessel, with dimensions:—Length, 210 ft.; breadth, 40 ft.; depth, 16 ft. The upper deck extends the whole length, and she will have accommodation for 200 passengers. She is equipped with two sets of triple expansion engines, designed for a speed of 15 knots an hour. The vessel was christened by Mrs. Pritchard, daughter of A. Piers, Manager C.P.R. Steamships.

The Fort George Lumber and Navigation Co., Vancouver, has added two steamboats to its fleet, named respectively *Chilcotin* and *Fort Fraser*. Both were built at Soda Creek this year, the dimensions of the former being:—Length, 134.5 ft.; breadth, 23.5 ft.; depth, 4.5 ft.; tonnage, 435 gross, 274 register, equipped with engine of 21 n. h.p., driving a paddle wheel, and of the latter: Length, 56 ft.; breadth, 11.8 ft.; depth, 2.9 ft.; tonnage 33 gross, 21 register; equipped with engine of 2 n.h.p. driving a paddle wheel.



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NOTICE.

To the Holders of The Canadian Northern Railway Company 5 per cent. Income Charge Convertible Debenture Stock.

Notice is hereby given that the amount of interest to be paid on the 2nd day of November, 1910, to the holders of the above mentioned stock, in respect of the half year ending June 30th, 1910, will be at the rate of 5 per cent. per annum.

By order of the Board of Directors.
Toronto, October 8th, 1910.

R. P. ORMSBY, Assistant Secretary,
The Canadian Northern Railway Company.

It is reported that a party of business men from Portland, Ore., and Seattle, Tacoma and Spokane, Wash., has chartered the G.T.P. Steamship Co.'s s.s. Prince Rupert for a cruise to Honolulu next February, and it has been pointed out that the party will have to embark at a Canadian port, as, under the U.S. laws, a voyage between the main land and Honolulu is regarded as coastwise navigation, and therefore, the Prince Rupert, being a foreign vessel, cannot operate between a U.S. port and Honolulu.

G. A. Keefer, Dominion Resident Engineer, New Westminster, in charge of the dredging operations on the Fraser River, is reported to have stated recently that there is now not less than 15 ft. of water in any part of the sandheads at extreme low water, and at ordinary high water, not less than 27 ft., and at higher tides, 30 ft. The river is

now considered navigable for any vessel, the Annieville bar, which was some danger to navigation, having been removed, the recently constructed wing dams having completely cleared the channel. A new channel through the sandheads, decreasing the distance between New Westminster and deep water by about a mile, will be completed within a year.

E. D. Watson, cashier Reid Newfoundland Co., was married to Miss C. M. White, at Boswood, Nfld., Oct. 5.

Canadian Northern Fisheries, Ltd., has been incorporated under the Dominion Companies Act, with a capital of \$2,500,000 and office at Toronto, to carry on the business of fishing in all its branches; to own water lots, wharfage rights and privileges, trawling and seining rights, etc.; to build, own and

operate vessels of all descriptions, wharves, docks, piers and works for the improvement of navigation, fishing and whaling, and other business thereto. The provisional directors are F. H. Phippen, K.C., G. G. Ruel, A. J. Reid, R. H. M. Temple and R. P. Ormsby, all of whom are connected with the Canadian Northern Ry. Legal Department, Toronto. In this connection a recent cablegram from London Eng., says:—Wm. Mackenzie and associates are planning another appeal to the English market, viz., Canadian Northern Fisheries £400,000 5% bonds, to be offered at 86. The purpose is to acquire and operate a whaling business on the Pacific coast. The underwriters are to receive 2½% cash bonus, and a bonus of 19% in common stock is being given to the syndicate with whom Mr. Mackenzie and associates are now endeavoring to place the issue.

