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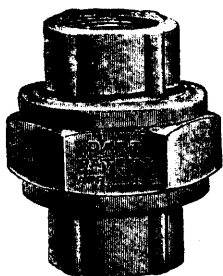
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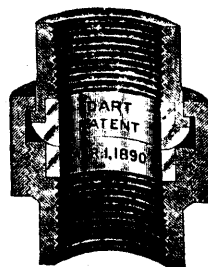
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DOMINION OF CANADA.

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**The Canadian Northern Railway Company.**

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ABRIDGED PROSPECTUS.

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**Issue of £1,191,500 4½ per cent. 30-Year (Ontario Division) First Mortgage Debenture Bonds of £100 each.**

Of which £700,000 are now offered for subscription at £90 per cent. Payable as follows :

	<b>£5 per cent. on Application.</b>
<b>£25</b>	“ <b>on Allotment.</b>
<b>£20</b>	“ <b>1st September, 1900.</b>
<b>£20</b>	“ <b>1st October, 1900.</b>
<b>£20</b>	“ <b>2nd November, 1900.</b>

Or the whole may be paid up in full on allotment, or on the date for payment of any instalment, under discount of 4½ per cent. per annum.

The Bonds are a First Mortgage on the Ontario Division of the Canadian Northern Railway (from Port Arthur to the point of crossing the Rainy River at the Western Boundary of the Province of Ontario, 290 miles) and upon its terminals at Port Arthur, and will be a First Mortgage upon 550,000 acres of the Company's land grant, and, subject to First Mortgage Charges, created or to be created, not exceeding \$10,000 per mile on the various branches of the Ontario division of the Railway, and on the Winnipeg and Saskatchewan divisions and the branches thereof, the Bonds constitute a general charge on its whole undertaking from Port Arthur to the Saskatchewan River. The Bonds are repayable on the 30th June, 1930, and the coupons are payable half-yearly on 30th December and 30th June. Payment in either case will be made either at the Bank of Scotland, London, or at the fixed rate of \$4.86.66 to the £ at the Canadian Bank of Commerce, Toronto, Canada, at holders' option.

**THE BANK OF SCOTLAND and THE CANADIAN BANK OF COMMERCE** are authorized to receive subscriptions for the above-mentioned Bonds.

The Canadian Northern Railway system connects the Great Lakes at Port Arthur, via Winnipeg, with the Great Saskatchewan River, at a point West of Cedar Lake.

Port Arthur, at the Canadian head of navigation on Lake Superior, from which there is direct communication with the sea for ocean-going vessels, is a great distributing point via the Great Lakes for the products of Manitoba and the North-West Territories. The object of the Canadian Northern Railway is to connect the fertile valley of the Great Saskatchewan River (navigable for many hundreds of miles) with Lake Superior, traversing the grainfields of Manitoba diagonally from the North-west to the South-east boundary of the Province; the agricultural districts of Rainy Lake, and the celebrated "Iron Range" country of Ontario and Minnesota, which has proved and is proving a great source of wealth to the various American Companies tapping it.

The main line is about 800 miles in length, exclusive of some 120 miles of branches. Of the main line 423 miles (including 36 miles of the Manitoba and North-Western, over which the Company has full running power for fifty years from October, 1896) are ready for traffic, and, it is expected, that 200 miles more will be ready for traffic during this year. The remainder will be completed by the 31st December, 1901, by which date the contractors have undertaken to have the whole line fully completed, equipped and open. The specifications of the Government of Canada, subject to compliance with which the various subsidies have been granted, call for a very complete railway, with low maximum curves and grades, and ample general equipment and terminal facilities. These conditions the contractors have to comply with, and have complied with on the portions of the road already opened, as is shown by the fact that these portions have been passed by the Dominion Government.

The position of the railway renders it absolutely independent of any other railway, and it passes through rich country, which has almost all hitherto been without railway facilities.

### BONDED INDEBTEDNESS.

The Company has issued on its Winnipeg and Saskatchewan Divisions 4 per cent. 30-year Gold Bonds, at the rate of \$8,000 per mile, which may be increased to \$10,000 per mile as above mentioned, which Bonds are guaranteed, principal and interest, by the Government of Manitoba.

The present bonded indebtedness of the Company, including the present issue, amounts to \$12,531, say £2,575, per mile (of main line), and the interest thereon to \$539, say £110 15s., per annum per mile.

This low rate of fixed charges results largely from the liberal aid granted to the Company towards construction by the Parliaments of the Dominion of Canada, and the Provinces of Ontario and Manitoba.

### INTEREST DURING CONSTRUCTION.

Interest on the present issue of Bonds is guaranteed by the well-known contractors, Messrs. Mackenzie, Mann & Co., of Toronto, Canada, during construction and for one year after the line is opened for traffic.

### GENERAL.

Applications should be sent to the Company's Bankers with cheque for application money. Prospectus and Forms of Application may be obtained of the Bankers or the Brokers, or at the Offices as below.

Application will be made to the Committee of the Stock Exchange for a special settlement and an official quotation.

Copies of the Acts of Parliament, the form of Trust Deed and Bond, and all other documents referred to, may be inspected at the offices of the Solicitors for the Bondholders.

Dated London, 12th July, 1900.

### Trustees for the Bondholders.

THE NATIONAL TRUST COMPANY, LIMITED, Toronto, Canada.

### Directors.

FREDERIC NICHOLLS (President), Toronto.

JAMES GUNN (Vice-President), Toronto.

Z. A. LASH, Toronto.

H. E. HARCOURT-VERNON, Toronto.

J. M. SMITH, Toronto.

### Solicitors.

For the Company:— { Messrs. BLAKE, LASH & CASSELS, Toronto.  
" LINKLATER, ADDISON, BROWN & JONES, London.  
For the Bondholders:— Messrs. MORLEY, SHIRREFF & CO., London.

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Messrs. SANDEMAN, CLARK & CO.

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## The Making of a Railway Man.

By Charles S. Lee, General Passenger  
Agent Lehigh Valley R.R.

Most persons think that about the easiest job to secure is a railway clerkship. If a man can't do anything else successfully in the world he turns to a railway office. If a father or a guardian has a boy who has made a failure, even of a commercial college, he tries to fix the youth in a railway department. But all these people are very far from right. One of the hardest places I know of to get a start in is a railway office. I shall tell about you that in detail, later. A large number of railway clerks are the sons or relatives of railway men, & they usually seek the department toward which their bents of mind lead them. Some young men are mechanical in taste, some have tendencies toward electrical work, some want to be bookkeepers, & others are active, restless, hustling, ambitious—ready to take a try at the biggest, liveliest kind of business in the world. There is a place for them all in the railway office. It is so varied in its work & so broad in its field that it has room for almost every kind of a man imaginable except the average man who knocks at its door for a job.

There is no room in a railway office, however, for a shirk, an incompetent, the man who works for money, or the man who counts his hours. Such a man may find foothold, & frequently does, but he seldom retains it. I know of few places where a man will find his level quicker than in a railway office. Of late years the growth of the business has been so enormous that it has led to specialization among its employes. The field covers so much territory that one man cannot get over it all, as used to be the case; so he only takes a part of it.

Specialization exists as much among clerks as other classes of railway men, such as brakemen, firemen & telegraphers. The mechanical man naturally gets work in the departments of the superintendent of motive power. Here he studies engines & their manufacture, cars & coaches, rails & switches. He figures on the "strength of materials" & studies to avoid the "perversity of inanimate things." He learns all about the hauling power of a certain quantity of coal & a given amount of steam over known grades with a specified weight in cars & contents. That involves a practical knowledge of mechanics.

When it comes to the adoption or rejection of new devices in machinery it is the trained clerk in the department who does the figuring for the chief of that branch. On our road we have had men begin in the shops as apprentices to fit themselves for these clerkships.

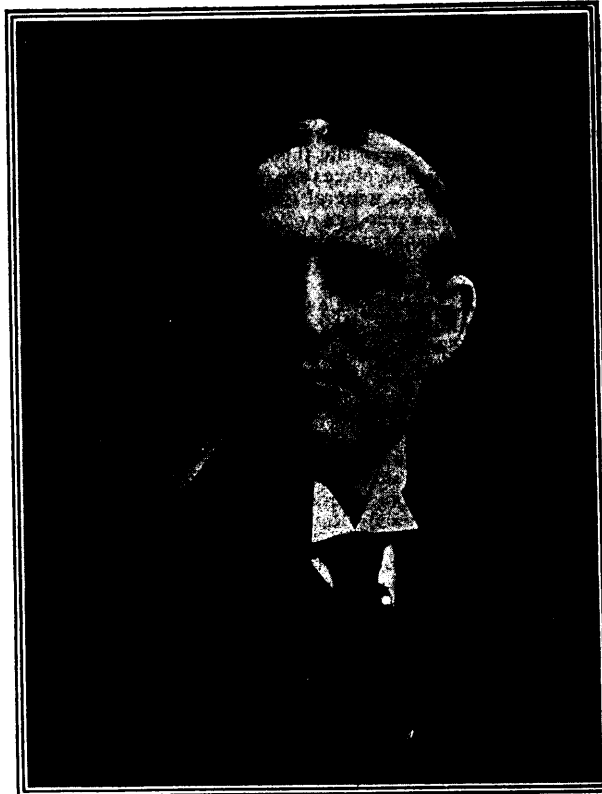
The man with a liking for electricity generally goes into the transportation department or the office of superintendent of telegraphy. In one he has practical experience with the key & sounder, & in the other he deals with the higher branches of the science, construction & maintenance of lines, new methods of transmission of light, heat & power. In the office of the superintendent of the road the clerk attends to the details of the movement of trains, among other things. The present appliances for block signaling require sufficient study to make that branch of work a special training in itself.

More clerks are employed in the accounting department than in any other division. Here the railway bookkeeping is done. The comptroller has a large clerical staff to check up the accounts from all the other departments, & the treasurer has a corps of aids equally numerous, who receive, pay out & keep track of the money that comes in.

The freight department employs a great army of clerks, & is organized on the same general lines as the passenger & other departments. The station agent at small places is often the passenger, freight, operating & despatching clerk combined in one man, jointly paid & severally controlled by these departments. Such a man is accountable to almost every officer of the road, but, naturally enough, when it is possible to concentrate so much responsibility in one man, the work is not hard & the duties are largely routine. In all the larger cities the departments have their own representatives working under the immediate supervision of the division heads. Take Buffalo, for example. I have a division passenger agent & a local passenger agent. There are division & local freight agents, a local despatcher, train master, station master, & so on.

So much for the specialization. Now let me say a word about the routine of office work, the grades of pay & the chances for promotion. All offices depend almost wholly upon their clerks. Of course the head of the department is responsible. Directly under the head of the department comes the assistant, or if there is no such officer, the chief clerk. All matters of office work pass through his hands before going to the head. He is the clearing-house association for the other office divisions. Take the passenger department for a general illustration. I have a chief clerk who is, under me, the head of my office. To him come the reports of the heads of the rate & ticket bureaus. The general advertising agent & the general baggage agent report direct to me. All other reports reach me through the chief clerk. I do not mean that I am only to be reached through the chief clerk. I refer to the routine office business, that necessary drudgery that makes up so large a part of every railway man's life. The clerks are all graded, & each grade receives pay according to the value of its services.

The pay of clerks varies according to the road & the city that the clerk works in. Larger salaries are paid in New York, as a rule, than anywhere else, but there are a dozen applicants for each vacancy where there is one in any other town. The expenses of living are greater in the metropolis. Messenger boys get from \$15 a month up to \$25. Clerks get from \$40 to \$100 a month. Chief



GEORGE COLVIN JONES,  
Superintendent, Middle Division, Grand Trunk Railway System.

In the general passenger agent's department there are several divisions. The rate department looks after the division of business between the road & its auxiliaries. The ticket department attends to the issuing, handling or charging up of the tickets. Then there is the advertising department, which places the advantages of travel over the line attractively before the public; & besides this, there are the soliciting department, which is engineered from the main office but is conducted chiefly in the field, & the baggage department, which attends to the handling & tracing of baggage.

clerks receive all the way from \$100 to \$250. I know of one chief clerk in New York who holds a unique position in railway circles, & I have been told that he gets \$10,000 a year, but he is the exception, & the only exception I know of. Station agents get from \$25 to \$250. That is about the range throughout the country, New York included. Pay is about 20% higher in New York than in Philadelphia, & about 25% more than in interior towns. The hours of work are the same as in other lines of business.

Promotion for a railway clerk depends more on the man than anything else. In most offices civil service rules obtain. In my own department I never go outside the office to fill a vacancy if I can help it. If I am forced to, I try the other offices of the road, & if they cannot supply the man I want, I look around for one who has had railway experience. Possibly his name may be on my waiting list. Perhaps he may be suggested to me by one of my men & he may be working elsewhere. In that case I write to his employer, telling him what I am willing to pay for his services & asking whether he objects to my offering the place to him. If he does not object, I make my offer. If this fails I sometimes advertise for a man. I did that not long ago & received a bushel of letters. Some were written on paper from the Holland House & Waldorf-Astoria. Two or three reputable clubs furnished applicants, but the man who got the job came from the Mills Hotel, where the living expenses are less than \$3 a week. If I fill a vacancy by promotion or create a new place, I recruit my office staff by hiring a new office boy & make promotions all along the line wherever it is practicable.

Many clerks never advance much above their original positions. They are the kind of men who work in railway offices merely to draw their pay. They would work as readily in any commercial office. They have no love for their business, no ambition, & yet they wonder why new men are promoted over their heads, & lay it to prejudice, injustice & discrimination. I know some clerks who figure this way:

"I've got to be down at the office at 9. I go to lunch at 12. I get back at 1 & leave at 5. Between hours I can probably get out in the hall for half an hour to read the paper & smoke a cigarette."

And yet this is the very man who will sit down in the evening over a smoke & tell you how the railway business ought to be run; give you some ideas of his own that ignorance on the part of the chief clerk or head of the department has prevented from being adopted, & will inform you seriously that he has been kept down by jealousy from drawing twice as much pay as he gets.

There are certain essentials that all clerks must possess if they wish to hold their jobs for any length of time. But many men overrate these necessary things. For instance, a clerk must be accurate in his figures, grammatical in his expressions, neat & plain in his handwriting and respectful to his superiors. He must obey orders & do the work that is set before him. These are as requisite as the wearing of clothes, but no more so. I know some men who have been clerks for 20 years. They have had all these essentials & have them still. Their manners are perfection, their obedience is beautiful, their handwriting copperplate, & their neatness like unto a Holland housewife's; but they are clerks to-day even as they were when they began. Their trouble was that they stopped at the essentials, which are only the beginning of a man's career.

The clerk who advances is one who works for his office, his chief, his road, as well as for himself. He studies the work of the man directly in his own way of promotion. He not only does all that he is called on to do, but

finds tasks that are outside the routine of his desk. He makes suggestions. He has ideas. He doesn't find ideas by dreaming, gossiping or talking with other clerks when he ought to be at his work, but by studying & by close observation. There is not a clerical place that I know of that does not offer an ambitious, studious, observant man an opportunity for impressing himself so strongly on the management that promotion must come to him. Sometimes it may be slow in his own office, but if he is alert & wide-awake, he can find his chance in some other office. There have been cases in railways following strict civil service rules when capable men have been kept back for years until vacancies in higher positions have occurred. But these men could easily have found better pay on other roads had they cared to make the change.

The interests of a railway are so vast & varied that almost any practical suggestion finds a place in some department. A clerk in the cashier's office may have an idea for increasing speed on engines, a man in the motive power department may devise a new plan of soliciting passenger business, a man in my office may work out a plan for simplifying the keeping of freight accounts. There is room for all these ideas, & the man who makes them is the man who rises, & if he does not neglect the essentials of his daily work while figuring out these problems, he cannot be kept down.

Most men imagine, if they give the matter any thought at all, that a railway clerk is hired solely to take care of the line of work he is set to do. If that were the case there would be no such thing as promotion. A man would have to begin as general superintendent, general freight agent, & superintendent of motive power. But this is not the case. All of these higher places are filled by promotion. There is not a general officer of a railway in this country who has not served some sort of apprenticeship in the service.

Railways are run, primarily, to make money. To make money the public must be served fairly & honestly, & as generously as circumstances permit. Railways cannot exist without business, & the two sources of business are passenger & freight traffic. This business must be solicited in a large measure. The clerk who plans successfully to aid this canvass may make himself an important factor in the management of the road. Let me give you an illustration of the kind of work that is useful in the passenger service. Not long ago the Lehigh Valley Railway Company sent to its passenger & ticket agents throughout the country a circular concerning the proper reading of newspapers for business. In substance it was as follows:

"Watch the local columns of the newspapers. When you see items like these:

"Mr. & Mrs. Smith, of San Francisco, are visiting the Jones' on Riverside Drive."

"Mr. Wilson, who has been very ill with pneumonia, is convalescent."

"The marriage of Mr. Miller & Miss Brown on the 25th promises to be one of the social events of the season."

"I want you to clip these articles or to take note of them, & at the first opportunity call upon Mr. & Mrs. Smith & explain to them the merits of this line on the return trip to their home; they will in nearly every instance be glad of the information, & appreciate your courtesy & enterprise, with the result that business will be secured."

"Before calling upon Mr. Wilson you could ascertain, probably without much trouble, just what place & climate would be most suitable for his convalescence, as it would be folly to urge him to take a long-distance trip when he could not afford to go beyond 100 miles. By studying customers in this way business is increased. Those who travel for pleasure or for health are generally glad to be advised &

helped in this way, & it is wise policy to do so.

"In the case of the bride & groom—this is the one period in life, of all others, when cost is not counted, so that you may feel secure in suggesting all the luxuries as well as comforts obtainable if the wedding journey is made over the road.

"These points seem small in themselves, but if once tried you will be astonished at the results obtained."

This will give you an idea of the chance for advancement in a railway office for a quick-witted, industrious man, who has ambitions & ideas that extend beyond the walls of his own particular office. The railway business is essentially one in which ideas count, & practical suggestions turn quickly into money. My advice to clerks is to use their brains as well as their hands, study the road & its interests, avoid office politics, & be loyal to the head of the department. The chief trusts his employes. He has to do so. If he did not he could not do business. This confidence must be reciprocal if good results are to follow. The clerk who is sure to go up must do his own work as well as it can possibly be done, and at the same time be prepared to do the work of the man who is a step higher up. He must get right down to "brass tacks." He must have a purpose in his work. He must not count hours. The day should be too short for him—not too long. Not long ago an applicant for a stenographer's place called on me. After he had told me his name & experience he said:

"What are the hours?"

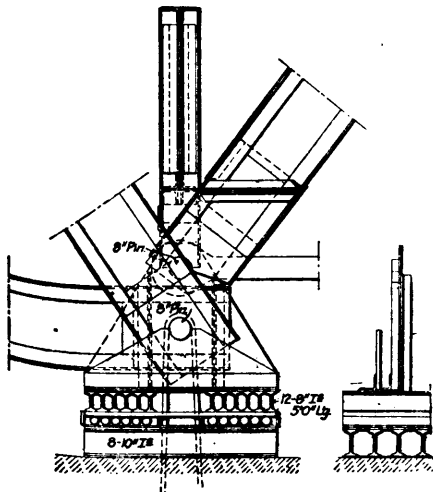
"I think I don't want you at all," was my answer.

Another thing to be remembered is the cultivation of tact, patience & affability. A clerk should treat every one courteously, from the president down to the office boy. He should also always be polite to visitors. No matter who the caller may be, or how foolish his inquiry, the clerk should answer it fully, satisfactorily & politely. Then again, let me advise all clerks not to imagine that they know it all. I began as an office boy in a railway office in Cleveland 29 years ago. I have served as clerk in passenger & freight departments, in the accounting & treasurer's offices, under the general officers & the superintendent, & I know whereof I write. Don't know it all. You can't do it. I learn things every day, & so does every other railway official who studies his calling conscientiously.

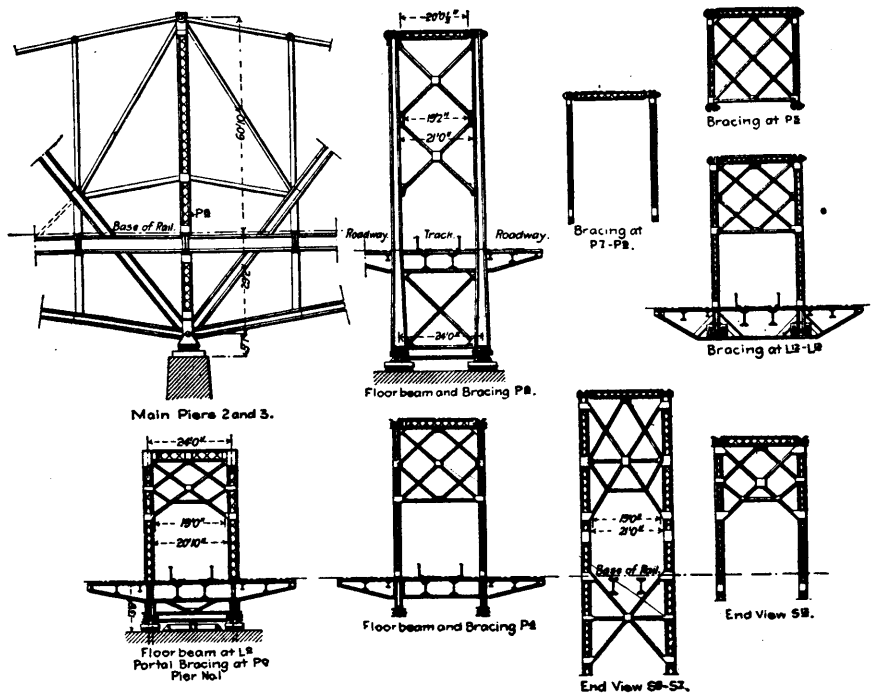
As to habits. The same rules obtain as in all other lines of work. The man who cannot control himself can never control others. A drinking man, a gambler & a man who does not know how to take care of his money & is always in debt is as sure to fail as he is to live.

This brings me up to the chances for entering a railway office as a clerk. It is difficult, unless an applicant is recommended by some one the head of the department knows, or has some peculiar fitness for the work. The best advice I give is to be on hand when a vacancy occurs. Every officer in New York City is loaded up with applications for clerkships. Every office is overrun with applicants who call in person to present their claims for employment. And there are 500 applications for every vacancy. A man of 25, or thereabouts, with no experience in railwaying might walk the streets of New York until he wore his boot soles through looking for a job & not find it. If, on the other hand, he has had experience in some other town & can bring acceptable references he might secure work without trouble. It all depends upon circumstances. Sometimes clerks are taken from brakemen, firemen, conductors & mechanics, if the men have sufficient education & adaptability. Of course the better educated a man has the better off he is. A college man stands a better chance than a common school graduate, everything else considered. The man who

has been through a college technical training & understands mechanics has fitted himself for one kind of railway work to begin with. A thorough knowledge of telegraphy, stenography or typewriting are useful & may aid a man in getting a place. The man who is neat in his appearance & gentlemanly in his address is more favorably received than the sloven or the boor. I have known clerks to



PEDESTAL ON MAIN PIER.



DIAGRAMS OF TYPICAL CROSS SECTIONS.

ruin their future altogether by inattention to their dress & by impatience & gruffness in manner.

I cannot tell you precisely what kind of man can find an opening, because that depends so largely upon circumstances over which the head of an office has no control, but I will tell you about one man who got his chance through me several years ago. It will serve as an illustration.

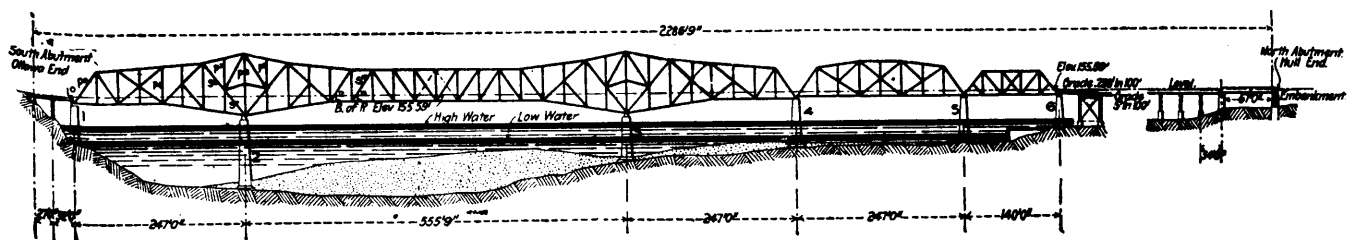
"I am 22 years old," he said. "I have been through college & I want to be a railway

There was no vacancy then, but the next week that young man began work.

**The Ottawa-Hull Interprovincial Bridge.**

Reports of the progress of work on this bridge, now nearing completion, are given regularly in our Railway Development department & a description of the structure will be of interest. It will connect Ottawa, Ont., with Hull, Que., & will have a total length of 2,286.75 ft. between abutments. It is being

centre span 308.75 ft. The sub-panels are in uniform units of 30 ft., 10 1/2 ins. The greatest depth of truss is 90 ft. centres, & the depth of the centre span is 45 ft. The trusses are in vertical planes 24 ft. apart throughout the whole structure, the outlines of which are shown in the general elevation. The roadway platform is 65 ft. 2 ins. wide, & is designed for a single track to accommodate the Ottawa & Gatineau & the Pontiac-Pacific Junction Ry., 2 electric car tracks, 2 carriageways & 2 sidewalks. On the north approach the



INTERPROVINCIAL BRIDGE, BETWEEN OTTAWA AND HULL.

man. I can work at almost anything. I am willing to work from morning until midnight until I have finished my task. I don't care what you pay me or what you set me to do. All I want is a chance, & if I can't do the work satisfactorily you can let me go. I am ready to begin to-day."

Now I did not have anything in my office, but I went into every department & I said to the heads: "Do you want an A No. 1 man, who is willing to do anything & do it well? If you do, I've got a man for you."

built entirely of mild steel & consists of pin-connected truss spans over the river & a long plate-girder approach viaduct at the north end, besides 2 short girder spans over the steep rocky bank between the end pier & the abutment at the south or Ottawa end.

The most prominent feature of the superstructure is the cantilever portion, which is 1,053.75 ft. long between anchorages, with a clear span of 545 ft. between centre piers. The anchor arms are each 247 ft. long, the channel arms each 123.5 ft., & the suspended

roadway is at a grade of 0.238%, & is a deck platform except at the 60-ft. & 67 ft. street crossings, which are through plate-girder spans. All the main spans are through truss spans with a horizontal roadway platform, 7 ft. 2 ins. above the centres of the horizontal bottom chords & 34 ft. 9 ins. above the tops of the channel piers.

The piers are built of stone masonry down to a point below low water, where they rest on concrete footings carried to bed rock. Piers 4 & 5 were built through ice 30 ins

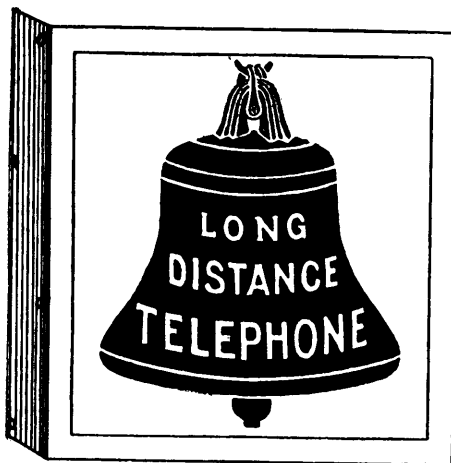


# ENAMELED IRON TELEPHONE SIGNS.

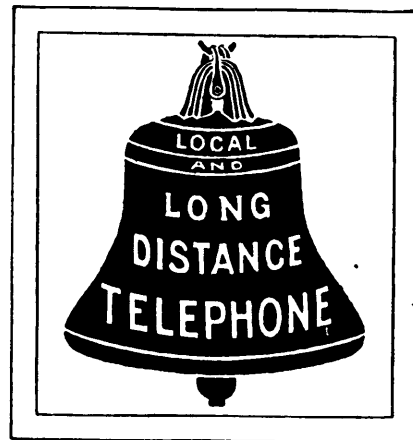
Guaranteed Not to Fade or in any way to Perish from Exposure.



No. 1. Single, 17 x 18 inches. If made double with flange 18½ x 18 inches.



No. 4. Double, 18½ x 18 inches, including flange. If made single, without flange, 17 x 18 inches.



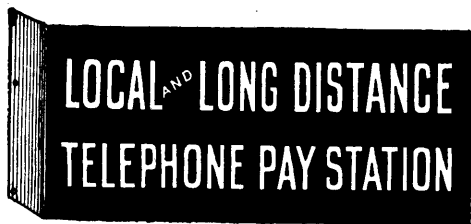
No. 2. Single, 17 x 18 inches. If made double, with flange, 18½ x 18 inches.



No. 5. Double, 19½ x 8 inches, including flange. If made single without flange, 18 x 8 inches.



No. 6. Double, 19½ x 8 inches, including flange.



No. 7. Double, 19½ x 8 inches, including flange. If made single, without flange, 18 x 8 inches.



No. 3. Single, 6½ x 7½ inches.



No. 8. Single, 18 x 8 inches.

These signs can be made in any colors. Blue and white are the most effective and are generally preferred.

Signs with any other design or lettering made to order.

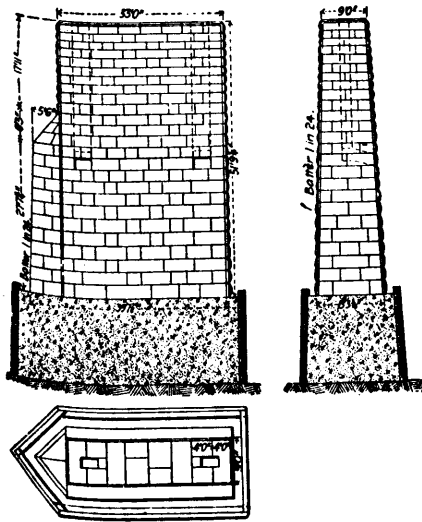
PRICES ON ANY QUANTITIES FURNISHED ON APPLICATION.

The ACTON BURROWS COMPANY, 29 Melinda Street, TORONTO.

Sole Agents for Canada for the Imperial Enamel Co., Birmingham, England.

thick, in shallow water, on rock bottom so level that the cribs were sunk with their lower course of timbers hewed to fit the smooth surface, as shown in the elevation of the south anchor pier. The north anchor pier is taller & has a different type of crib, which was sunk through a sawdust deposit. The stone masonry of all the channel piers corresponds to that in pier 4. Pier 1 was built without any crib, the masonry being laid at low water directly on the blasted rock bottom. Piers 2 & 3 were built in much deeper water, & their concrete footings were constructed inside of very tall cribs which were sunk by dredging through 20 or 30 ft. of sawdust, water-logged timber & other material difficult to remove. In some places between the piers this deposit was 60 ft. thick, but the piers were located so as to penetrate it in the thinnest places. The crib for pier 4 was essentially like that for pier 2 which is shown in plan & cross section. Its walls were solid courses of green 12x12-in. hemlock timber slightly battered up-stream & on the long sides & braced by 4 cross-beams tied into both sides at every 4th course. These side pieces were dovetailed between adjacent wall courses & projected about 3 ft. beyond them on each side to receive the planking of pockets which were filled with stone ballast to sink the crib. The 8 lower courses were each successively offset 4 ins. so as to extend the base of the crib to 29x40 ft., exclusive of the cutwater.

