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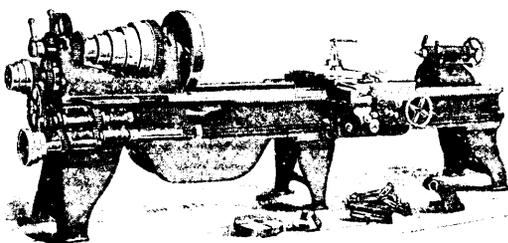
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Interlocking Railway Signals.

By W. H. Patton, Signal Engineer, G.T.R.

In order that the details of interlocking may be clearly understood, I will first draw attention to some of the different signals now in use, each one performing its own function. At stations and junctions it is often necessary to have several semaphore arms on one post either fixed one above the other or side by side, and one post is often made to carry several semaphore arms on each side of it; the arms on one side of the post govern trains proceeding in one direction, while those on the other refer to trains running in the other direction, the rule of the rail corresponding generally to the rule of the road, therefore the driver of any train approaching a signal mast has only to consider the arms, say, on the left or near side, which are painted red, and has nothing to do with those on the right side, which are painted white. In cases where several arms are fixed one above the other the top arm usually refers to the main line, the second to the top to the most left hand road, the third to the next and so on down.

A great improvement on this arrangement, and one which is coming into very general use in this country, is to have the semaphore arms side by side, and frequently the arm which applies to the main line is fixed somewhat higher than the others. According to this arrangement several short posts are fixed on a bracket supported by the main mast, and each the short posts carry a semaphore arm and lamp. This arrangement of what are called "bracket signals" is a very good one, and drivers readily understand the direction in which they are about to be turned. For instance, suppose a driver is approaching a station or junction, and the line on which he is travelling diverges, say, into three other lines, on all of which it is possible and proper for him to run, he would see displayed near the point of junction three posts, each carrying one signal arm side by side. If, therefore, the most left hand arm is lowered the driver is told that he is going in the most left hand direction, and so on from left to right.

These semaphore signals in the present elaborate system are known as "distant," "homes," "starting," and "advance starting" signals. The distant signal arm is notched or fish-tailed, and is fixed at a distance of from 1,000 to 3,000 ft. from the home signal, according as the line is on a gradient or level and also to suit the line curves. The home signal is fixed at a point where the train should stop. The starting signals are

usually placed at the end of the platform of the station, they indicate when cleared that the driver start his train. Advance starting signals are fixed at varying distances in advance of the ordinary starting signal, usually about 1,000 ft. These advance starting signals are used to permit trains to advance from the station when the next section of the line is not clear for them to proceed, but when it is necessary for them to draw ahead from the platform in order to permit another train to draw up. The disc type of signal is now

should always convey the proper information. It is of the most vital consequence that the signals should be unmistakable and should always convey such instructions as ought to be observed and obeyed so as to ensure the safety of the train. The signals are used not only to tell drivers whether they must stop or proceed, but also to tell them in which direction they are about to be turned by the signalman who operates the signals and switches. It is very desirable to convey this information correctly to the driver so that he may be perfectly assured that the signalman is going to send him to the place he has to go to. For some time it was contended that as drivers of trains had no power of guiding themselves and deciding in which direction they should proceed, it was therefore quite unnecessary to tell them in which direction the signalman was about to send them, but this has long been recognized as a mistaken notion, and it is now universally admitted that it is necessary and desirable to tell drivers clearly the direction in which they are about to be turned, as should any error be made by the signalman the driver has an opportunity of discovering it and pulling up his train. Moreover, should he notice that he is about to be turned on to a road which is already occupied by some other train it is possible for him to pull up before a collision takes place.

Previous to 1841 signals of various forms were in use, but in 1841 Sir Chas. Gregory introduced a semaphore somewhat similar to the one I have illustrated in the drawing, but worked by two levers, one to operate the semaphore arm and the other to operate the lamp, so that the day and night signals worked independent of each other. These semaphore arms were worked by means of levers fixed at the foot of the mast. As distant signals came to be introduced they were worked by means of levers fixed upon the ground in some convenient position adjacent to the home, or as they were first called "station signals," these levers being connected to the distant signals by means of wires.



JOHN BAIRD MORFORD,
Superintendent Canadian Division, Michigan Central Railroad.

almost universally confined to shunting purposes, and is fixed near the ground so that it may not be at all conspicuous, more especially at night, when it is difficult to distinguish one light from another.

When it is remembered that the semaphore or other mechanical signals are the means by which, independent of train orders, instructions are given to engine drivers, or other persons in charge of a train, to regulate the progress of the train from place to place, it is at once apparent how important they are, and how necessary it is that they

As traffic on railways increased and the complication of lines became greater, it became apparent that some improvement was necessary in order to facilitate the work of the signalman and prevent delays to trains. To achieve this object the point and signal levers were brought together so as to be readily accessible to the operator without his having to run from point to point or from point to signal as had hitherto been the case. This concentration of point and signal levers, although no doubt adding greatly to convenience in working, was found very unsafe, and it

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frequently happened that the signalman inad-
vertently pulled over the wrong lever and ac-
cidents resulted. In order to obviate these
dangers Mr. Saxby in 1856 devised his first
system of interlocking of points and signals.
Although since that date numerous inventors
have brought out various modes of interlock-
ing points and signal levers, the fundamen-

tal principle established by Saxby in 1856 re-
mains the same, namely that it shall be im-
possible for a signalman accidentally or
otherwise to give any signals which shall con-
flict one with another, or to work signals
contradictory to the position of points. The
point and signal levers all being brought to-
gether and concentrated in a signal cabin,
were readily manipulated by the signalman,
and there was such a mechanical connection
established between the point and signal lev-
ers and between the signal levers themselves
that it was impossible to manipulate them in
a contradictory manner.

Although the general principle introduced
in 1856 is as already stated the fundamental
principle which pervades all subsequent ar-
rangements of interlocking, the mechanical
details were of such a character that they
were not applicable to very complicated junc-
tions or stations, although they were admir-
ably suited to ordinary and simple junctions,
say of an up and down main line with a junc-
tion to an up and down branch line. It was
found that as the number of trains increased
and the consequent number of movements of
point and signal levers increased also, that
there was a considerable amount of wear
and tear upon the interlocking mechanism,
and the parts became liable to work loose
and in course of time the locking did not
hold the levers so firmly in position as was
desirable, and consequently after the parts
became worn a lever supposed to be locked
could be moved partially. This led to fur-
ther and greater improvement in the mechan-
ism.

From the first when point and signal levers
were concentrated and brought into a signal
cabin, each lever was provided with a spring
catch handle attached to it, working a catch
in and out of a notch for the purpose of hold-
ing the lever in its vertical or backward posi-
tion, very similar to the reversing lever of a
locomotive with which every one is familiar.
It occurred to Saxby & Farmer, in 1867, that
a great improvement could be made by utiliz-
ing the upward and downward movement of
this spring catch rod for setting in motion the
locking gear, so that before a lever is moved
the interlocking may be accomplished and the
releasing, which has to take place when a
lever has been fully moved over, shall only be
possible after that lever has been moved and
the spring catch rod lowered into its notch.
This system became universally adopted, and
with modifications of detail is in use at the
present time. It was found to afford very
great additional security, and in this new and
improved apparatus the wear and tear was
reduced to a minimum, and moreover, by
means of this improvement of 1867 the inter-
locking mechanism, being much smaller, could
be condensed into a much smaller space than
hitherto was possible, and this was specially
convenient as it became necessary to increase
the number of levers in the signal cabins. The
signal cabin containing the largest number of
levers in the world was erected at London
Bridge; it contains 280 levers, and is operated
by 12 signalmen, in 3 sets of 4, on duty for 8
hours.

About 1870, it was found that in many
cases where facing points of junctions were
worked from signal cabins accidents were
liable to arise in consequence of the signal-
man moving the points whilst trains were
passing over them. It is obvious that it is
essential to safety that points over which a
train is passing shall be held quite close and
firm until the whole of the train has passed.
Previously there had been no means of pre-
venting signalmen from moving the point lev-
ers while a train was passing the points and
before the whole of the train had passed.
Accidents arose from the signalman, what is
technically called, "splitting the train," that
is, by shifting the points and throwing some
of the rear cars on one line, while the engine

and other coaches were on the other line. This led to further improvement, and the detector bar lock, devised by Saxby & Farmer, was introduced. This important safety appliance not only effectually prevented the possibility of the points being moved during the passage of a train over them, but also by means of the bolt lock connected to and worked with the detector bar, effectually insured the points being completely closed before a signal to pass over them could be given. The facing point lock, consisting of a detector bar and a locking bolt, was worked by a separate and independent lever from the points, which lever was properly interlocked, so that before any signal could be given, the lever working the facing point lock had to be pulled over, and by that means the points became bolted. Of course, if the points were not quite closed the bolt could not be shot, the facing point lock lever could not be moved, and therefore the signal could not be lowered. The points having been firmly closed, the facing point lock lever could then be pulled over and the points bolted. In bolting the points the detector bar, mounted alongside the rail, was moved. This detector bar attached to the rail was made longer than the wheel base of any coach, and as the lever working the facing point lock was pulled over, the bar had to rise above the rail and descend again, consequently as long as any wheel of a coach of the train was running over the detector bar it was impossible to lift the bar, and consequently impossible to move the facing point lock lever so as to unlock the points, which were, therefore, maintained firmly locked until the last wheel of the last coach had passed from over the detector bar, which could then be moved for the purpose of releasing the points to allow them to be shifted to another position.

In very many instances it became necessary to work facing points at a very considerable distance from the signal cabin, and if the rod to the points became broken accidentally it was possible to bolt the points in the opposite position to that intended; for example, suppose the points are right for running straight along a main line, and the signalman intends to reverse them for the purpose of sending a train to the branch line, to do this he pulls over the point lever in the signal cabin. Now, if the rods to the points are broken, the points remain in the position right for running on the main line, but the signalman thinks he has reversed them and set them right for the branch line. In consequence of this breakage of the rod connection, a conflicting signal is displayed because the points are not set to correspond with the position of the lever which works them. It therefore became necessary to devise something to enable the signalman to detect this breakage or disconnection of the point rod. This led to the invention of what is called "facing point detectors." Various types are in existence, the most generally adopted system is the following: every signal lever which works a semaphore or other signal directing trains or engines to pass over a pair of facing points is made to work a detector slide, that is a sliding rod which crosses the path of the plunger bolt lock rod, locking the points in the proper position corresponding to the signal lowered by the signal lever working the detector slide. With this arrangement, unless the points have been set and also bolted in the position intended, the signal for that position of the points cannot possibly be lowered because the wire from the signal lever passes through the detector, and consequently unless the points are completely closed and locked, the detector slide cannot move, and the wire remains stationary and the semaphore arm at danger.

As already noted the great improvement made in interlocking lever frames in 1867 continues to be used at the present day. The levers are made all alike so as to be used either

for points or signals indiscriminately; the locking is of a compact form, moved not only by the spring catch of the lever, as before described, but also by the lever itself. By this system in the event of any catch rod becoming disconnected or broken, the locking is not rendered inoperative, but remains working by the lever itself, so that in point of fact there is a double locking. In modern signalling installations many very complicated problems of interlocking have to be solved, and it is therefore of great importance that the construction of the apparatus, while as simple as possible, should lend itself readily to the solution of these intricate problems in locking. This has been done in the most modern type of lever locking, called "duplex plunger locking."

In the interlocking system described the points are worked by means of rods, as already mentioned, and the signals by means of wires. More modern and improved systems in some respects consist in working the points and signals by means of hydraulic or pneumatic pressure, the object being to render the points and signals easier to work irrespective of their distance from the cabin, and the use of these systems also results in a smaller cabin and locking frame being necessary. The systems consist of a pressure pump and reservoir, or accumulator, and a series of handles all interlocked one with the other as previously described in connection with the earlier system. The pump retains the pressure in the accumulator, which is connected to the cylinders operating the switches and signals by means of pipes under ground; the pressure is turned on by the movement of the interlocked handles; this pressure being conveyed through the pipes moves the piston in the cylinder at the switch or signal which in turn operates the switch or signal.

Hydraulic power for working points and signals has been tried for some time, but hitherto a difficulty has been experienced in ensuring the proper setting of the points before a signal to pass over them can be given. This difficulty is got over by providing a return control; the pressure returning through a small pipe to a valve near the interlocked levers admits pressure to a piston which moves the interlocked handle, completing the mechanical interlocking, which not only indicates to the signalman that the work of moving the points which he intended to perform has been properly performed, but prevents the possibility of the signal being lowered unless and until the points are completely closed and locked. By mixing glycerine with the water used in the hydraulic apparatus all risk of derangement from frost is overcome.

The foregoing paper was read by Mr. Paton at a recent meeting of the Engineers' Club of Toronto.

Railway or Railroad.—"Railway" is the original word for a highway operated by steam, and is part of the legal title of the great majority of rail transportation companies in English-speaking lands. In the index of the Official Guide for the U.S., Porto Rico, Canada, Mexico and Cuba, no less than 552 lines are legally designated by the word "railway."—*Railway Age*.

The Canadian Locomotive Co., Kingston, Ont., writes: "We duly received your journal for Jan., and congratulate you upon the same; we find its contents very interesting, and are very well pleased with our advertisement."

J. H. Sorley, City Freight Agent, C.P.R., Ottawa, Ont., writes: "I have pleasure in enclosing subscription for your valuable paper THE RAILWAY AND SHIPPING WORLD."

S. J. Montgomery, C.P.R. Station Agent, Bedford, Que., writes: "THE RAILWAY AND SHIPPING WORLD is indeed very interesting and instructive."

The Fraser River Bridge.

The plans for the construction of the railway, vehicle and foot bridge to be erected across the Fraser River at New Westminster, B.C., by the B.C. Government, provide for a double-deck bridge, the lower deck being for the railway and electric car tracks, and the upper deck for vehicles and pedestrians. The location of the bridge in New Westminster will be, so far as the highway approach is concerned, about where a continuation of Dufferin st. would strike the bank of the river, and the railway deck will be connected with the track by a T. The bridge can best be described by dividing it into three sections, the substructure, the approaches, and the bridge proper.

At the New Westminster end of the bridge there will be three abutments, two of them having long wing walls, built of concrete or second-class masonry. Adjacent to the C.P. R. track there will be for the railway tracks—the east and west arms of the T—eight pedestals, either resting on the soil or built on piles; and there will be four other pedestals to carry the highway deck. These pedestals are to be erected of concrete or second-class masonry. There will be 11 piers in the river part of the work, the first two being sunk by open dredging into the boulders; the next three by open dredging into the sand, and the remainder will be built on timber cribs filled with piles and concrete. All these 11 piers are to be built of concrete or first-class masonry. The approximate quantities of materials in the piers, pedestals, etc., are as follows:—Mass in cribs and caissons of piers 1 to 5, 9,750 cubic yards; mass in cribs of piers 6 to 11, 1,700 cubic yards; masonry, coping and backing (or all concrete) in piers 1 to 11, 3,300 cubic yards; piling below bottoms of cribs in piers 1 to 11, 9,400 cubic ft.; concrete or 2nd class masonry in pedestals, 240 cubic yards; concrete or 2nd class masonry in abutments and retaining walls, 1,450 cubic ft.; excavation for shore pedestals, abutments and retaining walls, 1,600 cubic ft. All the piers are to be provided with steel cutting edges. The work of putting in the foundations for the piers will not, in the opinion of the engineers, present any great difficulty. The pedestals for piers 1 and 2 are to be sunk through a mass of sand and boulders by excavating from a central well, and some difficulty may be experienced on account of their large ratio of frictional surface to weight, and because of the resistance of the mass of boulders. Piers 3, 4 and 5 will be built with caissons, and some difficulty may be experienced in keeping these in place, owing to the current, and the use of current breakers is suggested. For the other piers, piles 70 ft. in length have to be driven for the masonry foundation to rest on.

The main part of the superstructure of the bridge will consist of eight spans, 1 through, fixed span of 225 ft.; 1 through, fixed span of 380 ft.; 1 through, swing span of 380 ft.; and 5 through, fixed spans of 159 ft. each, a total of 1,780 ft. The width will be 19 ft. for the 380 ft. spans, and 16 ft. for the 159 ft. spans; while the 225 ft. span will be 19 ft. over pier 3, but over pier 2, owing to the dividing of the tracks east and west on 12°.30' curves, it will be 136 ft. wide between pedestals. The highway deck will be carried above the top chords of the five shorter spans, and at about mid-height of trusses of the other spans. From the high land at Dufferin street, the highway will be carried to pier 2 by 1 deck, plate girder span of 96 ft., and two similar spans of 40 ft. each, and at pier 3 it will cover the railway track. The east arm of the T will consist of 2 deck, plate girder, skew spans of 75 ft. each, 1 half-through, plate girder, skew span 35 ft., and 1 deck plate girder, skew span of 68 ft.; and the west arm will consist of deck, plate girder, skew spans of 75, 48

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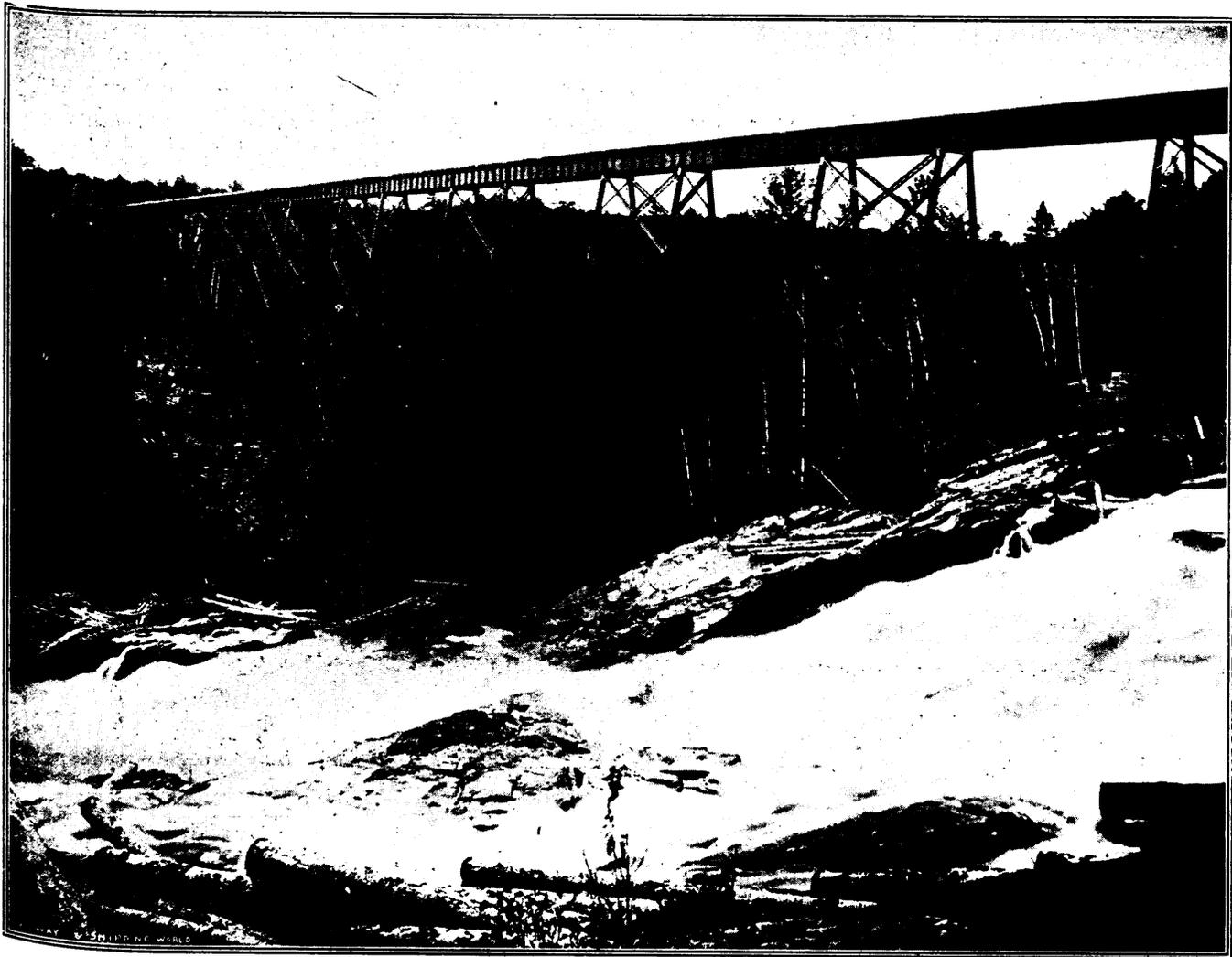
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and 40 ft. respectively, and 1 half through, plate girder skew span of 40 ft. The upper deck will, on reaching the trestle work on the south side, diverge to the east, and parallel the railway on a descending grade, cross the Great Northern Ry. tracks to the embankment. The motor track will join the railway tracks on the west arm of the T and will diverge therefrom at the wooden trestlework and parallel it to the embankment. The track will be laid with 75 lb. rails, and the highway floor will consist of longitudinal wooden joists carrying a light double thickness of plank flooring, the lower one diagonally and the

tween the pivot pier and a point about 100 ft. outside pier 2, the water is too deep and swift to warrant the use of falsework, consequently the north arm of the swing span will be cantilevered. It is suggested that the 225 ft. fixed span be erected by putting in 2 bents of false work, thus erecting two long panels of the trusses, and cantilevering out one additional panel, then floating in, one at a time, the other portions of the trusses, and coupling up during slack water. In regard to the 380 ft. fixed span, it is proposed to have it erected by providing toggles over piers 3 and 4 to attach to the spans there erected, and cantilevering

The plans and specifications were prepared by J. H. Waddell, consulting engineer of Kansas City, Mo., under those general supervision the bridge will be erected. The B.C. Legislature, in 1901, voted \$500,000 for the erection of this bridge, and the engineers estimate that the total cost of the completed structure will be about \$730,000.

H. J. Colvin, District Passenger Agent, C.P.R., Boston, Mass., writes: "THE RAILWAY AND SHIPPING WORLD is an excellent publication."



MASKINONGE BRIDGE AND VIADUCT, GREAT NORTHERN RAILWAY OF CANADA.

The Maskinonge river and valley, situated on the G.N.R. between Ste. Ursule and St. Justin, Que., are crossed respectively by a 96 ft. clear deck span and a steel viaduct 1,000 ft. in length of 60 and 40 ft. spans. After crossing the railway, the river skirts the viaduct and falls into the valley below in a series of cascades whose total height is 170 feet. The bridge and viaduct are built to Dominion Government specifications, and the location is most picturesque.

upper one transversely to the spans. The design of the 225 ft. span between piers 2 and 3 is a little complicated owing to the divergence of the trusses. The vertical posts drop below the bottom chords in order to receive the ends of the cross-girders. The latter are of varying depths according to their lengths, the bottoms of all cross girders lying in a plane inclined slightly to the horizontal. The longitudinal girders rivet into the cross girders, and the latter support steel bents that carry the highway girders overhead. The entire span will be thoroughly braced in both horizontal and vertical planes, and will expand over pier 3. Falsework can be used to advantage under the five 159 ft. spans and the south arm of the swing span, but be-

out the metal work to meet at midspan.

The quantities of material in the superstructure are estimated as follows:—Steel in the 5 spans of 159 ft. each, 1,720,000 lbs.; steel in swing span, 1,300,000 lbs.; steel in drum and operating machinery of swing span, 151,000 lbs.; steel in 380 ft. fixed span, 1,577,000 lbs.; steel in 225 ft. fixed span, 1,470,000 lbs.; steel in plate girder spans and steel bents, 614,000 lbs.; metal in timber trestle, 22,000 lbs.; total steel, 6,854,000 lbs.; timber in spans, 515,000 ft. B.M.; timber in trestle approach, 250,000 ft. B.M.; total timber, 765,000 ft. B.M.; piles in trestle approach, 15,000 lineal ft.; rails and splices, 92 short tons. The swing span is to be operated by a 25 h.p. gasoline engine.

Hillsborough River Bridge, P.E.I.

The substructure of the Hillsborough river bridge on the Murray Harbor branch of the P.E.I. Ry., at Charlottetown, now under construction by M. J. Haney, C.E., contractor, of Toronto, is among the large works of the continent. Piers 0, 1, 2, 3, 4, 5, 10 and 11 have pile foundations cut off level 10 ft. below the mud line, the pier area being dredged for the purpose. On the level pile tops box caissons are floated. These box caissons are built up of 12x12 in. hemlock timbers, and have floors 3 ft. thick of solid timber, and are thoroughly screwed and bolted together. The boxes are filled with cement to a point 5 ft. below low-water mark, where the masonry

begins. The depth of the water at piers 4 and 5 is 55 ft. The north abutment and piers 6, 7, 8 and 9 will consist of pneumatic caissons; the south abutment is a box caisson resting on hard pan; abutment A and piers 6 and 7 will have caissons 30x55 ft., the depth of the abutment being 78 ft. below high-water level, and that of the piers 98 ft. below high-water level; piers 8 and 9 will have caissons 30x45 ft. and will extend to a depth of 81 and 71 ft. respectively below high-water level. The whole of the piers will be rip-rapped with quartzite rock. The masonry will consist of Wallia sandstone and will extend about 14 ft. above high-water level. The rise and fall of the tides at springs is 10 ft. The north approach is 1,500 ft. long, and the south 600 ft. They will consist of a solid earthen embankment 48 ft. wide at foundation and be heavily rip-rapped with stone.

The work embraces some 3,000 piles, pneumatic sinking, cribwork in protection piers; concrete, first-class masonry and earthwork in approaches. All material has to be brought to the island. The approximate quantities of materials are as follows: Timber—hemlock, short leaf pine and Douglas fir, 3,600,000 ft. B.M.; hardwood plank—birch and oak, 250,000 ft. B.M.; concrete, 20,000 cubic yds.; first-class masonry, 8,000 cubic yds.; rip-rap, stone, 70,000 cubic yds.; sand, 6,000 cubic yds.; iron in bolts, washers, etc., 900 tons; earthwork, 250,000 cubic yds. The plant is one of the most extensive ever gathered together on one work in the Dominion, and includes the most modern pneumatic tools for driving drift bolts, spikes, boring and caulking; a dredge, 100 ft. long, 40 ft. wide, with a boom 80 ft. in length, and a 2-yd. clam shell bucket; an air machinery barge, 100 ft. long, 28 ft. wide; a pile-driving outfit, consisting of a boat 70 ft. long, 28 ft. wide, fitted with a double set of leads, 75 ft. high, one with a long follower; and a powerful pump as jointing has to be resorted to; two derrick scows, two

dump scows and four material scows; 2 schooners each of 300 tons register, and several tugs. All the timbers used are sized, bored and framed in the framing mill to templet.

The position of the work at present is that pneumatic caisson no. 9 has been launched; pneumatic caisson no. 8, is ready for launching and box caissons 0, 1, 11, 4 and 10 are in the water. The piles have been driven on piers 10 and 11, and the caisson on no. 10 has been sunk to place. The quarry at Arisaig is fully opened up and is in a position for immediate work in the spring; at the Wallia quarry the engine and truck is on hand.

M. J. Butler, C.E., is engineer in charge for the contractor, and has as assistant H. R. Morrow.

Canadian Northern Railway's Growth.

Employees, Jan., 1897, 14; Nov., 1901, 1,069.		
Wages per month, Jan., 1897, \$645.93; Nov., 1901, \$44,091.84.		
Size of time card, first card, single sheet, 6¼x10½; Nov., 1901, 14 pages, 9½x10¼.		
Mileage operated, Jan., 1897, 100; now, 1,254.		
Gross earnings, Jan., 1897, \$3,267.84; year 1897, \$70,119.28; Oct., 1901, \$136,031.49.		
Equipment	1897	1901
Locomotives	3	52
Passenger coaches	3	31
Cars	80	1,728

An Art School Association with 40 students has been organized in connection with the G.T.R. car shops in London, Ont. Classes in freehand and mechanical drawing and other branches of study have been formed.

The Rathbun Co., Deseronto, Ont., write: "We enjoy reading THE RAILWAY AND SHIPPING WORLD."

RAILWAY DEVELOPMENT.

Projected Lines, Surveys, Construction, Betterments, Etc.

Alaska.—P. B. Weare, formerly of the North American Transportation and Trading Co., is reported to be the president of the Company proposing to construct a railway from Valdez to the mines on Copper river, Alaska. (Jan., pg. 1.)

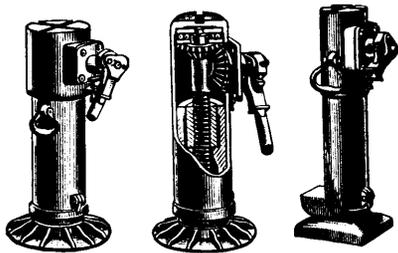
The Trans-Alaska Ry. Co. has been organized with the following officers:—President, J. J. Frey; vice-president, A. L. New; general manager, F. S. Granger; solicitor, S. L. Selden; chief engineer, W. E. Smith; general freight and passenger agent, F. Jaenigen. The offices of the Company are at Seattle, Wash. (Jan., pg. 1.)

Alberta Ry. & Coal Co.—A number of the wooden structures between Lethbridge, Alta., and Coutts at the International boundary, are being renewed, and we are officially informed that the line, as well as the Great Falls and Canada Ry., from the International boundary to Great Falls, Montana, will be widened to standard gauge by the end of the summer. See also under Great Northern Ry., U.S.

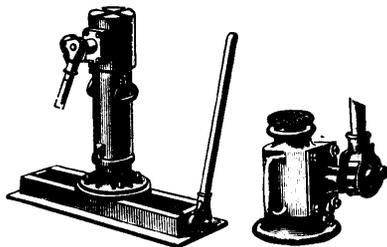
Algoma Central & Hudson's Bay Ry.—We were officially informed recently that track had been laid to Ogidaki, 48 miles from Sault Ste. Marie, and a rock cut had to be completed at that point before any further track laying could be done, but that it was expected to have the track laid to Pangissing station, on the Chippewa river, mileage 71, by the end of Jan.

The Josephine branch is 10½ miles in length, and is in operation to Josephine mines. The distance between this point and Park Lake Jct., where connection will be made with the main line from Sault Ste. Marie, is about 5 miles. (Jan., pg. 1.)

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CANADA.

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Atlantic & Lake Superior Ry.—The big steel bridge over the Bonaventure river has been completed and approved of by the Dominion engineers, and the masonry for the abutments and pedestals of the steel trestle at Rosseau is contemplated. The erection of the steel superstructure will be commenced at once. The trestle work is about 350 ft. in length and 60 ft. high. The steel work for the remaining two bridges is on the ground, and the work of construction, finishing up the line to the 100th mile, 2 miles beyond New Carlisle, is being pushed. C. R. Scoles is the contractor as well as General Manager of the Co. (Dec., 1901, pg. 354.)

The Trustees of the bondholders give notice that application will be made to the Dominion Parliament, at its ensuing session, for an act to extend the time for the completion of the Co.'s undertakings.

Aylmer, St. Thomas and London Electric Ry.—J. C. Dance, South Dorchester; G. A. Anderson, St. Thomas; J. W. Cooke, Ingersoll; G. Sutherland, Chicago; and A. T. Hobbs, London, are making application at the current session of the Ontario Legislature for the incorporation of a Company under this name to construct a railway from Aylmer to London, passing through the townships of Malahide and Yarmouth and the city of St. Thomas, in Elgin county, and the township of Westminster, in Middlesex county; and to construct a branch from St. Thomas to Port Stanley. The capital of the Co. is fixed at \$500,000, of which \$150,000 is to be applied to the construction of the section of the line from Aylmer to St. Thomas; \$200,000 for the section between St. Thomas and London, and \$150,000 for the branch to Port Stanley; and power is asked to issue bonds to the extent of \$5,000 a mile of the line constructed. The lines are to be commenced within two years, and completed within five years after the passing of the act.