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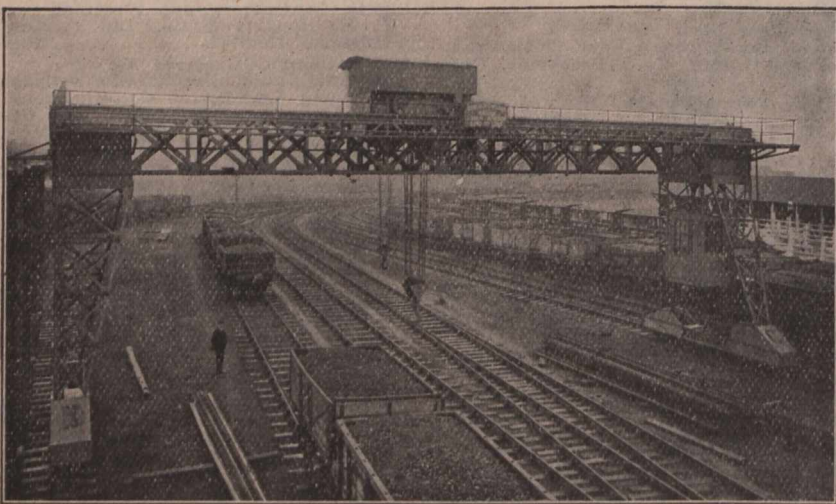
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Cleveland Punch & Shear Wks., Cleveland.
- Dry Goods**
The Hudson's Bay Co.
- Dump Cars, Contractors'**
Dominion Equip't & Supply Co.Winnipeg.
F. H. Hopkins & Co.Cobourg, Ont.
Peteler Car Co.Minneapolis, Minn.
- Dump Cars, Hand**
Meaford Wheelbarrow Co., Ltd., Meaf'd, Ont.
- Dynamos**
Northern Electric & Mfg. Co.Montreal.
Vandeleur & NicholsToronto.
- Dynamo and Electric Castings**
Am. Brake Shoe & F'dry Co., Mahwah, N.J.
- Economizers**
Babcock & Wilcox, Ltd.Montreal.
- Electric Apparatus**
Allis-Chalmers-Bullock Ltd.Montreal.
Chapman & Walker, Ltd.Toronto.
Northern Electric & Mfg. Co.Montreal.
Vandeleur & NicholsToronto.
- Electric Car Route Signs**
Acton Burrows, LimitedToronto.
Preston Car & Coach Co.Preston, Ont.
- Electric Light Plant**
Allis-Chalmers-Bullock Ltd.Montreal.
- Elevators, Grain**
John S. Metcalf Co.Chicago, Ill.
- Enameled Iron Signs**
Acton Burrows, LimitedToronto.
- Engines, Automatic**
Robb Engineering Co., Ltd.Amherst, N.S.
Polson Iron Works, Ltd.Toronto.
Russel Wheel & Fdry Co.Detroit, Mich.
- Engines, Corliss**
Allis-Chalmers-Bullock Ltd.Montreal.
John Inglis Co., Ltd.Toronto.
Robb Engineering Co., Ltd.Amherst, N.S.
- Engines, Gas**
Allis-Chalmers-Bullock Ltd.Montreal.
Vandeleur & NicholsToronto.
Williams & Wilson, Ltd.Montreal.
- Engines, Gasoline**
Canadian Fairbanks Co., Ltd.Montreal.
Ontario Wind Engine & Pump Co.Toronto.
Vandeleur & NicholsToronto.
- Engines, Hoisting**
Allis-Chalmers-Bullock Ltd.Montreal.
M. Beatty & SonsWelland, Ont.
Dominion Equip't & Supply Co., Winnipeg.
John Inglis Co., Ltd.Toronto.
L. Matheson & Co.New Glasgow, N.S.
Polson Iron Works, Ltd.Toronto.
Russell Wheel & Fdry Co.Detroit, Mich.
Williams & Wilson, Ltd.Montreal.
- Engines, Pumping**
John Inglis Co., Ltd.Toronto.
- Engines, Stationary and Marine**
John Inglis Co., Ltd.Toronto.
L. Matheson & Co.New Glasgow, N.S.
Polson Iron Works, Ltd.Toronto.
Robb Engineering Co., Ltd.Amherst, N.S.
- Engines, Steam**
Allis-Chalmers-Bullock Ltd.Montreal.
Vandeleur & NicholsToronto.
- Explosives**
Standard Explosives, Limited ..Montreal.
- Express Office Signs**
Acton Burrows, LimitedToronto.
- Fencing**
Owen Sound Wire Fence Co., Ltd., O'n S'd.
Fenders for Electric Cars
J. M. Moorhouse.Winnipeg.
- Ferro-Vanadium**
American Vanadium Co.Pittsburg, Pa.
- Fire Appliances**
Missouri Lamp & Mfg. Co., St. Louis, Mo.
- Flags**
The Hudson's Bay Co.
- Flour**
The Hudson's Bay Co.
- Forgings**
Edgar Allen & Co., Ltd.Montreal.
American Vanadium Co.Pittsburg, Pa.
Canadian Car & Foundry Co.Montreal.
Cleveland City Forge & Iron Co., Cleveland.
Crossen Car Mfg. Co.Cobourg, Ont.
Hamilton Steel & Iron Co., Ltd., Hamilton.
Nova Scotia S. & C. Co., New Glasgow, N.S.
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Peteler Car Co.Minneapolis, Minn.
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Continental Iron Works.Brooklyn, N.Y.
- Furnaces, Oil**
Railway Materials Co.New York.
- Furnaces, Shop**
Railway Materials Co.New York.
- Fuse Batteries**
Standard Explosives Limited.Montreal.
- Fuse Detonators**
Standard Explosives Limited.Montreal.
- Fuses, Electric**
Standard Explosives Limited.Montreal.
- Gaskets**
Franklin Mfg. Co.Franklin, Pa.
The Holden Co., Ltd.Montreal.
McCord & Co.Chicago, Ill.
- Gates**
Owen Sound Wire Fence Co., Ltd., O'n S'd.
- Gates, Crossing**
The N. L. Piper Ry. Supply Co.Toronto.
- Gauges, Locomotive**
Taylor & ArnoldMontreal.
Utica Steam Gauge Co.New York.
- Gears**
American Vanadium Co.Pittsburg, Pa.
- Generators, Electric**
Northern Electric & Mfg. Co.Montreal.
- Grates, Shaking**
Babcock & Wilcox, Ltd.Montreal.
Polson Iron Works, Ltd.Toronto.
Vandeleur & NicholsToronto.
- Groceries**
The Hudson's Bay Co.
- Hammers, Cast Steel**
American Brake Shoe & Fdry Co.Mahwah, Ont.
James Smart Mfg. Co.Brockville, Ont.
- Handcars**
Canadian Fairbanks Co., Ltd.Montreal.
Crossen Car Mfg. Co.Cobourg, Ont.
Dominion Equip't & Supply Co.Winnipeg.
F. H. Hopkins & Co.Montreal.
Mussens, LimitedMontreal.
Rice Lewis & Son.Toronto.
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Rice Lewis & Son.Toronto.
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The N. L. Piper Ry. Supply Co.Toronto.
Pyle National Elec. Headlight Co.Chicago.
- Headlinings**
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- Heaters, Oil-burning**
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Consolidated Car Heating Co., Albany, N.Y.
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Canadian Fairbanks Co., Ltd.Montreal.
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Baldwin Locomotive Works.Philadelphia.
Canadian Locomotive Co.Kingston, Ont.
International Marine Signal Co.Ottawa.
Montreal Locomotive W'ks (Ltd.)Montreal.
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Baldwin Locomotive Works.Philadelphia.
Montreal Locomotive W'ks (Ltd.)Montreal.
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Baldwin Locomotive Works.Philadelphia.
Canadian Locomotive Co.Kingston, Ont.
- Locomotives, Rack**
Baldwin Locomotive Works.Philadelphia.
Canadian Locomotive Co.Kingston, Ont.
Montreal Locomotive Works.Montreal.
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Baldwin Locomotive Works.Philadelphia.
Canadian Fairbanks Co., Ltd.Montreal.
Canadian Locomotive Co.Kingston, Ont.
Dominion Equip't & Supply Co., Winnipeg.
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Hicks Locomotive & Car Works.Chicago.
The Males Co.,Cincinnati, O.
Montreal Locomotive Works.Montreal.
Vulcan Iron WorksWilkesbarre, Pa.
- Lorries, Tracklaying**
Crossen Car Mfg. Co.Cobourg, Ont.
F. H. Hopkins & Co.Montreal.
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McCord & Co.Chicago, Ill.
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 Canada Iron Corporation, Ltd...Montreal.
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 Goldschmidt Thermit Co.Toronto.
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 Rice Lewis & Son.....Toronto.
Metal, Babbit
 Tallman Brass & Metal Co., Hamilton. Ont.
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 Goldschmidt Thermit Co.Toronto.
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 Canadian Bridge Co....Walkerville, Ont.
 Dominion Bridge Co.....Montreal.
 Montreal Locomotive Works....Montreal.
 Jas. W. Pyke & Co.Montreal.
Millpost Numbers
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 Canadian Fairbanks Co., Ltd...Montreal.
 McCord & Co.Chicago, Ill.
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 Allis-Chalmers-Bullock Ltd.Montreal.
 Canadian Crocker-Wheeler Co. ..Montreal.
 Chapman & Walker, Ltd.....Toronto.
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 Gartshore-Thompson Pipe Co...Hamilton.
Pipe, Gas, Cast Iron
 Gartshore-Thompson Pipe Co...Hamilton.
Pipe, Sewer, Cast Iron
 Gartshore-Thompson Pipe Co...Hamilton.
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 A. B. Jardine & Co.....Hespeler, Ont.
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 Gartshore-Thompson Pipe Co...Hamilton.
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 Guilford S. Wood.....Chicago, Ill.
Printing
 Southam PressToronto.