The lower part of the crib was built on shore. After it was launched vertical 3x12-in.



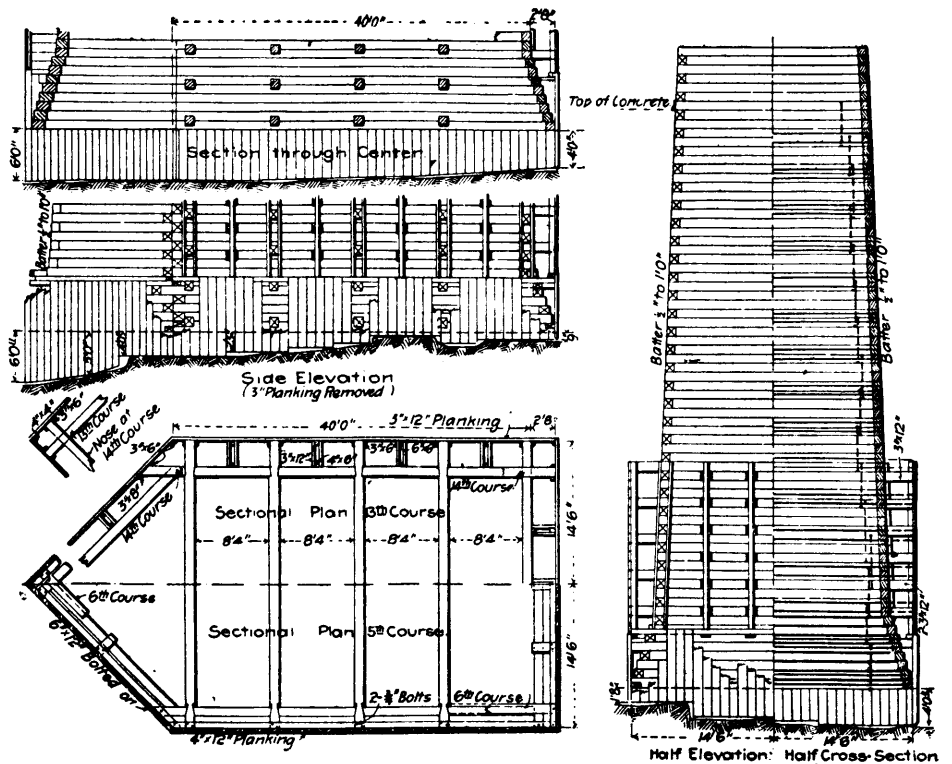
ANCHOR PIER.

courses. The longitudinal trusses were intersected by 3 solid transverse partitions or bulkheads, which divided the scow into 4 watertight compartments & contributed to its stiffness. The scows were placed parallel to each other & connected by 2 queen-post combination trusses about 10 ft. deep & 50 ft. long, which were bolted firmly across their decks so as to leave a rectangular 30x60 ft. well between them & the scows, in which the crib was suspended by four 2-in. screw rods, by which its descent was regulated. The scows were anchored in a 3-mile current, to the adjacent piers, when these were available, & by Chinese anchors, & the cribs were also anchored by up & downstream diverging lines, which were also attached to Chinese anchors.

As the cribs were lowered, their ballast pockets were filled with broken stone, shoveled in from the decks of the scows, & their sides were built up with additional timber courses until they were landed on the bottom. Slabs as much as 30 ft. long were found bedded in the sawdust, & it was excavated slow-

downward & allowed the concrete to remain on the bottom when the bucket was hoisted. Over 100 bucketfuls were deposited in water 70 ft. deep in one day of 10 hours. At first the concrete mixer was set on the deck of the scow at pier 2, but after about 1,000 yards had been deposited, filling the crib to a depth of about 25 ft., the work on it was stopped by the Dominion Government in Oct., 1898, on account of fear caused by the collapse of the concrete pier of the Cornwall bridge. It was not resumed until April, 1899, when the mixing machine was set up on shore & the concrete mixed with heated sand & water & taken in sleighs across the ice to the crib.

The contractors were also directed to warm the interior of the crib, which was filled with water circulating freely from the river. They accordingly established a 10-h.p. boiler on the deck of the scow & discharged live steam from it into the water. The crib was filled with concrete up to 18 ins. of low-water mark; a tight coffer dam was then built on top of it, pumped out, & the stone masonry laid in it. After the concreting was completed, the Gov-



CRIB FOR PIER 2.

plank were spiked on outside, projecting below the lower course to conform to the profile of the bottom previously obtained by soundings. The crib was floating with the lower 4 courses submerged when the vertical sheathing was spiked on, covering the sides to the 6th course. In order to work at the sheathing, a raft was built inside the crib & the edge of the latter was pried up from it with long levers so as to cant the crib over far enough to allow the spiking to be done above the surface of the water. Cribs 2 & 3 were located by the intersection of the bridge axis with transit lines from a fixed point on one shore to different points on the opposite shore.

For sinking the cribs 2 special scows were provided, 80 ft long, 20 ft. wide, 5 1/2 ft. deep, & curved at each end. The bottom & deck of each scow was made of 2-in. calked transverse planks extending across its full width & spiked to the top & bottom chords by 4 longitudinal intermediate trusses. The sides were made of heavy planed timber, butt jointed & bolted to inside vertical posts with cover splices and the joints of the top & bottom

ly & with difficulty by a 1 1/2-yard clam-shell dredge bucket, which removed about 150 yds. a day. The material was so stiff that the sides of the excavation stood vertical & the portions which were raised to the surface were tough coherent masses. Planks were laid across the tops of the cribs, & they were loaded with rails & other temporary weights piled on to sink them. At pier 2 the water was 40 ft. deep, & the sawdust was 30 ft. deep, & at pier 3 the sawdust was about 20 ft. deep.

The bottoms of the excavations inside the piers were cleaned by divers, who levelled off the irregularities & guided diamond drills, with which holes 12 ins. deep were made. These were charged with dynamite & the worst irregularities of the rock bottom blasted off. A maximum depth of 72 ft. below low-water level was thus reached. The crib was filled with 1 : 1 : 3 1/2 Portland cement concrete made with 2 1/2-in. broken stone. The concrete was made in a horizontal mixing machine & deposited by a 1 1/2-yard bucket with double-flap doors on the bottom, which opened

ernment required a test boring to be made through it to bed rock with a diamond drill. A 3-in. bit was drilled down to within a few feet of the bottom, the hole cased, & a 2-in. hole drilled the remainder of the distance. A core was recovered from the whole depth of the hole, which was in every way satisfactory, showing that the concrete was well set though still green. One diamond-drill hole was bored nearly to the bottom of the concrete & a second one was bored entirely through it & into the bed rock. The core was recovered in short pieces less than 12 ins. long & did not, of course, measure up equivalent to the length of the hole, but did give data of the condition of the mass at all depths. About 4 months were required for the drilling of both holes. To test the efficiency of the method of depositing the concrete, a bucket full of it was lowered to the bottom of the crib, then drawn up to the surface, again lowered a little, dumped in a submerged box, & allowed to set there. When it was examined it was strong & sound, with no evidence of washing or deterioration by the movement through the water.

The principal cross-sections of the cantilever spans are given in diagrams of transverse vertical planes lettered to correspond with the references on the general elevation. The sway bracing consists in general of heavy upper cross struts & multiple intersection diagonal angles, with a light bottom cross strut, or with no lower cross strut at all. Where the roadway is elevated the most above the lower chord, there is transverse diagonal bracing below the floorbeams. At the anchor ends of the cantilevers, the end lower-chord pins are connected by a transverse strut attached at the middle of the floorbeam with short diagonal braces. The under-side of this strut has a projection which slides in a longitudinal seat in a casting bolted to the pier masonry, so as to allow for temperature movements of the truss, & to hold it securely against any lateral displacement. The main lateral system is that in the plane of the floorbeam lower flanges, where each panel between the planes of the trusses is braced by struts made up of 4 angles riveted together back to back, & riveted to connection plates on the bottoms of the floor beams. Besides these, the alternate panels included between the projecting ends of the floor beams outside the trusses & the stringers are X-braced with single angles. There is X-bracing of pairs of angles in every panel of the top chords except in the second panel each side of the main post of the truss. The diagonals are complemented by the top struts of the sway-bracing systems, & by a continuous center longitudinal strut running through every panel.

In order to simplify the supports & save room on the top of the masonry, the ends of the adjacent bottom chords of the cantilever & the 247 ft. river span, are to be supported by single pedestals common to both spans on top of pier 4. The essential features & gen-

eral arrangement are shown by an elevation made from the accepted study for the pedestal. A 4x6 ft. grillage of 10 in. longitudinal I beams, with top & bottom plates, sets on the masonry & receives 2 nests of rollers. Between these there is a space left for the steel loops which engage the end pin of the cantilever span above, & pass down through the pier well to connect with the anchorage platform built into the masonry. Above the rollers is a second grillage made of two sets of 8 in. transverse I beams, with very heavy top & bottom plates, which supports a tall pedestal with two pins. The lower one receives the anchor bars & the cantilever truss members; the upper one is about 2 ft. above it in the same vertical plane, & receives the members of the short truss & the pedestal of the pier floorbeam. At the south end of the cantilever span the pedestal on pier 1 receives only the anchor-arm truss & is anchored by 6 in. vertical eye bars. The grillage is composed of eight 15 in. longitudinal I beams 4½ ft. long, & the pedestal is seated on the rollers without the interposition of an upper grillage.

The bridge is being built under the supervision of G. C. Dunn, acting Chief Engineer of the Ottawa & Gatineau, & of the Pontiac Pacific Junction railways.

#### RAILWAY FINANCE, MEETINGS, &c.

**Atlantic & Lake Superior.**—The Sheriff of Bonaventure, Que., gives notice in the Quebec Official Gazette that on July 19, in the case of Bellhouse, Dillon & Co., against the A. & L.S.R., he will sell at auction the portion of the railway running from lot 120, Township of Hamilton, to lot 1188, in the Township of Cox, a distance of about 20 miles, the wharf at New Carlisle, together with stations at Bonaventure & New Carlisle, workshops & other

appurtenances. On the same day he will sell at auction the Baie Des Chaleurs Railway running from Metapedia to the Township of Hamilton, a distance of 80 miles, with station-houses, rolling stock, etc., at the instance of A. F. Riddell & T. Watson, curators to the property of H. & G. Macfarlane of Toronto.

**Brockville, Westport & Sault Ste. Marie.**—The annual meeting was held at Brockville, Ont., July 10. Following is the official list for the current year: President, E. R. Dock, Philadelphia, Pa.; Vice-President, W. H. Cole, Brockville; General Manager, S. Hunt, Cincinnati, Ohio; Superintendent, Treasurer & General Freight Agent, J. Mooney, Brockville; other directors, R. Bowie, G. H. Weatherhead, D. Derbyshire & D. W. Downey, Brockville; W. C. Fredenburg, Westport, Ont.; R. G. Murphy, Elgin, Ont.; R. A. Williams, Philadelphia, Pa.; Secretary, General Passenger Agent & Traffic Auditor, E. A. Geiger, Brockville. Owing to the illness of receiver J. Mooney no report was presented & the meeting adjourned till Aug. 1.

**Calgary & Edmonton.**—Net earnings for April, \$15,141.08 against \$9,842.89 in April, 1899. Net earnings for May, \$11,310.68 against \$7,913.16 in May, 1899.

It is announced that the net earnings to April 30 last, together with the Dominion Government subsidy for the 6 months ended June 30, will permit of a distribution of 2% on the 1st mortgage bonds in respect of the interest due July 1.

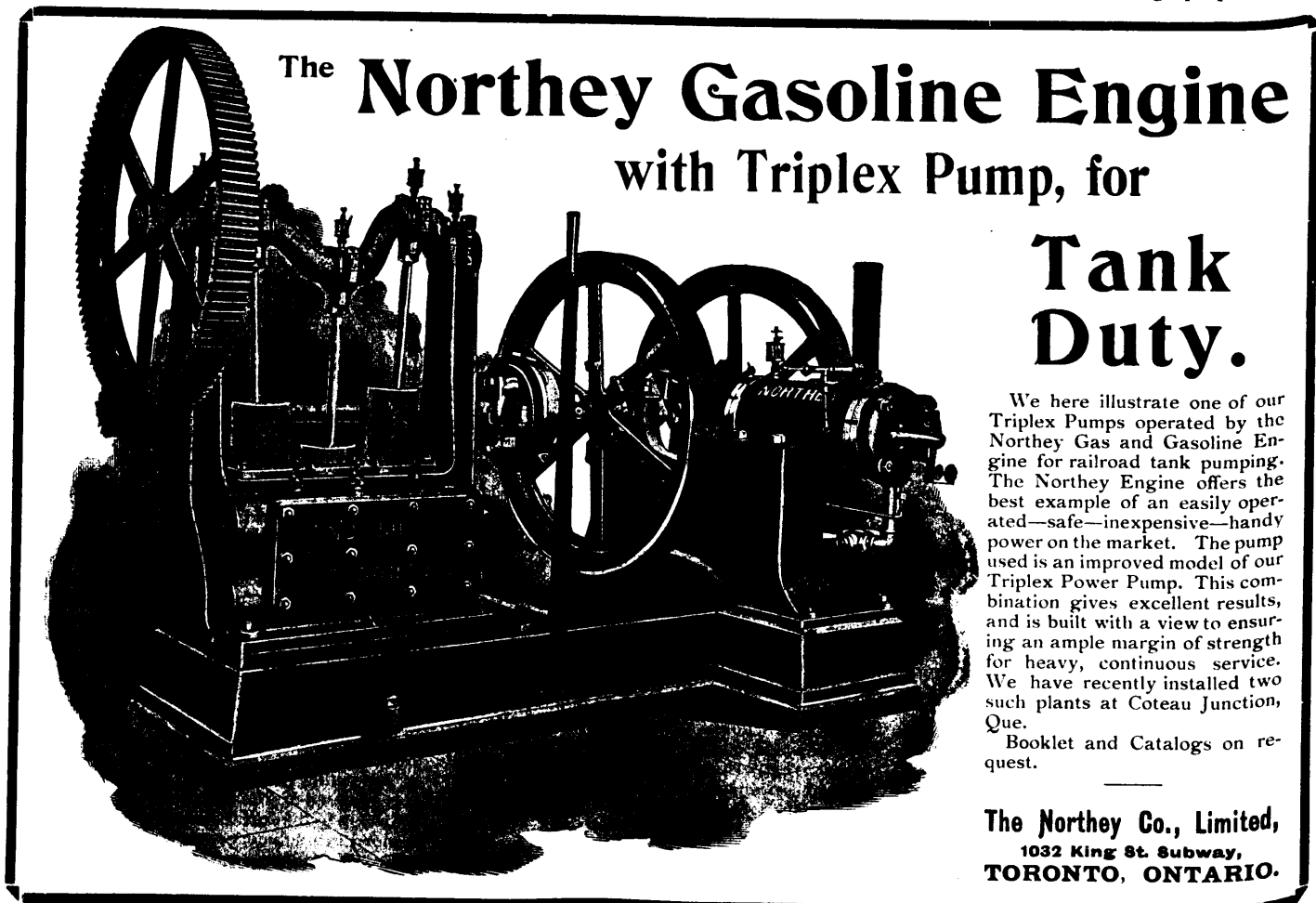
**Canada Atlantic Taxation.**—In the Trial Court at Toronto, June 28, judgment was given in the suit of this Co. vs. Township of Cambridge, an action tried at Ottawa. The defendant's assessor assessed not only the land occupied by the Co. (the plaintiff), but also the rails, ties & telegraph poles. The

## The Northey Gasoline Engine with Triplex Pump, for Tank Duty.

We here illustrate one of our Triplex Pumps operated by the Northey Gas and Gasoline Engine for railroad tank pumping. The Northey Engine offers the best example of an easily operated—safe—inexpensive—handy power on the market. The pump used is an improved model of our Triplex Power Pump. This combination gives excellent results, and is built with a view to ensuring an ample margin of strength for heavy, continuous service. We have recently installed two such plants at Coteau Junction, Que.

Booklet and Catalogs on request.

The Northey Co., Limited,  
1032 King St. Subway,  
TORONTO, ONTARIO.



plaintiff did not receive notice of this assessment. The plaintiff did not appeal to the Court of Revision, by which the assessment was confirmed, but did afterwards appeal to the County Judge, who dismissed it on the ground that an appeal under the circumstances did not lie. It appeared on the face of the assessment roll that the value of the rails, ties & telegraph poles had been added to the value of the land. Held, following *Central Vermont Ry. Co. vs. Township of St. John's*, 14 A.C., 590, that the assessment was illegal, & therefore this action lies. Judgment for plaintiff declaring assessment illegal & restraining the enforcement of payment of its amount. Costs to plaintiff. Costs of defendant Paquette, the collector of taxes for defendant, to be paid by it.

**Canadian Pacific.**—Land grant 5% bonds of 1881 to the par value of \$249,000 have been drawn for redemption at 110 & interest at the office of the Treasurer of the Co. at Montreal, interest to cease July 30.

The Co. has appealed from a decision of the Montreal city assessors placing a business tax of \$937.30 on the Co.'s work shop on Delorimier Avenue. The Co. objects to the assessment on the ground that it does no business with the public in those shops, that they are practically private shops for its own convenience, & should not be assessed for a business tax, especially as the Co. already pays a business tax on its general operations.

**Central Vermont.**—A bill was introduced in the Dominion Parliament recently to authorize the Central Vermont Ry. Co. to acquire & operate the Montreal & Province Line Ry., the Stanstead, Shefford & Chambly Ry., & the Montreal & Vermont Junction Ry.

It is rumored that the C.V. Co. is seeking to acquire the Orford Mountain Ry. from Eastman to Kingsbury, Que., & to make connection by a link from Waterloo to Lawrenceville, for which subsidies were voted by the Dominion & Quebec Parliaments.

**Dominion Atlantic** earnings for 5 months to May 31, \$241,549, against \$212,386 for corresponding period.

A bill was recently introduced in the House of Commons to enable the Yarmouth Steamship Co. to sell its steamers to the D.A.R. Co.

It is rumored that the Halifax & Yarmouth Ry., now under construction, will be amalgamated with the D.A.R.

**Great Northern of Canada.**—A Dominion proclamation has been issued bringing into effect the provisions of the Act of 1899, to change the name of the G.N. Ry. to the G.N. Ry. of Canada. A provision was inserted in the Act that it should not come into effect until the Co. paid to the town of St. Andrews \$10,000, or, in the alternative, until the Co. acquired the ownership or lease of the railway from Lachute to St. Andrews, & upon acquiring such ownership or lease, that the Co. should become bound to continuously & effectively operate that line. The Co. has paid over the money.

**Great Northwest Central.**—A duplicate of a mortgage dated May 1, 1900, by the G.N. W.C. Ry. Co., of its railway, franchises, &c., as therein mentioned, to D. McNicoll & I. G. Ogden, trustees, has been deposited in the office of the Secretary of State at Ottawa.

**Halifax & Yarmouth.**—It is rumored that this line, now under construction, is likely to be amalgamated with the Dominion Atlantic Ry.

**Hannaford vs. G.T.R.**—Judge Davidson delivered judgment in the Superior Court at Montreal, June 29, dismissing the claim of the plaintiff in the case of E. P. Hannaford, ex-Chief Engineer of the G.T.R., against the Co. for a year's salary, \$6,000. The Co. gave a month's notice of dismissal, & urged the plea that it was sufficient in case of employment by the year. This contention was upheld by the

court. The part of the Co.'s plea charging that the plaintiff had used the time of the Co.'s employes & material was not touched on in the judgment. Mr. Hannaford has given notice of appeal. (April, pg. 103.)

**London & Southeastern.**—At the annual meeting at London, Ont., June 28, the following were elected:—President, W. J. Reid; Vice-President, T. H. Smallman; Secretary-Treasurer, J. W. Little; other directors, J. Campbell, C. S. Hyman, M. Masuret, H. B. Cronyn, J. Labatt, J. M. Dillon, T. S. Hobbs. This Co. was organized to build stations for the use of the Michigan Central Ry. in London, which the M.C.R. reaches over the London & Port Stanley Ry., leased to the Lake Erie & Detroit River Ry.

**Minneapolis, St. Paul & Sault Ste. Marie.**—At the recent annual meeting the following were elected:—President, T. Lowry; Vice-President, J. Martin; other directors, J. S. Pillsbury, N. H. Pettit, Sir Wm. Van Horne, W. D. Washburn, W. B. Dean, R. B. Angus, F. H. Peavey, W. H. Bradley, T. G. Shaughnessy; General Manager, E. Pennington; Auditor, C. W. Gardener; Secretary & Treasurer, C. F. Clement. Hereafter the annual meeting will be held on the 3rd Tuesday in September, instead of the 1st Tuesday in June.

**Montreal & Atlantic.**—A general meeting of shareholders will be held at 24 Osborne St., Montreal, July 23, to appoint a trustee, or trustees, to whom the mortgage will be made for securing the bonds of the Co.

**Northern Pacific.**—The directors have declared a dividend of 1% against 2% paid in Jan. last. The Railway World points out that the present common shares represent chiefly stock issued against assessments on holders of old N.P. capital stock, the old preferred paying \$10 a share & the common \$15 a share. The preferred shareholders received half of their former holdings in new preferred stock & half in new common. The old common shareholders received share for share in new common. So far as cash payments were concerned, the present common stock, therefore, costs them only \$15 a share, & in paying 2% dividends yearly it is returning more than 13% interest on the investment. The old shares never paid a dividend.

President Mellen announces that the Co. has sold all its remaining lands in Minnesota, & also large tracts in North Dakota & Washington, comprising more than 1,000,000 acres.

Circulars announcing the absorption of the St. Paul & Duluth by the N.P. have been issued by the presidents of the two companies & a deed of transfer has been executed. In the deed the Minnesota law against consolidation of parallel & competing lines is quoted, & the statement made that these roads do not come under that law.

**Nova Scotia's Railway Claims.**—The long outstanding claim of the province of Nova Scotia against the Dominion for a refund of subsidies paid on account of the construction of the Eastern Extension Ry. from New Glasgow to the Strait of Canso has been submitted to arbitration. An agreement has been signed between the Dominion & Nova Scotia Governments for the appointment of a board of arbiters to consider the claims. Chief Justice Burton, of Ontario, will represent the Dominion, & A. B. Wade, Q.C., of Halifax, the Province of Nova Scotia. The third arbitrator will come from Quebec.

**Qu'Appelle, Long Lake & Saskatchewan.**—Net loss in operating for April, \$81.09; against net earnings of \$2,371.66 in April, 1899, & net loss in operating in May \$8,279.45; against net loss of \$321.89 in May, 1899.

McCarthy, Osler, Hoskin & Creelman, barristers, Toronto, acting on behalf of the Qu'Appelle, Long Lake & Saskatchewan Ry., the Qu'Appelle, Long Lake & Saskatchewan Land Co., Hon. D. MacInnis, Osler & Ham

mond, of Toronto, & Hon. W. Pugsley of St. John, N.B., have filed a petition of right in the Exchequer Court as a preliminary to bringing an action against the Government. It is alleged that the railway company constructed a line from Regina to Prince Albert, N.W.T., in consideration of a land grant of 6,400 acres a mile, the stipulation being that the lands should be fairly fit for settlement. The line was completed in 1890, & it is now claimed that out of the reserve set apart by the Government at that time only 224,336 acres are lands fairly fit for settlement, leaving a shortage of 773,894 acres. A claim is now set up for compensation for the deficiency, with interest, since 1890, when the grant was earned. As lands in the north-west are being sold as high as \$5 an acre by the C.P.R. & other companies, the claim, based on that figure, & including interest, would amount to upwards of \$5,000,000.

**Quebec & Lake St. John** earnings for 4 months to April 30, show an increase of \$25,589 over corresponding period.

**Quebec Central** net earnings for 5 months to May 31, \$52,052, against \$50,816 for corresponding period.

### Chicago & Grand Trunk Finances.

On returning to Montreal, June 15, from England, President C. M. Hays said:—"I went to England in connection with a proposal to float the proposed bond issue of the C. & G.T. As set forth in a circular sent out last Oct. (& published in the *Railway & Shipping World* for Nov., pg. 318) the capital of the C. & G.T.R. Co., as constituted in 1882 & now existing, consisted of \$6,000,000 of 1st mortgage bonds, bearing interest at 6%; \$6,000,000 of 2nd mortgage bonds bearing interest at 5%; & \$6,600,000 of common stock. No fresh capital has been raised since the 2nd mortgage bonds were issued in 1882, but in order to provide capital & other requirements, a floating debt has accumulated of \$1,991,300, for which amount the Co. has issued to the G.T.R. Co. its bonds, secured by a 3rd mortgage on the road. Moreover, as stated in the circular, additional capital was urgently required for the purpose of the doubling of the line, for its proper equipment, & for the reduction of the gradients. The principal railways out of Chicago with which the C. & G.T. competes have expended large sums in the double tracking & improvement of their property, & it is deemed absolutely essential to enable this Co. to maintain its position in competition with other lines, that it should be placed in a condition to fully develop & economically work the traffic which it would then command. This further capital is estimated to amount to about \$4,000,000. The proposal was to have a friendly selling out of the road on the 1st mortgage bonds maturing Jan. 1, 1900, & the creation of \$15,000,000 of 50-year 4% bonds. This would replace the old higher-priced bonds with those at 4%. The proposal had been assented to by all except the 2nd mortgage bondholders, & my mission to England was chiefly to see them. I may say the mission was entirely successful. The work of reorganization will now go on as fast as legal procedure allows. The receivership will be lifted & the road will come under practical control & management of the G.T.R. before Jan. 1 next."

The *Financial Times*, London, England, says:—"Since the announcement that a compromise had been arranged between the G.T.R. & the holders of the C. & G.T. 2nd mortgage bonds considerable curiosity has existed as to how much the G.T.R. had sprung on its original offer. We are now able to give our readers the terms which have been agreed on, & it will be seen that the efforts of the committee have resulted in an increase, roughly estimated, of some 15 to 20% on the

original arrangement. It will be remembered that it was at first proposed that the 2nd mortgage bondholders should receive 75% in 4% mortgage bonds to mature in 50 years, with a partial traffic guarantee only in place of their 5% 2nd mortgage bonds. Under the new arrangement the 2nd bondholders, in addition to 75% in 4% mortgage bonds, will be given 25% in new 4% 2nd mortgage income bonds, together with an absolute guarantee by the G.T.R. of the interest on the new 4% 1st mortgage bonds, which mature in 50 years. One of the leading 2nd mortgage bondholders states the President, who was over here the other day, informed him that it was the intention to spend a good deal of money on the line, & that he felt sure that the Co. would always be able to pay the interest on the new 1st mortgage bonds. This will, of course, improve the security, & there is also a chance for the 2nd mortgage income bonds, which will, perhaps, be worth about 50. We may add that the G.T. has retained the right to redeem the new income bonds at 85% at any time during the first 10 years."

The Canadian Gazette, London, Eng., says:—"We learn authoritatively that the following are the heads of the agreement between the holders of C. & G.T.R. 2nd mortgage bonds & the G.T.R. Co.: To be issued in place of every \$100 of the existing 2nd mortgage bonds, \$75 of 4% 1st mortgage bonds, interest to be unconditionally & absolutely guaranteed by the G.T.C. for 50 years, & \$25 of 2nd mortgage 4% income 50-year bonds, interest contingent on the profits of each year, & with the option to the Co. of redeeming the bonds at any time within 10 years at 85%, & any interest that may be then due. No advances which the G.T. Co. may have at any time to make to the C. & G.T. Co. under the guarantee of the 1st mortgage bond to be placed in front of these 2nd mortgage income bonds, but such advances are to be in every way subordinate to & rank after both 1st & 2nd mortgages as a charge upon the property. Full payment by the C. & G.T. Co. of the 5% interest due on July 1 next on the existing 2nd mortgage bonds."

Glyn, Mills, Currie & Co., London, Eng., announce that they are prepared to pay, on July 2 2% interest on the trustees' certificates in respect of the C. & G.T.R. 1st mortgage bonds, deposited in favour of the reorganization scheme.

E. W. Meddaugh & H. B. Joy, receivers of the C. & G.T.R., issued the following circular June 30:—The U.S. Court of the Eastern District of Michigan, Southern Division, having under date of June 28, made an order

directing the receivers to disaffirm the leases by the C. & G.T.R. Co. of the Cincinnati, Saginaw & Mackinaw R.R., & to discontinue the operation of said road on and after July 1, notice is given that the receivers will cease to operate or assume any responsibility in connection with said railroad on & after said date.

General Manager Hays, of the G.T.R., issued the following circular July 1:—The receivers of the C. & G.T.R. Co., acting under order of the U.S. Circuit Court for the Eastern District of Michigan, Southern Division, under date of June 28, disaffirming the lease heretofore existing between the C. & G.T.R. Co. & the Cincinnati, Saginaw & Mackinaw R.R. Co., for the operation of the last-named property, having given notice that they will, on & after July 1, cease the operation of the property, the jurisdiction of the officers of the G.T.R. Co., in their respective positions, is hereby extended over the Cincinnati, Saginaw & Mackinaw R.R. property. The Cincinnati, Saginaw & Mackinaw R.R. runs from Durand to West Bay City, Mich. It was opened in 1890. The G.T.R. owns a majority (\$825,000) of the capital stock of the Co. The road has been operated under a joint lease, to endure until Jan., 1920, by the G.T.R. Co. & the C. & G.T. Co., the rental being 30% of the gross earnings of the road, the lessees agreeing to advance such further amount up to 25% of the earnings of each from traffic interchanged with this line, as may be necessary to meet the interest of this Co.'s outstanding bonds.

The following official notice has been issued by Trustees Sir C. Rivers Wilson, Jos. Price & Lord Welby:—"We have to announce that after negotiations with holders of 2nd mortgage bonds, whose opposition threatened a protracted delay in carrying through the scheme of reorganization, an arrangement has been entered into with the G.T.R. Co. by which that Co. undertake to add to the traffic guarantee already promised an absolute & unconditional guarantee of interest to be endorsed on each of the new 4% 1st mortgage bonds for \$15,000,000 to be issued under the scheme. In addition to the 75% of 1st mortgage bonds to which the 2nd mortgage bondholders are entitled under the scheme as originally framed, they are now to receive 25% in 4% income bonds, forming a second charge on the undertaking of the new company. The concurrence of nearly all the 2nd mortgage bondholders has now been obtained, & the carrying through of the scheme practically assured. Holders of the few outstanding 2nd mortgage bonds who may wish

to avail themselves of the benefits of the scheme must deposit their bonds with the Amsterdam committee. All information with reference to the terms & conditions of deposit can be obtained from J. C. Loman, Amsterdam. No further deposits of 2nd mortgage bonds can be received by Glyn, Mills, Currie & Co. Arrangements have been made for payment by Glyn, Mills, Currie & Co., on and after July 2, of interest of 2% for the current half-year on the trustees certificates in respect of the 1st mortgage bonds deposited in favour of the scheme, & holders of 1st mortgage bonds who have not as yet deposited their bonds with Glyn, Mills, Currie & Co. should do so before July 2 if they wish to secure participation in the benefits to be derived from it."