The Belleville Traction Co.'s line has been sold to Alford & Lewis, of Belleville, who will, it is said, extend it. (Oct., 1901, pg. 307.)

Brantford St. Ry.—An agreement has been made with the Von Echa Construction Co. by which the railway proposed to be built by it from Paris to St. George, Ont., will have running rights over the city lines. As a result the application of the syndicate for a city charter has been withdrawn.

B.C. Electric Ry.—The Victoria, B.C., Council has ordered the construction of a stone bridge at Port Ellice in place of a steel bridge, as at first proposed. It is proposed to lay a double-track for electric cars over it.

British Columbia Rys.—The B.C. Government, through Hon. W. C. Wells, Chief Commissioner of Lands and Works, has retained J. N. Greenshields, K.C., of Montreal, as its agent for conducting negotiations with the Dominion Government respecting railway developments in that province. Mr. Greenshields and D. D. Mann, of Mackenzie, Mann & Co., had an interview at Montreal, Jan. 20, prior to the former's departure for B.C., to discuss the railway situation with the Government there.

The B.C. Government desires the two Governments to work together in promoting railway development in the province, and to arrive at an understanding as to what lines are to receive subsidies during the current year. Mr. Wells favors the completion of the Canadian Northern Ry. to the coast, the construction of the Coast-Kootenay Ry., the Vancouver Island Ry., and the improvement of the terminal facilities in Vancouver and Victoria, and desires to get Dominion co-operation in having them built. He is also, it is said, desirous of securing Dominion aid towards the construction of the bridge over the Fraser river at New Westminster.

Hon. J. Dunsuir, the Premier, has written Sir Wilfred Laurier, setting forth the same line of policy, and has addressed a letter to the electors of the Province giving reasons why this policy had been decided on, and stating that the Government's action in regard to the Victoria, Vancouver and Eastern Ry. proposals was to ensure the construction of a line through the Similkameen country, and to have competition. The V.V. and E. Ry. Co. desired to build 30 miles at each end of the proposed line, earn the subsidy for the 60 miles, and wait for the granting of a Dominion subsidy before building the intervening portion of the line. The B.C. Government desired to have the whole line constructed, and would have given the subsidy to the V.V. and E. Ry. Co., had it been prepared to accept it on these terms. The B.C. Government proposed to the Dominion Government that the line through the Hope Mountains be built as a joint government undertaking, all companies being given full and equal running powers over it, on similar terms to those proposed in the case of the bridge at New Westminster.

The Bruce Mines and Algoma Ry. has been completed from Bruce mines, on the C. P.R.'s Sault Ste. Marie branch, to the Rock Lake copper mines, about 15 miles, and shipments of concentrates have been made over it from the mill at Rock Lake. It is proposed to extend the line for a further distance of 15 miles to open up other mines, and the Co. is asking the Ontario Government to grant a subsidy for this purpose at the rate of \$3,000 a mile. (Dec., 1901, pg. 353.)

The Calgary and Edmonton Ry. Co. gives notice that it will apply at the ensuing session of the Dominion Parliament for an act to revive its power to extend its railway southerly to the International boundary. By the Co.'s act of incorporation, passed in 1890, it was empowered to construct a line from Calgary to Edmonton, and extend south to the International boundary, and northerly to the Peace river. The line has already been built from Calgary to Edmonton, 190.97 miles, and from Calgary towards the International boundary as far as Macleod, 104.10 miles.

Canada Central Ry.—T. H. Johnson, solicitor, Winnipeg, gives notice of application to the Dominion Parliament for an act to incorporate a company to construct a railway commencing near the mouth of French river, Ont., north-westerly to near Wahnapietee lake, thence northerly to near the head waters of the Montreal river; thence north-westerly to the Albany river, in Ontario; thence north-westerly through the district of Keewatin and Manitoba to lake Winnipeg; thence northerly and westerly by way of Prince Albert, Sask., and Edmonton, Alta., to Tête Jaune Cache, B.C.; thence southerly by North Thompson river and Kamloops, to near Princeton; thence westerly to New Westminster; thence north-westerly to Vancouver, with further power to construct and operate a line from the south or east coast of Vancouver island to Victoria; and with power to construct lines from Tête Jaune Cache westerly to Port Essington or Port Simpson; from some point in Ontario to Port Arthur and Fort William; from between Kamloops and Princeton, B.C., to Grand Forks, B.C.; and from near North Thompson river to Ashcroft and Anderson lake, B.C. Application is also being made by Mr. Johnson to the Ontario Legislature for the incorporation of a company to construct such portions of the lines mentioned as are situated within the province of Ontario.

Canada Western Ry. Co.—N. W. Rowell, solicitor, Toronto, gives notice of application to the Dominion Parliament for an act to incorporate a Co. under this name, to construct a railway from near Fort Frances, Ont., by way of Rat Portage or Rossland, the English river and God's lake to or near Port Nelson on

Hudson's Bay, with power to operate telegraph and telephone lines. (Jan., pg. 1.)

The Cape Breton Electric Co. (Ltd.), commenced laying its tracks Jan. 13, on the Esplanade, Sydney, N.S., under the old Reserve pier belonging to the Dominion Coal Co., at the point where the D.C. Co.'s tracks cross Prince St., and at the Reserve mines. The D. C. Co. has had the rails laid across the old Reserve roadbed removed, claiming that the Electric Co. had no power to lay them without legislative authority. The C.B.E. Co. is incorporated by the N.S. Legislature, and has secured franchises from the Sydney and Glace Bay town councils, as well as from the intervening municipalities to lay and operate an electric railway. The Co. is erecting its power-house, and the construction of the car stables will be commenced shortly. (Oct., 1901, pg. 306.)

Cape Breton Ry. Extension Co.—We were officially informed on Jan. 9, that 5 miles of track had been laid from Port Hawkesbury, and that 1,500 men were employed on the grading of the remaining 25 miles to St. Peters. The contractors on this section are: Cote & Sherwood, Sault Ste. Marie; J. L. Sutherland, New Glasgow, N.S.; J. Mackey, Grande Anse, N.S.; M. McDonald, Moncton, N.B.; Archibald & Sutherland, Port Hastings, N.S.; S. E. Phippen, Cornwall, Ont.; and M. J. O'Brien, Renfrew, Ont. Plans for the extension from St. Peters to Louisburg, about 80 miles, will be completed in March, and construction will be gone on with immediately thereafter. Surveys are being made for the construction of a branch line from Grande Anse, on the Hawksbury-St. Peters section, to Arichat, about 12 miles. It is reported that the Co. has placed an order for steel rails, and that a large area of land has been purchased in Louisburg, at a cost of \$25,000, for terminals. It is also reported a contract has been let for the construction of an iron bridge on concrete piers over the river Inhabitants. (Jan., pg. 1.)

The Central Ontario Ry. contemplates the extension of its line from Bancroft to Whitney, on the Canada Atlantic Ry., about 40 miles.

The Continental Ry. proposes to build a railway from War-road, Minn., on the Manitoba and south-eastern section of the Canadian Northern Ry., to Kansas City, Mo., and has filed maps showing the proposed route, with the Minnesota Railroad and Warehouse Commission. W. G. Smith, of Des Moines, Iowa, is President of the Co.

Cornwall Electric Street Ry.—Maclennan, Cline & Maclennan, solicitors, Cornwall, Ont., acting for the trustees of the bondholders, are applying to the Ontario Legislature at the current session for an act permitting them to operate the railway. The trustees, who represent the Sun Life Assurance Co. of Canada, entered into possession under a deed of foreclosure dated June 4, 1901.

The recently acquired power-house has been fitted with a 35 in. turbine, driven by a 22 ft. head of water. This operates 2 dynamo-strait current 150 k.w. of 500 volts each, which gives ample power. The old steam plant is to be kept in working order for emergencies.

Application is being made by G. S. H. Ewing, A. Macpherson, M. McKenzie, J. Tasker and J. P. Cleghorn, Montreal, for incorporation under the Ontario Companies' Act as the Cornwall Electric Ry., Light and Power Co., for the purpose of operating the Cornwall St. Ry., to generate power, to manufacture street cars, and to operate a park in connection with the railway.

Crow's Nest Southern Ry.—The grading of the track from the International boundary at Tobacco Plains to Fernie, is not yet completed, but track laying is proceeding on the

section in the U.S. from Jennings to the boundary. It is expected that the line will be in operation as far as Elko by July. (Jan., pg. 2.)

The Cumberland Ry. and Coal Co. will probably relay some 21 miles of its line with 80lb. rails, having ordered a consolidation locomotive 21 by 28. The question of relaying the balance of the line with heavier rails is also under consideration.

Dawson City Electric Ry. Co.—H. B. McGivern, solicitor, Ottawa, gives notice that application will be made at the ensuing session of the Dominion Parliament for an act incorporating a Company under this title to operate an electric railway or tramway within Dawson and Klondike city, Yukon, and within 3 miles thereof, with rights of way through and over all public roads, streets, trails and bridges, and with other powers.

Duluth, Virginia and Rainy River.—It is reported that track has been laid from Virginia, Minn., to which point the G. N. Rd., U.S., Duluth, Missabie & Northern Ry., and the Duluth and Iron Range Rd. run, to Rice lake, about 20 miles, and that a contract has been let for the construction of the line from this point to Koochiching, Minn., opposite Fort Frances, Ont., a further distance of about 80 miles, and for 40 miles of branches. (Dec., 1901, pg. 354.)

Edmonton, Yukon and Pacific Ry.—With one exception the bridges are completed and grade was expected to be ready for the track layers by the end of Jan. (Jan., pg. 2.)

The Essex and Kent Radial Ry. Co., which was incorporated by the Ontario Legislature in 1901, is applying to the Legislature this year for an act giving it an extension of time for a year within which construction may be commenced on the lines authorized, and for which local franchises have been obtained; and for power to enable it to issue bonds to the extent of \$20,000 a mile of line constructed. (May, 1901, pg. 159.)

Essex Terminal Ry. Co.—F. A. Hough, solicitor, Amherstburg, gives notice of application to the Dominion Parliament at the ensuing session for an act incorporating a Co. under this title with power to construct a railway from Walkerville, Ont., through the townships of Sandwich east and west, and the city of Windsor to the town of Sandwich, and to enable the Co. to use electricity as a motive power.

Fraser River Bridge.—See pg. 51.

Gaspé and Western Ry. Co.—Notice is given of application to the Quebec Legisla-

ture for an act to incorporate a company under this name, to construct a standard or narrow gauge railway, to be operated by steam or electricity, between Fraserville to Gaspé Basin, with power to purchase and operate the Bay des Chaleurs Ry., and the Atlantic and Lake Superior Ry., or any portion of them, to carry on a general navigation business, and to operate telephone and telegraph lines in connection with its railway. (Jan., pg. 2.)

Goderich Radial Electric Railways.—Application is being made at the current session of the Ontario Legislature for an act to incorporate a company to construct a system of electric railways radiating from Goderich, through the counties of Huron and Bruce. (Oct., 1901, pg. 307.)

The Great Eastern Ry. Co., of which H. J. Beemer is president, and which has a charter to construct a line from Huntington to Levis, Que., with power to build branches, and to connect with a bridge over the St. Lawrence at or within 12 miles of Montreal, will apply to the Dominion Parliament next session for an act extending the time for the completion of its undertaking. This is one of the lines which it was proposed to amalgamate with the Atlantic and Lake Superior Ry. Co.'s projected system from New Carlisle, or Gaspé basin, Que., to Sault Ste. Marie, Ont., but which are now part of the Quebec Southern and South Shore Ry.

The Great Northern Ry. of Canada has let the contract for the construction of the cut-off from St. Catherines, Que., to Garneau Jct., 58 miles, and clearing will be done during the winter. The whole work is expected to be completed by Nov. The cut-off will save 17 miles in the distance between Quebec and Montreal on the Co.'s line.

A branch line is projected from Ste. Julienne to Rawdon, a distance of 8 miles, and another from St. Thecle to La Tuque. (Jan., pg. 3.)

Great Northern Ry., U.S.—Press reports state that with the exception of three small gaps, where considerable rock cutting has to be done, the grading between Marcus, Wash., and the International boundary has been completed. A night gang will, it is said, shortly be put on. A track laying machine is at Marcus ready for work.

It is reported that the G.N. Ry. and the Burlington Rd. have arranged to build a line through Montana from Billings to Great Falls, to connect the two systems. The G.N. Ry. will, it is said, build the section from Oko to Great Falls, where connection will be made with the Great Falls and Canada Ry., and via

that line with the Alberta Ry. and Coal Co.'s line.

It is proposed to build a line from Kalispel, Mont., on the G.N. Ry. main line to Missoula, on the Northern Pacific Rd., for the purpose of carrying B.C. coal and coke, which will be brought in from Fernie, B.C., via the Crow's Nest Southern Ry., now under construction to Jennings, Mont., to U.S. points.

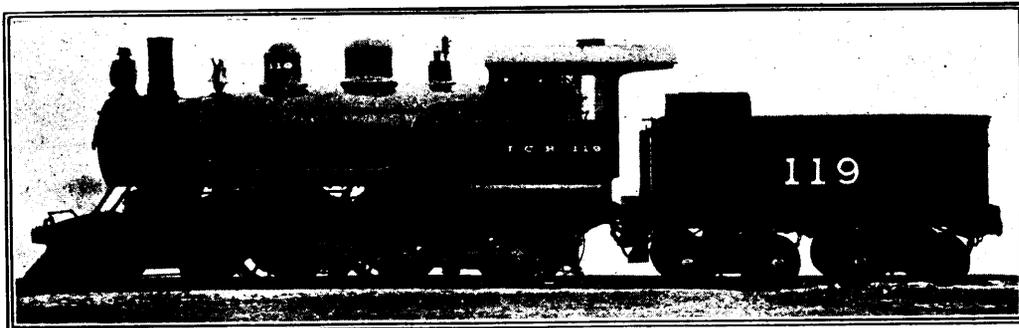
The Haliburton, Whitney & Mattawa Ry. Co. is applying at the present session of the Ontario Legislature for an act extending the time within which it may commence and complete its undertaking, and to have some changes made in the route. This Co. was incorporated by the Ontario Legislature in 1899, with Hon. G. A. Cox, W. H. Browse, C. J. Campbell, J. W. Flavell, J. J. Gartshore, W. H. L. Gordon, J. Graham, J. Hoskin, J. S. Lockie, H. Mooney, E. O'Keefe, E. Rogers, W. Mackenzie and Z. A. Lash, as incorporators, with power to build a line from Haliburton via Whitney to the Ottawa river at Mattawa, the work to be commenced within three years and completed within five years.

A Dominion charter for the construction of a line from Gelert or Haliburton to Mattawa expired in 1901, the promoters having obtained extensions of time in 1897 and 1899, and in 1900 a subsidy at the rate of \$3,200 a mile for the first 12 miles of the line was voted.

Halifax & Southwestern Ry.—H. K. Wicksteed, C.E., has returned to Toronto, having completed the surveys for the different routes for this projected line from Halifax to Barrington Passage, N.S. Nothing will be done in the way of locating the route until after the meeting of the Legislature at which the contract between the Government and Mackenzie, Mann & Co., will be submitted for ratification. Construction will probably be started immediately thereafter as everything is ready for proceeding with the location surveys as soon as the route is settled. The Halifax Board of Trade in its annual report says the interests of the whole Province will be best served if the route proposed for the South Shore Ry. were followed as closely as the engineering necessities will permit. (Jan., pg. 3.)

Hamilton and Caledonia Ry.—See Rapid Electric Ry. Co.

The Hamilton, Chedoke and Ancaster Electric Street Ry. Co. (Ltd.) was incorporated by letters patent in Ontario, Nov. 5, 1896, to construct an electric railway within the limits of the city of Hamilton and the townships of Barton and Ancaster. In 1899 by an



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act of the Ontario Legislature the name of the Co. was changed to the Hamilton, Ancaster and Brantford Ry. Co., and power was given to extend its line from the then proposed terminus at Duff's Corners, through Alberton, Echo Place and Cainsville to Brantford, and a branch to the Sulphur springs in the township of Ancaster. At the present session of the Ontario Legislature a further act is sought, confirming these powers and giving it three years to construct its line from Hamilton to Ancaster, and five years to complete the whole. Power is asked to connect its tracks with those of other companies, to receive municipal aid, and with the consent of the different municipalities to operate freight cars on the line. The Co. asks for power to issue bonds to the extent of \$20,000 a mile.

The Hamilton, Grimsby & Beamsville Electric Ry. does not at present propose to proceed any further with the projected extension of its line to St. Catharines, Ont. (Oct., 1901, pg. 308.)

Hamilton Radial Electric Ry. Co.—Some work has been done in connection with the extension of this line from Burlington to Oakville, Ont., in order to comply with the terms of the by-law, and it is expected that construction will be pushed forward in the spring. The Co. has power to extend its line to Mimico, and is applying at the current session of the Ontario Legislature for an act authorizing it to extend the line from Mimico to Toronto, and to enter into an agreement with other electric railway companies for mutual running powers. (Oct., 1901, pg. 308.)

Hamilton Suburban Ry. Co.—H. T. Thurber, A. S. Brooks, J. T. Waing, E. J. Tisdell and G. L. Staunton, K.C., are applying at the current session of the Ontario Legislature for an act incorporating a company with this title to construct an electric railway from Hamilton to Waterloo, passing through Galt, Preston and Berlin; from Galt to Guelph, passing through Preston and Hespeler, and from Hamilton to Guelph, passing through the townships of West and East Flamboro, Puslinch and Guelph. The Co. may operate telegraph or telephone lines and parks in connection with its lines; may connect its tracks with those of other similar companies, and cross the tracks of other companies on the level. The capital is fixed at \$800,000, part of which may be issued as preference stock, and bonding powers to the extent of \$30,000 a mile are asked.

Hope Mountain Exploration.—The report on the recent exploration through the Hope mountains has been prepared and is in the hands of the Commissioner of Lands and Works for British Columbia, but has not been made public. The route via the railway pass from Hope to a tie with the C.P.R. at Allison, 78 miles, was thoroughly surveyed, thus completing the first chained line across B.C., through the Similkameen district. The route through the Coldwater-Otter river valleys was explored, the distance being 87 miles; and a preliminary survey of a route through the Nicolium-Cedar Flat-Roche river valleys, 98 miles, was made. All the routes are practicable, but the last mentioned is not likely to be seriously considered on account of its length. The shortest route will probably involve the heaviest cost for maintenance and will be worst for snowslides, whilst the second mentioned route will give the best grades. It is impossible to say which route would best serve the mining interests of the country.

Mr. Hislop, P.L.S., Princeton, went through the Similkameen valley and has prepared a report for the Department. Hon. E. Dewdney, C.E., had the direction of the survey. H. Curry was Chief Engineer, and F. Moberly, C.E., was in charge of the party. (Dec., 1901, pg. 355.)

The Hull Electric Co., of Que., has been licensed by the Ontario Government to operate

its cars over the Interprovincial bridge and along the permanent way of the Ottawa, Northern and Western Ry. to the central railway station in Ottawa. The capital to be employed in Ontario is not to exceed \$15,000. J. B. Fraser, of Ottawa, is named as attorney. (Oct., 1901, pg. 307.)

Huron and Bruce Ry. Co.—Hamilton, Elliott & Irving, solicitors, Sault Ste. Marie, give notice that application will be made at the current session of the Ontario Legislature for an act incorporating a company with this title to construct a railway from Wiarton to Goderich, Ont., passing through Southampton and Kincardine. This projected line is an extension of the Mantoulin and North Shore Ry.

The Huronian Co. (Ltd.)—J. J. and R. M. Thompson, Bayonne, N.J.; R. G. Leckie, Truro, N.S.; W. Nesbitt, K.C., and R. McKay, Toronto, are applying at the present session of the Ontario Legislature for an act incorporating a company under this title, with power among other things to construct a railway to be operated by steam and electricity or both, from the mines of the Massey Station Mining Co. (Ltd.), in the townships of Slater and May, southerly to a point on the C.P.R., Sault Ste. Marie branch, thence to the navigable waters of the Spanish river.

Indian River Ry. Co.—D'Arcy Scott, solicitor, Ottawa, gives notice that application will be made at the next session of the Dominion Parliament for an act incorporating a Co. under the above title to build a railway from Lake Megantic, where a junction can be effected with the Quebec Central Ry., or the C.P.R. main line, or both, thence southerly to the International boundary near the Moose river.

Intercolonial Ry.—It is reported that the workshops at Levis are to be closed, and the plant transferred to Chaudiere Curve, Que.

Press reports state that a new station will be erected at Sydney, N.S., this year, and a machine shop is also to be erected at this point for the repair work for the Cape Breton division.

It is proposed to put in an electric-power plant at Sydney, N.S.

The Halifax Board of Trade in its annual report says: "As a result of our suggestions track accommodation and shunting arrangements at Richmond and Deep Water have been greatly improved, long sidings are built between Halifax and Bedford, and important improvements are to be made at North-st. passenger station and at Richmond. We have frequently expressed the opinion that the present station is badly placed, badly planned and too small. If there was a definite prospect of getting a new station centrally situated within a reasonable time, we do not think it would be wise to spend much money on the present structure, but if the Department has decided that a new station is not to be built, it is clearly advisable that the old building should be made as convenient and attractive as possible. The new plans, which were submitted to the council for inspection, show that the interior of the building is to be entirely remodelled, the train shed extended, and as much accommodation given to the public as the cramped area at the disposal of the architect would admit of, and this work is to be proceeded with at once." The work on the new station will be commenced at an early date. In the yards there will be a number of new tracks and switches laid and other improvements made. The appropriation available for the work is \$80,000.

The new freight offices at St. John, N.B., were taken possession of by the officials, Jan. 10, and the new freight sheds are also being used. The new offices are fitted up in modern style. A portion of the old offices will be used by the customs and other officials, and

the remainder will be utilized for freight storage.

The extension of the roundhouse at Moncton is about complete. It will give a good 28-stall roundhouse, in which the heavy power can be well taken care of.

The turntable at the new roundhouse at Sydney has been put in position under the charge of Roadmaster Fraser. It is 70 ft. in length, and can be operated by one man.

Combined coal, ash and sand handling plants of the power conveyer type are to be installed at the new roundhouses at Sydney and Stellarton. It is expected they will give very efficient and economical service. The buildings will be 50x75 ft. and will be two stories high.

A contract has been let to replace the present bridge over the Miramichi near Chatham, N.B., with a heavier one. The spans will be floated into position in the same way as were the spans of the bridge for the Midland Ry. over the Shubenacadie in 1901. Four barges, each 90 ft. long and 26 ft. wide, are being built for this purpose at Port Elgin, N.S.

A conference between E. G. Russell, Manager I.C.R., M. Harvey, Chief Engineer of the Department of Marine, and representatives of the Dominion Iron and Steel Co., and the Dominion Coal Co., was recently held in regard to the I.C.R. bridge over the Grand Narrows, N.S., and the prevention of accidents to navigation there. Suggestions were made that the draw span should be shifted further into the middle of the river, so as to avoid the current, or that the piers of the cribwork be extended on both sides of pier 6, but nothing definite was decided on.

The plans for the arrangement of the new yard at Gilbert's Island, St. John, N.B., are being prepared at Moncton. The new yard will greatly facilitate the transfer and handling of freight. (Dec., 1901, pg. 355.)

The Inverness and Richmond Ry. has completed its connection with the I.C.R. at Point Tupper, and the ferry service hitherto operated between Port Hastings and Mulgrave will be discontinued.

M. J. O'Brien, contractor, has issued a writ in the Supreme Court against Ryan & Macdonald, the original contractors for the I. & R. Ry., claiming \$23,000 for work alleged to be done on the construction of the railway for defendants.

The Irondale, Bancroft and Ottawa Ry. Co. is seeking Provincial and Dominion subsidies for the extension of its line from near Bancroft to Caldwell on the Canada Atlantic Ry., about 60 miles. At the last session of the Ontario Legislature a subsidy for an extension of 15 miles was voted, and L. B. Howland, General Manager, says if the subsidies for the additional mileage are voted he will, with the "substantial financial support of one of the most prominent trust companies in New York" with which arrangements have been made, complete the line to Caldwell, and put the whole line on a substantial footing. The proposed extension would open up a good farming, timber and mineral region. It would aid in the development of the corundum deposits, and of water powers on the Madawaska river, and would pierce the Opeongo by way of Howland pass, a route presenting no engineering difficulties. The Pembroke Southern Ry. is surveying a route from Golden Lake to Bancroft, via the Brennan pass, and is to some extent an opposition project. The Lindsay Board of Trade has memorialized the Ontario Government to aid the construction of the additional 45 miles of line, and the Dominion Government to subsidize the whole 60 miles. (Aug., 1901, pg. 229.)

The James Bay Ry. Co. gives notice that application will be made to the Dominion Parliament for an Act extending the time for the commencement and completion of its line and authorizing the building of a line from the

main line to Batchawana bay, Lake Superior.

Track has been laid on the 4½ miles of line constructed from the Canada Atlantic Ry., about 3 or 4 miles east of Rose Point, into Parry Sound. (Jan., pg. 3.)

The Kent Northern Ry. Co. gives notice that application will be made at the ensuing session of the New Brunswick Legislature for an Act authorising the extension of the Co.'s line from Kent Jct. through the counties of Kent and Queens to Chipman, where a junction will be made with the Central Ry. of N.B. The K.N. Ry. has in operation 27 miles of line between Kent Junction on the I.C.R. and Richibucto.

Kettle River Valley Lines.—We were officially informed on Jan. 9, that about nine miles were being operated, and that it was expected to have the whole line from Grand Forks, B.C., to Republic, Wash., 42 miles, in operation by Feb. 15. How far this hope will be interfered with by what took place two miles south of Curlew, Wash., Jan. 10, it is impossible to say. At this point the line is carried across the Kettle river by a high bridge, approached by long trestles, the approach on the east side crossing the grade of the line being built by the Great Northern Ry., U.S., as part of a line connecting that system with Vancouver and Victoria, via the Similkameen country, the charter for which in B.C. is known as the Victoria, Vancouver and Eastern Ry. When the gap over the G.N.R. right of way was being filled in that Co.'s representatives put in an appearance and endeavored to pull the trestle work down. They did not succeed in this, but on withdrawing invoked the aid of the law and an interim injunction was obtained, and the disputed crossing was placed in charge of the sheriff of the county and an armed force to prevent any collision between the men of the two companies. The case was put down

for hearing at the court at Republic for Jan. 22.

It is reported that an arrangement has been completed with the C.P.R. for the erection of a union station and freight yards on the Ruckle addition, Grand Forks, B.C. The area available for sidings in the yard will enable the Co. to lay 4 miles of tracks. (Jan., pg. 3.)

The Kingston and Pembroke Ry. will, it is reported, remove its car shops from Kingston to Renfrew, where an enlarged plant will be installed. The object is stated to be to save the hauling of C.P.R. cars from Renfrew to Kingston for repair. Since the foregoing was put in type an officer informs us that there is no truth in the report.

The Klondike Mines Ry. proposes to construct a line between Klondike City, adjoining Dawson, Yukon, to Stewart river, a distance of about 80 miles. The country through which the projected line will pass is the best populated district of the Yukon. E. C. Hawkins, of Seattle, Wash., ex-General Manager of the White Pass & Yukon Ry. is promoting the enterprise, which, it is said, will be financed by Dawson capitalists. Mr. Hawkins visited Ottawa recently to negotiate with the holders of the charter. (Jan., pg. 3.)

E. C. Hawkins, Seattle, Wash.; W. White, K.C., Dawson, Yukon Territory; J. Payne, R. Credicott and W. J. Gilchrist, bookkeepers, Toronto, have been incorporated under the Ontario Companies' Act as the Hawkins Construction Co. (Ltd.) with a capital of \$20,000 "to construct public and private works and for the said purpose to enter into contracts and agreements with corporations, firms and private individuals." This Co. is apparently formed for the purpose of constructing the proposed new line.

London Ry. Co.—F. G. Rumball, T. H.

Purdom, K.C., T. C. Knott, A. E. Welch, O'B. O'Donnell, of London; R. McEwen, Byron; and J. Boles, Ingersoll; are applying to the Ontario Legislature at the current session for an act incorporating a Co. under this title to construct an electric railway from London to Ingersoll, and radial extensions from any points on the line. Power is also sought to enable the Co. to carry freight on its line, and to operate telegraph and telephone lines. The proposed capital of the Co. is \$500,000, and power is asked to issue bonds to the extent of \$25,000 a mile. The line may be built in sections of not less than 10 miles each, but it is proposed that the whole shall be completed in five years.

The London Street Ry. Co. is making application at the current session of the Ontario Legislature for an act confirming and legalizing a by-law of the London township council, and the agreement therein referred to as having been executed between the Co. and the Council, for the extension of the L. S. Ry. along the Proof-line road. (Oct., 1901, pg. 308.)

Manitoba Central Ry. Co.—See Northern Pacific Rd., pg. 59.

The Manitoba, Midland and Western Ry. Co. is asking the Manitoba Legislature for an act extending the time within which it may commence the lines authorized by its act of incorporation, and also for power to construct the following additional lines: from Carman via Carberry and Neepawa to the westerly or northwesterly boundary of the province, with branches from near Carberry to Oak Lake, Virden, and the boundary, with two branches therefrom, one to Brandon and the other to Minto, and thence to the International boundary; from Carberry via Rapid City to Birtle; from the main line in township 4 or 8 via Manitou to the International boundary; from the main line west of range 10 to Greenaway or Balduf, thence to the International boundary; and from near Carman to Winnipeg, thence to Tyndale or Beausejour.

Manitoulin and North Shore Ry.—We were officially informed, Jan. 17, that a contract had not been let for the construction of the section of the line between Spanish river and Whitefish bay.

The preliminary survey for the section of the line between Owen Sound and the other connections with the G.T.R. at Wiarton and Meaford, and Tobermory, at the end of the Bruce peninsula, have been completed. Mr. McCormick, the engineer in charge of the survey, has stated that the country presents no serious engineering features; that a large agricultural area will be opened up in Eastnor township; that there are large tracts of timber in St. Edwards and Lindsay townships; and that the harbor at Tobermory can be approached by a grade of less than 1%. (Jan., pg. 3.)

Medicine Hat Ry. and Coal Co.—J. W. Bain, solicitor, Toronto, gives notice that application will be made at the next session of the Dominion Parliament for an act extending the time limited for the commencement and completion of the lines authorized.

Medicine Hat-Saskatchewan River Ry.—F. H. Phippen, solicitor, Winnipeg, gives notice that application will be made at the ensuing session of the Dominion Parliament for an act to incorporate a company to construct a railway from Medicine Hat, Alta., on the C.P.R. main line, north-westerly to range 16, west of the 4th meridian, thence northerly in the vicinity of ranges 16 and 17, west of the 4th meridian, to near Victoria on the North Saskatchewan, with power to construct branches.

