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VOL. 1. No. 3.

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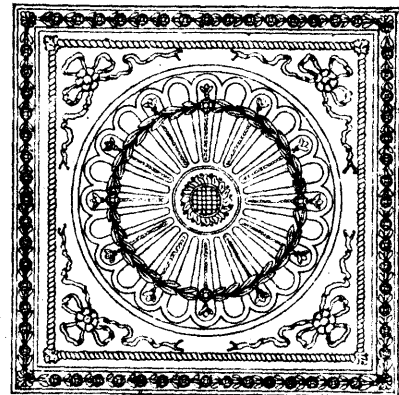


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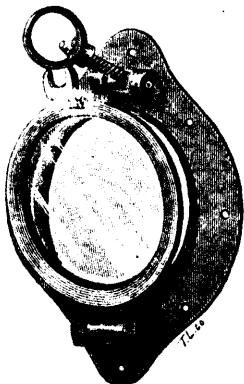
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VOL. 1. No. 3.

TORONTO, CANADA, MAY, 1898.

\$1 A YEAR.

A CHARACTER SKETCH.

The President of the C. P. R.

Sir William Van Horne, President of the C. P. R. Co., is one of those men who make history. It had been the custom of historians (until Knight & then Greenbroke away from it) to tell the story of kings & queens, countries & statesmen, to chronicle wars & battles, treaties & treacherous evasions of them, & then in a supplementary way, as if it were a matter of secondary importance, a chapter that might be skipped, to relate the much more important progress of science, commerce & art.

Sir Wm. Van Horne is not yet known in the politics of Canada: that is to say officially known. The railway of which he is President has at times evoked the eloquence, either in denunciation or commendation, of reasoners & of talkers, & is credited with having at times conduced to the victory of one parliamentary candidate over another, but Sir William has never stepped upon the quarter deck of any ship of state as an accredited pilot. He has not made history in that way. There is always a sufficiency of great minds for this purpose. Van Horne has confined himself to the more practical work of developing the machinery of travel, & as in the nineteenth century the prosperity of a country depends upon its facility of transport, & as its stagnation is usually the result of bad roads & high prices, his services to the Dominion of Canada & indirectly to the British Empire have now passed beyond question.

When the famous Syndicate of 1881 had undertaken to build the C. P. R. through the wilderness on the shore of Lake Superior & through the Rocky Mountains to the Pacific shore, the gigantic nature of their

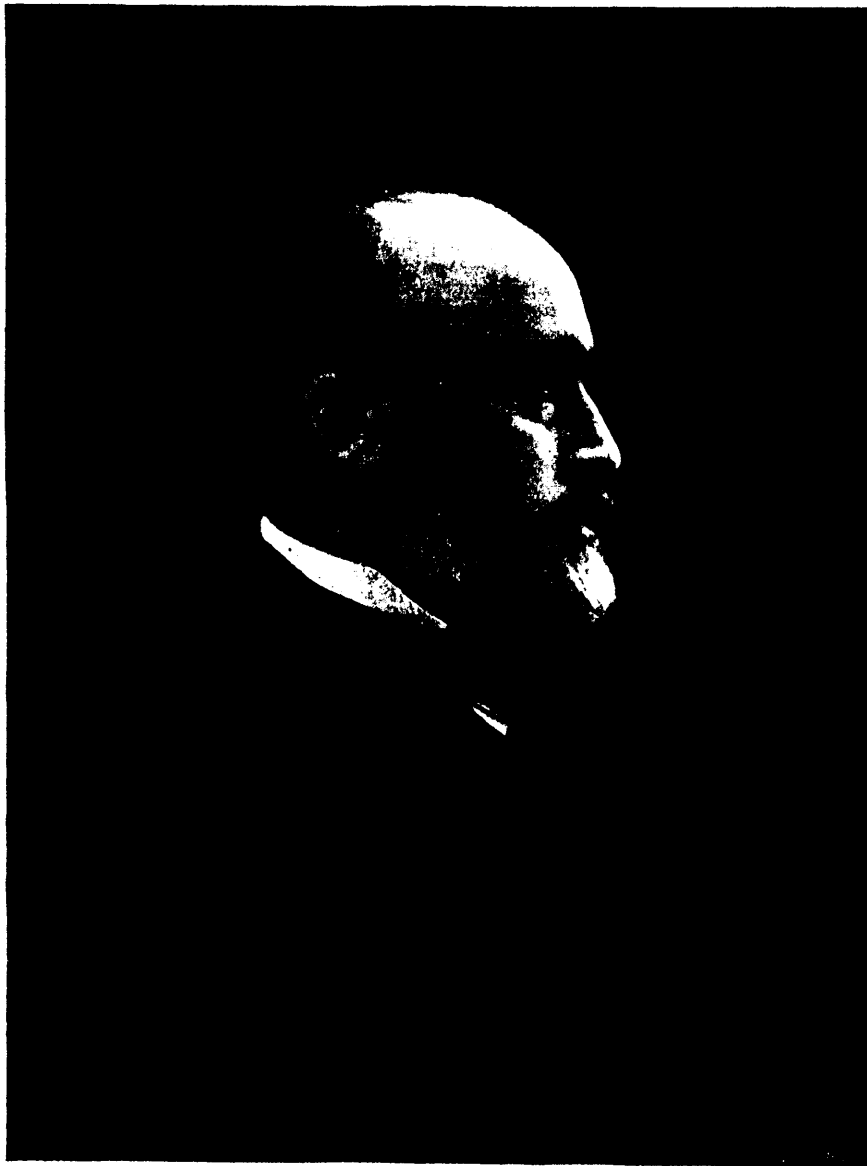
undertaking may well have appalled them. Railway Frankensteins were they, with the monster their signatures had created before them, & the certainty that unless handled with exceptional skill it would prove as baneful as the creature of Mrs. Shelley's im-

to the roll of Knights Commanders of St. Michael & St. George is a big jump when the gulf has been bridged by personal ability, & the achievement of success in the face of enormous difficulties. Of the smiling incredulity with which mention of the through

route of the C. P. R. from ocean to ocean in 10 years was received, it is not necessary to speak at length. Aladdin's lamp was out of reach, so that the time mentioned was regarded as a pleasant-ry; when the road was opened through to the Pacific in half the stipulated time people elsewhere than in Canada began to ask, who is this Van Horne? Those who knew him in 1881, when he went to Winnipeg to tackle his work, were already satisfied on this point.

But the construction of this via Canadiensis is not the feature of its existence that most astonishes reflecting persons. A happy understanding and perfect confidence between bankers & engineers can make light of startling physical difficulties; even the Panama Canal may be built if the bankers hold out; it is the business success of the C. P. R. that supplies the food for wonder to live on. To build a railway is one thing; to create the traffic for it is another. On this point the world requires to be told very little. The annual reports of the C. P. R. speak for themselves, & for the work that has been done. It all looks easy when done, but the number of railways in financial difficulties are silent witnesses to the existence of something more than ordinary capacity in the management of the C. P. R.

"Canada is doing business on a back street," said Van Horne, "she ought to be on a thoroughfare," and he set to work to make one. The "Great Highway to the Orient" is the result. The majority of European & American travellers had a hazy idea that Japan was "out there, somewhere," that China was



SIR WILLIAM C. VAN HORNE, K. C. M. G.

agination. They sought a guiding hand & found Van Horne, of whom even the railway world then knew comparatively little, but who can now felicitate himself on the fact that he is sworn at in many vernaculars. From the pay roll of a Western States railway office

street," said Van Horne, "she ought to be on a thoroughfare," and he set to work to make one. The "Great Highway to the Orient" is the result. The majority of European & American travellers had a hazy idea that Japan was "out there, somewhere," that China was

was away off in the East, either 500 or 5,000 miles from India, & that while regular steamers sailed for the latter the former was reached by a ship when she went there. A line of fast steamships of the Atlantic greyhound order from Vancouver to Yokohama (which is now known to be the chief trading port of Japan) gave form to the nebulous ideas that had existed on the geographical position of Japan, & this route continued to Shanghai & Hong Kong, established a commercial highway that, figuratively speaking, bends beneath its weight of business. It has been a refutation of the axiom *ex nihilo nihil fit*, & has driven the pessimist into other fields for mournful incredulity. Japan with its strange incongruities is now familiar in our mouths as household words, & we have realized by observation that China is more Chinese than ever; & by its example the great highway has awakened the ambition of Australia. Enterprise & energy are contagious virtues. If Japan, said Mr. Huddart, why not Australasia, & the regular line from Vancouver to Honolulu & Sydney was the answer, a line which has added to the nautical disturbance of a Canadian harbor which, until the coming of Van Horne, was ploughed only by the keel of the Indian canoe; a figure of speech which must be taken as meant, by reason of the absence of keels on Indian canoes. Thus the back street has been brought into a more business-like condition, but still is short of that condition of a perfect thoroughfare which the untiring ambition of the President of the C.P.R. is working to secure. It is not yet the Regent Street of Eastern traffic, still less the Strand or Oxford Street, but it now actively competes for the best class of business. To further increase its attractiveness & usefulness Van Horne—for the name, thus used now signifies something more than an individual—has urged the establishment of a fast line of steamers across the Atlantic. The St. Lawrence route, he holds to be vastly superior to that by New York; more beautiful, more expeditious, & with a large proportion of smooth-water navigation. Gilbert, in one of his charming operettas, says that "to lay aloft in a howling breeze may tickle a landsman's taste," but ladies are not partial to howling breezes, very seldom lay aloft except in an upper berth, & even the accustomed traveller usually prefers to promenade the deck of a vessel on an even keel. Therefore, says the exploiter of new paths, establish a fast route which will attract American as well as European voyagers. On the pros & cons of this question it is not our purpose to argue; it is mentioned merely as a branch of the main idea which it has been Sir Wm. Van Horne's desire to impress upon Canada.

This is Van Horne as the world of strangers, seeking a concrete personality of a great enterprise, knows the President of the C.P.R. But there yet remains Sir William as known by his friends & business associates. In the purview of their experience there is Sir William in his office, at his home in Montreal, at his summer house at St. Andrews, N.B., & in the "Saskatchewan"—that is the name of the private car from the rear window of which he has made himself familiar with each section of the many that are comprised in the road from St. John, N.B., to Vancouver, & in which many distinguished persons have travelled "from ocean to ocean;" & concerning his idiosyncrasies when found at headquarters, we may borrow what has already been said elsewhere with reasonable accuracy.

On the second floor of that great, grey, Norman castle-like building, at the corner of Windsor Street, Montreal—a stone's throw, if you can throw a stone that far, below the Windsor Hotel—are the offices of the C.P.R.'s executive. Time was when one door only stood between the visitor & the man whom so many wanted to reach, & when the bolder pushed it open & got ahead of the

more diffident. Now it is another matter. The man who desires to sell a patent corkscrew for opening ginger ale in the dining-car, or has a scheme for crossing to Vancouver Island under the straits, must pass more than one official Cerberus. But assuming him to be one whose business requires the here & now personal consideration of the C.P.R.'s President, he is shown into Sir Wm. Van Horne's room. His first view of that gentleman is a back view. Seated—no, not seated, but astride a peculiar chair, such as no man ever before sat in—before a cylindrical desk, he will see a man of middle height, stout, dark-haired, slightly bald, smoking a cigar & dictating to a secretary at an adjoining table. The sentence finished, this gentleman, using his foot on the ground as a lever, spins his chair round and faces his visitor. If his eye rests on a friend, the usually calm, unreadable countenance lightens up with a smile of welcome, & a cheerful word of recognition having been uttered, an acrobatic movement empties the chair, & Van Horne, settling the cigar more comfortably in his mouth by a rapid movement of his lips, extends his hand to greet his acquaintance. Having seated his friend he seats himself—no, he re-straddles. How he manages that chair no one knows. The unwary who attempt to sit in it are thrown, as surely as if they tried to sit on one of Buffalo Bill's bronchos, but it is as gentle as a lamb beneath Van Horne. Now the visitor is either a friend of the C.P.R. or he is not. Van Horne recognizes no intermediary sentiment. If he be one unsound in faith, then he has to deal with a polite but inscrutable being, who will pleasantly guide the inquirer into mazes of irreconcilable conclusions, from which he can find no outlet. He will obtain the facts, possibly, of which he is in search, but at such angles, so to speak, that he will never be able to put them into shape, & the last stage of that man's understanding will be worse than the first. If he is a friend he will find a mentor to whom all things appertaining to railways, & many other subjects, are familiar, & that which he desires to know will be made clear & easy of comprehension.

Van Horne is thorough. He goes to the root of the matter, & by word & diagram he explains it up to the flower. He is great at the use of the diagram. He is an artist & likes to illustrate. Settling the cigar which has gone out, in his mouth, taking a pencil in his hand & balancing that most peculiar chair, he illustrates his information as he proceeds, occasionally making a dash into figures on a supplementary sheet of paper, until his story & his picture is complete, & the information sought is so plain that he who runs may read. He never thinks it too much trouble to explain. He does not wonder why the question is asked, or why he is asked to answer it. He may decline to give information for reasons which are sufficient to himself, but the "I can't be bothered" plea is never urged; & the lucidity of his explanations is equalled by the extent of his knowledge. Tackle him on what you will & you will find that from personal investigation or from the resources of his library he knows it, probably more about it than his questioner. To nonplus him you must ask him about something that has gone wrong, some false report about the railway; some stupidity of the employes having serious consequences, or some scheme which is intended to "get ahead" of the C.P.R. Then the chair spins round, the acrobatic movement takes place & Van Horne, rubbing the top of his head, drawing heavily at his cigar, paces his room, troubled in his mind & uncertain whether to let fly in western vernacular or to comment on the circumstance with deceptive moderation. Sometimes moderation carries the day; sometimes his opinion is given in language of startling originality. Except when thus put out he is good temper personified. The clerks in the next room hear sud-

den bursts of laughter or continued chuckling as the business is transacted in the President's room. Van Horne is keenly alive to humor, & likes to tell or hear of a good joke. In the once celebrated correspondence regarding a timber limit in the Cypress Hills, a certain member of Parliament informed his correspondent that he could carry out a plan that he had in view were it not that "that old brute Van Horne would not agree to it." Some time after the same member wrote to the C.P.R. office for a pass or some other favor, & Van Horne dictated the reply. The member was informed that the secretary would be happy to comply with his request, but "that that old brute Van Horne would not agree to it."

In his home on Sherbrook Street, Montreal, Sir William is one of the most genial & hospitable of hosts. He is a lover of comforts & of art. In his business he is anxious for the comfort of his passengers, in his house for that of his friends. He is not a bookworm, or a collector of many volumes, but a lover of books, & fanciful as to their make-up. Their contents are the first consideration with him, but their ease of handling & neatness of appearance follow hard upon it. In the low & convenient cases that surround his cosy working room are copies of every procurable work on the Northwest from the time of Charles II. to the present day. He is a connoisseur of Japanese art, of which he has an almost priceless collection, including personal presents from the Emperor, & his pictures hanging here, there & all over the house, are not only to the uninitiated beautiful examples of well-known painters, but also, I understand, meet the approbation of the judges. Several rooms now supply the accommodation that in his former house on Dorchester Street was found ex-necessitate in the one he called his "den." The library already alluded to has solid modern British comfort somewhat etherealized by suggestions of Japan, & here & there of mediæval Europe. A casual glance round shows a pair of rare old Italian daggers, something from Tokio, the latest art publications from London or Paris, a bundle of type-written letters to be signed, or an architect's tracing waiting the experimental corrections of that inevitable blue pencil which so many connect with the President of the C.P.R. regard as the gift of Satan for their persecution. There is enough of each to make the room pleasing to the eye & artistic intelligence, while grateful to the ease of the Philistine. Recent years have added largely to Sir William's stock of paintings, in which are included some of Monticelli, Rembrandt, Labrador & not a few from the newest school of impressionists. Sir William is himself a painter; a self-taught one, & produces not only clever caricatures of his friends, but charming little landscapes of fancy or familiar spots. Some of these you may first meet in the raw, so to say, in the painting room, looking like mad escapades of unruly paint, & afterwards find framed & in their right mind in some corner down stairs, looking as pretty as a picture. There is one landscape which hangs in a corner of his drawing-room easy of access, & which is one of his most successful works. He is fond of showing these paintings of master hands which he possesses, & ready in answering questions about them. When he has taken a visitor around the walls he generally manages to halt him opposite his own landscape & then leave him for a minute, & on his return he usually hears, "This is a very pretty picture." or as one picture collector put it, "This is one of the best pictures in the room; who is it by?" "That," says Van Horne, "is a landscape by a Dutch painter. It is not signed, but it is by a well-known man in some circles, some Dutch name." Sometimes he does & sometimes he does not inform his visitor that the Dutch name is W. C. Van Horne. Failing to find Sir William in his study you

will, if your business or intimacy warrants, find yourself shown or directed upstairs to his painting room, or to the billiard room. If, however, you are not a brother of the brush you will not be much interested in the former, unless perchance the occupant has some pictorial joke on hand, such as the painting of a picture that may be looked at any way you like with equal satisfaction, or a political allusion conveyed in a picture of eminent politicians in a poker duel. But in the billiard room the interest is more general, for your host will be equally ready there to play with you at billiards, chess, or anything else you may suggest in which skill is the principal factor. To chess Sir William is very partial; the nature of it, that of devising more ingenious plots than one's opponent, has peculiar charms for him, & when his schemes like those of Burns' mice gang aft a'glee, the resulting expletives are always directed against himself. In playing chess or billiards he is in serious earnest, reserving the jokes & stories for between times & afterwards; only does he relapse when some stroke at billiards is too obviously unexpected to permit even his countenance to play hypocrite over the accidental success; & sometimes he does fluke like the —. Smoking, laughing & playing are eminent manufacturers of thirst, & in the billiard room the strict observer of seasons may remain thirsty in Lent—if he insists upon doing so.

It is not only in Sherbrook Street that Sir Wm. Van Horne's qualities as a host are known; perhaps not so well known as in his car. Not infrequently when the President makes his periodical tours of inspection the commodious "Saskatchewan" is filled with friends & officials; of the road; those of the one class happy in anticipation of viewing the prairies & the mountains, the others heavy with thought of the business that brings them from their homes. Straddled across a chair at the rear window of the car, the eye of the master surveys the work of the combination of employes, while muttered conferences with the engineer or superintendent of the division are heard as bridges are crossed or tunnels passed. Suddenly a cry of "Whoa, Jim!" bursts over the hum of conversation, & is answered by the important functionary of that name, who enters bearing a well-filled tray of glasses & other vessels & a box of cigars. When all is plain sailing on the road, & easy & familiar sections are being traversed, the relaxation of mind is accompanied by such athletic or mental freaks as may be uppermost in the President's mind. Speculations as to what may be the condition of some particular matter at that moment in Montreal, New York, or elsewhere, opinion to be supported by wager, & correctness to be settled by telegraph from the next station, alternate with trials of agility about the seats of the car, or competitions for pre-eminence in feats which no one has tried since boyhood. When the stations are reached & the tourists are wandering about inspecting novelties; it may be Red Indians, otherwise colored by dirt & paint, piles of collected buffalo bones, relics of the hunters age of the country, or what not; the officials are talking, frowning or smiling, questioning or answering until the "all aboard" is called & the car life is resumed. When the shades of night have fallen upon the twin streaks of steel, & when at a central point friends drop in during the evening to call upon the party, the business of the day is for the moment forgotten & pleasing recreation takes its place.

G. A. Harris, Vice-President of the Ottawa Forwarding Company, died April 5, aged 47. For many years he was Manager of the Company. He was also a director of the Ottawa Transportation Co., & conducted an extensive wood & coal business.

RAILWAY APPOINTMENTS, &C.

CANADIAN PACIFIC.—H. B. Spencer is appointed Superintendent of the Chalk River Section, of the Brockville, Prescott & Eganville branches, & of Ottawa Terminals, with office at Ottawa. Until about two years ago, when he resigned to take the management of the Hull & Aylmer Electric Ry., he was Superintendent of all lines east of Chalk River on the Eastern Division.

J. E. A. Robillard is appointed Superintendent of the Ottawa Section, & of the St. Lin, St. Eustache and Labelle branches, with office at Montreal. When H. B. Spencer left the C.P.R., as above mentioned, Mr. Robillard, who was Chief Dispatcher at Ottawa, succeeded him as Superintendent of all lines east of Chalk River on the Eastern Division.

Montreal Terminal District is extended to include the line from Outremont to Windsor St. Station, including St. Luc Jct., Montreal Jct. & Windsor St. stations & yards, & W. J. Singleton, Superintendent of Montreal Terminals, having been granted leave of absence, D. R. Bell, heretofore Trainmaster at Toronto, is appointed Acting Superintendent of Montreal Terminals, reporting to the General Superintendent of the Eastern Division.

F. G. Martyn, heretofore Trainmaster at Smith's Falls, is appointed Trainmaster west & north of Toronto, including Toronto terminals; office, Toronto Junction.

W. Hassard, heretofore Conductor between Toronto & Hamilton, is appointed Trainmaster, Smith's Falls, Havelock & Toronto Sections, & M. & O. Branch; office, Smith's Falls Junction. Trainmen and yardmen will report to trainmasters.

J. W. Harkom is appointed Assistant to the Mechanical Superintendent, with office at Montreal. Up to the time of this appointment he was Master Mechanic of the G.T.R. at Montreal.

GRAND TRUNK.—T. McHattie, Locomotive Foreman at London, has been appointed Acting Master Mechanic of the Eastern Division, with headquarters at Montreal, in place of J. W. Harkom, Master Mechanic, who has gone to the C.P.R. A. A. Maver is appointed Locomotive Foreman at London, vice McHattie promoted, & W. Turnbull is appointed Repair Shop Foreman at Toronto, vice J. McGrath, who is appointed Erecting Shop Foreman at Stratford, Ont., vice Maver transferred.

J. A. Sheedy, formerly connected with the Illinois Bridge Co., Chicago, is appointed Master of Bridges & Buildings for the Middle Division, vice W. Crawford resigned; office at Toronto.

The headquarters of H. Ferguson, General Roadmaster, have been transferred from London to Toronto.

GRAND TRUNK & WABASH.—J. C. Sander-son is appointed Inspector of Bridges & Buildings, including turn-tables, water service, &c. Headquarters St. Thomas, Ont.

LAKE ERIE & DETROIT RIVER.—Owen McKay has been appointed Engineer, with office at Windsor, Ont., succeeding the late Jos. de Gurse.

TILSONBURG, LAKE ERIE & PACIFIC.—A. L. Baker is appointed General Freight & Passenger Agent. Headquarters, Tilsonburg, Ont.

Commencing May 16, L. E. Tillson will resume his duties as travelling freight & passenger agent for the L. E. & D. R. R., & between Port Stanley & Cleveland. He will have charge of all territory in Canada west of Toronto, & also the excursion business on all points on the G.T.R., C.P.R. & Wabash to Port Stanley.

I. C. R. Mechanical Superintendency.

F. R. F. Brown has retired from the mechanical superintendency of the Intercolonial, & it is stated he will open an office at Montreal as consulting engineer. He has been with the Intercolonial since Nov., 1892, & was formerly for 6 years Mechanical Superintendent of the C.P.R. G. R. Joughins has been appointed to succeed Mr. Brown. Until recently he has been Superintendent of Motive Power of the Norfolk & Southern Ry. at Berkley, Va. Some 8 or 10 years ago he was in the employ of the G.T.R.

The Railroad Car Journal, New York, says: While the Intercolonial is to be congratulated on having secured the services of Mr. Joughins, it is with regret we record the departure from the U.S. of one of our most able & progressive railroad mechanical officials. He has an admirable record in railroad service, & has done some excellent work as a member of our railroad clubs, & of the Master Car Builders' & Master Mechanics' Associations. To his investigations & experiments is due, in no small degree, the evolution of car work which is materializing in the extensive & growing use of steel cars of large capacity. This development dates from January, 1894, when he read before the New York Railroad Club his now historic paper on 'Metal Underframes for Freight Cars,' in which he recited the results of a test of metal underframes, & drew the attention of the mechanical world to the possibilities of steel in this respect."

Personal Mention.

G. H. Ward has been appointed Road Foreman for the Lake Manitoba Railway & Canal Co's line.

A. A. Strout, of Portland, Me., Solicitor for the G.T.R. for Maine, New Hampshire & Vermont, died at the end of April.

Mrs. D. B. Lindsay, wife of the General Passenger Agent of the Temiscouata Ry., died at River du Loup, Que., April 30.

H. Varnes, of the Grand Trunk shops at Lindsay, Ont., has gone to Revelstoke, B.C., as foreman in the C.P.R. car department.

C. B. Smith, Assistant Professor in civil engineering, has resigned his position in McGill University, Montreal, and has been given a position in the engineering department of the C.P.R.

The historic silk rug formerly the property of the Shah of Persia, which was secured by the celebrated rug collector, Levien Babayan, of Constantinople, has been sold to Sir William Van Horne for \$2,000.

Superintendent Murray, of the C.P.R., Western Division, who has been on sick leave, recently returned to Winnipeg from a visit to his brother, the celebrated Dr. John Murray, of Edinburgh University.

"Kit" Carson, who was formerly Traveling Passenger Agent of the C.P.R. in San Francisco & the Kootenay, was recently, it is said, elected Mayor of Wrangel. He is running an hotel under canvas there.

J. B. McKay, formerly in charge of the construction of the Niagara Falls Park River Ry., is now engaged in the construction of the Stickeen & Lake Teslin Ry., with headquarters at Telegraph Creek, B.C.

Sumner Hopkins, Commercial Agent of the G.T.R. at Detroit, Mich., has been appointed Manager of the G. T. Despatch, with office at Detroit. W. K. Evans has been appointed Accountant of the G. T. Despatch at Detroit.

A. Branin, who has been Assistant Superintendent of the Bellingham Bay & British Columbia Ry. since 1891, has resigned, & is succeeded by W. H. Lawson, heretofore Cashier of the Bellingham Bay Improvement Co.

H. G. McMicken, the widely known & popular railway agent, latterly of Toronto & formerly of Winnipeg, in his new position as first European Traffic Agent of the Great Northern Ry., has opened offices at 122 Pall Mall, London.

Owing to the amalgamation of the stores & mechanical departments of the Intercolonial, J. H. McMackin's services will be dispensed with after May 6, his work as an issuer of stores being added to that of J. M. Cameron, clerk in the Mechanical Dept.

S. S. Russell, Secretary to Superintendent Fitzhugh of the G.T.R., Middle Division, at Toronto, having been appointed Chief Clerk to Superintendent Jones, of the Southern Division, is succeeded by E. Walton, who has been stenographer to Chief Clerk Mullins in Mr. Fitzhugh's office.

C. W. Graves, Canadian Agent of the Wisconsin Central, has been appointed Travelling Freight & Passenger Agent of the Great Northern, with headquarters at Toronto, a position formerly held by H. G. McMicken, now in charge of the London, Eng., office of the Great Northern.

W. J. Girkerson, formerly Travelling Passenger Agent for the G.T.R., has been appointed Soliciting City Passenger Agent in the Toronto office on the staff of City Passenger & Ticket Agent Keating, of the road. S. O. Perry, City Ticket Agent of the G.T. at St. Thomas, has resigned, & A. S. Overend has been appointed in his place.

It is rumored J. E. Price is to be made Superintendent of all the I.C.R'y. in Nova Scotia, east of Springhill, with headquarters at Truro. He is now Superintendent from St. John to Halifax. The change would take from him the charge of the road from Springhill to St. John & give him the Oxford & New Glasgow line, & the Eastern Division, now superintended by Mr. Campbell.

Edward Pennington, heretofore Superintendent of the Minneapolis, St. Paul & Sault Ste. Marie, recently appointed General Superintendent, has made the following appointments: D. Willard, Superintendent of Wisconsin & Peninsular divisions, including Minneapolis Terminals, with office at Minneapolis; F. C. Batchelder, Superintendent of Minnesota Division at Enderlin, N.D.; the offices of assistant superintendent of the Wisconsin, Peninsular & Minnesota Divisions have been abolished.

Cornelius Sheehy died at his residence, Detroit, Mich., April 27 after a few days' attack of pneumonia. Mr. Sheehy came to Canada from Ireland when young & entered the service of the Northern Ry., of Canada as a brakeman. He gradually worked his way up, & 8 years ago became district passenger agent of the Canadian Pacific at Detroit, resigning about a year ago. He was a stockholder in the Kingston & Pembroke Ry., & was also largely interested in Eastern Canadian iron manufactories.

The investigating governors of the Royal Canadian Humane Association have decided to award the Association's parchment to John Meyer, the colored G.T.R. porter, who worked very hard to get the late Engineer Hutchinson & Fireman Clark out of their engine cab at the time of the fatal accident at Burlington, Ont., on March 1 last. Mr. Meyers has been presented by the Brotherhood of Trainmen & Locomotive Engineers with a gold locket & chain, suitably inscribed, as a mark of appreciation of his heroic conduct.