### Duluth, South Shore & Atlantic Ry.

The annual meeting of this subsidiary company of the C.P.R. was held June 7. The following information is extracted from the annual report:—

Main lines owned 517.44; branch lines owned 49.40; trackage rights leased 16.62; mileage operated 583.46. Equipment, locomotives 92; passenger cars 48; freight cars 2,931.

#### INCOME ACCOUNT.

Gross earnings from operation	\$2,407,437.39
Less operating expenses	1,468,896.17
Balance net earnings	\$938,541.22
Other income	4,937.31
Net income	\$943,478.53
Deductions from income	
Interest on bonds	\$859,700.00
Miscellaneous interest	16,067.66
Taxes	53,953.43
	\$929,421.09
Balance (profit)	\$14,057.44

#### GROSS EARNINGS.

	1899.	1898.
Merchandise freight	\$1,224,136.16	\$907,157.89
Iron ore freight	345,920.08	302,432.84
Passenger	686,336.76	489,351.53
Mail	54,074.77	52,809.65
Express	48,232.32	41,231.41
Miscellaneous	48,737.30	28,624.27
Total	\$2,407,437.39	\$1,821,807.59

#### OPERATING EXPENSES.

	1899.	1898.
Maintenance of way & structures	\$392,011.60	\$366,628.83
Maintenance of equipment	189,805.54	136,458.87
Conducting transportation	814,270.58	655,291.68
General expenses	72,808.45	65,666.41
Total	\$1,468,896.17	\$1,224,045.79
Net earnings	938,541.22	597,761.80
Percentage of expenses to earnings	61.	67.2

F. B. POLSON

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The Best Equipped Boiler and Engine Works

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Steam Yachts and Launches*

..... Get Our Prices Before Ordering.

Esplanade East, Foot of Sherbourne Street, -:- TORONTO.

J. B. MILLER

\*\*\* in Canada. \*\*\*

The cost of rebuilding & filling bridges, \$22,943.75, is included in the expenses for 1899.

**FREIGHT TRAFFIC.**

Tons of through freight carried, earning revenue.....	723,325
Tons of local freight carried, earning revenue.....	1,875,537
Tons of freight carried, earning revenue.....	2,598,862
Mileage of through freight.....	98,509,873
Mileage of local freight.....	37,860,610
Freight mileage, or tons carried one mile.....	136,370,483
Average ton haul for through freight.....	136.190 miles.
Average ton haul for local freight.....	20.187 "
Average ton haul for all freight.....	52.473 "
Average amount received for each ton haul.....	60.020 cents.
Average receipts ton per mile for through freight.....	00.923 "
Average receipts ton per mile for local freight.....	01.718 "
Average receipts ton per mile for all freight.....	01.144 "

**PASSENGER TRAFFIC.**

Through passengers carried, earning revenue.....	83,403
Local passengers carried, earning revenue.....	390,278
Passengers carried, earning revenue.....	473,681
Passengers carried one mile.....	24,849,035
Average distance carried.....	52.459 miles.
Average amount received from each passenger.....	\$1.42836 "
Average receipts per mile for through passengers.....	02.584 cents.
Average receipts per mile for local passengers.....	02.828 "
Average receipts per passenger per mile for all passengers.....	02.723 "

The table of commodities handled shows a total tonnage of 2,598,862 net tons, the following being the principal items:

	Net tons.	Per cent.
Ores.....	1,436,808	55.25
Logs.....	295,376	11.39
Merchandise.....	125,393	4.83
Flour.....	67,704	2.61
Bituminous coal.....	60,536	2.33
Grain.....	42,384	1.63

The cost of the road & equipment to Dec. 31, 1899, was \$45,149,444.27. During 1899 the construction account was increased \$41,617.80 and the equipment account \$212,880.33.

The following were elected:—President, Gen. S. Thomas, New York; 1st Vice-President, T. G. Shaughnessy, Montreal; 2nd Vice-President & General Manager, W. F. Fitch, Marquette, Mich.; other directors, Sir Wm. Van Horne, Lord Strathcona, R. B. Angus, Montreal; J. W. Sterling, R. Y. Hebden, T. W. Pearsall, J. O. Bloss, G. H. Church, New York.

**G.T.R. Indebtedness to Government.**

In the Senate, June 28, Mr. Perley enquired if the G.T.R. Co. owes the government of Canada for any sum of money borrowed or otherwise obtained years ago? And if so, what is the amount & when do they expect it to be paid, if ever?

Mr. Scott said—In the early fifties when the G.T.R. was being constructed, the late Province of Canada advanced in aid of the work from time to time moneys to the extent of £3,111,500 sterling. In 1858 the Legislature passed an Act postponing the interest on the loan to the following charges due by the Co.:—1. The payment of interest on preference bonds; 2. After payment of interest upon the loan capital of the Co.; 3. After the payment of a dividend at the rate of 6% per annum on the stock & shares of the Co. As the payment of interest on the provincial loan is postponed to so remote a contingency it can scarcely be called a debt at the present day; though in the public accounts interest is regularly added to the amount of the debenture account due by the G.T.R., which now totals \$25,607,000. It is impossible to say whether the amount will ever be paid. I may add that I entirely approved of this settlement & voted for it in the session of 1858.

Sir Mackenzie Bowell—Have there not been

many bills passed since the dates mentioned in that statement, giving power to the G.T.R. to issue preferential bonds to take precedence of any claim the government might have? If my recollection serves me, there were several cases of that kind.

Mr. Scott—There was one in particular that I know of, the postal bond. The postal bond was issued in that way, but the account as it stands in the Public Accounts is as I have stated.

Mr. Perley—Is the account outlawed?

Mr. Scott—It is 42 years old.

Sir Mackenzie Bowell—A government account cannot be outlawed.

**Canada Southern Annual Meeting.**

At the annual meeting at St. Thomas, Ont., June 6, the report showed that the Co. has 457.30 miles of 1st track line, 380.04 in Canada, 65.61 in Michigan & 11.65 in Ohio. There are 97.56 miles of 2nd track & 244.24 of sidings, making 799.10 of single track. These figures do not include the 15 miles of the London & Port Stanley Ry., over which the Co.'s trains run between St. Thomas & London. The equipment consists of 151 locomotives & 4,265 cars.

**RESOURCES OF THE YEAR 1899.**

Net earnings of 1899.....	\$300,574.30
Received from Michigan Central R. R. Co., balance of 1898 account.....	150,666.69
Receipts from other sources.....	2,665.96
Cash & cash Assets, Dec. 31st, 1898.....	8,345.14
	\$462,252.09

**DISPOSITION OF RESOURCES.**

Dividends paid Feb. 1 and Aug. 1899.....	\$300,000.00
Balance of net earnings, 1899, due from Michigan Central R. R. Co.....	150,393.98
Cash & cash assets Dec. 31, 1899.....	11,858.11
	\$462,252.09

The following were elected directors: W. K. Vanderbilt, F. W. Vanderbilt, C. M. Depew, S. F. Barger, E. A. Wickes, J. E. Brown, C. F. Cox, New York; H. B. Ledyard, Detroit; N. Kingsmill, Toronto.

At the annual meeting of the subsidiary companies, also held at St. Thomas the same day, the following directors were elected:

LEAMINGTON & ST. CLAIRE RY.—W. K. Vanderbilt, F. W. Vanderbilt, C. M. Depew, C. F. Cox, E. D. Worcester, New York; N. Kingsmill, Toronto; J. Ross, Montreal.

NIAGARA GRAND ISLAND BRIDGE.—W. K. Vanderbilt, F. W. Vanderbilt, C. M. Depew, S. F. Barger, E. A. Wickes, E. D. Worcester, C. F. Cox, New York; H. B. Ledyard, Detroit; N. Kingsmill, Toronto.

SARNIA, CHATHAM & ERIE RY.—W. K. Vanderbilt, F. W. Vanderbilt, C. M. Depew, C. F. Cox, New York; N. Kingsmill, Toronto.

NIAGARA RIVER BRIDGE.—W. K. Vanderbilt, F. W. Vanderbilt, C. M. Depew, S. F. Barger, E. A. Wickes, E. D. Worcester, C. F. Cox, New York; H. B. Ledyard, Detroit; N. Kingsmill, Toronto.

**Grand Trunk Earnings, Expenses, &c.**

The following statement of earnings supplied from the Montreal office, includes the G.T. of Canada, & the Detroit, Grand Haven & Milwaukee Rys., the earnings of the Chicago & G.T., which is in the hands of receivers, being omitted:

	1900	1899	Increase	Decrease
Jan....	\$ 1,819,988	\$ 1,606,065	\$ 213,923	.....
Feb....	1,587,923	1,505,549	82,374	.....
Mar....	1,830,824	1,798,968	31,856	.....
April....	1,813,714	1,637,867	175,847	.....
May....	1,872,773	1,750,690	122,083	.....
June....	1,917,244	1,777,663	139,581	.....
	\$10,842,476	\$10,076,802	\$ 765,674	.....

The following figures are issued from the London, Eng., office:

**GRAND TRUNK RAILWAY**

Revenue statement for April, 1900:

	1900	1899	Increase	Decrease
Gross receipts.....	£357,000	£321,700	£35,300	.....
Working expenses.....	240,000	205,700	34,300	.....
Net profit.....	£117,000	£116,000	£1,000	.....

Aggregate Jan. 1 to April 30, 1900:

	1900	1899	Increase	Decrease
Gross receipts.....	£1,389,200	£1,288,900	£100,300	.....
Working expenses.....	989,900	893,900	96,000	.....
Net profit.....	£399,300	£395,000	£ 4,300	.....

DETROIT, GRAND HAVEN AND MILWAUKEE RY.

Revenue statement for April, 1900:

	1900	1899	Increase	Decrease
Gross receipts.....	£15,600	£14,700	£ 900	.....
Working expenses.....	12,700	12,300	400	.....
Net profit.....	£ 2,900	£ 2,400	£ 500	.....

Aggregate Jan. 1 to April 30, 1900:

	1900	1899	Increase	Decrease
Gross receipts.....	£59,800	£56,400	£3,400	.....
Working expenses.....	51,100	49,500	1,600	.....
Net profit.....	£ 8,700	£ 6,900	£1,800	.....

TRAFFIC RECEIPTS Jan. 1 to May 31:

	1900.	1899.	Increase.	Decrease.
Grand Trunk.....	£1,758,866	£1,633,350	£125,519	.....
D. G. H. & M.....	75,080	71,952	3,128	.....
Total.....	£1,833,946	£1,705,302	£128,647	.....

**Mackenzie & Mann's Yukon Claims.**

In the Senate June 7, Sir Mackenzie Bowell enquired:—

1. Has any claim or claims been made by Mackenzie & Mann for compensation, by the Government, for alleged expenditure incurred by them on account of the non-ratification by Parliament of a contract entered into by them & the Government for the construction of a railway from the waters of the Stikine River, in B.C., to the waters of Teslin Lake?
2. Does the Government admit or recognize that any legal or equitable claim exists on the part of Mackenzie & Mann, arising out of the non-ratification of the said contract?
3. What sum has been claimed in payment of such expenditures, disbursements & losses, & what evidence has been laid before the government sustaining such claims?
4. Has the Government taken any action in connection with such claims? If not, do they propose doing so?

Mr. Mills replied—I may say, in reply to the 1st question, that the answer is yes. In answer to the 3rd question, I may say that the amount & interest is \$303,433.24. The evidence produced in support of the claim consists of vouchers duly certified, approved & receipted & in nearly all cases the retired bank cheque is attached. In answer to the 4th question, I may say that no decision has yet been arrived at in respect of this claim, & therefore I am not in a position to answer the 2nd question.

Sir Mackenzie Bowell—Then the matter is still under consideration?

Mr. Mills—The matter is still in the hands of the Government and has not yet been concluded.

The C.P.R. Employees' contribution to the Canadian Patriotic Fund is \$12,033.61, being practically half a day's pay over the whole system. It was contributed as follows:—

Shops & stores, mechanical department.....	\$2,686 29
Trackmen & extra laborers.....	2,131 09
Officials & clerks.....	1,717 94
Stations, freight sheds, etc.....	1,410 84
Drivers & Firemen.....	1,390 71
Conductors & crews.....	1,374 83
Bridges & building.....	681 42
Telegraph.....	344 58
Sleeping & dining cars, hotels, river & lake steamers.....	295 94
Total.....	\$12,033 64

The employes on lines east of Fort William contributed \$6,829.55, & the employes on lines west of Fort William \$5,204.09.



**C.P.R. Earnings & Expenses.**

Gross earnings, working expenses, net profits and increases or decreases over 1899, from Jan. 1, 1900:

	Earnings.	Expenses.	Net Profits.	Increase or Decrease.
Jan.	\$2,152,071.32	\$1,460,501.71	\$ 691,569.61	\$ 74,035.75+
Feb.	1,954,087.59	1,331,355.34	622,732.25	23,030.77+
Mar.	2,294,786.97	1,495,685.73	799,101.24	29,794.33-
Apr.	2,491,194.47	1,464,126.85	1,027,067.62	106,764.13+
May	2,662,897.81	1,583,227.32	1,079,670.49	46,911.88+
	\$11,555,038.16	\$7,334,896.05	\$4,220,141.21	\$20,948.20+
	+ Increase.	- Decrease.		

Approximate earnings for June, \$2,552,000, against \$2,352,000 in June, 1899; increase, \$200,000. Mileage increased to 7,438 miles.

**SUBSIDIARY LINES.**

**MINNEAPOLIS, ST. PAUL & SAULT STE. MARIE.** — Approximate earnings for June, \$393,178; increase over June, 1899, \$7,548.

Net earnings for Mar., \$242,982, against \$146,972 in Mar., 1899. Net earnings 3 months to Mar. 31, \$524,929, against \$260,308 for corresponding period.

**DULUTH, SOUTH SHORE & ATLANTIC.** — Approximate earnings for June, \$233,966; increase over June, 1899, \$20,861.

Net earnings for April, \$84,711, against \$61,388 for April, 1899.

**MINERAL RANGE, HANCOCK & CALUMET.** — Approximate earnings for June, \$53,804; increase over June, 1899, \$17,571.

**Canadian Pacific Railway Land Sales.**

	Acres.		Amount.	
	1900	1899	1900	1899
Jan.	31,486	14,718	\$ 100,857.85	\$ 46,411.35
Feb.	23,013	13,747	75,771.19	43,371.69
Mar.	31,183	24,045	97,777.79	75,460.76
April	38,457	36,626	181,775.78	116,835.84
May	66,057	26,584	214,851.09	88,928.98
June	57,831	54,225	188,779.64	169,192.74
	268,627	169,945	\$859,813.34	\$540,201.36

**A. O. Norton's** Canadian Plant, at Coaticook, Que., is working full time on export orders for ball bearing lifting jacks, among which are shipments to South Africa, Siam, Mexico, San Salvador, Sweden and South Australia.

**F. E. Came,** Montreal, has been appointed general sales agent for Canada for the Bell Rock Mills, & will supply the trade with all lines of linen & cotton fire hose, & cotton electric tubing, of which a stock is carried in Montreal.

**Railway Equipment Notes.**

The G.T.R. is said to be in the market for 500 coal cars of 80,000 lbs. capacity.

The Great Northern of Canada is reported to have ordered 150 box and 50 platform cars.

The Toronto, Hamilton & Buffalo, is about to add to its passenger equipment 10 coaches for excursion business.

The narrow gauge sleeping cars, which are being placed on the White Pass & Yukon, are 40 ft. long & weigh 15 tons.

The Westinghouse Air Brake Co. has declared a dividend of 7½%, making the total dividends 32½% for the fiscal year.

The Minneapolis, St. Paul & Sault Ste. Marie Ry. recently placed an order with the Baldwin Locomotive Works for one locomotive.

The Ottawa & New York has two trains turned out from its shops on the U.S. side some months ago that will be put in service as soon as the bridge at Cornwall is completed.

The C.P.R. Co. has built at its Montreal works 2 locomotives, nos. 222 & 223, for the Imperial Limited service between Fort William & Ignace. They have 69 in. driving wheels.

The Intercolonial received during June three 60,000 lbs. box-cars & 28 platform cars from Rhodes, Curry & Co., Amherst, N.S. Seventy-five 60,000 lbs. box-cars were also received.

The Minister of Railways recently announced his decision to make important additions to the Intercolonial equipment, including powerful locomotives & up-to-date passenger & freight cars.

Rhodes, Curry & Co., Amherst, N.S., have about completed their new car-wheel works, which will have a capacity of 100 wheels a day. They are being equipped with the most up-to-date foundry plant.

Since Feb. 1 the G.T.R. has built at its shops 15 1st-class passenger coaches, 2 baggage cars, 135 box cars, & 300 coal cars, both of the latter being of 60,000 lbs. capacity. Automatic couplers & air brakes have been put on 3,123 freight cars.

The Richmond Locomotive & Machine Works is exhibiting a 16 x 24 10-wheeled passenger locomotive at the Paris Exposition. The engine is 1 of 10 ordered by the Finland State Ry. Nine of the engines have been delivered, & the one in question will be shipped to Finland after the close of the Exposition.

The staffs of the divisional workshops of the G.T.R. are hard at work equipping with air-brakes the whole of the cars in the service not already so equipped, to comply with the order issued by the U.S. Inter-State Commerce Commission that all cars running in U.S. territory must, after Aug. 1, be provided with air-brakes.

The Baldwin Locomotive Works has on its books for 1900 orders for 1,200 locomotives. Out of these about 800 are for American roads, & the remaining 400 for foreign lines. The growing favor of the compound system for locomotives is shown by the fact that 450 of the 1,200 are to be supplied with both compound cylinders.

The American Railway Association's Committee on Safety Appliances recently reported that on Jan. 1, 1900, out of 1,283,679 freight cars in service, 1,191,189 (92.8%) were fitted with automatic couplers, & 18,180 (63.7%) were fitted with air-brakes, also that out of 34,319 engines reported, 33,435 (97.4%) were equipped with power brakes. On Jan. 1, 1900, there were reported 102,485 freight cars under construction, all of which were to be fitted with automatic couplers & air-brakes.

The Lehigh Valley has placed 6 handsome new coaches on the Black Diamond Express from the Pullman Company. Each car has a large smoking-room & a luxurious ladies' retiring-room in addition to the usual saloons for each. They each seat 69 people, weigh 50 tons, are 70 ft. long & a trifle over 10 ft. wide. The roof is in the Empire style of construction & is made of three-ply whitewood. The cars have hot-water heaters, & Westinghouse high-speed brakes with a power equal to 90% of weight of car.

The G.T.R. Montreal shops have just completed another lot of 5 of the 800 series of passenger coaches with many improvements over the last ones. These are constructed in such a manner that every detail has been observed with a view of comfort & ease without regard to cost. The appointments of the interior show the artistic taste which has been observed in the way of decorations, blending of colors & the finish & carving of the wood-work. These cars have full width vestibules. The cars are 68 feet long, with a seating capacity of 68 passengers, the body of the car holding 54 & the smoking-room 14. Two of these are running on the eastbound & westbound night express trains between Montreal & Portland, & the other three have been placed on other divisions of the system.

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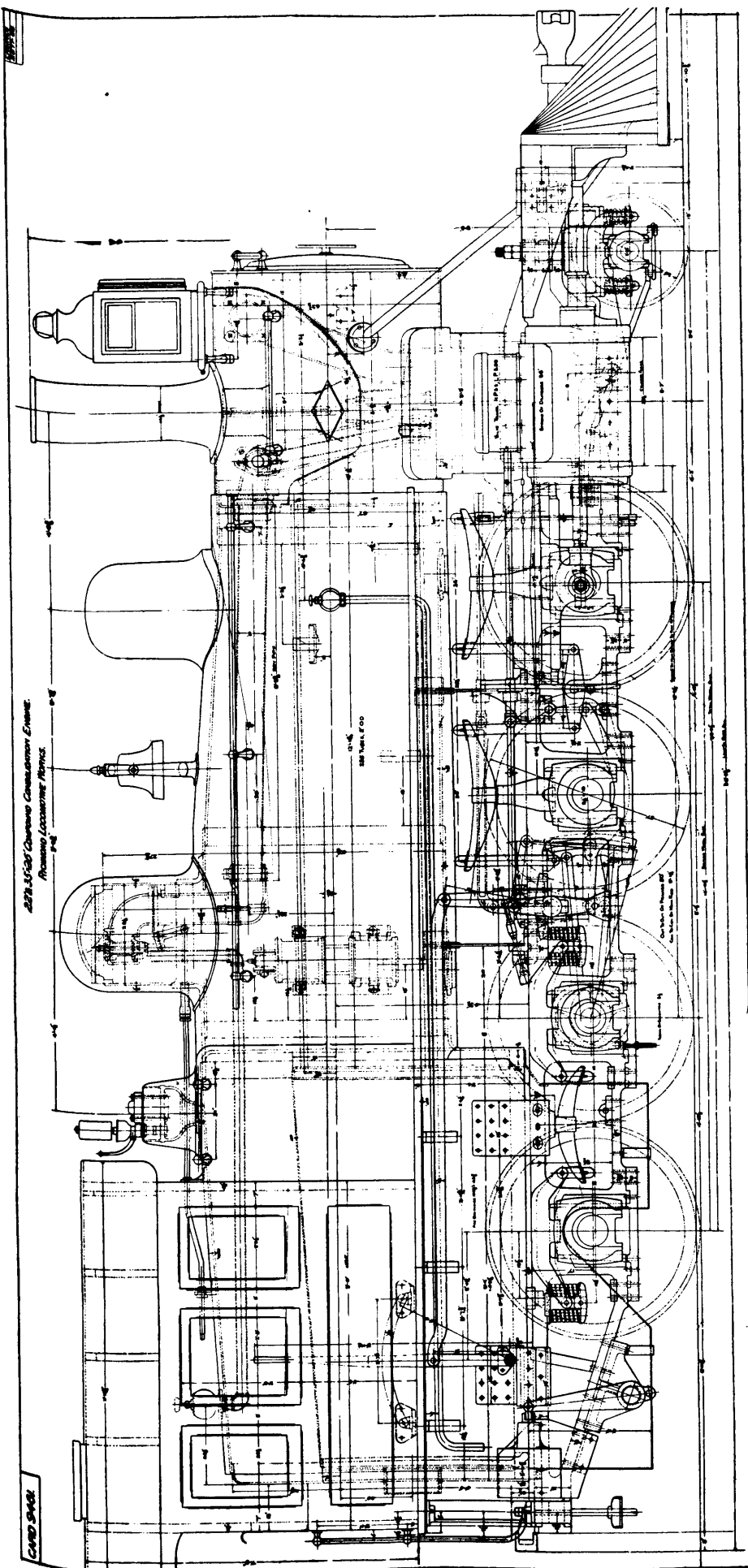
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G. E. Ry., G. C. Ry., S. E. Ry., and L. & Y. Ry., in ENGLAND.**

For full particulars, prices, etc., apply to the Company's Head Office in Canada.

**The Mica Boiler Covering Co., Limited, 86-92 Ann St., Montreal.**



ELEVATION OF RICHMOND COMPOUND CONSOLIDATION LOCOMOTIVES FOR CANADIAN PACIFIC RAILWAY.

Locomotive builders report a falling-off in the number & character of the orders placed for motive power by the various railways. A member of the Baldwin Locomotive Works attributed this not to the fact that the needs of the various railways had been supplied, but rather to the fact that, owing to the recent steady decline in the price of materials entering into locomotive construction, railroad managers are withholding their orders until prices have become more settled, & in the expectation of securing engines at lower figures. The prices of metals entering into locomotive construction are said to have declined recently from 5 to 8%. The same percentage applies to cars. Freight cars can be bought from \$50 to \$75 cheaper now than they could some weeks ago.—Railway World.

A number of G. T. R. passenger locomotives are to be equipped with electric headlights. One of the large type of locomotives recently constructed at the Co.'s Montreal works, & which is now at work in the Montreal & Portland night passenger service, has been equipped with electric lighting appliances, consisting of a powerful electric-lighted head-lamp & a number of incandescent lamps which have been placed in the cab for the purpose of lighting the steam & air pressure & water gauges. The classification train signal lamps are also electrically lighted, & a number of other lamps are situated over the machinery of the locomotive for the purpose of better inspection. On account of the brilliancy of the headlight, the engineer can very readily distinguish objects within the right of way for over half a mile distant in advance of the train.

The Baldwin Locomotive Works has issued a daintily-got-up pamphlet containing illustrated descriptions of the locomotives it is exhibiting at the Paris Exposition. The introduction contains some interesting facts about the works. They were established by M. W. Baldwin, who constructed in 1831-31, his first locomotive, the "Old Ironsides." Up to Jan. 1, 1900, the works had built upwards of 17,350 locomotives, the greater number for railways in the U.S., the remainder for export to most of the countries of the world. The annual capacity of the works is 1,000 locomotives. The greatest production was reached in 1890 when exclusive of extra parts for repairs, equal to nearly 100 locomotives, 946 locomotives were completed. In 1899, 901 locomotives were completed, exclusive of extra parts. The organization of the works based upon an annual capacity of 1,000 locomotives, equal to 3½ locomotives a day, is as follows:—

No. of men employed.....	8,000
Hours of labor per man per day.....	10
Principal departments run continuously, hours per day.....	23
Horse-power employed.....	6,000
No. of buildings comprised in works.....	29
Acreeage comprised in works.....	16
No. of dynamos for furnishing power 8, h.p.....	1,600
No. of dynamos for lighting, 6 arc, incandescent.....	4
No. electric lamps in service, incandescent 3,000, arc.....	300
Electric motors employed for power transmission, aggregate, h.p.....	3,000
Consumption of coal, in net tons, per week, approximately.....	1,200
Consumption of iron, in net tons, per week, approximately.....	2,000
Consumption of other materials, in net tons, per day, approximately.....	100

The McCloud River R.R. has had built by the Baldwin Locomotive Works, a compound duplex locomotive, an illustration of which is given on page 207. This line is 18 miles long from Upton, on the Southern Pacific, to McCloud, Cal., with steep grades, & the builders guarantee this locomotive to haul 125 tons of 2,000 lbs. up a 7% grade. The gauge is 4 ft. 8½ in. There are essentially two engines placed end to end, the cab of one extending over that of the other. The fuel, which is wood, is carried in a rack on the fireman's side of each engine, while the water is in tanks



**The Newfoundland Railway, Etc.**

A correspondent writes from St. John's, Nfld., under date of June 14: One of the most comprehensive & audacious projects of present-day finance is that just launched by R. G. Reid, of Newfoundland, for the exploitation of this ancient colony. It involves the transfer of his varied holdings to a limited liability company, capitalized at \$25,000,000, and the development of his millions of acres of arable, mineral & forest lands, as well as the operation of his railways, steamers & kindred enterprises. At this juncture, when the sentiment in favor of the fusion of the several scattered groups of British colonies is being accentuated by the lessons of loyalty taught by the war, & concentered by the Australian Federation Bill, & when the movement for the inclusion of Newfoundland in the Dominion is again agitating the politicians & people of the two countries, it should be of more than passing interest to the Canadian public to become familiarized with the details of this Napoleonic undertaking.

The properties, franchises & concessions which Mr. Reid is enabled to put on the money market as the basis of his far-reaching schemes for development are as follows: The Island railway, 633 miles of main & branch lines, built by the colony at a cost of about \$11,000,000, & sold to Mr. Reid 3 years ago for \$1,000,000 in cash. About 6,000,000 acres of land throughout the island, granted to Mr. Reid as an equivalent for his operation of the road for 50 years. The monopoly of mail carriage by steamers on the great bays of the island for 30 years at \$135,000 a year, to fill which contract Mr. Reid has just completed a fleet of 8 steamers at a cost of another \$1,000,000. The dry dock at St. John's, built by the colony at a cost of \$560,000 & sold to Mr. Reid at \$325,000, to be used as a deep-water terminal for the railway system, in addition to its legitimate purpose as a convenience for repairing damaged ships. The Government system of telegraphs, constructed by the colony at a cost of \$280,000, & sold to Mr. Reid for \$125,000, he using them as accessories to the efficient operation of the railway & steamer services. The St. John's Street Ry., with franchises to supply light & power, the combined plant, with its possibilities, being estimated now to be worth fully \$1,000,000.

Mr. Reid, who, as a railway contractor, is well known throughout Canada as having built some of the heaviest sections of the west-

over the boilers, each tank holding 1,200 galls. Following are the general dimensions:

Cylinders (two sets)—diam. (high pressure).....	11 1/2 ins.
" (low pressure).....	19 ins.
" stroke.....	20 ins.
" valve.....	Balanced piston
Boiler—diameter.....	46 ins.
thickness of sheets.....	1/2 in.
working pressure.....	200 lbs.
fuel.....	Wood
Fire-box—material.....	Steel
length.....	53 11-16 ins.
width.....	34 3-8 ins.
depth.....	59 ins.
thickness of sheets, sides.....	5-16 in.
" back.....	5-16 in.
" crown.....	3-8 in.
" tube.....	1/2 in.
Tubes—number.....	136
diameter.....	2 ins.
length.....	14 ft. 9 ins.
Heating Surface—fire-boxes.....	1,804
tubes.....	1,952
total.....	26
grate area.....	40 ins.
Driving Wheels—diameter outside.....	40 ins.
diameter of center.....	34 ins.
journals.....	6 1/2 x 8 ins.
Wheel Base—rigid.....	9 ft. 9 ins.
total.....	38 ft. 4 ins.
Weight—on drivers.....	161,400
total.....	161,400
Tank capacity, aggregate.....	2,400 gals.

On pages 203 & 205 are an illustration & an elevation of C.P.R. locomotive no. 767, one of 12 compound consolidations which are being delivered to the Co. at Mattawamkeag, Me., & Newport, Vt., by the Richmond Locomotive & Machine Works, of Richmond, Va. Following are the general dimensions:

Gauge.....	4 ft. 8 1/2 ins.
Fuel.....	Coal
Weight on drivers.....	150,500 lbs.
in working order.....	14 ft. 10 1/2 ins.
Wheel base—Driving.....	49 ft. 6 1/2 ins.
Total eng. & tender.....	60 ft. 9 ins.