The Middleton & Victoria Beach Ry. now under construction between these two points in Nova Scotia, about 48 miles, will connect

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with the Dominion Atlantic Ry. and the Central Ry. at the former place, and will make available a deep water harbor at Victoria beach. The Co. proposes to build a pier 400 ft. long, which will give, at low water, a depth of 30 ft., with a perfectly safe harbor at any time or tide and free from ice or currents. The principal places to be served on the route will be Middleton, Clarence, Bridgetown, Belle Isle, Granville Ferry, and Victoria Beach. It is proposed to run fast steamers from Victoria Beach to Eastport, Me., where connection will be made with the Washington County Ry., and a steamer to St. John, N.B. The line will pass through an agricultural country, and though it is somewhat undulating, easy gradients will be obtained. There will be no bridges of any size, there will be a number of culverts, but no rock cuttings, all being straight earthwork. The surveys are all completed, and the location plans nearly so; a formal commencement of the work has been made, but actual construction is expected to begin in the spring. The contractor is M. J. O'Brien, Renfrew, Ont. We are officially informed that it is expected to have 30 miles of the line completed and track laid by the end of the year. (Jan., pg. 4.)

The Midland Ry., which has recently been completed, extends from Windsor, on the I.C. R., to Truro, N.S., $5\frac{1}{2}$ miles, and shortens the distance between these two points by about 23 miles. The principal places served by the line are St. Croix, Brooklyn, Scotch Village, Mosherville, Stanley, Clarksville, South Maitland and Truro. In addition to the big bridge over the Shubenacadie river, other bridges of considerable importance had to be constructed as follows: a three-span, one draw, over the St. Croix river; a two-span steel bridge over the Kennetcook river; and three others of lesser importance between Five Mile river and South Maitland. The line is laid with 60-lb. rails, and the roadbed is said to be an excellent one.

Surveys are being made for projected extensions of the line to Brule in North Colchester, and southerly to Penhook lakes. (Nov., 1901, pg. 337.)

The Montfort and Gatineau Colonization Ry. has under survey an extension from Arundel, Que., for 30 miles.

Montreal-Longueuil Bridge.—Green-shields, Greenshields & Heneker give notice that application will be made at the ensuing session of the Dominion Parliament for an Act incorporating the Montreal Union Bridge Co. to build a railway, tramway, vehicle and passenger bridge between Montreal and Longueuil, and to connect with various railways. Four applications for power to build a bridge over the St. Lawrence between Montreal and Longueuil will, therefore, come before Parliament this year. It is reported that the C.P.R. and the G.T.R. will oppose all of them. (Jan., pg. 4.)

The Montreal St. Ry. Co. has secured a renewal of its franchise for a period of 50 years from the Westmount, Que., town council, and will construct a line from Cote des Neiges, to the westerly limits of the town. (Oct., 1901, pg. 307.)

The Montreal Terminal Ry. Co. has secured a five years' franchise from the city council, for a line from its present terminus at the city boundary to Craig st., at Hotel de Ville ave., Montreal. It is understood that construction will be commenced at an early date. (Oct., 1901, pg. 307.)

Morrisburg Electric Ry.—Isabella F., W. K., and J. A. Farlinger, E. McLaughlin, of Morrisburg; and J. J. Lane, of Williamsburgh township, are applying for an act at the current session of the Ontario Legislature to incorporate a company under this title to construct an electric railway from Morrisburg to Winchester, with a branch line to Chester-

ville and Morewood; and with power to operate hotels, steamers, sanitariums, electric light and power plants, telegraph and telephone lines. The capital of the Co. is proposed to be \$300,000.

The Mount Sicker Ry. is in operation from the Lenora Mount Sicker Copper Co.'s mines to the Esquimalt and Nanaimo Ry. over which the ore has been shipped en route to the Tacoma smelter. The Co. has graded a right of way from the E. and N. Ry. to Osborne bay. In order to connect the two sections it was necessary to build a bridge across the E. and N.R., and for this purpose false work was erected. Immediately on this being done Supt. Hunter of the E. and N. Ry. proceeded to the crossing with a gang of men and removed it. In explanation he says that the proprietors of the M.S. Ry. asked permission to cross the tracks of the E. and N.R., which was refused, as the former Co. had not complied with the law, and the false work erected was removed from the private property of the E. and N. Ry., in the same way as a private person would deal with a trespass on his property. It is stated, on the other hand, that the Manager of the Lenora mines obtained the right of way from the Land Commissioner of the E. and N. Ry. H. Croft, Manager of the mining company owning the M. S. Ry., is a brother-in-law of Hon. J. Dunsmuir, President of the E. and N. Ry. (Jan., pg. 4.)

New Brunswick and Prince Edward Island Ry.—A building to accommodate freight and passengers has been erected at Bayfield, N.B., in connection with the winter steamer traffic to Summerside, P.E.I. The freight shed is 100 ft. long, and a comfortable waiting-room and offices have been provided.

The New Brunswick Coal and Ry. Co. recently asked tenders for the construction of the remaining 30 miles of its line from Newcastle to Gibson. Work is reported to be progressing satisfactorily on the 15 miles from Chipman to Newcastle. The heaviest portion of the work is a big rock cut near Newcastle. The Co. has decided to erect a steam excavation and cableway at its collieries, for taking out and conveying the coal to the cars on the railway. (Jan., pg. 4.)

Newfoundland Ry.—It is reported that considerable improvements will have to be made on the line at an early date, and that something like \$1,000,000 will have to be spent on it; also that there is a difference of opinion between the Government and the Reid Newfoundland Co. as to which of them will have to do the work. The matter, press reports say, will come before the Legislature when it meets, when both sides will fight strongly against becoming responsible for the expenditure.

Several miles of snow fencing have been erected alongside the track on the Topsails under the direction of Trackmaster Steel. The track between Bishop's Falls to Deer Lake is reported to be in excellent condition. (Dec., 1901, pg. 357.)

New Ontario Central Ry. Co.—H. O'Leary, Toronto, is making application at the current session of the Ontario Legislature for an act incorporating a company under the above title to construct a line from the C.P.R. main line between Dryden and Eagle river to Lac Seul.

New York and Ottawa Ry. Bridge.—The U.S. Congress has passed an act declaring the bridge across the southerly channel of the St. Lawrence river from Hogansburg, N.Y., to be a lawful structure, notwithstanding the fact that it was not completed within the time fixed by the act of 1897. This bridge was erected as part of the undertaking of the New York and Ottawa Ry., and crosses the river between Hogansburg, N.Y., and Cornwall, Ont.

The Niagara, St. Catharines and Toronto Ry. will, it is stated, start work this year on the extension of its electric line from St. Catharines towards Hamilton. The Co. proposes to improve its line between St. Catharines and Niagara Falls, by changing the location below Thorold so as to get rid of the large amount of trestle now used there. There is also a good deal of trestle near Merriton, but its abandonment will be a more difficult matter.

Nipissing and Ottawa Ry.—Pearson & Denton, solicitors, Toronto, give notice that application will be made at the next session of the Dominion Parliament for an act incorporating a company under this title to construct a line from the south-east bay at the east end of Lake Nipissing, thence northeasterly to Trout lake, and thence to a point on the Ottawa river near the Opemicon river, with power to amalgamate with any other company.

Northern Pacific Ry.—Reports are current that the N.P. Ry. will again enter Manitoba, and that a charter for a line from Emerson, on the international boundary, through Rosenfeld to Portage la Prairie, has been bought on its behalf. J. Fisher, who acted as solicitor for the N.P. Ry. in Manitoba, says the purchasers of the charter are southern capitalists, but denies that he has any instructions from the N.P. Ry. in reference to the matter. The charter referred to is that of the Manitoba Central Ry. Co., incorporated last session and referred to on pg. 156 of our issue of May, 1901.

Northwest Territories.—Speaking of the opening up of the great Northwest by the Canadian Northern Ry., and its proposed connections, the Toronto Globe says: "We realize but very inadequately the meaning and the extent of the vast foundations that are in that western country now being laid. We will not be many years older before the locomotive will be blowing its whistle on docks at Athabasca Landing, and be answered by steamers which have come literally from the Arctic sea. At the Landing the railway will be in communication by water with thousands of miles of the north. We do not think that we are under any delusion with regard to the region in which those vast lakes and navigable rivers lie. Granted that most of it is outside the productive belt, it nevertheless remains a fact that scattered as industry may be in those regions the very vastness of them, coupled with the accessibility which their waterways impart to them, will in a very few years make a large aggregate of business. No one who reads the evidence gathered by the Senate committee a dozen years ago can doubt that the curtain is just beginning to roll up on a drama of settlement and civilization on a colossal scale."

The Nova Scotia Eastern Ry. Co. (Ltd.) will apply to the N.S. Legislature at the next session for an Act confirming the amalgamation of the Musquodoboit Valley Ry. Co. (Ltd.) and the N.S.E. Ry. Co. under this title, and with power to construct a line from Halifax through the Counties of Halifax, Guysboro and Pictou, to the Straits of Canso, and from New Glasgow to Country Harbor, with power to construct a branch into Truro. (Jan., pg. 4.)

Ontario Electric Co.—Sir R. J. Cartwright, Ottawa; C. Birmingham, R. J. Carson, J. Carson, Kingston; A. L. Jewell, G. E. Smith, Boston, Mass.; and H. N. Smith, Salem, Mass.; are applying at the current session of the Ontario Legislature for an act incorporating a company under this title to construct an electric railway from Cornwall to Toronto, and also from near Ottawa to near Brockville, with power to build branches or extensions from the main lines not exceeding in each case 30 miles. The Co. asks for power

to build the line in sections, to carry freight, and to make special rates for perishable goods. It desires to raise \$5,000,000 of capital stock, and to have power to issue bonds to the extent of \$15,000 a mile of line constructed.

The Ontario, Hudson's Bay and Western Ry. Co., one of the numerous charters for railways owned by the Clergue companies, is asking the Ontario Legislature for an act giving it a further extension of 3 years within which it may commence and complete its railway. The O., H.B. and W. Ry. Co. was incorporated in 1896, to construct a line from Sault Ste. Marie to Moose river, and a wagon road from Missanabie on the C.P.R. to the same point.

The Ontario Ship Ry. Co., which has an Ontario charter for the construction of a railway for the conveyance of ships between Georgian bay and Toronto, is applying for an extension of time within which work may be commenced. J. Blakeley, Toronto, is Secretary of the Co.

The Orford Mountain Ry. Co. will apply at the ensuing session of the Dominion Parliament for an act granting a further extension of time within which to commence and complete the lines originally authorized.

The Ottawa, Brockville and St. Lawrence Ry. Co. will apply at the ensuing session of the Dominion Parliament for an act extending the time within which it may commence and complete its railway.

The Pacific and Atlantic Ry. Co., which was incorporated by the Ontario Legislature in 1886, to construct a line from the eastern boundary of Ontario, in the county of Glengarry, westerly by the most direct route via Ottawa, the Madawaska, Magnetawan and Spanish river valleys to the waters of Lake Superior, and other lines; and which obtained an extension of time in 1900 with somewhat varied powers, is applying at the present session of the Legislature for a further extension of time.

Parrsboro' and Londonderry Ry.—A charter is to be applied for at the next session of the Nova Scotia Legislature to incorporate a company to build this line. It is understood that the new line will be an extension of the Cumberland Ry. and Coal Co.'s line, which at present ends at Parrsboro', and that power will be asked to extend the line to Truro. H. J. Logan, M.P., who is interested in the new line, purposes going over the projected route, in company with B. F. Pearson, of

Halifax, and others. The new line will, it is said, open up large iron deposits, which the Dominion Iron & Steel Co. will develop in the event of the railway being built. (Jan., pg. 5.)

Peterboro and Ashburnham St. Ry.—It is reported that a Buffalo syndicate has purchased this line for \$150,000, and purposes to extend it to Lakefield, Ont., seven miles further, making the total length 13 miles.

Peterboro Radial Ry. Co.—T. E. and C. H. Bradburn, J. C. Shork, G. W. Hatton, S. D. Hall and D. Davidson, of Peterboro, are making application at the current session of the Ontario Legislature for an act to incorporate a company under this title to construct an electric railway in Peterboro and Ashburnham, and from Peterboro to Lakefield, and Clear Lake; from Peterboro to Chemong lake, and from Peterboro or Ashburnham to the Otonabee river, and to Rice lake, with power to acquire other railways, and to own and operate steamers on the lakes and rivers reached by the line. Power is asked to raise \$500,000 of capital stock and to issue bonds to the extent of \$20,000 a mile.

The Petrolea and Corunna Electric Ry. Co. has, it is reported, decided to let a contract for the construction of the line through to Sarnia, Ont., and to start work in the spring.

Petrolea Rapid Ry. Co.—G. R. Lovejoy, Lennox, Mich., S. A. Armstrong, T. J. Gordon, Sarnia, Ont.; J. Harrold and J. Clysdale, of the township of Moore, Ont., are making application at the current session of the Ontario Legislature for an act to incorporate a company under the above title with power to construct an electric railway from Sarnia to Petrolea, thence to Dresden, to Florence, and to Thamesville, with branches to Brigden, and to a point in the township of Enniskillen, north of Petrolea, and to enable it to amalgamate with other companies, and to confirm by-laws passed by local municipalities granting franchises for the line. Power is asked to issue \$300,000 of capital stock, and bonds to the extent of \$20,000 a mile.

The Port Dover, Brantford, Berlin and Goderich Ry. Co. is making application at the current session of the Ontario Legislature for an act extending the time for the construction of the lines authorized, to change its name to that of the Grand Valley Ry. Co. and for other purposes. The Von Echa Construction Co. has acquired the charter of the P.D., B., B. & G. Ry. Co., and proposes utilizing the same in connection with the construction of

the electric railway it has obtained franchises for between Paris, Brantford, St. George and Galt, Ont. The Co. proposes to begin construction early in the spring on the lines from Brantford to Paris, 8 miles, and from Paris to Galt, via St. George, 18 miles. (Oct., 1901, pg. 309.)

Prince Edward Island Ry.—Local press reports state that the Superintendent has recommended to the Minister of Railways that an appropriation of about \$60,000 be made to build an up-to-date station at Charlottetown, the present building being altogether inadequate.

A branch is projected from the Murray harbor branch line, now under construction, from Kinross to Montague, 9 miles.

A description of the sub-structure of the bridge over the Hillsboro' river at Charlottetown, on the Murray harbor branch, appears on pg. 53.

The Quebec Central Ry. obtained a charter last year to build a line from Scotts, on its line, to Levis, about 25 miles, to connect with the approach to the bridge now being built by the Quebec Bridge Co., and intends to build the line in sufficient time to have it in operation by the completion of the bridge in 1903.

The Quebec and Lake Huron Ry. Co. will apply at the next session of the Dominion Parliament for an act extending the time within which it may commence and complete its line. (Aug., 1900, pg. 243.)

Quebec & Lake St. John Ry.—We were officially informed on Jan. 4 that the cut-off from Valcartier to St. Catherines, 4 miles, had been completed, with the exception of the steel superstructure of the bridge over the Jacques Cartier river, which was in course of erection, and that it was expected the line would be operated over the cut-off by the end of Jan. (Dec., 1901, pg. 358.)

The Quebec Ry. Light and Power Co. has, it is reported, leased a water privilege of 1,000 h.p. from the Canadian Electric Light Co., of Chaudiere, for \$14,000 a year. (Oct., 1901, pg. 307.)

The Quebec Southern Ry. Co. gives notice of application at the ensuing session of the Dominion Parliament for an act to enable it to buy or lease the whole or part of any other railway, built or being built, and declaring that such leased or purchased line shall be considered as part of the lines authorized by the Co.'s act and built by it; also for power to

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extend its line from St. Robert to Levis; also to ratify its title to the United Counties Ry., and the East Richelieu Valley Ry., and for other purposes. (Jan., pg. 5.)

Rapid Electric Ry. Co.—Lindsey & Wadsworth, solicitors, Toronto, give notice that application will be made at the current session of the Ontario Legislature for an act incorporating a company under this title, with power to construct a line from Hamilton to Caledonia, thence to Hagersville and to Port Dover, and also to operate telephone and telegraph lines. The Hamilton city council has passed a by-law subscribing for \$25,000 of stock in the Co.

Hamilton people obtained an act incorporating the Hamilton and Caledonia Ry. Co. in 1899 with power to construct an electric railway from Hamilton to Caledonia and thence to near Selkirk on Lake Erie, construction on the first section of which was to be commenced within three years after the passing of the act.

Rat Portage to English River.—A company is being formed at Rat Portage, Ont., for the purpose of constructing an electric railway from that town, about 40 miles, to the English river at the boundary of Ontario and Keewatin district.

Rat Portage to Keewatin.—A syndicate of U.S. people is reported to be desirous of constructing an electric railway from Rat Portage to Keewatin, Ont., about 5 miles, on a 20-year franchise. The Rat Portage town council is opposed to granting any franchises, and at the recent elections the councillors were elected pledged to a public ownership of all franchises. (Oct., 1901, pg. 309.)

The Richmond County Electric Co. has purchased the wreck of the bridge over the St. Francis river, and will build a new bridge to connect Richmond and Melbourne, Que.

The Red Deer Valley Ry. and Coal Co. gives notice of application to the Dominion Parliament for an act declaring its corporate powers to be in full force and extending the time for the completion of its line until July, 1903, and to authorize the construction of a railway from Cheadle, Alta, on the C.P.R., 20 miles northerly, by July 1, 1903; a further 20 miles by July 1, 1904, and to a point in township 29 by July, 1905. (Mar., 1900, pg. 79.)

Rossland to Sheep Creek Bay.—Gemmell & May, solicitors, Ottawa, give notice that application will be made at the ensuing session of the Dominion Parliament to authorize the Velvet Mine (Ltd.) to construct a railway from Rossland, via the west side of Sophia mountain to a junction with the Red Mountain Ry., near Sheep Creek bay.

The Rutland Railroad has passed under the control of Dr. W. S. Webb, who stated at Montreal recently that he would be very glad if Mr. Clement would continue to act as President of the road. The Co.'s entrance into Montreal was via the C.P.R. and was very satisfactory, but some day a bridge might be required. The Co. looked forward to obtaining an entrance into Quebec, via the Quebec Southern and South Shore, and over the Quebec bridge. It is stated that an option on the road has been given to the New York Central Rd.

The Sallsbury and Harvey Ry. has completed at Hillsboro', N.B., a building to be used as an engine shed and repair shop.

The Sandwich, Windsor and Amherstburg Ry. Co. gave notice of application at the current session of the Ontario Legislature for an act to empower it to complete so much of the lines heretofore authorized as have not been completed; to empower it to take over the rights and powers of the South Essex Electric Ry. Co.; to empower it to issue bonds or other securities to the extent of \$1,000,000 inclusive of the bonds already issued, and to

construct a line from Amherstburg through the townships of Maldon and Colchester south to Harrow; and from the Pelette road in the township of Sandwich east, easterly to Tecumseh.

This charter and a number of others for the construction of lines between different points in Essex and Kent, were acquired by the Everett-Moore Syndicate. How the companies will be affected by the financial difficulties of the syndicate has not been determined. (Oct., 1901, pg. 309.)

The Sarnia Street Ry. Co. is making application at the current session of the Ontario Legislature for an act confirming agreements entered into between the company and the towns of Sarnia and Point Edward respecting the operation of the line over the streets of these towns.

The Schomberg and Aurora Ry. was originally projected to be constructed from Aurora, Ont., on the northern division of the G.T.R., to Schomberg, about 18 miles, and Ontario and Dominion subsidies were granted in aid of construction but nothing was done. The Metropolitan Ry. Co. acquired the charter and in 1900 obtained an act authorizing the operation of the line by electricity and varying the route. The new route connects with the Metropolitan Ry. (electric) at Bond Lake, 17 miles from Toronto, and runs in a north-westerly direction to Schomberg, about 15 miles. A contract was let to Mackenzie, Mann & Co. for construction, and work was started last year. Some difficulties in obtaining possession of the right of way have delayed construction.

Application is being made at the current session of the Ontario Legislature for an act to extend the time for the completion of the railway, and empowering the township of King to pay to the Co. the bonus agreed on, notwithstanding anything contained in the act of 1901. This act confirmed an agreement between the Co. and the township by which a subsidy of \$12,000 was granted on consideration of the Co. completing the line by Oct. 15, 1901.

Shawenegan Terminal Ry. Co.—Green-shields, Greenshields & Heneker, solicitors, Montreal, give notice that application will be made at the next session of the Quebec Legislature for an act incorporating a company under this title to operate an electric road over the existing electric railway and tramway lines in Shawenegan Falls and St. Boniface, and to construct a line from or near Shawenegan Falls through the counties of St. Maurice and Champlain.

The Smith's Falls, Rideau and Southern Ry. Co. is applying to the Ontario Legislature for an act to amend its act of incorporation, and to extend the time within which it may construct its railways from Smith's Falls to Gananoque and from Smith's Falls to Edwardsburg.

The South Essex Electric Ry. Co., which has power under its acts to construct an electric railway from Windsor, Ont., to Point Pelee, via Amherstburg, Harrow, Kingsville, and Leamington, is reported to have been acquired by the Everett-Moore Syndicate. The promoters state that it is intended to erect a power house at Sandwich, Ont.

The South Shore Ry. Co. gives notice of application to the Dominion Parliament at its ensuing session for an act extending the time authorized for the completion of its railways, and confirming its title to the Montreal and Sorel Ry. Co., the Great Eastern Ry. Co., and part of the Montreal Atlantic Ry. Co.

The South Shore Suburban Ry. Co. is making application to the Dominion Parliament at its ensuing session for an act to extend the time within which it may commence its undertaking. The Co. was incorporated in 1896 to construct a line from Longueuil to

Laprairie, Que., and to build a bridge across the St. Lawrence at no greater distance from the Victoria bridge than 200 ft., with power to connect its railway with the G.T.R., the C.P.R., and the Montreal Street Ry., in the city of Montreal.

The St. Chrysostome Ry. Co. gives notice of application at the ensuing session of the Quebec Legislature for an act extending the time within which it may complete its line, and authorizing it to arrange with other companies to operate the line.

The St. John Ry. Co. proposes to extend its tracks in St. John, N.B., about a mile.

St. John's, Nfld., Street Ry. Co.—The cars on the St. John's, Nfld., street railway are not being operated owing, it is said, to the power not being sufficient. The people are asking that a second water-wheel be put up and the lines operated.

St. Lawrence and Megantic Ry. Co.—Notice is given that application will be made at the next session of the Quebec Legislature for an act incorporating a Co. under this name with power to build a railway from the St. Lawrence, between the rivers Becancour and Grand Duchene, to Lake Megantic in the vicinity of the International boundary.

St. Lawrence and Northern Ry. Co.—F. S. Tourigny, solicitor, Three Rivers, Que., gives notice of application at the ensuing session of the Dominion Parliament for an act incorporating a company under this title with power to construct a railway from Three Rivers, northerly to St. Toque, crossing the Great Northern Ry., near Shawenegan, with a branch from near the mouth of the Mattawan river to St. Michel des Saints, and for other purposes.

The St. Mary's River Ry. Co. gives notice of application at the ensuing session of the Dominion Parliament for an act authorizing the construction of a branch from its line northerly and westerly by the North Kootenay pass to the Kootenay river between Wardner and the International boundary; with branches not exceeding in any one case 30 miles in length.

The St. Thomas St. Ry. Co. is applying at the current session of the Ontario Legislature for an act to increase its powers, to legalize and confirm agreements made with any person or corporation in respect of allotments of stock, or the construction of radial extensions, and to construct lines southerly to Port Stanley, easterly to Aylmer, and northward to London, connecting with the tracks of the London Street Ry. Co. (Oct., 1901, pg. 309.)

Strait of Canso Bridge.—A survey has been made by P. S. Archibald, C.E., for the proposed bridge over the Strait of Canso between Cape Porcupine and Port Hastings, N.S. Four lines of soundings were taken from shore to shore. The result of the survey shows that it is practicable to bridge the Strait at this point with a span of 1,800 ft., the same length as the one under construction over the St. Lawrence near Quebec. The main piers for a cantilever span will be in about 80 ft. of water, or about the same depth as the main piers of the Interprovincial bridge recently completed at Ottawa. In this latter structure it was necessary to dredge out from 30 to 40 ft. of slabs and sawdust before the solid rock was reached. At Canso, it is said, there is solid rock bottom for the main piers without any deposit on it, so that it is practicable to adopt the open caisson plan for foundations. This is a much cheaper plan than the pneumatic process adopted for sinking piers of the Quebec bridge. In addition to the main span of 1,800 ft., 5 or 6 short spans, from 50 to 150 ft., will be required for approaches. It is proposed to have 150 ft. clear headway from high water for a width of 1,200 ft. As to the cost, it is said it will not be greater

than for the Quebec bridge—about \$4,000,000. A. C. Ross, of Sydney, N.S., has given notice of application for a charter at the ensuing session of the Dominion Parliament. (Jan., pg. 5.)

Suburban Rapid Transit Co.—Application is being made at the current session of the Manitoba Legislature to incorporate a company under this name to construct an electric line from Winnipeg to Headingly, about 20 miles, or between intermediate points.

Sun Portland Cement Ry. Co.—Notice is given that application will be made at the next session of the Dominion Parliament for an act to incorporate a Co. under this title to construct a railway from the G.T.R. at Shallow lake, Ont., to near McNabb's lake, Ont., and to connect its line with and to give it running powers over any railways situated within a distance of 4 miles from any portion of its line.

Sydney to Glace Bay.—We are officially informed that it is the intention of the Dominion Coal Co. to build an electric line from Sydney to Glace Bay, N.S., via Reserve, Dominion no. 1, Bridgeport and Dominion no. 2 mines, 15 miles. It is expected that construction will be commenced in April.

Temiscamingue Ry.—The Ontario Government is asking power from the Legislature at the current session to authorize the construction of a railway to be owned by the Province, from North Bay to Lake Temiscamingue, about 100 miles. The surveys for this projected line are being made by W. B. Russell, C.E., and 40 miles have been located. Mr. Russell and his staff are engaged in locating the remaining 60 miles. The party is reported to be working rapidly northward and to be doing better work on snowshoes than was possible under ordinary conditions in the summer. To meet the cost of the line it is proposed to set apart 20,000 acres of land per mile, debentures at 3½% to be issued to be retired from the proceeds of the sale of the land. The work of construction, it is proposed to entrust to a commission of three or five who will have power to appoint all necessary officers. (Jan., pg. 5.)

Three Rivers and North Shore Electric Ry.—Greenshields, Greenshields & Heneker, solicitors, Montreal, give notice that application will be made to the Dominion Parliament at the ensuing session to amend this Co.'s act of incorporation obtained in 1898, by empowering it to extend its railway from Three Rivers, on either or both sides of the St. Maurice river, through the counties of St. Maurice and Champlain to Shawenagan Falls, about 25 miles; to change its name to the St.

Maurice Electric Ry. Co., and to enable it to amalgamate with other companies.

Tilsonburg, Lake Erie & Pacific Ry.—An officer informs us that an extension of the line from Ingersoll to Georgian bay is projected. (Dec., 1901, pg. 359.)

Toronto and Hamilton Ry. Co.—H. T. Thurber, A. S. Brooks, L. O. Goddard, E. J. Tisdell, and G. L. Staunton, K.C., are making application at the current session of the Ontario Legislature for an act to incorporate a company under this title, to construct an electric railway from Toronto to Hamilton, and to confirm agreements entered into with the townships of Toronto, Trafalgar, Nelson and East Flamboro', respecting the construction and operation of the line. The Co. asks for very extensive and special powers, and in consequence of the opposition offered by the townships and others to the bill, it has been referred to a special committee for consideration. This decision also applies to the Hamilton Suburban Ry. Co.'s bill, promoted in the same interests. (Oct., 1901, pg. 309.)

The Toronto Ry. Co. (electric) laid 9,820 feet of double track during 1901, in addition to tracks laid in sheds and yards. It is proposed to extend the tracks on Parliament street to Howard street, 1,548 ft.

Toronto Radial Railways.—At a meeting of the Toronto city council, Jan. 14, Ald. Urquhart gave notice of motion to instruct the city solicitor to open up negotiations with the General Manager of the G.T.R. to ascertain upon what terms the Belt Line Ry., owned by the G.T.R. Co., can be obtained by the city for the purpose of furnishing a freight line for all radial electric railways centring in the city.

Toronto Suburban Ry.—At the last annual meeting held in Toronto, Frank Turner was re-elected President, and the retiring board of directors was re-elected. The Co. does not publish any statement of accounts. The shareholders discussed the proposed extension of the line under the act passed by the Ontario Legislature last session, and it is understood that steps will be taken at an early date to begin construction from the present terminus at Lambton Mills to Cooksville, about 10 miles.

The United Goldfields of B.C., a Co. incorporated under the British Companies' Acts in London, Eng., and licensed in Canada, has given notice of its intention to apply to the Dominion Parliament at the ensuing session for an act authorizing it to construct a railway from near Frank on the C.P.R. Crow's Nest Pass branch northerly to Grassy Mountain.

Vancouver, Victoria and Eastern Ry. and Navigation Co.—Notice has been given that application will be made at the next session of the Dominion Parliament for an act to extend the time for the completion of this undertaking.

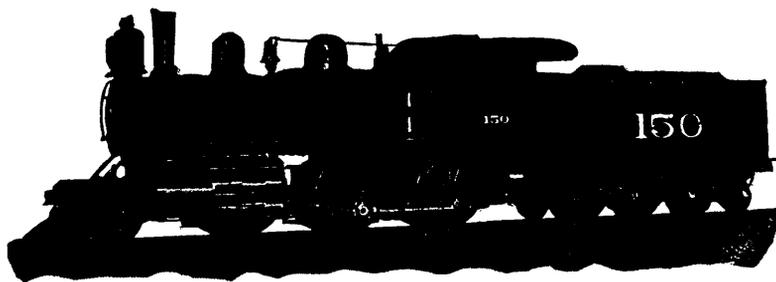
An arrangement has been effected with the owners of the Kettle Valley Lines, at Grand Forks, B.C., by which the V., V. and E. Ry. obtains the right of way for its line and terminals in that town, the price to be fixed by arbitration. This will practically mean the ceasing of hostilities between the two companies. At present there is an injunction standing against the V., V. and E. Ry. in the B.C. courts and one against the Kettle Valley Lines in the Washington courts at Republic.

The line between Cascade and Carson, B.C., 15 miles, is under construction, and it is expected that track will be laid in March. A spur 3 miles in length from Carson to Grand Forks, is also under construction. J. W. Stewart, Columbia, B.C., is the contractor. Surveys are being made for a branch from Columbia to Granby smelter, 3 miles, and for an extension of the line from Grand Forks to Okanagan river, 150 miles. (Jan., pg. 5.)

The Vancouver and Westminster Ry. Co. which was incorporated by the B.C. Legislature to construct a railway from the C.P.R., in Vancouver, to near Westminster on the C.P.R. Westminster branch, has given notice that application will be made at the next session of the Legislature for an extension of time within which the line may be built. The incorporators of the Co. are C.P.R. officials at Vancouver.

Victoria Terminal Railway and Ferry Co.—We were officially informed Jan. 11, that the extension of the Victoria and Sidney Ry. which has been acquired by the V.T. Ry. and F. Co., is 1½ miles in length to the market building, Victoria, the terminal station, and that it would be completed by Feb. 1. The grades are not heavy, averaging 2½%, and the curves run about 15 degrees. The ferry steamer has been completed and has a capacity of 12 cars. Grading on the mainland has already commenced, and surveyors are locating the line, which will be about 20 miles in length. It is expected to have it completed within 18 months. (Jan., p. 5.)

The Windsor and Detroit Union Bridge Co. gives notice that application will be made at the next session of the Dominion Parliament for an act to extend the period within which it may commence and complete its undertaking for a period of five years from the time plans are approved by the Governor-in-Council, and the Secretary of War for the



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U.S. The charter is a G.T.R. one, and was obtained in 1898.