C. Shields, General Superintendent of the Chicago Great Western, has resigned. Mr. Shields was one of the first C. P. R. dispatchers at Winnipeg, & was afterwards superintendent at Moose Jaw. He followed J. M. Egan from the C.P.R. to the Great Northern as Superintendent of Construction, again following Mr. Egan to the Chicago Great Western, of which he became Asst. Gen. Supt. in 1888, resigning in 1891 to take the general superintendency of the Great Northern in 1891 & returning to the Chicago Great Western in 1893.

W. T. Jennings, C.E., whose report on the Stikine-Teslin route appeared in our March issue, is a native of Toronto. His father was a well-known clergyman of the Presbyterian Church here. He was born May 19, 1846, & educated at the Model Grammar School & at Upper Canada College. He began his studies of engineering under Mr. Molesworth, C.E. In 1870 he entered the engineering service of the Great Western Ry., subsequently becoming connected with the Dominion Government railway service, & still later joining the staff of the C.P.R. In 1890 he was appointed City Engineer of Toronto, but, much to the regret of those who have the true interests of the city at heart, he threw it up after serving two years. Brief as the time was, he dealt with some of the largest administrative problems that have ever come before the citizens.

EQUIPMENT.

Equipping With Safety Appliances.

There probably is nothing more important in railway enterprise at the present time than the efforts which are being made by the various railway companies to apply the most modern safety appliances to their rolling stock, the most important of which are probably air brakes & automatic couplers, & the importance of both can hardly be overestimated. The loss of life & property which has resulted from the absence of apparatus of this character in the former experience of railroad men, & the general public, can only be considered as abnormally large; & it would be difficult to make an estimate of the many thousands of brave men who have come to an untimely end by being crushed to death in coupling & uncoupling cars equipped with the old-time link & pin coupler, which should long ago have been abandoned & buried as one of the antiquities of railway practice.

The air brake as a safety appliance is very thoroughly recognized, & the Governments of several countries are enforcing its application to all rolling stock; & while it may for the present mean for the various railways an outlay of considerable funds, there is little doubt that it will prove to be an investment of great profit & appreciable gain; as in addition to enhancing the safety of their property it practically increases the capacity of the roads by making it possible to increase the schedule, or time, in which trains can be safely handled & properly controlled. Freight trains are now being conveyed over many of the principal roads at a speed only known as passenger schedule in days gone by, simply from the fact that they can be controlled & handled with absolute safety.

It is just possible that comparatively few of the many thousands of the travelling public fully appreciate the advantages of the various appliances for their safety & comfort which have been worked out & successfully applied to the modern railway vehicle. The sleeping car, with its conveniently arranged compartments and dressing rooms, & the vestibule connection between cars, making the transit from one car to another perfectly safe by connecting the cars in such a manner that the several cars become practically one. The old-time pump in the washroom has been supplanted by a water service, under air pressure, which is practically equivalent to ordin-

RANGES

Made to order—of any dimension—to suit any space—for use in dining cars, steamboats, yachts, etc.



Our Heavy Steel Plate Ranges are noted for their superior excellence in every detail—they give unflinching satisfaction.

Send for our catalogue, and if it shows nothing to suit your special need make use of our long experience and unequalled facilities and let us give you an estimate on a special order.

Ranges, Steam Cookers, Heavy Kitchen Furnishings for Hotels, &c.,—let us provide them all.

WE GUARANTEE SATISFACTION.

The GURNEY FOUNDRY COMPANY, Limited, Toronto

ary hotel & house practice. The old bell-cord has been replaced by the Westinghouse air signal, & various appliances, both automatic & otherwise, in connection with the block & signal systems; so that the traveller is practically safer in making his journey in a modern railway train than he would be at his own house.

There is no doubt that Canada & the U. S. are probably far in advance of any other country in regard to the facilities & convenience of travel, & there is no trouble or expense spared by the railway corporations in providing for the comfort of their patrons, while the rates & cost of transportation are very considerably lower than those charged for inferior accommodation in Europe.

The Westinghouse Manufacturing Co., at Hamilton, Ont., continues to run at its full capacity, & during the short period in which the works have been in operation it has furnished to the several railways of the Dominion some 8,000 sets of freight car equipment & 250 locomotive & tender equipments, in addition to passenger car equipment & repair apparatus; & it has a sufficient amount of orders on hand to keep it fully occupied for some time to come.

A G.T.R. Official Car.

On this page are given elevations & floor plan of the car Canada, built last year by the Wagner Palace Car Co., at Buffalo, N.Y., for the use of General Manager Hays, of the G.T.R. Its dimensions are: Length over body 69 ft. 10 1-2 in.; length over all 76 ft. 8 in., including platform; width 9 ft. 10 1-2 in.; height over all 14 ft. 1 1-2 in. It has six-wheeled trucks, with a wheel base of 10 1-2 ft. The interior is finished in mahogany, of plain design throughout, with the exception of the kitchen, which is in cherry. The upholstery is in dark green Ooze leather, & the floors are covered with green Wilton carpet—the draperies being made to match. The floor space is divided up so as to afford very ample accommodation. The two staterooms, which can be arranged en suite, are furnished

ed with the "anti-pounding" steam-heating system. In the observation room is a speed recorder.

Grand Trunk Mogul Engines.

Reference was made in our last issue to 6 moguls being built by the Schenectady Locomotive Works for the G.T.R. These engines, which were designed by Superintendent of Motive Power Morse, weigh 152,850 lbs., in working order, of which weight 127,650 lbs. are carried by the drivers. The cylinders

pal dimensions, etc., are given below in tabular form:—

Weight	152,850 lbs.
Cylinders	20 by 26 in.
Boiler, diameter	.62 in.
Tubes, number	291.
Tubes, diameter	.2 in.
Firebox, length	120 in.
Firebox, width	40 3/4 in.
Working pressure	200 lbs.
Heating surface	2,001 sq. ft.
Driving wheels, diameter	.62 in.

The special equipment includes Westinghouse-American brakes.

Grand Trunk Equipment.

General Manager Hays, in response to an enquiry, writes us:—"We have just received the last of an order of 20 locomotives, 10 Mogul type & ten 10-wheeler type, for our lines west of the Detroit & St. Clair Rivers, & are arranging to construct in our own shops in Canada 6 of each of the same classes of locomotives.

"We are also arranging to build in our shops in Canada, principally at Montreal, 300 coal cars, 250 refrigerator cars, & 50 cinder dump cars, all of 30 tons capacity. We have also under construction by the Pullman Co., at Chicago, Ill., 20 passenger coaches, 1st class, & are building 5 similar coaches at Montreal."

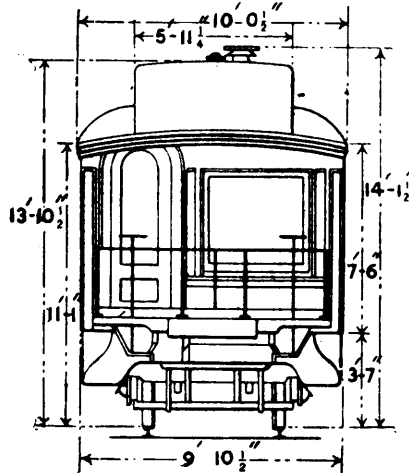
Equipment Notes.

The Minneapolis, St. Paul & Sault Ste. Marie is asking bids on 500 standard box cars

The Dominion estimates for 1898-9 provide \$20,000 for rolling stock fittings, freight cars on the Intercolonial, & \$3,500 for rolling stock on the P.E.I. Ry.

The C.P.R. is building 10 sleeping cars at Hochelaga, which will be fitted up in Louis XV. style, and called such names as Trianon, Narbonne, Fontenoy, etc.

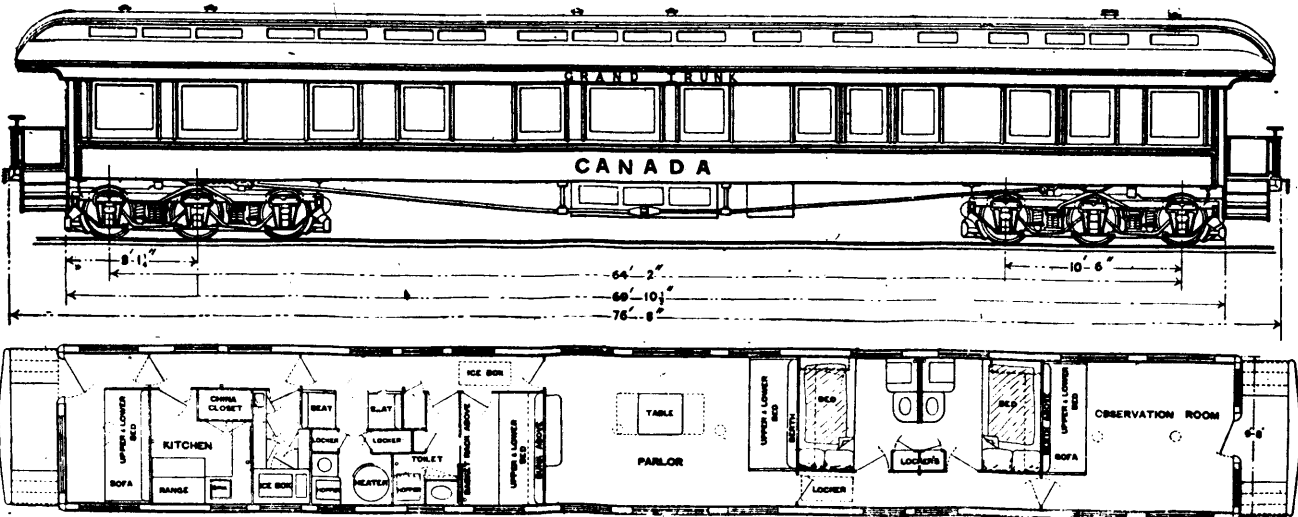
The saddle tank 6-wheel locomotive being



are 20 by 26 ins. The valves are of the G.T.R. standard, with 5 1/2 ins. greatest travel set line & line in full gear.

The driving wheels are 62 ins. outside of tires, the main drivers having cast-steel centers & the front & rear drivers steeled cast-iron centers. The driving boxes are also of steeled cast-iron. The engine truck wheels are 37 ins. in diameter, of steeled cast-iron, spoke centers.

The boiler is of the extended wagon-top variety, 62 ins. in diameter at the first ring,



OFFICIAL CAR OF THE GENERAL MANAGER, GRAND TRUNK RAILWAY.

with stationary beds & individual toilet accommodations. The locks & most of the other metal fittings in the car are of Persian brass, the washstands & accessories being of nickeline. These are supplied with both hot & cold water service. In the observation room is a convenient piece of equipment in the form of a map rack, containing numerous maps showing the topography of various sections of the road, which are mounted on rollers for automatically folding them into the ceiling when not in use.

The car is lighted with Pintsch gas & heat-

made of Carbon steel & adapted to carry a working pressure of 200 lbs. The firebox is 120 ins. in length by 40 3/4 ins. in width, also of Carbon steel. The crown is stayed with radial stays 1 1/8 ins. in diameter. The staybolts are of Ulster special iron. The tubes are of charcoal iron. The grate is of the rocking pattern, in accordance with the G.T.R. standard. The exhaust pipe is single, with 4 nozzles, varying in size from 4 3/4 to 5 1/2 ins. The tender frame is of 10-inch channel steel. The tank has a capacity of 4,500 gallons of water & 10 tons of coal. The princi-

pal dimensions, etc., are given below in tabular form:—

built by the Canadian Locomotive & Engine Co., Kingston, as mentioned in our last issue, is for the B.C. Mills Timber & Trading Co., Vancouver.

The Ottawa, Arnprior & Parry Sound Ry. has placed an order with the Baldwin Locomotive Works for 5 compound consolidation freight engines, in addition to the order mentioned in our last issue.

Referring to the article on acetylene gas for trains which appeared in our last issue, Holland Bros., Ottawa, write:—"We have just

closed a contract with the Pontiac & Pacific Jct. Manager, who has been running his trains since January last lighted with acetylene to light the Gatineau Valley trains. The Canada Atlantic has asked us to make an offer to light the cars on its two lines.

Twelve hundred freight cars will be equipped at the C.P.R. shops in Winnipeg this year with Westinghouse air brakes. This will reduce the running time of a freight train of these cars between Winnipeg & Fort William by fully one-third, as there is little time lost in slowing up a freight with an air brake attachment as compared to when stopped by the trainman. The freedom from accidents is also a great consideration.

The Canadian Pacific will build at its Perth, Ont., shops 300 flat & 500 box cars for delivery between now & August. They will be of 60,000 lbs. capacity & 35 ft. long; the flat cars will be 8 ft. 6 in. wide over frames & 4 ft. 2 in. high, & the box cars 8 ft. 11 in. wide over frames & 7 ft. 2 in. high inside. All cars will have M.C.B. 4 1/4 in. x 8 in. steel axles, C.P. standard bolsters, Westinghouse air brakes, M.C.B. cast-iron journal boxes & journal box lids, C.P. standard five-coil springs & 30-ton trucks & cast-iron wheels to weigh 600 lbs. each. The cars are now being turned out at the rate of 8 flat & 6 box cars a day.

FINANCE, REPORTS, ETC.

Canadian Pacific Fixed Charges.

Following is a statement of the fixed charges as presented with the last annual report :

FIXED CHARGES 1897.	
£7,191,500	1st Mortgage Bonds 5% \$1,749,931.66
\$7,000,000	Province of Quebec 4 1/2-20% 283,500.00
£1,100	North Shore 1st Mortgage 5% 267.66
£200,000	Canada Central 2nd Mortgage 6% 58,400.00
	Canada Central 1st Mortgage Sinking Fund 5% 51,100.00
£200,000	St. Lawrence & Ottawa 4% 38,933.34
\$2,544,000	Man. S. W. Col. Ry. 1st Mortgage 5% 127,200.00
	Toronto, Grey & Bruce Rental 140,000.00
£4,007,381 15s. 3d.	Ontario & Quebec Debentures 5% 975,129.56
\$2,000,000	Ontario & Quebec (ordinary) 6% 120,000.00
£1,330,000	Atlantic & Northwest Ry. 1st Mortgage, less Government proportion 136,333.34
£750,000	Algoma Branch 5% 182,500.00
	Rental, Farnham to Brigham Jct. 1,400.00

Rental Mattawakeag to Vanceboro	23,800.00
Rental New Brunswick Railway system	370,799.75
Rental of Terminals at Toronto	35,149.22
Rental of Terminals at Hamilton	17,931.35
Rental Hamilton Junction to Toronto	23,548.36
Rental St. Stephen & Milltown Ry.	1,366.66
Interest on Montreal & Western Ry. purchase.	17,097.28
4% DEBENTURE STOCK.	
Issues for general purposes	£3,933,748
Issue for China & Japan Steamers	720,000
Issue for Souris Branch	1,004,000
	£5,657,748 \$1,101,374.95
Issue for acquiring Mortgage Bonds of Roads of which principal or interest is guaranteed by C.P.R.:-	
1 year on	£3,756,235
6 mos. on	49,552
	3,805,787 736,036.80
Interest on Land Grant Bonds	£9,463,535 \$1,837,411.75
	391,567.33
	\$6,783,367.26

Canadian Pacific Land Grants.

SALES—	ACRES.	AMOUNT REALIZED.	AVERAGE PER ACRE.
Can. Pac. Land Grant, 1897	135,682	\$431,096	\$3.18
	1896	66,624	3.30
Man. S. West. Grant, 1897	63,800	234,644	3.68
	1896	21,254	88,568
Total sales.....	1897 199,482	665,740	3.33 1/2
	1896 87,878	308,928	3.51 1/2

POSITION OF LAND GRANTS AT DEC. 31, 1897.	
CANADIAN PACIFIC—	Acres.
Original Grant	25,000,000
Surrendered to Government under agreement of March 30, 1886	6,793,014
	18,206,986
Souris Branch Land grants	1,611,520
	19,818,506

Sales to Dec. 31, 1897	3,758,748
Less cancelled in 1897	46,898
	3,711,850
Quantity of land unsold	16,106,656

MANITOBA SOUTH WESTERN—	
Total Grant	Acres.
Total Grant	1,396,800
Sales to Dec. 31, 1897	235,758
Less cancelled in 1897	12,529
	223,229

COLUMBIA & KOOTENAY—	
Total Grant	Acres.
Total Grant	190,000
Sales to Dec. 31, 1897	1,888
	188,112
Total land owned by the Company	17,468,339

C.P.R. Traffic Train Earnings, 1897.

	Mileage.	Earnings.	Earnings per traffic train mile.
Passenger	6,273,999	\$7,039,001.37	\$1.12
Freight	9,826,734	14,744,181.91	1.50
Total	16,100,733	\$21,783,183.28	\$1.35

The above includes earnings from mails, express & sleeping cars, but not lake steamers, Pacific steamers, British Columbia lake & river steamers, telegraph, elevators, rents, &c., the net earnings from which amounted to \$1,555,393.

EXPENSES PER TRAFFIC TRAIN MILE, 1897.

	Expenses.	Expenses per traffic train mile.
Maintenance of way and structures	\$3,018,748.90	0.187
Motive power	4,211,586.61	0.262
Maintenance of cars	955,013.12	0.059
Traffic and general expenses	4,849,451.76	0.301
	\$13,034,800.39	\$0.809

C.P.R. Earnings & Expenses.

The gross earnings, working expenses, net profits & increases over 1897 from Jan. 1, 1898, are as under :

	Earnings.	Expenses.	Net Profits.	Increase.
Jan..	\$1,672,372.04	\$1,156,744.45	\$515,627.59	\$142,284.49
Feb..	1,494,596.98	1,070,929.62	423,667.36	38,844.28
Mar..	2,079,479.06	1,326,245.55	753,233.51	233,020.67
	\$5,246,448.08	\$3,553,919.62	\$1,692,528.46	\$414,149.44

The traffic earnings for April, 1898, were \$1,925,000, against \$1,601,000 in April, 1897, an increase of \$324,000.

C.P.R. Land Sales.

	Acres.	Amount.
	1898	1897
Jan.....	22,044	9,943
Feb.....	20,550	8,163
Mar.....	35,421	8,727
April.....	43,145	10,785
	1898	1897
	\$7,924.00	\$6,399.00
	109,010.09	29,060.33
	140,275.84	37,745.69

Grand Trunk Earnings.

These figures include the G.T. of Canada, the Chicago & G.T., & the Detroit, Grand Haven & Milwaukee Rys.

	1898	1897	Increase.
Jan.....	\$1,916,332	\$1,639,614	\$276,718
Feb.....	1,674,453	1,522,246	152,207
Mar.....	2,048,970	1,803,279	245,691
April.....	1,918,477	1,776,840	141,637
	\$6,558,232	\$6,741,979	\$183,747

MADE IN THE FOLLOWING WIDTHS
24, 27, 32, 36, 50 & 72 inches.

STANDARD

SHADES

ALWAYS IN STOCK.

PURE MOHAIR VELVET

" LISANGO "

REGISTERED-PATENTED.

Always Stamped " Lisango," and Lister & Co., Ltd., Manningham.

Every yard on the selvages.

THE IDEAL FABRIC FOR FURNISHING PURPOSES

Specially Suitable for Upholstering, Railway Cars and Steamship Saloons.

" LISANGO " is very strong, durable, and altogether the richest velvet extant. MAY BE HAD OF ALL LEADING WAREHOUSEMEN.

Financial Notes, &c.

CALGARY & EDMONTON RY. net earnings for Mar. were \$21,310.33, as against \$6,740.86 for Mar., 1897.

DOMINION ATLANTIC receipts for the 3 mos. to the end of March were \$98,699, against \$93,002 for corresponding period of 1897.

DULUTH, SOUTH SHORE & ATLANTIC, net earnings for the 2 mos. to the end of Feb. were \$61,373, as against \$30,653 for corresponding period of 1897.

HAMILTON & NORTHWESTERN.—It was recently announced in England that the directors of the G.T.R. had decided to give to the holders of the Hamilton & Northwestern 6% 1st mortgage bonds maturing on June 1 next the option, until May 10, of accepting £98 of perpetual 4% consolidated debenture stock for each £100 bond, in addition to the ½ interest of 3% payable on June 1. The debenture stock offered will be entitled to the 1st quarter's interest, payable on July 14. The Co.

enable it to make some necessary repairs on the roadbed which the receiver is not authorized to pay out of earnings. Considerable improvements are necessary to the road this year & if some such arrangement as this is not made, it is regarded as improbable that these can go on.

MICHIGAN CENTRAL.—At the annual meeting of the stockholders at Detroit, Mich., May 5, the report of the directors showed that, while the receipts of 1897 fell somewhat below those of 1896, the net earnings were increased by the reduction of operating expenses. After paying the Canada Southern its proportion of net income, \$282,402, & a 4% dividend, the balance to the good is \$45,402. The annual report of the Lake Shore & Michigan Southern for 1897 showed net earnings of \$6,755,231, an increase of \$287,428; 6% dividends paid, \$2,967,990; surplus earnings, credited to income account, \$777,269.

MINNEAPOLIS, ST. PAUL & SAULT STE MARIE, gross earnings for the 2 mos. to the

Confederation in 1873, \$3,144,000 spent by the province in railway construction was charged against it, & that that debt had been paid. Ontario had expended only \$8 a head towards railway construction since Confederation, but had received from the Dominion for that purpose \$14 a head. On the other hand, P.E.I. had spent \$28 a head in building railways, but had only been aided to the extent of \$5 a head by the Dominion. Sir Richard Cartwright asked if P.E.I. would take back the Island railway as a free gift. Mr. Martin replied that if Ontario would take the canals P.E.I. would take the railways. It was often said that Government railways should be self-sustaining, but the revenues from the canals yielded far less than the railways in comparison with the expenditure upon them.

QU'APPELLE, LONG LAKE & SASKATCHEWAN RY. & Steamboat Co.'s net earnings for Mar. were \$494.47, as against a loss of \$1,529.76 for Mar., 1897.



STONE ARCH ACROSS VERMILLION RIVER, CANADIAN PACIFIC RAILWAY.

will allot, at the price of £102 10s. per £100 of debenture stock, any extra amounts of that stock required by bondholders to enable them to register even amounts.

THE KINGSTON & PEMBROKE RY. has secured legislation to reduce its capital stock, & to authorize issue of 3% bonds in place of the 6% bonds now in the possession of bondholders. It is intended by means of preference stock to create a fund for wiping out liabilities to the amount of \$150,000, and for paying the arrears of interest on the 6% stock.

THE MANITOBA & NORTHWESTERN RY. owes Manitoba \$1,185,000 for which the government holds as security a lien upon 700,000 acres of the Co.'s lands, which cannot be sold by the government at a less price than \$2.50 an acre. Of this debt \$124,000 is for compound interest. The Co. wants the government to take over 590,000 acres at \$2 an acre and extinguish the debt, leaving the Co. 110,000 acres to sell. This arrangement would assist the Co. in re-organizing & would

end of Feb. were \$516,590, against \$417,272 for corresponding period of 1897.

ONTARIO & QUEBEC RY.—Interest due on June 1 on the 5% debenture stock of this Co. will be paid by Morton, Chaplin & Co., 6 Princes Street, London, Eng., on & after that date. The ½ interest on the shares at the rate of 6% per annum will be paid on June 1 at the Bank of Montreal, in Montreal, or by Morton, Chaplin & Co. in London, at the option of the holder. The debenture stock transfer books closed in London & Montreal on May 3, & the share transfer books closed in Montreal on the same date, all books reopening on June 26. This line is leased in perpetuity to the C.P.R. for a rental sufficient to pay interest on the debenture stock & 6% dividend on the share capital.

PRINCE EDWARD ISLAND RAILWAY.—In the House of Commons recently Mr. Martin repudiated a charge that P.E.I. had paid nothing towards railway construction. He claimed that at the time the Island joined

THE QU'APPELLE, LONG LAKE & SASKATCHEWAN RY. & Steamboat Co. has issued its accounts for the year ended Nov. 30 last. The gross earnings were \$63,785; working expenses, \$60,715; net earnings of \$3,070, these figures comparing with \$49,869, \$41,856, & \$8,013, respectively, in the previous year. The increase in expenses "is attributable mostly to expenditure under the heading of maintenance of way & structures, which includes renewal of ties, repairs of track & roadbed, & snow expenses, which latter were very heavy during the winter of 1896-7. The road may now be considered to be in fairly good condition, although it has been found necessary to contract for a considerable number of ties to be put in during the coming summer."

QUEBEC CENTRAL net earnings for 1897 were \$159,905, against \$128,311 for 1896, & for the 2 mos. to Feb., 1898, \$2,858, as against \$13,262 for corresponding period of 1897.

CONSTRUCTION & BETTERMENT.**Montreal & Ottawa Railway.**

This line, which is leased to the C.P.R., leaves the Montreal & Toronto line at Vaudreuil 23.7 miles west of Montreal. The first portion, from Vaudreuil to Rigaud, 17 miles, was built about 4 years ago, with an extension to Point Fortune 7 miles. In 1896 the line was extended from Rigaud to Alfred 29 miles, & during last year this work has been going on on the extension to Ottawa. It is now nearly completed, & is expected to be opened for passenger traffic early in July, when express trains are expected to make the time between Montreal & Ottawa in 2½ hours with the greatest security and comfort. The distance from Windsor Street Station, Montreal, to the Central Station, Ottawa, is 111 miles, being 5 miles shorter than any other route. We are indebted to the Manager of Construction, R. W. Leonard, for the following particulars:

The line passes along the south shore of the Ottawa River & Lake of Two Mountains from Vaudreuil to Hudson, passing the summer resorts at Como & Hudson, thence somewhat inland through a beautiful agricultural country past Rigaud & Vankleek Hill to the celebrated mineral springs and summer resorts at Caledonia and Plantagenet, from which latter point the Nation River is navigable for small steamers up to Casselman on the C.A.Ry., a distance of about 20 miles. To the south of Navan & Blackburn is the enormous peat swamp known as the Mere Bleu, extending southward to Eastman Springs on the C.A.Ry.

The stations on the line, with distances from Montreal, are as follows:

Vaudreuil	23.8 Miles.
Little River	26 "
Isle Cadieux	28 "
Como	31 "
Hudson	33 "
Hudson Heights	33 "
Lavigne	37 "
Rigaud	41 "
St. Eugene	49 "
Stardale	54 "
Vankleek Hill	58 "
bury Branch C.A.Ry.	" Crosses Hawkes-
McAlpins	61 "
Caledonia Springs	66 "
Alfred	70 "
Plantagenet	75 "
Pendleton	80 "
The Brook	86 "

Hammond	89 Miles.	Crosses Rock-
land Branch C.A.Ry.		
Leonard	95 "	
Navan	99 "	
Blackburn	105 "	
Ottawa	111 "	Central Station.

The maximum grades are 0.80 per 100 or 42 feet per mile, & the curves are, with very few exceptions, not sharper than 1 degree. It is laid throughout with 73 lb. rails with flat head (section similar to that adopted by Am. Soc. C. E.). Many of the sidings at flag stations are fitted with patent switches & frogs, leaving the main line absolutely unbroken at these points, & making it particularly safe for fast running.

The principal structures are, Nation River Bridge at Plantagenet Springs, 4 steel spans of 100 feet on masonry substructure, Green's Creek, 30 ft. masonry arch culvert, about 4 miles from Ottawa; Rideau River Bridge at Ottawa, 8 spans half-deck plate girders of 65 feet on masonry substructure. There are many other smaller steel or masonry structures, timber being used only in smaller culverts & temporary work.

The line is fenced throughout with Page wire fence, posts set 25 feet apart.

Grand Trunk Improvements.

Chief Engineer Hobson informs us that the erection of the superstructure of the Victoria Jubilee bridge is progressing very well. Five spans at the west end are practically completed, excepting the back stringers, & the 1st span at the east end is in progress. As previously mentioned, the pier masonry has been finished.

General Manager Hays writes us:—"In addition to the reconstruction of the Victoria bridge, we have in progress & about completed the work on the Richelieu River bridge at Belœil, P. Q., a structure of 7 spans. We are also renewing the bridge over the River Rouge, near Coteau Junction, as well as preparing foundations for replacing the bridge across the Grand River (4 spans) east of Paris, Ont. All of these bridges are new & modern structures.

"Preparations are being made for putting in the foundation for an elevator at Midland, which will be erected under the auspices of this Co. Similar arrangements are being made at Goderich for the erection of an elevator there by the people of Goderich in connection with this Co.'s facilities.