**CYLINDERS.**

Diameter.....	22 ins. h.p. & 35 l.p.
Piston stroke.....	26 ins.
packing.....	Cast iron
rod diam. 4 extended material.....	Steel
Steam ports.....	H.p. 1 1/2 x 20 ins., l.p. 2 3-8 x 23 ins.
Exhaust ports.....	H.p. 3 x 20 ins., l.p. 3 x 23 ins.
Bridge width.....	H.p. 1 1/2 ins., l.p. 1 1/2 ins.

**SLIDE VALVE.**

Style balance.....	Double ported
Greatest travel.....	H.p. 5 1/2 ins., l.p. 6 ins.
Lap—outside.....	H.p. 1 in., l.p. 7-8 in.
" inside.....	Clearance H.p. 1/4 in., l.p. 1/4 in.
Lead in full gear.....	1-32 in.

**WHEELS.**

Driving—lumber.....	8 ins.
diameter.....	57 ins.
centres, material.....	C. steel
box.....	C. iron
axle journal.....	8 1/2 x 10 ins.
Crank-pin—main, steel.....	6 1/2 x 6 ins.
side rods, steel.....	7 1/2 x 4 3-16 ins., 5 x 4 1-8 ins. & 4 1/2 x 3 ins.

Eng. truck—style.....	Cent. bearing swing motion
wheels—no. 2, diam.....	30 ins.
centres.....	D.p. chilled cast iron
axle, steel, journals.....	5 x 8 ins.

**BOILER.**

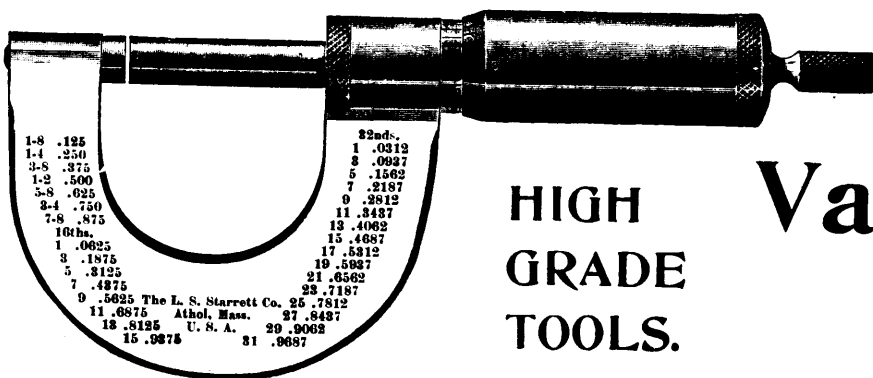
Type "Belpaire".....	Sloping back, wide fire-box
Working pressure.....	200
Outside diam. 1st course.....	62
Thickness of plates—in barrel.....	11-16 & 5-8
Seams—circumferential.....	5-8
horizontal.....	Double riveted
Fire-box—length.....	109 7-8 ins.
width.....	42 5-8 ins.
depth.....	Front 64 ins., back 57 ins.
material.....	Steel
plates.....	Sides 5-16 in., back 3-8 in.
water space.....	Crown 3-8 in., tube 1/2 in.
Front 4 ins., side 3 ins., back 3 ins.	
stay bolts.....	1 1-8 ins.
stay bolts (cross stays 1 3-8).....	1 in.
Length, 12 ft. 11-16 ins.	
number 255, diam. 2, thickness.....	11 b.w.g.
Heating Surface tubes.....	1,845 sq. ft.
fire-box.....	151 sq. ft.
total.....	1,996 sq. ft.
Grate—style.....	C. iron rocking finger
area.....	32.7 in.
Exhaust Pipe—style.....	Single
nozzle.....	4 1/2 & 5 ins.
Smoke Stack—inside diam.....	Smallest 14 1/2 ins.
top above rail.....	15 ft. 2 ins.

**TENDER.**

Weight, empty.....	46,000 lbs.
Frame.....	Iron
Wheels—number 8.....	Diam. 33 ins., o. p. chilled
Journals.....	5 x 9 ins.
Wheel base.....	16 ft. 2 1/2 ins.
Tank capacity—water.....	4,000 Imperial gals.
coal.....	8 tons

**Stream Diversion by G.T.R.**—In the Trial Court at Toronto, June 11, Judge Street gave judgment in Town of Peterboro' vs. G.T.R., which was tried without a jury at Peterboro'. The action was for a declaration that the defendant is liable to rebuild or repair a certain bridge in the town upon Smith st., where a small stream (as diverted by the Midland Ry. Co., to whose liabilities the defendant has succeeded) crosses the street, & for a mandamus to compel the defendant to rebuild it & to make good & restore the highway to its former state. Held, that the G.T.R. Co. had acted within its rights in diverting the stream, & if the municipality had sustained damage by reason of the exercise of those rights, they must proceed under the Railway Act to obtain compensation. Should the defendant refuse to proceed the plaintiff would have a remedy by mandamus upon motion. Such a mandamus should not be granted in the present action, a motion being the proper course. Action dismissed with costs.

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ern divisions of the C.P.R., & who has recently been elected a director of the Bank of Montreal, of which city he is a permanent resident, first became a figure in our island politics in 1890. The Government wanted a capitalist to undertake the building of its railway which had collapsed completely after having been laid only 57 miles. Mr. Reid grappled with the task, offering to take the colony's 3½% bonds as payment, instead of cash, \$15,600 a mile being the figure stated. In 1892 he contracted to complete the road across the island, as the first contract went only part way, the terms being the same as in the first instance. In 1893 the Government, having by this time become convinced that the road, which ran through an untrodden wilderness, would be a costly one to operate when on its completion it reverted to the colony, arranged with Mr. Reid to assume its operation for 10 years for a land grant of 5,000 acres to every mile, about 3,000,000 in all. It looked a mad undertaking on his part. The interior of the island had never been opened up until Mr. Reid started his line through it; there was not a habitation for hundreds of miles, & for a quarter-century with but the fishing community peopling the coast line to draw upon for settlers inland, it would all seem to appear as if there would be no possi-

period when he failed to efficiently operate it. The island was in deep financial distress at the time, & it was declared that without this million dollars it must default, so this argument proved a potent one in influencing the vote for the measure in the Legislature. The dock was sold to Mr. Reid because it was eminently suited to round off his enterprise, & because every year the colony sank \$10,000 to \$15,000 in its up-keep. Similar reasons explained the transfer of the telegraphs. The coast steam service then in existence, one steamer going north & another west, with large stretches of seaboard untouched, was just then expiring, & it was felt that the time was opportune to secure a much improved one—a boat in every bay, on every lengthy coast, one to Labrador & one to Cape Breton, all to connect with the railway & form a perfect chain of communication, bringing every section of the island in touch with every other, & providing the essential facilities of cheap through freight & passage rates.

This was the "Reid deal" in its main features, the minor details being unimportant. On its behalf there was to be urged that it represented such a huge contract & of such diverse phases for Mr. Reid that it practically bound him to the colony for the remainder of his life. His interests were made identical

mination & ingenuity that the whole island was inflamed against Mr. Reid, & an agitation of unusual violence was promoted for the disallowance of the measure, which had passed the Assembly by a vote of 28 to 8 (five Liberals withdrawing from their party to support it), & in the Council by a vote of 14 to 1. The disallowance movement failed of effect, but the outburst did not spend itself there, & as time passed the bitterness increased until the undercurrents of popular passion & prejudice brought about the downfall of the Conservative Ministry in March last, after an existence of two years.

To it succeeded, without the ordeal of an election, the Liberal party again, Hon. R. Bond replacing Sir Wm. Whiteway as Premier, the latter retiring owing to increasing years. When they took office Mr. Reid was in England, arranging the financial details of this project, & had the Conservative Ministry, under Premier Winter, continued to hold office for another few months, there is little doubt that Mr. Reid would have been enabled to secure the necessary administrative sanction for this transfer of responsibility. In the final clauses of the "deal" it was provided that the contract was not to be transferred or sub-let without the sanction of the Government of the day, which approval could be expressed



RICHMOND CONSOLIDATION LOCOMOTIVE FOR CANADIAN PACIFIC RAILWAY.

bility of the road developing enough traffic to cover the expenses of running it, not to speak of earning sufficient to pay a dividend to the courageous investor who had taken it in hand. But Mr. Reid's plans were then only in embryo. In 1897 he secured the consent of the Liberal party, which had given him these concessions, to a further enlargement of his operating contract, though the unpopularity of the large grants given to him already made it necessary to keep this secret until after the election. The contest, however, resulted disastrously to the Liberals, the Conservative party carrying 23 seats against 13. The new Ministry proved even more amenable to Reid influences, & agreed to the famous "Reid deal," which has since acquired such a worldwide publicity. By this arrangement Mr. Reid undertook to operate for 50 years the colony's entire railway system—both what he had built & the branches already in existence—for a grant of another 2,500 acres a mile, his grand total of lands aggregating about 6,000,000 acres, or, say, 7,000 square miles, making him easily the largest landowner on earth. He also agreed to put down at once \$1,000,000 for the reversion of the ownership of the road, at the end of the half-century the money to become forfeit & the line to revert back to the colony at any time during that

with ours; he could not remove from the island the railway, the land, the dock, the telegraphs, etc. To develop them he had to spend money, & if he profited thereby the colony & its people were also sharers in the benefits, while if he lost we were none the worse, but, on the contrary, had escaped the heavy loss on operation for many years, as well as that for preliminary development work. Competent experts, basing their calculations on the I.C.R. statistics for 20 years back, estimated an annual loss to the colony for the operation of the railway of fully \$250,000, a drain which it could not stand for more than a year or two without being plunged into hopeless bankruptcy. For the contract it might also be claimed that under every phase of it there was a saving or like benefit to the colony, & that its peculiar circumstances ensured that Mr. Reid would have to spend within the island every dollar he could get, so as to make his investment remunerative.

It was contended by the enemies of the contract that the country had been "sold" to Mr. Reid, that all our valuable assets had been "made away with," & that the future of the island lay with Mr. Reid alone to make or mar. The arguments were mainly the sentimental ones that appeal to an excitable electorate, & they were used with such deter-

either by an order-in-council or another act of the Legislature. The change of Government worked disastrously to Mr. Reid's plans. The bitterness engendered by the anti-contract agitation in which the Liberal politicians had been active participants for two years made it impossible for them, even if satisfied with the wisdom of the course proposed, to agree to Mr. Reid's request without endangering their political future. An election is to take place this fall, denunciation of Reid should be a popular cry, & the average politician wants to take no chances of defeat if he can avert it by a negative policy. There is but six months to wait, & though Mr. Reid can reasonably enough point out that this delay may result in the miscarriage of the project, that aspect of the matter does not weigh with the vote-seeker. It is the curse of the colony, as of all minor, isolated autonomies, that large public questions are not dealt with on their merits, but are subordinated to the petty issues which may mean the gain or loss of a seat to some political carpet-bagger, or to the private ends of some more ambitious aspirant, who sees in an occasion like this the chance to achieve even an evanescent notoriety.

The question as a whole is of such grave moment, & of such comprehensive magnitude, that it may well possess two sides & admit of

the most honest differences of opinion as to its wisdom & feasibility. Mr. Reid intends to consolidate everything he has in property or franchises in the island under a company head, the title being "The Reid-Newfoundland Co." Upon its credit & the security of these holdings it is proposed to raise \$5,000,000 by means of preferred bonds, this money to be applied to the development of the most promising properties which Reid's prospectors have so far located. Mr. Reid has already embarked in the enterprise \$1,000,000 for the purchase of the railway, another \$1,000,000 for the 8 steamers, \$500,000 for the dock & telegraphs, & probably as much more for improved equipment for the whole system, making, say \$3,000,000 in all. This is no small investment for one man, & the extended scope of the whole enterprise forbids the possibility of his grappling with it himself. But so satisfied is he with the bona fides of the project & the value of the properties he holds, that he is willing to become a deferred creditor for the amount he has already adventured in the scheme. In other words, by the deed of trust on which the proposed company is constituted, it is provided that all of the \$5,000,000 to be raised by the bonds shall be spent in improving & developing the properties & become a preferential credit on the revenues thereof, & not until all the claims of these bonds shall have been satisfied does Mr. Reid come in to rank for a dividend on his original investments, which alone made the venture a financial possibility.

It is believed, however, by shrewd local & alien observers, familiar with the present value & the potentialities of iron mines, pulp lands & the like, that Mr. Reid has in the island properties fully worth the \$25,000,000 for which the Co. is capitalized, & that if the Gov-

ernment grants him the requisite permission to effect the transfer the exploitation of these resources will be at a rate unheard of even in these days of lightning-like progress. One of the most promising properties held by Mr. Reid is a pulp-wood area near Grand Lake, where he proposes to erect the largest pulp & paper mills in the world. The existence of an immense extent of suitable forest growth has been determined, the water-power is unlimited, iron pyrites, limestone & sulphur are found in close proximity, & the plans for the whole enterprise are already prepared. Sawmills will also be set up at different points, where the timber can be cut at a profit, & the varied mineral resources of the island will be worked as advantageously as possible. The colonization of the interior will also be grappled with, but, though this will likely be the least satisfactory phase of the undertaking, the initiation of so many minor industries along the line of railway is bound to result in small farming settlements growing up all around them, whereby the operatives may be provided with farm products.

If the great project works out in its entirety the Reid Co. will control all the transportation agencies of the island & dictate its future development. The Reid trains will do the entire inland traffic, & the Reid steamers have a complete monopoly of the coasting trade by steamer. Reid will carry the mails, Reid will transmit the telegrams. Reid will act as the general agency for inter-communication. Reid's docks will repair ocean steamers. Reid's coal mines will supply their bunkers. Reid's industries will ensure them freights. Reid's sawmills will turn out all the timber required for building purposes throughout the island, besides many millions of feet for export, & Reid's paper mills will

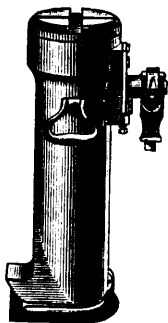
supply the requisite stock for the needs of local journalism, as well as becoming a formidable competitor in the world's markets. Reid's hand will be seen in every phase of industrial activity in the island, & his influence be felt through all grades of our social, political & commercial life, making him, in fact, if not in deed, the ruler of the colony.

Indeed, there is no doubt that the fear of this supremacy politically is one of the main reasons actuating the Bond Ministry in the refusal to sanction the transfer. They contend that even with Mr. Reid, as an individual, in control, the situation is such as to seriously menace the colony's political independence, & that if he were to be replaced by a limited liability company the conditions created would become intolerable. They arraign the "Reid deal" as a whole, & maintain that it was carried by questionable methods, & they decline to sanction the transfer unless Mr. Reid agrees to certain amendments dictated by them. The first of these is that he relinquish his purchase of the telegraph, his payment therefor being returned to him, & the lines reverting to the Government. The reason assigned for this is that these lines, being in the hands of Reid, are no longer safe as a means of private business communication. Mr. Reid, if he so desired, could make an improper use of his control of them, to injure competitors, to profit by secret despatches concerning other people's business, & generally, to avail of the immense opportunities for personal advancement which the possession of these lines ensures. Consequently the Government insist upon a resumption of colonial ownership, & if they succeed in enforcing this concession Reid will be obliged to build about 1,000 miles of telegraph lines at his own expense in order to properly oversee the runnings of his trains & steamers.

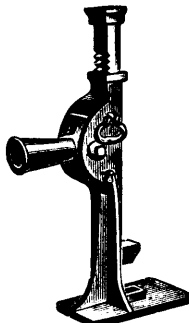
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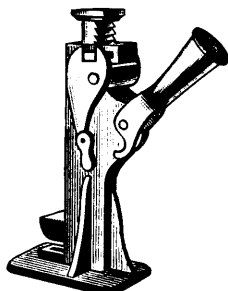
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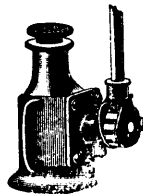
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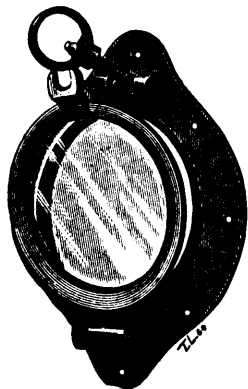
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### NEW BOOKLETS.

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- No. 9. Summer Homes, 1900.
- No. 11. The Game of Skat.
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The second change insisted upon is that Reid shall submit for amendment the grants of land which he obtained from the late Winter Ministry. It is alleged that these grants comprehend large sections of farm lands now actually occupied in part. Reid's rights under his grants override the "squatter" tenure under which the great mass of our people possess their holdings, & a rigid enforcement by Reid of his rights in this respect would cause widespread hardship and distress.

Mr. Reid, on his part, disclaims any idea or intention of dispossessing or interfering with any persons whatever, & offers to give a fee simple grant to any bonafide occupier of land which may be "blanketed" by his concessions. This matter will not offer any serious obstacle to an adjustment, but the rock on which the whole scheme may come to shipwreck is the demand of the Ministry that Mr. Reid consent to the cancellation of the purchase clause of the railway. They are willing that he should be allowed its operation for 50 years, & they are not averse to the quantity of land given him to undertake this service, but they insist that he abandon the ownership on the repayment of his \$1,000,000 & such sum as compensation for other expenditures made by him as an arbitration may award. This proposal is, in its way, scarcely less startling than is Mr. Reid's project, though for a different reason, & the contractor naturally enough declines to seriously consider it. He says, in effect, that it is an attempt to force him to part with what he has rightly come by, & that the Government have no justification for such a course, save that they seek to take advantage of what they think are his necessities, i.e., the getting of money to develop these properties. He further argues that no capitalists would invest in a leasehold concern such large sums as he proposes should be applied to the exploitation of the island's resources, & if the ownership were cancelled the whole enterprise would collapse.

The difference between Bond & Reid has brought about a deadlock. The latter has refused to continue the development works which he had in progress, & is shutting down everything except what the actual operation of the railroad calls for. Some hundreds of men are thereby thrown out of employment, & the public are being stirred up considerably as a consequence. A large number of people believe that the curtailment of the Reid works will have a disastrous effect upon the colony's prosperity, while the opponents of the scheme contend that Mr. Reid's shutting down should be answered by the Government vigorously enforcing every clause of the railway contract to its strictest letter, instead of its being liberally construed, as at present. How matters will end it is difficult to say, the interests involved being so momentous. Mr. Reid cannot concede what the Government demand, unless at the sacrifice of some of the most favorable features of his projects. The Ministry, on the other hand, cannot give way without laying themselves open to an outburst of popular indignation against them. The probability is that a compromise will be effected after the next election, when minor con-

cessions will be made by both sides, & the whole subject finally adjusted, the question being then put out of politics for four years, by which time it will probably have been forgotten in the light of more recent events.—Toronto Globe.

**Mainly About People.**

Alex. Horn, Inspector of Hulls, died at Kingston, Ont., June 18.

Jas. Matthews, of J. & J. T. Matthews, ship owners, Toronto, died there June 6.

Jno. Higginson, at one time Master Car Builder on the C.P.R., died at Detroit, Mich., May 25.

Mrs. F. L. Somerville, wife of the Resident Engineer of the G.T.R. at Toronto, died there June 6.

Duncan Ross, of Malcolm & Ross, the New Brunswick railway contractors, died at Montreal June 28.

Mrs. Thos. Tait, of Montreal, & her daughter, are spending the summer with her parents on Lake Muskoka.

Mrs. W. F. Egg, wife of the Montreal City Passenger Agent of the C.P.R., is summering at Father Point, Que.

Jas. Ross, of Montreal, & Mrs. Ross, will spend the balance of the summer at their shooting box in Scotland.

Captain Wm. McKee, one of the oldest marine men in the Bay of Quinte district, died at Kingston, Ont., June 18, aged 80.

W. Whyte, Manager of the C.P.R. Western lines, arrived at Vancouver July 17, from China & Japan, where he has been on a pleasure trip.

W. Alexander, ex-Chief Engineer of the Montreal St. Ry., has gone to Dublin, having been appointed Chief Engineer of the Dublin Street Ry.

T. Skinner, of London, Eng., one of the directors of the C.P.R., came to Canada early in June & made a trip over the line to Vancouver & return.

P. McCullough, electrician of the Toronto Ry., has gone to England to take charge of the electrical department of the Liverpool corporation tramways.

A. J. McKenna, Travelling Passenger Agent of the C.P.R., has recovered from the severe injuries he sustained in the recent accident at Grand Falls, N.B.

T. G. Shaughnessy's house at St. Patrick, Que., formerly Sir John Macdonald's summer residence, has been taken by H. Joseph, of Montreal, for the summer.

Hon. A. R. Dickey, ex-Minister of Justice, who was drowned at Amherst, N.S., July 3, was one of the promoters of the New England & Nova Scotia Navigation Co.

R. N. Frith, of St. John, N.B., was married there June 6, to Miss Maud Sutherland, daughter of J. N. Sutherland, General Freight Agent of the C.P.R. Atlantic division.

Mrs. Jas. Robb, mother of W. D. Robb, Master Mechanic of the G.T.R. at Toronto, died at Cleveland, Ohio, recently, aged 85. She was buried at Smith's Falls, Ont.

The engagement is announced of Miss Maude Hendrie, of Hamilton, to H. Ledyard, of Detroit, son of H. B. Ledyard, President of the Michigan Central Ry. The wedding will take place in Oct.

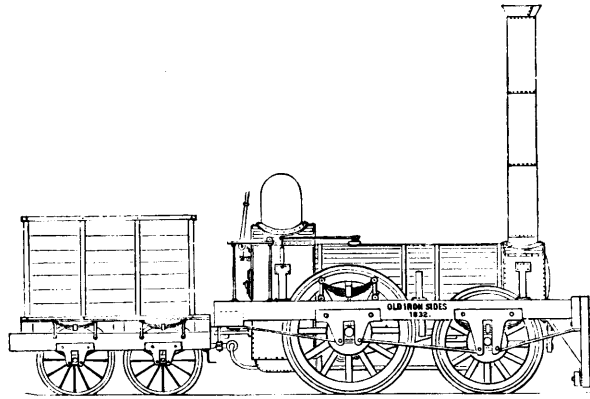
P. H. Loftus, general foreman of construction on the Chicago & G.T.R. at Valparaiso, has resigned to become superintendent of construction of the Fritchton Line, with headquarters at Fritchton, Ind.

The Baroness Von Ketteler, wife of the German Minister at Pekin, who is supposed to have been killed during the recent troubles there, is a daughter of H. B. Ledyard, President of the Michigan Central Ry.

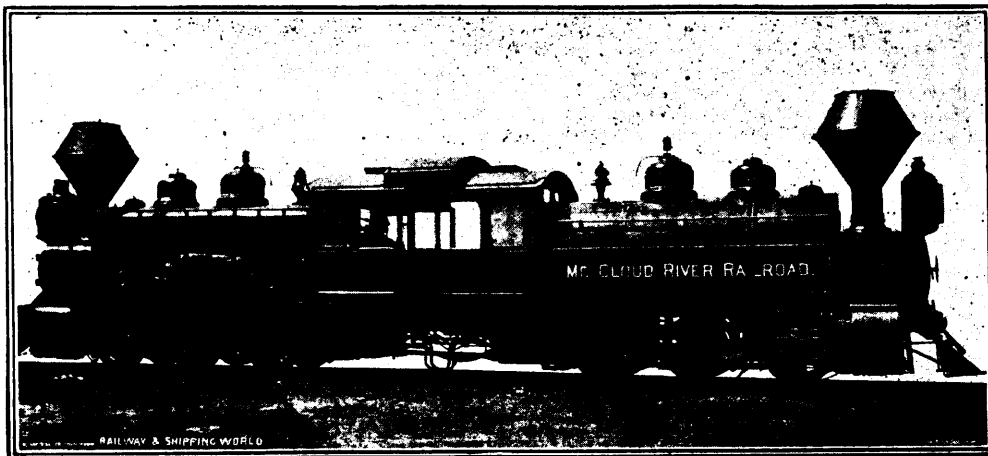
A. Wilson, on leaving the employ of the Hamilton, Grimsby & Beamsville Electric Ry. recently, to become chief clerk of the Hamilton St. Ry., was made a presentation by the officers of the H., G. & B. E. R.

Wm. Stitt, Assistant General Passenger Agent of the C. P.R. at Winnipeg, returned there early in June from Hot Springs, where he went for treatment for rheumatism. The change did him a great deal of good.

H. W. Webb, brother of Dr. W. S. Webb, died June 22, at his residence, Beechwood, Scarborough on the Hudson, of heart failure, aged 48. He was a director in the Wagner



"OLD IRONSIDES," THE FIRST LOCOMOTIVE BUILT AT THE BALDWIN LOCOMOTIVE WORKS IN 1831-2.



BALDWIN COMPOUND DUPLEX LOCOMOTIVE FOR HEAVY GRADE SERVICE.

RAILWAY & SHIPPING WORLD

Palace Car Co., the Buffalo Erie Basin R.R. Co. & the Oswego & Rome Railroad Co.

S. Potter, for several years Superintendent of the London, Ont. St. Ry., has been appointed in charge of the electric department of the Toronto Ry., succeeding P. McCullough, who has gone to Liverpool, Eng.

The London Daily News correspondent at Smaldeel, South Africa, says that the celerity shown by Major Girouard, who pushed the reconstruction of the railways so that the trains moved forward on each section of the line as the troops advanced was simply marvellous.

R. A. Watters, formerly road master of the Manitoba & Northwestern Ry., who was retained in a similar position by the C.P.R. when the latter Co. took over the M. & N.W. R. recently, was thrown from a gasoline motor on June 7 & died very shortly after. He was accompanying Superintendent James on an inspection trip when the accident occurred, Mr. James being alone with him when he died.

L. A. Hamilton, Land Commissioner of the C.P.R., returned to Winnipeg June 23, after four months' absence in Cuba, where he prospected timber & mineral lands in which Sir Wm. Van Horne & his associates are interested. Mr. Hamilton comes back with a high opinion of the fertility & general aspect of the interior of the island. He crossed the island on horseback, & is enthusiastic in his idea of its future as an agricultural producing territory.

G. C. Jones, Superintendent of the Middle Division of the G.T.R., whose portrait appears on pg. 193, has been in the railway service since 1874, his record being as follows:—1874 to 1883, car checker, operator & despatcher, Atlantic & Great Western, (now Erie); 1883 to 1887 despatcher, Big Four; 1887 to 1896 train despatcher & Chief Train Despatcher, Wabash; July 1896 to March 1898 Superintendent G.T.R. at London, Ont.; Mar. 1898 to May 1899 Superintendent G.T.R. & Wabash at St. Thomas; May 1899 to date Superintendent Middle Division G.T.R. at Toronto.

D. MacGillivray, railway contractor, Vancouver, B.C., died at Sault Ste. Marie, May 22, of small pox. He was born in Bruce county, Ont., & went to B.C. in the seventies, his first work being the building of bridges on the Onderdonk section, between Port Moody & Savonas. He built the Nakusp & Slocan Ry., also the Arrow Lake branch of the C.P.R. between Revelstoke & Arrowhead, & later on he had a contract on the Crow's Nest Pass Ry. At the time of his death he had a contract for 35 miles of grading on the On-

tario & Rainy River Ry., & another contract for ore docks at Michipicoton Harbor for the Algoma Central Ry.

In noticing a trip recently made by A. B. Stickney, President of the Chicago Great Western Ry., over some of the western lines of the C.P.R., a Winnipeg paper speaks of him as an old Winnipegger, and says that "when he lived there 20 years ago he was President of the C.P.R.—the first President that the Co. ever had." This is incorrect. Mr. Stickney was General Superintendent of the C.P.R. at Winnipeg in 1881, having charge of construction & operating, & was succeeded there in the fall of that year by W. C. VanHorne as General Manager. When Mr. Stickney was on the C.P.R., Geo. Stephen was President.

General Manager Hays, of the G.T.R., on returning to Montreal recently from England, said:—"Canada occupies a splendid position in the eyes of the people of Great Britain today. Leaving the sentimental side out of the question altogether, the cost to Canada of sending the contingents to South Africa will pay this country many times over. The British people are greatly pleased at the readiness with which Canada volunteered, & the gallant work her representatives have done in upholding the honor & integrity of the Empire. It has demonstrated, as nothing else could, what dependence is to be placed on this Dominion in case of an Imperial emergency. This advertising of Canada, from a cold-blooded commercial point of view, therefore, will benefit this country many times more than the cost of the expeditions. It will help the development of Canadian enterprises. It just makes the difference of having a friend in advance to deal with when you go to the British capitalist with a proposition. You know you are dealing with one who has a disposition to go into an undertaking with you, instead of one who is indifferent about it."

#### Corporation Taxation in Manitoba.

At the recent session of the Manitoba Legislature two acts in relation to taxation were passed which apply to transportation & allied companies. The first is the Railway Taxation Act, which applies to all common carriers engaged in the transportation of passengers or property wholly or partly by railway, being within the Province, with the exception of street railways. It applies to every railway company owning or operating a railway in the Province, whether its head office is situated there or not. Each railway company is to annually pay to the Government

n & for the years 1900, 1901 & 1902, two per cent. of its gross earnings, & in each year after 1900 such sum as may be determined by the Lieutenant-Governor in Council, not exceeding three per cent. of its gross earnings. The tax for 1900 is payable Aug 1, based on half the gross earnings for 1899, & after 1900 the tax is payable on April 10 each year, based on the gross earnings for the preceding year. It is provided that nothing in the Act shall take away or lessen any exemption from taxation heretofore granted any railway company by any Act of the Legislature. Provision is further made that every railway company coming under the provisions of the Act & its property of every nature & kind, except land subsidy from the Dominion Government, or land held by it for sale, shall during the continuance of the Act be exempt from all assessment and taxation within the Province, but this shall not take away from any incorporated city any right it may have to assess the real property of a railway company fronting or abutting on any street for taxes for local improvements, nor relieve any railway or telegraph company from payment of taxes imposed by the Corporations Taxation Act.

The other measure, The Corporations Taxation Act, deals with banks, insurance, loan, trust, street railway, telephone, telegraph, gas & express companies.

Street railways in any city shall pay \$500 a year where the track is 20 miles or less, & \$25 for each mile in excess of 20, mileage to be computed on the single track, each mile of double track being counted as 2 miles of single track.

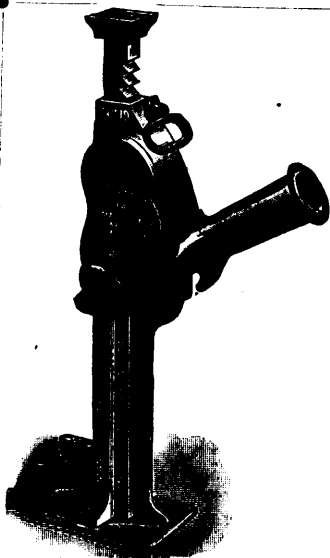
Telegraph companies to pay \$1 a mile per year for each mile of line operated.