The Windsor, Essex and Lake Shore Rapid Ry. Co. is applying at the current session of the Ontario Legislature for an act increasing its bonding powers to \$20,000 a mile.

The Winnipeg Electric St. Ry Co. is reported to have completed an arrangement with the Ogilvie Milling Co. for the joint development of 10,000 h.p. on the Winnipeg river, about 60 miles from the city.

Winnipeg to Lac du Bonnet.—H. Burkholder, of Chicago, is promoting a project for the development of a water power at Lac du Bonnet, Man., and the construction of an electric line from Winnipeg there, a distance of about 62 miles.

The Winnipeg River Power Co., Ltd.—F. H. Phippen, solicitor, Winnipeg, gives notice that application will be made at the current session of the Manitoba Legislature for an act to incorporate a company under this name, with power to acquire and develop water powers in or near Winnipeg, and to sell the power, also to construct an electric railway between Winnipeg and Selkirk and points on the Winnipeg river via Selkirk.

The Woodstock, Thames Valley and Ingersoll Electric Ry. Co. is making application at the current session of the Ontario Legislature for an act extending the time for the completion of a small portion of line authorized to be constructed in Woodstock, and for the construction of the Embro branch; and to confirm a by-law passed by the town council of Ingersoll. The Co. also desires power to issue preference stock.

The York and Carleton County Ry., from Cross Creek station, N.B., on the Canada Eastern Ry., to Stanley Village, 5½ miles, was built by D. R. Moore, M.D., of Stanley. Track was laid in 1900, and the line was operated in an unfinished condition until the spring of 1901, when it was ballasted and put in good running order. (Feb., 1901, pg. 43.)

Yukon Ry.—H. M. Cleland, solicitor, Victoria, B.C., gives notice that application will be made to the Dominion Parliament at the ensuing session for an act incorporating a company to build a railway from the boundary of B.C., between 140 and 130 degrees longitude, to the Yukon river, below Rink rapid, thence via Selkirk to Dawson; to build branch lines, and to operate steamers, tramways, telephone and telegraph lines. (Jan., pg. 5.)

Canadian Northern Ry. Construction.

The Co. has given notice that it will make application at the ensuing session of the Dominion Parliament for an act empowering it to construct a line from a point on its line between Port Arthur and Fort Frances to Quebec, and from points on this line to Port Arthur, Ottawa and Montreal; from McCreary station, Man., to the southern boundary of Manitoba; from near the narrows of Lake Manitoba to between Edmonton and the Yellow head pass; from near Swan River to the Pacific coast near Skeena river, via the Pine River pass; from east of Edmonton to the Red Deer river; and from near Hanging Hide river (Sask.), to the mouth of Carrot river near Pas Mission. Power is also asked to confirm the amalgamation with the C.N. Ry., of the Edmonton, Yukon & Pacific Ry. Referring to this application, W. Mackenzie recently stated that the projected line to Quebec will pass through an excellent country, particularly in northern Ontario, where there are not less than 16,000,000 acres of excellent farming land lying between Lake Superior and Hudson's bay. He also said the projected line will be shorter than that of the C.P.R. The route has not yet been all surveyed.

J. S. Lovell, W. Bain, E. W. McNeill, R. Gowans and R. Richardson, clerks in the law office of Blake, Lash & Cassells, Toronto, were incorporated under the Ontario Companies' Act, Jan. 4, under the title of the Lake Superior Terminals Co. (Ltd.), with a capital of \$1,000,000, to construct wharves, docks, warehouses, freight sheds, stations, hotels, railway and steamboat terminals, and generally to carry on the business of a terminals Co. It is understood that the Co. is being formed to construct and operate the railway and steamer terminals at Port Arthur in connection with the C.N. R.

The "last spike" of the Ontario and Rainy River section was officially driven Dec. 30, at Atikokan, 139 miles west of Port Arthur, by Hon. E. J. Davis, Commissioner of Crown Lands for Ontario, thus completing the through line between Port Arthur, Ont., and Erwood, Sask., 809.7 miles. The actual laying of the last rail and driving the last spike took place at Commissioner, 11 miles east of Fort Frances, on Dec. 31, when W. Mackenzie and D. D. Mann did the work. The official spike was a silver one with an inscription, but the actual last spike was of the ordinary type. The people of Port Arthur entertained the members of the firm of Mackenzie, Mann & Co., and others interested in the construction of the railway, at dinner on Dec. 30, after the official completion of the line. Replying to the principal toast, W. Mackenzie said the approximate mileage of the C.N. system, which included the lines of four different companies in addition to the lines of the Port Arthur, Duluth & Western Ry., and the Northern Pacific and Manitoba Ry., approximated 1,309 miles, of which 354 were in Ontario, 50 in Minnesota, U.S., 883 in Manitoba, and 22 in Saskatchewan. He also stated that Port Arthur would be the terminal of the railway on Lake Superior for all time; that a 1,250,000 bush. elevator was practically completed there, and that what his firm had done was simply a guarantee of what would be done in the future, when they had time to realize all their plans in reference to a transcontinental line. D. D. Mann, who also spoke, stated that the C.N.R. had shipped via Pembina to Duluth 620,000 bush. of wheat, but this year all the wheat assigned to the line would be shipped via Port Arthur. The engineers who had located the line deserved great praise, as they had been able to secure grades going eastward for a distance of over 800 miles on the main line of 26 ft., and going west of 56 ft. to the mile. These grades would enable the Co. to carry loads of 45,000 bush. on one train at present, and of 75,000 bush. when the permanent way was improved. Transition curves had been built which would enable passenger trains to travel smoothly over the line, and split switches had also been laid. Within seven years he hoped to see the last spike of the transcontinental system of the C.N. R. driven. In connection with the completion of the line, Mackenzie, Mann & Co. made a present of \$25 to every over-foreman; \$5 to every gang foreman, and \$2 to every workman on the line, in addition to their pay. (Jan., pg. 5.)

Trains have been run over the through line, the portion between Port Arthur and Fort Frances being under the charge of the construction department, but it was expected that it would be handed over to the operating department by Feb. 1. Ballasting will not be done until the spring, but the line is in good shape and trains are making good time. Roundhouses have been built at Atikokan and Rainy River, the divisional points, and the stations and tanks have been erected. (Jan., pg. 5.)

D. B. Hanna, General Superintendent, stated in a recent interview that the Co. had made extensive additions to the freight sheds, round house and car shop, and had added 4

miles of sidings in the yards at Winnipeg. During the past year the elevator accommodation at the Co.'s stations had been increased 250,000 bush.; new stations had been built, and other improvements made all along the line.

The Carman branch from St. Charles to Carman, Man., 52 miles, has been extended west from that town, making its total length 63.5 miles. It is proposed to continue it to Somerset, on the old Northern Pacific Morris-Brandon branch.

The extension between Beaver and Gladstone Jct., Man., was put in operation Dec. 27, when the Co. began running trains over its own line through from Winnipeg to Erwood, instead of over the C.P.R. from Portage la Prairie to Gladstone Jct.

Press reports state that a party in charge of W. Burns, C.E., is surveying for an extension of the Gilbert Plains branch through the gap between the Riding and Duck mountains in Manitoba.

During 1901, on the extension of the main line from Erwood, Sask., westerly, 25 miles of grading was done, but no track was laid. The line is located from the end of the grading to Prince Albert, 155 miles, and grading will be resumed in the spring. G. H. Strevel & Son, of Winnipeg, have a contract on this section of the line, but information as to the distance covered by it is not yet available.

D. D. Mann stated, in a recent interview at Winnipeg, that the line would be completed to within 100 miles of Edmonton, Sask., this year. Contracts for portions of this work, which covers between 300 and 400 miles of grading, are being let, but details are not available.

M. H. McLeod, Chief Engineer of the C.N. Ry. lines west of Fort Frances, recently returned to Winnipeg from going over the route of the line through Saskatchewan, from Prince Albert to Battleford. Under his direction a small force was put to work grading in some swampy places beyond Erwood so as to facilitate construction in the spring. Final location parties are working between Stoney Creek and Prince Albert, to determine the best point to cross the Saskatchewan river. One report states that the Co. will lay out a town site on the South Saskatchewan, 25 miles south of Prince Albert, and that a branch will be run into Prince Albert, the main line proceeding westward and crossing the Qu'Appelle, Long Lake and Saskatchewan Ry., between Hague and Rosthern. Borings and examinations are being made at different points to find a suitable crossing place, but nothing has been decided.

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

New Capital Expenditure.—Of the \$20,000,000 of additional stock proposed to be issued \$6,000,000 are to be appropriated to double tracking, \$1,500,000 for new plants for construction of rolling stock chiefly at Montreal, \$3,000,000 for new elevators and improvements of terminals, and \$500,000 for miscellaneous improvements. Sir Thomas Shaughnessy recently stated that it was only necessary for the Co. to obtain the approval of the Government to the issue of the stock, and that in applying for the necessary approval only general information as to how it was proposed to spend the money had to be given. No action had been taken by the directors towards issuing the stock, neither had any action been taken in regard to the employment of the money. At present the question was simply the acquiring of the power, which would place the Co. in the position of being able, at any time, to secure the means to carry out a policy of extension and improvement.

St. John, N.B., Terminals.—T. Tait, Manager of Transportation, recently stated that the extensive alterations and additions to the terminal facilities at St. John were nearly completed. One section of the new freight shed has been in use since the middle of Jan., and the other was expected to be ready by the end of Jan. The new roundhouse has been completed and is in use. The improvements in connection with the elevator will enable five vessels to be loaded simultaneously. (Dec., 1901, pg. 360.)

Bridge at Greenville, Jct., Me.—It is reported that the wooden bridge carrying the C.P.R. tracks over the Bangor and Aroostook Ry. at Greenville Jct., Me., is to be replaced by a permanent bridge, and that a contract for the substructure has been let to J. Grady, Bangor, Me., the seven piers to be completed so as to allow the substructure to be placed in position in May or June. We are informed that the substructure will be placed on five piers and two abutments, and that the whole bridge is to be completed by June 1. It will consist of one through steel truss 128 ft. 3½ inches; one deck plate girder 44 ft., one half deck plate girder 69 ft. 2½ in.; and three deck plate girders 65 ft. 8 in., resting on five granite piers and two abutments.

Montreal Shops.—Referring to the proposition to spend \$1,500,000 on additional locomotive and car shops and plants, Sir Thos. Shaughnessy recently stated in an interview that the present locomotive works on Delorimer ave., Montreal; the freight car shops at Perth, and the passenger car shops at Hochelaga could not be carried on so economically as if they were consolidated. In order to do this a lot of land was required, and the Co. fixed on a piece of ground some 300 or 350 acres in extent, which would have been utilized for the various workshops, but some of the owners were demanding such exorbitant prices that it was impossible to come to terms with them. If a site could not be obtained in Montreal the Co. would have to go elsewhere.

Montreal was, for many reasons, the best center for the purpose of building locomotives and other rolling stock, but if the land could not be obtained for the additional works in Montreal, the Co. would have to remove its existing works from Montreal and Hochelaga and consolidate them elsewhere. Reports from Montreal state that as much as \$20,000 an acre is being asked for land which the Co. desired to purchase. The assessed value of the property ranges from \$200 to \$700 an acre, which is equal to about 5/6 of an acre. The General Superintendent of the Western Division states that it is not contemplated to remove the Winnipeg shops in the event of a concentration at Montreal or elsewhere. Representations have been made to the Co. in favor of having the shops located either at Ottawa, St. John, N.B., or Toronto, in the event of the Montreal negotiations falling through.

Montreal Cattle Yards, Etc.—It is said that the Co. will build large cattle yards in the east end of Montreal, and that an up-to-date abattoir will be constructed there.

Piles Jct. to Grand Mere.—Notice has been given of application to the Dominion Parliament next session for an act authorizing the Co. to construct a line from Piles Jct., on its north shore branch, to Shawenegan Falls, thence to Grand Mere, about 24 miles.

Montreal-Toronto Track.—On the Smith's Falls section east of Smith's Falls, 45 miles were laid with 80-lb. rails last year. It is proposed to completely improve the Montreal line between Montreal and Smith's Falls this year. (Jan., pg. 6.)

Fort William Terminals.—The General Superintendent of the Western division states that there is no truth in the report that the Co.'s elevator capacity at Fort William is to be doubled this year, but that it is the intention to build a drying and cleaning elevator similar to the one at Port Arthur. Its capacity will be about 500,000 bush., and it will cost about \$100,000.



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Fort William to Winnipeg.—Among the works contemplated in connection with the increase of the Co.'s capital stock is the double tracking between Fort William and Winnipeg. A considerable portion of the route has already been surveyed with a view to reducing grades, changing alignments, etc., and two survey parties are now engaged in the work. It is expected to complete the surveys this year, but it is not announced whether construction will be started this year.

Ignace to Turtle River.—Surveys are being made for a line from Ignace to Turtle river, but we were recently advised that a suitable location had not then been obtained. (Jan., pg. 6.)

Raleigh to Bonding Lake.—A survey has been made for the construction of a branch from Raleigh, on the main line, 167.6 miles west of Port Arthur, to Bonding lake, 18.5 miles. This branch would open up pine timber limits and also a source of supply for ties.

Dinorwic to Lake Minnetaka.—A survey has been made for a branch from Dinorwic, on the main line, 197.5 miles west of Port Arthur, north to Lake Minnetaka, 14.51 miles. (Jan., pg. 6.)

Rat Portage.—Unconfirmed press reports say that the Co. will build a summer hotel at Rat Portage. Officials at head office say they know nothing of such a project.

Cut-off near Selkirk.—Press reports say that a survey has been made by Mr. Macdonald, C.E., for a cut-off from the main line about 3 miles south of East Selkirk, to the dam at St. Andrew's rapids, on the Red river, which could be utilized for bridge purposes, thence west via Victoria Park station to Reaburn, on the main line, 35.2 miles west of Winnipeg. The cut-off would shorten the main line and enable the through freight traffic to be handled without passing through the Winnipeg yards.

Osborne to Morden.—A survey has been made for a cut-off between Osborne and Morden, Man., on the Pembina Mountain branch, about 40 miles. (Dec., 1901, pg. 361.)

Snowflake Branch.—The extension from Snowflake, southeasterly, to Mowbray, 10 miles, was graded last year, and track is expected to be laid on it this year. (Dec., 1901, pg. 361.)

Waskada Branch.—The extension from Waskada, westerly to Lyleton, Man., was graded last year, and track is expected to be laid on it this year. (Dec., 1901, pg. 361.)

Carman to Boissevain.—A survey has been made for the extension of the Carman branch, southwesterly to Boissevain, about 100 miles. (Dec., 1901, pg. 361.)

Glenboro and Lauder, Man.—Surveys have been completed from Glenboro, on the Manitoba and Southwestern Colonization Ry., to Lauder, on the branch from Kemnay to Estevan, some 67 miles, but no announcement has been made as to the Co.'s intentions in regard to construction. (Jan., pg. 7.)

Western Branch Line Betterments.—J. Woodman, Division Engineer, Western Division, in speaking of last year's betterments, is reported to have said that on the south-western branch at the Souris river a half-mile of trestle has been filled in, the average height was 48 ft. The permanent bridge across the river itself will be completed this year. At Treherne also, on the south-western branch, the ravine through which the Boyne river flows and over which there was formerly a trestle, has been filled in. The height of the dump is 50 ft., and by this piece of work the only grade for east bound trains on the entire line has been eliminated. The masonry of the new bridge at La Riviere, on the Pembina branch, is also practically finished, and two of the girders have been put in position. The two spans are 60 ft. long. Station con-

struction was an important feature of the year's work. Modern frame stations, with stone foundations, and freight sheds, have been built at Deloraine, Hamiota, Carrol and Carievale.

Winnipeg Beach Branch.—The extension from West Selkirk, 26 miles, was graded last year, and track is expected to be laid on it this year. (Dec., 1901, pg. 361.)

The Manitoba and North-Western Ry. Co. will apply at the next session of the Dominion Parliament for an act giving the Co. power to construct the lines authorized by its act of 1893, within seven years. These lines are as follows: From Yorkton, Assa., the present terminus, to Prince Albert, Sask.; from Russell, Man., on the Shell river branch to the main line on the northern or western boundary of Manitoba; a branch from the main line between Portage la Prairie and Arden, Man., eastward of the Riding Mountains to the northern or western boundary of Manitoba; a branch from the main line between Westbourne and Beautiful Plains, Man., northwesterly in the direction of Lake Dauphin or Duck mountains.

Yorkton, Northwesterly.—A survey has been made for an extension of the old Manitoba and Northwesterly Ry., from Yorkton, Assa., northwesterly about 30 miles.

McGregor Branch.—On the extension from Wellwood westerly, 10 miles were graded last year to Brookdale. It is expected that track will be laid on it this season. A survey has been made for a further extension from Brookdale to Forrest, on the old Great Northwest Central Ry., 20 miles. (Dec., 1901, pg. 361.)

Branch From Forrest.—Track has been laid from Forrest, on the old Great Northwest Central Ry., west to Wheatlands, 17 miles. This branch has been graded, a further distance of 22 miles, leaving 3 miles further to be graded to Lenore, to which point track will probably be laid this year. (Dec., 1901, pg. 361.)

Fernie, B.C.—We are informed that the press reports stating that plans and specifications had been prepared for a new station at Fernie, to cost \$25,000, are incorrect, and that it is not likely that anything further than a baggage-room addition will be made there this year.

Porteous Branch.—A branch of one mile has been completed from Porteous, B.C., on the North Star branch, to Senator Turner's proposed smelter near Marysville. (Dec., pg. 361.)

Robson Bridge.—The superstructure was completed about the middle of Dec., and a steam shovel with work train was immediately put to work taking out a cutting on the west approach. The earth as it is taken out is hauled over the bridge and used in filling the temporary trestle approach on the east side, which requires some 60,000 cubic yds. to make the embankment. When the work is completed all trains will cross the Columbia by the bridge, thus enabling through trains to be run between Nelson and Rossland and Nelson and Midway. Plans for a new station at Castlegar, where the bridge line connects with the Columbia and Western Ry. are being prepared. The old dock and station at West Robson will continue to be used for the steamers running on the Columbia river, but transfer of passengers by ferry at Robson will cease as soon as the train service over the bridge is in operation. (Jan., pg. 7.)

Arrowhead and Kootenay Ry.—Track has been laid from Lardeau on Kootenay lake, northwesterly 23 miles, and the line is under construction 10½ miles further. J. G. Sullivan is division engineer in charge of construction. P. Welch & Co., Grand Forks, B.C., are the contractors. (Dec., 1901, pg. 361.)

Columbia and Western Ry.—The work reported in Jan. as having been commenced at Hartford Jct., B.C., on the Phoenix branch consisted of the laying of 1,646 feet of track turning an angle of 200° on a 17' curve, with the object of doing away with the switchback so that trains can head into Phoenix instead of having to back up two miles as heretofore. There were no culverts or trestles on the work, which consisted of 600 ft. of rock cut, 14 ft. being the greatest depth, the balance being filling from 3 to 8 ft. W. P. Tierney & Co., of Nelson, B.C., were the contractors, and the work was completed in Dec. (Jan., pg. 7.)

The extension of the Knob Hill spur from the ore bins to the compressor, where a tunnel is being driven into the hill side, necessitated the putting in of a switchback. The new line is 2,592 ft. in length, of which 1,200 ft. consisted of rock cutting, the greatest depth being 15 ft. There were two heavy fills over a gully, the greatest depth being 23 ft. The work was completed in Dec., and the line is being operated for hauling firewood to the compressor. When work on the tunnel has advanced sufficiently far in order to ship ore, the cars will be run into it, and the ore run into them from a shaft loading from the open quarry workings above. The compressor is 55 ft. above the siding at the ore bins. W. P. Tierney & Co., Nelson, were the contractors. (Jan., pg. 7.)

In addition to these two important works it is reported that Tierney & Co. have completed the following: Ten car spur at Sunset mine, Deadwood camp; additional trackage facilities at Eholt to handle Phoenix business; ten car spur at Snowshoe mine on Phoenix branch; house track at Phoenix yards. The entire Boundary line is now in excellent shape to handle the largely increased ore shipments and general freight that it will have during the coming year, from every camp in the Boundary.

Okanagan Lake Hotel.—It is said the Co. may erect a hotel at Trout creek, on Okanagan lake, B.C.

Vancouver Hotel.—A contract for the erection of a large addition to this hotel, and the reconstruction of the original buildings, except the northern wing, last built, has been let to Robertson & Hackett, of Vancouver. The new hotel will be a magnificent structure, up-to-date in every particular. F. M. Rattenbury, of Victoria, is the architect.

The Minneapolis, St. Paul and Sault Ste. Marie Ry. intends to relay its line between Sault Ste. Marie and Gladstone, Mich., with 80-lb. steel rails.

London, Eng., Offices.—The site of the proposed new offices in London, Eng., is in Trafalgar square, opposite the National Gallery, and near to the corner of the new road which is to be constructed from Buckingham Palace to Trafalgar square, in connection with the Queen Victoria memorial. It is one of the finest sites in London, if not in Europe. The building will have a frontage of 55 ft. 6 in., and will be 6 storeys high. The architect will be Bruce Price, but the plans have not yet been settled.

H. Morgan & Co., Colonial House, Montreal, have issued a Canadian Pacific souvenir calendar, printed in colors at their own establishment, on stiff cardboard, and containing portraits of the Prince and Princess of Wales and some of the chief officials of the C.P.R., and a number of views of the Royal train and of the C.P.R. track and hotels.

J. Williams, Station Agent, C.P.R., Shelburne, Ont., writes: "I wish to thank you for sending THE RAILWAY AND SHIPPING WORLD so promptly. I would not like to miss a number as I enjoy reading the very interesting matter which you supply us monthly."

Increase of C.P.R. Capital.

The Dominion Government has approved of a resolution authorizing the directors of the C.P.R., with the sanction of the shareholders, to increase the capital stock of the Co. by \$20,000,000, for the purpose of enabling it to build more locomotives and cars, lay heavier rails, arrange in due course for the double tracking of certain sections, and provide such other improvements as may be found necessary to cope with the large increase of traffic which has already taken place, as well as with the still greater increase looked for in the immediate future. The sums to be applied to each of these betterments are as follows:— For new rolling stock and locomotives, \$9,000,000; double tracking, etc., west of Lake Superior, \$6,000,000; new plants for construction of rolling stock, chiefly at Montreal, \$1,500,000; new elevators, improvement of terminals, etc., \$3,000,000, miscellaneous improvements, \$500,000; total, \$20,000,000.

This, it is believed, is the first time in the history of Canada that a Canadian railway has been financially strong enough to raise additional capital by selling its common stock. None of the stock is to be sold below par. The Co. has agreed that in calculating the 10% which, by the terms of its original contract with the Crown, must be earned by the railway upon the amount of its actual cash cost before Parliament or the Governor-in-Council can interfere with its tolls, this new stock and the proceeds of it shall not be included in the actual cash cost of the railway. The Government and the Co. have agreed to submit a friendly reference to the Supreme Court of Canada, or, if necessary, to the Judicial Committee of the Imperial Privy Council, in order that an authoritative interpretation may be obtained as to the proper construction of the clause respecting the 10% earnings above mentioned.

The plants of the Co. at Montreal for building cars and locomotives are to be enlarged. Something like 5,000 hands will be employed in the shops there. Last fall the Co. found it impossible to procure a sufficient supply of new rolling stock to meet the unexpected requirements of the north-west harvest, which, owing to wet weather, did not begin to move until later than usual, although orders had been placed in the U.S. as well as in Canada. Hereafter, with these new facilities for manufacturing rolling stock, the Co. will be in a position to provide an adequate supply for any emergency in the shape of a bumper crop which may arise. The double-tracking of portions of the road will be an undertaking of considerable magnitude, especially of the portion between Winnipeg and Fort William, but the Co., in its own interest, will, no doubt, make haste to complete it.

Grand Trunk Earnings, Expenses, &c.

The following statement of earnings, supplied from the Montreal office, includes the G. T. of Canada, the G. T. Western, & the Detroit, Grand Haven & Milwaukee Rys.

	1901.	1900.	Increase.	Decrease.
July.....	\$2,365,970	\$2,177,495	\$188,472	....
Aug.....	2,645,340	2,439,045	206,295	....
Sept.....	2,631,773	2,468,948	162,825	....
Oct.....	2,741,318	2,541,141	200,177	....
Nov.....	2,464,299	2,407,068	57,231	....
Dec.....	2,432,990	2,502,975	....	\$69,985
	\$15,848,700	\$14,536,672	\$815,003	\$69,985

Net increase for 6 months, \$745,018. The decrease in Dec. is entirely in freight earnings, and is attributed to congestion of business on some of the Co.'s connections.

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

GRAND TRUNK RAILWAY.

Revenue statement for November, 1901:

	1901.	1900.	Increase.	Decrease.
Gross receipts....	£419,400	£400,300	£19,100	....
Working expenses	271,400	257,400	14,000	....

Net profit.... £148,000 £142,900 £5,100

Aggregate July 1 to Nov. 30, 1901:

	1901.	1900.	Increase.	Decrease.
Gross receipts....	£2,174,300	£2,023,900	£150,400	....
Working expenses	1,405,600	1,296,000	109,600	....

Net profit.... £768,700 £727,900 £40,800

GRAND TRUNK WESTERN RAILWAY.

Revenue statement for November, 1901:

	1901.	1900.	Increase.	Decrease.
Gross receipts....	£66,600	£74,300	....	£7,700
Working expenses	55,400	58,900	....	3,500

Net profit.... £11,200 £15,400 £4,200

Aggregate July 1 to Nov. 30, 1901:

	1901.	1900.	Increase.	Decrease.
Gross receipts....	£363,700	£350,700	£13,000	....
Working expenses	312,200	301,600	10,600	....

Net profit.... £51,500 £49,100 £2,400

DETROIT, GRAND HAVEN AND MILWAUKEE. RY.

Revenue statement for November, 1901:

	1901.	1900.	Increase.	Decrease.
Gross receipts....	£20,300	£19,900	£400	....
Working expenses	15,000	14,800	200	....

Net profit.... £5,300 £5,100 £200

Aggregate July 1 to Nov. 30, 1901:

	1901.	1900.	Increase.	Decrease.
Gross receipts....	£100,900	£97,800	£3,100	....
Working expenses	73,000	73,900	....	£900

Net profit.... £27,900 £23,900 £4,000

TRAFFIC RECEIPTS OF THE SYSTEM.

Traffic receipts, July 1 to Dec. 31, 1901:

	1901.	1900.	Increase.	Decrease.
Grand Trunk....	£2,565,359	£2,435,751	£129,608	....
G. T. Western....	444,785	434,162	10,623	....
D., G. H. & M....	126,225	117,008	9,217	....
Total.....	£3,136,369	£2,986,921	£149,448	....

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

Gross earnings, working expenses, net profits and increases or decreases over 1900, from July 1, 1901:—

	Earnings.	Expenses.	Net Profits.	Increase.	Decrease.
July	\$2,851,455.31	\$1,755,588.37	\$1,095,866.94	\$211,493.04+	....
Aug.	3,118,551.32	1,812,919.23	1,305,632.09	251,156.49+	....
Sept.	3,264,024.16	1,911,292.44	1,352,731.72	292,031.71+	....
Oct.	3,582,403.05	2,115,363.83	1,467,039.22	388,864.81+	....
Nov.	3,583,383.47	2,142,595.33	1,440,878.14	375,329.82+	....
	\$16,399,817.31	\$9,737,669.20	\$6,662,148.11	\$1,520,875.87+	....

Approximate earnings for Dec., 1901, \$3,461,000; increase over Dec., 1900, \$510,000. In Dec., 1901, the mileage was increased to 7,590.

SUBSIDIARY LINES.

DULUTH, SOUTH SHORE AND ATLANTIC RY.—Gross earnings for Nov., 1901, \$204,894.57; net earnings \$59,719.71; against \$176,122.59 gross and \$27,587.86 net, for Nov., 1900. Net earnings for five months ended Nov. 30, 1901, \$441,782.97, against \$394,362.98 for same period 1900. Approximate earnings for Dec., \$203,801, against \$181,410 in Dec., 1900.

MINERAL RANGE.—Approximate earnings for Dec., 1901, \$44,540, against \$43,888 for Dec., 1900.

The Mineral Range Rd. has absorbed the Hancock and Calumet Rd., and operates it as its Shore division.

MINNEAPOLIS, ST. PAUL AND SAULT STE. MARIE RY.—Gross earnings for Nov., 1901, \$694,802.87; net earnings \$450,654.81, against \$408,774.32 gross, and \$197,849.48 net for

Nov., 1900. Net earnings for four months ended Nov., 30, 1901, \$1,651,190.56, against \$803,440.39 net for same period, 1900. Approximate earnings for Dec., 1901, \$500,221, against \$390,637 in Dec., 1900.

Canadian Pacific Railway Land Sales.

	Acres.		Amount.	
	1900	1901	1900	1901
July.....	40,715.46	49,089.96	\$129,483.42	\$154,646.84
Aug.....	32,178.50	50,747.82	103,480.78	165,871.16
Sept.....	21,807.57	60,060.46	69,012.54	197,057.61
Oct.....	18,858.89	150,572.96	62,769.54	465,655.62
Nov.....	22,408.68	151,922.89	69,627.27	512,802.94
Dec.....	27,388.15	132,151.16	83,528.59	403,261.78
	163,357.25	594,546.25	\$517,902.14	\$1,899,355.95

Canadian Ticket Agents' Association.

Secretary De La Hooke has issued the following circular: It is customary to send a copy of our first circular of the year to all ticket agents eligible for membership, in the hope that it may reach some whose consciences will be touched, repent of their former negligence and join the Association. Such good results have developed from the practice in the past that again the precedent is followed in the sure and certain hope that the seed sown will in due course yield a bountiful harvest. When the many advantages attached to membership in an Association which was organized for educational, beneficial and social purposes are considered, one would think that applicants would tumble over one another in their anxiety to get enrolled. The good work accomplished is a sufficient testimony that its objects have been maintained.

That membership in it is appreciated was very evidently set forth in 1898, when the many members whose agencies had been closed the preceding year, and had in consequence to withdraw, immediately on reappointment rejoined the colors, and that too without solicitation. Another healthy sign is that the turn-out at our annual meetings is ever increasing, but this is not surprising, seeing that a member who has attended one of these reunions is only prevented by un-governable circumstances from attending regularly, and many members year by year put in a first appearance. To meet on such occasions a hundred or more men all engaged and interested in the same line of business, and from a territory extending from Halifax to Winnipeg, for an interchange of ideas and discussion of questions of import to all, are advantages that cannot be over-estimated. The expenses attending membership are easy. An entrance fee of \$1, and an annual subscription of \$2 payable in advance on Jan. 1 each year.

Although our meeting in 1901 was a month later than usual and many foretold unfavorable conditions, the weather was all that could be desired, and the Montreal and Quebec outing may be justly ranked as another success in the annals of the Association, better than some and as good as the best. Having visited the principal cities of Canada, some more than once, there has of late been a growing desire on the part of many of the members to venture a meeting in other territory. To gratify this desire it was decided to accept the invitation of the Lehigh Valley and Baltimore and Ohio companies to hold our meeting this year at Washington, D.C., (the trip may be extended to Richmond, Va.) On return there will be a short stop at Baltimore, and a stay at Philadelphia, during which, on the invitation of the Philadelphia & Reading Co., a trip to Atlantic City will be a leading feature. The fixture will in all probability be made for the second week in Oct.