"We propose to lay, during the course of

the next 2 or 3 months, some 80 miles of new 80-lbs. steel rail, on the southern division of the line, between St. Thomas, Niagara Falls & Fort Erie.

"Bids have been taken & contract made for the construction of an office building for our Point St. Charles shops, Montreal, to be located on the present shop grounds at the Congregation Street entrance. This will be a commodious structure, & will provide office rooms for the Superintendent of Motive Power, the master mechanics, & their respective staffs.

"There is also under construction at Niagara Falls, on property leased from this Co., a Railway Y.M.C.A. building, to the cost of which this Co. has contributed, & which will be utilized primarily by G. T. employes. A similar building is also under construction at Elsdon Station, Chicago, Ill."

Superintendent Jones, St. Thomas, Ont., writes us:—"We are now engaged in laying the first of the 80 miles of new steel it is the intention to put down this summer. Men are working westward from Niagara Falls toward Welland Jct. & St. Thomas. A ballast train has been employed & will continue throughout the season."

Chief Engineer Hobson informs us that the Belœil & Rouge River structures are ordinary deck truss bridges. The Belœil one consists of 6 fixed spans of 155 ft. each, with a draw span of 149 ft. the total length in all of the bridge being 1,107 ft. It is a single track structure. The River Rouge bridge, near Port Union, is a double track structure, consisting of one 135 ft. span.

Stone Arches on the C.P.R.

The view on page 63 shows the stone arch across the Vermillion River on the C.P.R. Sault Ste. Marie Branch. This structure has 1 span of 50 ft. & 4 of 20 ft., having a height of 36 ft. Chief Engineer Peterson, to whom we are indebted for the photograph, writes: "We have adopted stone structures at a good many of our crossings, instead of iron, as we find that by building these structures under a rubble masonry specification they can be built as cheaply as iron, besides being much more substantial, & while being as cheap, & in some cases cheaper, are much more economical, as they do not require painting, special floors or any repairs. A structure on the same general lines, but very much larger, is being built this year across the Kaministiquia River, west of Fort William."

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Tested by Mechanical Experts of the C.P.Ry. Co., G.T.Ry. Co., M.C.Ry. Co., Boiler Inspection Insurance Co., and proved to be the

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Railway Construction in Manitoba.

From a railway point of view, the recent session of the Manitoba Legislature was the most important for many years, provision having been made for the extension of the Dauphin line to the great Saskatchewan River, for a line from Winnipeg to the Lake of the Woods, or Rainy River, to meet the Ontario & Rainy River Ry., thus providing an alternative line to Lake Superior; & for a 50-mile extension of the Northern Pacific system. Opposite the first page of this issue is a recent map of Manitoba, which will be found convenient to refer to in reading what follows here:

The Lake Manitoba Ry. & Canal Co.'s road, popularly known as the Dauphin line, runs from Gladstone on the Manitoba & Northwestern Ry., 35 miles northwest of Portage la Prairie, though the latter town is really its starting point as it has running powers over the M. & N.W., and runs to Sifton, 101 miles from Gladstone, near the west side of Lake Dauphin. From Sifton, connection is made with Lake Winnipegosis by a line of 23 miles, as shown by a dotted line on the map. The Dauphin line has done remarkably well, the Manitoba Government not having been called on to pay any of the interest on the bonds it guaranteed. The Legislature has authorized the Government to aid the Co. to extend its line from a point north of Sifton, northerly or northeasterly to the Great Saskatchewan River, which will probably be reached in the vicinity of the Pas, an approximate distance of about 140 miles from Sifton, by guaranteeing the principal & interest of the Co.'s 1st mortgage bonds for \$8,000 a mile, the bonds bearing 4% interest & maturing in 30 years, & by exempting the Co. from taxation for the same period, the bonds & interest to be a 1st mortgage on all the Co.'s property on the line. As security for payment of interest the Co. gives the Government a lien on 2,133 acres of its land grant inside the Province, for every mile built outside of Manitoba. Out of the land grant to be earned by the railway, the Co. is to convey to the Province 256,000 acres, for which the Province is to release its claims against the Hudson's Bay Ry. Co. & the Winnipeg & Great Northern Ry. Co., for bonds of the Province issued in 1886, to build some 40 miles of the Hudson's Bay Ry. from Winnipeg. In discussing the matter in the Legislature, Premier Greenway referred to the steps being taken in the Dominion Parliament to amalgamate the Lake Manitoba Ry. & Canal Co. with the Hudson's Bay Ry. Co., now known as the Winnipeg & Great Northern, & pointed out that the extension of the Dauphin line to the Saskatchewan will really be an important section of a direct line to Hudson's Bay, & will open up a very rich agricultural district, the Swan River Valley, in which every acre of homestead land will be taken up by July 1. It will also traverse the Carrot River and Red Deer districts.

J. H. Ross, Commissioner of Public Works in the Northwest Territorial Government, in addressing his constituents at Moose Jaw early this month, said W. Mackenzie had assured him that Prince Albert would be reached within two years & Hudson's Bay within four.

WINNIPEG TO LAKE SUPERIOR.

The much talked of proposal for the Manitoba Government to aid in the construction of an air line to Duluth has been abandoned in favor of another line to Thunder Bay. Premier Greenway says that from a commercial standpoint he was in favor of the Duluth route, but that as a considerable portion of the line would be in U.S. territory, it had been found impossible to secure absolute control, so that the maximum rates of freight provided for should be maintained. The Legislature has authorized the Government to aid

the Manitoba & Southeastern Ry. Co. to build, as the first link, a line southeasterly from Winnipeg 80 miles, to near Whitemouth Lake in township 4, range 14, east of the principal meridian & thence to the Lake of the Woods, or to near the mouth of Rainy River. The same bonus & exemption are given as to the Dauphin line above mentioned. Whitemouth Lake has been selected as a common point from which the line can run either across the narrows of the Lake of the Woods, entirely within Canadian territory, or go round the southwest corner of the Lake of the Woods, passing for some 35 or 40 miles through Minnesota. From Whitemouth Lake to Lake of the Woods is about 25 miles, & to the mouth of Rainy River about 60 miles, making the distance from Winnipeg to the Lake of the Woods by the Canadian line 103 miles, & by way of Minnesota 140 miles. It is not likely the line will go by way of Fort Frances, which is near Rainy Lake, as the most direct route is to keep north of Rainy Lake. The intention, of course, is to connect with the Ontario & Rainy River Ry. which is projected from Lake Superior westerly. In the event of the Government requiring the Co. to construct the line to a point on Rainy River, it may similarly bonus the portion of the line in the U.S., taking as security a mortgage on the line within Manitoba.

Some 50 or 60 miles from Winnipeg the line will traverse a district which will furnish a large supply of cordwood, & the Co. is to bind itself that, during the term of the guarantee, the rates on cordwood in car lots of a minimum of 30,000 lbs. to points on its line shall not exceed as follows per 100 lbs:

25 miles or less.....	2½ cents
50 " "	3 " "
75 " "	3½ " "
100 " "	4 " "
150 " "	4½ " "
200 " "	5 " "

On pine & spruce sawlogs for 150 miles, or from the point where the railway touches Rainy River, to Winnipeg, the rate is not to exceed \$2.50 per 1,000 feet, board measure. Mr. Greenway contends this will transfer the manufacture of lumber from Keewatin & Rat Portage to Winnipeg, as the logs used at the former points come down Rainy River, & it costs 75c. a thousand feet to raft them across Lake of the Woods. He also claims that in Winnipeg the offal will pay for the cost of manufacturing, & points out that lumber can be distributed from Winnipeg to prairie points at a less rate than from Keewatin.

In connection with this guarantee of rates Mr. Greenway says he has not been entirely successful, & that he has not been able to make a bargain which includes all that would be necessary to secure the through line to Lake Superior. This refers to the proposal for a wheat rate of 10c. per 100 lbs. from Winnipeg to Lake Superior.

When this was written (May 14) Mr. Mackenzie was in Winnipeg arranging for the work to be gone on with. T. Turnbull, C.E., who has been in charge of one of the survey parties for the Toronto-Sudbury line under H. Lumsden, C.E., has gone west with another engineer, Mr. Bruce, & they will have charge of the surveys, etc., for both the Dauphin extension & the line from Winnipeg southeasterly, which will be built under the charter of the Winnipeg & Southeastern Ry. Co., which has a land grant from the Dominion Government. Mr. Mackenzie's son, R. J., will have charge of construction. It is expected that the 80 miles from Winnipeg to Whitemouth Lake will be built first & then some 70 or 80 miles of the Dauphin extension. Both the Lake Manitoba Ry. & Canal Co. & the Winnipeg & Southeastern are controlled by Mackenzie & Mann; of the former line the officers are: President, F. Nichols, Toronto; Secretary, C. E. L. Porteous, Toronto; Superintendent,

D. B. Hanna, Winnipeg. It is probable Mr. Hanna will also operate the Winnipeg & Southeastern.

NORTHERN PACIFIC EXTENSION.

This Co. now has 268 miles of lines in Manitoba, its connection from its Dakota system at Pembina, along the west side of the Red River to Winnipeg, 68 miles; the Brandon branch, 145 miles, & the Portage la Prairie branch, from Winnipeg along the south side of the Assiniboine River to Portage la Prairie 55 miles. The province gave \$532,250 towards the construction of these lines. The Brandon branch starts from the Pembina-Winnipeg line at Morris, 25 miles north of the International Boundary, & runs almost due west for 102 miles to Belmont, whence it goes northwest to Brandon, crossing the C.P.R. Southwestern branch near Methven. The N.P.'s Brandon branch, as far as Belmont, is about midway between the C.P.R. Southwestern & Pembina Mountain branches. The Manitoba Legislature has now granted the N.P. a cash bonus of \$1,750 a mile to aid in building a branch from near Belmont, westerly, to a point at or near Hartney, on the C.P.R. Souris branch, a distance of some 50 miles, with an additional \$20,000 for the heavy work of crossing Lang's Valley. The Ry. Co. & its property & franchises are to be exempt from taxation for 20 years. The N. P. Ry. is represented in Manitoba by G. W. Vanderslice, Superintendent at Winnipeg.

G. A. Simpson, Engineer of the N.P. at Winnipeg, is already running a line for the branch. After Lang's Valley is crossed the work does not present any particular difficulties, but the crossing of the valley will be difficult & expensive. The valley is deep on both sides & is cut into by steep ravines. The work of finding a good roadway into & out of the valley is not an easy one. It is expected everything will be ready so that construction can be started early in June.

E. H. McHenry, Chief Engineer of the N. P.R., writes us in reference to this work as follows: The survey is now in progress, & the contracts for construction will be let very soon. The character of the work is the ordinary prairie construction, with the exception of a short section of heavy cutting in embankments across Lang's Valley. No bridges or other special structures of importance are required. Rails and rolling stock will be furnished by the N.P.R. Co.

It is said that a committee is asking farmers in the territory to be served by the branch to give \$8 for each 160 acres they occupy towards buying right of way for the line.

Mr. Greenway estimates that Manitoba may have to guarantee another \$1,000,000 to complete the link between the Winnipeg & Southeastern & the Ontario & Rainy River Rys., & that some branches will be necessary in Southern Manitoba & other parts of the province, to the extent of about 200 miles, for which \$350,000 would be required.

THE RAILWAY COMMITTEE of the Privy Council has granted the application of Massey-Harris Co. to extend its tracks up Strachan Avenue, Toronto.

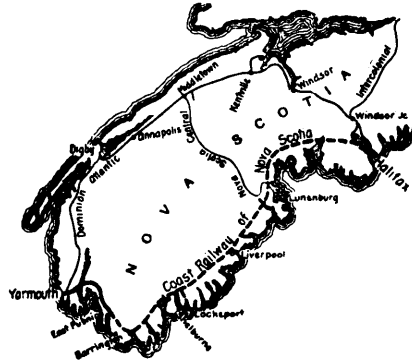
CANADIAN GOVERNMENT SYSTEM.—The Dominion estimates for the fiscal year beginning June 1 next contain the following principal items: Intercolonial Ry., increased accommodation at Halifax, \$135,000; to increase strength of iron bridges, \$50,000; extension to deep water at North Sydney, for the Newfoundland Steamship Service, \$30,100; increased accommodation at Moncton, \$30,000; increased station & other accommodation at various points, \$6,000; new fences on Oxford & New Glasgow & Cape Breton divisions, \$6,000 each; for the P. E. Island Ry. \$15,000 is provided to shorten the main line by removing all curves.

Coast Railway of Nova Scotia.

The statements about this line made in our last issue on the authority of the Chief Engineer & Superintendent, L. H. Wheaton, were questioned, it being alleged that location had not been completed to Lockeport, but on the contrary no location had been made over, or around, the Birchtown Hills, west of Shelburne, where the engineering difficulties were said to be very serious; that the statement that the charter of the N. S. Southern Ry. having expired should be modified by a further statement that a bill extending the charter had been passed by the Legislature & assented to on March 11; that no progress had been made on the line between Lockeport & Halifax, not a sod having been turned; that the statement that "free right of way had been secured for the entire distance" was untrue, application to the County Councils of Queen's & Lunenburg, at the January sessions, to have the right of way made a charge on those counties having been refused, at least for the time being.

We referred the matter to Mr. Wheaton, who has sent us the following information in reply: Location has been substantially completed from Yarmouth to Lockeport. Regarding the Birchtown Hills, location was not fully completed, so far as the instrumental work was concerned, on 7 miles of this district, owing to the fact that work was closed down in the latter part of November on account of bad weather, before this portion had been completed; but a preliminary line had been run, which was entirely satisfactory to this Co., & sufficient cross sections were taken to project a location, which was so satisfactory that we have not since considered the matter, but will complete this location as soon as surveys are completed from Lockeport to Halifax. The profile & plan of this 7 miles are on file in the Provincial Government Engineer's office, as well as my own, & I would be happy to refer the correspondent to a view of either.

With regard to the fact that the N. S. Southern Railway charter had expired, this was correct at the time of my statement. They applied for a renewal of their charter at the February session of the Legislature, but it was not granted. The charter which they did secure after my statement of Mar. 5 was over an entirely different portion of the country, & the reasons for granting which I am



Coast Railway of Nova Scotia.

not free to discuss at this time, nor do I believe are they.

I did not state that considerable progress had been made on the line between Lockeport & Halifax. (Mr. Wheaton is correct as to this. It was a mistake in editing his copy.—Editor.) Ninety-seven miles of the proposed line between Yarmouth & Halifax is under contract with the Nova Scotia Development Co., which has completed 31 miles between Yarmouth & East Pubnico, which has been accepted by this Co., & has been in successful operation since Aug. last. Twenty miles of work beyond East Pubnico have been sub-let to H. J. Townsend & Co., of New Glasgow, N.S., who have up to May 4 (counting the work done since April 1, when construction

was resumed) completed 5 miles of grading, & masonry on over 12 miles. The location had been completed to Lockeport, 9 1/2 miles from Yarmouth, in 1895 & 1896, & 2 parties are now in the field pushing forward the surveys between Lockeport & Halifax, one party being at each end working towards each other. As intimated above, construction work was commenced on April 1, but we have had considerable bad weather during the month & have not made as satisfactory progress as we would desire, but the forces are being daily increased & work will be actively pushed.

Right of way has been granted us as follows: Town of Yarmouth, municipalities of Yarmouth, Argyle, Barrington, Shelburne, Queens, Chester & Halifax. In the municipality of Lunenburg, the vote was left open over a distance of 21 miles, until the route is decided upon, as we have in contemplation 2 different lines. In the event of the adoption of 1 of the 2 lines, 9 miles of this distance would be trackage rights over the N. S. Central Railway, for which no right of way has been required from the municipality.

At the last session of the Legislature the time for the completion of the line from Yarmouth to Lockeport was extended from Oct. 1 of this year, to Oct., 1899.

The total distance of the line between Yarmouth & Halifax will be slightly less than 215 miles, & will serve a population of 440 per mile, or a total of about 88,000. This line will open up one of the best tourists' resorts on the continent, & I think the climate here in summer cannot be equalled, in fact, it is an equable climate the entire year; & with the railway facilities which we propose to offer, I have no doubt that the business interests of the south coast of N.S. will be very materially advanced, & new industries established as fast as the line progresses.

Ambrose Kent & Sons

Manufacturing Jewellers,
156 Yonge St., Toronto.



We have been appointed official watch inspectors to the Grand Trunk Railway for Toronto and York.

CANADA SOUTHERN RAILWAY CO'Y.

The Annual General Meeting of the Canada Southern Railway Company, for the election of Directors, and other general purposes, will be held on Wednesday, the 1st day of June, 1898, at the hour of eleven o'clock in the forenoon, at the Company's Head Office in the City of St. Thomas.

NICOL KINGSMILL,

May 2nd, 1898.

Secretary C. S. Ry. Co.

LEAMINGTON & ST. CLAIR RAILWAY COMPANY.

The Annual General Meeting of the Leamington and St. Clair Railway Company, for the election of Directors and other general purposes, will be held on Wednesday, the 1st day of June, 1898, at the hour of eleven o'clock in the forenoon, at the offices of the Canada Southern Railway Company, in the City of St. Thomas.

NICOL KINGSMILL,

May 2nd, 1898.

Secretary L. & St. C. Ry. Co.

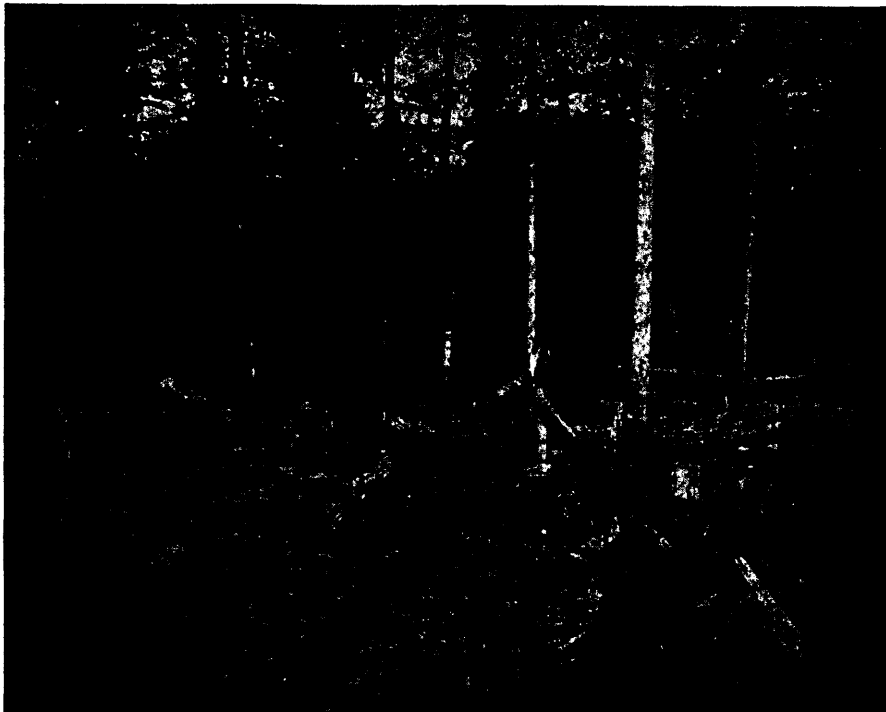
SARNIA, CHATHAM & ERIE RAILWAY COMPANY.

The Annual General Meeting of the Sarnia, Chatham and Erie Railway Company, for the election of Directors, and other general purposes, will be held on Wednesday, the 1st day of June, 1898, at the hour of eleven o'clock in the forenoon, at the Company's Head Office, in the City of St. Thomas.

NICOL KINGSMILL,

May 2nd, 1898.

Secretary S. C. & E. Ry. Co.



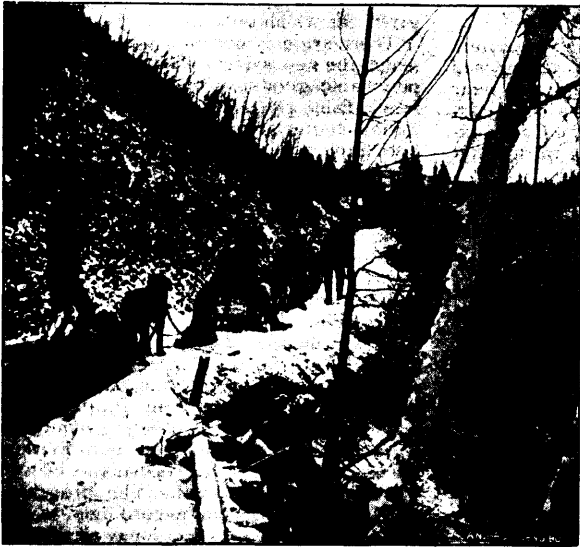
MONTREAL AND OTTAWA RAILWAY. ENTIRE LINE ENCLOSED WITH THE PAGE FENCING.

Almost every one of the leading railroads of Canada & the United States are using this fencing exclusively. It is the best, & still it costs much less than any other good fence. It is manufactured by the Page Wire Fence Co., Limited, Walkerville, Ont.

Mr. Wheaton's statements certainly appear conclusive, & we cannot help thinking that the questions raised, as indicated at the commencement of this article, were for the purpose of injuring the Co. by some one who had an interest to serve thereby.

The Stikine-Teslin Railway.

Since the defeat by the Senate of the bill



ON THE TRAIL NEAR TELEGRAPH CREEK, B.C.

confirming the agreement between the Dominion Government & Mackenzie & Mann for the construction of a railway from Glenora or Telegraph Creek to Teslin Lake & up to the time of writing (May 14) no further action has been taken by the Government in connection with the matter. In an interview on May 3, Mr. Mackenzie said there was still a large force of their men at work which had not yet been recalled, for the reason that it was impossible to reach them at the present time owing to the conditions of travel in that part of the country. They had received their instructions when they went north, & as they had not been countermanded, he supposed they were still at work, & would remain there until such time as it was possible to get word of the condition of affairs to them. Communication would soon be opened again, & they hoped to be able to recall the force at an early date. This recall is not, however, likely to take place as the British Columbia Government has acted with considerable promptitude. Early in April this Government determined to go on with the construction of a wagon road between Glenora & Teslin Lake, & this was followed by a decision to secure the construction of a through line of railway from an ocean port in B.C. to Teslin Lake.

The B.C. Government at the end of April entered into an agreement with Mackenzie, Mann & Co., represented by Lewis Lukes, for the construction of a through narrow-gauge line from Teslin Lake to an ocean port in B.C., to be selected jointly by the Dominion & B.C. Governments. Following are the principal provisions of the contract:—The railway to be divided into 2 sections. The northern section from the Stikine River to Teslin Lake. The southern section from the Stikine to the ocean port. Work to be commenced simultaneously on both sections at the Stikine before June 1, next. Northern section to be finished by Aug. 31, 1899. Southern section to be finished within 2½ years after selection of ocean port. Government to grant cash subsidy of \$4,000 a mile for both sections, the whole of such subsidy not to exceed \$1,600,000. The subsidy to be pay-

able upon completion of each section. The railway to be assessed at \$2,000 a mile when completed. The Government to receive 4% of the gross receipts of the railway. The Railway Company to have the option of repaying at any time the total subsidy. Mackenzie, Mann & Co. to immediately construct, for the purposes of the railway, a wagon road over the northern section along the located line of railway. The wagon road to be free

to the public for transportation purposes during the construction of the railway. Mackenzie, Mann & Co. to take over & assume all expenditure in respect of any such wagon road under construction by the Government at date of contract with them. Security for the due performance of the whole work to be given to the satisfaction of the Government in the sum of \$75,000 for each section forthwith upon the execution of the contract. The Government to have supervision of the construction of the wagon road, also of the railway rates.

The impression prevails that the Dominion Parliament will also be asked to aid the work, & a pretty well informed Ottawa correspondent says there is likely to be a postal subsidy of \$80,000 a year for 20 years, & a land grant in the Yukon of 10,000 acres a mile, or about 5,000,000 acres.

Work on the Canadian Pacific.

The spur from Outremont to Montreal Junction, a distance of 6 miles, is being double-tracked. When this is completed the entire line between Viger Square & Windsor Street Stations will be double-tracked. This has been rendered necessary on account of the demand for more convenient connection between the two stations.

The great increase in passenger traffic has made it necessary for the C.P.R. to increase the accommodation at nearly all its hotels. The principal addition is at Quebec, where over 100 bedrooms have been added to the Chateau Frontenac. A number of improvements are being made in the Hotel Vancouver. The chalet hotels at Field, Glacier & North Bend are having their dining-room accommodation increased. At Glacier the annex is having an additional story put on to provide more bedrooms, & a billiard room is being built. At Revelstoke the hotel built last year has already proved too small & is being enlarged. At Moose Jaw a station & dining-hall is being built. The Moose Jaw, Revelstoke, Field, Glacier & North Bend places will be heated with hot water & lit with acetylene gas.

The Co. has recently built a small dock at Wabigoon, as several boats will be plying there this year for mining traffic.

The Co. has leased the Caldwell Block, opposite the post-office, Winnipeg, for a term of years, & it is having it fitted up as an uptown ticket office, & for the commercial telegraph office.

The Dominion Estimates of 1898-9 provide

\$8,600 to pay the C.P.R. balance for work in B.C. under award.

Estimates have been prepared for changing the line from Trail to Rossland, recently bought from the Columbia & Western Ry. Co. to standard gauge. It has not yet been decided whether the switch backs will be retained or done away with, but probably they will be kept.

Surveys are proceeding under Mr. Tye, C.E., for the line from Robson to the Boundary Creek district. The work will be very heavy, largely rock.

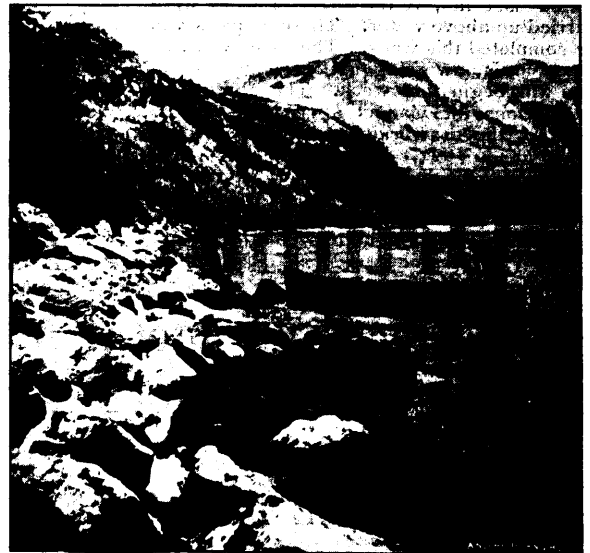
The first stone of the Vancouver station was laid April 19, & work is proceeding satisfactorily under Contractor Tompkins. It is expected this splendid building will be completed next year. The Co. is also building several hundred feet of docks.

CROW'S NEST PASS BRANCH.

Owing to the large number of structures on this line between Lethbridge & Macleod, a list of which was given in our March issue, it was impossible to complete that section of the work first; so track-laying was started from Macleod westward, & material & supplies were taken in by the Macleod branch from Calgary on the main line. The track-laying between Lethbridge & Macleod was completed at the end of April, & the passenger train from Dunmore Jct. on the main line now runs through to Macleod via Lethbridge. All construction material from the east is now going in this way. Up to May 5 track had been laid on the branch to a point 107 miles west of Lethbridge.

In the House of Commons, April 14, the Minister of Railways stated that \$453,730 has been paid to the C.P.R. on account of the construction of 43¾ miles on the Crow's Nest Pass Ry.

An agitation was started by the Rossland & Trail Boards of Trade to induce the C.P.R. to change the proposed route of the Crow's Nest Pass Ry. so as to cross the Columbia River at or near Trail, place Rossland on the main line & sidetrack Nelson. Vice-President Shaughnessy, in writing the Rossland Board of Trade on the subject, said: "I do not think we would be inclined to consider



ON THE STIKINE RIVER.

any departure from our original plans, nor are we of the opinion that any practical route for a railway can be found between the south end of Kootenay Lake & the Columbia River via the Salmon River without going south into U. S. territory. Meantime, I have requested our engineers to make an examination, so that we may have the necessary data at hand if at any time in the future we decide to build a branch line through there."

Construction & Betterment Notes.

THE GRAND TRUNK is putting in 10 additional sidings, with a capacity of 60 cars each, at Belleville, for freight traffic.

INTERCOLONIAL.—E. Crossman has a contract for erecting between 3,000 & 4,000 rods of fencing between Moncton, N.B., & Campbellton. A. J. Tingley has the contract for the division between Moncton & Newcastle. The new station at Moncton, N.B., is about finished.