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Pumps
 Canadian Fairbanks Co., Ltd...Montreal.
 S. F. Bowser & Co., Ltd.....Toronto.
 Ontario Wind Engine & Pump Co..Toronto.
 James Smart Mfg. Co....Brockville, Ont.
 Vandeleur & NicholsToronto.
Pumps, Centrifugal
 The American Well Works...Aurora, Ill.
 M. Beatty & SonsWelland, Ont.
 John Inglis Co., Ltd.Toronto.
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 The American Well Works...Aurora, Ill.
Pumps, Fire Pressure
 The American Well Works...Aurora, Ill.
Pumps, Irrigating
 The American Well Works...Aurora, Ill.
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 The American Well Works...Aurora, Ill.
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 The American Well Works...Aurora, Ill.
Pumps, Underwriters' Fire
 The American Well Works...Aurora, Ill.
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 Cincinnati Punch & Shear Co., Cincinnati.
 Cleveland Punch & Shear Wks., Cleveland.
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 Jas. W. Pyke & Co.Montreal.
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 Goldschmidt Thermit Co.Toronto.
 The Rail Joint Co. of Canada...Montreal.
Rails, Re-rolled
 Provincial Steel Co., Ltd. .. Cobourg, Ont.
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 Canadian Fairbanks Co., Ltd..Montreal.
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 The N. L. Piper Ry. Supply Co..Toronto.
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 Butterfield & Co.....Rock Island, Que.
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 A. B. Jardine & Co.Hespeler, Ont.
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 Dominion Equip't & Supply Co..Winnipeg.
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