With pleasure I inform you that membership certificates for 1902 are now ready, and that on receipt of cash, there shall be no delay in the return of the "chromos" in ac-

knowledge. Last year but few members had to be reminded more than once of their duty and privilege in this particular, and it is to be hoped that they will in reply hereto be equally prompt. Agents intending to join should make early application, that their names may appear in the new list of members, as it is desired that on our first visit abroad we should make as good a showing as possible both in print and person.

I take pleasure in enclosing you circular from President Jackson, as also copy of ex-President Rispin's essay on the "Benefits of Advertising" read at our meeting at Montreal. (This was published in full in THE RAILWAY AND SHIPPING WORLD for Dec., 1901.) Allow me to wish you and yours a bright and prosperous New Year.

PRESIDENT JACKSON'S CIRCULAR.

At the commencement of my official year as President, I desire to convey to the members of the C.T.A. Association my sincere thanks for the honor which they have done me in electing me to this position. I can assure you that is an honor which I thoroughly appreciate and a trust which I will endeavor to fulfil to the best of my ability. I have been connected with this Association since its inception, and to have witnessed the growth from a membership of 25 to over 150 has been a pleasure; to have taken part in every meeting during the past 16 years, affords most delightful remembrances. We have an Association that we ought to be proud of, and at the coming meeting amongst our American cousins, when we will meet some of the bright heads of the American railway world, we will be able to demonstrate that Canadian ticket agents are fully up-to-date, as representatives of the railway system of this country. Our meeting this year at Washington will be unique from the fact that it will be the first time in the history of our Association that we have gone out of our own country, but I think I am safe in saying that it will perhaps be the banner outing of all the many pleasant trips that we have experienced. The Lehigh Valley Rd. Co. are the fathers of the movement to have us visit the Capitol of the U.S., and from what I know by experience of their hospitality, it will be something long to be remembered. The educational advantages of a trip of this kind will be many, and there is not a ticket agent in Canada, in justice to himself, can afford to miss the coming gathering. Let every member of this Association make up his mind to be one of the party; let every agent not a member think twice before he turns down his chance to join. From what I know of the arrangements now under way the whole programme of our meeting at Washington, and the side trips from that point, will amply repay in a great many ways any sacrifice that one has to make to join the annual gathering of the Canadian ticket agents. I trust the coming year will be a bright and happy one to you all.

C. M. Hays' Return to the G.T.R.

In connection with Mr. Hays' re-appointment to the G.T.R. management, it may be interesting to reproduce the following from our issue of Dec., 1900, when he was leaving for the Southern Pacific:—

"Mr. Hays' relations with the public have been singularly happy. He has confined himself strictly to his duties as a railway official, has never obtruded in any other capacity, and has been uniformly courteous in his administration.

"Personally we desire to express our warm appreciation of Mr. Hays' unfailing readiness to co-operate with us in furnishing the latest reliable information about the affairs and operations of the G.T.R. At the very first he realized our desire to publish the fullest and

most authentic information possible, and saw that it was to the interest of the Co. to furnish it. In the first interview the writer had with him, Mr. Hays said he fully appreciated the importance of a railway paper securing absolutely reliable information, and that he would prefer to be asked for it, no matter how frequently, rather than have incorrect or incomplete matter published. As a result our relations with him have been of a most pleasant nature. No matter how often we requested information, he never advanced the 'I can't be bothered' plea, or failed to reply promptly, his practice in this respect being in marked contrast to that of some other railway officials, though we are glad to say they are few in number, who either fail to reply to civil enquiries or answer so tardily that when the answer does come to hand it is of no use."

RAILWAY APPOINTMENTS, ETC.

Boston and Maine Rd.—M. J. Quinn, formerly Travelling Freight and Passenger Agent of the New York Central Rd., has been appointed to a similar position with the B. and M. Rd., with office at Montreal.

Canadian Northern Ry.—A. J. Gorrie, heretofore Superintendent of the Duluth section, with office at Port Arthur, has been transferred to Winnipeg. His jurisdiction has been extended over all lines.

The jurisdiction of C. Raitt, Master Mechanic, has been extended over all lines. Office at Winnipeg.

J. B. O'Brien has been appointed General Roadmaster of all lines. Office at Winnipeg. Divisional roadmasters will report to him direct.

H. Sellers, heretofore of the C.P.R. elevator service at Fort William, has been appointed Superintendent of the C.N.R. elevator at Port Arthur.

Canadian Pacific Ry.—E. N. Bender has been appointed General Purchasing Agent, succeeding A. C. Henry, deceased.

The following changes have been made in roadmasters on the Lake Superior division: F. A. Faught's division has been extended from Webbwood to Sudbury, with headquarters at Webbwood; W. Kelly has been given the district from North Bay to Cartier, including the Stobie branch, with office at North Bay; W. O'Donnell, formerly roadmaster at Chapeau, has been given the district from Chalk river to North Bay, including the Temiscaming and Kippawa branches, in place of R. Clark, with office at North Bay; W. Comrie, heretofore foreman of Chaplau, has been appointed acting roadmaster, Chaplau to White River.

F. Baker has been appointed Paymaster of the Pacific Division, with office at Vancouver. All pay rolls and paymasters' abstracts for that division heretofore sent to Winnipeg will be forwarded to him through the General Superintendent's office at Vancouver after approval by the latter. Heretofore the Pacific division payments were made through the Paymaster at Winnipeg.

Central Vermont Ry.—E. H. Fitzhugh, formerly Vice-President and General Manager, and until recently Assistant to the President of the Southern Pacific, has been re-appointed to the former position, succeeding R. S. Logan, who has resigned to become Assistant to the 2nd Vice-President and General Manager of the G.T.R.

Grand Trunk Ry.—C. Percy, formerly Treasurer, has been appointed one of the auditors in Canada, succeeding the late T. Davidson, deceased.

R. S. Logan, heretofore Vice-President and General Manager of the Central Vermont Ry., has been appointed Assistant to the 2nd Vice-President and General Manager of the G.T.R.

D. O. Pease, District Passenger Agent, Montreal, having resigned to engage in other business, the following changes have been made: J. Quinlan, heretofore Travelling Passenger Agent, has been appointed District Passenger Agent, Montreal; W. H. O'Donnell, heretofore soliciting passenger agent at Quebec, has been appointed Travelling Passenger Agent, Montreal, reporting to District Passenger Agent, Montreal. The district covered by these appointments is as follows: Nova Scotia, Maine, New Brunswick, Newfoundland, Prince Edward Island, Quebec; New Hampshire, on and north of the Maine Central Rd. from North Stratford, N.H., through the White Mountains to the Maine boundary, also Rochester on the B. & M. Rd.; New York, on and north of the Rutland Rd. from Ogdensburg to Rouse's Point; the New York Central (Adirondack Division) and New York and Ottawa railroads, from Malone Jct. and Moira to Tupper Lake inclusive and intermediate territory; also the Delaware and Hudson Rd. north of but not including Plattsburg, N.Y. Ontario, on and east of the Kingston and Pembroke Ry., but excluding Kingston and Kingston Jct. for westbound local excursion traffic only. Vermont, on and north of the Central Vermont Ry. and Canadian Pacific Ry. from Rouse's Point, N.Y., to Newport, Vt., via Swanton, Sheldon Jct. and Richford; the Boston and Maine Rd., Newport and north; also the G.T.R. from Norton Mills, Vt., to North Stratford, N.H., and northeast thereof to the New Hampshire state boundary.

Owing to the death of B. Fletcher, Travelling Passenger Agent, Detroit, Mich., the following appointments and assignment of territory have been made: C. C. Craigie remains as Travelling Passenger Agent at Detroit, Mich., territory:—Indiana, north of but not including the Wabash Rd. from Detroit, Mich., to St. Louis, Mo. Michigan, the lower peninsula, except Detroit, and the upper peninsula east of Marquette and Escanaba. Ohio, north of but not including the Wabash Rd. from Detroit, Mich., to St. Louis, Mo. Geo. W. Watson remains as City Passenger and Ticket Agent at Detroit, Mich., territory:—Detroit city. R. McC. Smith, Southern Passenger Agent, has his headquarters removed from Cincinnati, Ohio, to Detroit, Mich., with following territory:—Alabama, Florida, Georgia, Kentucky, Mississippi, North Carolina, South Carolina, Tennessee, Virginia, West Virginia, Illinois, on and south of the Wabash Rd. from Detroit, Mich., to St. Louis, Mo. Indiana, on and south of the Wabash Rd. from Detroit, Mich., to St. Louis, Mo. Louisiana, New Orleans only. Ohio, except north of the Wabash Rd. from Detroit, Mich., to St. Louis, Mo. Pennsylvania, on and west of the Baltimore and Ohio Rd. from Cumberland, Md., to Pittsburg, Pa.; also on and west of the Pittsburg, Pa., to Buffalo, N.Y., line of the Pennsylvania Lines and Pennsylvania R.R. Mr. Smith will also be assigned from time to time to special duties for passenger department in other territories, and his office at Cincinnati, Ohio, is closed.

A. Allen, foreman of the machine shop at Stratford, Ont., has been appointed foreman of the erecting shop there, succeeding I. Rutherford. E. Logan, foreman of the machine shop at Toronto, has been promoted to the vacancy caused by A. Allen's promotion.

Great Northern Ry. of Canada.—Jas. McNaught has been elected 1st Vice-President, and is succeeded as 2nd Vice-President by H. H. Melville, heretofore 3rd Vice-President. V. Chateauvert has been elected 3rd Vice-President.

E. E. Ling, heretofore Treasurer, has been appointed Assistant General Manager and Treasurer. Office at Quebec.

The **Kettle Valley Lines** comprise the Kettle River Valley Ry., the Republic and Kettle River Ry., and the Republic and Grand Forks Rd. Following is the official list up to date:—President, Hon. J. R. Stratton; Vice-President, T. P. Coffee; General Manager, T. W. Holland; Assistant General Manager and General Counsel, W. C. Morris; Superintendent, A. S. Clute; General Freight and Passenger Agent, T. E. Birbeck; Train Dispatcher, O. T. Skerratt.

Kingston and Pembroke Ry.—J. H. Black, heretofore Agent at Sharbot Lake, has been appointed Auditor. Office at Kingston, Ont.

Michigan Central Rd.—D. R. McBain, Master Mechanic at St. Thomas, Ont., has been transferred to a similar position at Jackson, Mich., and has been succeeded at St. Thomas by H. Fleetliff, heretofore foreman at Jackson.

D. Meddows, Travelling Engineer, has been given charge of the engineers and firemen on the Canadian division.

The **Montreal Street Ry.**, and the Montreal Park and Island Ry. have been placed in charge of one General Superintendent, M. J. Kennedy, heretofore Superintendent of the Montreal Street Ry. W. Punt has been appointed Assistant Superintendent.

D. Ross has been appointed Assistant to the General Manager, to carry out such duties as may be from time to time assigned to him.

H. R. Rickhart has been appointed Superintendent of power stations and overhead work.

Northern Pacific Rd.—G. W. McCaskey, District Passenger Agent at Toronto, with jurisdiction over Ontario territory west of Kingston, has been transferred to the General Passenger department at St. Paul, Minn. The Ontario territory, heretofore under Mr. McCaskey's jurisdiction, has been divided up between three other officers. G. W. Hardisty, District Passenger and Freight Agent, at Montreal, with jurisdiction over the Maritime Provinces, Quebec and Ontario, east of Kingston, has had his passenger jurisdiction extended westward to east of the line of the G.T.R. between Toronto and Meaford, including the latter line but not Toronto. His freight jurisdiction also now includes Ontario territory east of Toronto. W. T. Mason, District Passenger Agent at Buffalo, with jurisdiction over New York State, has had his jurisdiction extended to include the portion of Ontario west of the line of the G.T.R. between Toronto and Meaford, and east of the line of the G.T.R. between Port Dover and Kincardine, via Stratford, including Toronto city. W. H. Whittaker, District Passenger Agent at Detroit, has had his jurisdiction extended over that portion of Ontario lying west of the line of the G.T.R. between Port Dover and Kincardine, via Stratford.

Orford Mountain Ry.—A. C. Lytle, Superintendent and General Freight and Passenger Agent, having resigned, the operation of the road is now under the supervision of the President and General Manager, S. W. Foster.

Oshawa Ry. (electric)—R. J. Wilson, heretofore Agent of the Bay of Quinte Ry. at Kingston, has been appointed Superintendent of the Oshawa Ry.

Phillipsburg Ry. and Quarry Co.—J. T. Shearer has succeeded the late Major E. L. Bond as President.

Quebec Southern and South Shore Rys.—Following is the official list up to date: President, H. A. Hodge, Montreal; Secretary and Treasurer, F. D. White, Rutland, Vt.; General Traffic Manager, A. H. Harris, Montreal; General Counsel, J. N. Green-shields, K.C., Montreal; General Superintendent, G. W. Bartlett, Sorel; Superintendent, R. A. Trudeau, St. Hyacinthe; Auditor,

M. M. Thompson, Montreal; Superintendent of Motive Power, P. M. Raymond, Sorel.

Rutland Rd.—The following appointments have been made:—General Manager, G. T. Jarvis; Chief Engineer, C. J. Parker; Purchasing Agent, J. McMaster; Claims Agent, D. H. Johnson; offices Rutland, Vt.

Mainly About People.

Sir Wm. Van Horne left Montreal towards the end of Jan. to spend some weeks in Cuba.

T. Ahearn, President of the Ottawa Electric Ry., has gone to the Mediterranean with his family.

R. Marpole, General Superintendent of the C.P.R. Pacific division, is in England on leave of absence.

Wm. Harty, President of the Canadian Locomotive Co., has been elected M.P. for Kingston, Ont.

S. Lambert, who for 40 years was bridge inspector of the G.T.R., died at Kingston, Ont., Jan. 17.

J. A. Byron, G.T.R. agent at Lewiston, Me., has resigned to enter the service of the Rio Grande Rd.

W. T. Jennings, C.E., has been appointed examiner in civil engineering for the University of Toronto.

Lord Strathcona has given £25,000 to assist in completing the Aberdeen University extension scheme.

T. Ward, foreman of the Michigan Central Rd.'s car shops at St. Thomas, Ont., died there suddenly Jan. 10, aged 66.

Jno. Foy, Manager of the Niagara Navigation Co., is recovering from his recent severe illness and is able to be out again.

The Prince and Princess of Wales recently paid a visit to Lord and Lady Mount Stephen at Brocket Hall, Hertfordshire, Eng.

J. E. Riley has been appointed President of the Montreal Marine Underwriters' Association, succeeding E. L. Bond, deceased.

W. F. Egg, City Passenger Agent of the C.P.R., at Montreal, and Mrs. Egg, have returned from a holiday trip to England.

A. R. Creelman, K.C., General Solicitor of the C.P.R., at Montreal, and formerly of Toronto, has been called to the Quebec bar.

Jas. Sutherland, M.P. for North Oxford, Ont., has been appointed Minister of Marine and Fisheries, succeeding Sir Louis Davies.

T. H. White, Chief Engineer of the Ontario division of the Canadian Northern Ry., and Mrs. White, are spending the winter in Ottawa.

Jas. Ross, President of the Montreal St. Ry. and of the St. John, N.B., Ry., has been elected a director of the Canada Life Assurance Co.

Lord and Lady Mount Stephen were guests at Hatfield, Eng., recently, when the Marquis of Salisbury entertained the Marquis Ito, premier of Japan.

W. H. Holland, who died recently at Cobocok, Ont., was father of T. W. Holland, General Manager of the Kettle River Lines at Grand Forks, B.C.

C. N. Marpole, son of R. Marpole, General Superintendent of the C.P.R., Pacific Division, was married to Miss M. G. Edmonds, at Vancouver, B.C., Jan. 12.

D. Jelly, roadmaster on the C.P.R. at Nepigon, who was recently injured as a result of a collision of railway velocipedes near Port Arthur, has resumed duties.

W. Mackenzie, a Montreal stockbroker well known in railway circles, died there Jan. 20. He was born in Montreal Feb. 12, 1840, and for a number of years was in the employ of the Montreal Telegraph Co.

G. Morgan, formerly General Manager of the Niagara Gorge Rd., has been appointed General Superintendent of the Youngstown and Sharon Ry. and Light Co.

It is announced that R. O. Mackay, shipowner, Hamilton, Ont., will shortly be married to Miss Greentree, of London, Eng., and sister of D. J. Greentree, Hamilton.

R. A. Fessenden, who has been appointed by the U. S. Weather Bureau to investigate wireless telegraphy at Roanoke island, N.C., was born at Bolton, Que., Oct. 6, 1866.

G. H. Richardson, resident engineer, C.P.R., at Cranbrook, B.C., has been appointed Assistant City Engineer of Ottawa, to succeed the late W. S. Cranston. (Jan., pg. 11.)

A. G. Wells, who has been appointed Manager of the Santa Fe Pacific Rd., the Southern California Ry., and the San Francisco and San Joaquin Valley Ry., was born at Guelph, Ont., in 1861.

W. B. Bulling, Assistant Freight Traffic Manager of the C.P.R. at Montreal, was presented with a case of solid silver spoons and forks by the staff of the freight department on the occasion of his recent marriage.

D. O. Pease, who recently resigned his position as District Passenger Agent of the G.T.R. at Montreal, has entered the firm of the E. G. Hicks Cream Separator Co., Minneapolis, Minn. Mr. Hicks is his son-in-law.

J. O. Bennett, who for nearly 40 years was connected with the railway mail service in the Toronto district, and who died recently, was father of B. H. Bennett, General Agent of the Chicago and Northwestern Ry. at Toronto.

Hon. A. G. Blair, Minister of Railways and Canals, returned to Ottawa, Jan. 21, from a visit to Old Point Comfort, Va. He is improved in health and hopes to be able to take charge of his department at the opening of the session.

F. Nichols, President of the Canadian Northern Ry., and President of the Brantford St. Ry., has given \$500 to the Canadian Electrical Association, to be devoted to the purpose of stimulating study and research into electrical subjects.

C. W. Lundy, Superintendent of the Direct U.S. Cable Co., Halifax, N.S., died there recently aged 68. He assisted in laying the Atlantic cable in 1865, and received the first message over it, and was with the Direct Cable Co. since 1875.

Capt. J. Gaskin, who has retired from the outside management of the Montreal Transportation Co., has been presented with a gold-headed cane by the employes at Kingston, and with a clock on an onyx pedestal by the officials, office staff and tug captains.

H. E. Smith, of Owen Sound, one of the directors of the Northern Navigation Co., died in Toronto Jan. 29, of Bright's disease, following an attack of pneumonia. For a number of years he was purser on the old str. Frances Smith on Lakes Huron and Superior.

C. M. Hays, 2nd Vice-President and General Manager, G.T.R., after spending a few days with his family in St. Louis, Mo., arrived in Chicago Jan. 4, and commenced an inspection of the line. He visited Detroit, London, Toronto and other places, reaching Montreal Jan. 8.

W. S. Cranston, Assistant City Engineer of Ottawa, and who had been previously employed on location work for railways, notably the Crow's Nest Pass Ry., the Ottawa and Arnprior Ry., the Ontario and Rainy River Ry., and the St. John Ry., died at Ottawa, Jan. 24.

E. V. Clergue, General Manager of the Algoma Central and Hudson's Bay Ry., and of the Manitoulin and North Shore Ry., in addition to being connected with other of the

enterprises at Sault Ste. Marie, of which his brother is President, died at Chicago, Jan. 21, aged 41.

W. R. Tandy, for years purser on the steamers of the Richelieu and Ontario Navigation Co.'s western fleet, had his leg broken recently by falling down the hold of the str. Corsican, which necessitated its amputation at the knee. He was studying for the Anglican priesthood.

C. Currie, formerly of the London, Ont., St. Ry., has been appointed Manager of the Massillon section of the Everett-Moore street railway system, in addition to his other position of General Manager of the Northern Ohio Traction Co.'s line, and of the Canton-Massillon and Akron Ry.

J. Quinlan, who has been appointed District Passenger Agent of the G.T.R., at Montreal, has been in the Co.'s service since 1877, having served as operator, station agent, express agent, freight agent and since 1891 as travelling passenger agent. In 1900 he represented the Co. at the Paris exposition.

Capt. McDougall, of the C.P.R. lake steamer Athabasca, has been presented by Sir Thomas Shaughnessy, President C.P.R., with a gold watch, the gift of the President of the U.S., for heroic conduct in saving 13 lives on Lake Superior on June 29, 1901, belonging to the lumber barge Preston which was foundering.

H. P. Dwight, President of the G.N.W. Telegraph Co., while on a business visit to the Commissioner of Public Works, at the Legislative Buildings, Toronto, slipped in rising from a chair and broke the small bone of his right leg. He is progressing very satisfactorily and hopes to be out again by the middle of March.

Sir Thos. Shaughnessy is reported by the St. John, N.B., Sun to be negotiating for a 99-year lease of the barrack grounds, near the Algonquin hotel at St. Andrews, for the purpose of erecting a summer home for himself. It is one of the finest building sites in St. Andrews, commanding a view of the entire bay, as well as of the outside islands.

Wm. Lethbridge, of the firm of W. H. Smith & Son, the great railway news and book agents in England, who died last year, left an estate valued at £374,524. He was interested in the Northwestern Coal and Navigation Co., which has been succeeded by the Alberta Ry. and Coal Co., and Lethbridge, Alta., was named after him.

J. H. Black, who has been appointed auditor of the Kingston & Pembroke Ry., was born near Smith's Falls, Ont., July 8, 1874, and entered railway service Feb. 16, 1896, since which his record has been: Feb., 1896, to Sept., 1896, freight checker, C.P.R.; Sept., 1896, to July, 1898, telegraph operator at various C.P.R. stations; July, 1898, to Jan., 1902, agent, Sharbot Lake, C.P.R.

Hon. R. R. Dobell, Minister without portfolio, but who undertook negotiations with British capitalists respecting the fast Atlantic steamship service, was thrown from his horse at Folkestone, Eng., Jan. 11, and killed. He was largely interested in the shipping business at Quebec, and took a prominent part in advocacy of the St. Lawrence route, and of Quebec as the natural port of shipment. He was chairman of the Deepwater Ways Commission, 1894; President of the Quebec Harbor Commissioners, and a director of the Quebec Bridge Co.

A. C. Lytle, who has resigned the position of Superintendent and General Freight and Passenger Agent of the Orford Mountain Ry., to enter the service of the Granby Consolidated Smelter Co. at Granby, Que., was born June 6, 1854, at Hemingford, Que., and entered railway service, Sept. 2, 1872, since which he has been consecutively to Nov., 1879, station

agent, G.T.R.; Nov., 1879, to June, 1893, engaged in mercantile business; June, 1893, to Jan., 1902, General Freight and Passenger Agent, Orford Mountain Ry. In Sept., 1894, he was in addition appointed Superintendent same road.

F. Baker, who has been appointed Paymaster of the Pacific Division, C.P.R., at Vancouver, B.C., was born at York, England, 1858, and entered railway service in 1875, with the Brockville and Ottawa, and Canada Central railways, since merged into the C.P.R., acting as relieving agent, and agent. Was Paymaster on construction of the C.P.R. Algoma branch until May, 1886; and from May, 1886, to Dec., 1901, was in charge of the provisional and commissariat stores dept., same road, at Donald and Revelstoke, B.C., with the exception of an interval of about a year prior to 1898.

C. E. Dafeo, Superintendent of the Chicago Great Western Ry., was born at Aultsville, Ont., in 1859. His railroad career dates from 1878, when he began on the G.T.R. as an operator. In 1883 he became associated with the Minneapolis and St. Louis as a clerk, later being promoted to the positions of Train Dispatcher, Chief Train Dispatcher and Trainmaster. He resigned from the last-named position in July, 1900, to take a similar one with the Chicago Great Western, and on Dec. 1 last was appointed Superintendent of the Wisconsin, Minnesota and Pacific division. —Railroad Gazette.

Jas. McNaught, who has been elected 1st Vice-President of the Great Northern Ry. of Canada, is a graduate of Wesleyan University. His railway career dates from 1871, when he began as a director and counsel for the Columbia and Puget Sound. For eight years he was division counsel for the Northern Pacific, with jurisdiction over Washington and Idaho. Then for two years was General Solicitor at St. Paul, and 1889 became General Counsel. Mr. McNaught held a similar position for the receivers from 1893 to 1895, later becoming 2nd Vice-President of the G. N.R. of Canada, and finally 1st Vice-President.—Railway Age.

Douglas Sutherland, who has recently been appointed General Freight Agent of the Newfoundland Ry., was born at Niagara Falls, Ont., Sept. 21, 1873, and entered railway service 1888, since which he has been consecutively: Dec., 1888, to Dec., 1890, clerk in District Passenger Agent's office, C.P.R., Toronto; Dec., 1890, to Oct., 1893, clerk in Assistant Freight Traffic Manager's office, same road, Toronto; Oct., 1893, to May, 1896, clerk in General Freight Agent's office, same road, Toronto; May, 1896, to May, 1897, clerk in General Freight Agent's office, same road, St. John, N.B.; May, 1897, to May, 1899, City Freight Agent, same road, St. John, N.B.; May, 1899, to Dec., 1901, Travelling Freight Agent, Atlantic division, same road, covering New Brunswick, Nova Scotia, Prince Edward Island, and Newfoundland.

T. E. Birbeck, who has been appointed General Freight and Passenger Agent of the Kettle River Valley Lines, at Grand Forks, B.C., was born at Leeds, Eng., in 1863, and entered railway service as a junior clerk in the claims department of the North Eastern Ry. in 1878. Coming to Canada in May, 1883, he entered the employ of the C.P.R. as section laborer, there being no clerical vacancies, and in 1885 was made assistant agent at Medicine Hat, Assa., since which his record has been: Nov., 1886, to Jan., 1887, agent at Canmore, Alta.; Jan., 1887, to Feb., 1894, chief clerk in Assistant Superintendent's office, Medicine Hat and Moose Jaw, Alta.; Feb., 1894, to Nov., 1897, agent at Regina, Assa.; Nov., 1897, to 1899, agent at Rat Portage, Ont.; 1899 to Aug., 1901, out of service; Aug., 1901, rejoined C.P.R. at Grand Forks,

B.C., and resigned Sept., 1902, to accept present position.

J. B. Morford, whose portrait appears on the first page of this issue, was born at Warwick, Orange County, N.Y., July, 1840. He entered railway service as water boy on the New York and Erie Rd., now the Erie Rd., since which he has been consecutively: May, 1852, to Oct., 1853, despatch messenger between New York and Dunkirk, N.Y.; Oct., 1853, to Nov., 1857, passenger and freight brakeman, eastern division, same road; Nov., 1857, to Sept., 1866, passenger conductor, same road; Sept., 1866, to Jan., 1871, chief train dispatcher, Morris and Essex Rd., now a part of the Delaware, Lackawanna and Western Rd.; Jan., 1871, to Jan., 1873, successively, general agent at 30th street station, New York, and stationmaster, Grand Central station, New York Central and Hudson's River Rd.; Jan., 1873, to Feb., 1875, General Superintendent, Long Island Rd.; Feb., 1875, to Jan., 1882, successively Superintendent, Sandy Hook Steamboat Co., and Superintendent lightering and ferries, Central Rd., of New Jersey; Jan., 1882, to April, 1883, Superintendent of Construction, Sabine and East Texas Ry.; April, 1883, to Dec., 1883, Superintendent Eastern and Toledo division, Michigan Central Rd.; Dec., 1883, to date, Superintendent Canadian division, same road.

February Birthdays.

Many happy returns of the day to W. H. Cole, Receiver, Brockville, Westport and Sault Ste Marie Ry., at Brockville, Ont., born there Feb. 4, 1834.

H. J. Colvin, District Passenger Agent C. P.R. at Boston, Mass., born at Macedon, N.Y., Feb. 26, 1856.

F. P. Dwyer, Eastern Passenger Agent G. T.R. at New York, born at Chicago, Ill., Feb. 20, 1853.

E. H. Fitzhugh, Vice-President and General Manager Central Vermont Ry., at St. Albans, Vt., born in Montgomery County, Mo., Feb. 1, 1853.

C. W. Gardner, Auditor Minneapolis, St. Paul and Sault Ste. Marie Ry. at Minneapolis, Minn., born at Rushville, N.Y., Feb. 17, 1861.

W. C. Hall, ex-Superintendent Eastern Division C.P.R. at Quebec, born in Ireland, Feb. 18, 1831.

J. A. Johnson, Mechanical Foreman I.C.R. at Campbellton, N.B., born at St. John, N.B., Feb., 1848.

T. McNabb, Master Mechanic Alberta Ry. and Coal Co., and Great Falls and Canada Ry. at Lethbridge, Alta., born in Scotland, Feb. 16, 1849.

D. McPherson, Division Engineer C.P.R. at Montreal, born Feb. 2, 1858.

C. W. Milestone, Superintendent C.P.R. at Moose Jaw, Assa., born at Medina, Ohio, Feb. 24, 1847.

C. Percy, Auditor G.T.R., Montreal, born in Kent, Eng., Feb. 12, 1845.

A. H. Robinson, Superintendent Elgin and Havelock Ry. at Petitcodiac, N.B., born at Elgin, N.B., Feb. 2, 1862.

A. E. Rosevear, Freight Claim Agent G.T. R. at Montreal, born Feb. 20, 1863.

W. R. Russell, Superintendent Quebec Ry., Light and Power Co. at Quebec, born at Keene, Ont., Feb. 16, 1860.

J. G. Scott, General Manager Quebec and Lake St. John Ry. and Great Northern Ry. at Quebec, born there Feb. 13, 1847.

J. Troup, Manager Canadian Pacific Navigation Co. at Vancouver, born Feb. 5, 1855.

Sir Wm. C. Van Horne, K.C.M.G., Chairman C.P.R., and President Cuba Co. at Montreal, born in Will County, Ill., Feb., 1843.

H. W. Walker, General Auditor G.T.R. at Montreal, born at Brantford, Ont., Feb. 12, 1839.

H. Wilkinson, Master Mechanic Brockville, Westport and Sault Ste. Marie Ry. at Brockville, Ont., born in Durham County, Eng., Feb. 16, 1834.

E. F. Wurtele, Secretary-Treasurer and Chief Accountant Quebec Ry., Light and Power Co. at Quebec, born at St. David, Que., Feb. 29, 1860.

Passenger Traffic Matters.

J. E. Quick, Secretary of the American Association of General Baggage Agents, has given notice that the next annual convention will be held in Chicago on May 21, instead of at Portland, Ore., as originally decided.

The G.T.R. passenger department must be using the obsolete geographies that so much is heard of in the Ontario Legislature these days. A recent circular defining officials' jurisdiction, speaks of "Cape Breton, entire province," also "Nova Scotia, entire province."

The Michigan Central Rd. will, says Leonards Railway News, hereafter sell no round-trip tickets except for special occasions, nor will any unlimited mileage tickets be sold in future. All single trip tickets must be used on the date of sale, or presented for redemption on day of sale or the day following.

Passenger officials of the Canadian Pacific, Grand Trunk, Intercolonial, Quebec Central, Canada Atlantic, Great Northern, Central Vermont, New York Central and Quebec Southern railways, the R. & O. Navigation Co. and the Quebec Ry. Light and Power Co., met in Montreal Jan. 15, and revised the agreement relating to pilgrimage business. Some 500,000 people visited Ste. Anne de Beaupre, Que., last year, and other shrines in the Province of Quebec received their quota of pilgrims.

The business of the joint agency at Buffalo, operated by the Buffalo Railway Passenger Committee from May 1 to Nov. 20, 1901, has been closed. During the exposition 2,000,000 people visited the office and had their tickets validated. During the best months the daily number of visitors was 12,000, on one day there were 17,000 visitors. There were 6,000 tickets presented by others than the person to whom they were issued. These were annulled, and the holders had to pay cash for regular one-way tickets.