Railways or other companies, other than telegraph companies, owning or operating telegraph lines in the Province, to pay \$1 a year. The Lieutenant-Governor in Council may remit the whole or part of the tax if satisfied that the wires are used exclusively for running trains or other railway purposes & not for commercial purposes.

Telephone companies operating lines for gain, to pay, in cities of 10,000 population or over, 50c a year on each telephone under rent, in cities of under 10,000 & in incorporated towns & villages, 25c on each telephone under rent.

Express companies having 50 branches or offices, \$350 a year; under 50, \$250 a year.

Companies paying taxes under this Act shall not be liable to any similar tax to be imposed by any municipality, nor shall they require the license, authorization or permit of any municipality for doing business or establishing agencies therein.



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Recommended as a Standard by the

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These Jacks are made with Malleable Iron Frames, Steel Pawls, Machinery Steel Bearings and Pivots, forged Steel Rack. The wearing parts are removable and readily renewable at slight expense. The rectangular base gives great lifting strength and fits into close quarters better than other shaped stands. Adaptable to either high or low set loads.

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TORONTO, CANADA, JULY, 1900.

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NEXT ANNUAL MEETING at Montreal, Oct. 17 & 18, 1900.

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Hope, Ont.; J. W. Tierney, Arnprior, Ont.; C. C.  
Young, London, Ont.

NEXT ANNUAL MEETING at Hamilton, Ont., Oct. 10, 1900.

### National Association Marine Engineers of Canada.

HONORARY PRESIDENT, O. P. St. John, Toronto;  
PRES., A. J. Woodward, Toronto; 1st VICE-PRES., R.  
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A. Mills, Toronto.

## Track Supply Association.

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ers, Mich.

HON. SECRETARY-TREASURER.—Acton Burrows, 33  
Melinda Street, Toronto.

NEXT ANNUAL MEETING at Montreal, Oct. 16, 1900.

## CURRENT TOPICS.

### Newspaper Postage.

The Senate is to be commended for throw-  
ing out the Postmaster-General's bill, which  
provided for a reduction in newspaper postage  
from 1/2c. to 1/3c. a lb. within the Province in  
which the paper is printed. We have no sym-  
pathy with the "tax on knowledge" cry, & be-  
lieve newspapers should pay postage, but all  
should be treated alike. Under the act now  
in force country newspapers are practically  
free of postage, as they are exempt when  
mailed to points within 20 miles of the place  
of publication, or within a circular area of a  
diameter not exceeding 40 miles. No sup-  
portable argument has been advanced in de-  
fence of this discrimination, & there can be  
no doubt that the true policy is to make all  
papers pay the same rate per pound, regard-  
less of provincial lines, as in the case of letter  
postage.

### The Transcontinental Service.

The C.P.R.'s Imperial Limited, which is  
again doing the 2,906 miles between Montreal  
& Vancouver in 100 hours, is in every respect  
unique, no other transcontinental train run-  
ning under one management, & no other com-  
pany having so long a continuous run. As a  
contemporary says:—"Four days after leav-  
ing Montreal the passenger has skirted Lake  
Superior, crossed the incomparable prairies,  
passed through the Selkirks & the Rockies,  
traversed the Thompson & the Fraser, &  
reached the Western sea. There is no trip  
by railway equal to it, either for grandeur of  
scenery or luxury in travel. From a purely  
national point of view, the West should be  
seen by all Canadians who can manage to see  
it. Not until it is viewed personally can any  
one fully comprehend the greatness of our  
country, the variety & richness of its indus-  
tries & its resources, & the splendour of the  
future that awaits it."

### Canadian Pacific Mileage.

By the recent additions to its mileage the  
C.P.R. has passed the 10,000 mile limit, &  
stands out pre-eminently as the greatest owner  
of mileage in America. The C.P.R. lines,  
including trackage rights of 94 miles, now  
stand at 8,184 miles, to which are to be added  
the subsidiary lines it owns in the U.S.,  
the Duluth, Lake Shore & Atlantic, 589  
miles, including trackage rights of 17 miles;  
& the Minneapolis, St. Paul & Sault Ste.  
Marie, 1,245 miles, a total of 10,018 miles.  
These figures will be further increased this  
year by branches under construction. The  
other American lines having over 4,000 miles  
are:

Chicago & Northwestern.....	8,463
Burlington.....	7,890
Atcheson, Topeka & Santa Fe.....	7,782
Southern Pacific.....	7,313
Chicago, Milwaukee & St. Paul.....	6,437
Southern.....	6,416
Missouri Pacific.....	5,326
Great Northern.....	5,201
Northern Pacific.....	4,993
Pennsylvania.....	4,233
Grand Trunk.....	4,183

### Fast Time on the G.T.R.

The G.T.R. passenger service, which has  
been steadily improving under the present  
management, has taken several strides for-

ward by the changes in the main line service,  
which went into effect last month, particulars  
of which are given on another page. The  
banner train is, of course, the International  
Limited, which, after securing connections  
from Portland & other eastern points, leaves  
Montreal at 9 a.m., reaching Toronto at  
4.25 p.m., Detroit at 9.30 p.m., & Chicago  
at 7.30 a.m., or 23 hours 8 minutes for  
the 878.32 miles. A comparison of the net  
running time of this train with that of the  
Pennsylvania Limited, the most noted fast  
train between New York & Chicago, is con-  
siderably in favor of the International, its  
average running speed for the whole journey  
being 43 2-10 miles an hour, against 41 1/2  
for the Pennsylvania Limited. The cutting down  
of the journey between the two metropolitan  
cities of the Dominion to 7 hours 25 minutes  
is of great importance. The G.T.R.'s other  
new train, the Eastern Flyer, which leaves  
Toronto at 10.30 p.m., reaching Montreal  
at 7.30 a.m., is also a very important ad-  
dition to the service. The officials under  
whose management the permanent way & the  
equipment have been so improved as to  
render the new time possible, undoubtedly de-  
serve great credit for their foresight.

### The G.T.R. Management.

On returning from England recently Gen-  
eral Manager Hays put a quietus on the  
silly rumors about his alleged retirement  
which have been going the rounds of the  
daily press. In answer to a question he said:  
"That rumor was started about a year ago. I  
think Toronto had the honor of giving it birth.  
I am happy to say that my relations with the  
board are eminently satisfactory, & have  
been from the beginning; you know how that  
fact was emphasized during the first year of  
my incumbency. I was never more agreeably  
& pleasantly situated; I have been treated  
with the utmost cordiality and consideration  
by the board; indeed, if I do not go more  
frequently to the other side, it is because  
there is a possibility of being killed by kind-  
ness. No; I remain in my present position."  
While we never took any stock in the rumors  
mentioned & did not think them worth refer-  
ring to it is very satisfactory to have an explicit  
denial of them. Mr. Hays' successful manage-  
ment of the G.T.R. is shown in the improve-  
ments in the physical condition of the lines,  
in the equipment, in the operation & in the  
financial results, & the fact that he is going  
to continue the management should be equally  
satisfactory to the Co.'s shareholders & to the  
Canadian public, both of whom benefit by his  
services.

### The Hudson's Bay Company.

"The Company of Adventurers of England  
trading into Hudson's Bay" is the oldest  
transportation company in British North  
America, its operations extending from the  
Atlantic to the Pacific & Arctic Oceans, & it  
must be borne in mind that the Co. rendered  
invaluable assistance to the early railway ex-  
ploratory & survey parties, particularly to  
those in connection with the transcontinental  
line, & that it is still an important owner of  
steam & sailing vessels. Its continued pros-  
perity shows that it is not only "ancient &  
honorable" but also vigorous & progressive.  
At the recent annual meeting a dividend of  
15s. a share was declared as against 13s. for  
the previous year, & a bonus of 10s. as  
against 7s., making a total distribution of 25s.  
a share against 20s. last year. In addition  
£10,000 has been added to the reserve fund,  
making it £70,000, & £10,000 has been placed  
to the credit of the employes benefit fund,  
formed a year ago by the appropriation of a  
similar amount, while after making these in-  
creased payments the balance carried for-  
ward is £52,013, which is over £10,000 more  
than last year. Advance in the price of  
furs & increased receipts in the land de-  
partment have contributed to these results,



but more has been accomplished by the modernising of the Co.'s methods of doing business which Mr. Chipman has been steadily pursuing since he was appointed Commissioner, & by the general carrying out of system & the consequent reduction in expenses.

**A Satisfactory Selection.**

The American Railway Accounting officers, in electing I. G. Ogden, Comptroller of the C.P.R., as President, have paid a compliment to Canada, & recognized ability & worth. Mr. Ogden is one of the oldest officials of the C.P.R. Co. in point of service, having been appointed Auditor at Winnipeg in 1881, soon after which he was transferred to Montreal as Auditor for the whole system, subsequently being appointed Comptroller. Everyone who knows anything of the affairs of the Co. is aware that the important departments over which he presides are managed with conspicuous ability. In selecting him as President the Railway Accounting officers have undoubtedly chosen one of the most competent of their members & one who will, without doubt, make them an excellent presiding officer. It is very gratifying to note that the selection has met with very general approval from the railway & financial press of the United States, as an example of which the following may be quoted from the Financial Review, New York:—"I. G. Ogden is recognized as one of the most prominent men in his special field. During an active career Mr. Ogden has steadily advanced in the estima-

tion of those with whom he has come in contact, & he is one of the most successful officers the road has had during the entire term of its existence. In thus honoring him the Association has not only recognized the position he has attained in his calling; it has also gained for itself a zealous & intelligent officer."

**Passenger Traffic Matters.**

On taking over the M. & N.W. Ry., & the G.N.W.C. Ry., in Manitoba recently, the C.P.R. reduced the first-class passenger fare from 4c. to 3c. a mile.

On June 11 the C.P.R. again started its Imperial Limited service between Montreal & Vancouver, under which there is a daily service both ways between the two cities, the 2,906 miles being made in exactly 100 hours, the trains consisting of about 8 cars.

"Summer Homes Among the Green Hills of Vermont, the Islands and Shores of Lake Champlain, the Adirondacks and Canada," is the title of a beautifully illustrated pamphlet of 137 pages issued by the Passenger Department of the Central Vermont Ry.

The Union Pacific Ry. is providing its offices in large cities with a mutoscope for displaying some of the interesting points along the Overland route. Six sets of views have been provided, one of them being the Overland Limited going at a speed of a mile a minute.

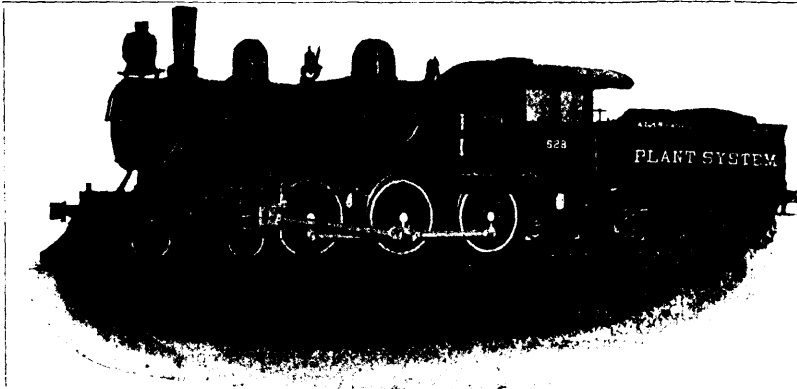
Ste. Anne de Bellevue, which is situated 20

miles west of Montreal, at the western end of the Island of Montreal, on the banks of the Ottawa River, & within a short distance of the confluence of that stream with the St. Lawrence, is charmingly described & illustrated in a booklet recently issued by the G.T.R. Passenger Department.

Under the title of "The Highlands of Ontario" the G.T.R. Passenger Department has issued in booklet form 32 half tone views, 8x6 ins. each, of the Muskoka Lakes & Georgian Bay districts. They are beautifully printed in tints on heavy coated paper & are for sale by the Canada Railway News Co., at all the news stands on the Co.'s lines in Canada & on the trains. Price 25c.

St. Andrews-by-the-Sea, N.B., is attractively brought to notice in a folder issued by the C.P.R. Passenger Department, a unique feature of which is a panoramic view, some 40 inches in length, reproduced from sectional photographs taken from the balcony of the Algonquin hotel, & embracing several miles of land & sea views. St. Andrews is well described, its history, attractions as a health & pleasure resort, & what there is to do there, an important feature, being well brought out. The half-tone illustrations are particularly good.

How great are the attractions of Canada as a tourist resort the London public have at this moment a good opportunity of judging, for at the Palace Theatre just now we have the biograph enlisted in the cause of practical Imperialism. By its means the spectator



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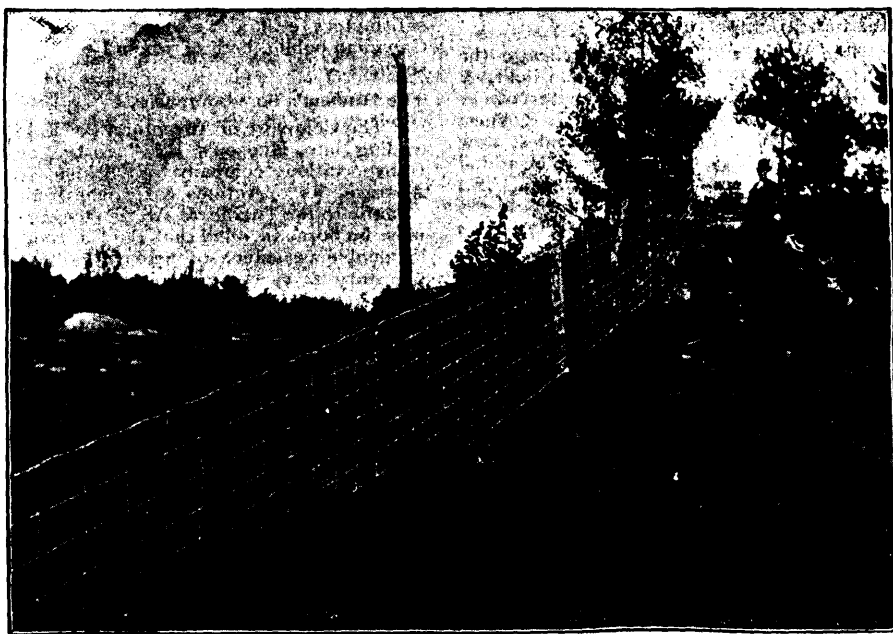
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promptness secures business  
immediate information is required:  
an answer is wanted, and wanted quick:  
you are not in business for exercise:

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AND TELEPHONE.

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will be pleased to furnish details.

may view in comfort all the wonderful scenes that the Canadian Pacific Imperial express rushes past in its course through the Rockies & Selkirks down to the Pacific coast. The little leaflet, by aid of which the audience follows the views, reminds them appropriately enough that "the brains which projected this pathway, & the hands which carried out the work are of the same nationality as those loyal & brave colonists who are now proving their fealty to the Mother Country, fighting under the Union Jack in South Africa. How little," adds the leaflet, "do those who never leave England realize how great is the work & the compass of result achieved by British Empire-makers."—Canadian Gazette.

On June 25 the G.T.R. started a new day service from Montreal westward, the International Limited, leaving Montreal at 9 a.m. The train, which is vested throughout, includes combination baggage & smoker, 1st class car, cafe parlor car & Pullman sleeping car. Toronto is reached at 4.25 p.m., the 333 miles being covered in 7 hours 25 minutes. Only 10 minutes' stop is made at Toronto, whence the train proceeds via Hamilton, London, Chatham & Windsor to Detroit, which is reached at 9.30 p.m. From Detroit it runs over the Detroit & Milwaukee Division to Durand, Mich., there joining the main line from Niagara Falls to Chicago. This lengthens the distance 32 miles over the St. Clair tunnel route, but Chicago is reached at 7.30 a.m., the 878.32 miles being covered in 23 hours 8 minutes.

The G.T.R. has also greatly improved its night service between Toronto & Montreal by putting on a second train, the traffic having outgrown the capacity of the one heretofore run. Under the new time-table the first train which is intended principally to handle the passengers, mails & express for way stations, leaves Toronto at 9 p.m., reaching Montreal at 7 a.m. The second train, a limited one, known as the Eastern Flyer, carrying 1st class passengers only, leaves Toronto at 10.30 p.m., arriving at Montreal at 7.30 a.m. Connection is made with this train by one which leaves Buffalo at 7.15 p.m., & Niagara Falls at 8 p.m., reaching Toronto at 10.15 p.m., thus enabling the Co. to handle a large amount of summer travel from Buffalo & Niagara Falls for the Thousand Islands & points east.

A comparison of speed of the International Limited with the Pennsylvania Limited of the Pennsylvania R.R., the most noted fast train between New York & Chicago, to ride on which passengers must pay \$4 in excess of 1st class passage fare, in addition to extra charge for Pullman accommodation, will be of interest. The mileages & times shown for the Pennsylvania Limited are from Jersey City (across the river from New York), from which the train starts, 14 minutes after passengers leave New York, & 22 minutes have been allowed for ferrying the International Limited over the river from Windsor to Detroit.

**PENNSYLVANIA LIMITED.**

From Jersey City to	Miles.	No. of stops.	Time. hs. ms.	Miles per hr.
Philadelphia	83.76	1	1 59	45 3-10
Harrisburg	195.08	2	4 34	42 6-10
Altoona	327.06	3	7 39	42 7-10
Pittsburg	443.96	5	10 46	41 2-10
Chicago	911.96	16	23 46	38 4-10

Allowing 4 minutes for each stop, a total of 64 minutes, leaves net running time 22 hours 42 minutes.

**INTERNATIONAL LIMITED.**

From Montreal to	Miles.	No. of stops.	Time. hs. ms.	Miles per hr.
Morrisburg	92.27	1	1 52	49 4-10
Napanee	198.51	5	4 12	47 3-10
Toronto	333	9	7 25	44 9-10
London	448	13	10 20	43 4-10
Chicago	878.32	42	23 08	37 9-10

Deducting 4 minutes for each stop, or 168 minutes, leaves as net running time 20 hours 20 minutes.

The average speed of the International Limited for the whole journey is 43 2-10th miles an hour, & for the Pennsylvania Limited 41 5-10th miles an hour.

**RAILWAY APPOINTMENTS, Etc.**

**Algoma Central.**—T. J. Kennedy, heretofore Superintendent of the C.P.R. at North Bay, Ont., has been appointed General Superintendent of the Algoma Central Ry., & also of its subsidiary line, the Manitoulin & North Shore Ry., particulars of which are given in our Railway Development Department. All departments except that of the Auditor are directly under the supervision of the General Superintendent, who will look after the surveys & the construction & operation of the lines mentioned.

Following is a list of officers revised to date:—President, F. H. Clergue; Secretary, H. C. Hamilton; Treasurer, F. S. Lewis; Assistant to President, B. J. Clergue; General Manager, E. V. Clergue; General Superintendent, T. J. Kennedy; Auditor, C. P. Worthington; Purchasing Agent, A. M. Harnwell; General Traffic Manager, W. B. Rosevear; Master Mechanic, W. L. Kerr; Chief Engineer, J. A. Wilde; Assistant Chief Engineer, R. C. Smith; Superintendent Steamship Lines, A. Miscampbell.

**Canada Atlantic & Plant Steamship Co.**—H. L. Chipman, heretofore Superintendent, has been appointed Manager, with headquarters at Halifax, N.S. In our last issue it was erroneously stated he had been appointed Manager of the Boston branch. The headquarters of the Co. have been removed to Halifax.

**Canadian Pacific.**—C. Murphy, heretofore acting Superintendent, has been appointed Superintendent of the Chapeau Division, with headquarters at Chapeau.

T. Hay, heretofore Superintendent at Schreiber, has been appointed Superintendent of the North Bay Division, with headquarters at North Bay, succeeding T. J. Kennedy, resigned to enter the service of the Algoma Central Ry.

R. J. E. Chapple, heretofore Chief Clerk in the General Superintendent's office at Montreal, has been appointed Acting Superintendent of the Schreiber Division, with headquarters at Schreiber, succeeding T. Hay, removed to North Bay.

J. Woodman, Divisional Engineer, with office at Winnipeg, has been given special charge of new work & maintenance of standards in bridges, buildings, roadbed, track & water service.

G. H. Webster, formerly Engineer & Land Commissioner of the Manitoba & Northwestern Ry., has been appointed Resident Engineer of the C.P.R., with office at Winnipeg, with charge of engineering matters east of Moose Jaw.

F. F. Busted, heretofore Resident Engineer at Rat Portage, has been transferred to a similar position at Medicine Hat, with charge of engineering matters west of Moose Jaw, inclusive.

The maintenance of bridges, buildings, roadbed, track & water service on the Western Division will hereafter be in charge of superintendents.

Geo. Stephen, of the freight department at Winnipeg, has been appointed Travelling Freight Agent.

A number of the officials of the Manitoba & Northwestern, which was recently acquired by the C.P.R., have been given positions in the latter Co.'s service. W. R. Baker, General Manager of the M. & N.W.R., has been appointed Executive Agent for the C.P.R. in Manitoba & the N.W.T. G. H. Webster, Engineer & Land Commissioner of the M. & N.W.R., has been appointed Resident Engineer of the C.P.R. at Winnipeg. J. H. Boyes, Locomotive Foreman of the M. & N.W.R. at Portage la Prairie, is retained there in that position by the C.P.R. R. Watters, Roadmaster of the M. & N.W.R., was retained in a similar position by the C.P.R. until his re-

cent accidental death. N. Hayden, Foreman of Bridges & Buildings for the M. & N.W.R., is acting in the same capacity for the C.P.R.

**Central Vermont.**—Guy Tombs has been appointed Travelling Freight Agent with headquarters at St. John's, Que. He was formerly in the C.V. Montreal freight office, & has been with the G.T.R. for the past year.

**Grand Trunk.**—T. Treleven, heretofore Car Foreman at London, has been appointed acting Master Car Builder there, succeeding S. King, appointed Master Car Builder of the Intercolonial.

**Grand Trunk & Chicago & Grand Trunk.**—Dr. J. A. Hutchison has been appointed Chief Surgeon of the lines west of the Detroit & St. Clair Rivers, vice Dr. T. W. Miller, deceased. Office at Montreal.

**Dominion Atlantic.**—P. Gifkins, heretofore Superintendent, has been appointed General Manager. W. Fraser, heretofore Assistant Superintendent, has been appointed Superintendent.

**Intercolonial.**—A paragraph has been going the rounds of Maritime Province papers stating that M. Somers has been appointed track master of the Northern Division to succeed the late T. Plummer. This is incorrect, M. Somers having been appointed section foreman, not trackmaster.

S. King has been appointed Master Car Builder at Moncton. He has heretofore been Master Car Builder of the G.T.R. at London, Ont.

**Minneapolis, St. Paul & Sault Ste. Marie.**—F. W. Curtis has been appointed Assistant Superintendent of the Minnesota Division with headquarters at Enderlin, N.D.

**Northern Pacific.**—Leave of absence having been granted to General Superintendent M. C. Kimberley until Oct. 1, A. E. Laws has been appointed acting General Superintendent.

M. P. Martin, in addition to his duties as Auditor, will also assume those of Auditor of Disbursements.

**Port Arthur, Duluth & Western.**—A. J. Gorrie, for many years chief clerk in the office of the Superintendent of the C.P.R. at Fort William, has been appointed Superintendent of the P.A.D. & W., with headquarters at Port Arthur, succeeding Ross Thompson who has gone to the Sydney & Louisburg Ry. It is probable that Mr. Gorrie will also be Superintendent of the Ontario Division of the Canadian Northern when it is handed over to the operating department.

**Sydney & Louisburg.**—Ross Thompson, heretofore Superintendent of the Port Arthur, Duluth & Western, has received an appointment on the S. & L. R., with headquarters at Glace Bay, N.S.

**White Pass & Yukon.**—C. M. Chambers has been appointed General Agent, with headquarters at Dawson, Yukon, vice S. E. Adair.

**Railway Operating Matters.**

As showing the possibilities of the permanent way, rolling stock & motive power of the C.P.R. Western lines it may be mentioned that an immigrant extra, consisting of 19 fully loaded coaches & 3 baggage cars, 22 cars all told, left Fort William June 5 at 19.20 (7.20 p.m.) & arrived at Selkirk (405.4 miles) at 11.20 a.m., June 6, averaging 25 miles an hour, including two stops for inspection & change of engines & a delay meeting the down limited & being passed by the up limited.

Engine 728, a consolidated cross over compound, pulled the train on the Thunder Bay section; engine 726, same type, on the Wabigoon section, & engine 731, of same type, on the Rat Portage section. The train was run without any jerking & was moved as smoothly as the regular passenger train. If this is not a record it comes pretty near it.



**Dominion Railway and Bridge Subsidies.**

The resolutions introduced in the House of Commons early in July by the Minister of Railways, respecting the aiding of Railways, & which were adopted, were as follows:—

That it is expedient to authorize the Governor-in-Council to grant a subsidy of \$3,200 a mile towards the construction of each of the undermentioned lines of railway (not exceeding in any case the number of miles hereinafter respectively stated), which shall not cost more on the average than \$15,000 a mile for the mileage subsidized, & towards the construction of each of the said lines of railway not exceeding the mileage hereinafter stated, which shall cost more on the average than \$15,000 a mile for the mileage subsidized, a further subsidy beyond the sum of \$3,200 a mile of 50% on so much of the average cost of mileage subsidized as shall be in excess of \$15,000 a mile, such subsidy not exceeding in the whole \$6,400 a mile. The expression "cost" used in this resolution means the actual, necessary & reasonable cost & shall include the amount expended upon any bridge, up to & not exceeding \$25,000, forming part of the line of railway subsidized not otherwise receiving any bonus, but shall not include the cost of equipping the railway, nor the cost of terminals & right of way of the railway in any city or incorporated town; & such actual, necessary & reasonable cost shall be determined by the Governor-in-Council, upon the recommendation of the Minister of Railways & Canals, & upon the report of the Chief Engineer of Government Railways, certifying that he has made or caused to be made an inspection of the railway for which payment of subsidy is asked, & careful inquiry into the cost thereof, & that in his opinion the amount upon which the subsidy is claimed is reasonable & does not exceed the true, actual & proper cost of the construction of such railway.

Instead of giving the list of lines in the order of the resolutions we have arranged them by provinces, which is more convenient.

## NOVA SCOTIA.

From Lockeport, to Sable River, or other convenient point of railway connection, not exceeding 20 miles, \$64,000.

Inverness & Richmond Ry., for extension northward from Broad Cove towards Cheticamp, not exceeding 40 miles, \$128,000.

From Bridgetown to Victoria Beach, not exceeding 30 miles, \$96,000.

From the Intercolonial Ry., Pictou Branch,

to Kempton, not exceeding 4½ miles, \$14,400.  
From Brazil Lake on the Dominion Atlantic Ry., to Kentville, not exceeding 11 miles, \$35,200.

From Halifax towards the Central Ry. of N.S., in the County of Lunenburg, in addition to the 20 miles authorized by 62-63 Vic., chap. 7, not exceeding 20 miles, \$64,000.

## NEW BRUNSWICK.

Restigouche & Western Ry., in addition to the 15 miles subsidized by 62-63 Vic., chap. 7, on the easterly section of the line, & in continuation from the westerly end of that 15

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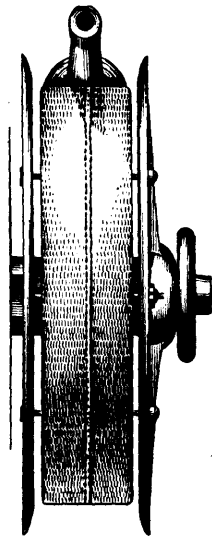
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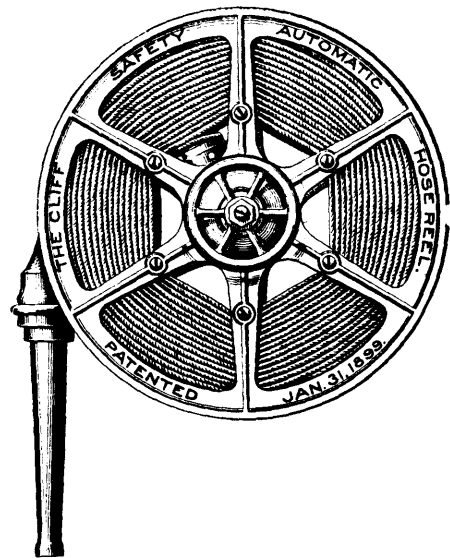
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miles, a further 15 miles towards the St. John River; & in addition to the 12 miles subsidized by the said chapter on the westerly section of the line, a further distance from the easterly end thereof of 15 miles, towards Campbellton, N.B., not exceeding 30 miles, \$96,000.

From St. Charles Jct. on the I.C.R. towards the St. Francis Branch of the Temiscouata Ry., not exceeding 45 miles, & from the mouth of the St. Francis River, N.B., westerly towards St. Charles Jct., 15 miles, in all not exceeding 60 miles, \$192,000.

From Bristol, on the C.P.R., westerly, not exceeding 17 miles, \$54,400.

From Shediac to Shemogue, not exceeding 38 miles, \$121,600.

#### QUEBEC.

Grand Trunk Ry, towards cost of rebuilding & enlargement of Victoria Bridge, in addition to amount received by the Co. on account of the subsidy granted by 60-61 Vic., chap. 4, viz.: \$270,000, to make up the grant in aid of the undertaking to \$500,000, not exceeding \$230,000.

Railway & traffic bridge over the Ottawa River at Nepean Point, between Ottawa & Hull, upon condition that the bridge provide suitable facilities, to the satisfaction of the Minister of Railways & Canals, for free vehicular & foot passenger traffic, the same as upon a public highway, in addition to the \$112,500 already granted, not exceeding \$100,000.

See from St. Charles Jct. on I.C.R. towards St. Francis branch of Temiscouata Ry., under head of New Brunswick subsidies.

Montfort & Gatineau Colonization Ry. from Arundel to Preston Township, near Hartwell, not exceeding 30 miles, \$96,000.

Chateauguay & Northern Ry., from Hochelega Ward, Montreal, to the Great Northern Ry. in or near Joliette, passing near L'Assomption, Quebec, with a spur into that town, not exceeding 42 miles, \$134,400.

Single track standard railway bridge, with two roadways 10 ft. wide, from Bout de L'Isle to Charlemagne, at the junction of the Ottawa & St. Lawrence rivers, \$150,000.

Bridge across the Lac Ouareau River, \$15,000.

Arthabaskaville Ry., from Victoriaville to Chester West, not exceeding 12 miles, \$38,400.

Great Northern Ry., branch from or near Joliette towards Ste. Emilie, touching the parishes of Ste. Beatrix & St. Jean de Matha, not exceeding 20 miles, \$64,000.

From Farnham to Frelighsburg & the International Boundary Line, not exceeding 21 miles, \$67,200.

A railway bridge over the St. Francis River, in lieu of the grant under 62-63 Vic., chap. 7, at St. Francois du Lac, on condition that the bridge be built so as to allow the municipalities to make use thereof, to establish & maintain a suitable railway for the free passage of foot passengers, vehicles & animals, to be approved by the Minister of Railways and Canals (revote), \$50,000.