THE MICHIGAN CENTRAL expects to build a bridge over Big Creek, near Tilbury, this year. Bridge Engineer Douglas informs us it will consist either of a single span, 60 ft. in the clear, with steel-plate girders resting on masonry abutments; or it will be made in 2 spans each 30 ft. in the clear. The contract has not been let.

OTTAWA & NEW YORK RY.—The contractors have about 50 men employed on the bridge across the Racket River. The stone for both piers is on the south side ready for use. The excavations on the south side are also made & ready for the concrete & the crushed stone & cement are on the ground. The iron for the Helena & Racket bridges has arrived at Moira on the O. & L.C. Ry. & will soon be put in place.

Chief Engineer F. D. Anthony has furnished us the following particulars: The first shovelfull of earth was moved August 23, 1897. When snow & frost shut the work down for the winter we had accomplished the grading & bridging of the 53 miles between Cornwall & the Junction of the Canada Atlantic Ry. near Ottawa, & laid the track on it. From Cornwall south to Moira, N.Y., including Cornwall Island, something over 50% of the grading was accomplished, including the abutments & pier for the bridge crossing St. Regis River. All this work is now being pushed to completion as rapidly as possible, ballasting of the track laid last fall included, over half of which is done. The St. Lawrence bridge work was started last fall with the rest of the work, & the abutments & 2 of the piers in the south channel bridge were completed last fall, & the other 2 piers were carried up above water. These 2 piers will be completed this week. The false work at this point is now going up, & the metal erection will begin this week. The abutments, foundations for viaduct approaches, & the piers for the drawbridge over the Cornwall

Canal, are completed, & preparations for the remaining 4 piers, which will support the cantilever span over the north channel of the St. Lawrence, are well under way. Balch & Peppard are the contractors for the road complete, outside of the big bridges which are being built by U.S. firms. The construction company is called the New York & Ottawa Co.

PEMBROKE SOUTHERN.—It is said that a contract for 5 miles of the Golden Lake end of this line has been let to J. G. Sherwood, of Emsdale, Muskoka.

QUEBEC CENTRAL.—In reference to an item we published last month about a proposed extension of the shops at Newington, near Sherbrooke, General Manager Grundy informs us "it is the intention of the Co. to extend the shops, but at present the work is not going forward."

TILSONBURG, LAKE ERIE & PACIFIC.—General Manager Teall informs us, under date of May 7, that about half the steel is laid on the connection between this line & the M.C.R., & work is progressing on the substructure of the Otter Creek bridge, which will be a steel structure 756 ft. long, made by the Dominion Bridge Co. It will rest on 30 cylinders of 4 ft. in diameter, which are sunk in the bottom of the pond until they strike clay bottom, then they are filled with concrete. The picnic grounds at Pt. Burwell are being cleaned & buildings repainted, & everything put in readiness for the summer season. The interlocking plant at the junction of the T. L. E. & P. Ry. & the G.T.R. air line will be completed in the course of a week.

In consequence of the dividing of the C.P. R. Eastern Division lines east of Chalk River between two Superintendents, the east-end dispatchers, J. West, W. Rose & E. Dion, have been moved from Ottawa to Viger Square Station, Montreal.

A persistent rumor has been going round to the effect that the divisional offices of the C.P.R. were to be moved from Vancouver. Manager Whyte assures us there is nothing in it. What probably gave rise to it is the fact that the Co. is making a change in the system of paying Pacific Division employes from payments in cash through the pay car to payment by wages cheque, & it is probable the cheques will be issued by the Paymaster at Winnipeg, who will act for both the Western and Pacific divisions.

OPERATING.**G.T.R. Graphic Car Record.**

The G.T.R. has instituted a unique & important change in its car record office. M. C. Sturtevant, the newly-appointed Car Service Agent, has adapted to the System the graphic method of car-tracing, which has been applied to the G.T.R.'s fast freight system, & will be of great advantage to shippers because of the immediate detection of the position of any given car which obtains under such a system.

There are only certain classes of freight to which the new system will apply, these being perishable goods, such as dressed beef, fruit, fresh fish, glucose, poultry, eggs, canned goods, butter, liquors, ale, beer, live stock, high explosives, vegetables, & all other such "rush" goods. Under the old system the position of any given car could be ascertained only by tracing it from point to point. This took much time, & caused considerable annoyance & delay. Under the graphic plan the entire G.T. System is divided into 11 divisions, each being the run of one engine. Every train of freight is known by a cipher, & all cars numbered in sequence. All stations at which freight originates, or comes on or goes off, are known as manifesting stations, & are assigned certain letters for telegraphing & also a certain number of manifesting numbers.

As each train passes from one division of the system to another, a report is wired to Mr. Sturtevant, at Montreal. The progress of each car & each train, accordingly, is registered on a board, 24 feet long, which represents the G.T.R. System in miniature, with the names of all important stations. Each fast freight car is represented by a peg, colored according to originating point, Chicago, for instance, being white, & New Orleans yellow, etc. In this way the Car Service Agent in Montreal can tell at a moment's notice the precise position of all goods in transit. A record is kept of the time occupied in each divisional run, each stop & change of engine, & each delay of any kind. Every engineer & conductor, therefore, is under immediate supervision, & all unsatisfactory performances are at once detected & corrected.—Montreal Herald.

General Superintendent McGuigan informs us that the standard code of the American Railway Association will go into effect on the G.T.R. system at noon, July 1.

Drummond, McCall & Co.

Iron, Steel and Metal Merchants**Montreal.****and Importers****PIG IRON.****Buffalo Furnace Co.: "Buffalo Scotch,"
"Summerlee" "Calder."****"C.I.F." Three Rivers Charcoal.
Ferro-Silicon. Ferro-Manganese.
Speigeleisen.****"U. S." Iron for Stay Bolts.****Seebohm & Dieckstahl's "Self-Harden-
ing" Steel.****"Snow" Steam Pumps.****Cast Iron Water Pipes.****"Ludlow" Valves and Hydrants.****Railway Car Wheels.****Iron and Steel Plates, Sheets and Bars, General Metals.**

Tonnage Basis on the C.P.R.

Formerly the C.P.R. handled its freight trains on a loaded car basis, each train consisting of so many loaded cars. The slightest consideration will show that this is not a correct system, as a train might include flats, coal cars, small box cars, 40 ton cars, light & heavy refrigerators, & so on. Owing to the great variation of train loads under the old system the management decided to adopt the tonnage basis, which went into effect on the main transcontinental line, from Chalk River to Cartier, & on the Sault Ste. Marie branch, on Dec. 1 last, & on Jan. 1 was put into effect over the entire system. The statistics as now compiled show carrying capacity of all cars in the train, the actual loads carried & the percentage of actual weight to capacity, average rating of engines, average tonnage hauled & percentage of haulage to rating, the train performance, number of trains run, percentage on time & average detention, the tons of freight hauled per ton of coal used by engine, besides loaded & empty car mileage & engine mileage.

All these statistics are shown for each section of the line & for trains moving in each direction. The new form of conductor's train report also indicates the detentions, if any, to freight trains, for switching & for all other causes at each point, & embraces a very complete system of handling way freight. Coupled with this report is a form of fuel ticket which shows the locomotive foreman, on the return of the engine to the roundhouse, its actual performance per ton of coal used. The management informs us that the new system is working very satisfactorily.

Detention for Trainmen's Meals.

F. W. Jones, Assistant to the Manager of the C.P.R. Western Lines, has issued the following circular: "A number of cases have recently occurred where important freight trains have been delayed for engine or trainmen (in most cases the former) to get meals. Owing to strong competition the Co. is obliged to guarantee schedule time on through freight shipments, & every delay of this kind, no matter how small, interferes with the record. All concerned are notified that rule 180 will be strictly adhered to; that anyone going to meals without express permission from the train dispatcher will be severely dealt with, & that train dispatchers have been instructed not to give this permission except in cases where meals can be obtained without increasing delays which are unavoidable on account of crossing trains or other similar cause. Train & enginemen will have to arrange their meals at terminal points without delaying trains & start out on every trip with sufficient food to carry them to destination.

Grand Trunk Operating Statistics.

The Superintendent of Motive Power gives the following particulars for the last half of 1897 & 1896:

	6 months to Dec., '97.	6 months to Dec., '96.
Total expenditure.....	\$2,157,521	\$2,223,423
Train mileage.....	9,048,134	9,699,516
Expenses per mile, train.....	23.84c.	22.92c.
" engine.....	19.81c.	18.77c.
" car.....	1.40c.	1.46c.
Cars moved per train, passenger.....	4.7	4.9
" " freight.....	25.4	22.8
" " mixed.....	11.3	12.1

The Superintendent of the Car Department gives the following figures for the same periods:

	6 months to Dec., '97.	6 months to Dec., '96.
Cost of renewals & repairs.....	\$590,601	\$594,015
Miles run by cars, passenger.....	15,250,123	18,218,225
" freight.....	139,323,47c.	134,089,535
Cost per mile, car.....	.382c.	.390c.
" train.....	6.53c.	6.12c.

It has been decided to remove the whole of the plant for dealing with the C.P.R. heavy engines from Donald, B.C., to Revelstoke shops, where the whole of the mountain power will undergo repair & maintenance. The divisional point will be moved to Laggan, where arrangements will be made for stationing the light engines used east of the divide, the heavy power remaining at Field, as now.

NEWS OF THE ROADS.

COAST RY. CO. OF NOVA SCOTIA.—At the annual meeting, at Yarmouth, April 4, the old directors were re-elected. The reports of the officers were read, & we are officially informed they made a very creditable showing & were most satisfactory to all concerned. At a subsequent meeting of directors the following officers were re-elected: T. Robertson, President; C. Cooper, Secretary; L. H. Wheaton, Chief Engineer & Superintendent.

GRAND TRUNK MILEAGE.—The G. T. System, including lines east of St. Clair & Detroit River, and the Detroit & Michigan Air Line, comprises the following mileage: length of roadway, 3,506 miles; 2nd track, 405 3/4; sidings, 751 1/2; total, 4,663 1/4. Of this, 4,576 1/4 miles have steel rails & 87 iron, 61 of the latter being in sidings & 26 in track.

GRAND TRUNK-WABASH.—Speaking of this contract, Bradstreets says: The arrangement is an exceedingly important one for both companies concerned. The G.T. obtains an increase of income, & the Wabash a terminal practically in Buffalo, bringing it into direct connection with a number of lines centering at that city. It is also to be considered that while the alliance between the Wabash & the G.T. has been more or less close ever since Mr. Hays left the former road to assume the management of the latter, the present deal indicates that these relations are to be closer, & that the Canadian road will thus obtain facilities for reaching many important sections & cities in the Western & Southwestern States.

GREAT NORTHWEST CENTRAL.—A despatch from Winnipeg, April 26, gave a report that the C.P.R. had acquired the Great Northwest Central Ry. & would extend the line this year. When shown the despatch Sir Wm. Van Horne said he had nothing to say on the matter. It would not surprise us at all to learn that the C.P.R. had secured control of this line; it would prove a valuable feeder to that system. At present it runs from Chater, 5 miles east of Brandon, on the C.P.R.'s main transcontinental line, to Hamiota, 51 miles, passing through the splendid agricultural districts of the Little Saskatchewan & Oak River. Its extension through the Beulah & Oak River districts is eagerly desired by a large number of settlers, who went in in anticipation of construction which has been oft deferred.

The following paragraph appeared simultaneously in several Toronto papers May 7, evidently having been supplied. Having been unable to verify any of the statements we give it for what it is worth. "The results of the relief afforded to the Great Northwest Central Ry. Company by the recent judgment of the Privy Council in Delap et al v. Charlebois et al are already apparent. Life has returned to the company. Some time must yet elapse before the formal steps necessary to get rid of the receiver & have control of its own affairs can be taken. Notwithstanding this, however, Mr. Delap has engineers & surveyors already upon the ground picking up the authorized location for the extension, & getting everything in shape, preliminary to beginning the work of further construction. A. F. Macallum, C.E., & party left Ottawa last Monday evening, en route to Brandon, for this purpose. A bill is now before the

House of Commons, which has passed the Senate, authorizing a new issue of bonds by the company to enable it to finance for the expenditure necessary, & extending the time for the further construction one year, which the company will require to finance & carry through the work."

NIAGARA FALLS & SUSPENSION BRIDGE RY. CO.—The report for the quarter ended Mar. 31, filed with the N.Y. State Railway Commission: Gross earnings, \$13,602.38; operating expenses, \$8,603.41; net earnings, \$4,998.97; other income, \$3,256.43; gross income, \$8,255.40; fixed charges, \$9,370; deficit, \$1,114.60.

THE NORTHERN PACIFIC'S General Manager has notified heads of departments that so far as possible all positions will be kept open for employes on the line who enlist in the U.S. army for the present war.

ST. CATHARINES & NIAGARA CENTRAL.—Pursuant to the judgment in the case of Rolls vs. this Ry., tenders will be received up to June 25 by the Master in Ordinary, Toronto, for the purchase of the line, which is about 12 miles long, extending from St. Catharines to the junction with the Canada Southern. The purchase to include all the Co's property, franchises, &c., subject to vendors' liens.

ST. CLAIR TUNNEL CO.—At the Sarnia, Ont., assizes, May 2, the case of Mrs. Dunn against the Tunnel Co. was heard. Plaintiff's husband was a conductor in the employ of defendant, & was asphyxiated in the tunnel. After part of the evidence had been given, defendant consented to a verdict for \$2,500. It had previously paid \$1,900 into court. The amount is to be divided in the proportion of \$1,500 to the infant child, & \$1,000 to the widow.

Index to Railway Legislation.

Under this title, J. E. W. Currier, Private Secretary to the Minister of Railways, has issued a most valuable index to all public & private legislation by the Dominion Parliament respecting steam & electric railways, railway bridges & tunnels, to which the Railway Act, 1888, & amendments, is applicable in whole or in part, from 1867 to 1897, inclusive.

The number of the chapter & the year in which each separate act was passed are contained in the Index. Numbers also appear in brackets opposite to acts referring to subsidies, to indicate the description of each subsidy under a corresponding number in the report of the Minister of Railways for the year ended June 30, 1897, & similar references are made to land subsidies.

Subsidies have been granted to a number of railway companies which are incorporated under acts of the different provincial legislatures; & the titles of all such railways which have earned the whole or any portion of the subsidies granted by the Dominion, or to which subsidies have been voted, or which have entered into contract, are included in the Index.

A supplementary index of telegraph, telephone & cable companies which have been incorporated from 1867 to 1897, & a synopsis of Orders in Council having force of law, which have been published in the Canada Gazette, affecting railways, are also given.

The work has already proved of great value in our office, & we have every confidence in recommending it to everyone in any way interested in railway legislation. The price is \$1.50.

C.P.R. Passenger Traffic.

	1896.	1897.
Passengers carried.....	3,029,887	3,179,589
Passengers carried 1 mile.....	263,607,453	317,997,951
Earnings per pass. per mile....	1.83 cents.	1.82 cents.

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TORONTO, CANADA, MAY, 1898.

RAILWAY PROJECTS.

Toronto to Sudbury & James' Bay.

Sir Wm. Van Horne's statement that the C. P.R. would build a line from Toronto to Sudbury, has been followed up by an actual survey which is progressing rapidly under the management of Hugh Lumsden, Chief Engineer of the Crow's Nest Pass Branch, who came east some two months ago to take up this important work. The line as surveyed starts from Kleinburg, 21 miles northwest of Toronto on the Co.'s Owen Sound Branch, going by Nobleton, Schomberg, Bondhead & Cookstown to Barrie, thence by Midhurst, Craighurst, Coldwater, Bala the outlet of Muskoka Lake, Foot's Bay on Lake Joseph, & Parry Sound, crossing French River at Cantin's Island, & then by as direct a route as possible to Sudbury. Mr. Lumsden has 4 survey parties in the field under the following assistants: C. B. Smith, Kleinburg to Severn River; A. E. Morris, Parry Sound to Severn River; C. A. Mitchell, Parry Sound to French River; A. Brunel, French River to Sudbury. It is expected the survey will be completed early in June. We are in a position to say that a very good line with easy grades is being secured. The distance from Toronto to Sudbury will be about 250 miles, as against 306 by the present North Bay route.

As to what the intentions of the C.P.R. are in regard to this line, it is impossible to speak with any degree of certainty. For years the Co. has shown such a line on its maps as projected & it may be that it will go on with construction. Of course the quarrel with the Grand Trunk is an incentive to construction, but that may soon be patched up, & if friendly relations are again restored it is more than likely that the resumption of the C.P.R.'s traffic from Toronto over the G.T. to North Bay would be part of the deal. There is no doubt that the diversion of this business via Smith's Falls & Carleton Jct. has been a heavy loss to the G.T.R., which may be expected to do everything possible to secure it again. It is hardly likely that the C.P.R. would go in again under the old arrangement & a deal in the way of running powers is more likely. It must also be borne in mind that the U.S.-Spanish war has done much to

disturb financial conditions & that this is not a good time to finance railway projects.

The C.P.R. has no charter for a line from Toronto to Sudbury, but it would appear that it could be built under the powers conferred by the Co.'s original Act of 1881, which gave the Co. the right, from time to time, to lay out, equip, maintain & operate branch lines of railway from any point or points along its main line to any point or points within the Dominion. In 1895 W. Mackenzie, H. D. Lumsden, C.E., G. A. Cox, F. Nichols & D. D. Mann obtained a Dominion charter for the James' Bay Ry. Co., with power to build a line from Parry Sound to Doke's Indian reserve, thence to the easterly line of Lake Wahnapitae, & thence to the mouth of Moose River, James' Bay. In 1897 another Act was passed, empowering the Co. to extend its line from Parry Sound to Toronto, it being provided that the railway from Parry Sound to James' Bay, and the extension from Parry Sound to Toronto, should be commenced within 2 years therefrom, and 15% of the capital stock of \$1,000,000 expended thereon. This charter is controlled by Mackenzie & Mann, & might, no doubt, be utilised should the C.P.R. wish to build under it.

For the country north of the C.P.R. main line there is power to build under a charter granted in 1884 to W. Hendrie, W. Thomson, Jas. Walton, J. Macnabb, W. B. McMurrich, J. C. Bailey, P. A. Scott, A. Kirkwood & A. Nairn, who were incorporated as the Lake Nipissing & James' Bay Ry. Co., with power to build a line from, at or near the junction of the Callender branch with the C.P.R., or from near Callender to Moose Factory, or some other point on James' Bay. In 1889 the name was changed to the Nipissing & James' Bay Ry. Co. In 1896 the acts relating to this Co. were consolidated, the proposed railway was declared to be a work for the general advantage of Canada, & it was provided that the line should be completed to Lake Tamogaminge within 3 years, to Lake Temiscaminge within 5 years, and the balance within 7 years from the passing of the Act. It is said this charter is also controlled by Mackenzie & Mann, or at all events it is in hands that are friendly to their interests.

At the last session of the Ontario Legislature the James' Bay Ry. was granted, to aid in the construction of 90 miles of its line from Parry Sound to, at or near Sudbury, \$3,000 a mile for a distance not exceeding 40 miles, & the unearned subsidy of \$3,000 a mile for a distance not exceeding 50 miles which was granted to the Nipissing & James' Bay Ry. in 1889, the unearned subsidy being transferred to the James' Bay Ry. This makes a total cash subsidy of \$270,000 for the 90 miles.

A short time ago the City Council of Toronto appointed G. Gooderham, J. H. Mason, R. Davis, W. R. Brock, L. M. Jones & Mayor Shaw as the Toronto & Hudson's Bay Railway Commission, W. T. Jennings, M. Inst. C.E., being appointed Secretary & Consulting Engineer to the Commission. At the present session of the Dominion Parliament the Com-

missioners secured incorporation as the Toronto & Hudson's Bay Ry. Co., with power to construct & operate a standard gauge line from Toronto to, at or near the mouth of Moose River, Albany River or Churchill River, on the west side of Hudson's Bay & James' Bay, with a branch to the Northern Pacific Jct. Ry. at or near Gravenhurst, a branch southward from the main line adjoining the watershed near Timagami Lake, thence to the Northern & Pacific Jct. Ry. at or near North Bay or Nipissing Jct. & a branch from near Parry Sound to or near Sudbury, thence to Wahnapitae Lake. In consequence of the opposition of the holders of the two charters above mentioned, it was provided that the operation of the Toronto & Hudson's Bay Ry. Act should be suspended for 2 years as far as power to lay out & construct a line is concerned, & if at the end of that time the James' Bay Ry. Co. has commenced & substantially proceeded with the construction of its line from Toronto to Sudbury via Parry Sound, & if at the end of such time either the James' Bay Ry. Co. or the Nipissing & James' Bay Ry. Co. has commenced & substantially proceeded with the construction of a line northward from the present main line of the C.P.R., the Act shall be similarly suspended during such time as the substantial proceeding with the construction of the lines above mentioned continues, & upon the completion of those lines the Act shall cease.

British Columbia Railway Aid.

The B. C. Legislature has adopted a bold & progressive policy for extending the railway facilities of the Province. Last year it authorized the raising of a loan of \$2,500,000, out of which the proposed railways from English Bluff to Boundary Creek via Penticton, & from Bute Inlet to Quesnelle, were to be subsidized. At its recent session the Legislature authorized a further loan of \$2,500,000, making a total of \$5,000,000, continued the above mentioned subsidies & added subsidies for a line from Boundary Creek to Robson, & from an ocean port in B. C. to Teslin Lake. The subsidies now offered are as follows:—

1. Standard gauge railway from Penticton, at the foot of Okanagan Lake, to the Boundary Creek, approximately 100 miles.
2. Standard gauge railway from Robson to Boundary Creek district, to connect with the 1st mentioned line, approximately 80 miles.
3. Standard gauge railway from the coast in the neighborhood of English Bluff, near Point Roberts, via Chilliwack to Penticton, approximately 230 miles.
4. Standard gauge railway from Bute Inlet to Quesnelle, approximately 230 miles.
5. Narrow gauge railway from a seaport in B.C. to Teslin Lake, approximately 400 miles.

This is a total of 1,040 miles. Work on the Penticton-Boundary Creek & Robson-Boundary Creek roads is to be commenced by Aug 8, 1899; on the English Bluff-Penticton & Bute Inlet-Quesnelle roads by May 1900. In

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the case of the Robson-Boundary Creek line being built by a company entitled to a land grant for the construction of such line, the subsidy shall only be paid to the company on its giving up its claim to the land grant to such portions of its line. The terms for the Stikine line are dealt with fully in another article in this issue.

The lines mentioned above as nos. 1, 2 & 3, will provide a through route from the coast to the Columbia River, from which point connection will be made by the Columbia & Kootenay branch of the C.P.R., with the Crow's Nest branch at Robson, thus affording 2 lines from the coast to the prairies of the Northwest.

Notes of Projected Lines.

THE CANADA ATLANTIC is securing legislation from the Dominion Parliament to enable it to extend its line from a point near the River Richelieu, in Missisquoi East to the U.S. boundary in Missisquoi or Brome, so as to connect with the railway systems of the U.S., also to extend its line to Montreal, through Soulanges & Vaudreuil, crossing the Ottawa River near St. Ann village, & to construct a branch or extension of the railway on the island of Montreal to the St. Lawrence River in or below Montreal.

A CASSIAR TRAMWAY.—B. Williams & A. A. Hughes give notice that they propose to build a tramway under the provisions of the B.C. Tramway Incorporation Act, 1895, from the head of steamboat navigation on Big Windy or Taku Arm of Tagish Lake, Cassiar district, southwesterly by the most feasible route, about 15 miles through Warm Pass, near the head of a branch of the Skaguay River. Thence westerly to the westerly limits of B.C.

C.P.R. ALGOMA TRAMWAYS.—Last year the C.P.R. had surveys made for a series of steam or electric tramways to connect the south end of little Wabigoon Lake with upper Manitou Lake, to overcome several portages, & from near the south end of Cedar Lake, which connects with the Manitou Lakes, to a point below the cascades of the Manitou River, from which point there is regular navigation into Rainy Lake. Nothing has been done about construction & there appears to be some doubt as to whether the work will be gone on with, in view of the possible early construction of the Ontario & Rainy River Ry.

C.P.R. STONEWALL BRANCH.—A Winnipeg paper says: There is every indication that the C.P.R. will extend its line north from Stonewall, if not this season, at all events early next. Two motives are said to dictate this policy, a desire on the part of the Co. to occupy the field, & the belief that such a line will prove a valuable feeder to its main line. The country is well settled for a considerable distance north, & nearer Lake Winnipeg there are valuable forests of spruce & tamarac. Just where the line will go is not the subject of definite report, but those living at Gimli hope it will bend off to the east & strike the lake at some point in their settlement.

THE DETROIT RIVER BRIDGE.—Promoters are at work, but it is not likely that any headway will be made in this Congress. In any case, the U.S. Chief of Engineers is now too busy to take the matter up, & his report would have to be presented before anything in the way of building could be done. The Windsor & Detroit Union Bridge Co.'s bill has passed the Railway Committee at Ottawa.

GUYSBORO, N.S.—A paragraph is going the rounds of the press to the effect that a contract has been entered into by the Dominion Government & signed in Ottawa by Mr. Baker of Philadelphia, for the construction of a railway from Sunny Brae to Country Harbor, Guysboro Co., & from Country Harbor cross roads to Guysboro, a total distance of

80 miles. It is further stated that Mr. Baker will visit Halifax to conclude a contract with the Provincial Government, for the usual subsidies, & that work will be commenced at an early date.

INTERNATIONAL BRIDGE, FORT ERIE.—There is no probability of an early decision by the G.T.R. management as to improving this bridge, the legislation recently obtained at Albany, N.Y., which was previously referred to in these columns, having been sought simply to anticipate future needs.

KETTLE VALLEY RY.—It is said that D. C. Corbin, President of the Spokane & Northern, who was refused a charter by the Dominion Parliament for this line, will build wholly within the U.S., with branches to the Canadian frontier. It is said he will start from a point further south, on the Spokane Falls & Northern, westward to Eureka, Wash., on Curlew Creek, & thence to Okanagan River, with branches to the Canadian frontier, near Cascade City, Carson & Midway, in B.C.

LAKE ERIE & DETROIT RIVER.—On May 11 the ratepayers of Dutton defeated a by-law to grant \$5,000 towards the proposed extension from Ridgetown to St. Thomas, by a vote of 78 to 19. Gen. Supt. Woollatt informs us that it is impossible to say anything definite as to the extension at present, but he expects to be in a position by the middle of June to say definitely if work will be gone on with this year.

ONTARIO & RAINY RIVER RY.—The impression prevails that some 80 miles of this line will be built this year, from the point of departure on the Port Arthur, Duluth & Western Ry., near Whitefish Lake, toward Moss Township & the Shebandowan gold belt. Thence the road would run through the Atikokan iron country & the Seine River gold district. The charter of this Co. is controlled by Mackenzie & Mann, who bought it from the Port Arthur owners last year. The Ontario Legislature has voted cash subsidies for this line on four different occasions. In 1894 it voted a subsidy for 35 miles; in 1895 for 45 miles; in 1897 for 85 miles; & in 1898 for 40 miles, a total of 205 miles at \$3,000 a mile, amounting in all to \$615,000. Last year the Dominion Parliament voted a cash subsidy of \$3,200 a mile from the first 80 miles of the line, & an effort is now being made to obtain further aid from the Dominion. The fact that the Manitoba Legislature has granted Mackenzie & Mann a guarantee of bonds for 80 miles of line to be built under the Winnipeg & Southeastern charter from Winnipeg to Whitemouth Lake, will be a powerful incentive to them to push on the Ontario & Rainy River to meet it at the Lake of the Woods, thus providing a second through line from Winnipeg to Lake Superior.

SKEENA RIVER TO YELLOWHEAD PASS.—Hon. T. M. Daly, with associates, including Sir Chas. Ross & J. B. McArthur, is applying to the B.C. Legislature for authority to build a railway from the head of steamboat navigation on the Skeena River, to the Yellowhead Pass. The line would traverse a portion of the route which the Federal Government proposes to open from a port in B.C.

WINNIPEG & FORT ALEXANDER RY.—The Manitoba Legislature has incorporated W. A. Ducker, of Winnipeg, & others, as a company to build a railway from Beausejour, Tyndall, or some near point on the C.P.R., to the navigable waters of the Winnipeg River, which runs into Lake Winnipeg at Fort Alexander. The distance is something like 40 miles.

WINNIPEG & ST. ANDREW'S RY.—The application to the Manitoba Legislature referred to in our last issue, for the incorporation of a company to build a steam or electric railway between Winnipeg & St. Andrew's Rapids, has been granted. The incorporators are E. F. Hutchings, of Winnipeg, & others.

FREIGHT MATTERS.

Canadian Freight Association Meeting.

The 15th annual general meeting was held at Montreal April 7, 40 members being present. C. J. Smith, 1st Vice-President, took the chair, in the absence of President J. J. Wallace.