The Intercolonial & Prince Edward Island Ry.'s passenger department has issued a striking calendar. The moose's head, which is the symbol of the I.C.R., is printed in a grey tone, and on it is shown in red the lines of the I.C.R. from Montreal to St. John, N.B., and Halifax and Sydney, N.S., but the line of the P.E.I.R. is not shown, though Summerside and Charlottetown are indicated. The island province line could quite easily have been shown, and the extent of the Government lines given in their completeness. If the moose's head had been printed in the natural color it would have been still more effective.

The Ontario Official Gazette, for six weeks up to Jan. 11, contained the following in the annual notice respecting applications to the Legislature for private acts: "Before any Petition praying for leave to bring in a bill for the destruction of Railways, Tramways or Canals is received by the House the person or persons petitioning for such Bill shall," etc., etc. It is almost needless to add that "destruction" should have read "construction."

THE RAILWAY AND SHIPPING WORLD is appreciated abroad as well as at home. Hernu, Perou & Co., Ltd., general railway and steamship agents, Paris, France, write: "Herewith please find postal order to cover our subscription to your very interesting journal."



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NOTICE.—The Canadian Pacific Railway Company will apply to the Parliament of Canada, at its next session, for an Act authorizing the company to construct or acquire, and to operate a railway from a point at or near Piles Junction on the line of the North Shore Railway, or from a point on the Piles Branch of that railway in a north-westerly direction to Shawenegan Falls, thence north-easterly to Grand Mère, a distance of about twenty-four miles, with power to issue in aid of the construction and equipment of said railway, or any part or parts thereof, separately, bonds which will be a first lien and charge thereon with the same effect as if the said railway, or such part or parts thereof were being built by the company as a branch of its railway within the meaning of section one, chapter 51 of the Statutes of 1888, or in lieu of such bonds consolidated debenture stock conferring on its holders equal rights in all respects, and a rank *pari passu* with holders of such consolidated debenture stock as the company has been heretofore authorized to issue, and for other purposes.

By order of the Board,

CHARLES DRINKWATER,

Secretary.

Montreal, 16th January, 1902.

THE PLACE VIGER MONTREAL.

A beautiful new hotel just built by the Canadian Pacific Ry., in connection with their new passenger station. The building occupies an entire block and the style of architecture is that of the Chateau period of the French Renaissance. The hotel faces the Viger Gardens, and is thoroughly up-to-date in all its appointments. American tourists will find the Place Viger a most delightful hotel home.

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Freight Traffic Matters.

The C.P.R. up to Dec. 31 moved 28,000,000 bush. of grain from Manitoba and the N.W.T. to Lake Superior, most of which was forwarded east.

A recent shipment of between 4,000 and 5,000 shovels from Vancouver, B.C., to Dawson, Yukon, was delivered at the latter point in 7 days from being placed on board the steamer.

The C.P.R. expects to carry between 5,000,000 and 6,000,000 bush. of wheat from Manitoba to Ontario and the Atlantic seaboard from now until the opening of navigation, and from the opening of navigation until the crop of 1902 is ready for moving the Co. expects to carry 26,000,000 bush.

A shipment of seal skins was despatched from Yokohama, Japan, Dec. 27, by the C.P.R. steamer, Empress of Japan, arrived at Vancouver, B.C., Jan. 10, reached St. John, N.B., by C.P.R. train, Jan. 17, and was expected to reach Liverpool, Eng., by the Allan liner, Pretorian, Jan. 28, thus being delivered in a month as against about 5 weeks via the Suez Canal route.

The 4th Vice-President of the C.P.R., in discussing the statement recently made that the chief obstacle encountered by Canadian woollen manufacturers in meeting British competition is the cost of railway transportation, and that the railways have been charging all that the traffic will bear, until towns in Quebec and Ontario are actually commercially further from Toronto and Montreal than towns in England and France, says: "If this is intended to mean that the British manufacturer can transport his manufactured woollen article to his Canadian consumer, the statement is erroneous and misleading. If it refers to the raw material, I should think the Canadian manufacturer would be only too pleased to get his raw material from Europe so cheaply. I should think this would be a distinct gain to the Canadian manufacturer, and have a decided tendency to assist him in his business. The C.P.R. is quite ready to have its freight rates investigated by a railway commission. The Co. is quite in a position to stand any such scrutiny."

Railway Operating Matters.

The Hampton and St. Martin Ry., N.B., has been closed for traffic.

The General Superintendent of the Western division of the C.P.R. has issued a circular stating that high explosives must not under any circumstances be carried on passenger or mixed trains.

A cargo of Nova Scotia coal has been delivered at Gothenburg, Sweden, for use on the Swedish railways, and two cargoes have been delivered in Norway. Danish and Russian railway officials are also reported to be negotiating for supplies of N.S. coal.

The General Superintendent of the Western division of the C.P.R. has issued a circular stating that bell cords will be dispensed with on all trains from which engineer can be communicated with from rear car by means of air whistle or air brakes (conductor's valve.) When air signal cannot be used to communicate with engineer, air brakes (conductor's valve, will be used to bring train to stop, and then verbally communicating with the engineer.

The Judicial Committee of the Imperial Privy Council has given an important decision in the Quebec case of Roy vs. C.P.R., reversing the decisions of the courts of that Province, and holding that negligence must be shown before a railway company can be held

responsible for damage by fire caused by sparks from a locomotive. In this case the courts of Quebec held that the company was liable, even where it had done all it reasonably could to prevent the sparks. The company appelland, however, was directed to pay the respondent's costs.

W. C. Paver, of the Intercolonial Ry., has been visiting U.S. railway centers where pension systems for the railway employes are operated, collecting information preparatory to the establishment of a pension fund for I.C.R. employes. In this connection the Moncton Times says: "In accordance with the determination of the Minister of Railways to inaugurate a pension system for the I.C.R., it is understood that officials were some time ago instructed to prepare for him a report on the best method of carrying out his policy in the matter. The report has not yet been placed in the Minister's hands, but those entrusted with its preparation are said to have formulated a scheme very much on the lines of the pension scheme in vogue on the French national railway system. It contemplates the establishment of a pension fund by contribution from the wages of all employes, from the district superintendents to the railway laborers, which, of course, will be supplemented by a Government grant. It is contemplated, however, that the fund shall be eventually self-sustaining."

The Toronto, Hamilton and Buffalo Ry. encourages its track foremen to take special care of the sections under their charge by offering a prize for the best kept section. The award is made by a committee, which consisted for 1901 of J. N. Beckley, President; E. Fisher, General Supt.; Mr. Gray, Roadmaster; R. L. Latham, Asst.-Engineer; the roadmasters' chief clerk, and T. Hickey, Roadmaster, M.C.R. This committee and all the section foremen went over the line by special train, each being supplied with a form, on which they were asked to give marks on a scale of 10 for the following points: surface, line, spanning and alignment of ties, roadbed, ditching, right of way fences, road crossings, right of way, general work, appearance of section house, care of tools, supplies, scrap, etc.; economical handling of section, and discipline and efficiency of section. These forms were handed into the Roadmaster's office and the result was compiled and announced to all concerned. The prize, which consists of \$10, and one week's leave of absence with pay, was awarded to T. Fitzgerald, foreman of section 10, who has under him 5.07 miles, from Wentworth St., Hamilton, to Stony Creek. His percentage was 93.2; the section foremen gave him 83.2, and the special committee's figures were: on track, roadbed, etc., 86.6; on general work 96.6; on economical handling of section 100, and on discipline and efficiency 100. The prize winners in previous years have been: 1898, A. Brown, section 15, Fenwick; 1899, P. Hurley, section 11, Stony Creek; 1900, J. Yokom, section 4, Brantford.

A. C. Lytle, who recently resigned as Superintendent, etc., of the Orford Mountain Ry., writes: "I have concluded that my best way to keep in touch with my many valued old friends and acquaintances is to remain a subscriber to THE RAILWAY AND SHIPPING WORLD; it always contains the latest information."

The Quebec and Lake St. John Ry. has received from the Baldwin Locomotive Works, 2 mogul freight locomotives, the general dimensions of which were given in our Jan. issue, pg. 14. The Co. has placed another order with the Baldwin Locomotive Works for 2 mogul locomotives.

Railway Equipment Notes.

The Master Car Builders' and the Master Mechanics' Associations next annual conventions will be held at Saratoga, N.Y., the former beginning June 18, and the latter June 23.

Rhodes, Curry & Co., Amherst, N.S., during 1901 added to their buildings a 2 story dry house, 32x90 ft.; two additions to their planing mills, one 25x60 ft., the other 25x70 ft.; a 2 story warehouse 30x40 ft. in connection with their car works, and another in connection with the wood factory, 75x60 ft. They have also added about \$15,000 worth of machinery.

The Dominion Atlantic Ry.'s locomotive "President," recently put in service, was built by the Baldwin Locomotive Works. Following are the general dimensions:—

Cylinders, diameter	18 in.
" stroke	24 in.
" valve	balanced.
Boiler, diameter	60 in.
" thickness of sheets	1/4 in. and 1/2 in.
" working pressure	180 lbs.
" fuel	soft coal.
Firebox, material	steel.
" length	73 1/2 in.
" width	34 1/2 in.
" depth (front)	82 1/2 in.
" depth (back)	80 in.
" Thickness of sheets, sides	1/4 in.
" " " back	1/2 in.
" " " crown	3/4 in.
" " " tubes	1/2 in.
Tubes, material	steel.
" number	256
" diameter	2 in.
" length	10 ft. 1 1/2 in.
Heating surface, firebox	144.5 sq. ft.
" tubes	1,478.8 sq. ft.
" total	1,623.3 sq. ft.
" grate area	17.9 sq. ft.
Driving wheels, diameter outside	66 in.
" diameter of centre	60 in.
" journals	8 in. x 8 1/2 in.
Engine truck wheels, diameter	30 in.
" journals	5 in. x 10 in.
Wheel base, driving	8 ft. 0 in.
" total engine	22 ft. 0 in.
" total engine and tender	45 ft. 8 1/2 in.
Weight, on driving wheels	66,210 lbs.
" on truck	40,770 lbs.
" total engine	106,980 lbs.
" total engine and tender	182,000 lbs.
Tender, diameter of wheels	36 in.
" journals	3 in. x 7 in.
" tank capacity	3,750 gals.
Service	passenger.

SHIPPING MATTERS.

Muskoka Navigation Companies.

The annual meeting of the Muskoka and Georgian Bay Navigation Co. was held in Toronto Jan. 29. The report showed that the gross earnings for 1901 were \$65,070.64, and expenses \$52,523.76, leaving \$12,546.88 net profit, or 19% on capital invested. The season's business was not as good as anticipated, as more U.S. tourists were expected consequent on the Pan-American exposition, and from assurances given by the Muskoka Navigation Co., which built the Royal Muskoka hotel. The profits in 1901 were rather less than in 1900 owing to the large amount of freight carried free for the Royal Muskoka hotel as per agreement, and to loss on the Magnetawan river division, where the loss was \$536.28 against a profit of \$1,966.85 in 1901. The Magnetawan branch has not proved a paying tourist route, and only when the lumbering trade has been good has it been profitable. When the proposed railway extension is completed, it is expected that the trade on the river will greatly increase, and the steamers will then be valuable property. Meanwhile, this asset is not a desirable one. A dividend of 10% has been paid for 1901. \$20,000 has been written off plant, an ample allowance for depreciation. The amount at credit of profit and loss and reserve account now stands at \$44,684.82, equal to about 68% on capital paid.

ASSETS DEC. 31, 1901.	
9 steamers and outfits.....	\$87,000 00
1 houseboat and outfit.....	1,144 26
5 scows.....	1,000 00
Marine railway old dock.....	1,050 06
Marine slip, including outbuildings.....	7,976 23
Wharves and storehouses.....	2,203 68
Icehouse at Gravenhurst.....	182 66
Office at Gravenhurst.....	600 00
Real estate at Rosseau.....	100 00
Northern Navigation Co.'s shares.....	2,000 00
Fuel, supplies, etc., on hand.....	3,396 22
Cash in hand and in bank.....	340 06
Accounts receivable.....	6,170 30
	\$113,143 47
LIABILITIES DEC. 31, 1901.	
To shareholders' capital stock.....	\$65,610 00
Accounts payable.....	2,848 65
At credit reserve account.....	12,310 25
At credit profit and loss.....	32,374 57
	\$113,143 47
EARNINGS FOR 1901.	
Passengers.....	\$34,772 41
Freight.....	13,752 20
Table.....	8,725 08
Towing.....	4,005 03
Mails.....	3,310 50
Express.....	327 50
News stands.....	152 42
	\$65,045 14
EXPENSES FOR 1901.	
Provisions.....	\$10,658 67
Oil and waste.....	524 01
Painting and repairs.....	8,498 98
Fuel.....	6,896 52
Running expense.....	16,054 71
Laundry.....	518 82
General expenses, including cost management.....	7,485 91
Carried to profit and loss.....	14,407 52
	\$65,045 14

The following directors were elected for the current year: S. Barker, M.P., Lt.-Col. McLaren, Hamilton; A. P. Cockburn, H. C. MacLean, Toronto; G. Homer, Gravenhurst. A. P. Cockburn and G. Homer were members of last year's board. J. S. Playfair, H. H. Cook, and G. R. R. Cockburn, who were also members of last year's board, were not re-elected. S. Barker has been elected President; Lt.-Col. McLaren, Vice-President; A. P. Cockburn, Manager and Treasurer; H. C. Maclean, Secretary. Mr. Cockburn's title heretofore was Manager and Secretary.

The authorized capital of the M. & G.B.N. Co., is \$100,000 of which \$72,300 has been subscribed and \$65,610 paid up, and of this paid up stock \$39,300 was, until Mar., 1901,

held by A. P. Cockburn, the Manager. At that time E. L. Sawyer, who was forming the Muskoka Navigation Co., was given an option by Mr. Cockburn on his shares, and secured some additional shares giving him in all a control of \$41,000 of the stock, which is now held by the M.N. Co., and was voted on its behalf at the recent annual meeting of the M. & G.B.N. Co. Three members of the old board were, as above stated, replaced by S. Barker, M.P., and Lieut.-Col. McLaren, of Hamilton; and H. C. Maclean, of Toronto, who each hold the 20 shares of stock necessary to qualify them for the position. E. L. Sawyer, the promoter and Secretary of the new Co., holds 4 shares of M. & G.B. stock. Lt.-Col. McLaren was elected a director of the new Co. at its organization meeting, and S. Barker became connected with it when the Muskoka Tourist Hotel Co. transferred the hotel site on Lake Rosseau to it. The shares of the M. & G.B.N. Co. outside those held in connection with the M.N. Co., are owned by a number of residents in Barrie, Gravenhurst and other places, the only considerable shareholders being: J. S. Playfair, one of the incorporators and original directors, and President until the death of Hon. A. MacKenzie until the recent annual meeting; Lord Strathcona, Sir J. Boyd, Vice-Chancellor of Ontario; Judge Gowan, and H. H. Cook.

The Muskoka Navigation Co. purchased the str. Charlie M. and built the Royal Muskoka hotel on the site acquired from the Muskoka Tourist Hotel Co. The hotel is reported to have done a considerable business during the time it was open, and the Charlie M. was operated in connection with it. The stock owned by the M.N. Co. in the M. & G.B.N. Co. to the extent of \$39,000 is understood to be held by the Imperial Bank as security for advances made to the extent of \$25,000. When the M.N. Co.'s stock was offered to the public the prospectus contained the names of F. J. Phillips, M. C. Dickson, A. P. Cockburn, E. L. Sawyer, Capt. S. Crangle, Toronto; W. Chaplin, St. Catharines, and Lt.-Col. McLaren, Hamilton, as directors. F. J. Phillips was subsequently elected President, but resigned that position, remaining as a director. Messrs. Chaplin, Crangle and

Dickson retired from the board. Two of the vacancies were filled by the election of G. Homer, Gravenhurst, and H. C. Maclean, Toronto, and it is expected that S. Barker, Hamilton, will be elected to fill the other vacancy. The present officers are:—President, A. P. Cockburn; Vice-President, Lt.-Col. McLaren; Sec.-Treas., H. C. Maclean.

Department of Marine and Fisheries.

In speaking at Woodstock, Ont., recently, on the occasion of his re-election by acclamation, the Minister of Marine and Fisheries, Hon. Jas. Sutherland, thus summarized the work of the Marine branch of the Department:—"The construction and maintenance of lighthouses, fog alarms, buoys and beacons, Dominion steamers, pilots, pilotage and decayed pilot funds, ports, harbors, harbor commissioners and harbor masters, piers, wharves, breakwaters and collection of tolls; marine hospitals throughout the Dominion and sick and distressed seamen; humane establishments, life-boat services and rewards for saving life; inquiries into the causes of shipwrecks and casualties, and collection of wreck statistics; inspection of steamboats and examination of engineers; examination of masters and mates, and registration and measurement of shipping; meteorological and magnetic services; climatology of Canada, tidal observations; inspection of vessels and of the carrying of live stock, shipping of seamen, shipping masters and shipping offices, winter communication between Prince Edward Island and the mainland by steamer and iceboats; hydrographic service, administration of deck-load law and deck-load lines, removal of wrecks and other obstructions in navigable waters."

Continuing, he said:—"A branch of the service that is of considerable importance at present is the investigation that we are carrying on into tides and currents. I feel that a thorough understanding of the conditions prevailing will do much to increase the safety of shipping and reduce the present high rates of insurance. Consequently I propose to continue current investigations, particularly off Cape Race and Cape Sable where many

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bad wrecks have recently occurred. The work we have already done in improving tidal records has been greatly appreciated by marine interests.

"With reference to the pilotage on the St. Lawrence, it is my intention to consider the question of improving the pilotage system and the management of the pilotage commissions, so that none but competent men shall be employed or appointed, with a view to the better protection of lives and property.

"Among the important services are the hydrographic surveys. Surveys have been made on Lake Huron, Georgian bay, Lake Winnipeg, St. Lawrence River, the coast of the Maritime Provinces and the coast of British Columbia. Hydrographic charts have been made and completed of the various waters referred to, and it is now my purpose to extend the survey to Lake Superior, and for this purpose a steamer has been purchased and is now being fitted out to begin the survey at the opening of navigation.

"The meteorological service includes storm warnings and forecasts of the weather issued from the central office at Toronto for the great lakes and harbors in the Maritime Provinces and British Columbia. The forecasts and storm warnings are greatly appreciated by mariners and also by forwarders of perishable goods, who are guided in their operations of shipments by them. The importers and exporters of fruit have manifested their appreciation of these forecasts and have taken advantage of them.

"The inspection of machinery, hulls and equipments of steamboats forms a very important service, and this has recently been extended to steamers trading between points in British Columbia and Skagway in the U.S. and other portions of Alaska and the lakes on the way to the Yukon country.

"The Department has a fleet of 20 vessels, including those used for fisheries protection service, representing a value of over \$1,000,000, and the cost of maintaining them amounts to over \$350,000 annually. These vessels are occupied at the lighthouse and buoy service, hydrographic work, and the protection of the fisheries, as well as the winter mail service between Prince Edward Island and the mainland."

B. E. Walker on Water Transportation.

The General Manager of the Canadian Bank of Commerce said at its recent annual meeting:—"I will close my remarks by once more referring to transportation. The tonnage out of Montreal has decreased every year since 1898. Our foreign trade grows steadily, we own the most direct waterways to the Atlantic from the interior, we have fine harbors, we are nearer Europe than our neighbors, and yet we allow our products to reach Europe through the U.S. instead of to some extent reversing the situation. Is it not time for us to realize that this is a subject not only transcending in importance almost all others connected with our material well-being, but one which will require such a large and courageous treatment by our Government that the people of Quebec, Ontario, and Manitoba should leave our ministers in no doubt whatever as to their opinion in the matter? It seems useless to pretend that the conditions of navigation from Montreal to the deep Atlantic are all that they should be. We know that they are not. If the insurance companies and our shipping men say that we need more lights, that our system of pilotage is obsolete, and other derogatory things, their statements are doubtless true, and it will do no good to deny them. What we must do is to so improve the St. Lawrence route that insurance and shipping men cannot continue to make these statements. But in order to

accomplish this we may have to run counter to local prejudices favoring the existing order of things, and unless we are determined to effect reform these local conditions will remain unchanged. When the St. Lawrence route is all that it should be we may find it necessary to still further enlarge our canals, and even under present conditions we need more and larger vessels on our lakes. But if other conditions were as they should be, we might hope that vessels suitable for our lake traffic would soon be created. At the moment we can but hope that such a cry for the improvement of our waterways will go up from the Canadian people that no Government will dare to disregard it."

Northern Navigation Co. of Ontario.

The annual meeting was held at Collingwood Jan. 28. The report showed that the net profits for 1901 from all sources were \$80,967.90. Out of this two semi-annual dividends of 5% were paid, one on June 30, on \$321,700, amounting to \$16,085, the other on Dec. 31, on \$560,000, amounting to \$28,000. There was transferred to rest account \$25,000, leaving \$11,882.90 to credit of profit and loss account. During the year \$19,719.70 was expended on outfit and improvements, all of which was charged to current expenses. This account could have been much less, but the policy of the Co. being to keep its steamers and equipment always first class, has been closely followed throughout. A new electric light plant was installed on the steamer City of Toronto, and several other important improvements made, which have been treated as current expenses. The rest account now amounts to \$50,000, and the balance at credit of profit and loss account is \$12,356.11. The business of both this Co. and the Northwest Trans. Co. (in which the N. N. Co. holds a majority of stock, \$153,000) during the past year has been satisfactory, and with the introduction of the new steel steamship Huronic into the N.W.T. Co.'s business, there is every likelihood that the business for the future will be greatly increased. Both the N.N. Co. and the N.W.T. Co. were free from accidents during the year. The N.N. Co.'s steamers Atlantic, Majestic, Germanic, Britannic, City of Midland, City of Collingwood, and City of Toronto, are all well and carefully laid up at Collingwood, and, as usual, such repairs as may be required to maintain the high reputation of the Co.'s fleet, will be made during the winter. The same may be said of the N. W.T. Co.'s steamers, the United Empire and Monarch, which are laid up at Sarnia, and the steamer Huronic, which is being completed at Collingwood, will be ready for next season's business.

LIABILITIES, DEC. 31, 1901.

Capital stock	\$560,000 00
Rest account	60,000 00
Profit and Loss account	12,356 11
Liability to shareholders	\$622,356 11
Accounts payable	5,324 79
	\$627,680 90

ASSETS, DEC. 31, 1901.

Seven steamships belonging to N.N. Co., including N.N. Co.'s interest in N.W.T. Co.	\$596,274 01
Buildings, interest in dock, fuel, diving apparatus, machinery, wrecking hawser, etc.	16,250 68
Unexpired insurance	1,072 21
Accounts receivable	1,863 52
Bank of Toronto	12,211 48
	\$627,680 90

The report, etc., having been adopted, a by-law was passed authorizing directors' meetings to be held either at Collingwood or Toronto, instead of at Collingwood only as heretofore. The election of directors terminated the meeting.

The directors for the current year are: President, J. Scott, Toronto; Vice-President, J. J. Long, Collingwood; Secretary, T. Long,

Toronto; Treasurer, C. E. Stephens, Collingwood; other directors, W. J. Sheppard, Wau-
baushene; C. Cameron, Collingwood; E. B. Osler, Toronto; F. A. Lett, Barrie; H. E. Smith, Owen Sound; W. Hendrie, Hamilton. All the foregoing were on the board last year except W. Hendrie, who takes the place of M. Burton, of Barrie, who has disposed of his stock. Mr. Smith died since the recent annual meeting.

On Dec. 31, 1901, the Co. had 154 shareholders, those holding \$5,000 or over of the stock being Osler & Hammond, Toronto, in trust, \$143,700; Osler & Hammond, \$10,000; T. Long, Toronto, \$41,000; J. J. Long, Collingwood, \$40,900; C. Cameron, Collingwood, \$25,100; S. D. Dodge, New York, \$25,000; H. E. Smith, Owen Sound, \$15,500; Toronto General Trusts Corporation, \$14,000; C. Stephens & Co., Collingwood, \$10,400; H. J. Grassett, Manager, Barrie, in trust, \$9,000; M. Burton, Barrie, \$8,000; J. L. Burton, Barrie, \$7,900; W. J. Sheppard, Waubaushene, \$7,600; G. W. Morden, Oakville, \$6,500; Estate of C. McKenzie, Quebec, \$5,000; Jas. Scott, Toronto, \$5,500; C. Robinson, K.C., Toronto, \$5,000; Mrs. E. S. Shoenberger, Toronto, \$5,000; Rev. R. H. Warden, Toronto, \$5,000.

Canada's Coasting Regulations.

The application recently made by Montreal grain shippers to the Dominion Government to permit U.S. vessels to carry grain from Port Arthur and Fort William to other Canadian ports, was one which was rightly refused. By sec. 2, chap. 83 of the Revised Statutes of 1886, it is clearly and distinctly laid down that "No goods or passengers shall be carried by water from one port of Canada to another except in British ships," and the only exceptions provided for by the act are in favor of the vessels of any foreign country in which British ships are permitted to trade coastwise on reciprocal terms, and the vessels of such countries as were entitled to trade coastwise by treaty made with the Imperial authorities prior to the passing of the Imperial Act, for "amending the law in respect to the coasting trade and merchant shipping in British possessions." There is no authority in this act either express or implied by which the Government can suspend the act, and permit U.S. vessels or the vessels of any other country to trade coastwise in Canada, unless British vessels are permitted to trade coastwise in the U.S. or such other country.

In 1899 the Government, under pressure from Montreal and other grain shippers, suspended this act and permitted U.S. vessels to engage in the grain trade for a few weeks at the end of the season on account of the alleged scarcity of Canadian bottoms. Canadian shipowners protested, the Government was told by the Governor-General through the Minister of Justice, that it had acted illegally in giving the permission it had done, and as a result Sir Wilfrid Laurier stated that in future Parliament alone would open the coasting laws to foreign vessels. This is the only position that the Government should take, and as Parliament is not in session at the time when these applications are in the habit of being made, there should not be any future suspension of the act. The U.S. Government will not permit even the smallest relaxation of its coasting regulations, and until it does Canada should protect her own ships and secure to them the carrying of all the trade between her own ports. Hon. J. I. Tarte, speaking at Toronto recently, endorsed the refusal of the Government, and added, "If we have not ships enough for our trade we must build them." This is the true solution of the difficulty, we must build more ships, and build them too in Canada and of Canadian material. That this can be done has already

been demonstrated by the shipbuilders in Toronto and other ports, but shipbuilders will not increase their plants, nor will those engaged in the transportation business give orders for additional vessels if the Government can relax the coasting regulations to meet any casual congestion of business, or if Parliament will uphold the Government in such an illegal action as was committed in 1899. One Toronto shipowner has stated that but for the action of the Government at that time his firm would have had two more vessels on the great lakes by this time. This probably is not an isolated case and shows that what is required to aid in building up a strong Canadian fleet on the great lakes is the firm enforcement of the act of 1886, not only in regard to the carrying of grain, but also in regard to the use of U.S. tugs for towing rafts from place to place in Georgian bay, about which there have been many complaints during the present season. With as firm an administration of the law, as the law is clear and explicit, and with the operation of a Canadian Shipping Association founded on similar lines to the Lake Carriers' Association of the U.S., Canadian shipyards will be enlarged and the Canadian mercantile marine will be strengthened by the addition of all the new vessels required to handle the increasing trade between Canadian ports on the Great Lakes and the St. Lawrence river.

Danger Warnings on the Sea Coast.

Lieut.-Col. Anderson, Chief Engineer of the Department of Marine, recently lectured before the Ottawa Literary and Scientific Society on "Modern Types of Danger Warnings on the Sea Coast." In the course of his lecture he said:—

"We meet with a good deal of difficulty and disappointment in operating our fog signals, because we cannot make mariners understand that sound signals are extremely liable to aerial disturbance. Theoretically sound waves are propagated in straight lines in all directions from their source, exactly as light waves are propagated. Practically these straight lines of sound waves are deflected by any little irregularity in the air through which they pass. If the air is not wholly homogeneous, the sound waves will not pass through it in straight lines, but will be deflected, and whether the deflection is down towards the surface of the water, or up into the air, the effect is the same; the sound does not travel parallel to the surface of the sea, and is lost to the sailor who is listening for it. A small island, a reef, or rocks, or even a shoal lying outside of a fog-alarm station, will have the effect of unequally heating the air which covers them, and the air thus separated into strata of unequal densities causes refraction of the waves of sound, and the fog alarm be-

comes ineffective. The same thing may happen, though it is not so likely to do so, where none of these natural obstructions are apparent. Times without number complaint has been made that one of our fog alarms was not in operation, when investigation proved that it was sounding as loudly as ever, the trouble being with atmospheric conditions. Some of you may have noticed echoes produced where there was apparently no hill or surface to reflect the sound. These echoes must have been reflected from strata of air differing greatly in density from that at the point of production of the sound, and are one example of the difficulties that fog alarm signals strive in vain to overcome. For these reasons we warn mariners that they must never judge their distance from a fog signal either by the power of the sound, or by the absence of sound, because under certain conditions of atmosphere the sound may be heard loudly at long distances from the alarm; under other conditions it may be lost at a very short distance, and these conditions may vary at the same station within very short intervals of



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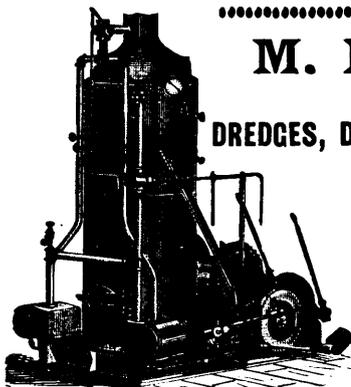
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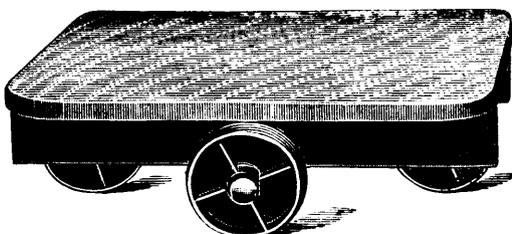
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A case of bad health that R-I-P-A-N'S will not benefit R-I-P-A-N'S, 10 for 5 cents, or 12 packets for 48 cents, may be had of all druggists who are willing to sell a low-priced medicine at a moderate profit. They banish pain and prolong life. One gives relief. Accept no substitute.

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time or of space. Unfortunately it seems impossible to convince captains of this, and many wrecks have resulted from their ignorance of these well known aberrations.

"You may have noticed in the public press during the past year many vigorous attacks on the lighthouse system of Canada. To read them one would think that all our lights and fog alarms were obsolete. If you make allowance for the immense extent of sea coast that we have to cover, for the youth of the country, and for the fact that all our aids to navigation are absolutely free to shipping, you will admit that Canada has accomplished a wonderful work, and one that should receive praise instead of censure, when I tell you that since Confederation the number of our lighthouses has increased from 227 to nearly 900, and of steam fog alarms from 2 to 64. This large number of aids to navigation, besides thousands of buoys and other minor aids that have not been mentioned, are maintained at an annual expenditure of about \$500,000. It is true that many of our lights are not strictly modern first-class lights, but all of them are good, serviceable lights under ordinary conditions of weather, and our fog alarms are as modern and powerful as any in existence. We have the testimony of one Commander-in-Chief of the North American station after another of the efficiency of our system, and many of the recent attacks on it have been inspired by a few shippers having selfish ends in view. If our lights are not perfect, we are improving them and adding to their number every year, and are also establishing new fog alarm stations, but even in their present condition they are ample to secure safety to a carefully and intelligently navigated ship. What we in Canada require more than improvements in aids to navigation, is education of the sailors and pilots frequenting our waters in modern methods of navigation."