A railway bridge over the Nicolet River at Nicolet, in lieu of grant under 62-63 Vic., chap. 7 (revote), \$15,000.

Quebec Bridge.—The subsidy provided by chap. 7 of the statutes of 1899 towards the construction of a railway bridge over the St. Lawrence River at Chaudiere Basin, near Quebec, shall be deemed to be applicable, as to one-third thereof, to the substructure & approaches, & as to two-thirds thereof to the superstructure, & the same may be paid upon that basis by authority of the Governor-in-Council, upon progress estimates to be furnished by the Chief Engineer of Government Railways & Canals, so that one-third of such subsidy, & no more, may be paid in respect & upon completion of the masonry of the substructure & approaches of the said bridge, one-third, & no more, upon the work & material of one-half of the superstructure being

done & supplied, in respect of such work & material, & the remaining one-third upon the completion of the whole work.

#### ONTARIO.

From or near the junction of the Irondale, Bancroft & Ottawa Ry. & the G. T. R. to Minden, not exceeding 12 miles, \$38,400.

Strathroy & Western Counties Ry., from or near Caradoc Station on the C. P. R. to Strathroy, not exceeding 7 miles (revote), \$22,400.

From the Pembroke Southern Ry., at or near Golden Lake, towards the Irondale, Bancroft & Ottawa Ry. at or near Bancroft, for the further extension westerly from the western terminus of the 20 miles granted in 1897 for not exceeding 20 miles, \$64,000.

Algoma Central Ry. Co., for 25 miles from its terminus at Michipicoton Harbor, towards the main line of the C. P. R., & for a further extension from Sault Ste. Marie towards Michipicoton River & Harbor, towards the main line of the C. P. R., 25 miles in all, not exceeding 50 miles, \$160,000.

Central Ontario Ry., for a further extension from or near Bancroft to the Canada Atlantic Ry., between Whitney & Barry's Bay, not exceeding 20 miles, \$64,000.

Manitoulin & North Shore Ry., between Little Current, Manitoulin Island & Sudbury, on the C. P. R., the Co. undertaking to bridge between Little Current & the mainland, the bridge to be so constructed & maintained as to afford suitable facilities, in the opinion of the Minister of Railways & Canals, for free vehicular traffic, the same as upon a public highway, the work to be begun & prosecuted from Little Current & Sudbury, one-half of the subsidy to be applicable, as earned, in respect of the work beginning at Little Current & carried on towards Sudbury, & one-half to be applicable, as earned, in respect of the work beginning at Sudbury & carried on towards Little Current, the railway to cross the Sault Ste. Marie branch of the C. P. R., not exceeding 66 miles, \$211,200.

From Bracebridge to or near Baysville, not exceeding 15 miles, \$48,000.

From a point northerly 20 miles from Parry Sound, to the French River, not exceeding 35 miles, \$112,000.

From 20 miles easterly from Haliburton, via Whitney, towards Mattawa, not exceeding 40 miles, \$128,000.

Kingston & Pembroke Ry., for a branch to iron mines in Bedford Township, not exceeding 12 miles, \$38,400.

Thousand Islands Ry., for an extension from the present northerly terminus easterly, not exceeding 2 miles, \$6,400. Also for an extension to connect with the Brockville, Westport & Sault Ste. Marie Ry., the Bay of Quinte Ry., the Kingston, Smith's Falls & Ottawa Ry. or the waters of the Rideau Canal, the balance remaining of subsidy granted by 55-56 Vic., chap. 5, not exceeding 9½ miles (revote), \$30,400.

From Dymont, on the C. P. R., to the New Klondike mining district, not exceeding 7 miles, \$22,400.

Schomberg & Aurora Ry., for an extension from its easterly terminus to or near Bond's Lake, not exceeding 4 miles, \$12,800.

Nipissing & James Bay Ry., from or near North Bay, on the C. P. R., towards James' Bay or Lake Tamagaming, not exceeding 20 miles (revote), \$64,000.

Ottawa & New York Ry. Co's bridge over the St. Lawrence River & for the Canadian portion of such bridge, not exceeding, \$90,000.

Interprovincial Bridge between Ottawa & Hull. See under Quebec subsidies.

#### MANITOBA & NORTHWEST TERRITORIES.

Canadian Northern Ry. extension, north of Swan River towards Prince Albert, in addition to the grant by 62-63 Vic., chap. 7, a further mileage not exceeding 100 miles, \$320,000.

From the westerly end of the Waskada branch of the C. P. R., further westward, not exceeding 20 miles, \$64,000.

From the Alberta Ry. & Coal Co's Ry. towards Cardston, 30 miles at \$2,500 a mile, \$75,000.

#### BRITISH COLUMBIA.

Kaslo & Lardo-Duncan Ry. from Duncan Lake towards Lardo or Arrow Lake, or from Lardo to Arrow Lake, not exceeding 30 miles, \$96,000.

It is provided that all the lines for which subsidies are granted, unless they are already commenced, shall be commenced by Aug. 1, 1902, & completed by Aug. 1, 1904. The following portions are quoted fully.

That the granting of such subsidies, & the receipt thereof by the respective companies, shall be subject to the condition that the Governor-in-Council may at all times provide, & secure to other companies such running powers, traffic arrangements and other rights as will afford to all railways connecting with those so subsidized, reasonable & proper facilities in exercising such running powers, fair & reasonable traffic arrangements with connecting companies, & equal mileage rates between all such connecting railways; & the Governor-in-Council shall have absolute control at all time over the rates & tolls to be levied & imposed by any of the companies or upon any of the railways hereby subsidized.

That every company receiving a subsidy under this Act, its successors or assigns, & any person or company controlling or operating the railway or portion of railway subsidized under this Act, shall each year furnish to the Government of Canada transportation for men, supplies, material & mails over the portion of its line in respect of which it has received such subsidy, & whenever required, shall furnish mail cars properly equipped for such mail service, & such transportation & service shall be performed at such rates as are agreed upon between the Minister of the Department of the Government for which such service is being performed & the company performing it, & in case of disagreement, then at such rates as are approved by the Governor-in-Council; & in or towards payment for such charges the Government of Canada shall be credited by the company with a sum equal to 3% per annum on the amount of subsidy received by the company under this Act.

#### SHIPPING MATTERS.

##### Ice-Breaker for the St. Lawrence.

Joseph Reynar, of Three Rivers, Que., writes: The question of navigating the St. Lawrence in winter will probably never be seriously entertained—now that we have sufficient railway connection with the Atlantic winter ports of Halifax, St. John, N.B., Portland, Boston, Baltimore & New York. But we should try to open the St. Lawrence from Quebec to Montreal nearly one month earlier, & keep it open a couple of weeks longer than under present circumstances—when we depend on the sun to do our work.

In the spring of 1898 the St. Lawrence was clear of ice in the first week of April—the Richelieu Co.'s steamer Berthier arrived at Three Rivers from Montreal on April 6. The spring opened early, & the warm sun had the effect of doing what a good ice-breaker can do every spring at about the same date—or earlier—and not at a heavy outlay.

The ice-breakers built for Russia by Sir W. G. Armstrong, Whitworth & Co., of Newcastle-on-Tyne, are probably the best in the world—and have done remarkably good work in opening harbors—and, in some cases, keeping up regular communication through ice-fields, in various parts of Russia, during the winter months. The Ermack is undoubtedly the largest & strongest ice-breaker ever constructed. Her dimensions are as follows:

Length, 305 ft.; breadth, 71 ft.; depth, 42 ft. She was built at the Armstrong works for the Russian Government in 1899, under the supervision of Vice-Admiral Marakoff, at a cost of upwards of \$1,000,000. She has 3 screws astern & 1 screw forward. The forward screw is not intended for speed purposes, but to enable the ship to clear her way & prevent lumps of ice accumulating under her bottom, which is effectually done by reversing the bow screw. The propeller blades are very massive, & made of nicked steel. Her speed is about 16 knots. She cuts easily through field ice of 4 to 5 ft. thick, & through packed ice of much greater thickness. To attain the speed of 16 knots with all boilers working, the highest indicated power developed was about 12,000. Cutting through ice of about 18 ins. thickness she maintains a speed of about 6 knots. She has large cargo, or coal space, & with 3,000 tons of coal aboard she draws 25 ft., & only 19 ft. with 300 tons of coal in her bunkers. The Ermack would be larger, & would cost more than a suitable ice-breaker for the St. Lawrence could be constructed for. Probably at a cost of \$600,000 we could secure a vessel better suited for the work required in Canada, with lighter draught & strong enough for all purposes.

The Sampo was built by the same firm in 1898 for Russia, & is of the following dimensions: Length, 202 ft.; breadth, 43 ft.; depth, 22 ft. She has 1 screw aft & 1 forward. She did good work in the harbors of Helsing-

fors & Hango, & cut through ice about 12 ins. thick at a speed of 8 knots, without pressing the machinery. She has cut through a drift (or packed) ice from 5 to 8 ft. in thickness. Piled ice would perhaps be a better term for packed or drift ice.

The Saratooki Ledocal is a smaller type of ice breaker & was built for service on the river Volga. She is a twin screw. Her machinery is of the compound type, working at a pressure of 100 lbs. Her propellers are of maganese bronze—with blades & boss cast in one piece of great strength—almost unbreakable. She has successfully cut through ice 3 ft. thick. Her dimensions are: Length, 147 ft.; breadth, 37 ft.; depth, 16 ft. Her boilers are constructed so that oil may be used instead of coal. She is a smaller vessel than the Sampo & would probably not be quite large enough for work on the St. Lawrence.

The Baikal, also built by the Armstrongs, was for passenger carrying & ice breaking combined, on Lake Baikal, & the line of the Siberian railway. Her dimensions are: Length, 200 ft.; breadth, 34 ft.; depth, 17 ft. She has triple expansion engines with a speed of 12 knots. She cuts through ice 12 to 18 ins. thick.

In addition to this vessel, a very large railway ferry steamer was constructed for ferrying railway cars across Lake Baikal. Her dimensions are: Length, 290 ft.; breadth, 57 ft.; draught of water, 18 ft. She has 2 screws astern & 1 forward—3 sets of triple expansion

engines working at a pressure of 160 lbs. She is built of Siemens-Martin steel, abnormally strong & heavy. Her displacement is 4,200 tons. She is fitted up with staterooms, saloon, etc., for accommodation of passengers.

The Odessa, a small ice breaker, was constructed to work in the port of Odessa, in Southern Russia. Her dimensions are: Length, 158 ft.; breadth, 42 ft.; depth, 25 ft. She has triple expansion screw engines & can cut through ice of about 2 ft. thick.

It must be admitted that the time has come for the Government of Canada to take prompt action in providing an ice-breaker for the St. Lawrence. I would suggest the construction immediately of a vessel, not quite as large as the Ermack, but of about the following dimensions: Length, 250 ft.; breadth, 50 ft.; draught of water, 18 to 20 ft.; fitted with 3 sets of triple expansion engines—twin screws astern, & 1 screw forward. Her duty would be to remain at Quebec during the winter, & prevent the "key" being formed at Cap Rouge. Every time the ice-bridge formed there she should cut it out, & thus prevent the formation of a mass of ice, which has already caused serious delay in the navigation of the St. Lawrence to Montreal. About April 1 every spring she should commence her annual cutting out of the ice all the way to Montreal, so that our first spring steamers may be scheduled to arrive in Montreal not later than April 10. If the "key" at Cap Rouge should form too thick for cutting through by our

## MANITOBA

The Government Crop Bulletin issued Dec. 12th, 1899, gives the following statistics for the year:

### CROPS.

ACRES.	AVERAGE YIELD.	TOTAL.
Wheat.....1,629,995	17.13 bus.	27,922,230 bus.
Oats.....575,136	38.80 "	22,318,378 "
Barley.....182,912	29.4 "	5,379,156 "
Potatoes...19,151	168.5 "	3,226,395 "

### STOCK.

Beef Cattle exported during the year	12,000
Stockers exported.....	35,000
Total value dairy products.....	\$470,559.09

### 10,500 FARM LABORERS

Came from Eastern Canada to assist in the harvest fields of Manitoba in 1899—and the demand was not fully satisfied.

### MANITOBA FARMERS ARE PROSPEROUS.

Farmers erected, last year, farm buildings valued at one and one-half million dollars.

**MANITOBA LANDS**—For sale by the Provincial Government. Over 1,600,000 acres of choice land in all parts of the Province are now offered at from \$2.00 to \$5.00 per acre. Payments extend over eight years. **Special Attention** is directed to 500,000 acres along the line of the Manitoba and Northwestern Railway at \$3.00 and \$3.50 per acre.

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Or C. H. JEFFERYS, Manitoba Emigration Agt., Union Station, Toronto, Ont.

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**Chas. S. Lee**

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**A. A. Heard**

West'n Passg'r Agt.  
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Saddle Tank Locomotives.

**JAMES COOPER, 299 ST. JAMES ST., MONTREAL.**

Jacques Cartier, it should be blown up with dynamite whenever required during the winter. When the Jacques Cartier would have finished her work between Quebec and Montreal she would proceed to the Saguenay, & open that river to navigation. Under present circumstances it is the second or third week in May before vessels can go up the Saguenay river. During the summer the Jacques Cartier should be stationed at Sydney—or some other most convenient port—and be ready to proceed at a moment's notice to the relief of any stranded vessel in the Straits of Belle Isle, on the coast of Anticosti, or elsewhere. I need only allude to the wreck of that fine steamer the Scotsman last season, to prove the advantage of having our Jacques Cartier always on hand in case of emergency. How useful she would also be in assisting vessels late in the autumn, when a rather too early formation of ice on the St. Lawrence threatens to lock up some vessels all winter. On one occasion the Ermack rescued 9 ice-bound steamers outside the port of Reval—and she has convoyed safely about 100 steamers into ice-bound ports. Our Jacques Cartier would seldom have to cut through ice more than 24 ins. thick on the St. Lawrence. I hope this important matter will be taken up seriously by the shipping & insurance interests, & especially by our representatives in Parliament & the Government of Canada. We cannot hope for uninterrupted winter navigation of the St. Lawrence, but we can save at least a month by having our Jacques Cartier built & at work as soon as possible.

**Toronto Harbor Improvements.**

J. R. Roy, C.E., representing the Dominion Department of Public Works, & W. T. Jennings, C.E., representing the City of Toronto, have presented a report on the improvements they consider necessary to Toronto harbor. In studying the harbor, they have taken into examination the following features: The city of Toronto; the harbor proper; the marsh, & Ashbridge's Bay; the formation, condition, & present requirements of Toronto harbor; the abatement of detrimental features, such as the discharge into the harbor of dirt & sewage from the city sewers; the useful employment of material to be moved from the harbor; the diversion of the Don, & the useful employment of solid matter brought down to it during periods of floods; the entrances into the harbor, & Ashbridge's channel; the protection & the improvement of the peninsula by the use of groynes.

The report states that the sewage of nearly the entire city is discharged into the harbor, together with a great quantity of solid matter from the streets & drains. This condition is characterized as intolerable, & the experts advise that trunk sewers be constructed, & the objectionable matter entirely deflected from the harbor.

The harbor is described as containing an area of 3 square miles; 60% of this area is over 14 ft. deep. Deposits are to be removed from various points, as along the city front, between Queen's wharf & Bay St.; outside the new windmill line, requiring the removal of 292,000 cub. yds. of sand & silt; east 48.75 acres is to be removed, containing 359,000 cub. yds.; between the new windmill line & the present dock line, 29.40 acres, containing 178,000 cub. yds.; the channel from Gooderham's wharf, eastward, from the right bank of the Don, is filled with silt, & this must be either cleared out, & separated from the proposed new course for the Don, at the G.T.R. bridge, or it should be filled up.

The city slips & private wharf berths are nearly all too shallow to permit of access of vessels of full canal capacity. From a comparison of depth records the engineers show that the slips are gradually filling up. From 1889 to 1899, a deposit of 172,000 cub. yds. of

silt has drifted into the Don. The total cost of dredging the harbor, since 1880, has been \$108,221, an average of \$5,411 a year. To improve the present conditions they recommend: That the Don be diverted into the marsh area; that immediate steps be taken for the disposal of the sewage outside the harbor; that silt be stopped from entering the harbor by the completion of entrance jetties; that the deposit be removed from the city's side to a depth of 16 ft.; that Ashbridge's channel be enlarged to its junction with the proposed new course of the Don.

Dealing with the requirements of the harbor entrances, they recommend that the jetties of the eastern entrance be extended 1,000 ft. southward; that the extremity of the entrance should be enlarged to, at least, 750 ft., & that cribs be sunk to a depth that would permit of a 20-ft. channel, if at any time necessary. This extension will prevent the silting up of the channel. To secure Queen's wharf channel and further define it an addition of 200 ft. is recommended to outer pier. That the Eastern channel be dredged to a depth of 16 ft., & the Western one to the present elevation of its solid rock bottom, also that rocks be removed from the lake approach to the latter. Owing to the deepening of the Great Lakes canal system to 14 ft., terminating at Montreal, it is advisable that all improvements made in the harbor & entrances should be of such a character as to enable vessels of, at least, that draught to berth at any wharf within the harbor; also that a later improvement to 20 ft. be kept in view when designing entrance works.

Recommendations are made for the protection of the Island Beach by groynes. For the employment of the material to be removed from the harbor, the engineers recommend that four blocks of land be filled in. The boundaries are as follows: Block A, 25 acres, bounded on the north by Don channel, east by Cherry St., south by Ashbridge's channel, west in the eastern limit of the harbor, giving 3,500 ft. of wharfage. Block B, 12 acres, to south of Ashbridge's channel, & fronting on harbor. Block C, 62½ acres, on west side of marsh in harbor, extending south from block B to Island breakwater. Block D, 330 acres, to fill the marsh area up to a useful level. All these blocks will entail considerable sheet piling & crib work.

The report refers to the deterioration of the harbor by reason of the deposits from the Don, & to prevent further filling up it is recommended: That the old channel of the Don be separated from the new one by sheet piling at the westerly line of the new channel, south of the G.T.R. bridge. But this old channel will still be retained as a portion of the harbor if desired, or if not, it can be filled in at a reasonable cost. A new channel of a width of 125 ft., & a depth of 14 ft. below low water, is recommended to be extended southerly, & in line with the improved channel between King St. & the G.T.R. bridge; across Ashbridge's Bay channel from the harbor, thence almost to the Island bar, a distance of 4,800 ft.

The estimated cost of all the dredging & crib work required in carrying out these recommendations is as follows:

Dredging harbor.....	\$140,000
Eastern entrance.....	256,000
Western entrance.....	21,000
Ashbridge and Don channel improvement.....	100,000
Don works.....	80,000
Placing groynes.....	150,000
Making areas of land.....	447,787

**Decay of the Buffalo-New York Route.**

A Buffalo, N.Y., correspondent writes.—A year ago the business men of New York commenced to realize that the export grain & provision trade at that port was permanently

declining at a rapid rate, & that other U.S. ports on the Atlantic seaboard & Gulf of Mexico were cutting in. At first the cause of the divergence of the trade was generally stated to be due to the decadence of the Erie Canal. Last spring an investigation was made, & it was discovered that the most prominent shippers in Chicago of grain & provisions were securing better rates to Boston & Montreal than to the other seaports. This discovery put a wet blanket upon the agitation in New York for the enlargement of the Erie Canal, inasmuch as the fact was established that trade is being so distributed that New York can no longer expect to be the controlling port.

A few weeks ago the business men of this city commenced to realize that the Buffalo route has ceased to control the grain transportation trade. The trade is being diverted to Erie & Fairport on Lake Erie, to the Georgian Bay, & to Montreal. There are about 50 elevators at this harbor, but the amount of grain being handled now is not much more than that which is going to the Georgian Bay ports. There is certainty rather than fear that the decline of the grain trade at this port is permanent, for the strongest competition is by U.S. routes. The result is that interest in Buffalo in the enlargement of the Erie Canal has gone by the board. One feature of the situation that is giving serious discussion is that there is so little grain arriving at this port that few canal boats can get cargoes, although willing to take them at the low price going. There is plenty of westbound package freight offered canal boats at New York at high rates, but not high enough to be profitable if the boats have to go east without cargo.

Up to this year there was no questioning the idea that the most advantageous route for western grain & produce to the seaboard was that by way of Buffalo, which permits the longest distance of carriage by deep-draft vessels, with transfer to canal or minimum of grade railroad. But the one disadvantage of this route lies at New York harbor, where the unprogressive facilities for transfer to ocean vessels have developed into a burdensome expense. Other seaports, such as Boston & Newport News, have not this disadvantage, & thus it has become possible to shorten somewhat the distance of the lake carriage in deep-draft vessels, & transfer the grain at Erie & Fairport. Competition in transportation, which was never greater, supplied a reason for the grain trade being so promptly diverted from the Buffalo route.

Next in popularity at present is the Georgian Bay route, permitting short distance carriage of grain in deep draft vessels, with long haul by rail. Bidders for business by this route have as their greatest advantage their combination of enterprise & determination. That method is proving increasingly successful. When it is so extended that the route will be equipped with a chain of mammoth elevators from the grain fields to the threshold of the British market, business will be established upon too strong a foundation to be displaced for many years. Reports from Chicago this season are that cargoes of grain are being secured for the Georgian Bay route much more readily than for the other routes.

Although the St. Lawrence route, permitting the maximum distance of carriage by deep-draft vessels in competition with a deep artificial waterway to the seaboard, opened up for business at the beginning of this season, there is no radical increase as yet in shipments by that route. It is evident that the completion of the projected terminal facilities is essential to the securing of the great volume of business that is promised for that route. These facilities will doubtless be available at the opening of next season.

Considering the previous history of these three established routes, it is more surprising

that the Buffalo route should be so heavy a loser of trade this season than that the Georgian Bay route should be so heavy a gainer. As the St. Lawrence route, with the completion of terminal equipment, will have the greatest advantage next season, it stands to reason that the Buffalo route will be harder hit than will the Georgian Bay route. The result must be to throw the bulk of the through trade to Canadian routes in the near future. Of the two projected routes for competition with the three established routes, that of the air line from Collingwood to Toronto has considerable advantage in that it can be constructed & put in operation in a year's time & have a good start in establishing business. The other route, that of the ship canal from Chicago to the Gulf of Mexico, is one that is not likely to be in operation for at least 10, & probably 20 years, such is the magnitude of the undertaking.—Toronto Globe.

#### Maritime Provinces & Newfoundland.

H. M. Whitney says nothing at all has yet been done about establishing a shipbuilding plant in Cape Breton.

The negotiations which were in progress for the absorption of the Yarmouth Steamship Co. by the Dominion Atlantic Ry. Co. are said to have fallen through, & a bitter rate war is in progress between them.

At a meeting of the stockholders of the Frontier Steamboat Co., at Calais, Me., recently, it was resolved to close up the business. The stockholders will get about \$2 a share, par value of which was \$10. A new company will be organized & new stock issued at that rate to those who wish to invest. Heavy losses have been sustained by the burning of boats, as well as competition of steamers & railway.

A wooden steamer is being built at Dartmouth, N.S., to run to the Magdalen Islands in conjunction with another one recently purchased in England. Other shipbuilding in Nova Scotia this spring includes a barkentine 113 ft. keel, 30 ft. beam, 12 ft. deep, & 299 tons register, called the D. C. Mulhall, built for trade to Brazil, & classed 13 years in the American Record; also a vessel 131 ft. long, & to measure about 340 tons, now on the stocks. The two latter vessels are built by A. W. Hendry, Bristol.

The Nova Scotia Legislature recently pass-

ed an act to encourage shipbuilding & manufacturing. It provides that, "on & after May 1, 1901, all machinery, stock in progress of manufacture & manufactured, plant & tools in actual use in any establishment in the province, established for the manufacturing of ships of iron or steel, or any combination of metals of like character, or for the manufacturing in iron or steel, shall be exempt from taxation for any purpose excepting for school, sewer, or water rates, but said manufacturing establishment shall pay in lieu thereof a license fee equal to 1% of the assessed valuation of its real estate. All ships or shares in ships of iron or steel or any combination of metals of like character built & registered in the province, shall be exempt from taxation for any purpose whatsoever for 10 years from the time this act shall come into force in any town, city or municipality."

H. L. Chipman who, as announced in our last issue, has been appointed Manager of the Canada Atlantic & Plant Steamship Co., remains in Halifax, where he has hitherto been Superintendent, the general offices being removed from Boston to Halifax. In a recent interview he said: "We are looking forward to a very large business. There will be a very large travel to Cape Breton particularly. That part of the province has always been popular among tourists, & has had increasing attention paid it each year; but I have no doubt that this summer the number going in that direction will be even larger, as so many are attracted thither on account of the great work which is going on in Sydney in preparation for the commencement of the iron industry there. Sydney has become famous in the U.S. during the past year, & a large class of the U.S. public, having heard something of it, are anxious to go there & see what is going on, & whether there may be any further openings."

In a recent interview, Mr. Black, of Pickford & Black, gave the following information about the firm's new service between Canada & the West Indies. He said:—"There will be one steamer sailing every fortnight from Halifax on the Demerara route. The steamers on alternate fortnights will make slightly different itineraries. One sailing from St. John, N.B., will call at Halifax, Bermuda, St. Kitts, Montserrat, Antigua, Dominica, St. Lucia, Barbados, St. Vincent, Grenada, Tobago, Trinidad, arriving finally at Demerara. On her return she will call at the same ports.

The steamer sailing the following fortnight from St. John will come to Halifax & call at Bermuda, St. Lucia, Barbados, Trinidad & Demerara, & coming North will call at St. Vincent, Barbados, St. Lucia, Dominica, Antigua, Montserrat, St. Kitts, Bermuda, & finally arrive at St. John again to resume her trip back to the West Indies via Halifax. The steamers on this service will have the uniform speed of 12 knots an hour. The Duart Castle & the Taymouth Castle are now in the old country being refitted with new boilers, & having their machinery overhauled, & also having deck accommodation provided for passengers. The total passenger accommodation of these two steamers will be about 50 each, & the other two steamers, the Erna & the Orinoco, both popular steamers, which have been procured for this service, have accommodation for 80 passengers. The freight accommodation of each steamer will be about 15,000 barrels. All the steamers will be handsomely fitted out so that passengers sailing to the tropics & back will have all the comforts possible during a sea voyage."

#### Province of Quebec Shipping.

Dennis O'Brien has been appointed Superintendent of the Lachine Canal, succeeding the late Mr. Conway.

The St. Lawrence Forwarding Co., of which J. Gow & J. Watterson are owners, has leased 2 steam barges to run between Kingston & Montreal.

The plans & specifications for the elevator, warehouses, &c., to be erected at Montreal by the Conners Syndicate, were approved by the Dominion Department of Public Works, & by the Department of Marine early in June, but work has not yet commenced.

Application has been made for the incorporation under the Dominion Companies Act, of the St. Lawrence Shipping Co., Ltd., with a capital of \$100,000, & headquarters at Quebec. The provisional directors are G. Mac. C. Webster, of Montreal; L. C. Webster, J. C. Kaine & G. O. Seifert, of Quebec.

The \$10,000 placed in the estimates this year for a dock in Hull is said to be an advance payment on \$35,000 which will be expended in providing a suitable dock on the bank of the Ottawa River near the Interprovincial Bridge. When the whole sum is expended a bonded warehouse will be erected, a wharf-

Established 1831.

Annual Capacity, 1,000.

## Baldwin Locomotive Works.

SINGLE EXPANSION AND COMPOUND LOCOMOTIVES.

Broad and Narrow Gauge Locomotives; Mine and Furnace Locomotives; Compressed Air Locomotives; Steam Cars and Tramway Locomotives; Plantation Locomotives; Oil Burning Locomotives.

Adapted to every variety of service, and built accurately to gauges and templates after standard designs or to railroad companies' drawings. Like parts of different engines of same class perfectly interchangeable.

Electric Locomotives and Electric Car Trucks with Westinghouse Motors.

Burnham, Williams, & Co., Philadelphia, Pa., U.S.A.

ESTABLISHED 1849  
CHAS. F. CLARK, Pres. JARED CHITTENDEN, Treas.

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THE BRADSTREET COMPANY gathers information that reflects the financial condition and the controlling circumstances of every seeker of mercantile credit. Its business may be defined as of the merchants, by the merchants, for the merchants. In procuring, verifying and promulgating information, no effort is spared, and no reasonable expense considered too great, that the results may justify its claim as an authority on all matters affecting commercial affairs and mercantile credit. Its offices and connections have been steadily extended, and it furnishes information concerning mercantile persons throughout the civilized world.

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THOS. C. IRVING,  
Gen. Mgr. Western Canada, TORONTO, ONT.



ger appointed & goods consigned to Hull merchants will be received at the dock.

When the R. & O. N. Co.'s str. Spartan was starting down the Lachine Rapids late in the evening of July 1, with a heavy wind blowing, the rudder-chain broke, but the tiller being manned, she was soon brought up to her course. As it was impossible to go through the lower part of the rapids in her crippled condition, she was headed for the north shore & beached on a shoal about 300 yards from shore. In an interview Capt. Grange said that the rudder-chain which broke was practically a new one, having only been used a few times, & he could not account for its snapping. It was certainly very fortunate that the chain broke before the steamer had got into the rapids or she would probably have been dashed upon the rocks & many lives lost. The Spartan was got off in a few days without injury.

The Montreal Grain Elevating Co., writing to the Montreal Corn Exchange respecting the increase of rates states that the reduction was for the season of 1899; & that therefore the Co. fails to see any reason for the surprise of the committee at its resumption of former rates; & further that the Co. dissents from the prediction that the charge of 1/2c a bush. will divert trade from Montreal, as New York is the only other Atlantic port doing work under similar conditions, & the charges there are double those made in Montreal. The Co. is a strictly private one, receives no aid from the Government, & has no monopoly in the port, & therefore its primary duty in regard to rates must be to look after its own needs in the interests of its shareholders. Moreover, the return to the old rates is but in line with the action of other private companies, which have increased their rates in greater ratio for inland & ocean rates.

**Ontario & the Great Lakes.**

The Lake Ontario Navigation Co.'s str. Argyle is making two trips weekly from Toronto to the Thousand Islands, touching at Charlotte, N.Y., both ways.

Under the work now in progress at Port Colborne the whole entrance to the harbor will be deepened, the harbor enlarged & additional protection works built.

The str. Seguin, owned by J. B. Miller, of Toronto, lumber laden from Owen Sound for Chicago, went aground one mile north of Cheboygan, Mich., May 26, but was released by a wrecker without injury.

The str. Rideau Queen, built at Kingston for the Rideau River Navigation Co., made her trial trip June 16, showing a speed of a trifle under 12 miles an hour. It is expected

her speed will be about 13 miles an hour when the stiffness of the machinery wears off.