The following were elected active members: W. P. Hinton, A.G.F.A., Canada Atlantic Ry., Ottawa; J. J. Mossman, D.F.A., Wabash Ry., Buffalo; A. C. Stonegrave, Com. Agt., Central Vermont Ry., Montreal; M. C. Sturtevant, Car Service Agt., G.T.R., Montreal.

The Secretary reported having received a letter from J. Porteous, 1st President of the Association, conveying his best wishes to his Canadian railway friends, & indicating his desire to retire from active membership. This was reluctantly acceded to, and Mr. Porteous, by virtue of the Constitution, becomes an honorary member.

Reports from various committees were adopted. The report of the Inspection Committee showed that from Mar., '97 to Feb., '98, the number of cars reported was 145,467, and amount collected \$6,783, a proof that this department is growing in importance, & gradually bringing about good results.

Notice was renewed of a motion by G. M. Bosworth & J. W. Loud, that the minimum C. L. for 5th class freight be 24,000 lbs., the Chairman of Classification Committee to submit a list of exceptions to the rule at next meeting.

Officers and Standing Committees for the year were elected as follows:—

PRESIDENT, C. J. Smith, Montreal; 1st VICE-PRES., J. W. Loud, Montreal; and VICE-PRES., W. B. Bulling, Jr., Montreal; SEC. TREAS., J. Earls, Toronto.

CLASSIFICATION COMMITTEE—E. Tiffin, J. Pullen, W. MacMillan, G. A. Browne, W. B. Bulling, Jr., F. J. Watson, J. Hardwell, W. P. Hinton, W. Woollatt; J. Earls, Chairman.

INSPECTION COMMITTEE—J. H. Hanna, G. Collins, G. Cassidy, F. Conway, J. N. Sutherland, F. F. Backus, M. Burton; J. Earls, Chairman.

CAR SERVICE COMMITTEE—J. B. Morford, A. White, J. H. Walsh, E. H. Edwards, M. C. Sturtevant, G. S. Cantlie, W. P. Hinton; J. Earls, Manager.

EXECUTIVE COMMITTEE—G. M. Bosworth, J. W. Loud, C. J. Smith.

The summer meeting will be held at Montreal, July 7.

COMPANIES REPRESENTED IN THE ASSOCIATION:

Allan Steamship Line.
Atlantic & Lake Superior Ry.
Bay of Quinte Line of Steamers.
Bay of Quinte Ry. & Nav. Co.
Boston & Maine R.R.
Brockville, Westport & Sault Ste. Marie Ry.
Canada Atlantic Ry.
Canada Eastern Ry.
Canadian Government Ry. System.
Canadian Pacific Ry.
Central Ry. (New Brunswick).
Central Ry. (Nova Scotia).
Central Ontario Ry.
Central Vermont R.R.
Coast Ry. of Nova Scotia.
Cumberland Ry.
Delaware & Hudson R.R.
Dominion Atlantic Ry.
Dominion Steamship Line.
Erie & Huron Ry.
Grand Trunk Ry.
Great Northern Ry.
Intercolonial Ry.
Irondale, Bancroft & Ottawa Ry.
Kingston & Pembroke Ry.
Lake Erie & Detroit River Ry.
Lake Ontario Steamship Co.
Maine Central Ry.
Manitoba & Northwestern Ry.
Merchants' Line Steamers.
Michigan Central R.R.
Montreal & Ottawa Ry.
New Brunswick & Prince Edward Island Ry.
New York Cent. & Hud. Riv. R.R.
Northern Pacific & Manitoba Ry.
Northwest Transportation Co.
Ottawa & Gatineau Ry.
Orford Mountain Ry.
Pontiac Pacific Junction Ry.
Quebec & Lake St. John Ry.
Quebec Central Ry.
Richelieu & Ontario Navigation Co.
St. Catharines & Niagara Central Ry.
St. Lawrence Steamboat Co.
Seeley's Packet Line.

Temiscouata Ry.
Thousand Islands Ry.
Toronto, Hamilton & Buffalo Ry.
United Counties Ry.
Wabash Ry.

Cutting Rates from Chicago.

Montreal railway officials are complaining bitterly of the incisions being made in the lake & rail rates, at the very opening of the season by the Canada Atlantic Ry. East-bound freight rates are as badly demoralized as they were before the recent meeting of the board of control of the Joint Traffic Association. This meeting made east-bound rates a subject of consideration, & was followed by an edict, issued by the different eastern line presidents, for the re-establishment of tariff rates. Rate irregularities, however, have grown worse & worse, & to-day all east-bound tariffs out of Chicago are absolutely demoralized. In fact, the freight rate situation to-day is quite as bad as the passenger rate irregularities, although interest in the former department is confined to railway officials & shippers alone.

The Canada Atlantic, which is the baby line in eastern business, is accused of doing much to bring about this deplorable rate condition. With their new fast freighters from Chicago to Parry Sound, & their direct connection with Montreal, they have secured a large proportion of Chicago grain for export from Montreal. This business, the other roads claim, was secured by secret cutting. No open reductions have as yet been announced by any of the Eastern lines, although the presidents of the roads have ordered that whenever any secret cuts are discovered, open rates meeting the cut should at once be put into effect. Although it is an open secret that shippers can obtain grain rates at 10 c. per 100 lbs., & less, none of the roads dare openly accuse the other, since all have been engaged in secret cutting.

The Canada Atlantic, on the other hand, declares it has simply met the rates made secretly by its rival lines, & that it could not permit itself to be underbid by its big competitor the Grand Trunk. Railway officials state that there is every likelihood of the freight rate demoralization existing for some considerable length of time.—Montreal Herald.

Vice-President Shaughnessy of the C.P.R. will go to the Pacific Coast this month on his annual tour of inspection, accompanied by Chief Engineer Peterson. He will return over the route & completed portion of the Crow's Nest Pass Branch.

The Yukon Military Supplies.

In the House of Commons May 2, N. F. Davin said: "I would like to know whether it is true that the G.T.R. has received the contract for sending militia supplies to the Yukon?"

"No," was Dr. Borden's reply, "the G.T.R. has not received any contract, but is sending a portion of the supplies over its line. A much larger portion is going over the C.P.R."

"Therefore," queried Mr. Davin, "the G.T.'s portion will go over the Northern Pacific?"

"I suppose so," was the rejoinder of the Minister of Militia.

"And therefore," continued Mr. Davin, "it will go from U.S. ports & be shipped in U.S. bottoms."

Freight Carried by the C.P.R.

DESCRIPTION.		1896.	1897.
Flour	Barrels.	3,291,299	2,911,072
Grain	Bushels.	32,528,256	37,756,201
Live Stock	Head.	566,219	663,773
Lumber	Feet.	636,128,418	831,895,383
Firewood	Cords.	166,831	185,208
Manufactured articles.	Tons.	1,070,675	1,310,827
All other articles.	Tons.	878,261	994,813

FREIGHT TRAFFIC.

	1896.	1897.
Tons carried	44,420,555	5,174,484
Tons carried 1 mile	1,769,958,865	1,955,911,006
Earnings per ton per mile	0.75 cents.	0.78 cents.

Freight Notes.

T. F. Savage, of Guelph, formerly station agent at Walkerton, has been appointed travelling freight agent for the C.P.R.

The Secretary of the Dominion Live Stock Association has issued a circular stating that all the railways in Ontario have agreed to carry pure-bred live stock at half rates.

More freight was received at North Sydney, N.S., last month than in any other month since the I.C.R. has been running there. Large quantities of flour from Ontario points are being shipped to Newfoundland via North Sydney & S.S. Bruce.

The Lake Erie & Detroit River Ry. has made arrangements with the Wabash Co. which practically constitutes it the Wabash freight agent in London, Ont., thus giving merchants another competing line. It will

take freight to & from Buffalo east & Detroit west.

The following joint circular has been issued by the general traffic managers of the Grand Trunk & West Shore Rys.—The Grand Trunk Despatch has been organized to operate over the G.T.R. System, West Shore R.R. & connections. Sumner Hopkins is appointed Manager, with office in Brush St. Station, Detroit, Mich.

It is calculated that over 100% more acreage will be under crop in the Dauphin district of Manitoba this year. That this is believed to be the case is shown by the number of applications which have been received by the Dauphin Ry. for permission to erect elevators & grain warehouses at station points. There will be quite a number of these built during the summer so as to be ready for the wheat crop next fall.

The Quebec & Lake St. John Railway, according to the report presented at the recent annual meeting, is furnishing more than half of the lumber exported from Quebec. Last year the quantity aggregated over 60 million feet. The number of passengers carried during the year on the whole system was 153,669 as compared with 130,009, in the previous year, & the number of tons of freight 199,441, as against 150,346 tons. Several new mills were built during 1897, & are giving the Co. an increased traffic in sawn lumber. The pulp mill at Chicoutimi is completed, & is shipping its product daily. Another pulp mill is about to be erected near Roberval, & a chemical pulp mill at Lake Buchette & the extensive water power at the Jacques Cartier River is also likely to be utilized.

The General Freight Agent of the C.P.R. at Toronto has issued a circular to agents stating that in past years great difficulty has been experienced in making prompt & correct delivery of package freight shipped by the lake & rail route, owing to the insufficiency of marks placed on it by shippers, or owing to the total absence of any marks that would enable the goods to be associated with the waybills. Agents must take up at once with shippers & impress upon them the necessity of addressing their shipments, or marking them in such a way as will enable ready identification of the goods at transfer points, otherwise it will scarcely be possible at all times to deliver goods with despatch or to the proper consignees. Waybills are to show in full the marks on packages, so that on arrival of freight at Owen Sound or Fort William it may be readily checked with the waybills.

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NOTICES TO MARINERS.

By the Dominion Department of Marine.

All bearings, unless otherwise noted, are magnetic & are given from seaward, miles are nautical miles, heights are above high water, & all depths are at mean low water.

No. 15, APRIL 7.—IMPROVEMENTS IN AIDS TO NAVIGATION IN THE ENTRANCE TO PARRY SOUND, ONT.—1. Buoy on Seguin Bank.—On the opening of navigation this year a platform buoy, surmounted by a pyramidal slatwork painted black, the pyramid surmounted by a white flag, will be moored in 5 fathoms water immediately south of the shoalest part of Seguin Bank, Georgian Bay, in the approach to Parry Sound. It is proposed, later in the season, to replace this buoy by a steel gas buoy. Due notice will be given of the change.

2. Buoyage of the Main Channel.—The main channel between Seguin Bank & Cameron Island will be marked on the opening of navigation by 17 spar buoys placed close to the channel side of every shoal. The positions, color & number of the buoys are as follows:—

1. Extra heavy black buoy on Red Rock Shoal (McGowan Shoal).
2. Extra heavy red buoy on Knight's Shoal.
3. Black buoy W.N.W. of Three Star Shoal.
4. Red buoy on Three Star Shoal.
5. Black buoy on Vankoughnet Ground.
6. Red buoy on Ariel Rock.
7. Black buoy off Twin Rock.
8. Red buoy on Hall Reef.
9. Black buoy off Ardent Rock.
10. Red buoy on Telegram Rock.
11. Black buoy N. of Lyon Rock.
12. Red buoy N. of Hooper Island Shoal. This may later be replaced by a gas buoy.
13. Black buoy on Nias Island Shoal.
14. Red buoy on Hooper Island Shoal.
15. Black buoy on west extremity of Carling Rock Shoal.
16. Red buoy W. of Hugh Rock.
17. Black buoy on east extremity of Carling Rock Shoal.

The buoy shown on Admiralty chart no. 1731, on the north-east extremity of Nias Island Shoal, will not be replaced, & the buoys on the south edge of Carling Rock Shoal will be moved in position.

3. Light on Depot Island.—A lighthouse is in course of erection at the western extremity of Depot Island, at the entrance to Depot Harbor. Until the lighthouse is completed a fixed white light will be shown from a lantern hoisted on a pole or exhibited from the unfinished lighthouse tower, from a height of 30 ft. above the water.

Sailing directions, which will appear in the forthcoming edition of the Georgian Bay & North Channel Pilot, replacing "Directions to Cameron Island by main channel," are given in the notice, but are omitted here owing to their length.

No. 16, APRIL 14.—RAILWAY BRIDGE AT LACOLLE, QUE.—The railway bridge described in Notice to Mariners no. 34 of 1897 over the Richelieu River, at Lacolle, has been completed, & the passage on either side of the pivot pier may now be used. At night the centre of the swing is marked by a light on top of the iron work which shows white when the draw is open & red when closed. In addition each of the four guide piers is marked by a white light. This notice affects Admiralty Chart 797.

No. 17, APRIL 18.—LAKE ST. CLAIR, TWENTY-FOOT DREDGED CHANNEL.—Notice is given by the U.S. Lighthouse Board that, on or about April 15, 1898, lights, as follows, will be established to mark the lower reach of the Lake St. Clair 20-foot dredged channel:

Isle aux Pêche range beacon lights.—Front light.—Two fixed white lens-lantern lights, 10 ft. apart horizontally, in line across the axis of the channel, & 18 ft. above lake level, on a cluster of piles on the prolongation of the axis of the dredged channel, in about 19 ft. of water, about 2,000 ft. south-westerly from its lower end. The north-westerly of the 2 lights will illuminate 180° of the horizon to the northward of N. E. by E. $\frac{7}{8}$ E. & S. W. by W. $\frac{7}{8}$ W., so that, in coming up the Detroit River on the Windmill point range line, this light may be run for as soon as it becomes visible. The structure carries a white day mark. In passing vessels must keep to the westward of this light. Bearings of prominent objects from the light are: Outer end Grossepoint club house dock, N. by E. $\frac{3}{4}$ E.; Lower entrance (E. side) beacon light, N. E. $\frac{3}{4}$ E., about 4,100 ft.; Windmill point lighthouse, W. $\frac{5}{8}$ S.

Rear Light.—Two fixed white lens-lantern lights, 10 feet apart horizontally, in line across the axis of the channel, & 38 feet above lake level, on a cluster of piles in about 8 ft. of water, on the prolongation of the axis of the dredged channel, about 4,650 ft. S. W. $\frac{1}{4}$ W. in rear of the front light. The 4 lights of this range mark 2 range lines parallel with & 5 ft. on either side of the axis of the dredged channel. When at the upper end of the channel, about abreast of Grossepoint light vessel, with the lights open so that the rear light of one range is in range diagonally across the axis of the channel with the front light of the other range, the observer would be about 40 ft. from the axis of the channel & could safely increase the apparent horizontal distance between the lights about 8 times without approaching too close to the line of buoys marking the edge of the channel. About midway between the light vessel & the lower end of the channel the apparent horizontal distance

between the lights may be safely increased to 16 times, & still further increased as the lights are approached.

Lower entrance (W. side) beacon light.—A fixed white lens-lantern light, 14 ft. above lake level, on a pile cluster in about 17 ft. of water on the westerly side of the lower entrance to the dredged channel. Bearings of prominent objects from the lights are: Outer end Grossepoint club house dock, N. by E. $\frac{1}{2}$ E. Lower entrance (E. side) beacon light, E. N. E. $\frac{3}{8}$ E. Windmill Point lighthouse, W. S. W. $\frac{3}{8}$ W.

Lower entrance gas buoy.—On the same date this black buoy, showing a fixed white light during periods of 10 seconds, separated by eclipses of 10 seconds, marking the westerly side of the lower entrance to the dredged channel, will be discontinued.

Lower entrance beacon light.—On the same date the color of this light will be changed from white to red, & it will hereafter be called "Lower entrance (E. side) beacon light." This notice affects Admiralty Charts 330, 332 & 678.

No. 18, APRIL 22.—TORONTO EAST PIER LIGHTS.—The small column fixed red light hitherto maintained on the outer edge of the East Pier, Toronto, has been moved N. W. by N. 2,400 ft. & now stands on the inner end of the pier, forming with the new front tower which has been erected on its former position a range showing the line of the pier. The light is, as heretofore, fixed red, elevated 18 ft. above the lake level & can be seen from all points of approach from the bay. The new skeleton tower stands on the position formerly occupied by the column light. Lat. N. 43° 37' 48". Long. W. 79° 20' 20". The light is occulting red, bright 6 seconds with intervals of darkness of 6 seconds. It is elevated 43 ft. above lake level, & should be seen in clear weather at a distance of 8 miles, over an arc of 180° from N.N.E. around to S.S.W. The apparatus is dioptric of the 6th order. The building consists of a steel skeleton framework surmounted by an enclosed top & lantern. The framework is painted red, the enclosure & lantern white & the roof red. The height of the building from base to vane is 40 ft. This notice affects Admiralty Charts 678, 797 & 1152.

No. 19, APRIL 26.—MINES IN U.S. HARBORS.—Information has been received by this Department that mines have been laid in Boston Harbor. The entrance to Nantasket Roads by Fort Warren & the Broad Sound Entrance to President Roads are dangerous to all vessels. Steamers must only enter or leave the harbor at high tide & through the

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main ship channel. Mines are also about to be laid in the harbor of Portland, Maine.

NO. 20, APRIL 29.—CHART OF BAY OF QUINTE, ONT.—A chart of the Eastern portion of the Bay of Quinte, from Kingston to Deseronto, prepared from a survey of the Chief Engineer of this Department, has lately been published by the British Admiralty. Copies of the same may be obtained from the agent for Admiralty charts in Canada, C. Potter, Toronto. The number of the chart is 2961.

Toronto Harbor Notices.

Harbor Master Postlethwaite has issued the following notice to mariners :

LIGHTHOUSE POINT.—Placed buoys off the point of the Island to mark the Bank to the S. & S.W. of the Lighthouse Point. One iron can buoy no. 2, painted red, with black ring on the end, the Point Lighthouse bears from it N.W. by N. Another can buoy (red), no. 6, the Lighthouse bears from it N. $\frac{3}{4}$ W. Another can buoy (red), no. 8, the Lighthouse bears from it N. by E. $\frac{1}{4}$ E. Another can buoy (red, with white ring round it & white ball on end), no. 10, the Lighthouse bears from it N.E. by N. A can buoy painted red, no. 12, stands on the N.W. point of the Bank, & bears from the Lighthouse E.N.E. in 5 fathoms water. The can buoys to the west are in 8 fathoms water, except no. 12, which is in 30 ft. water. It is not safe for vessels to go inside them, as the Bank rises very abruptly. An additional spar buoy (red) is placed on the N.W. point of the Island in 14 ft. water.

WEST CHANNEL.—The red spar buoy on the starboard side of the Channel stands in 14 ft. of water, distant 620 ft. from west end of Queen's Wharf. One black buoy stands on the north side of the Channel in 14 ft. water, distant 620 ft. There are 11 ft. of water in mid-channel. The best water is on the south side of the Channel near the breakwater. On entering Harbor the course is from east end Breakwater to Fisherman's Island, nearly due east.

EASTERN CHANNEL.—The buoys in this Channel are placed thus: Two black spar buoys on the west or port side coming into the Bay, & two red spar buoys on the east or starboard side. One red spar buoy at south end of east pier, to mark the stone protecting the pier. This channel is 105 ft. wide, & has a depth of 15 ft. at this date. Between the piers the water is 16 ft. deep for full width of channel 400 ft. Landmarks for entering are the cupola of St. Lawrence Hall in line with a point midway between the tower of the Metropolitan Church & St. Michael's Cathedral spire. The course by compass, coming in, is N.W. by N. The water to-day, 9 in. above zero. A new lighthouse, with red light occulting every 5 seconds, & 33 ft. from deck of pier to centre of lamp, has been erected on the south end of the eastern pier. The old lighthouse with red light has been moved to the north end of eastern pier.

Via Edmonton to the Yukon.

Isaac Cowie, of Edmonton, writes:—I have pleasure in furnishing you with the following brief account of the Athabasca & Mackenzie Route to the Yukon. Having been for many years the Chief Officer in Charge of the Northern Transportation Service of the Hudson's Bay Co., I have had full opportunity of knowing it in a practical manner.

From Edmonton you cross the watershed, between the waters flowing into Hudson's Bay & those which empty into the Arctic Ocean, by an ordinary waggon road some 90 miles in length. On this a company has been formed to run a weekly stage service, connecting with the train arriving here on Monday even-

ing. "The Edmonton & Athabasca Stage Co." will also contract for freight as well as passengers with their light hand baggage.

Embarking on the broad Athabasca at Athabasca Landing, the traveller is swept down amidst beautiful scenery for 125 miles to the mouth of the Pelican River, where in low stages of water there is a small rapid; the sweeping current of the spring or early summer hurries him on without pausing to examine the Dominion Government's boring plant, which has here tapped the enormous petroleum deposits which he will further on see exuding from the banks of the valley for 200 miles further down stream. Forty miles further on we arrive at Grand Rapids, where easy navigation ends for a time. Here an island which cleaves these mighty rapids in twain, forming a natural bridge, not across, but parallel with the course of the stream, is utilized for carrying overland the cargoes of the boats from the head of dangerous navigation to the foot thereof. The boats thus lightened of their loads safely shoot the rapids, guided by their skilful crews. Stretches of easy & exciting navigation succeed each other in frequent intervals on from Grand Rapids to Fort MacMurray. Of these the Burnt, the Boiler, & the Long, like the Grand, are caused by the river flowing over a bed of immense boulders. Then follow the limestone ledges, cutting through which the river passes over the falls of the Crooked, the Stony, the Cascade, & the Mountain Rapids. One mile above the Hudson's Bay Co.'s post at MacMurray, a small boulder rapid shows in low water. Then after a run of pleasurable excitement, arrested at the Cascade alone to lighten the boats & make a portage of the cargoes should circumstances render it necessary, there is clear sailing down the Athabasca for 170 miles to Lake Athabasca, across which at a distance of 70 miles from the mouth of the river stands the important Hudson's Bay Fort Chippewa, from which waterways radiate to the west up the Peace River, to the east along the Athabasca Lake to the highly mineralized districts of rocks north & east thereof, & to the north by the Riviere du Roche to the Slave River, down which we proceed 95 miles to Smith Landing. Here we have the alternative of proceeding by a waggon road of 16 miles to Fort Smith at the foot of the Slave River rapids, or else of shooting & portaging over them by the old Hudson's Bay boat route. These rapids & portages are the Cassette, the Mountain, & the Pelican, over which both boats & cargoes must go overland a quarter of a mile at each. Then comes the Rapid of the Drowned, where half the load is taken by boat & half by land.

Then comes a clear run of 1,200 miles on which an ocean going vessel could run, down to Peel's River. From Fort Smith to Great Slave Lake, down the Slave River, we pass in a run of 196 miles the mouth of Salt River, on which an immense mine of beautiful crystallized salt, of a capacity to supply the world, exists. Reaching Fort Resolution at the mouth of the Slave River, the Great Slave Lake has to be crossed to its outlet—the magnificent Mackenzie River. At the north & east of this inland sea, with its myriads of rocky islands, galena in enormous quantities is everywhere to be found. Gold-bearing quartz has also been discovered by prospectors, & accessible from these waters on the east lie vast deposits of virgin copper on the Coppermine River.

Leaving this potential sea of treasures behind we lie on down the Mackenzie. Passing Fort Providence, 168 miles from Resolution, the swift current of the mighty river sweeps us on amidst grand scenery to Fort Simpson at the mouth of the Liard. Pausing here at this, the headquarters of the vast Mackenzie River District, to hear of the success of the miners who have proceeded up the gold-bearing Liard to mine thereon, or proceed by it to the Francis River & Lake & the head waters

of the Pelly-Yukon, or to hear of the new finds which have been made on other hitherto untried rivers flowing east from the Rockies into the Mackenzie, we again push off on the broad bosom of the river for our final run of 778 miles of uninterrupted navigation to the mouth of Peel's River. On this stretch Forts Wrigley, Norman & Good Hope are passed, & intelligence gained. Then up stream for the first time on the entire run, to Fort McPherson, 13 miles.

At this point 3 alternative routes present themselves. Those who like can proceed up the Peel, the gravels of which are known to yield gold & at the head waters of which gold-bearing quartz has been found, & there establish a mining camp. If the wish be to go on to the Klondike there are 2 ways of getting over to the Porcupine. The old summer route to the Porcupine is across the watershed on foot, men carrying pack loads of 40 lbs. each, besides rations, &c., for a trip of 6 days, or else by the water route for small boats, which necessitates only a portage of a quarter of a mile at the height of land. From thence the Porcupine is reached by running down small creeks & rivers, & from then on there is free navigation to Fort Yukon for good sized steamboats (275 miles).

Stikine Transportation Rates.

The transportation companies directly interested in the Stikine River business have taken a positive & apparently firm stand for the maintenance of uniform rates. The adoption of a scale of charges was the chief business of a meeting held in Vancouver at the end of April, & from the fact that 30 river steamers were represented, it is evident that the combination will have the absolute dictation of terms with regard to the river business. The meeting was held under the chairmanship of H. M. Kersey, & those present—representing the entire fleet to be operated this season on the Stikine—were:

A. Cameron, E. J. Coyle & G. L. Courtney, representing the C.P.R.'s 12 boats.

J. S. Harvey, representing F. C. Davidge & Co.

F. Peters, representing The Klondike Mining, Trading & Transport Co.

H. M. Kersey, representing the Canadian Development Co.

G. T. Legg, representing the Union S. S. Co.

F. W. Vincent, representing the C.P.N. & H. B. Co's.

P. Hickey, E. D. Self, & H. H. Cohen, representing the Cassiar Central Ry. Co.

S. G. Yerkes, representing the Tacoma Port Orchard Co.

E. Dewdney & J. T. Bethune, representing the Canadian & Oriental Co.

J. A. Mara and W. F. Bullen (by proxy).

It was decided that rates should be fixed with Wrangell as a starting point, there being so many vessels competing for business between Tacoma, Seattle, Victoria, Vancouver & Wrangell, that rates could not be controlled for the ocean trade. It was decided to adopt an especially low rate on horses & cattle with a view to assisting the transportation of outfits & men beyond Glenora, & the following scale of freight charges was agreed to—the approximation in the second column being, of course, beyond the scope of this meeting, although mentioned so that the public may thoroughly understand the scale:

	Wrangell to Glenora.	Victoria to Glenora.
Cargo of all sorts (except lumber) per ton measurement or weight at ship's option.....	\$40 00	\$50 00
Lumber per 1,000 feet B.M.....	60 00	75 00
Horses, mules & cattle, per head.....	25 00	43 00
Dogs, sheep & goats.....	5 00	12 50

As to the passenger rates, \$20 was agreed upon as the price of first-class transportation

from Wrangel to Glenora, exclusive of meals or berth. This will make the first-class rate from Victoria to Glenora approximately \$50, & the second-class \$35. South-bound passage rate was also discussed, \$10 being favored by many; nothing definite, however, was done on this rate, it being laid over until a later meeting. Through freight quotations from the Coast were also laid before the meeting, \$50 a ton being favored by many, but this also was laid over.

The rates mentioned are to be considered minimum rates, & apply on the up-river trip only, & no cut, either by way of commission or otherwise, shall be made. An agreement has been signed by those at the meeting, binding all to maintain these rates until the agreement of the lines to an alteration shall have been obtained.—Victoria Colonist.

Richelieu & Ontario Navigation Co.

The Co. has met the railway cut rates by a \$4.50 rate from Toronto to Montreal, including meals & berths, by the steamer Hamilton. From Toronto to Kingston the rate is \$2. The Hamilton commenced running the last week in April.

At a meeting of the directors, April 12, a half-yearly dividend of 3% was declared. It was decided to begin the Montreal-Quebec service with the steamers Montreal & Canada, the Montreal to remain on the route the whole season, the Canada to be transferred later on to the Saguenay route, her place on the Montreal-Quebec route to be taken by the Quebec.

The Co. will begin the operation of its Toronto-Montreal service May 30 with the Spartan, Corsican, Algerian & the Bohemian. Later in the season, if the Toronto is completed in time, she will take the place of the Algerian, & the Bohemian will meet her at Prescott, continuing the trip to Montreal.

The hull of the Co.'s steamer Toronto, now building in Toronto, a description of which appeared in our March issue, will probably be ready for launching about the middle of June. The staterooms & woodwork generally are being prepared, & can be placed in position at any time after the hull is launched; but the engines have to be erected in the shop, then taken down & placed in position on the boat, all of which will take time, so that it is not probable she will do much if any business this season, as the tourist rush will be virtually over before she can be put on the route. A statement which appeared in a Toronto paper recently to the effect that a second boat for the R. & O. Co. is under construction in Toronto is incorrect. The Co.'s last annual report stated that a sister boat would be built to be ready in 1899, but nothing in the way of construction has been done yet, & it is not believed the contract has been let.

Capt. Batten will be pilot for the Co.'s boats from Coteau Landing to Montreal this season.