Customs Duty on Foreign Built Ships.

The recent judgment of Justice Burbidge in the Exchequer Court upon the petition of right presented by the Algoma Central Ry. Co. asking for the return of \$3,500 paid under protest to the Collector of Customs at Sault Ste. Marie, Ont., on the occasion of the registration there of the steamboat Minnie M., brings into prominence a serious defect in the Customs Tariff Act of 1897. The Minnie M. was built of wood at Detroit, Mich., in 1884, and at the time of her purchase by the A.C.R., was registered at the port of Mackinac, Mich. In order to make her available for the coasting trade in Canada a British register was necessary, and while this could have been obtained without question by making a trip to St. John's, Nfld., the owners applied to the Collector of Customs at Sault Ste. Marie, Ont., who is authorized by the Imperial Acts operative in Canada to give registration papers. The official, as a representative of the Dominion Government, demanded \$3,500 as the amount of duty to which the Minnie M. was liable as a foreign built vessel, which was paid under protest, and proceedings taken to have the same returned on the ground that the vessel was not liable to duty.

The question at issue was the right of the Government to impose a duty upon the Minnie M. The judgment sets forth that there is no repugnancy between a statute imposing a duty on foreign built ships on application for registry in Canada and the Imperial Acts operating in Canada, but shows that "where a tax or charge is imposed, express language is said to be indispensable; and the intention to impose a charge on the subject must be shown by clear and unambiguous language." The question then before the Court resolved itself into whether or not the duty on foreign built ships had been explicitly imposed by the

Customs Tariff Act of 1897. Item 409 in schedule A of the Act, under which the Collector of Customs at Sault Ste. Marie assessed the duty on the Minnie M. at \$3,500, does not contain any words authorizing the levying of such a duty, and though a provision to impose a duty would be out of place in a schedule, yet if it were there the courts would have to give effect to it. The 4th section of the Act is the section imposing duties, as it provides that "there shall be levied and collected" duties as set forth in the schedule upon all "goods enumerated" or "referred to as unenumerated," when "such goods are imported into Canada or taken out of warehouse for consumption therein." A ship does not come within the definition of goods as given in section 3 of the Act; "neither can a ship with propriety be said to be imported; and it would be absurd to refer to it as taken out of warehouse for consumption in Canada." Therefore, while "it was the intention of Parliament to impose the duties mentioned in the schedule, no authority but Parliament could supply the omission and make the Act effective for its purpose." The Court, therefore, ordered the \$3,500 paid under protest to be returned to the Algoma Central Ry. Co., leaving the foreign built ship Minnie M. on the register.

The intention of the Government to promote shipbuilding in Canada by imposing a duty upon foreign built vessels being brought in for registry, has been defeated by a defect in the Act which Parliament alone can rectify. In the interests of Canadian shipbuilding the Customs Tariff Act of 1897 should be so amended at the next session of Parliament as to effectively impose the duty upon foreign built boats, which it was intended should have been imposed in 1897. The law cannot be made retroactive, but a special enactment can be carried through so as to come in force by the opening of navigation with a view of preventing the transfer to Canadian ports of a number of old and practically obsolete U.S. vessels on the same terms as the Minnie M., and the consequent diminution of the demand for the building of large, new vessels at our shipyards.

Notices to Mariners.

The Department of Marine, Ottawa, has issued the following notices:

No. 110. Dec. 7.—Quebec — St. Emelie back range light, sector increased.

No. 111. Dec. 10.—Nova Scotia—1. Description of Brig rock buoy. 2. Brig rock and Egg island buoys maintained in winter. 3. Mahone bay, spar buoys placed.

No. 112. Dec. 11.—New Brunswick — Partridge island, change in characteristic of fog alarm.

No. 113. Dec. 13.—Nova Scotia—Grand Passage lighthouse. New Brunswick—Quaco buoys to be maintained in winter.

No. 114. Dec. 14.—Ontario — Midland range lights. These lights were put in operation for the first time Nov. 21, 1901.

No. 115. Dec. 19.—Nova Scotia—1. Canso harbor, hydrographic notes. 2. Gannet shoal buoy.

No. 116. Dec. 19.—British Columbia—1. Lawyer islands light. 2. Penphrase passage, uncharted rock reported. 3. Grassy point, beacon replaced in old position.

No. 117. Dec. 20.—Nova Scotia—Neil Cove, South Point buoy.

No. 118. Dec. 30.—British Columbia—1. Nanaimo, Gallows point, change in position of beacon light. 2. Nanaimo harbor, uncharted rock south of Protection island. 3. Dryad point light station, dwelling added. 4. Active pass, periodicity of fog alarm. 5. Carmanah, geographical position of light-house.

No. 1. Jan. 13, 1902.—British Columbia—

Victoria harbor, Brochy ledge description and color of beacon.

No. 2. Jan. 16.—New Brunswick.—2. Strait of Northumberland, Cape Tormentine, temporary range lights, fog signals, etc. 3. Strait of Northumberland, Jourmain island shoal, winter buoy. 4. Miramichi bay, Huckleberry gully, buoy. 5. Miramichi bay, Vin harbor buoys. Newfoundland.—6. Conception bay, western bay point, fog signal and harbor light.

No. 3. Jan. 18.—British Columbia.—7. Vancouver island, south-east coast, Sidney channel, Sidney spit beacon rebuilt. 8. Strait of Georgia, Fraser river, Sturgeon bank, beacon rebuilt.

No. 4. Jan. 20.—New Brunswick.—11. Passamaquoddy bay, St. Andrews, beacon destroyed. 12. Chignecto channel, Anderson hollow, lighthouse destroyed. 13. Nova Scotia. Northumberland strait, Cape George, position of lighthouse. Prince Edward Island. 14. Georgetown harbor, distance between range lights. 15. Gulf of St. Lawrence, Tracadie, back range light re-erected.

No. 5. Jan. 20.—British Columbia.—16. Juan de Fuca strait approach, currents. 17. Vancouver island, east coast, Sidney, buoys re-established.

Maritime Provinces and Newfoundland.

The repairs to the Plant str. Halifax are reported to have been completed at Wilmington, Del., and she will be placed in service again early in Feb.

New machinery is being placed by a St. John, N.B., firm, in the Canning, which is to be placed on the Minas Basin route in place of the steamer Beaver.

The Newfoundland and Boston Steamship Co. proposes to establish bi-weekly sailings from Boston, Mass., to St. Johns, Nfld., calling at Halifax, N.S. M. L. Daggett, of Boston, Mass., is president of the Co.

It is reported at Sydney, N.S., that the visit of Capt. Farquhar, of Halifax, to Great Britain, has for its object the securing of a steamer to inaugurate a fast freight and passenger service between Sydney and Halifax.

A large number of schooners are being built in Newfoundland for the fishing and coasting trade. At Placentia one has just been launched, four more are on the stocks at Peti Forte, and a similar number are being built at Paradise sound.

The number of vessels remaining on the register at the port of Halifax, N.S., Dec. 31, 1901, was 444, with a tonnage of 20,755. Of these 61 were steamers having a net tonnage of 4,684 tons. There were added during the year 10 vessels, with a tonnage of 410, and struck off 28 vessels with a tonnage of 1,277 tons.

B. Trefry, W. C. Balcom, R. Burns, E. F. Sweet, and M. H. Martin, of Hantsport, N.S., have been incorporated under the Dominion Companies' Act as "The schooner Lord of Avon Co. (Ltd.)," to carry on business as shipowners. The capital of the Co. is \$16,000, and the offices of the Co. are at Hantsport, N.S.

The Dominion Government has renewed the contract with the Pickford & Black Steamship Co. for a steamship service from Halifax to Jamaica. St. John, N.B., shippers asked that a line should be subsidized to that port also. The P. & B. S. Co. has chartered the str. Dahome to replace the Benedict on the service.

C. Shields, Vice-President and General Manager of the Dominion Coal Co., states that the Co. will start a ship repairing yard at Glace Bay, N.S., for the repair of the Co.'s steamers. The Provincial Government will be asked to do some dredging preparatory to

the erection of the wharves and the laying out of the yard.

The Fredericton and Woodstock Steamboat Co. has, it is reported, purchased the str. Aberdeen from the Star line for \$4,000, to run between Fredericton and Woodstock, N.B.

The Aberdeen is a stern wheel steamer, built at Sorel in 1894, her dimensions being: length, 140.2 ft.; breadth, 22 ft.; depth, 4 ft.; tonnage, gross, 244; net, 137.

The steamers Prince George and Yarmouth of the Dominion Atlantic Ry. Co.'s fleet, are

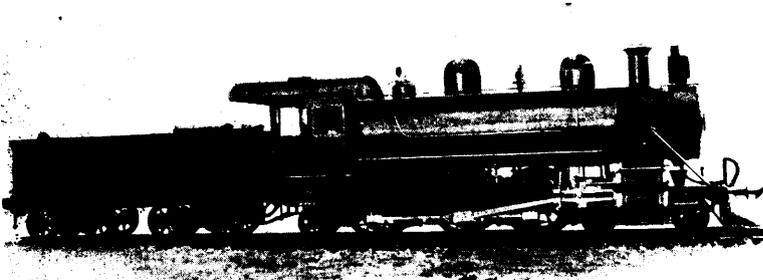
lying up for the winter at Yarmouth, N.S.; the Prince Arthur is in winter quarters at Boston, Mass. The Prince Edward has gone to Miami, Fla., to run between that port and Nassau, for the Flagler system; and the Boston is running between Boston and Yarmouth.

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Gen. Man. Western Canada, Toronto.

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Gen. Man. Eastern Canada, Montreal.

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

Lands in Manitoba and Assiniboia average \$3 to \$6 an acre.

Lands in Alberta and Saskatchewan with the exception of some special locations where prices range from \$3.50 to \$5.00 per acre, generally \$3.00 per acre.

TERMS OF PAYMENT.

In the case of an actual settler who goes into residence upon and cultivates the land, the aggregate amount of purchase money and interest is divided into ten instalments, as shown in the table below; the first to be paid at the time of purchase, the second two years from date of purchase, and the remainder annually thereafter.

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

Purchasers who do not undertake to go into residence on the land within one year from date of purchase are required to pay one-sixth of the purchase money down and the balance in five equal annual instalments with interest at the rate of six per cent. per annum.

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Grand Trunk Elevator, Portland, Me.	1,000,000 "
Export Elevator, Buffalo, N.Y.	1,000,000 "
J. R. Booth Elevator, Depot Harbor, Ontario	1,000,000 "
Cleveland Elevator Company's Elevator, Cleveland, O.	500,000 "
Erie R. R. Transfer & Clipping House, Chicago, Ill.	100 cars in 10 hrs.
Manchester Ship Canal Co.'s Elevator, Manchester, Eng.	1,500,000 "
Burlington Elevator Co., Peoria, Ill.	500,000 "
Canada Atlantic Railway Elevator, Coteau Landing, Que.	500,000 "
Northern Grain Co., Manitowoc, Wis.	1,350,000 "
Union Elevator, East St. Louis, Ill.	1,100,000 "
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PLANS AND SPECIFICATIONS.

The Government str. Stanley, which has been fitted with a powerful electric searchlight, opened the winter service between Summerside, P.E.I., and Cape Tormentine, N.B., Jan. 3, and the Minto is running between Pictou, N.S., and Georgetown, P.E.I.

Capt. Sol. Jacobs is having built at Essex, Mass., a steam fishing vessel to replace the Helen M. Gould, burned in Sydney last year. The new boat will be of the following dimensions: length, 141 ft. 7 in.; breadth, 24 ft.; depth, 12 ft.; draught, 10 ft. 4 in.; and will be fitted with inverted compound engines capable of developing 300 h.p., and of making 10 knots an hour.

Application is being made under the New Brunswick Companies' Act by R. Thomson, Rotheray, N.B.; J. H. Thomson, P. W. Thomson, A. Porter and R. T. Leavitt, St. John, N.B., for incorporation as Steamship Trebra Co. (Ltd.); Steamship Himeria Co. (Ltd.); and Steamship Albuera Co. (Ltd.), with a capital of \$210,000, \$200,000 and \$220,000 respectively. The chief place of business of the companies will be Rotheray.

The Department of Public Works has purchased the str. Tyrian, which has been chartered as a telegraph repair boat for some time. The price paid is said to be \$20,000, and the Government expended \$26,000 on her at the time she was chartered. The Tyrian was owned by the Scotia Steamship Co. of Halifax, N.S., and was built at Port Glasgow, Scotland, in 1869. Her dimensions are: length, 237.5 ft.; breadth, 30.2 ft.; depth, 19.9 ft.; tonnage, gross, 1,039; net, 667.

The delegates from St. John, N.B., who have recently been inspecting dry docks in the U.S., have presented a report to the city council favorable to the construction of a wooden dock. Before anything further can be done the Imperial, Dominion and Provincial authorities will be consulted, as all negotiations with them have hitherto been in the direction of securing a stone dock. E. D. Latter, who says he represents a London, Eng., syndicate, proposes to erect a pontoon or floating dock, if suitable inducements are offered by the people of St. John.

W. B. Bulling, Assistant Freight Traffic Manager, C.P.R., recently issued a circular stating that the Canada-Jamaica Steamship Co. proposed to inaugurate a service between West St. John, N.B., and Kingston, Lucca, Black River, Montego Bay, and Savanna-la-Mar, on the island of Jamaica, by despatching the steamer Ask from Kingston on or about Jan. 18, returning from West St. John a week later, and regularly every three weeks thereafter, until replaced by the steamer Bauta. The C.P.R. was assured by the agents of the Co. that it was their intention to establish a service in both directions that should insure regularity in the arrival at destination of goods consigned to or shipped from ports in Jamaica, at which their steamers would call, and that the steamers would be properly equipped for the satisfactory handling of fruit and other commodities shipped from Jamaican ports. The steamer Ask is a steel screw steamer, built in 1891 at Bergen, Norway, with engines of 100 h.p., with a cargo capacity of 500 tons, her dimensions being: length, 201.8 ft.; breadth, 28.1 ft.; depth, 11 ft. The shipping list does not contain particulars of any steamer named Bauta, but there is a Norwegian schooner of that name built at Stavanger in 1883, and of 251 register tons. W. E. L. Marsh and D. W. Marsh, solicitors, Toronto, are promoting the enterprise, but on being asked in regard to the project positively declined to give any information as to the organization of the company or as to the vessels chartered. On Jan. 10 D. W. Marsh told the St. John Board of Trade that the Ask could be obtained only until March, as she was then under en-

agement with the United Fruit Co., and that the Bauta was a new steamer with good facilities for carrying perishable articles. The St. John Telegraph, of Jan. 25, contained a paragraph stating that the Toronto managers had informed the St. John agents that "arrangements are being made for a transshipment service to Kingston and other West Indian ports."

Province of Quebec Shipping.

The reduction of the wharfage rates at Montreal during the past season reduced the income about \$7,000 as compared with 1900, while, if the old rates had been in force, there would have been an increase of \$44,511.42. The income for 1901 was \$249,488.

Plans for the improvement of Quebec harbor have been completed by Mr. Boswell, engineer to the Harbor Commission, and forwarded to Ottawa for consideration. The plans provide the necessary accommodation for an extensive trans-Atlantic trade.

A permanent pier and light are to be placed at the Lower Traverse in place of the lightship at present used there. It was at this point that the str. Alf, grounded at the closing of navigation, owing, shippers allege, to insufficient lighting and the too early removal of buoys.

The Cleveland, Ohio, Marine Review publishes a despatch from St. John's, Nfld., in which it is stated that the last season of navigation of the St. Lawrence was the poorest in the history of the route for many years, and gathers up into the article everything said against the route during the year, all with the object of showing that U.S. ports, which are open all the year round, are drawing the trade from Canada.

A fortnightly service between Quebec and Manchester will be commenced on April 1, with 8,000 ton steamers. The Great Northern Ry. of Canada will provide the freight through its connections, and J. McNaught, Vice-President of the Co., says that the route from Chicago and other U.S. points to Manchester and other British points will be 800 miles shorter via Quebec than via Buffalo. He says that negotiations are in progress for lines from Quebec to Liverpool and from Quebec to Antwerp.

The Great Lakes and St. Lawrence Transportation Co. is being organized in the U.S. to carry grain from Duluth, Minn., to Quebec, and coal and package freight on the return trips. It is claimed that this route will govern freight rates, holding them down to the very lowest possible figure. The only drawbacks to the route are the limited harbor accommodation at Port Colborne on Lake Erie, and the reported insufficient marking of the channel from Quebec to the sea, but these drawbacks are being removed as quickly as possible.

W. P. Boucher, engineer in charge of the buoys between Montreal and Quebec for the Department of Marine, states that it is better for the Government to lose a few buoys a year than to retard navigation or sink a ship or send her ashore for want of guidance. The loss to the Government in accommodating the shipping interests by leaving the buoys in place would not be more than \$2,000 in a season. The proposition to light the channel by electricity furnished from cables running under water he does not consider feasible, as the mechanism would be carried away by floating ice at the seasons of the year it was most wanted.

The Montreal Harbor Commissioners, having obtained from W. J. Conners, of the Conners Syndicate, a release of the sites granted him at Windmill Point, have informed Capt. Wolvin, and invited him to make a

proposition for building an elevator there, but that gentleman will not consider the matter further. The Minister of Public Works having declined to approve of J. A. Jamieson's plans for an elevator, the Commissioners have informed him that they cannot enter into a contract for its construction and have decided to invite designers and builders to submit plans for a fire proof elevator of 1,000,000 bush. capacity.

After several weeks' negotiation an agreement has been arrived at between the Quebec Harbor Commissioners and Capt. Wolvin, by which the latter is offered a site for a steel elevator on the Louise embankment in such a position that lake vessels can enter the inner basin and discharge cargoes into the elevator, and that ocean-going vessels can receive cargoes while lying in the outer basin. Accommodation for sheds and other works is to be provided, Capt. Wolvin to spend \$1,000,000 in erecting the same. The Co. is allowed a year to arrange its plans and instal its plant. This offer has been accepted and arrangements are being made to commence work on the site.

A conference of Montreal shipping men has been held at which questions affecting the welfare of the port were considered. It was recommended that the Harbor Commissioners should erect double-decked sheds on the three piers and other available points, with two railway tracks between each shed, such sheds to be leased to the steamship companies for a long term of years free, so as to enable them to make the necessary investments to handle cargo at the cheapest possible rate, thereby enabling them to compete with U.S. ports. They also recommended the provision of a floating crane, and sufficient elevator accommodation and the re-arrangement of the railway terminals so that the Commissioners would have control over them.

Ontario and the Great Lakes.

W. Miller, of Allegheny, Pa., is having built at Kingston a 42-ft. steam launch.

The str. Islander belonging to Ottawa is to be rebuilt during the winter at Kingston.

Sorby Bros., of Guelph, have placed an order at Kingston for a 38-ft. steam launch.

There is being built at Kingston, for Rev. Dr. Ulmen, of New York, a gasoline launch.

A 40-ft. gasoline launch is being built at Kingston for Rev. C. H. Eaton, of New York city.

The Muskoka and Georgian Bay Navigation Co. (Ltd.) has declared a dividend of 10% for 1901.

Plans are being prepared at Kingston for a 40 ft. steam launch for J. P. Cunningham, of Newcastle, Pa.

The Niagara Navigation Co.'s stock will, it is expected, be listed on the Toronto stock exchange at an early date.

A new boiler is being placed on the str. Hiram R. Dixon, at Owen Sound, and reports are current in Wiarton, her home port, that she has been sold.

The Kingston and Montreal Forwarding Co. has elected the following directors for 1902: F., F. W., and J. T. Ross, W. Stewart, and J. P. Carruthers.

The Dominion Fish Co. is reported to be about to build a boat for the Lake Huron trade, to replace the Dixon, which is going to return to Lake Superior.

The Midland Navigation Co. is considering offers for the building of a large grain-carrying steamer with a capacity of 180,000 bush. It will probably be built at Collingwood.

The Brockville Navigation Co. is reported to be negotiating for the charter of a vessel

to relieve the str. Brockville on the route between Brockville and Union Park next summer.

Capt. W. Augustus, of Kingston, has sent to the press a list of the old time screw steamers operating on the lakes, and promises to write a history of them, their owners and masters.

Power is being asked from the Ontario Legislature to enable the township council of Pelee to aid in the establishment of steamship communication between Pelee island and the mainland.

The str. Lillie Smith, owned by G. E. Smith, of Southampton, is to be rebuilt at Collingwood during the winter, and her consort the Cyreman, is to be repaired, according to press reports.

The St. Lawrence and Chicago Steam Navigation Co. (Ltd) has been granted supplementary letters patent under the Dominion Companies' Act, increasing its capital stock from \$200,000 to \$500,000.

The Northwest Transportation Co.'s steamer Huronic, now being built by the Collingwood Shipbuilding Co., is expected to be completed by the opening of navigation, as the work is in a very forward state.

The St. Lawrence and Chicago Navigation Co. is having built in Toronto a steel freight steamer, 260 ft. long, 43 ft. beam, and 25 ft. deep, with a capacity of 3,000 tons or 115,000 bush. She is intended for the upper lakes. Delivery is to be made in June.

The str. Niagara, formerly the Dominion Government cruiser Druid, has been sold by the assignee of the Toronto Navigation Co. (Ltd.), to A. W. Hepburn, of Picton, Ont. It has not been decided where she will run next season, and she is open to charter.

The Kawartha Lakes Excursion Co., which was referred to in our issue of Dec., 1901, as having purchased the str. Crandella, is composed of J. H. Lennon and E. Elliott, of Lindsay, Ont. It is stated that about \$2,000 will be expended in refitting the Crandella.

Capt. W. J. Bassett, who has been appointed to the command of the N.W.T. Co.'s str. Huronic, now building at Collingwood, has been master of the City of Collingwood since

1893, having been previously in command of the City of Midland and the Northern Belle.

Capt. H. Cleland, of Collingwood, has purchased the str. Telegram, to replace the John J. Long, burned in 1901. The Telegram is a screw steamer built at Collingwood in 1885, her dimensions being: length, 108 ft.; breadth, 21 ft.; depth, 9 ft.; tonnage, gross, 198, net 134.

The Midland Navigation Co.'s freight steamer Midland Queen, which received extensive injuries to her bottom last season by grounding, and was temporarily repaired at Detroit, is now being thoroughly repaired by the Collingwood Shipbuilding Co. at a cost of about \$12,000.

The Montreal, Ottawa and Georgian Bay Canal Co. has given notice that application will be made at the next session of the Dominion Parliament for an act extending to 1904 the time within which a commencement may be made with the work, and for other purposes.

The Hamilton and Fort William Navigation Co. has declared a dividend of 8% for 1901. Following are the directors for the current year: President, W. Southam; Vice-President, J. Milne; other directors, A. E. Carpenter, G. Hope, G. S. Lynch-Staunton, K.C.; C. E. Doolittle and R. O. Mackay.

The Algoma Central Ry. Co. is reported to have purchased a Clyde built side-wheel steamer capable of carrying 500 passengers, and 500 tons of package freight, at a speed of 16½ miles an hour, to be placed on the run between Sarnia and Sault Ste. Marie, calling at a number of Canadian ports en route.

The Owen Sound Dry Dock and Shipbuilding Co.'s incorporation under the Ontario Companies' Act was mentioned in our last issue. The directors, J. G. and A. B. Hay and H. B. Smith, have for some two years past carried on business as the Owen Sound Dry Dock Co. It is said that the dock will be enlarged and deepened.

A survey has shown that the str. Lord Stanley, which was seriously damaged by colliding with a wharf in Toronto, will require a new stern post, shoe and rudder support. She is to be repaired at the Polson Iron

Works, Toronto, and is to be brought over from Port Dalhousie, where she now lies, under steam, if the ice is not too heavy.

The Collingwood Shipbuilding Co. will probably increase its capital and add a boiler and machine shop and factory to its plant so as to build marine and stationary engines and boilers. A site has been secured adjoining the Co.'s present plant. There is no truth in the daily press reports that a separate company is being organized to build boilers and engines at Collingwood.

The R. and O. Navigation Co.'s officers deny the daily press reports stating that Oswego will be made a port of call for its boats during the coming season. One of the steamers, Toronto or Kingston, will leave Toronto daily at 4 p.m., going east, instead of 3.30 p.m., as heretofore, and will make up the half hour on the trip, making the times of arrival at the other ports as previously.

It is stated that within five years the big tow barges will be a thing of the past on the lakes, as they will be all converted into steamers. The danger of handling tow barges has increased with their large size, particularly in the fall season, and in harbors and narrow channels. It is claimed that a single steamer can be operated more profitably and expeditiously than a tug and two or three barges.

The annual report of the Lake Carriers' Association, U.S.A., presented at the general meeting in Detroit Jan. 15, referring to the river and harbor bill now before Congress, says: "It is expected that the new bill will contain a section providing for the appointment of an international commission on the subject of maintenance of lake levels." The Association passed a resolution asking Congress to take steps to construct a second canal on the U.S. side at Sault Ste. Marie.

The Polson Iron Works, Toronto, is building for C. Macdonald, 100 Broadway, New York city, a very handsome composite steam yacht, for use among the Thousand islands. Her dimensions are: length, 63 ft.; breadth, 9 ft.; extreme draught, 3 ft. 9 in. She will be fitted with compound jet condensing engines, 5 in., and 10 in., with submerged tube vertical boiler, tested to 200 lbs. to the square inch, and guaranteed to drive

MANITOBA

The Government Crop Bulletin issued Dec. 12th, 1901, gives the following statistics for the year:

CROPS.

ACRES.	AVERAGE YIELD.	TOTAL.
Wheat.....2,011,835	25.1 bus.	50,502,085 bus.
Oats..... 689,951	40.3 "	27,796,588 "
Barley.... 191,009	34.2 "	6,536,155 "
Potatoes.. 24,429	196. "	4,797,433 "

STOCK.

Number of stock in the Province, July 1, 1901:		
Horses..... 142,080	Sheep..... 22,960	
Cattle..... 263,168	Pigs..... 94,680	
Value of Dairy Products.....		\$926,314

18,375 FARM LABORERS

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

MANITOBA FARMERS ARE PROSPEROUS.

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

MANITOBA LANDS—For sale by the Provincial Government. Over 1,600,000 acres of choice land in all parts of the Province are now offered at from \$2.50 to \$5.50 per acre. Payments extend over nine years. **Special Attention** is directed to 500,000 acres along the line of the Manitoba and Northwestern Railway at \$3.50 and \$4.00 per acre.

FREE HOMESTEADS are still available in many parts of the Province.

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MANITOBA, ASSINIBOIA, ALBERTA and BRITISH COLUMBIA

sell through tickets to the Old Country, cheaper than if passengers bought railway tickets to New York or Montreal, and then re-booked.

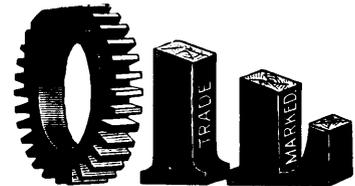
They also sell prepaid tickets to passengers coming from the old country, cheaper than the rate obtainable in Europe, and on favorable terms.

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Spirits Turpentine,
"Sarnia" Benzine,
"Sarnia" Gasoline,
Castor Oil,
Cotton Waste,
Lubricators, &c., &c.

her 12 miles during a continuous hour's run. The cost will be about \$7,000.

The Owen Sound and Georgian Bay Park and Summer Resort Co. (Ltd.) has been incorporated under the Ontario Companies' Act, with extensive powers, among them being power to operate steam and other boats. The capital is \$150,000, and the officials are: President, J. H. McLaughlan; Vice-President, D. M. Butchart; Secretary-Treasurer, A. D. Creasor; other directors, T. L. Kirkwood, C. Eaton, W. Taylor, F. Harrison, A. Green, L. Smith, of Owen Sound, and A. H. Notman, A. G. P. A., C. P. R., Toronto.

The Polson Iron Works, Toronto, is extending its yards out to the Windmill line in anticipation of the expected early development of steel ship building in Canada. In all about four acres of land will be reclaimed, upon which it will be able to lay down four full-sized canal steamers at one time. It is contemplated to transfer the present shipbuilding plant to the new ground which will be ready for occupancy this year. The new yard will be equipped with all modern facilities for the rapid and economical handling of material and turning out of work.

The Niagara River Line calendar for 1902 presents a picture of the Chippewa receiving her passengers at Toronto at the hands of a sailor boy representing Canada; the Corona in midlake, and the Chicora taking on passengers at Lewiston from a characteristically attired representative of the U.S. A birds-eye view of the Niagara river with the rail routes on both sides is given. Although the vessels and the figures are necessarily out of proportion to the map, the general effect is striking, and makes the calendar a good advertisement for the line.

The shipments from Chicago to Canadian lake ports during the season of 1901 amounted to 17,108,421 bushels of grain, distributed as follows:—Depot Harbor, 4,295,943 bush. wheat, 3,897,191 bush. corn, 1,389,705 bush. oats, 161,862 bush. rye, and 8,887 barrels of flour; Midland, 499,615 bush. wheat, 1,485,000 bush. corn; Meaford, 222,500 bush. wheat, 182,398 bush. corn; Goderich, 71,500 bush. wheat, 574,850 bush. corn; Sarnia, 3,519,702 bush. oats; Kingston, 349,250 bush. wheat, 149,750 bush. oats; Prescott, 87,300 bush. wheat; other Canadian ports, 199,770 bush. corn, 22,000 bush. rye.

Referring to the U.S. press reports as to Sir C. Furness' proposed shipbuilding plans at Sault Ste. Marie, F. H. Clergue says: "No plans for such an establishment have been made, nor had Sir Christopher's visit to Sault Ste. Marie any connection with the order for 12 ships which he is said to have taken back to England. The visit of this distinguished gentleman to Sault Ste. Marie was only an incident in a comprehensive tour of the industrial centers of Canada and the U.S. The opportunities afforded at the Sault for shipbuilding were discussed at the time of his visit, but no plans whatever were adopted."

The Canadian canal at Sault Ste. Marie was opened for traffic April 20, 1901, and closed Dec. 21, making a season of 246 days, compared with 230 days of navigation on the U.S. canal, and 238 days for the season of 1900. The number of vessels passing through the Canadian canal was 4,204, having a tonnage of 2,449,748, against 3,081 vessels of 2,194,748 tons in 1900. The total freight carried was 2,820,394 tons, an increase of 784,717. The total freight carried through the Canadian and U.S. canals was 24,626,976 tons, an increase of 11% over 1900, of which increase 8% passed through the Canadian canal.

The Algoma Central Steamship line is having built by the Collingwood Shipbuilding Co. a bulk freight tow barge, length, 390 ft. over all, and 376 ft. keel; beam, 46 ft.; depth, 26

ft. She is to be of the usual lake type of bulk freight barges, with modern lake equipments, consisting of steam pumps for handling water ballast, steam steering gear, steam towing machine, steam derrick and steam winches and capstans and a complete installation of electric lighting. She will have a cargo carrying capacity of 7,000 tons, and will likely be used for carrying iron ore from Michipicoten to Midland. She will cost about \$180,000 and is expected to be finished by June 1.