The sailing of the S.S. Strathcona, being built at Dundee for the Hamilton & Fort William Navigation Co., was delayed by a fire in the shipyards, the interior fittings of the steamer being destroyed. The S.S. Donnacona was launched July 2.

The passenger steamer Chippewa was launched at Toledo, Ohio, June 23. She has been built for the Arnold Transit Co., & will run between Mackinac Island & Sault Ste. Marie. She measures 210 ft. over all, 34 ft. beam, & has a draft of 13 ft. It is expected her speed will be 18 miles an hour.

The schooner Picton, bound from Charlotte, N.Y., to Belleville with coal, foundered in a gale June 30, about 25 miles n.w. of Sodus Point. Capt. Sibley, her owner & master, his three children, & all hands were lost. The Picton was built at Picton in 1867, & was of 160 tons register.

The Toronto, Oshawa & Thousand Islands

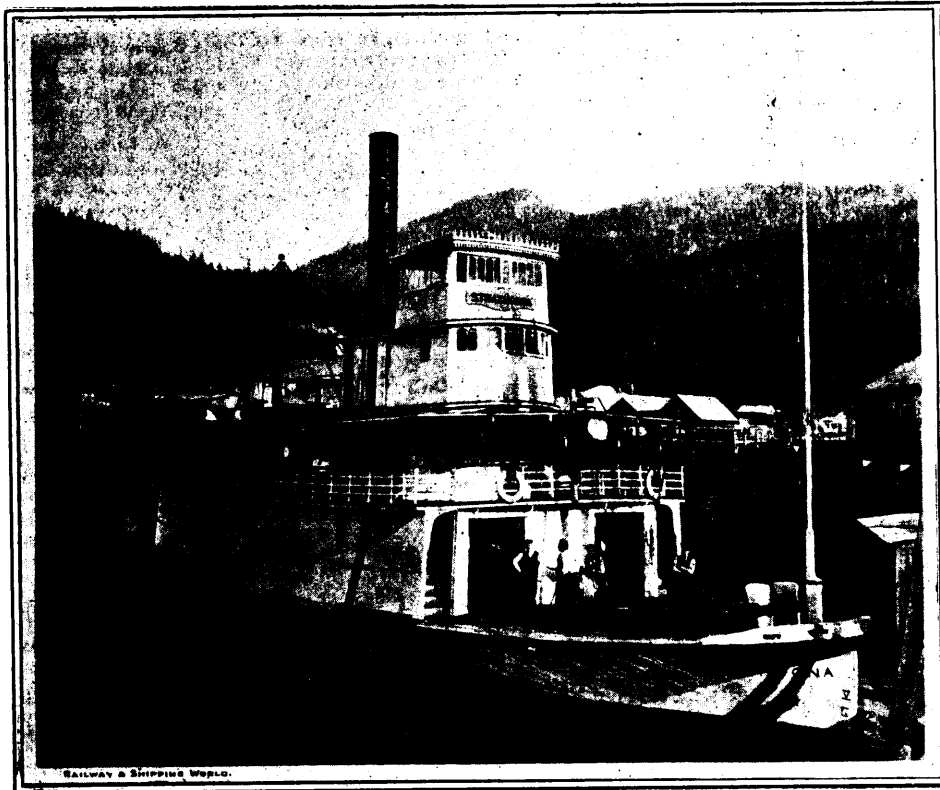
long, & 36 ft. beam. She was launched at Rotterdam in 1890 for the Newcastle coal trade. Her speed is 10 knots, & she has a registered tonnage of 952 tons. The second of the Co.'s steamers to come out was the Paliki, of Sunderland, Eng., a typical tramp ocean steamer. Her hull is steel, painted black, with a brown stripe. The engines, boilers, & one cabin stand amidship. The captain's apartments, the pilot-house, & chart-room are well up forward. The boat has 2 spars, & 4 life-boats.

A kind of insurance, new to the lakes, has come with this season, & may be widely adopted by vessel-owners who desire to eliminate the question of chance as much as possible from the business. It is the insurance of prospective profits against loss by reason of accidents or disaster. The Columbus & the Manitou are so covered. Ships must be out of service at least a week before being entitled to payment. This is to cut off minor claims, whose adjustment costs the

underwriters so much money. A fixed amount per day is to be paid after the one week as long as the ship is disabled. With the Columbus, the highest possible claim for the season would be \$80,000. Of course, the insurance is placed in London, where the professional underwriters are always ready to take any kind of a risk. For a long time vessel-owners have been in the habit of insuring their freight for a trip, but so far as known this is the first time on the lakes that the profits of the entire season have been covered by insurance. It is believed that owners of freight steamers will take out similar policies next year.

One of the greatest surprises in the history of the Sault Ste. Marie canals came in May, when the freight tonnage reached the enormous

total of 4,092,397 net tons, breaking all previous records. Only once before has the tonnage for a single month reached the 4,000,000 mark, viz., in July, 1899, when, 4,024,789 tons were passed through the canals, & May exceeded that by 67,608 tons. Coming so early in the season this increase is surprising to a degree that vesselmen are inclined to raise their 30,000,000 prediction for the season, & it is freely asserted that the canals will have a record of 5,000,000 tons for a single month before the close of navigation. The excess over last year up to June 1 is 1,657,811 tons. The fact that of this big total 3,267,550 tons were east-bound, & but 824,847 tons west-bound, shows how much more of a producing than of a consuming region the Northwest is. Iron ore, wheat & flour, in the order named, were the three greatest staples shipped out, & this is always the case. Of the commodities shipped into the Northwest, soft coal, with 613,459 tons, heads the list, being greater than all other imports combined. Hard coal is second, with 111,840 tons.



THE HUDSON'S BAY COMPANY'S STEAMER STRATHCONA. (See page 218.)

Navigation Co., Ltd., has been incorporated under the Ontario Companies Act, with a capital of \$100,000 & head office in Toronto. The provisional directors are R. Garland, G. P. Magann, O. A. Howland, T. L. Church, & S. J. Sharp, of Toronto, & A. W. Hepburn, of Picton.

The str. Meteor, owned by the Cook Bros. Lumber Co., has been secured by Mr. McKinnon, of Owen Sound, & it is said that after being overhauled & improved she will run on the Sault Ste. Marie route in connection with the str. City of Windsor. She was built at Sorel, Que., in 1866. Her dimensions are, length 129 ft. 3 ins.; breadth 24 ft. 3 ins.; depth 10 ft. 6 ins.; gross tonnage 336, register tonnage 181.

Mention was made in our last issue of the arrival in Toronto of the first of the steamers bought in England for the Algoma Central Ry. She is the Theane, & is the first craft that has made Toronto from an English port direct. She is a freighter, built of iron, 250 ft.

**Yukon & Northern Navigation.**

The str. Yukoner, plying on the upper Yukon, was badly injured by fire May 5; damage \$10,000.

A Dawson telegram, dated June 19, said:—"Water is low in the river & lakes. Mails are irregular until the water rises."

It is said the White Pass & Yukon Ry. Co. has practically absorbed the Canadian Development Co., & the John Irving Navigation Co.

The first steamer to reach Dawson this season from the south was the Klondike Corporation's stern-wheeler Flora, which arrived there May 16, with a full cargo of freight & as many passengers as she could accommodate. The steamer Ora, of the same line, followed close behind her.

Capt. J. J. Healy, General Manager of the North American Transportation Co., has resigned his office, according to reports from Dawson, & is going into mining business on his own account. He will first go to Nome, & from there to Siberia, where he has obtained a concession from the Russian Government.

The illustration on page 217 shows a typical Northern river steamer, the Hudson's Bay Co.'s stern-wheeler Strathcona, which plies on the Skeena & Stikine rivers. She is 140 feet long, 30 ft. beam, 4 ft. 9 ins. draught, & has a speed of 17 knots. She is fitted with electric interior & searchlights, steam capstans & other modern improvements. The Co. has another similar boat, the Caledonia, in the same service.

The Yukon Flyer Line, the incorporation of which, with a capital of \$60,000, & headquarters at Victoria, B.C., was mentioned in our last issue, has as its principal stockholders Nels Peterson, of New York City, & James Carroll, of Seattle, with some nominal shareholders in Victoria. Last spring the Co. purchased from the Boston Alaska S.S. Co. two river boats at Dawson, the Governor Pingree & the Phillip B. Lowe, which are running between Dawson & White Horse Rapids.

The Klondike Corporation, in connection with the Alaska Exploration Co., & the Alaska Commercial Co. has announced a through passenger rate of \$180 from Skagway to St. Michael, 1st class, & \$105 2nd class. The local rate from St. Michael to Nome by the steamers of the Alaska Exploration Co. or the Alaska Commercial Co. will be \$20. It is said the 2nd class fare may be further reduced. The same combination has announced a freight rate of \$65 a ton from Dawson to St. Michael, with regular freight tariff from Bennett to Dawson by the Klondike Corporation's boats added. Also a rate of 1c. a pound on freight from St. Michael to Nome. This Skagway rate would make a through rate from Seattle via Skagway to Nome \$225 1st cabin.

Telegrams received at the office of the White Pass Ry., at Skagway, reported two steamers passing Big Salmon bound up, May 17. Many scows also started down the river. The Gleaner is running between Bennett & Atlin. A number of scows have been built by the various mills at the lake-head to carry freight to Dawson, & for sale to those taking goods down the lower river. The new

steamer of the John Irving Co. is completed, & a steam scow of 200 tons capacity, & scows capable of carrying 150 tons are about completed for the railway company. About July 31, Bennett will cease to be headquarters for the Klondiker, & White Horse will become the depot. The W. P. & Y. Ry. has about completed its line into White Pass, which is 111 miles from Skagway, connecting there with the upper Yukon steamers, but it will not be until the end of July that the line along the lakes will be completed, & connection will, until then, be made by steamer from Bennett. At White Horse, the railway company proposes to establish large coal bunkers for the Canadian Development Co.'s steamers, with whom an amalgamation was recently made.

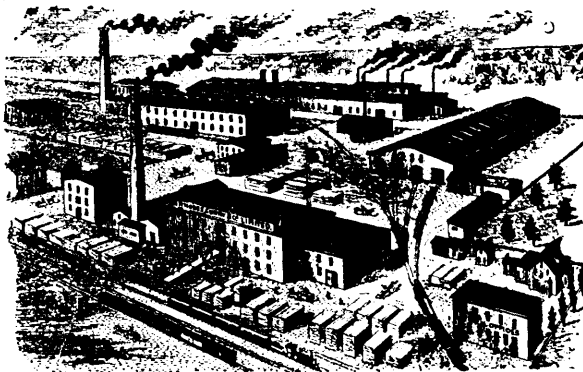
**British Columbia Shipping.**

The plans have not yet been completed for the steamer which the C.P.R. Co. proposes to build to take the place of the str. Aberdeen on Okanagan Lake.

Captain Troup is about to have a steam launch built to replace the Idler. The engines, boiler and steel frame will be built at the Polson Iron Works, Toronto.

F. M. Richardson, of Vancouver, has been appointed Inspector of Boilers & Machineries of Steamboats at that city, vice W. A. Russell, dismissed. Mr. Richardson has also been appointed Inspector of Hulls & Equipments of Steamboats.

A rumor is current among Puget Sound steamboatmen, that when the contract held



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**Railway and Street Cars**

of all descriptions.

Special Cars for Coal, Ore, Lumber, &c., with Ball-bearing Wheels.

**Car Wheels, Castings, Forgings, &c. AMHERST, NOVA SCOTIA.**

**C. P. R. LANDS.**

The Canadian Pacific Railway lands consist of the odd-numbered sections along the Main Line and Branches, and in Northern Alberta and the Lake Dauphin District. The Railway Lands are for sale at the various agencies of the company in Manitoba and the North-West Territories at the following prices:

- Lands in the Province of Manitoba average \$3 to \$6 an acre.
- Lands in Assiniboia, east of the 3rd meridian, average \$3 to \$4 an acre.
- Lands west of the 3rd meridian, including the Calgary District, generally \$3 per acre.
- Lands in Northern Alberta and the Lake Dauphin District, \$3 per acre.

**TERMS OF PAYMENT.**

The aggregate amount of purchase money and interest is divided into ten instalments, as shown in the table below; the first to be paid at the time of purchase, the second two years from the date of purchase, the third in three years, and so on. Interest on the outstanding purchase money is payable in one year, except in case of an actual settler who breaks up at least one-sixteenth of the land within that time. No rebate of interest is allowed on hay or grazing lands.

The following table shows the amount of the annual instalments on a quarter section of 160 acres at different prices under the new conditions:

160 acres at \$3.00 per acre, 1st instalment \$71.90, and nine equal instalments of \$60.
160 acres at \$3.50 per acre, 1st instalment \$83.90, and nine equal instalments of \$70.
160 acres at \$4.00 per acre, 1st instalment \$95.85, and nine equal instalments of \$80.
160 acres at \$4.50 per acre, 1st instalment \$107.85, and nine equal instalments of \$90.
160 acres at \$5.00 per acre, 1st instalment \$119.85, and nine equal instalments of \$100.
160 acres at \$5.50 per acre, 1st instalment \$131.80, and nine equal instalments of \$110.
160 acres at \$6.00 per acre, 1st instalment \$143.80, and nine equal instalments of \$120.

**DISCOUNT FOR CASH.** If land is paid for in full at time of purchase, a reduction from price will be allowed equal to ten per cent. of the amount paid in excess of the usual cash instalment.

Purchasers paying any instalment, or more, one full year before the date of maturity, will be allowed a discount on the amount of the instalment or instalments so paid at the rate of six per cent. per annum. Interest at six per cent. will be charged on overdue instalments.

Write for maps and full particulars.

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**F. T. CRIFFIN, - Asst. Land Commissioner,**  
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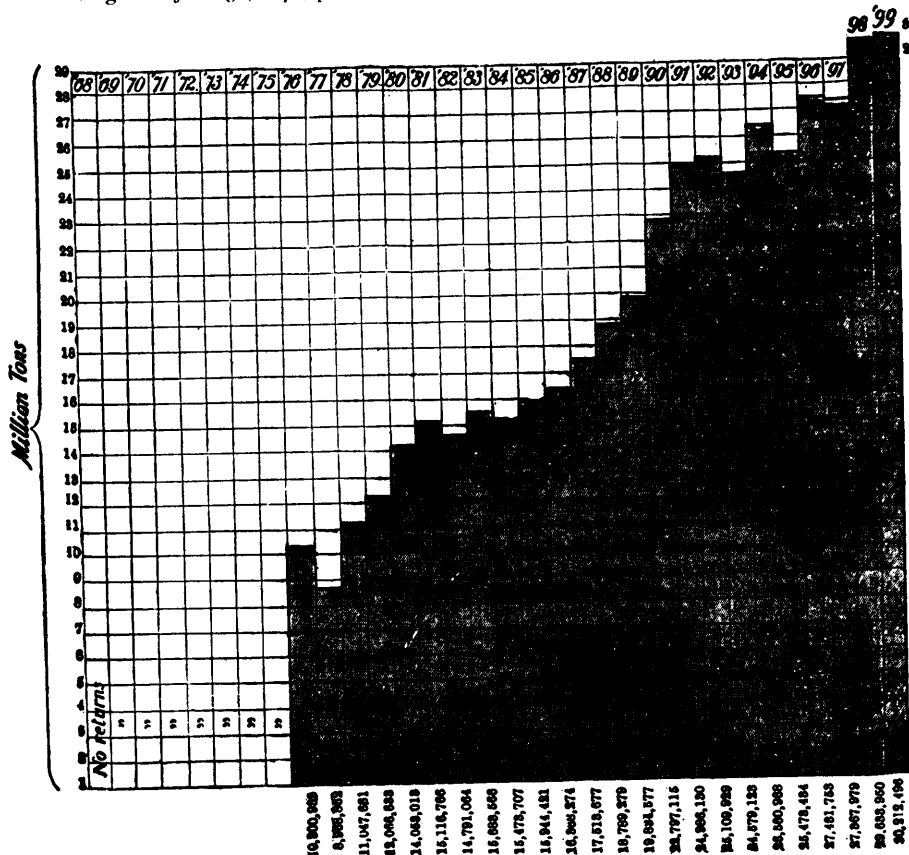
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Burlington Elevator, St. Louis, Mo	Capacity	1,300,000 Bushels
Grand Trunk Elevator, Portland, Me.	"	1,000,000 "
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J. R. Booth Elevator, Depot Harbor, Ontario	"	1,000,000 "
Cleveland Elevator Company's Elevator, Cleveland, O.	"	500,000 "
Erie R. R. Transfer & Clipping House, Chicago, Ill.	"	100 cars in 10 hrs.
Manchester Ship Canal Co.'s Elevator, Manchester, Eng.	"	1,500,000 "
Burlington Elevator Co., Peoria, Ill.	"	500,000 "
Canada Atlantic Railway Elevator, Coteau Landing, Que.	"	500,000 "
Northern Grain Co., Manitowoc, Wis.	"	1,350,000 "
Union Elevator, East St. Louis, Ill.	"	1,100,000 "
Montreal Warehousing Co.'s Belt Conveyer System	"	"

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COASTING TRADE OF CANADA.

The following diagram shows the tonnage of vessels, British & Foreign, employed in the coasting trade, which arrived at & departed from Canadian ports in each year ended June 30, commencing with June 30, 1876, prior to which no returns were kept.



C.P.R. Company's Telegraph.

In our last issue we gave some particulars of the removal of the head office & the Montreal local office from the corner of Hospital & St. Francois Xavier streets to 49, 51 & 53 St. Francois Xavier street, where the work will be carried on while a modern building is being erected on the old site. The following is condensed from an account given by a correspondent of the Telegraph Age: "The wires enter the temporary office by 6 cables. Fifty-two of the more important wires and all dynamo leads were legged from the new to the old office. It is expected that the present quarters will be occupied for only a year, so that the fittings are not at all elaborate, although electrically perfect. The wiring is all done with Kerite cables & Kerite or Okonite wire; all the tables in the old office were transferred with the instruments in place; cables were laid in the new office to accommodate each table, whether it contained multiple or single instruments, & underneath each table a row of binding posts was arranged & connected to correspond with the endings of the cables in the new office, so that when one table was released the wires were disconnected leading to the floor ducts, the table with all its paraphernalia was lowered to the street, & in turn hoisted into the fourth story of the new office. It was only a few moments' work to connect the cables to the binding posts and transfer the wires which are worked on that table by plugging on at the switch in the new office & opening the legs leading to the old office. The operators followed their tables, the chief operator released the wires in the old office, & his assistant located and manned them in the new. Preparations were made in the forenoon, & three tables moved. After lunch the first wire was transferred, & at 4 o'clock every wire was working in the new office & the old operating room was deserted. At 6 o'clock every table was in place. There are 5 sextettes, 5 quartettes, 2 tables for 5 city wires, & 1 table accommodating 6 half sets of repeaters. A 4-ohm sounder is being introduced on the sending side, of multiple sets, in series with the pole-changers or transmitters, & in a resonator at the left of the sender. This is a great boon, for it not only improves the quality of Morse transmitted, owing to the fact of being able to hear one's own sending, but prevents in a great measure that strain on the wrist through over-exertion trying to make the signals carry, particularly on long circuits. Although the temporary office is small, it is so clean, bright and airy that all are quite satisfied with it, & anxiously look forward to the occupation of one of the most modern operating rooms in a year from this date."

by the Pacific Coast Steamship Co., for carrying the C.P.R. freight to San Francisco, which is no small item, expires, the Co. does not intend to renew the contract.

The Manchester Chamber of Commerce recently resolved, upon petition from the Yokohama, Hiogo & Osaka Chambers of Commerce, to urge the British Postmaster-General to renew the Imperial subsidy to the Canadian Pacific Royal Mail service from Vancouver, & to secure fortnightly sailings by that route to the Far East.

Notices to Mariners.

The Dominion Department of Marine has issued the following notices:

- No. 27, May 15. Ontario. 1, Lights at Point Pelee. 2, United States, Great Lakes, Buoys in Niagara River. 3, Color of Buffalo south pier lighthouse changed. 4, Conneaut range lights increased in intensity. 5, Mamajuda range rear light station. 6, Grassy Island south channel range rear light station. 7, Isle Aux Peches range beacon lights. 8, Duluth harbor entrance.
- No. 28, May 16. Prince Edward Island. 1, Discontinuance of red sector in Knight Point light. 2, New Brunswick, fog bell at Head harbor light station. 3, Nova Scotia, Lurcher shoal buoy replaced.
- No. 29, May 19. Quebec & Maritime Provinces. Improvement in Gulf signal service.
- No. 30, May 25. Ontario lighthouse division. Aids to navigation at the upper entrance to the Soulanges canal.
- No. 31, May 28. Quebec. 1, Upper Traverse pier. Additional particulars. 2, Change in color of St. Thomas range lights. 3, Change in color of Marmen rock & Demers rock buoys. 4, Change in Vache patch buoy.
- No. 32, May 29. Ontario. 1, Fog bell at

Toronto east gap front light. 2, Resumption of Michael point light. Seguin bank buoy.

No. 33, June 4. Nova Scotia. 1, Northwest ledge bell buoy in position, 2, Lunenburg whistling buoy replaced. 3, Removal of wreck off Low point.

No. 34, June 4. Ontario. 1, Port Dalhousie main light. 2, Names on Lake St. Louis lightships. 3, United States, Great Lakes, Ogdensburg light station. 4, Fort Niagara light station. 5, Erie range no. 1 light station.

No. 35, June 9. British Columbia. 1, Shoals west of Zero rock. 2, Cordova bay. 3, Shoals west of Darcy island. 4, Extent of shoal at Walker rock. 5, Empire of Japan.

No. 36, June 13. Ontario. 1, Midland range light. 2, Dredging at Port Colborne. 3, United States, Great Lakes, Provisional light at Russell Island.

No. 37, June 15. Nova Scotia. 1, Black Rock buoy. 2, Canso harbor fairway buoy. 3, Wreck of Annie L. Taylor removed.

No. 38, June 18. Prince Edward Island. 1, Improvements in Big Miminegash range lights. 2, Buoy off Indian point lighthouse.

No. 39, June 21. Quebec. 1, Change in position of ship channel buoy no. 23 Q. 2, Fog alarm at Carleton light station. 3, Fog alarm at Bay St. Paul light station. 4, Illuminating apparatus of river lighthouses. 5, Shape of Pointe du Lac lighthouse. 6, Shape of Contrecoeur front range lighthouse.

No. 40, June 22. Ontario. 1, Temporary lights at Port Burwell. 2, Rock north of Clapperton Island. 3, United States, Great Lakes, New buoy at Detour. 4, Wreck in river Detroit buoyed. 5, Buffalo breakwater (n. end) light station.

No. 41, June 29. Nova Scotia. Beaver harbor bell buoy.

No. 42, June 29. Prince Edward Island. Change in range lights at Cascumpec.

The contract for the new C.P.R. Telegraph building has been awarded to Labelle & Payette, who erected Place Viger Station, & who are constructing the additions to the headquarters & station buildings on Windsor street. The contract includes the demolition of the old building. The plans of the new building have been prepared by Hutchison & Wood, architects. The site of the old offices will form part of the property upon which the new building will stand. It will have a frontage of nearly 100 ft. on Hospital st., 45 ft. on St. Francois Xavier, 51 ft. on Exchange court, with a total height of 8 stories, or 116 ft. from the sidewalk to the cornice. The two lower stories are to be built of New Brunswick sandstone, while mottled pressed brick, with trimmings of the same kind of stone, will enter into the construction of the 6 upper stories. The building will be a skeleton steel construction, & fireproof throughout. The ground floor will be occupied by the C.P.R. Telegraph, & while the main entrance will be on Hospital st., the telegraph office will have an entrance on



the corner of Hospital & St. Francois Xavier, with a second for employees & messengers on the last named street. It is probable that the Montreal Club will find a home on the 7th story, & the operating room of the telegraph will be on the 8th. The other portions of the building will be let as offices. The contract requires the completion of the building at the beginning of May, 1901.

Manager Kent recently made an inspection trip, from Montreal to the Pacific Coast, on returning from which he said:—"When the season's work is finished we will have a new line between Laggan & Fort William. We have been doing so many miles each year, & now we have completed that distance besides accomplishing several hundred miles of renewals on the Pacific division. Additional wire facilities to the extent of 1,000 miles will be provided this year to meet the increasing demands of the trade. We have also spent a considerable sum of money in chopping trees along the lake lines in the Kootenay district, for the purpose of preventing trees falling on the wires. We have put up a new wire between New Denver & Nelson. This will allow us to work the Duplicate system from Vancouver to Nelson and Rossland, and so double our present facilities in the district. The wires of the Manitoba & Northwestern Rys. have been extended into Winnipeg, thus giving a direct wire service between Winnipeg and all points on the Northwestern branch."

#### Telegraph & Cable Matters.

The Western Union Telegraph Co. has declared its regular quarterly dividend of  $1\frac{1}{4}\%$ , payable July 16.

The Commercial Cable Co. recently declared its regular quarterly dividend of  $1\frac{3}{4}\%$ , payable June 2.

It is proposed to use the Edison phonoplex system between Juneau & Skagway, Alaska, laying a cable 100 miles long.

A telegraph line is proposed from Syria to Hejaz. It will give access to that portion of Arabia, thus bringing Mecca & Medina into

communication with the world. The line would follow the old pilgrimage route to Mohammed's shrine at Mecca; the total length would be 931 miles.

Brigadier-General Greely, Chief Signal Officer of the U.S., has directed the establishment of wireless telegraph stations in the harbor of San Francisco & in Puerto Rico & the Philippines. In New York harbor it is possible that the wireless telegraph system may take the place of the cable connecting Fort Hamilton & Fort Hancock. This cable was recently found to have been cut in 11 places by anchors.

Col. A. B. Chandler, president of the Postal Telegraph-Cable Co., returned to New York recently from an extended trip to the Pacific Coast much benefited in health from his long relaxation from business. He has now gone to his country home in Randolph, Vt., his native place, where he will spend the summer. It is believed that he will be able to resume active business in the fall with his health wholly restored.

The Dominion Government has let a contract for the construction of a cable to be laid from Point aux Esquimaux, on the north shore of the Strait of Belle Isle to Belle Isle. It will be laid by the Government str. Newfield, & the work is expected to be completed by the end of September. The land line along the north shore of the St. Lawrence is being extended from its former terminus at Big Romaine, 628 miles from Murray Bay, a further distance of 315 miles, to opposite Belle Isle, where connection will be made with the cable.

No official information has been given out lately about the progress of construction of the Government telegraph line from Quesnelle to Atlin, B.C. In May, Superintendent Charleson, who was then in Skagway on his way to Atlin & Dawson, said: "We expect to have the line through from Atlin to Telegraph Creek, 180 miles, early in June, & to have the entire line completed to Quesnelle, thus giving connection with the outside world, in October. From Quesnelle we shall run south to Ashcroft, 220 miles, over the present government wire, and from there gain

entrance to Vancouver over the wires of the C.P.R. Telegraph."

Sir William Preece, electrician of the General Post Office of Great Britain, gave an interesting lecture in London recently, before the Institution of Civil Engineers, upon the latest developments of electricity, & Marconi's numerous experiments. Sir William acknowledged that wireless telegraphy had made small progress, a circumstance which he attributed to the fact that there is no commercial business in the invention. The interest in wireless telegraphy appears to have diminished in London, & Sir William's poignant remarks will not give much further encouragement to those few who are so closely interested in Marconi's experiments. It may be remembered that Sir William assisted Marconi when he first took his primitive instruments to England.

The case of F. Lenchter against the Western Union Telegraph Co., the Montreal Telegraph Co., and the Great Northwestern Telegraph Co., praying that the agreement between the companies of Aug. 17, 1881, might be set aside, was heard recently by Judge Smith, in the special term of the Supreme Court of New York State, at St. George, Staten Island. The plaintiff & G. D. Perry, Secretary of the G.N.W. T. Co., were the only witnesses called for the case, & T. F. Clark, Vice-President of the W.U.T. Co., & Ross-Ross, secretary of the Montreal Tele-

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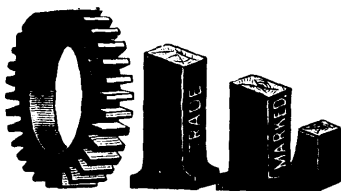
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Genl. Agent,  
BUFFALO, N. Y.

graph Co. were called for the defence. It was finally agreed that counsel might submit briefs on the question whether assuming bad faith on the part of plaintiff he was, notwithstanding, entitled to question the validity of the agreement. Erastus Wiman was present during the hearing.

On June 1, 1898, the Postal Telegraph-Cable Co. inaugurated the plan of paying its operators on some of the heaviest circuits for the actual work which they handled over and above what is considered a proper day's work. That is to say, the Co. established as a minimum basis of a day's work for an operator at New York, working one of the Boston wires; for instance, the exchange of 300 messages; & for every additional message handled above that number the operator was to receive an extra compensation of one cent each. At the same time it was understood that the operator had the privilege of stopping (if he so desired) when he had reached the 300 message limit, & a full day's work therefor would be credited to him as his regular salary. The idea of the Co. was to work the circuits between the busy centres to their fullest capacity. At the outset some doubt was expressed as to the advisability of the change thus instituted, many believing that its adoption would have a tendency to develop hardships of various kinds. After two years, however, during which time the system has been carefully tested, instead of any burden following its trial, it appears, on the contrary, to be growing in favor among the members of the craft.—Telegraph Age.

#### Telephoning on Telegraph Lines.

Communication between telegraph linemen at work on prostrated or deranged telegraph circuits, especially when the trouble should be at points remote from established telegraph offices, & the main telegraph office, or the next nearest telegraph station, has always been a difficulty which up to the present time has not been overcome to any appreciable extent. When the lineman, in addition to his ability to climb poles & make a good splice or connection, possesses the ability to send & receive "Morse," there has been little trouble, as such linemen were always provided with pocket relays and keys, & by cutting in or "tapping" a wire, they could communicate with the various offices on the circuit. By this means much time was saved, & a lineman was spared a long journey, sometimes afoot to the nearest office, where an operator was stationed, & where he could make known his wants or receive instructions. Very few linemen understand the Morse system sufficiently well to operate the wires to their benefit, & therefore, any method which would tend to place them in communication with the offices or officers, & which did not require a skilled operator, was a great desideratum.

Chief Operator Hargrave, of the Postal Telegraph Co., New Orleans, for some time past has entertained the idea that he could utilize the telephone for this service, & in a quiet way, has been pursuing his studies & theories. Recently he made a number of most interesting & successful experiments in his method of composite telephone & telegraph service, in connection with Manager Roberts, of the Postal Telegraph Co.'s Mobile office. A modification of Van Rysselberghe's system of simultaneous telegraphy & telephony was tried over experimental circuits with great success. This system consists in bridging over two telegraph wires which are being worked as regular Morse circuits, with a telephone set at each end. The two circuits are then worked independently as telegraph circuits, & at the same time were talked over through the 'phones. A number of different arrangements were tried successfully.