In Montreal recently in the case of Mrs. A. H. Allan vs. the Richelieu & Ontario Navigation Co., the plaintiff, who is from New York, claimed \$10,000 damages on account of injuries received on board the S.S. Bohemian in July last. She was a passenger from Kingston to Montreal, & was in the dining room waiting for some sandwiches which she had ordered. Near the end of the room was a curtain from behind which the waiters were bringing dishes in preparation for the dinner. One of the waiters having somewhat burned his fingers on one of the dishes hurriedly deposited it on a table & disappeared behind the curtain. Mrs. Allan went to see behind the curtain, but instead of going around rushed right through it, & fell through an open hatchway that was behind & received serious injuries, which necessitated considerable medical attendance & nursing. The court held

the Co. could not be made responsible for the accident, which was due entirely to the imprudence of the plaintiff, & consequently the action must be dismissed.

May Weather on the Lakes.

On an average 6 storms pass over the lake region in May, the majority of which, however, can be safely weathered by the larger craft. The number of storms in May during the last 20 years has neither increased nor diminished. There were more storms in 1892 than in any other year, yet the loss to marine interests was not so great as in 1894 & 1895. During the 10 years, 1877 to 1887, the money value of vessels lost or damaged in May amounted to about half a million dollars; from 1887 to 1896, both inclusive, the loss amounted to a little over a million & a half, although fewer vessels were lost or damaged during the last-named period. By far the greater number of storms that pass over the lake region during this month come from the northwest. The storms of May, & also of the summer months, are not so severe as those of late fall & winter. Neither are the outward signs of their approach precisely the same. The dangerous winds of summer are the squall winds which accompany thunderstorms. They last but a short time, & their coming can almost always be foretold by the appearance of the western sky. The barometer is unsteady, rising & falling quite abruptly. The day is generally close & oppressive & the clouds present a broken & heaped-up appearance.

Probably the most disastrous May storm that has occurred in the lake region during the last twenty-five years crossed the southern end of Lake Michigan May 18, 1894. The day previous had been warm & sultry & numerous thunderstorms occurred throughout Wisconsin, Illinois, Michigan, Ohio & Indiana. On the morning of the 18th the winds were north-easterly & exceedingly gusty, the velocity varying from 30 miles per hour one minute to 60 the next. The sea likewise was unusually heavy, the waves being short & choppy, measuring from 10 to 15 feet from hollow to crest. To add to the danger of wind & sea, rain mixed with snow fell during the afternoon hours. As a result of the storm 26 lives were lost, 14 vessels were totally & 12 others partially wrecked, involving a money loss of over \$80,000.—United States Weather Bureau Chart.

The Yukon Fleet.

With steamship agencies & managements preparations for the opening of navigation on the Stikine & Yukon Rivers are rapidly taking form. The C. P. R. Co., which, owing to its wide connections, can be taken somewhat as a leader in its estimate as to traffic likely to develop when the second rush sets in, has been in no way retarded in its preparations through the present temporary lull. On April 28 the Victoria Colonist said:—Work on the very formidable fleet of river boats they are building for the Stikine is being forwarded with all haste. The first of these, the Hamlin, sailed April 25, & will be followed by others in the very near future. It is expected the Hamlin will sail on her first trip up stream on May 1. In conjunction with this move the Co. will give the magnificent steamer Tartar dispatch for northern ports to-day. Her agents state that they have a good list of freight & passengers booked for her. At Wrangel connections with river boats will be made & freight & passengers sent on to Glenora, from which port there is but a short portage before the chain of waters leading to the upper Yukon is reached. The Canadian Development Co. steamers Victorian, Columbian, Canadian & Monte Cristo will also be placed on the river as soon as possible, & a particu-

larly good opportunity of reaching Glenora without transfer or other interruption will be afforded passengers leaving on these vessels.

Next week will see the first two sail, the Victorian being now about ready for the long voyage on sea & river. After inaugurating their services these steamers will be operated exclusively on the river, & at Wrangel will make connections with ocean-going steamers of different lines. The C. P. N. Co.'s steel steamer now in course of construction & probably the Transfer, if business warrants, will likewise be placed on the Stikine during May.

B. C. Freight & Shipping Report.

R. P. Rithet & Co., Victoria, B. C., say in their shipping report dated April 30:—During the past month the situation has undergone somewhat of a change, & the close marks a great improvement. This is almost entirely in the north, however, as owing to the drought in California, any demand for export from there has been stopped for the present. The improved grain market has had some influence indirectly on lumber & freights, for iron & steel vessels that would otherwise have gone in for such business are now doing better from the Columbia River. Consequently the rates for lumber remain moderately firm, though there are more vessels coming into the market than has been the case for some time.

The City of Delhi has been taken up at 30s. for salmon, the balance of last year's pack, & will begin to load almost at once. For the coming season a number of fixtures have been made, mostly at 33s. 9d., but the cargoes for these will of course not be ready until September next or later.

We quote freights as follows:—Grain. San Francisco to Cork f. o., nominal, no demand. Portland to Cork f. o., 35s. Tacoma to Cork f. o., 32s. 6d. to 35s. Lumber. British Columbia or Puget Sound to Sydney, 47s. 6d.; Melbourne or Adelaide, 50s.; Port Pirie, 45s. to 47s. 6d.; Fremantle, 57s. 6d.; Yokohama, 42s. 6d.; Shanghai, nominal; Tientsin, nominal; Valparaiso, f. o., 42s. 6d. to 45s.; U. K. or Continent, 60s. to 62s. 6d. Rates for lumber are more or less nominal owing to the absence of tonnage.

The Pacific Steamships.

C. Denby, Secretary of the U.S. Legation in China, writing in the North American Review on "America's Opportunity in Asia," complains that U.S. commerce with China has to be conducted under foreign flags. Among other things he says: "The steamer lines between the Pacific coast & the Orient should receive such financial support as to be able to maintain frequent communication by United States built ships of the highest class. Canadian competition should be surpassed in a particulars. The profits on the carrying & insuring of U.S. goods should be diverted to U.S. companies. Our people should no longer endure the humiliating necessity of sending our merchandise, our mails, & our telegrams under the protection of a foreign flag."

This is a candid admission, from an official source, of the vast superiority of the C.P.R. Empress line of Royal mail steamships over any of the lines between U. S. Pacific Coast ports & the Orient. The magnificent Empress fleet, so superior in speed, safety & comfort to any U.S. Pacific line, has secured so firm a hold on the passenger travel that, even were the U.S. lines to improve their equipment, they would find it hard, if not impossible, to regain their lost ground. But the C.P.R. is not content to rest on its laurels & it is well understood that the replacing of the Empresses by larger, faster & more luxurious steamships is among the things that have been decided on.

Dominion Atlantic Ry. Co.'s Steamers.

The steamers being built by the Earle Co., on the River Humber, Eng., for the Dominion Atlantic Ry. Co.'s service between Yarmouth, N.S., & Boston, Mass., will be called Prince George & Prince Arthur. They will be identically the same, measuring 300 ft. long, 38 ft. beam & 15 ft. draft. The nominal horse-power will be 6,500, nearly double that of the Prince Edward, now in the service. The speed of the new boats will be 21½ knots on a measured course, with a guaranteed speed of 19½ knots at sea in any weather. This will greatly reduce the time now occupied in making the run between the two ports. They will be lighted & heated by electricity. The machinery is of the very latest pattern, the Schlick-Yarrow, Tweedie system. It is understood this is the first time this system has ever been in use on this side of the Atlantic. When these boats are completed a daily service will be inaugurated during the summer months. At the close of the season the Prince Edward will be hauled off the route, & used as a spare boat, relieving the Prince Rupert, now in the Co.'s service between Digby & St. John, N.B., or the two new boats. The Prince George, the first of the steamers, will be out June 15, & will be commanded by Capt. McGray, of the Prince Edward. The other steamer will be in commission a month later.

The Lake Fleet.

A report of much interest on commerce on the Great Lakes has been prepared by G. G. Tunell, under the direction of the Bureau of Statistics of the U.S. Treasury Department. The fact is brought out that in the earlier years the commerce passing through the Detroit River was nearly equal to the total movement on the lakes. This is no longer the case, & the commerce passing through the river is not as good an index of the whole movement on the lakes as formerly, owing to the increase in recent years of business between Lake Superior & Lake Michigan ports. In 1873 the freight tonnage, as registered by the movement through the Detroit River, was reported to be 9,000,000 tons, while in 1896 it had increased to 27,900,520 tons. The growth of the U.S. lake fleet is regarded naturally as furnishing the most satisfactory evidence of the growth of traffic upon the Great Lakes. It is pointed out that from 1868 to 1872 the lake fleet did not quite maintain its own, but it then made rapid gains until 1875, when the total tonnage stood at 587,234 tons. After this there was a decline until 1879, when it stood at 552,602 tons. In 1880 there was an increase to 557,942 tons, & in 1886 the tonnage amounted to 690,359 tons. A new era in lake transportation began about that time, & the development has since been so marked that the total tonnage now is 3,326,592 tons.

The Yukon Trade.

Writing from Victoria on April 18 to the Toronto Globe, S. T. Wood said: The policy of the U.S. Government, directed, as it has been, by the influence of men personally interested, has been of late a continuous source of irritation. Senator Perkins, whose name has become so prominent in the course which has tended to injure the trade of Canada's western ports, is known on the coast as the head of a steamship company. For years his company has had a monopoly of the coast trade northward, & that comfortable state of affairs has continued so long that he regards the Canadian business springing up last year as an encroachment on his preserve. There are efforts to prevent Canadian transshipment in bond to shallow-draught vessels at Wrangel, to protract the obstructions at Skagway & to

cripple in other ways the Canadian trade. The ostentatious rejoicing at Seattle & Tacoma over the defeat of the Stikine railway bill has made merchants here suspicious as to the action of the U.S. Government regarding the transshipment of goods at Wrangel when the shallow-draught boats begin to run on the Stikine. It is feared that the ingenuity of obstruction now directed toward the passes at the head of Lynn Canal will be brought to bear on Wrangel to the detriment of Canadian trade. This may seem like borrowing trouble, but it is a feeling which has tended to keep stocks low in some out-fitting establishments.

Canadian Pacific Navigation Co.

General Passenger Agent Baxter informs us the Co. has the following boats engaged in the Alaska, Yukon & Stikine trade:

OCEAN STEAMERS.	Tonnage.	Length.	Pass.	Capacity
Islander.....	1495	242 ft.	600	
Danube.....	887	220 "	250	
Tees.....	600	165 "	150	
Princess Louise..	922	180 "	250	
Willapa.....	500	136 "	150	
Queen City.....	450	117 "	100	
RIVER STEAMERS.				
R. P. Rihet.....	817	177 ft.	400	
Transfer.....	264	110 "	100	
Yukoner.....	500	176 "	400	
New steel steamer for Stikine...		146 "	400	

The steamers *Islander*, *Danube*, *Tees*, & *Princess Louise* run regularly to Wrangel, Juneau & Skagway. The *Princess Louise* & *Tees* call at all B.C. ports in addition. The *R. P. Rihet*, *Transfer* & the new steel steamer will run regularly on the Stikine River as soon as navigation opens, making connection with ocean boats at Wrangel. The *Yukoner* will run from St. Michael's to Dawson City & Yukon ports during navigation season on the Yukon, making connections at St. Michael's with the steamer *Danube* which will leave Victoria on or about June 10.

Car Transport in Canadian Vessels.

Assistant Secretary Spaulding, of the U.S. Treasury, addressed the following letter to the Collector of Customs at Detroit, Mich., April 22: "This Department is in receipt of your letter, inclosing a request made by the Agent of the Grand Trunk Railway at your port that he be permitted to send to Windsor, Ont., cars which, with their contents, are to be put into a boat in Windsor & brought back to Detroit at the Wabash slip, stated to be down the river from the starting point, the object being to avoid the delay & expense of transferring the cars to the Wabash depot by a belt line which runs around the city. The Co. desires to use the privilege both ways. The Department has to state that, regardless of the question whether the proceeding would unduly endanger the revenue, it is of opinion that the privilege can not be allowed without further legislation, especially in view of the provision of the Act of Feb. 17, 1898, relating to transportation in analogous cases."

The "Soo" & the Suez Traffic.

Following is a comparative statement of the traffic of the Sault Ste. Marie & the Suez canals for the past three years:

	SAULT STE. MARIE CANALS.		
	1897.	1896.	1895.
Number of vessel passages.....	17,171	18,615	17,956
Tonnage, net registered.....	17,619,933	17,249,418	16,806,781
Days of navigation.....	234	232	231
SUEZ CANAL.			
	1897.	1896.	1895.
Number of vessel passages.....	2,986	3,409	3,434
Tonnage, net registered.....	7,899,374	8,560,284	8,448,383
Days of Navigation.....	365	365	365

To Enforce Coasting Laws.

The Dominion Government proposes to strictly enforce the coasting laws, & instructions have been sent to all customs officials to carry out the regulation which says: "Foreign vessels shall not take freight or passengers at one Canadian port & land the same at another Canadian port, & the master or owner of any vessel found to have violated this rule shall be subject to a penalty of \$400 for each offence, & the vessel may be detained until the same is paid." It is thought some of the steamers on the Pacific Coast running to Alaska points have broken the coasting rules, & that is the reason for calling the attention of customs officials to the clause.

OCEAN, LAKE & RIVER.

British Columbia & Yukon.

News reached Vancouver, May 2, that the Stikine River was open for navigation.

The Upper Columbia Navigation Co. is running boats from Golden, Tuesdays & Fridays.

The C. P. R. is arranging for the construction of a \$6,000 steamer dock at Kaslo, similar to the one at Nelson.

The steamer *Cape Otway* arrived in the middle of April at Vancouver with about 240 passengers from Australia & New Zealand for the Yukon.

Chief Engineer Sproat, of the C. P. R. lake steamer *Kokanee*, has been appointed to a similar position on one of the Co.'s Stikine River steamers.

The C.P.R. has purchased the Troop wharf & warehouses at Fort Wrangel, Alaska, for \$12,000. They will be used in connection with the C.P.R. Stikine River boats.

Hale, Elliot & Campbell's tug, the *Hercules*, has been launched near Nelson. She is 200 ft. long, with 200-h.p. engines, & is said to be the most powerful tug on the inland waters.

A. W. Shields, late Purser of the Kootenay Lake steamer *Kootenay*, has received a similar appointment on the Stikine River steamer, recently built for J. A. Mara's Co. at Vancouver.

Hector Sproat, Chief Engineer of the *Kokanee*, has been transferred to one of the new C.P.R. Stikine River boats. F. Moore, Purser of the *S.S. Nelson*, has also been transferred to one of these boats.

The Klondike Trading & Transportation Co. had intended putting up extensive buildings, wharves, etc., at Wrangel, but owing to the falling off in the rush to the Yukon, & a complete change of management, the whole programme of the Co. has been changed.

The C.P.R. steamer *Tartar* occupied just 51 days, 1 hour & 10 minutes in her voyage of 14,800 miles from Southampton to Victoria. The *Athenian*, which sailed 1 week later, occupied 51 days, 5 hours & 56 minutes. In travelling nearly 15,000 miles the 2 steamers varied only 4 hours in the time in which it was calculated they would complete their trip.

Captain James Nesbitt, formerly of the C. P. R. Columbia River steamer *Kootenay*, has resigned to accept the captaincy of one of the Stikine boats. He will be succeeded by Capt. Short, formerly Captain on the *Lytton*. The new steamer *Rossland*, is now receiving her furnishings preparatory to being put on the passenger service as soon as the water rises in the Columbia.

The new C. P. R. steamer *Rossland* made her first passenger trip May 2 between Arrowhead & Robson in quick time. This steamer is the fastest on the inland waters of B. C., & it is expected will cut down the time between *Rossland* & *Arrowhead* at least 2 hours. She

will take the place of the Kootenay, which will go to Nakusp & be overhauled thoroughly, afterwards taking the place of the Lytton on the Arrowhead-Kootenay route. Then the Lytton will be used in the Big Bend of the Columbia River, running up as far as Death Rapids.

The C. P. R. Co. has made a new departure which ought to have the approval of the traveling public. Beginning with the Empress of Japan, east & west-bound, the steamships of this Co. will meet at Kobe, thereby giving the opportunity for a trip to Hong Kong & return, with a stay of something like 20 hours there. The steamers will lie alongside one another, travelers can readily be transferred, & hotel expenses can thus be avoided. This will cheapen a trip to Kobe considerably, as the charge of the Co., all meals & berths included, there & back, is only 18 yen.

The Hudson's Bay Co.'s new stern-wheel steamer Caledonia left New Westminster April 29 for the north under Capt. J. H. Bouser, who commanded the old Caledonia for 6 years. She will run on the Skeena until about the end of May, when the water usually becomes very high & remains that way until about the end of July. Between the two dates mentioned she will ply on the Stikine. The hulk of the old Caledonia is being transferred into a freight barge & will be used for this purpose in the river trade of the north. The second H.B. steamer, the Strathcona, followed her sister vessel a week later in command of Capt. F. Oden.

The C.P.R. Co.'s S.S. Islander was very unfortunate on a recent Alaska trip, meeting with 2 accidents. The first was on the up trip, when, on rounding Mary Island, she struck a rock, & lost all the blades of one of her propellers, & had to go on the beach at Douglas Island for repairs. The other accident was at Skaguay Harbor, where the steamer Willamette collided with her, & badly damaged the Islander. The Willamette is also stove in under the water line, but not seriously injured. The Islander was lying at anchor off the wharf when the Willamette, in endeavoring to make the dock, collided, smashing considerable of the wood-work of the Islander.

Navigation on the Upper Kootenay was expected to open April 16. The steamer J. D. Farrell, owned by the Kootenay River Transportation Co., was to start that day to make the first trip up the river from Jennings, Mont., to Fort Steele, B.C. The two steamers of the

International Transportation Co., the North Star and Gwendolin, will at once begin making regular trips between these two points, thus giving almost a daily boat service to Fort Steele. The service on the Upper Kootenay will be much better than in former years, the boats comparing favorably with those of Kootenay Lake. The remarkable growth of trade on this river may be judged by the fact that 3 years ago there was but 1 boat between Jennings & Fort Steele—the little steamer Annerlee, of 25 tons burden. Now there are 3 steamers, with a total capacity of nearly 400 tons.

The tramp steamers & "wind-jammers" which come to Victoria, Vancouver & Puget Sound need not remain long unchartered, for if they do not secure charters to carry lumber from the British Columbia & Puget Sound mills, or grain from Tacoma, they can go into service carrying rails to Japan. The Japanese are at present importing a great quantity of rails. They have decided to build many railways & orders have been placed with various steel works for a supply of 50,000 tons. A large amount of these rails have been forwarded to Vancouver over the C.P.R., & from Vancouver they will be shipped to Kobe. The British ship Cressington, which arrived in April, took a full cargo. The steamers Devonshire & Ard are loading at Tacoma on account of the Northern Pacific S. S. Co., & the steamer Alton, another large tramp, is expected to arrive there shortly from the Orient to load a similar cargo. A great pile of these rails are awaiting shipment at Tacoma ever since January. According to the computations of the railway officials, more than 100 solid trainloads have been shipped from the Illinois Steel Works alone. Other big shipments have been made from other Atlantic, Gulf & Pacific coast points.—Victoria Times.

The Maritime Provinces.

The N.S. coasting steamers came out of winter quarters unusually early this spring.

P.E. Island is calling for more satisfactory winter service with the mainland than the Stanley gives.

The new fast boat, Express, of the Yarmouth S. S. Co. is being fitted in Liverpool, Eng., & will leave to come out about May 20.

The Minister of Public Works has given permission for the dredge Cape Breton to finish the uncompleted dredging at St. John, N.B., wharves.

The Vega, lately purchased in New York by the Sydney Ferry Co., will be in command of Capt. Micheau & perform the Mulgrave & St. Peter's service.

G. F. Baird has purchased the side-wheel steamer Martello, which formerly ran between St. John & Annapolis, & will run her between Dalhousie, Cambellton & Gaspe.

The Maritime Transportation & Salvage Co. has purchased the steamship Hiawatha, & put her on a semi-weekly route between Halifax, Port Medway & Liverpool, leaving Halifax on Mondays & Thursdays.

The Canadian fishery protection fleet for the fishing grounds on the Nova Scotia coast & in the Gulf of St. Lawrence now carries machine guns as part of its equipment. The sailing cruisers Kingfisher & Osprey have each received two Gatlings.

The new ferry steamer Chebucto for the Halifax & Dartmouth service is still at the Azores, on her way from Europe, no captain appearing anxious to bring her across the Atlantic, so that the Ferry Co. is at the mercy of the contractors, no date for delivery being in the contract.

The Lunenburg Marine Ry. commenced operations last March & has been doing a good business, averaging nearly 2 vessels a day. The test required by the contract was satisfactory, being made with a 200-ton schooner, the T. W. Holden, with part cargo, making about 450 tons dead weight.

Two vessels owned by the Shubael Dimock & Sons' estate at Windsor, N.S., were recently sold. The schooner Newburg was sold to the Gypsum Packet Co., & the vessel will be used for carrying plaster from Windsor to New York. The schooner Clifton was sold to R. H. Cann, of Louisburg, C.B., to be used in the coal trade between Louisburg & Boston.

The City Council of St. John, N.R., has ratified the winter port agreement with the C.P.R., & pledged itself to provide the Manhattan Steamship Co. with the needed piers for steamers to be run this summer from New York to St. John. The intended arrangement may be disturbed, however, for the U.S. Government has taken over 2 steamers under lease to the Manhattan Co.

The S. S. Boston, of the Yarmouth S. S. Co., is undergoing repairs & getting fitted up for the summer's work, & the S. S. Yarmouth is running in her stead. The Boston made a splendid record during the winter, having

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missed only one connection. In June the Co. will begin to run 4 trips a week to Boston. The Co. expects its new flyer Express to leave England about June 20 & upon arrival she will be placed on the South Shore route.

The Bras D'Or Steam Navigation Co. will not put a steamer on the St. Peter's Mulgrave route this summer. In fact the Co. has practically gone out of existence. The Blue Hill has been sold to Baddeck parties, & will be used by them. The May Queen is laid up, & the Marion is owned by Capt. J. J. Moffat & others. She will run as usual between Sydney & Mulgrave, calling at St. Peter's. A good chance is opened for some enterprising company to put a boat on the St. Peter's route.

Ontario & the Great Lakes.

The Cornwall Canal opened for navigation April 25.

The Massena is doing a thriving business between Brockville & Ogdensburg.

The Canadian cruiser Petrel recently seized 100 U.S. gill-nets & a ton of fish near Port Stanley.

Capt. W. P. Johnston, of Wabigoon, is building some small steamboats on Manitou & Rainy Lakes.

The Minister of Public Works states that a Government dredge will be put at work in Kingston Harbor without delay.

The Maid of the Mist will commence running at Niagara Falls the 1st week in May, Capt. Carter being again in command.

The first boat through the Rideau canal this year was the steamer Quebec, of Kingston, which locked through Ottawa April 30.

The steamer Princess Louise, of Kingston, purchased by Ottawa parties, will be taken to the Capital via the St. Lawrence route.

W. B. Kelly, of Bridgenorth, is putting on a new steamer, the Lady of the Lake, for excursions from Peterboro' to Chemung Park.

Capt. Craig has chartered the steamer John Haggart, & will run her three times a week between Picton & Cape Vincent via Kingston.

The steamer Nellie Cuthbert has been sold to Capt. Carss, Smith's Falls, & she will be placed on the route between Smith's Falls & Perth.

The steamboat people are looking for a big season among the Thousand Islands this year, as the war will prevent people from going to U.S. seaside resorts.

H. Corby, M.P., Belleville, has purchased the steam yacht Skylark, formerly owned by Dodge & Co. She was recently taken from Waubeshene to Belleville.

The steamer Chicora of the Niagara Navigation Co's. fleet made her first trip this year from Toronto to Lewiston on May 16, & will run regularly throughout the season.

The dock strike among the C.P.R. men at Fort William was settled a few days ago. The men agreed to return to work on a basis of 17½c. an hour. This is ½c. lower than their last demand.

The Rainy River Navigation Co. has issued an illustrated folder, describing its line & the trip between Rat Portage & Mine Centre. The Lake of the Woods is described as a wonderful archipelago.

A deputation from Rat Portage which recently went to Ottawa expresses confidence that the improvement of Ash Rapids, Rainy River Rapids & Fort Frances Lock will soon all be things of reality.

The first steamboat on the St. Clair River was known as the Gratiot. She was a high pressure craft, whose exhaust could be heard

many miles inland. It took her 18 hours to go from Sarnia to Detroit.

Toronto Board of Trade wants Toronto harbor & its approaches made deep enough to accommodate the largest vessels passing through the Welland & St. Lawrence canals, when they are deepened to 14 ft.

The U.S. revenue cutter Gresham, when passing through the Welland Canal, April 24, struck the swing bridge, moving it from its centre & delaying the passage of vessels through the canal for some time.

The steamers United Empire & St. Andrews arrived at Ft. William April 24. Thunder Bay was then pretty full of ice, but they got through an opening. This is the earliest opening of navigation for several years.

The steamer Coaster is undergoing extensive repairs at Davis' shipyard, Kingston. She is being rebuilt & deepened by 2 feet, hull & decks, & will be practically a new steamer when ready for navigation.

The Pioneer Steamship Co., of Wabigoon, is building a 60-ft. steamer to ply on Lake Wabigoon, to connect with other steamers & stage lines, so a regular through line can be had from Wabigoon to Fort Frances.

It is reported that the steamer Cambria, recently purchased by the Donnelly Salvage & Wrecking Co., of Kingston, will ply between Hamilton & Montreal via Bay of Quinte ports in opposition to the Hamilton of the R. & O.N. Co.

The Carmona is likely to be the only boat plying on the east shore route of Lake Huron this year. The efforts made by Goderich & Kincardine to secure a line of good boats for the Windsor-Sault Ste. Marie route have had no success. The Carmona has been very much improved during the winter.

Mr. Stewart, Chief of the Hydrographic Survey corps, with the Government cruiser Bayfield, has been at work in the ship channel leading into Parry Sound. It has been found that a better, deeper & straighter channel can be laid out either to the south or north of the Pancake islands.

The Canada Atlantic & Ottawa, Arnprior & Parry Sound Ry. Co. have secured authority from the Dominion Parliament to construct & operate grain elevators & lines of steamboats necessary to the handling of their western grain carriage business from Duluth to the terminus of their line at Parry Sound.

The Brockville Navigation Co. has been incorporated with a capital stock of \$16,000, headquarters at Brockville; to acquire steam & other vessels for the conveying of passengers, mails, freight & other cargo, & to acquire public parks, athletic grounds & summer hotels.

The 2nd & 3rd of the steel hulls built in Toronto for the C.P.R. Stikine River stern-wheel steamers were shipped April 30 in sections for Vancouver, where they are now being put together under the supervision of Superintendent Troup of the Co's. inland steamers.

The Montreal Transportation Co's. new barge, Kingston, was launched from the company's shipyards at Kingston, April 16. Her dimensions are 180 ft. long, 36 ft. beam, & 12 ft. deep, with a capacity of 50,000 bus. of grain on the lake & 32,000 at River St. Lawrence draught.

It is said the U.S. revenue cutter Fessenden will have to spend practically all her time this summer enforcing the regulations relative to navigation in St. Mary's River. As she is the only cutter left on the lakes above Niagara Falls, there will be none of the customary patrolling of the lakes by cutters until the war is over. The Gresham was used in St. Mary's River last year. •

A recent announcement in Toronto daily papers that Matthews, Crangle & Haggerty had given a contract to a Toronto shipbuilding firm for a grain carrier, 255 ft. long & 34 ft. wide, to ply between Fort William & Prescott is denied by Mr. Haggerty, who says, however, that they are figuring on building a steel steamer, but that nothing definite has yet been decided.

The owners of the fish tug Hazard at Port Dover recently received instructions from the underwriters of Buffalo to proceed to the point where the Western Co.'s steamer Idaho foundered last Nov., for the purpose of locating the wreck. An effort will be made to secure a portion of her cargo, which consisted of green coffee, hardware & sugar. It is authoritatively stated that water will not penetrate sugar in barrels to the depth of 2 inches. She lies in 60 ft. of water.

The 2nd stern-wheel steamer which has been built at Moir's branch shipyard, on Lulu Island, New Westminster, was launched April 19. She is a sister ship to the one launched a few weeks ago, from the same ways. Both are light draught & will be furnished with powerful engines. They have been built for the Klondike Trading & Transportation Co., & in all respects, will be thoroughly well equipped for service on the swift rivers up the coast in connection with the Yukon trade.

The old Government dry-dock rates at Kingston have been re-instated. The Rose-dale was given the benefit of the winter tariff up to April 15, after which her owners were charged \$105 a day. The regulations regarding payment have also been changed. Previously an entrance fee was exacted & the owners of the boat had 10 days after presentation of the dock master's account to settle. In those 10 days the boat would have left the dock & could very easily be outside the jurisdiction. The Department will no longer take these risks & has ordered that all fees must be paid before the vessel leaves the dock.

The Toronto Harbor Master suggests that the wharves along the bay front be designated by numbers instead of names, as the naming from streets or from lessees is very confusing. Lessees are frequently changing, & streets have more than one wharf. Besides the two wharves at the foot of Yonge street, it is proposed to build 3 more to the west, which will still more add to the confusion often arising from the present system of naming. It is proposed to have each wharf numbered according to its position, commencing at Queen's wharf as wharf no. 1, then wharf no. 2, etc.

Capt. Massey, of the steamer Linn, wrote the General Western Agent of the Canada Atlantic Transit Co., April 25:—"I arrived in Parry Sound April 3, at 7 p.m., all O.K. I found no difficulty coming into this harbor drawing 18 ft. of water. We came nearly all the way full speed, & it is the finest harbor I ever saw. It is land locked all round & there is lots of water. They are going to put a gas buoy on the Seguin banks, just outside Red Rock light, & another one about half way in, on a 14-ft. spot that is in nearly mid-channel, & then this will be a good place to come to. It is far better than Midland."

Vessel and marine interests are becoming much alarmed over the continued lowering of the waters of Lake Superior. At Duluth the water is down 30 ins. from last year's level, & is of the same effect as though thousands of dollars' worth of dredging had not been accomplished. The low water is a direct loss to the vessel interests, as it prevents them loading their boats to their normal carrying capacity. The reason for this low water is not clear, & the old talk among vessel men of the subterranean passage to Lake Huron is revived. This is furthered by the fact that

the water in Lake Huron is correspondingly high, & it is not going down the St. Mary's River.—Marine Record.

The first effect of war on the lake trade is being felt in Chicago. Instead of sending wheat to New York points for European shipment, the Chicago operators are shipping to Canadian ports where the plan is to sell the grain to Canadian commission merchants, who will in turn sell to European buyers, making commissions both ways. This is done because the property of U.S. citizens, whether in U.S. vessels or not, is coming to be regarded as unsafe. Some eastern vessel owners have begun to put their vessels under the British flag. At present the law makes it impossible for these boats to change their flag again, but efforts are being made in the U.S. Congress to have this law altered.—Marine Record.

On May 1 the Ogilvie, one of the C.P.R. stern-wheel steamers built at Vancouver for the Stikine River, made a trial trip on Burrard Inlet with a party of guests on board. Speaking of her the Vancouver News-Advertiser says:—"The Ogilvie, as a pattern of the river steamers the C.P.R. intends running in connection with the steamships Tartar & Athenian on the Klondike route, is unrivalled. She is beautifully appointed & replete in every detail. One hundred & forty-six ft. long by 30 ft., with 5 ft. depth, & drawing but 2 ft. of water, the Ogilvie & her sister ships should alone prove an inducement to travel on the northern rivers. The vessels are intended for 200 passengers. The saloon passengers are provided with comfortable cabins, replete with every comfort for the journey, & the smoking room, saloon & ladies' saloon are handsomely appointed, especially the latter."

The Province of Quebec.

An attractive Sailors' Institute has been opened in Montreal, at the corner of Commissioners Street & Place Royale.

The contract for laying the buoys between Quebec & Montreal has been awarded to J. C. Kaine, tug owner, Quebec, for 5 years. It had been previously awarded to a Sorel party, but it is said he withdrew.

The Montreal Chamber of Commerce is of opinion that a successor to Capt. Howard as Harbor Master is not necessary, & that the salary attached to the office could be spent more usefully in improving the harbor.

The Campana will leave Montreal May 23, June 6, & fortnightly thereafter, for the different ports on the River & Gulf of St. Lawrence, ending at Pictou, & including Georgetown & Souris, in addition to the other ports in P.E.I.

The Canada Atlantic Ry. asks the Dominion Government for dredging at Coteau Landing to enable large barges & other vessels to load at the C. A. grain elevator there. Over half-a-million bushels of grain are en route from the west for the elevator.

The people of Gaspe ask that Mount Louis, on the north coast of Gaspe, be made the terminus of the proposed fast Atlantic steamship line. They say a railway of 120 miles would connect Mount Louis with the Intercolonial at Metis & give a direct route from the terminus to the interior. Mount Louis is claimed to be a 1st rate harbor, open all the year round.

The St. Lawrence pilots ask to have one of their number represent them upon the Montreal Harbor Commission in matters concerning pilotage, & to have the control & administration of 2% of the receipts of the Harbor Commission from pilotage, also that a member of their corporation should assist in spring in placing the buoys, in order to make

suggestions, & that Parliament should render obligatory the by-laws made by the committee of pilots & the Harbor Commission, after they have been approved by the Governor-in-Council.

Items of Personal Interest.

H. Johnston, last year purser on the S.S. Lakeside, has been appointed paymaster of the Welland Canal works.

W. A. Fletcher has been appointed General Tourist Agent of the Richelieu & Ontario Navigation Co. Headquarters, Chicago.

W. F. Cloney, of St. Catharines, Ont., has been appointed Travelling Passenger Agent of the Richelieu & Ontario Navigation Co.

W. Robert, cashier of the R. & O. N. Co., received a handsome present & address from the other employes on leaving the Co.'s service recently to enter the Bank of Hochelaga.

The Peterboro', Ont., Navigation Co. has appointed Capt. Lorne to the command of the steamer City of Peterboro'.

Capt. W. R. Taylor, who was for many years inspector for Canadian lake underwriters, & whose son, T. R. Taylor, now holds the same position, is living in Kingston & is hale & hearty at 87 years. He is among the oldest of Canadian lake vessel masters now living. He began sailing out of Prescott, Ont., in 1832, in the steamer Queenstown, & later in the steamer William IV. Between 1834 & 1866 he commanded, among other lake vessels, the steamer Coburg, steamer Sir Francis Bond Head, schooner Thistle, schooner Shamrock, propeller St. Thomas, schooner William Caley, schooner Governor, barge Superior, steamer Comet, schooner Annie Falconer & schooner Annie Minnes.

H. M. Bolger, Secretary of the R. & O. N. Co., was recently presented with an address & purse in Montreal on the occasion of his approaching marriage.

THE RAILWAY AGENT, CLEVELAND, OHIO.—Our Canadian friends are making THE RAILWAY & SHIPPING WORLD quite a factor in Canadian railroad literature.

MONTREAL HERALD.—"The Herald is in receipt of a new Canadian railway journal entitled THE RAILWAY & SHIPPING WORLD. The initial number of this new monthly publication is a bright & interesting one, & contains much valuable information relating to transportation interests. Besides this, it contains an excellent photogravure of the Hon. A. G. Blair, as a frontispiece, & several Klondike engravings. Hitherto the officials of Canadian transportation companies have been forced to depend on foreign publications for their 'trade' reading, so a journal of this character devoted to purely Canadian interests will fill a long-felt want."

VANCOUVER NEWS ADVERTISER.—THE RAILWAY & SHIPPING WORLD has just been issued from Toronto. It is devoted to steam & electric railways, shipping, express, telegraph & telephone interests—a comprehensive devotion certainly. The publishers' announcement says: "THE RAILWAY & SHIPPING WORLD will endeavor to give a full & accurate record of everything transpiring in Canada relating to the interests enumerated above, supplemented by technical & other articles of interest & value to the class of readers to which it addresses itself. Its publishers believe in performances rather than promises, & will content themselves with saying that no effort will be spared to make the publication a thoroughly up-to-date one, editorially, typographically, & in every other respect. Illustrations will be freely used whenever they can be made to serve a practical purpose." Mr. D. Todd Lees is the agent for the new publication in Vancouver. The price is \$1 per year.

ELECTRIC RAILWAY NEWS.

British Columbia Lines.

THE B. C. ELECTRIC RY. Co. has reduced the running time between Vancouver & New Westminster to $\frac{3}{4}$ of an hour, as formerly. The cheap Sunday rates are much appreciated & Vancouver City's proposed new agreement with the B. C. E. R. Co. provides, amongst other things, that the Co. shall place fenders on the cars & also enables the city, if at any time it shall be found necessary to call upon the Co. to substitute underground for overhead wires & connections of motor power.

This Co. is having installed a complete plant for developing the water power at Goldstream, 12 miles from Victoria, for operating the street railway & electric light plant. The plant is expected to be in operation by midsummer. Contracts for the electrical & hydraulic machinery have been closed, & construction is being pushed with rapidity. The electrical apparatus will be of the 3 phase type, using rotary convertors & transformers to distribute over the line as the 2 phase, with a voltage capacity of 11,000. Two Pelton water wheels will be used, with a capacity of 600 h.p. each, delivering 1,000 horse power in Victoria. Provision is also being made for 600 additional horse power if required. The power delivered in Victoria will be sufficient to operate the street railway, electric lighting system, commercial & municipal, & also to furnish considerable power for the operation of stationary motors for manufacturing purposes, elevators, etc.

Manitoba Lines.

WINNIPEG ELECTRIC STREET RY.—Superintendent Somers set has been looking over the St. Paul, Minn., street railway system, with a view to introducing improvements in working the Winnipeg one.

WINNIPEG & ST. ANDREW'S.—See item under head of Railway Projects on an earlier page of this issue. The proposed line may use either electric or steam power.

WINNIPEG & SELKIRK ELECTRIC RY. charter would have expired this year if construction was not begun, but the Legislature at its recent session extended the time for another year.

Maritime Province Lines.

CHARLOTTETOWN.—The local gas company has made a proposition to the city to build a street car system in Charlottetown.

HALIFAX & BEDFORD ELECTRIC CO.—The Halifax Chronicle says the electric tramway scheme from Halifax to Bedford has been killed, so far as the H. & B. Co. is concerned. Its charter has been amended so as to enable it to build a tramway only from Three Mile House to Bedford, & to supply electric lighting between the same points.

HALIFAX ELECTRIC TRAMWAY CO. will spend about \$50,000 in improving its plant. It has just installed 2 large generators.

Northwest Territories.

THE LEWES RIVER TRAMWAY CO. has applied to the Dominion Parliament for a charter to build an electric or horse railway around the obstructions to navigation at Miles Canyon & White Horse Rapids on the Lewes River. This Co. proposes to operate on the eastern side of the river. Another company, to be known as the Miles Canyon & White Horse Tramway Co., has applied for a similar charter of incorporation to operate on the west side.

Ontario Lines.

BELLEVILLE TRACTION CO.—Toronto brokers recently offered \$70,000 5% 20 year bonds of this Co. secured by a 1st mortgage on the entire plant franchise, property & extensions to be made. The Co. has a franchise for 20 years, with the right of renewal for 20 years longer; it has exclusive right on all the roads & bridges, is exempt from taxation, does not require to pay any percentage of receipts to the city, & can cease operating from December to March inclusive, if traffic does not pay. Two miles of track were built in 1895, & it is proposed by the sale of bonds to provide for 3 miles of extensions, to purchase additional cars, to relay the present line with steel, to dam the Moira River, pay off floating debt & either purchase or lease 30 acres for a park. The extension would be from Front St. West to the Cemetery, passing the Deaf & Dumb Institute, mineral baths & agricultural grounds. The termini of the present 2 miles of track being at the railway station & steamboat dock, the residential portion of the city is not reached. The receipts for the two years the Co. has been in operation have averaged \$5,569.21 a year, & the running expenses, \$4,036. We understand the brokers expect to place the bonds in Boston.

BERLIN & WATERLOO ST. RY.—H. H. Halburn has been appointed Manager.

FLOWER TO HAMILTON SMELTING CO'S WORKS.—A survey is being made for a short line from Flower Station, on the K. & P. railway, to the mines of the Hamilton Smelting Co., A. Bell, C.E., of Almonte, having charge of the work. It may be either a steam or an electric line.

GALT, PRESTON & HESPELER ELECTRIC RY.—The manufacturers of Galt recently petitioned the Council, asking that this railway be allowed to carry freight down town, & also to put switches into several of the factories & foundries along the line of the transit. The G., P. & H. has connection with the C.P.R., & the G.T.R. protested against the granting of the petition, claiming that to do so would be to discriminate against the G.T.R., the latter not having running privileges over the G., P. & H. The Board of Works recommended to the Council that no action be taken, & the report was adopted. For the present, at least, the manufacturers will have to be content with existing transportation facilities. A great deal of interest has been taken in the question, not only by the railway companies, but the town at large.

At a meeting of Berlin & Waterloo business men, held at Berlin, April 20, to discuss the proposed trolley connection between Berlin & Preston, where connection would be made with the electric railway from Galt owned by the C.P.R., several business men reported that they had made thorough investigations & concluded that a trolley road was preferable to a steam road. The charter for the Preston-Berlin road expires this year. It was decided that the bonus of \$40,000 asked for would be apportioned between Berlin & Waterloo according to the respective assessments. The general opinion is that Berlin & Waterloo will have C.P.R. connection this year.

THE HAMILTON, CHEDOKE & ANCASTER ELECTRIC RY. shareholders met May 3 & considered the city of Hamilton's offer to purchase the Beckett Mountain drive at \$12,000, payable in yearly instalments of \$1,000, but although the majority were in favor of accepting, the decision of the Co. was left over for two weeks, when another meeting will be held. It is stated that in connection with the construction of the railway there are financial difficulties which the directors hope soon to overcome, & with the money from the Beckett drive & the Ancaster bonus, they

expect to arrange matters so as to begin construction early this summer.

HAMILTON, GRIMSBY & BEAMSVILLE RY. Co.'s shareholders held their quarterly meeting recently. The quarterly financial statement showed an increase of 10% in gross earnings over those of the corresponding period of last year. The directors were empowered to issue debentures to pay off the floating debt of \$20,000. The present debenture debt of the road is \$85,000, payable in 30 years.

HAMILTON RADIAL ELECTRIC RY.—There is likely to be trouble between this line & Hamilton Street Ry. The latter has given the Radial Ry. notice to cease doing local business. The St. Ry. Co. will object to the passage of the by-law granting the Radial Ry. permission to change its line from Sherman to Birch Avenue unless some new agreement is made in regard to local fares.

HAMILTON ST. RY. CO. recently made application to the City Council for an amendment of the present agreement with the City under which the Co. has to pay over \$13,000 a year for percentage & mileage. At a meeting of the Finance Committee, the Co.'s solicitor, Mr. Martin, presented figures which showed that there had been a falling off in receipts last year, & that no dividends had been paid since 1895. He attributed the falling off in receipts to the building of the radial railways, which cut into the local business, & stated that at present the Co. could not operate under the conditions. He proposed that the by-law should be amended to provide for the removal of snow from the track; the Co. to sell 9 instead of 8 limited tickets for 25c., & to extend the time from 6.30 a.m. to 8 a.m., 11.50 a.m. to 1.30 p.m., & 5 to 6.30 p.m.; to carry children between 5 & 12 years for 3c., or sell 10 children's tickets for 25c., also to allow its tracks to be used by radial railways entering the City on terms to be agreed upon. In lieu of these conditions the Co. asked that the franchise be extended to 1928, the mileage abolished, & the percentage be rearranged as follows: Receipts up to \$200,000, 5%; receipts over \$200,000, 8%. An alternative proposition was to abolish mileages & percentages, & after paying expenses, etc., to equally divide the surplus between the city & the Co. until each receive \$10,000 a year, then the City to receive the percentages under the by-law, the franchise to be extended to 1928, & radial railways to be allowed to use the Co.'s tracks on terms to be agreed to. The Finance Committee submitted several questions to the Co., which were answered in the following words: "The actual cost of the H. St. Ry. is represented by the capital paid up in cash, \$204,704.40, & the bonds issued in 1894, \$500,000; total, \$704,704.40. The Co.'s charter does not permit it to sell the railway, nor can the Co. control the shares of the shareholders, or bind the bondholders to agree to a sale, neither has the city power to purchase the railway. Very special legislation would, therefore, be required to enable such a purchase to be made, & it would take almost 2 years to obtain such legislation & pass the necessary by-laws. If the City decides to purchase the railway, & will now make a definite offer which the Co. can recommend to its shareholders, with a view to obtaining their assent to applying for the necessary legislation, the Co. will take that step, provided the interests of the Co. are properly safeguarded in the meantime by the franchise being extended till 1928 substantially upon the terms of the draft by-law now submitted (or the alternative offer), it being further provided that the City shall have the option to purchase out the company at the agreed price within, say, 2 years, should the requisite legislation & authority have been obtained in the meantime." Some of the members of Council are in favor of the City acquir-

ing the railway, but there is a great difference of opinion as to the wisdom of municipal ownership, & the matter has been laid over for further consideration.—Electrical News.

THE KINGSTON ELECTRIC RY.'s extension from Princess Street to the lower G.T.R. station is expected to be completed in June.

In the appeal in the case of the City of Kingston vs. The Kingston, Portsmouth & Cataraqui Electric Ry. Co., of which particulars were given in our last issue, in which the city sought to compel the Co. to keep its cars running over the whole of its line of railway during the whole of each year, decision has been given against the city.

LANARK COUNTY ELECTRIC RY. breaking ground, a formality necessary to save the Co.'s charter, was accomplished by Jas. Doyle, of Perth, by turning over the sod for some distance on his farm.

NIAGARA FALLS BRIDGE.—The steel arch to take the place of the upper suspension bridge was closed April 18. It is a highway bridge, carrying trolley tracks & sidewalks. The new arch is 840 ft. long, being the longest arch in the world. It is built by the Pencoyd Iron Works, contractors for the Niagara Falls & Clifton Suspension Bridge Co. L. L. Buck is chief engineer, & R. S. Buck resident engineer.

THE NIAGARA FALLS PARK & RIVER RY. is now using both tracks between Chippewa & Table Rock, & is also running early & late cars.

The N. F. P. & R. Ry. is making improvements in its power house at the Falls, & expect to have 1,200 h.p. of 2,000 voltage for sale to power users.

PETERBORO' TO CHEMONG & LAKEFIELD.—It was stated in our last issue that the Cornwall Electric Ry. had submitted to the Town Council of Peterboro' a scheme for the construction of an electric railway from that town to Chemong & Lakefield, & that the Co. proposed to lease the Chemong & Lakefield lines from the G.T.R., convert them into electric roads & take over the freight business, the cost being roughly estimated at \$350,000. Enquiry of the Cornwall Co. fails to elicit any information, but General Manager Hays, of the G.T.R., informs us that a proposition has been received from D. A. Starr, who is connected with the Cornwall Electric St. Ry., for leasing the Lakefield Branch to a company which he proposes to form, but that nothing has been determined in regard to the matter.

PORT ARTHUR STREET RY. is negotiating for a car 34 ft. long.

ST. CATHARINES, MERRITTON & THOROLD ELECTRIC RY.—This road, originally owned by E. Smyth & others, & sold under foreclosure by the Bank of Toronto, to Dawson & Symes, of Chignecto Marine Ry. fame, is likely to be extended to Pt. Dalhousie, as contemplated by the original charter, but never carried out, owing to the conditions imposed by the Department of Railways, for the crossing of the Welland Canals. The St. Catharines City Council has given a by-law its 1st reading for right of way from the line's present terminal to the northern city limits.

THE ST. THOMAS ELECTRIC RY. recently made application to the Railway Committee of the Privy Council for the right to cross the tracks of the London & Port Stanley Ry. It was decided to send up an officer to inspect & report.

Four cars for use on the new line have reached St. Thomas. It is expected the line on Talbot St. will be in operation on May 24 & that the whole road will be going by July 1. The Co. has purchased the Yarwood farm, adjoining Pinafore Lake, for a park.

SANDWICH, WINDSOR & AMHERSTBURG ELECTRIC RY.—The statement of receipts presented at the recent annual meeting show-

ed a marked increase over those of the previous year.

SMITH'S FALLS, RIDEAU & SOUTHERN RY.—The Kingston News says a contract has been let to a U.S. Co. to build this line as a 3rd rail single track electric road for \$8,000 a mile. The charter granted by the Ontario Legislature fixed the capital stock at \$300,000. Power is given to issue bonds to \$14,000 per mile of road. The Co. is empowered to construct a single or double track in the town of Smith's Falls & thence through the townships of S. Emsley, S. Burgess, Bastard, S. Crosby & Kitley, to the villages of Portland, Jones' Falls & Toledo, county of Leeds; also through the townships of Montague, county of Lanark; Wolford, Oxford & Augusta, county of Grenville, & the villages of Merrickville, Oxford Mills & North Augusta, county of Grenville. The road to be worked by steam or electricity, as they may elect. The line will run over all the paying ground of the Kingston, Smith's Falls & Ottawa Ry.

Up to the time of going to press we have been unable to verify the statement as to the letting of a contract for construction. A Smith's Falls correspondent says nothing has been done further than to obtain the charter, & that he does not think a board of directors has been appointed.

TORONTO RAILWAY CO.—The gross earnings for the first four months of 1897 & 1898 are as follows:

	1897	1898	Increase.
Jan'y.....	\$74,545.55	\$86,562.36	\$12,016.81
Feb'y.....	69,744.61	82,402.19	12,657.58
March....	78,891.45	92,818.12	13,426.67
April.....	73,756.38	86,898.83	13,142.45

TORONTO, METROPOLITAN & MIMICO COS.—The charge of infringing the Lord's Day Act, laid against the Metropolitan St. Ry. Co., running from North Toronto to Richmond Hill, came up in Toronto recently. It was stated on behalf of the Crown that the railway had promised to run no more cars on Sunday, & the charge was withdrawn. A similar charge against the Mimico St. Ry. Co. will, however, be gone on with.

WALKERTON TO FLESHERTON.—Mr. McNamara, of Goderich, has received a letter regarding the Hurontario Electric Ry., which states there is still hopes of securing the construction of a railway from Walkerton to Flesherton.

Quebec Lines.

HULL ELECTRIC RY.—A bill to incorporate the Ontario & Quebec Bridge Co. recently was defeated in the Railway Committee of the House of Commons by 35 to 61. The proposed company asked power to bridge the Ottawa River from the foot of Bank St., Ottawa, to Ottawa St., in Hull. The promoter was the Hull Electric Ry., whose line extends to Aylmer, Que., where it connects with the Pontiac & Pacific Ry. These lines have no entrance into Ottawa, & were trying to secure such by means of the bridge, for which they did not ask any subsidy.

ST. ALPHONSE.—It is reported that A. Tremblay & Bro., of Herbertville, have purchased property at St. Alphonse with a view of constructing an electric railway there.

THE MONTREAL PARK & ISLAND RY. will make a number of improvements to its service during the summer in response to the marked appreciation of its efforts to meet the requirements of the suburban section of the population as well as the large number of people who use the cars in summer to secure an outing at a reasonable cost. A 15 minute service will be given on Saturdays & Sundays to the cemeteries. Fifteen open cars are under construction & will be put into service almost at once. Twenty motor cars are being equipped with strong, high speed motors, so that

the cars can be run at a speed of 25 miles an hour, including stops. The road bed will be improved so that the cars can be run at that speed with the greatest safety. Family book tickets containing 50 tickets for \$3.50, good on all the lines, will be issued.

MONTREAL STREET RY. CO.—The earnings for April amounted to \$110,819.37, & for the past 7 months to \$778,615.20. The returns are far ahead of the earnings a year ago, in fact, the increase for the 7 months being \$73,510.20. The average daily earnings during that period amounted to \$3,672.72, & the average daily increase is \$346.85. The figures in detail are as follows:

Month.	1897.	1896.	Inc.
Oct....	\$116,293.09	\$109,110.38	\$7,182.71
Nov....	110,929.60	100,818.57	10,111.03
Dec....	113,128.91	103,116.02	10,012.89
	1897.		
Jan....	110,140.83	99,620.55	10,520.28
Feb....	102,625.49	89,951.08	12,673.81
March...	114,677.91	99,441.87	15,236.04
April...	110,819.37	103,045.93	7,773.44
	\$778,615.20	\$705,105.00	\$73,510.20

The appeals of the M. St. Ry. Co. from the judgment of the Superior Court, awarding Mr. Jacquemin \$300 for injuries resulting from being struck by a street car while crossing Craig St., in 1895, & Miss Chartier damages for injuries resulting from a similar accident on Notre Dame St., have been dismissed by the Court of Appeal, the decision in each case being based upon the violation by the Co.'s employes of the city by-law ordering that the speed of the cars must never exceed 8 miles an hour, & that at all street crossings cars must be slowed up to the pace of a horse walking. The court held that as long as this by-law remained in force it would have to be observed, & the Co. will have to be held responsible for all damages & accidents resulting from its violation.

The M. St. Ry. Co. recently sued the Montreal Park & Island Ry. Co. to recover \$5,756, the amount of the loss sustained by the burning of the former Co.'s cars at the Exhibition grounds. These cars had been leased & the question to decide was whether the contract covered the loss by fire. The court held it did not. The Park & Island Co., by the contract, was only responsible for ordinary wear & tear & not for damages caused by fire when it had been shown, especially, that the fire had not originated in the premises occupied by it.

In October last the city of Montreal, through its engineer, Mr. St. George, made a complaint against G. H. Wood, a foreman in the employ of the St. Ry. Co., for tearing up the streets without authority. The Co. was laying some tracks on St. Lawrence St., & Mr. St. George claimed that it was tearing up the streets more than 6 inches from the rails, & was consequently damaging the city's property. The Recorder recently dismissed the action, on the ground that the city had failed to prove that the Co. had damaged the asphalt on that part of the street which was under the care of the city.

Judge Mathieu recently awarded Dr. Leprohon \$150, the full amount of his action against the M. St. Ry. Co. In Feb. last Dr. Leprohon got on a Notre Dame St. car. The car was crowded & there was not even a strap left by which he could support himself. Accordingly he caught hold of the side of the car door. Suddenly, without warning, the conductor shut the sliding door violently, catching the hand of the doctor, whose thumb got such a bad bruising that it has been useless since. Dr. Leprohon has since been unable to write or to dress himself unaided, & he instituted the action for compensation for the expense to which he had been put & the suffering which he had been caused. The Co.

did not appear, & the court rendered judgment as above.

The M. St. Ry. Co. has determined to construct the much talked of Cote des Neiges line, & the management is only waiting the return of Jas. Ross from England to commence operations. It is expected that Mr. Ross will be in Montreal by May 15. The new line will not go up the main road, but will pass by the gorge in the rear of the Seminary wall, which the Co. claims is the natural outlet of the road. The work of extending the Wellington St. line to Verdun will also be begun, & will be pushed forward rapidly. The ties & iron are already on the ground, & the grading & construction of the electric system is all that is required. An official stated that the fare would be 5c., as in all routes controlled by the Co.

The management is considering the remodeling of the street signs on the cars, so as to make them shorter & more easily to be understood by the public. Thus it is proposed to cut down the St. Denis St. car sign to "St. Denis to St. Henri," & so all along the line.

In our last issue it was stated that the M. St. Ry. Co. had invited tenders for the advertising privileges in its cars. The contract has been given to the Dominion Ry. Advertising Co., Montreal.

It is understood the M. St. Ry. Co. has closed with the Intercolonial Coal Co. for its year's requirements of slack coal, about 30,000 tons.

Over 100 more men are employed this year by the M. St. Ry., as it has 250 open cars & trailers as against 200 last year.

The M. St. Ry. is preparing for the construction of its tracks upon Common Street. The rails have been strung along the sides of the streets & the feed wires are being placed on the telegraph poles. The route will be extremely short at present, embracing McGill, Common east to St. Peter, up St. Peter to Youville, & along this street to McGill again.

The by-law authorizing the agreement with the M. St. Ry. Co. was voted on at Verdun May 9, when 83 proprietors, representing \$193,033.98, voted in approval of an immediate street railway service, & only 6, representing \$36,350, voted contrary. The by-law was therefore affirmed. The rails & other material for the extension through Verdun & up Frontenac street to the eastern abattoir are on the ground, & the work of construction is to be begun at once.

The Birmingham Tramway.

At the 1st annual meeting of the City of Birmingham Tramway, recently held in Birmingham, Jas. Ross, of Montreal, presiding, a dividend of 5% on the ordinary shares of the Co. was declared. This is the system which Messrs. Ross & McKenzie acquired an interest in a couple of years ago under an agreement with the City Corporation for the conversion of the road to electricity. The agreement between Ross & McKenzie & the city authorities was for an underground conduit system for about 10 miles in length in the central business portion of the city & an overhead system for the other districts. Acting under this agreement Ross & McKenzie organized a company, but it developed during the discussion which took place at this meeting that the City Corporation, after a deputation had made a tour of the continental cities, reported against allowing any overhead wires to be erected, & the Council adopted the report. The Co. claims the right under the agreement to construct a partial overhead system, & the question remains in abeyance.