It is not the intention of the Postal Co. to

introduce the telephone in a commercial way at all, but it expects to utilize the phone in communicating with its linemen along its route, & thus greatly facilitate & expedite the repairing of its lines in times of wire trouble. These linemen not being operators they can only be communicated with direct in this manner. The Postal hopes to greatly improve its service & materially decrease delays to business in thus being able to more quickly have trouble to their wires repaired. By this arrangement the linemen can be communicated with by telephone over a wire being worked as a Morse circuit, & in no way interfering with the latter. In this system two Morse circuits, or, rather, the two halves of two separate Morse circuits, are used to constitute one telephonic circuit, and yet not interfere with the perfect working of each of the Morse circuits independently.

Besides being of great practical utility in facilitating the work of the linemen, the experiments proved that two circuits could readily be made into three without the addition of any more wires & without interfering with each other. The conversation with Mobile was kept up without trouble, & at the same time Morse instruments at each end were transacting the regular business. The experiments have thus far proven very successful.—Telegraph Age.

#### Columbia Telephone & Telegraph Co.

The Columbia Telephone & Telegraph Co., which was formerly owned in Spokane, Wash., is now owned in Canada, its headquarters being at Grand Forks, B.C. Its officers are:—President, W. B. Davey; Vice-President, J. B. Donald; Treasurer, A. Miller; Secretary, C. W. Davey; General Superintendent, A. S. Griswold. The Co. has 130 miles of metallic circuit copper telephone line & operates 3 exchanges in Rossland, Grand Forks & Greenwood, with about 400 telephones. It has 19 offices on its long distance lines, viz., Rossland, Sheep Creek, Cascade, Gilpin's, Grand Forks, Columbia, Lime Creek, Eholt, Rathmullen Mine, B.C. Mine, Oro de Nero Mine, Summit City, Phoenix, Greenwood, Anaconda, Boundary Falls, Midway, Rock Creek & Camp McKinney. The same stockholders control the Spokane & B.C. Telephone Co., giving connection between Boundary district, B.C., & Spokane, Wash. Its exchange at Republic, Wash., has 125 subscribers. The same parties have an application to the B.C. Legislature pending to incorporate a company to construct & operate telephone & telegraph lines within & throughout all the cities, towns, municipalities & districts of the mainland of B.C. The following further particulars are condensed from a local paper:—

The Columbia Telephone & Telegraph Co. is steadily extending its operations & becoming in an increasing degree a formidable competitor for the telephone business of the Boundary country. Construction was commenced May 19, 1899, & was continuously proceeded with until wires had been stretched from the International Boundary line near Cascade through Grand Forks, thence via Niagara & Eholt to Greenwood & on to Boundary Falls, Midway, Rock Creek & Camp McKinney. Later it secured connections with Rossland & Spokane, & so gave to Midway enlarged facilities for the transaction of business. Some time ago the Columbia Co. acquired the system and business of the Spokane & B.C. Telephone Co. Recently it took over the lines & business of the Boundary Creek Telephone & Telegraph Co. which had local exchanges at Midway, Greenwood & Phoenix. As the Columbia Co. already had local exchanges at Rossland, Grand Forks, Columbia, Greenwood & Republic, Wash., it now has them in seven towns, & too has direct connection with Spokane,

Bossburg & Bolster, across the Boundary line, & as well with the principal mines in the Rossland & Boundary districts. It is now operating about 425 miles of line, a total which makes a very creditable showing as the result of the past year's work. It will further extend its system as occasion calls for it, the intention of the management being to keep pace with the development of the country as business shall warrant it. The Co. purposes eventually enlarging its operations until these cover the whole of the Province, & with this end in view it worked with the promoters of the Western Telephone Co. in endeavoring to obtain from the Legislature last session the requisite powers, but the wrecking tactics of Jos. Martin defeated its efforts & so caused delay. It will however renew its endeavors to secure a charter that will give it rights & privileges sufficiently comprehensive to admit of its carrying out its plans in this direction.

#### The Bell Telephone Company.

The Toronto City Council recently asked the City Solicitor to report as to whether the Bell Co. has the power to increase its rates in the city. Following is the report:—"On Sep. 17, 1891, an agreement was entered into between the Bell Telephone Co. & the City whereby the City agreed to give the Co. the exclusive right for carrying on telephone business in Toronto for five years from the date of such agreement, & the Co. agreed that it would pay the City 5% per annum on the gross receipts for telephone service within the city limits. The Co. also agreed that from Sep. 1, 1891, the rate for telephones for dwelling houses should be \$25, & for business houses \$45 a year. This agreement ended Sep. 17, 1896, & the Co., I understood, has declined to renew it.

"In 1892 an act was passed by the Dominion Parliament increasing the capital stock of the Co. to an amount not exceeding \$5,000,000. The third section of the act expressly states that the existing rates shall not be increased without the consent of the Governor-in-Council. The Co. applied to the Governor-in-Council last year to increase the rates in Toronto & elsewhere. The application was opposed by not only Toronto but other cities & towns, & no judgment has been given on such application. As in the city of Toronto the rates for a telephone were \$25 for a private house, & \$45 for a business, upon July 9, 1892, when the said act was passed, & the Governor-in-Council has not permitted such rates to be increased, I am of opinion that the Co. cannot legally raise these rates in the City of Toronto beyond those prices."

The City Solicitor's opinion, however, does not touch the main point at issue. The Co. is not raising its rates to subscribers who had instruments before its new tariff was promulgated, but is charging a higher rate to new subscribers who are over a certain distance from the exchange. Under the agreement of 1891, the City gave the Co. valuable consideration in the way of a guarantee from opposition & certain street rights. The Co. in return made a reduction from its regular rates & abolished the usual extra mileage charge. This agreement having expired & the city no longer giving any consideration to the Co., the Co. has partially reverted to the state of affairs prior to the agreement. The old rates have not been restored, nor are existing subscribers being touched, but the old extra mileage charge has been reverted to for new subscribers requiring lines more than one mile in length from the exchange. The true measure of cost to the subscriber is the cost per call, not the annual subscription, & as the average daily use of the telephone by subscribers has at least doubled in the last 10 years subscribers are in reality getting telephone service at about half of its cost 10 years ago.

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Total minimum cost..... \$4 50	Sick benefits, when required, cost extra.

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- 4.—A Total and Permanent Disability Benefit of one-half of face value of policy, with exemption from further payment of premiums or Court Dues.
- 5.—An Old Age Benefit consisting of exemption from payment of premiums and Court dues after age 70.
- 6.—An Old Age Disability Benefit of one-tenth of face value of policy payable yearly for ten years, on being declared totally and permanently disabled by infirmities of age after the seventieth birthday.
- 7.—An Old Age Pension payable during disability, which may be taken as a substitute for the Old Age Disability Benefit.
- 8.—A Burial benefit of \$100 at death of a Pensioner.
- 9.—A Funeral Benefit of \$50 at death of a member enrolled in Sick and Funeral Benefit Department.
- 10.—The Mortuary Benefit of \$500, \$1,000, \$2,000, \$3,000, \$4,000 or \$5,000.

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Year.	Total Membership.	Benefits Paid.	Total Surplus.	Surplus per Capita.	Death Rate per 1,000.
1881	1,019	\$ 1,300 00	\$ 4,568 55	\$ 4 48	4.50
1882	1,134	12,058 86	2,967 93	2 61	11.00
1883	2,210	9,493 68	10,857 65	4 91	4.73
1884	2,558	13,914 31	23,081 85	9 01	4.23
1885	3,642	26,576 99	29,802 42	8 18	7.76
1886	5,804	28,499 82	53,981 28	9 30	4.86
1887	7,811	59,014 67	81,384 41	10 44	5.78
1888	11,800	89,018 16	117,821 96	9 98	6.43
1889	17,349	116,787 82	188,130 36	10 84	5.85
1890	24,604	181,846 79	283,967 20	11 54	5.18
1891	32,303	261,436 21	408,798 20	12 65	6.40
1892	43,024	344,748 82	580,597 85	13 49	6.25
1893	54,484	392,185 93	858,857 89	15 76	5.47
1894	70,055	511,162 30	1,187,525 11	16 94	5.47
1895	86,521	685,000 18	1,560,733 46	18 03	5.67
1896	102,838	820,941 91	2,015,484 38	19 60	5.50
1897	124,685	992,225 60	2,558,832 78	20 52	5.56
1898	144,000	1,176,125 14	3,186,376 36	22 12	5.67

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John A. McGillivray, O.C., S.S., Toronto, Ont.  
A. E. Stevenson, 6436 Kimbark Ave., Chicago, Ill.

Or Any Officer or Member of the Order.

The Toronto City Council has been informed that the Co. has no desire to renew its contract with the City on the old terms & that it sees no reason why Toronto subscribers should not pay the same rates as Montreal subscribers.

In reference to the recent changes in the Bell Co.'s tariff for long distance telephoning it may be pointed out that long distance lines were originally single & of iron. Transmission was poor but the distances were short. The 5 minutes unit was then in force. Now long distance lines are double, that is 2 wires instead of 1, & are built of heavy copper, with the result that transmission is good over very long distances. This result has only been accomplished by a very greatly increased expenditure of capital. Safely it may be said that lines now cost three times what they did in early days. As a result of the improved transmission it has been found by actual experience that subscribers are able to do more talking in 3 minutes than in 5 minutes under the old conditions. In order to get a fair return on the greatly increased capital invested the Co. had to either increase the tariff rate or reduce the time unit. As the majority of conversations can easily be condensed into 3 minutes, it is fairer and better to reduce the unit rather than make people pay unnecessarily a higher rate. The 3 minutes unit has been in force east of Toronto for many years & the recent change makes the unit uniform throughout Canada. Coincident with this change of unit the Co. has abolished the non-subscriber charge. This change is of the greatest importance, not only to the mass of people who are not subscribers & who formerly have had to pay a higher rate, but also to the merchants and manufacturers who are receiving orders from non-subscribers. It is needless to say that the cheaper the non-subscriber can speak to the merchant the more chance there is of the merchant receiving his orders. Reduced night rates have been established under which persons can speak between 6 p.m. & 6 a.m. for about half the usual day charge. The slight change in the time unit west of Toronto is much more than offset therefore by the very substantial reductions mentioned. While people only pay for the time they are actually talking it must not be forgotten that it takes on an average about 5 minutes to establish a connection. The Co. therefore gives about 8 minutes use of the line for the rates which it charges.

The Co. is building a metallic line from St. Thomas to Simcoe via Tilsonburg. The Co.'s office at St. Thomas, Ont. has been remodeled.

**Nova Scotia Telephone Co.**

At the annual meeting in Halifax June 14, 5,552 shares were represented. Following is a statement of accounts to Jan. 31, 1900:

ASSETS.	
Exchanges and plant.....	\$286,179 88
Stores.....	7,537 78
Stock in other companies.....	21,530 00
Real estate, buildings, etc.....	15,436 40
Amounts due Co.....	3,716 72
Due by agencies, including Halifax.....	7,703 89
Cash on hand and in bank.....	2,147 28
	\$344,251 94
LIABILITIES.	
Capital stock.....	\$200,000 00
Bonds.....	20,000 00
Bills payable.....	1,137 54
Sundry amounts due.....	18,545 96
Depreciation account.....	3,000 00
Dividend 21 payable Mar. 1, 1900.....	3,000 00
Accident reserve account.....	8,902 50
Insurance reserve account.....	9,000 00
Contingent account and sinking fund.....	55,417 99
Profit and loss account.....	25,267 95
	\$314,251 94
PROFIT AND LOSS.	
1899. By balance.....	\$23,592 63
1900. By net earnings.....	16,675 32
	\$ 40,267 95

To Dividend paid June 1, 1899.....	\$ 3,000 00
" Dividend paid Sept. 1, 1899.....	3,000 00
" Dividend 20, paid Dec. 1, 1899.....	3,000 00
" Dividend 21, payable Mar. 1, 1900.....	3,000 00
Transferred to sinking fund.....	3,000 00
	\$15,000 00

Balance carried forward ..... \$ 25,267 95

The following directors were unanimously elected: B. W. Chipman, R. Uniacke, C. F. Fraser, C. F. Sise, R. L. Borden, A. C. Cogswell, B. F. Pearson; the latter succeeding the late Dr. Haley.

Considerable discussion followed with reference to improvements in the service at Halifax, & the opinion was generally expressed that the time had come when a long step in advance should be made. The Co. had delayed in the past out of consideration for the rapid strides in electrical improvements, & had been fully rewarded by the fact that now the relay switch board is an assured success, & a distinct step in advance of the multiple board, & several steps in advance of the board now in use by the Co. Although it would cost probably \$120,000, yet it was thought advisable that a double metallic circuit should be installed throughout the city, & as far as possible the use of the long distance telephone should be encouraged.

Mr. Sise explained that the installation of this board meant an average possible conversation capacity of 3 minutes instead of 5, the reduction in the operating expenses arising from the doing away with the clinch battery cell, & inspection & reduction of operators at the head office.

The stockholders authorized the directors to issue \$100,000 stock of the Co., the same to be first offered to the stockholders at par, the proceeds to be utilized for the improvements above referred to.

**General Telephone Matters.**

The Edmonton, Alta., Telephone Co. is arranging for night & Sunday service.

The Citizens Telephone & Electric Co., Rat Portage, Ont., is putting up a 2-inch cable for the transmission of power.

A telephone line in which the Bonny River Lumber Co. is said to be interested, is being built between St. Martin's & St. John, N.B.

The Pontiac Telephone Co., with headquarters at Bryson, Que., had its property sold by the sheriff recently to W. McCochan for \$1,700.

The Kinnear's Mills Telephone Co., of Kinnear's Mills, Que., is about to build a line from Thedford Mines to Kinnear's Mills, 12 miles.

The Vernon & Nelson Telephone Co. has been improving its service in the Boundary District, B.C. A fourth wire has been strung between Phoenix & Nelson.

E. H. Boss has resigned the local management of the Bell Telephone Co. at St. Catharines, Ont., to enter the Niagara, St. Catharines & Toronto Ry. Co.'s employ.

The trolley to the Pyramids is not the only example of the penetration of electricity into the everyday life of semi-civilized Egypt, the telephone being right on its heels. The telephone company of Egypt operates from headquarters in Cairo & branches in Alexandria, Port Said, & other towns. Inter-connection, however, has not yet been realized, as the Government has opposed its establishment on the ground that it would diminish State telegraph receipts. However, it is hoped that consent will soon be given for this extension. Telephone girls are not employed in Egypt, & the telephone men have to speak English, French, Italian, Arabic & modern Greek.

**Among the Express Companies.**

Evangeliste Joly was found guilty, June 14, of stealing \$14,000 from the Dominion Ex. Co., at Joliette, Que., and was sentenced to 9 years in penitentiary.

The Dominion Ex. Co. has withdrawn the restrictions against accepting money in any amount, or notes, drafts & accounts for collection in Joliette, Que., & agents are authorized to accept shipments of any kind for Joliette, to be way-billed at tariff rates.

At St. Catharines, Ont., June 13, Stinson, a former messenger of the Dominion Ex. Co., was tried on a charge of stealing two money packages from the Co., in Dec. last, the jury acquitting him. He was released on bail, to be tried on another charge laid by the Co.

The Western Ex. Co. has opened routes on the Marinette, Tomahawk & Western Ry., between Tomahawk & Spirit Falls, Wis., & the Spirit Falls & Brannon Stage route between Spirit Falls & Brannon, Wis. Offices have been opened at Boston, Mich; Balfour & Donnybrook, N.D.; Bay Mills, Brannon, Rockmass & Spirit Falls, Wis.

The Dominion Ex. Co. has opened offices on the C.P.R.'s Columbia & Western Ry. at Phoenix & Midway, B.C. Offices have also been opened in B.C., at Fife, Farrer, Hills, Porteous, Summit, Thrums, Tunnel & Wanklyn; in Manitoba, at Sinclair, Bowswan, Fishers & Keyes; in Ontario, at Folger & Strathcona, & in Quebec, at Bordeaux.

Owing to the extension of the U.S. coasting laws to Honolulu, business originating in the U. S. cannot be taken to Vancouver to be forwarded in British bottoms to Honolulu, & agents of the Dom. Ex. Co. in the U. S. must refuse such business. This does not, however, apply to business originating in Canada or in Europe, destined to Honolulu; this class of business may be accepted and routed via Vancouver, as heretofore.

The traveling auditors of the Great Northern Ry. have been made joint employes of the Great Northern Express. Their duties, so far as the express is concerned, will be to check & transfer offices where the railway agent acts jointly for the railway & the express, & generally look after the accounts of the express at such offices. The G. N. Express retains as exclusive employes three of its traveling agents, whose duties will be to check or transfer the accounts at all exclusive express offices, & as heretofore, solicit & work up business at all places in the territory assigned to them—visiting, when necessary, any of the offices that are joint, & to perform such other duties as may be given them by the General Manager, the Superintendent, or the General Western Agent.

On account of low water, Dominion Ex. agencies at Fort Frances & Mine Centre, Ont., have not yet been established; until further notice, shipments for all points in Rainy River district, including Fort Frances & Mine Centre, should be receipted for & charges collected to Rat Portage, Ont., only.

The Dominion Ex. Co. has placed R. E. Helme, Route Agent, in charge of all offices on main line of C.P.R., west of Moose Jaw, Assa., to and including Medicine Hat, Assa.; offices on Crow's Nest branch, including Fort Steele, & offices on North Star branch, & all offices in Kootenay district south of Arrowhead, B.C. W. J. Kirby, Route Agent, has charge of all offices on main line west of Medicine Hat, Assa., including offices in the State of Washington; Edmonton branch; Macleod branch south of Calgary to & including High River; Arrowhead branch; Shuswap & Okanagan branch; & offices on Okanagan Lake.

The Alaska Pacific Ex. Co. has issued the following circular: This Co. has secured exclusive privileges over the White Pass & Yukon Ry. operating between Skagway and White Horse. We have also arranged for similar service with the Canadian Development Co., a steamer line operating between White Horse (end of rail line) & Dawson City. The C.D. Co. has already placed in service on the upper Yukon 12 steamers,



# The Purchasing Agents' Guide

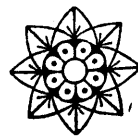
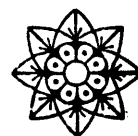
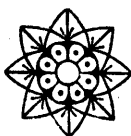
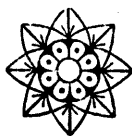
To the Manufacturers of & Dealers in Steam & Electric Railway, Steamship, Express, Telegraph & Telephone supplies, &c.

<b>Accident Insurance</b> Travelers' Insurance Co. .... Montreal.	<b>Grain Elevators</b> John S. Metcalfe Co. .... Chicago, Ill.	<b>Shipbuilders' Tools &amp; Supplies</b> Rice Lewis & Son. .... Toronto.
<b>Aerated Waters</b> E. L. Drewry. .... Winnipeg.	<b>Groceries</b> The Hudson's Bay Company. ....	<b>Ships</b> Polson Iron Works. .... Toronto.
<b>Air Brakes &amp; Fittings</b> Westinghouse Mfg. Co. .... Hamilton, Ont.	<b>Half Tones</b> Acton Burrows Co. .... Toronto.	<b>Shovels</b> James Cooper. .... Montreal. The Fairbanks Co. .... Montreal. The Hudson's Bay Company. .... Toronto. Rice Lewis & Son. .... Toronto.
<b>Ales</b> E. L. Drewry. .... Winnipeg.	<b>Hand &amp; Push Cars</b> F. E. Came. .... Montreal. The Fairbanks Co. .... Montreal.	<b>Signal House Numbers</b> Acton Burrows Co. .... Toronto.
<b>Anchor</b> Rice Lewis & Son. .... Toronto.	<b>Hardware</b> Rice Lewis & Son. .... Toronto. The Hudson's Bay Company. ....	<b>Signals</b> Noah L. Piper & Sons. .... Toronto.
<b>Axles</b> James Hutton & Co. .... Montreal. Rhodes, Curry & Co. .... Amherst, N.S.	<b>Headlights</b> Noah L. Piper & Sons. .... Toronto.	<b>Signs</b> Acton Burrows Co. .... Toronto.
<b>Babbit</b> Rice Lewis & Son. .... Toronto.	<b>Hose</b> Rice Lewis & Son. .... Toronto.	<b>Signs</b> Acton Burrows Co. .... Toronto.
<b>Beams</b> Canada Foundry Co. .... Toronto.	<b>Illustrations</b> Acton Burrows Co. .... Toronto.	<b>Snow Ploughs</b> Rhodes, Curry & Co. .... Amherst, N.S.
<b>Blankets &amp; Bedding</b> The Hudson's Bay Company. ....	<b>Iron</b> Canada Foundry Co. .... Toronto. Rice Lewis & Son. .... Toronto.	<b>Spikes</b> Rice Lewis & Son. .... Toronto.
<b>Block &amp; Tackle</b> Rice Lewis & Son. .... Toronto.	<b>Iron Signs</b> Acton Burrows Co. .... Toronto.	<b>Station Name Signs</b> Acton Burrows Co. .... Toronto.
<b>Boat Fittings &amp; Hardware</b> Rice Lewis & Son. .... Toronto.	<b>Japans</b> McCaskill, Dougall & Co. .... Montreal.	<b>Steamboats</b> Polson Iron Works. .... Toronto.
<b>Boiler Covering</b> Mica Boiler Covering Co. .... Montreal.	<b>Lager Beer, &amp;c.</b> E. L. Drewry. .... Winnipeg.	<b>Steamboat Signs</b> Acton Burrows Co. .... Toronto.
<b>Bollers</b> Polson Iron Works. .... Toronto.	<b>Lamps &amp; Lanterns</b> Rice Lewis & Son. .... Toronto. Noah L. Piper & Sons. .... Toronto. The Hudson's Bay Company. ....	<b>Steam Shovels</b> James Cooper. .... Montreal.
<b>Bolts</b> Rice Lewis & Son. .... Toronto.	<b>Launches</b> Polson Iron Works. .... Toronto.	<b>Steel</b> James Hutton & Co. .... Montreal. Rice Lewis & Son. .... Toronto.
<b>Brake Shoes</b> F. E. Came. .... Montreal.	<b>Life Insurance</b> Independent Order of Foresters. .... Toronto. Travelers' Insurance Co. .... Montreal.	<b>Steel Castings</b> F. E. Came. .... Montreal.
<b>Canada Foundry Co.</b> .... Toronto.	<b>Linoleum and Floor Coverings</b> The Hudson's Bay Company. ....	<b>Switch Targets</b> Acton Burrows Co. .... Toronto.
<b>Bridge Numbers</b> Acton Burrows Co. .... Toronto.	<b>Locomotives</b> Baldwin Locomotive Works. .... Philadelphia, Pa. Richmond Locomotive & Machine Works. .... Richmond, Va.	<b>Switches</b> F. E. Came. .... Montreal. Canada Foundry Co. .... Toronto.
<b>Buckets</b> Rice Lewis & Son. .... Toronto.	<b>Lubricators</b> Rice Lewis & Son. .... Toronto.	<b>Telegraph Office Signs</b> Acton Burrows Co. .... Toronto.
<b>Carpets</b> The Hudson's Bay Company. ....	<b>Matches</b> The Hudson's Bay Company. ....	<b>Telephone Office Signs</b> Acton Burrows Co. .... Toronto.
<b>Cars</b> Rhodes, Curry & Co. .... Amherst, N.S.	<b>Milepost Numbers</b> Acton Burrows Co. .... Toronto.	<b>Tires</b> James Hutton & Co. .... Montreal.
<b>Car Wheels</b> Rhodes, Curry & Co. .... Amherst, N.S.	<b>Mohair</b> The Hudson's Bay Company. ....	<b>Tobacco and Cigars</b> The Hudson's Bay Company. ....
<b>Castings</b> Canada Foundry Co. .... Toronto. Rhodes, Curry & Co. .... Amherst, N.S.	<b>Numbers</b> Acton Burrows Co. .... Toronto.	<b>Toilet Paper</b> The Hudson's Bay Company. ....
<b>Chains</b> Rice Lewis & Son. .... Toronto.	<b>Oakum</b> Rice Lewis & Son. .... Toronto. The Hudson's Bay Company. ....	<b>Tools</b> Rice Lewis & Son. .... Toronto.
<b>Cross Arms, Top Pins &amp; Side Blocks</b> The Firstbrook Box Co. .... Toronto.	<b>Oils</b> Galena Oil Co. .... Franklin, Pa. The Queen City Oil Company. .... Toronto.	<b>Track Jacks</b> Duff Manufacturing Co. .... Allegheny, Pa. A. O. Norton. .... Coaticook, Que.
<b>Curtains</b> The Hudson's Bay Company. ....	<b>Office Signs</b> Acton Burrows Co. .... Toronto.	<b>Track Tools</b> F. E. Came. .... Montreal. James Cooper. .... Montreal. Rice Lewis & Son. .... Toronto.
<b>Cuts</b> Acton Burrows Co. .... Toronto.	<b>Packing</b> The Fairbanks Co. .... Montreal.	<b>Tramway Equipment</b> J. J. Gartshore. .... Toronto.
<b>Door Signs</b> Acton Burrows Co. .... Toronto.	<b>Pipe Covering</b> Mica Boiler Covering Co. .... Montreal.	<b>Trucks</b> The Fairbanks Co. .... Montreal. Rice Lewis & Son. .... Toronto.
<b>Drills</b> The Fairbanks Co. .... Montreal.	<b>Pipes</b> Canada Foundry Co. .... Toronto.	<b>Uniform Caps</b> W. H. Coddington. .... Hamilton, Ont.
<b>Dry Goods</b> The Hudson's Bay Company. ....	<b>Plushes</b> The Hudson's Bay Company. ....	<b>Union Couplings</b> E. M. Dart Manufacturing Co. .... Providence, R.I.
<b>Electric Car Route Signs</b> Acton Burrows Co. .... Toronto.	<b>Pneumatic Tools</b> F. E. Came. .... Montreal.	<b>Varnishes</b> McCaskill, Dougall & Co. .... Montreal.
<b>Emery Wheels</b> The Fairbanks Co. .... Montreal.	<b>Porter</b> E. L. Drewry. .... Winnipeg.	<b>Vessels</b> Polson Iron Works. .... Toronto.
<b>Enameled Iron Signs</b> Acton Burrows Co. .... Toronto.	<b>Portland Cement</b> Rice Lewis & Son. .... Toronto.	<b>Waste</b> Rice Lewis & Son. .... Toronto. Noah L. Piper & Sons. .... Toronto. The Queen City Oil Co. .... Toronto.
<b>Engines, Stationary &amp; Marine</b> Polson Iron Works. .... Toronto.	<b>Printing</b> The Hunter, Rose Co. .... Toronto. The Mail Job Printing Company. .... Toronto.	<b>Water Meters</b> Westinghouse Mfg. Co. .... Hamilton, Ont.
<b>Engraving</b> Acton Burrows Co. .... Toronto. Toronto Engraving Co. .... Toronto.	<b>Pumps</b> Rice Lewis & Son. .... Toronto.	<b>Water Tanks</b> The Fairbanks Co. .... Montreal.
<b>Express Office Signs</b> Acton Burrows Co. .... Toronto.	<b>Rails (New)</b> James Cooper. .... Montreal. J. J. Gartshore. .... Toronto. Rice Lewis & Son. .... Toronto.	<b>Wheelbarrows</b> James Cooper. .... Montreal. The Fairbanks Co. .... Montreal. Rice Lewis & Son. .... Toronto.
<b>Fencing</b> Page Wire Fence Co. .... Walkerville, Ont.	<b>Rails (for relaying)</b> James Cooper. .... Montreal. J. J. Gartshore. .... Toronto.	<b>Window Blinds</b> The Hudson's Bay Company. ....
<b>Ferry Signs</b> Acton Burrows Co. .... Toronto.	<b>Rail Saws</b> F. E. Came. .... Montreal.	<b>Wines and Liquors</b> The Hudson's Bay Company. ....
<b>Flags</b> Rice Lewis & Son. .... Toronto. The Hudson's Bay Company. ....	<b>Rope</b> Rice Lewis & Son. .... Toronto. The Hudson's Bay Company. ....	<b>Wire &amp; Wire Rope</b> Rice Lewis & Son. .... Toronto.
<b>Foghorns</b> Rice Lewis & Son. .... Toronto.	<b>Scales</b> The Fairbanks Co. .... Montreal.	<b>Yachts</b> Polson Iron Works. .... Toronto.
<b>Frogs</b> Canada Foundry Co. .... Toronto.	<b>Semaphore Arms</b> Acton Burrows Co. .... Toronto.	
<b>Gas &amp; Gasoline Engines</b> The Fairbanks Co. .... Montreal. Northey Manufacturing Co. .... Toronto.	<b>Shafting</b> Rice Lewis & Son. .... Toronto.	
<b>Gates</b> Page Wire Fence Co. .... Walkerville, Ont.		
<b>General Supplies</b> The Hudson's Bay Company. ....		



# HUDSON'S BAY COMPANY

INCORPORATED 1870



## TRADE DEPARTMENT

THE COMPANY HAVE GENERAL STORES AT

BAIE DES PERES  
 BATTLEFORD  
 CALGARY  
 CHAPLEAU  
 DAUPHIN  
 DELORAINE  
 EDMONTON  
 KAMLOOPS  
 LOWER FORT GARRY  
 FORT WILLIAM  
 LETHBRIDGE  
 MACLEOD  
 MANITOU  
 MATTAWA  
 PINCHER CREEK  
 MORDEN  
 PORTAGE LA PRAIRIE  
 NELSON  
 PORT SIMPSON  
 PRINCE ALBERT  
 QU'APPELLE  
 QUESNELLE  
 SHOAL LAKE  
 RAT PORTAGE  
 SUDBURY  
 RIDING MOUNTAIN  
 TOUCHWOOD HILLS  
 VANCOUVER  
 VERNON  
 VICTORIA  
 WHITEWOOD  
 WINNIPEG  
 YORKTON

Intending purchasers will find at these Stores the BEST GOODS AT MODERATE PRICES, imported direct from all the principal markets of the world.

## LAND DEPARTMENT

THE COMPANY ARE ENTITLED TO ONE-TWENTIETH OF THE

### Fertile Belt of Manitoba

AND THE

### Great North-West of Canada

IN ALL ABOUT

### 7,000,000 ACRES

These Comprise Some of the Best

### Farming, Stock-Raising and Coal Lands in the Country

They are offered For Sale at MODERATE PRICES ON EASY TERMS OF PAYMENT, and without any CONDITIONS OF SETTLEMENT

TOWN LOTS FOR SALE IN

WINNIPEG RAT PORTAGE ROSEMOUNT  
 FORT QU'APPELLE EDMONTON  
 PORTAGE LA PRAIRIE FORT WILLIAM  
 VICTORIA PRINCE ALBERT

Full and accurate descriptions of Lands will be furnished on application to the

HUDSON'S BAY COMPANY  
 1 Lime Street, LONDON, E.C.

And to the Commissioner

HUDSON'S BAY COMPANY  
 Winnipeg, Canada