TELEGRAPHS & CABLES.

The C.P.R.'s. Trans-continental Line.

The construction of the C.P.R. new trans-continental telegraph line between Montreal & Vancouver was commenced at Montreal April 14. The line will pass via Vaudeuil & the Short line to Ottawa, thence by the main line to the coast. It will be strung under the general superintendence of W. J. Camp, C.P.R. electrician, in 3 divisions. The 1st will reach from Montreal to Fort William, & will be constructed by J. Townsley, Supt. of Construction, with about 100 men working simultaneously in 4 gangs. The next division will reach from Fort William to Donald, B.C., & will be under B. S. Jenkins, Superintendent of Telegraph, Winnipeg, with 3 gangs, Inspector Edwards being in charge of the field work. Work on this section commenced April 25. It will be necessary to rebuild some section of the pole line between Winnipeg & Donald, which will require 2 pole gangs. The final division will reach from Donald to the coast, & will be under the charge of J. Wilson, Superintendent of Telegraph, Vancouver, who, with 2 gangs of men, will commence operations almost immediately.

A great deal of trouble has been experienced by telegraph companies through the breaking of the glass insulators by which the wires are attached to the poles. Particularly is this so in the vicinity of schoolhouses & gravel trains, & a large number have been found broken through sportsmen having taken shots at them in default of better game. A test was therefore made at McGill University, Montreal, with a view to ascertain the comparative resistency of glass & porcelain insulators, with the result that it was found that porcelain resisted much heavier & a greater number of blows than the glass. Tests were also made with a .32-calibre revolver from a distance of 8 ft. The glass flew to pieces at nearly every shot, while the porcelain frequently showed no mark, save the lead from the bullet, & when they did break it was in such a way that, had they been attached to the pole, the wires would not have been affected. Seventy-five tons of these insulators are now on their way from Europe for purposes of C.P.R. construction.

The testing of the copper wire is also going on at the Applied Science Department of McGill, under the care of Graham Drinkwater. Every day he selects at random a sample of wire from each lot of ten bundles being turned out by the manufacturers, & subjects them to tests in order to insure that they come up to the requirements of the contract. The wire must be .137 of an inch in diameter; one one-thousandth of an inch only of a variation being allowed above or below this gauge. It must be perfectly cylindrical & weigh 300 lbs. to the mile, 4 lbs. of a variation being allowed in this distance. Frequent electrical tests are made upon pieces one one-hundredth of a mile in length, to determine the purity of copper used, which must be 97%. Each bundle weighs 170 lbs., & the wire must be in one continuous length, without joint or break. Each 6 inches of wire must be capable of being twisted 30 times at a uniform speed of 1 twist a second. The tests show that it will stand 40 to 50 twists before breaking. It must stand 6 close turns around another wire of equal diameter & be unwound without breaking. It must also stand an average breaking strain of 975 lbs., & before breaking it must have stretched at least 1%.

When completed there will be a length of about 2,900 miles of wire, constituting probably the longest direct land-line circuit, for daily work, in the world. To pass across this immense distance, signals will only occupy about $\frac{1}{4}$ of a second.

The C.P.R. Vancouver Island Cables.

As was briefly mentioned in our last issue, the C. P. R. Co.'s. new cable from Vancouver City to Vancouver Island, a detailed description of which appeared in our March issue, was laid April 6, under the direction of F. B. Gerrard, Asst. Supt. of the Commercial Cable Co. at Canso, N.S.; & J. Wilson, Superintendent of the Pacific Division of the C.P.R. Telegraphs. The laying was done by the Co.'s. S.S. Tartar, which brought the cable out from England in a steel tank about 35 ft. in diameter & 12 ft. in height, situated in the second hatch from the fore-castle. In the centre of the tank was a huge circular wooden frame, not unlike a mammoth spool, around which the cable was coiled. This tank was the centre of attraction all day. Fifteen perspiring, & at times, very frightened men, stood in it all day long & guided, or tried to guide, the course of the cable. The coil first passed through holes cut in 2 wooden beams on to a large iron pulley situated at the mouth of the well, & then through a pulley block in the mast almost on a level with the second deck. When the bow deck was reached it passed over 2 large guide pulleys, then on to a series of grooved wheels, which clamped together & prevented the cable paying out too rapidly. The pressure on the wheel was applied by a screw right over the stem of the vessel. So great was the friction caused by the rapid passage of the cable over these wheels, that a man was constantly employed playing water on them with a hose. Before the cable plunged into the water it fell over a final large pulley suspended from timbers projected over the bow, which made it trail down on the starboard side. The laying took about 10 hours, the actual distance being 32 miles, though 40 miles of cable were used.

The new cable starts at Little Beach on the Mainland about $1\frac{1}{4}$ miles north of Point Grey & 3 miles south of Bowen Island. Half-way across the Gulf it is resting $6\frac{1}{2}$ miles north of the old cable & at Departure Bay it is about $11\frac{1}{2}$ miles northwest. The landing place on Vancouver Island is between Jesse Island & Horsewell Bluff, about 2 miles northwest of Entrance Island, Departure Bay. With its open & easily accessible situation on both shores, the C.P.R. expects to meet with none of the old troubles. From Departure Bay, the telegraph poles will be strung along the Coal road until the E. & N. Ry. is reached, when the latter will be followed into Victoria.

The C.P.R. has chartered the tug Mystery to pick up the cable connecting Vancouver Island with the Mainland, which has recently been replaced by the new line from Vancouver City to Departure Bay, Vancouver Island. The old cable will be laid between Beecher Bay, Vancouver Island, & Port Angeles, Washington.

Rocky Mountain Telegraph Co.

This Co.'s. system, comprising about 300 miles of line in Alberta & Montana, has been sold to the Postal Telegraph Co., & on May 1 the new owners took possession, the Rocky Mountain becoming a part of the Postal system. Many extensions of the plant are contemplated. The Rocky Mountain system connects with the C.P.R. telegraph system, & this deal gives the Postal new connections to the Atlantic & the Pacific coast.

The Rocky Mountain system extends from Butte, Montana, to Anaconda & Missoula, & from Anaconda to Deer Lodge, & thence across the mountains to Helena, then to Great Falls by way of Wolf Creek & Sun River. From Great Falls it extends along the Great Falls & Canada Ry. to Lethbridge, where it connects with the C.P.R. Connections are then made to Winnipeg & Montreal, & from there over the Postal lines to New York. A

new line will be built from Leadville, Colo., to Butte, Mont., thus providing another alternate route, not only for Montana business, but for points in the Northwest Territories.

Under the new order of things the Montana division will be in charge of W. P. S. Hawk, who has been manager of the now extinct Co. for some years, & it is understood that but few changes will be made in the employees.

Prompt Delivery of Messages.

C.P.R. agents & conductors have been notified by Manager Tait of the Eastern lines that too many cases of delay in delivery of commercial telegrams are occurring. Evidently some agents & operators do not understand that after train orders & similar duties in connection with the prompt movement of trains at their stations, the handling of commercial telegraph business is next in importance, & to satisfy the patrons of the Co., & by good service increase the telegraph business, the greatest possible dispatch is required. All commercial telegrams, when the duties above mentioned do not prevent, should be immediately delivered & receipt taken, which must show time. No excuse will be accepted for failure to produce such receipts when required.

There is too much uncertainty at present about the delivery of messages addressed to parties on trains. Hereafter such messages will be delivered to conductors, who will receipt to operators for all commercial messages. Due effort must be made to find parties addressed, if necessary "crying" the message in each coach of the train. If party cannot be found, message must be left at next telegraph office at which train stops, with a note on it to that effect, signed by conductor, on receipt of which operator will at once notify the sending office.

An Operator's Proxy.

R. M. Cameron, of Vancouver, B.C., tells a good story on himself as follows: "I was working as extra operator on a railroad in Georgia 'A' at 'B' and I did not 'pull' together amicably, & one day after we had had quite a 'chewing match' he declared he would thrash me the first opportunity he had. Having heard that he was a strapping big fellow, & that he had quite a reputation as a 'scrapper,' I was somewhat afraid to venture near 'B' office. Several weeks after this, a drummer visited our town who had 'written me up' for failing to deliver a message promptly to him from his firm, & who was going to 'B' that day on train No. 2. I thought now was my chance to get even. I called up 'A,' told him I was coming down on No. 2, & that we would have it out personally. I then described the drummer as accurately as possible, & told him to watch out for me. I was told afterwards that 'A' made for the drummer mumbling something about 'operator at C,' & that the poor drummer had only time to yell 'maniac.'"—Telegraph Age.

The severing of the cable between Cuba & the main land forces the Spanish to fall back on Great Britain in order to secure cable communication with Cuba. No message can go to Havana except through British territory. Cable communication exists between Cuba & the British Island of Jamaica. Within the past few months, after long agitation, a line was finally completed connecting Jamaica with Bermuda, another British possession, which in turn connects with Halifax. Previously Great Britain used to communicate with Jamaica through the U. S. & Cuba, & but for the new line would have suffered severely by the latest move. This incident will probably have the effect of hastening the construction of the all-British Pacific cable Imperialists are urging.

C. P. R. Telegraph Signs.

After a thorough trial, Manager Hosmer, of the C. P. R. Telegraphs, has decided to abandon the use of painted wooden signs for his offices, and to substitute enamelled iron, which is now being adopted everywhere as the most serviceable & up-to-date outdoor sign. As new offices are opened they will be supplied with the new standard signs & the old offices will be equipped with the new signs as fast as the old ones need replacing. The new standard sign is very effectively designed, having a miniature map of the territory covered by the Co's. lines in the centre. The single ones go flat against a building; the double ones with flange project at right angles to a building, & either will attract attention where an ordinary painted sign would be hardly noticed. They were supplied by the Acton Burrows Co., Toronto, who are the sole agents for Canada for the largest English manufacturers. As is well-known, the only satisfactory enamelled iron signs are all made in England, the experiments made in various places in America having so far failed to produce an article at all approaching them in quality.

Telegraph Office Changes.

GREAT NORTH-WESTERN.

OPENED.—Ahmic Harbor, Muskoka Wharf, Tobermory, Port Ryerse, all in Ontario.

CLOSED.—St. Placide, Que.

Telegraph Ticks.

A cable steamer is being built in England capable of carrying 6,000 tons of cable. This is twice the capacity of the present largest cable steamer.

Wm. Christie, Victoria, B. C., Manager of the C. P. R. Telegraph, was married recently to Annie Sinclair, daughter of D. Holmes, of Springville, Pictou County, N. S.

Application is to be made, under the Quebec Joint Stock Co.'s Act, for the incorporation of the Soulanges Electric Co., with headquarters at Coteau Landing, & a capital of \$10,000, to produce electricity, & construct & operate telegraph & telephone lines in the County of Soulanges.

The C. P. R. has constructed a telegraph line between Niagara on-the-Lake & Niagara Falls by way of Queenston, from which place to Niagara Falls the wire is strung on the poles of the Niagara Falls Park & River Ry. The Co's. other new work on the Ontario division this year includes an additional railway wire between Smith's Falls & Toronto, & another wire from Toronto to Hamilton via Schaw.

The Postal Telegraph Co., operating the wires along the lines of the Chicago Great Western, is putting in 7 dynamos at Oelwein, Ia., to furnish electric current for all its telegraph lines centering at that point. About 600 cells of battery will be displaced. A 220-volt dynamo will be run by a direct-connected engine, & there will be 6 other dynamos. It is expected the cost of maintenance will be only about $\frac{1}{4}$ that of the batteries hitherto used.

A Vancouver telegram of May 8 says: "Mark Eschwege, of Vancouver, representing a syndicate of French millionaires, the Anglo-French Telegraph Co., with a capitalization of \$500,000, received a cable to-day to commence the survey at once for a cable from Vancouver to Dyea, Skagway & Wrangel. Eschwege left for Dawson to-day. Offices will be at Vancouver, Victoria, Dyea, Skagway, Wrangel & Dawson. The cable is now being manufactured in Europe." The Co. referred to has given notice of application to

Parliament for the necessary powers to construct a line by means of cable & land line from Vancouver to Dawson City, with extensions.

A bill has been introduced in the Hawaiian Legislature, authorizing the construction by the Pacific Cable Co. of a cable between the U.S. & the Islands. This Co., better known as the Scrymser Co., has obtained a favorable report from a congressional committee at Washington on a bill to enable it to lay the cable. The Hawaiian bill gives the Co. exclusive cable rights for 20 years. The cable must be laid within 18 months after the passage of the act by the U.S. Congress, & extended to Japan within 3 years. It must be capable of transmitting 15 words a minute, & the toll rate between Honolulu & San Francisco is not to exceed 35 c. a word, & to Japan it is not to exceed 90 c. a word.

TELEPHONES.

Long Distance Telephony in Canada.

Rapid as has been the development in the application of electricity to the requirements of social & commercial life, in no direction has it been more surprising than in the science of telephony, & more especially in the extension of its capabilities for long distance communication. It is doubtful if the achievements of the long distance telephone are as yet fully appreciated by many who are well versed in the triumphs of other branches of electrical science, much less to the general public. Comparatively few people in Canada realize that to-day it is perfectly feasible to converse satisfactorily by long distance telephone, say, from Toronto to Portland; Montreal to Pittsburg or Chicago; Hamilton to Baltimore; or Ottawa to Washington. Yet it can be, and is being done. Leaving aside altogether the enormous & constant application of inventive skill & capital which have been required to bring the local telephone service to its present efficiency, it is certain that the changes & the development of the long distance branch of the service have been equally radical & proportionately expensive.

The first attempt of the Bell Telephone Co. of Canada to establish a long distance service was made in 1881, by the construction of a single iron wire line between Toronto & Hamilton, then considered quite an achievement, & the line was well patronized. Within 3 years, 855 miles of poles & 1,500 miles of wire were constructed by the Co., but so rapidly did conditions change, that even in this short time this type of line was found inadequate to the requirements of a growing business.

In 1885 copper wire was substituted for iron wire, affording better results. The introduction of the electric light & trolley, however, soon forced upon the Co. another & a more radical change, & metallic circuits had to be adopted upon all principal lines. This change, begun in 1885, was carried on as fast as circumstances would allow until all the principal lines of the Co. were made metallic, or, in other words, 2 wires were necessary to transmit a satisfactory conversation where 1 would suffice before the introduction of electric cars.

The extension of the system, in the meantime, went on apace, until, at the end of 10 years, the Co. had in operation 4,484 miles of pole line & 13,148 miles of wire in its long distance service, & at the present time they have in Ontario & Quebec 6,095 miles of poles, bearing 16,567 miles of wire.

Connections have been established with the extensive long distance system of the American Telegraph & Telephone Co. & affiliated companies in the U.S., at Newport, Vermont, St. Albans, Ogdensburg, Buffalo & Detroit, affording a system of direct telephonic com-

munication as far south as Virginia & Tennessee, & from the cities & towns of the Atlantic seaboard westward to Nebraska.

The difference in the cost of the first long distance line of 1881 & the long distance line of to-day affords one of the serious problems in finance which the Co. has to meet. It is not a mere matter of change; it is a revolution requiring absolutely new & far more expensive construction. In 1881 a No. 9 iron wire (288 lbs. to the mile) was the best in use. To-day most of the construction is of 2 copper wires (which together weigh 532 lbs. to the mile). Formerly 32 poles to the mile were sufficient, but with the introduction of copper, in order to reduce the strain upon the wire, 40 poles to the mile are used; the poles have to be set deeper in the ground & more carefully stayed, all of which greatly increases the cost.

The long distance central office equipment of to-day is much more expensive than it was 10 years ago, improvements having been made to facilitate the work of operating & to secure the best results in communications. The astonishing results which the long distance telephone service of to-day affords is due as much to the improvement in instruments, switches & other apparatus, & to the system upon which these are employed, as it is to the improvement in the lines.

Many people suppose the long distance telephone is a competitor of the telegraph, & are unable to understand the cause of the difference in rates. The competition is largely, if not entirely, mythical, & the reason for difference in rates is easily explained. The telegraph employs a single iron wire conductor, & by means of a quadruplex instrument, this single wire is made to serve the purpose of four wires. The long distance telephone service requires 2 copper wires for each circuit, which together weigh nearly double what the single iron wire does, & costs over 5 times as much per pound. The general construction & office equipment of the long distance telephone service is also far more expensive than that of the telegraph. Nor does the comparison end here. An ordinary 10-word telegram may be transmitted in a minute, & it is practicable to transmit 4 messages simultaneously over 1 wire. Each completed conversation over the long distance telephone occupies 2 wires for an average of 10 minutes; the comparison, therefore, being 2 copper wires for 10 minutes, as against $\frac{1}{4}$ of a single wire 1 minute.

Another important difference arises from the essential difference in the 2 systems of communication. The sender of a telegram writes out his message & goes about his business, & the operator forwards it as other demands on the line will best admit, with slight reference to time, thus keeping the telegraph lines fully employed at all hours.

The correspondent by telephone must have the line when he requires it, or not at all, & practically the entire earnings of the long distance telephone line must be within such hours as business men generally are in their offices, the hours during which these lines are productive being thus limited; & as has already been pointed out, the capacity of the long distance line being confined to an average of 6 conversations an hour, it is clear that the rate must be sufficient to yield during that time an adequate return upon the investment & expenses.

Telephone rates are based on mileage and the time the line is occupied. The parties to a conversation absolutely control the line for the whole distance between them, on the average, 10 minutes (5 minutes for the conversation & 5 minutes to arrange the connection & to disconnect the line). It follows that in equity they must pay for the investment they control for the time it is at their disposal. Therefore, distance & time must be the ruling factors in fixing the rates.

The telegraph & long distance telephone have distinct functions & serve a different purpose to the commercial world. The telephone has, in reality, created a business for itself. Time is, to-day, the prime consideration in the transaction of much business, & the long distance telephone obliterates both time & space. Retail merchants no longer carry the heavy stock of former years, but promptly supply the requirements of their customers through the connection the long distance telephone affords with the wholesaler. So, through every branch of business the telephone has become a distinct & indispensable factor, the usefulness of which will be extended as its possibilities become more generally known & recognized.—Electrical News.

A Big Thing.

Winebiddle—Wilkins has invented a telephone appliance which cannot fail to make his fortune.

Gildersleeve—What is it?

Winebiddle—It is a device to enable two ladies to talk over the same wire at the same time.

The Merchants Telephone Co., of Montreal, has obtained authority to increase its capital to \$1,000,000.

Extensive alterations and improvements will be made in the Bell Telephone Exchange at Goderich, Ont., at once.

Claremont, Ont., wants telephone connection with the outside world. A 4 mile line will probably be run to connect with the Stouffville-Uxbridge line.

The St. Philemon Telephone Co., St. Philemon, Bellechasse, Que., is now a reality. The wires & other appliances have been bought, & men are about to commence work on them. The line will take in the parishes of St. Valier, St. Raphael & St. Philemon.

Stealing telephone service is a new form of misdemeanor in England, classed by the Croydon Police Magistrate as petty larceny, & punished by him with a fine of five shillings. An ingenious young man had made a false key admitting him to the public telephones of the National Co., which he used without paying.

The Bell Telephone Co. has commenced work on its new exchange in Quebec, which will be 30 x 88 ft., & will be built of granite, surmounted by a cornice of red copper, & will cost over \$17,000. The switchboard, now being made in Montreal, will accommodate 3,000 subscribers. It is expected the new building will be ready for occupation by July.

The first telephone in Canada was from the residence of Prof. Graham Bell's father in Brantford, Ont., to the house of the Rev. T. Henderson, in the same city. The first line of any length was from Paris, Ont., to Brantford. The battery was in Toronto, some 60 or 70 miles away from Paris. The first commercial telephone was established in Hamilton in 1877.—From the Alphabet of First Things in Canada, by Geo. Johnson, F.S.S.

In Spain the phonograph is used as a receiver for telephonic messages. One advantage of this arrangement is the facility it offers for repeating messages, since the operator at the transmitting station can hear the message spoken by the phonograph at the same time the operator at the receiving station takes it down. Also messages may be transmitted as fast as desired, & the operator at the receiving station can reproduce them at any time & at lower speed, so that the message can be readily taken down.

EXPRESS.

The Pacific Express in Canada.

In answer to an enquiry from this office, Superintendent Bresie, of the Pacific Express Co., wrote from Decatur, Ill., April 18: "This Co. opened offices at Buffalo & Niagara Falls, N.Y., Mar. 21. These are the only offices we have east of Detroit. We have no local service on the Grand Trunk—Wabash trains at present; but my understanding is when the Wabash trains run via St. Thomas to Ft. Erie on what is called the Southern division of the G.T. it is expected the Pacific will do local business, although I cannot state positively as to that, as I have not been advised by this Co. I will hold your letter as a memorandum, & notify you should there be any changes. You understand the Pacific occupy all lines of the Wabash Road, the Missouri Pacific & leased lines, the Union Pacific, also the Toledo, Peoria & Western, & the Keokuk & Western Ry., & several other roads in the west & southwest."

Arrangements have been made between the Canadian & Dominion Express Companies by which each Co. pays the money orders issued by the other Co. In this way the money orders of either Co. are good at all points in Canada.

The Dominion Express Co. has opened an office at Edmonton, Alberta. Hitherto the business has been done from the office at the terminus of the Calgary & Edmonton Ry., at South Edmonton, on the south side of the North Saskatchewan River, Edmonton being on the north side.

According to the last annual reports the G.T.R. owns \$1,500,000 of Canadian Express Co.'s shares & \$33,400 of Intercolonial Express Co.'s shares. The C.P.R. owns all the Dominion Express Co.'s stock, amounting to \$113,700, which represents the cost of original equipment & organization.

The Dominion Express Co. announces the opening of a route on the C.P.R. between Slocan Junction & Slocan City, B.C. This is over the Slocan branch of the Columbia & Kootenay railway, which has been recently completed for traffic. Offices are established at Lemon Creek & Park Siding.

Kind Words of Welcome.

CHAS. M. HAYS, General Manager G.T.R.:—"I have received vol. 1, issue no. 1, of THE RAILWAY & SHIPPING WORLD, and think you have succeeded very well in your first issue, & from all appearances will make a very creditable publication. The information you give in your first issue is very interesting, & I trust that future issues will show a continual improvement."

W. WHYTE, Manager Western Lines C.P.R., Winnipeg:—"I have long felt that our Canadian railways and steamships should have a paper devoted to their interests, & I am very pleased to know that you have decided to start one. For some years to come the great bulk of railway construction will be carried on west of Lake Superior, & your long & intimate knowledge of that territory should stand you in good stead in dealing with this feature of the work."

THOS. TAIT, Manager Eastern Lines C.P.R., Montreal:—"I am glad to hear that you purpose publishing a monthly railway & shipping journal in Canada, & wish you every success in the enterprise. I think there is an opening for a magazine of the kind."

A. C. HENRY, Purchasing Agent C.P.R.:—"I am glad to hear you intend bringing out a publication devoted to the railway & shipping interests of Canada. It seems to me there should be a good field for it, & I

should consider it a good medium for advertisers wishing to reach those classes."

W. J. CAMP, Electrician C.P.R. Telegraphs, Montreal:—"The matter published in your March issue was very good."

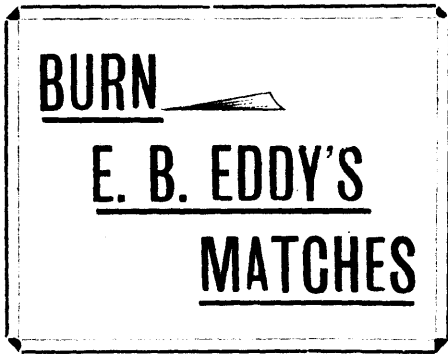
THE WESTINGHOUSE MANUFACTURING CO., Hamilton:—"We have received the first issue of THE RAILWAY & SHIPPING WORLD, & beg to say that our advertisement, & also the article on our works are entirely satisfactory; in fact, we think that as a whole the first issue does you considerable credit."

MYRA STAFFORD THOMPSON, Toronto, in Profitable Advertising, Boston: A new monthly publication, whose name is the index to its character, has just made its first bow to us. THE RAILWAY & SHIPPING WORLD, published in Toronto, will satisfy a long-felt need in Canada's business world, & its initial number gives promise that its future shall be highly successful. It gives a desired chance to many large manufacturers to appeal directly & exclusively to those interested in their goods. As a medium for such announcements, in addition to its railway & shipping news, it will be equally appreciated by the advertiser & all others interested in these industries.

STRATFORD, ONT., HERALD:—"An enterprising Toronto firm has found a field for a new monthly publication entitled THE RAILWAY & SHIPPING WORLD, vol. 1, no. 1, of which has just reached The Herald office. It is a well-gotten up & very interesting periodical devoted to steam & electric railways, shipping, express, telegraph & telephone interests. As might be expected, it starts out with an article on the Canadian Yukon Ry., a synopsis of the contract with Mackenzie & Mann & other matters of equal importance in the railway world & to the various interests it claims to represent. It does not enter into competition with any existing publication & promises to be independent of any corporation or political party."

MARINE RECORD, CLEVELAND, OHIO:—"THE RAILWAY & SHIPPING WORLD is the title of a highly creditable monthly journal which made its first bow to the public in Toronto in March. In its salutary the publishers announce that it takes its place in the field of periodicals for the purpose of representing the transportation interests of Canada—steam & electric railways & shipping, & the allied express, telegraph & telephone interests. The March issue contains 28 pages & the April number 56 pages, which is a very promising indication of the prosperity of the new journal. The Record wishes the new competitor for trade favors much success, & we believe that there is an excellent field for its steady growth & development under the apparent able management of its publishers."

NEW GLASGOW, N.S., WESTERN CHRONICLE:—"We have received the first number of THE RAILWAY & SHIPPING WORLD, a monthly issued in the interests of transportation, steam & electric railways & shipping in Canada, & the allied express, telegraph & telephone interests. It is a neatly gotten-up magazine of 28 pages, with suitable cover. The number before us contains articles on the Canadian Yukon Ry., the contract with McKenzie & Mann, the construction of the line, & the Act to confirm the contract, the Victoria Bridge—the Grand Trunk's new structure at Montreal, the Crow's Nest Pass, & the progress of the C.P.R. line to the Kootenay, the Westinghouse Air Brake, the Wabash in Canada, traffic & finance, telegraphs & cables, to the great Yukon gold fields by ocean & river, & a splendid map of the Yukon country. The number contains many fine illustrations, among which is a beautiful photograph of the Hon. A. G. Blair, Minister of Railways, on the 1st page. The first number is a credit to Canadian journalism & contains much valuable information."



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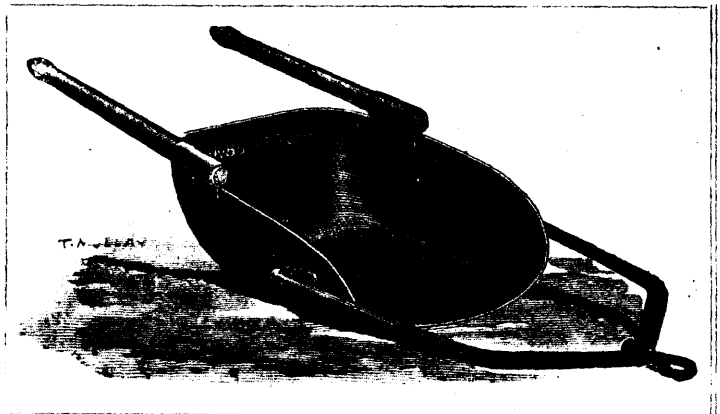
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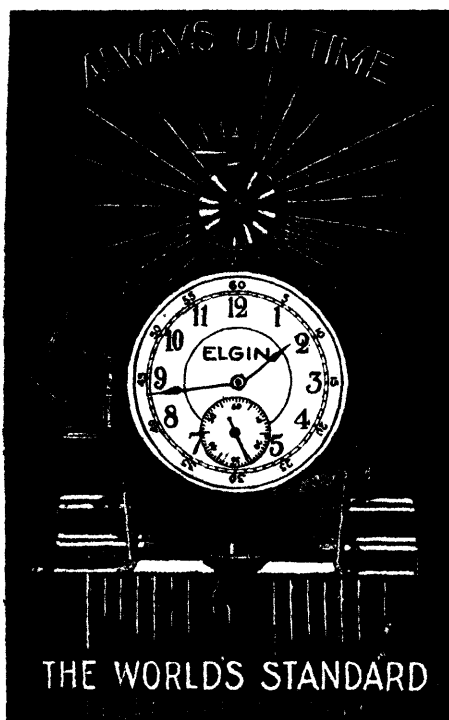


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