The Collingwood Shipbuilding Co.'s dry dock, the present dimensions of which are 350 ft. by 60 ft., is to be enlarged to 530 ft. by 78 ft., and work will be started early in the spring. It is intended to make the dock equal to any on the great lakes, so that it will accommodate two Welland canal size boats at once, and add two additional building berths for 500 ft. freighters, or four additional building berths for Welland canal size boats, and if necessary an additional berth in itself for a 500 ft. vessel, or for two Welland canal size boats. The Dominion Government will assist in the work by paying a percentage on the cost. The harbor has been dredged to a depth of 20 ft.

The Marine Record, of Cleveland, Ohio, published a list of the losses on the great lakes for the season of 1901, in which the following appear: Canadian tug Tecumseh, May 3, 83 tons, foundered in Lake Huron; loss \$6,000. Canadian steamer Hero, June 14, 342 tons, burned at Belleville, Ont.; loss \$10,000. Canadian steamer Alberta, July 7, 68 tons, ashore in Lake Huron; loss \$2,500. Schooner Smith and Post, Aug. 7, 212 tons, burned on Lake Erie; loss \$2,500. The schooner Smith and Post was placed by the Lake Carriers' Association on the south-east shoal, Pelee Passage, a few days before she was burned. Canadian steamer John Long, Sept. 3, 201 tons, burned in Meldrum bay; loss \$12,000.

The Polson Ironworks, Toronto, has received a contract to build a large dipper dredge for W. J. Poupore, contractor for the Montreal harbor works. The hull will be built with steel frames, guiders and beams, planked with heavy B.C. fir or southern pine and white oak, and will be of the following dimensions: length, 96 ft.; breadth, 36 ft.; depth, 10 ft. 6 in. Its capacity will be 8 cubic yards a minute, or about 720 tons an hour when working continuously at full power, and material can be dredged from a depth of 50 ft. It will be provided with many new devices for economical and efficient working under Robinson's & Desy's patents and is to be ready for trial, June 1. It will cost about \$62,000. L. A. Desy, of Montreal, is consulting architect.

The St. Clair and Erie Ship Canal Co., which was incorporated by the Dominion Parliament in 1899, with H. C. Boulbee, Toronto; Hon. D. Tisdale, Simcoe; H. A. Olney, Saltash, Cornwall, Eng.; D. F. Henry, Detroit, Mich., and C. A. Youmans, Neillsville, Wis., as provisional directors, has given notice that application will be made at the coming session of Parliament, for an act extending the time for the commencement and completion of its undertaking. The Toronto Globe says that details of the proposed canal show that it will be 13½ miles in length, through low-lying land, with the underlying rock more than 20 ft. below the bottom of the deepest cut. A uniform depth of 21 ft. is proposed, with a canal 156 ft. wide on the surface and 72 ft. wide on the bottom. This canal would enable vessels to avoid the fogs, shoals and rapid current of the Detroit river, and would afford a straight course from the St. Clair flats canal through Lake St. Clair to Lake Erie. The course would be unimpeded by locks, and a speed of six miles an hour could be maintained. The saving in distance by the canal would be 79 miles between the

foot of the St. Clair flats canal and an offing in Lake Erie. In time the saving would be six or seven hours. No estimate of cost is given, but the promoters of the canal claim that there would be a net saving of \$1,000,000 a year on the 40,000,000 tons of freight now annually passing through the Detroit river. Two other projects for the construction of ship canals between Lakes Huron and Erie will come before the House of Commons. One is the St. Joseph and Lake Huron Ship Canal Co. (Jan., pg. 45), and the other is the Huron and Erie Canal Co., on behalf of which Greenshields, Greenshields & Heneker, solicitors, Montreal, are acting. Similar powers are asked by this Co. as by the St. Joseph & L. H. S. C. Co.

Manitoba and the Northwest Territories.

E. Malhoit is reported to be about to make surveys at Big Point and Sandy Bay on Lake Manitoba preparatory to the construction of wharves there. Wharves are also, it is stated, to be built at Gypsumville and Winnipegosis during the year, and the channels in the lake are to be improved.

It is reported that a light draft steamer will shortly be placed on the North Saskatchewan river to run as far up as Edmonton. A boat such as would be required could, it is said, be put on the river for \$8,000, and negotiations are proceeding for acquiring one or having one built.

Delta, on Lake Manitoba, the terminal point of the Canadian Northern Ry.'s Oakland branch, is reported by vessel owners difficult of approach, and consequently will not be taken much advantage of as a shipping port. It is reported to be an excellent summer resort and camping ground.

The Winnipeg Board of Trade has asked the Department of Public Works to place a snag boat on the Red River, at a cost of \$10,000, and its operation, to keep open the channel between St. Andrew's rapids and St. Paul's Industrial school, pending the completion of the St. Andrew's locks.

Pacific Coast Shipping.

The British steamer Cutch, after having been thoroughly repaired, is expected to be again placed on the Lynn canal run.

The Victoria and Sidney Ry. Co. is reported to be negotiating for a steamer to make a daily trip between Victoria and Nanaimo, calling at several points en route.

The British Yukon Navigation Co. is applying to the Chief Commissioner of Lands and Works for B.C., to purchase 160 acres of land at the mouth of the Atlinoo river, Cassiar district, for terminal and industrial purposes.

Press reports state that arrangements have been completed for the placing of a steamer on the Kootenay river to run between Fort Steele and Portal or Crow's Nest Landing, connecting with the Crow's Nest Southern Ry. to Jennings, Mont.

Orders are reported to have been placed with the Wallace shipyard, False Creek, Vancouver, for a small steam yacht, and for a 90 ft. freight boat. At the Coats' yard near by, the City of Columbia, one of the Fraser river boats, is being rebuilt.

The steamer built by the Revelstoke Navigation Co., and described in our issue for Aug., 1901, pg. 253, was launched at Nakusp, Jan. 9, and named the Revelstoke. The engines were built by the Polson Iron Works, Toronto, and have been delivered.

Hon. J. Dunsuir, Premier of B.C., in an address to the electors, stated that the encouragement of shipbuilding in the province

was a matter of vital importance, but was a Dominion rather than a provincial matter. However, the Province was willing to do its share in promoting it.

A proposition has been made, according to press reports, for the raising of the wrecked C.P. Navigation Co.'s steamer *Islander*. The proposition is made by Hazard & Stearns, who claim to have invented a new diving machine and wrecking apparatus for enabling divers to work at great depths.

The Puget Sound Steamboat Co. has purchased the Thompson Company's steamers *Majestic*, *Alice Gertrude*, *Garland*, *Lydia Thompson*, *Prosper* and *Evangel*. The P. S. S. Co. was recently reported to be about to have five new steamers built, but it is now contemplated to have only three built.

A. B. Newell, President of the White Pass and Yukon route, recently returned from Whitehorse, and states that by the opening of navigation next season many improvements will have been made on the British Yukon Navigation Co.'s steamers, which the W.P. & Y.R. controls. Increased passenger accommodation is to be provided, and other improvements made.

The Canadian Pacific Navigation Co.'s steamer *Hating* has had the injuries to her hull, received by running ashore, repaired at the Victoria dry dock, and is now at Vancouver to have her internal fittings overhauled. A. Piers, Supt. of C.P.R. steamships, inspected the work being done, on his recent visit to the coast, and says that the *Hating* will be a finer and a faster steamer than ever before.

W. F. Bullen, Manager of the Esquimalt marine railway, says the time is ripe for the establishment of a shipbuilding yard on the Canadian Pacific coast. The demand for all classes of vessels is good, and is likely to increase as time goes on. Eastern investors are, he said, beginning to realize the immense opportunities of Pacific marine commerce, and are becoming financially interested in it.

In connection with the improvement of navigation in the Arrow lakes, B.C., the Dominion Government has entered into a contract with the Polson Ironworks, Toronto, for the building of a small dipper dredge from designs supplied by A. W. Robinson, Montreal. The hull will be built at Nakusp, B.C., of wood, ready to receive the machinery, which will be constructed in Toronto, and shipped west.

The British Columbia Steamship Co. has been incorporated under the B.C. Companies Act to acquire and operate the steamship *Manauense*. The capital is fixed at \$50,000. The *Manauense* is an iron screw steamer, built at Port Glasgow, Scotland, in 1874, and registered at Liverpool, Eng. Her dimensions are: length, 281.1 ft.; breadth, 32.1 ft.; depth, 23.2 ft.; tonnage, gross, 1,672; net, 976. She is fitted with engines of 250 h.p.

The Pacific Coast Steamship Co., Alaska Steamship Co., F. Waterhouse & Co., Pacific Clipper line, Pacific Packing & Navigation Co., North American Transportation & Trading Co., Thompson Steamboat, and La Conner Trading & Transportation Co., operating from Puget Sound ports, are reported to have formed an association for the purpose of advancing their mutual interests and of settling differences that may arise between themselves.

Capt. I. N. Hibbard, Supt. of the Northern Navigation Co.'s Yukon steamers, states that the Co., which is mainly composed of shareholders of the Northern Commercial Co., has 38 steamers plying between St. Michael and Dawson, and owns in all 89 river steamers and barges. Last season about 2,000 people were carried down the river, and 1,500 up the river, while 25,000 tons of freight was moved from St. Michael to points up the river to Dawson.

The Arab Steamship Co., Ltd., has been incorporated under the B.C. Companies' Act, with a capital of \$180,000, to acquire the British steamship *Arab*, of Liverpool, Eng.

She was built in 1879 at Glasgow, for the Union Steamship Co., and sailed between Southampton and Cape Town for a number of years. Her dimensions are: length, 350 ft.; breadth, 40.2 ft.; depth, 23.5 ft.; tonnage, gross, 3,192, net, 1,962. Her engines are of 500 h.p.

The Dawson customs house reports that during the season of navigation of 1901 there was taken in via the Upper Yukon river route 22,597 tons of freight against 20,417 in 1900; and by the lower river route via St. Michael, 13,930 tons against 11,627 tons in 1900. Sixty per cent. of the freight last season was Canadian. The passenger business inwards from Whitehorse was 3,101, and from St. Michael 725; and outwards to Whitehorse 7,727, and to St. Michael 809.

The Washington state courts at Seattle have decided that no action will lie against the C.P. Navigation Co. for damages for loss of life or property on account of the foundering of the *Islander*. All that the survivors can claim is their proportionate share of \$7,560 worth of property, consisting of the freight and passenger receipts for the fatal voyage, and the value of the lifeboats saved from the wreck. Claims aggregating \$230,000 had been filed in the Washington courts by 75 survivors.

The steamer *Bristol*, owned by R. Dunsmuir & Sons, Ltd., and engaged as a collier between their collieries on Vancouver island and Alaskan points, was lost with all hands during the recent gales off the B.C. coast. Under her original name of the *City of Valparaiso*, the *Bristol* was run as a blockade runner in some of the Nicaraguan revolutions in the late '70's. In the early rush to the Klondike the *Bristol* was in the passenger

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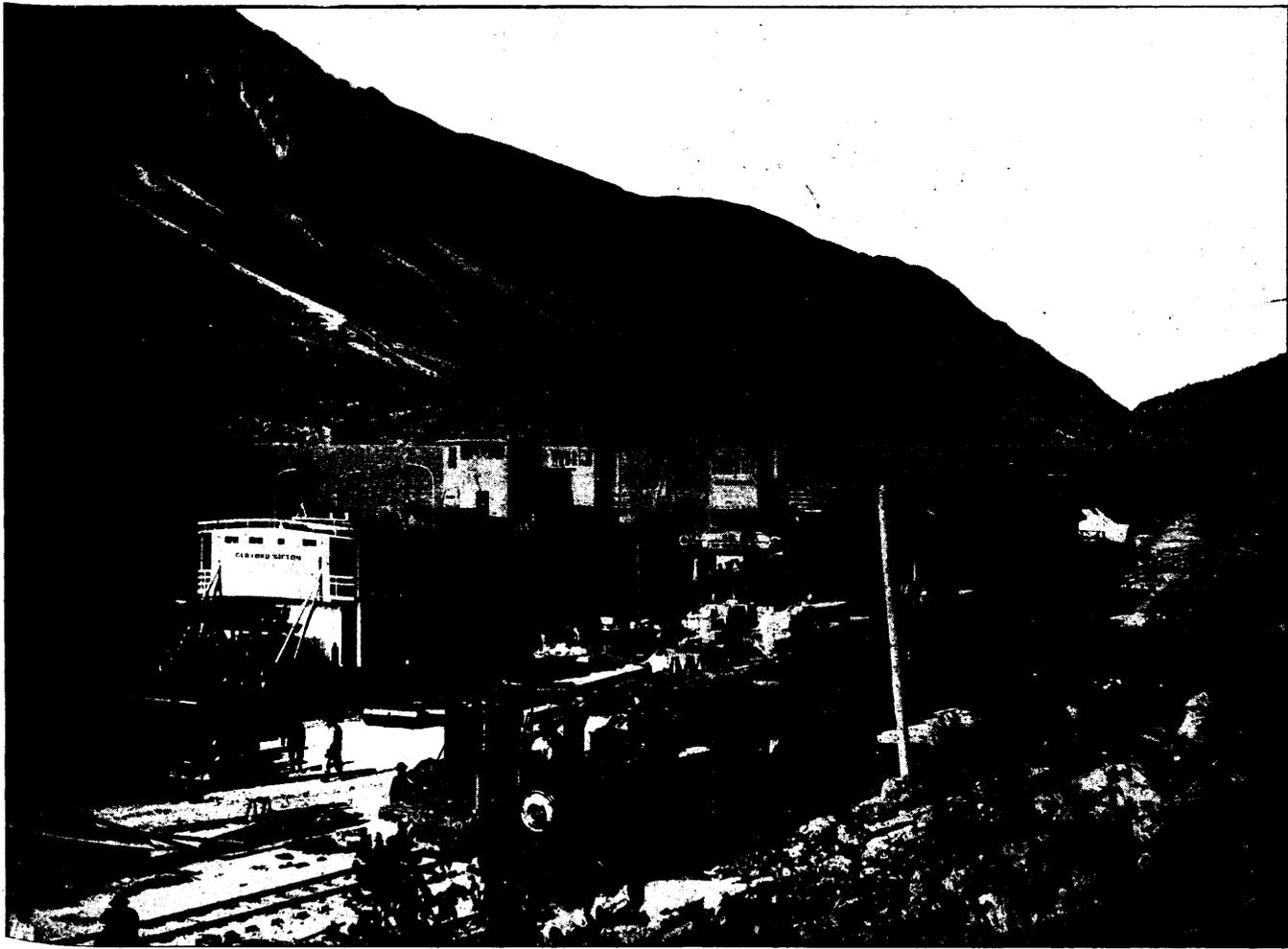
service for a time. She was valued at \$140,000 with cargo and equipment.

A. Piers, General Supt. C.P.R. steamships, on the occasion of his recent visit of inspection to Vancouver, stated that tentative designs for the proposed new Vancouver-Victoria steamer, and the new steamer to replace the Islander, had been submitted by British firms. These vessels would not be completed this year, but if business warranted it, a temporary steamer would be put on the northern route in place of the Islander. On Jan. 11 we were officially informed that there had not been anything definitely decided as to the two steamers.

In view of the inquiries by the Department of Public Works Engineer into the work re-

land, Ohio, and for which the claim is made that it is the only comprehensive dictionary of sea terms that has ever been compiled and issued. An effort has been made to incorporate into the work the meaning of every word which has to do with ships—hull, rigging and machinery. To this end great pains have evidently been taken in sifting practically the nautical history of the world, and from the mass of information thus obtained clear and comprehensive definitions of each word have been written, and, where necessary, illustrations are introduced. There are over 600 engravings illustrating every possible part of ship construction. To that numerous body which have to do with the merchant marine and the navy, with ship construction and with navigation, the book should prove an inval-

there are not the proper terminal facilities, and the St. Lawrence channel between Montreal and the sea has not received sufficient attention. Mr. Tarte says further that in his opinion the improvement of the French river is the most urgent matter before the country. The improvement of the French river, so as to give it a depth of 20 ft. throughout, would at once be followed by the accumulation of 25,000,000 to 30,000,000 bushels of wheat on Lake Nipissing, which would mean that Montreal, Quebec, and St. John, N.B., would receive this additional traffic. It is only a matter of \$4,000,000 at most, a bagatelle of \$125,000 a year for interest. This step having been reached, it will be for the country to consider the deepening of the Ottawa river to Montreal.



STEAMBOAT LANDING AND TERMINUS AT BENNETT, B.C., EN ROUTE TO THE YUKON.

quired to be done on Arrow and Kootenay lakes to improve the navigation there, the Nelson Miner says that the work done on Arrow lake two summers ago was of some benefit, but that what is required to meet the requirements of the trade is the clearing of the sand bar at the entrance to Arrowhead, and the dredging of about 20 miles of channel through shifting sandbars. A depth of 9 ft. was required, and about two months' work a year would keep the channel well open. On Kootenay lake a greater depth of water is required at Kootenay Landing and some other points, and a number of lights are required.

uable work of reference. It contains over 500 pages, is serviceably bound in white duck and lettered in blue, and is altogether a good example of the art of printing and binding.

A marine parasite has been found to be doing serious damage to the instruments placed in the sea for taking tidal observations off the coast of Prince Edward Island, and specimens have been sent to the laboratory of the Fisheries department at Ottawa to determine their nature, and the best means of preventing further damage.

Hon. J. I. Tarte says that while the Dominion Government is moving in the right direction in regard to the solution of the transportation problem, it is moving too slowly. The canal system is not of sufficient depth,

G. B. Hunter, a member of the Newcastle-on-Tyne firm of shipbuilders, which has built so many of the Elder-Dempster liners, in a recent interview at Montreal said, in regard to a proposed Canadian fast line:—"He would not say whether the Imperial Government should subsidize such a line after the fashion of the big boats which could be used as auxiliary cruisers in time of war, but certainly the Federal Government should give a substantial subsidy for carrying the mails. This would not be really a gift; it would be wages paid for service rendered. Without this subsidy, of course, the line would not pay commercially; with it, it might be, in time, self-sustaining. Chiefly, however, we must look to the effect of such a line upon the whole country. Lord Strathcona and other patriotic Canadians knew full well the enormous ad-

Patterson's Illustrated Nautical Encyclopedia is an exceedingly useful book issued by the Marine Review Publishing Co., of Cleve-

ASSESSMENT SYSTEM



INDEPENDENT ORDER OF FORESTERS.

THE BEST FRATERNAL BENEFIT SOCIETY IN EXISTENCE.

Cost to Join the I.O.F.

(For \$1,000 Mortuary Benefit.)

Initiation fee (minimum).....	\$1 00
Certificate fee.....	1 00
Registration fee.....	1 00
Medical Examination fee.....	1 50
Total minimum cost.....	\$4 50

(For more than \$1,000 Mort. Benefit.)

Cost to take \$2,000 Mort. Benefit..	\$6 00
" " \$3,000 " " "	7 00
" " \$4,000 " " "	9 00
" " \$5,000 " " "	10 00
Sick benefits, when required, cost extra.	

Benefits given by the I.O.F.

- 1.—**The Mortuary Benefit** of \$500, \$1,000, \$2,000, \$3,000 \$4,000 or \$5,000.
- 2.—**A Total and Permanent Disability Benefit** of one-half of face value of policy, with exemption from further payment of premiums or Court Dues.
- 3.—**An Old Age Benefit** consisting of exemption from payment of premiums and Court dues after age 70.
- 4.—**An Old Age Disability Benefit** of one-tenth of face value of policy payable yearly for ten years, on being declared totally and permanently disabled by infirmities of age after the seventieth birthday.
- 5.—**An Old Age Pension** payable during disability, which may be taken as a substitute for the Old Age Disability Benefit.
- 6.—**Free Medical Attendance** by Court Physician where not dispensed with by Court by-law; also trained nurses in certain cases.
- 7.—**A Sick Benefit** of \$3 to \$5 per week, subject to provisions of the Constitution and Laws of the Order; optional, and when taken cost's extra.
- 8.—**A Burial Benefit** of \$100 at death of a Pensioner.
- 9.—**A Funeral Benefit** of \$50 at death of a member enrolled in Sick and Funeral Benefit Department.
- 10.—**Social and Fraternal Privileges** of the Court Room.

The Members, the Benefits, and the Surplus

At 31st December Each Year.

Year.	Total Membership.	Benefits Paid.	Total Surplus.	Surplus per Capita.	Death Rate per 1,000.
1881	1,019	\$ 1,306 00	\$ 4,368 55	\$ 4 48	4.50
1882	1,134	12,058 86	2,967 93	2 61	11.00
1883	2,210	9,493 68	10,857 65	4 91	4.73
1884	2,558	13,914 31	23,081 85	9 01	4.23
1885	3,642	26,576 99	29,802 42	8 18	7.76
1886	5,804	28,499 82	53,981 28	9 30	4.85
1887	7,811	59,014 67	81,384 41	10 44	5.78
1888	11,800	89,018 16	117,821 96	9 98	6.43
1889	17,349	116,787 82	188,130 36	10 84	5.85
1890	24,604	181,846 79	283,967 20	11 54	5.18
1891	32,303	261,436 21	408,798 20	12 65	6.40
1892	43,024	344,748 82	580,597 85	13 49	6.25
1893	54,484	392,185 93	858,857 89	15 76	5.47
1894	70,055	511,162 30	1,187,225 11	16 94	5.47
1895	86,521	685,600 18	1,560,753 46	18 03	5.67
1896	102,838	820,941 91	2,015,484 38	19 60	5.56
1897	124,685	992,225 60	2,558,832 78	20 52	5.67
1898	144,000	1,170,125 14	3,186,370 86	22 12	5.67
1899	163,610	1,430,200 33	3,778,543 58	23 09	6.30
1900	180,717	1,545,145 64	4,483,364 44	24 81	6.53

For Further Information Respecting this Great Fraternal Benefit Society, Apply to
 Oronhyatekha, M.D., S.C.R., Toronto, Ont. John A. McGillivray, K.C., S.S., Toronto, Ont.
 James Marshall, 24 Charing Cross, London, Eng. A. E. Stevenson, 431 E. Sixty-Third St., Chicago, Ill.
 Or Any Officer or Member of the Order.

vantage which such a line would be to the country as a whole. It would stimulate population; it would lead to industrial development; it would be the best advertisement which Canada ever received. The country would be repaid five times over for all the cost in the benefits which would accrue. Of course the New York route was well established, and in the winter, perhaps, there might be some slight handicapping as to the service, but there could be no manner of doubt that the Dominion would be incalculably benefited by the carrying out of the project."

Among the Express Companies.

The Dominion Ex. Co.'s Halifax and Lunenburg, N.S., steamship route was closed Jan. 1.

The Dominion Ex. Co. has opened offices at Beaver, Housin, Ridgeway and Youill, Man.; Aylwin, Que., and Roscoe, Sask.

C. M. Hays, 2nd Vice-President and General Manager of the G.T.R., has succeeded G. B. Reeve as President of the Canadian Ex. Co.

The Dominion Ex. Co.'s service has been extended over the Canadian Northern Ry.'s extension from Portage la Prairie to Gladstone Jct., Man.

R. G. Wilson, general agent of the Canadian Ex. Co., Toronto, was presented with a gold mounted umbrella on New Year's day by the Toronto staff.

The Canadian Ex. Co.'s agents at the following points have been made general agents: J. S. Patch, Montreal; R.G. Wilson, Toronto; J. H. Moore, Hamilton.

The Western Ex. Co. has extended its service on the Minneapolis, St. Paul and Sault Ste. Marie Ry., from Dresser Jct. to Fredrick, Wis., and from Rice Lake to Birchwood, Wis.

The management of the Midland Ry. of Nova Scotia had not, up to Jan. 13, decided what express company will operate its line, but we were then informed that the matter was under consideration and would be settled in the near future.

The Dominion Ex. Co. has cancelled its tariff and marine insurance on shipments of money and valuables from Halifax, N.S., to Bermudas, Barbadoes, Jamaica, Trinidad, and South America, owing to lack of proper facilities for safe transportation.

The Newfoundland Ex. Co. has placed an order with the Acton Burrows Co., Toronto, for enameled iron signs for its money order offices. They will be made in two colors, blue ground with white letters, very similar to those used by the Dominion and Canadian Ex. Cos.

The Dominion Ex. Co. is having plans prepared for a building to be erected at Toronto Union Station, just west of the present outwards baggage room. It will be 70x80 ft., 2 stories high, the ground floor to be used for the Co.'s freight business and the upper floor for the Auditor's offices. Construction will probably be started early in the spring. After the Co. removes to the new building the space it now occupies on the ground floor of the Union Station will be utilized as additional baggage-room accommodation.

Telegraph and Cable Matters.

The recently built telegraph line between Golden and Windermere, B.C., has been opened for the transmission of messages.

The telegraph line on the Grand Forks and Republic Ry., connecting Grand Forks, B.C., with Republic, Wash., has been completed.

The G.N.W. Telegraph Co. has opened an office in the new G.T.R. station at the Wel-

lington Street subway, Point St. Charles, Montreal.

The business at the C.P.R. telegraph office at Nelson, B.C., requires 11 operators to handle it, and is the largest between Winnipeg and Vancouver.

The U.S. Co. which proposed to lay a cable from San Francisco to Honolulu and thence to the Philippines, has withdrawn its application for a charter from Congress.

It is reported that the telegraph line on the Midland Ry., between Truro and Windsor, N.S., will be operated by the C.P.R. telegraphs, and that the line will be extended from Windsor to Yarmouth.

The Canadian Northern Ry. Co.'s telegraph line from Port Arthur, Ont., to Winnipeg, has been completed and is in operation for railway purposes. No date has yet been fixed for the opening of the commercial offices.

The Department of Marine is understood to be in negotiation with Marconi, for the erection of wireless telegraph stations at the chief lighthouse stations in the Gulf of St. Lawrence and the Maritime Provinces. There are 42 of these stations where the system could be installed to advantage. Each station house with apparatus is estimated to cost about \$3,000.

A suggestion has been made that the Dominion Government telegraphs be removed from the control of the Minister of Public Works and placed under that of the Postmaster-General. Hon. J. I. Tarte says the powers of the Department of Public Works have already been sufficiently curtailed, and that he will oppose a transfer of the telegraphs to the Post Office so long as he is a member of the House of Commons.

The break in the Anglo-American Cable connecting Prince Edward Island and the mainland has been located and repaired. The cable is reported to be weak in several places. The islanders have decided to ask the Dominion Government to establish wireless telegraph stations at convenient points on either side of the strait, which is 9 miles wide, so as to avoid the delays necessitated by having to get messages carried across by steamer when the cable breaks down.

M. W. Crean, Supt. of the Government telegraphs in the Yukon Territory, reports that there are 1,800 miles of line in operation there, and that the system is upon an excellent business basis. He says there is difficulty in getting to the points at which breaks occur as at times the men cannot make more than 5 miles a day. Mail advices received in Toronto, Jan. 20, from Dawson, stated that the wires had been down since Dec. 21.

Plans have been prepared by F. M. Rattenbury, Victoria, B.C., for the buildings for the Canadian terminal of the all British cable to Australia. The main building will have a frontage of 100 ft., and a depth of 120 ft. It will be T shaped, one wing being for the general offices, and the other will contain the quarters of the 20 officials who will live there. There will also be a bungalow for the manager and a laundry building. Electric lighting will be provided and a water supply installed.

During the violent storm on the B.C. Coast, Dec. 25, the cable connecting Vancouver city and Vancouver island was severed by the anchors of the mail steamer Aorangi, which dragged at her anchors in English bay. As the alternative cable of the C.P.R. telegraphs has been out of order, telegraphic communication between the mainland and Victoria was impossible until Jan. 9, when the broken cable was repaired. There had to be spliced into the main cable 2½ miles of new cable.

Marconi, the inventor of wireless telegraphy, has discontinued his experiments in

Newfoundland, and after investigating sites in Nova Scotia, has selected one at Table Head, Glace Bay, where it is said a big plant will be erected. Hon. J. I. Tarte states that the Dominion Government should build the tower for the station at the very least, but he is in favor of the Government undertaking the whole work and transmitting the messages as a public work, paying royalties, rather than letting private enterprise undertake it. The Government telegraph system is right round Cape Breton, and extends to the Magdalene Islands; from there it could be extended to Anticosti, to which point the Government telegraph already extends. This would give direct connection between Canada and Great Britain by a Government line.

On Jan. 16, 1852, the Toronto Globe contained the following item: "The public will be pleased to learn that the Montreal Telegraph Co. has made a material reduction in its rates for sending communications. Under 200 miles the old tariff was 1s. 6d. for 10 words, and 2d. each additional word; new tariff 1s. 3d. and 1d. each additional word. Over 200 and under 400 miles—old tariff 2s. 6d. and 3d.; new tariff 2s. and 2d. Over 400 miles—old tariff 3s. 9d. and 4½d.; new tariff 3s. and 3d. The rates from Toronto to Kingston are 1s. 3d. and 1d., instead of 1s. 8d. and 2d.; to Montreal 2s. and 1d., instead of 2s. 6d. and 3d.; to Quebec 3s. and 3d., instead of 3s. 9d. and 4½d." Fifty years later the prospect of being able to communicate by means of a wireless telegraph system between Canada and Great Britain at a cent a word is within measurable distance of realization.

Montreal Telegraph Company.

At the annual meeting held in Montreal on Jan. 9, the 55th annual report was presented as follows:

ASSETS—DEC. 31, 1901.	
Telegraph lines in Canada and U.S.	\$1,625,890 00
Telegraph cables in Canada and U.S.	33,487 39
Telegraph offices and equipment of offices in Canada and U.S.	212,500 00
Real estate in Montreal, Ottawa, Quebec and Toronto	279,946 46
	\$2,151,823 85
Cash, real estate (old telegraph building, St. Sacrament St., Montreal), accounts receivable, etc.	134,975 31
	\$2,285,899 16
LIABILITIES.	
Shareholders' capital	\$2,000,000 00
Excess in value of property operated by G.N.W. Tel. Co. over shareholders' capital	151,823 85
	\$2,151,823 85
Dividend 150, payable Jan. 15, 1902	\$40,000 00
Unclaimed dividends, etc.	1,390 77
Contingent fund	92,684 54
	134,975 31
	\$2,285,899 16

The Company's property, valued above at \$2,151,823.85, is operated and maintained by the Great North-Western Telegraph Co. of Canada. Its operation and maintenance is also guaranteed by the Western Union Telegraph Co., of New York, under an agreement with this Co. for 97 years from July 1, 1881. The Co. continues free from debt or encumbrance of any kind. Since the presentation of the last annual report, 4 quarterly dividends of 8% per annum have been made. The revenue derived from the Co.'s contingent fund having reached \$5,000 a year, the directors recommend, in accordance with the resolution passed by the shareholders in 1898, the distribution of 10c. a share, as a bonus to stockholders of record on Mar. 31, 1902, in addition to the payment of the guar-

anted quarterly dividend of 80c. a share, payable April 15 next.

The report and recommendations having been adopted the following officers were elected: President, H. A. Allan; Vice-President, A. T. Paterson; other directors: J. Joseph, W. Macmaster, W. R. Miller and W. Wainwright.

C. P. R. Company's Telegraphs.

During 1901, the following extensions and improvements have been completed on the Co.'s telegraph system:

EASTERN DIVISION.—One wire no. 8 gauge from Montreal to Ottawa, and from Renfrew to Sudbury; one no. 8 gauge wire from North Bay to Sudbury; thus increasing the wire mileage 444 miles.

The new fire proof eight story telegraph building in Montreal was completed, and all wires connecting with it put underground. For this purpose 11,000 ft. of 30 conductor, underground cable was used, equal to 62 miles of conductors.

ONTARIO DIVISION.—Added to mileage— one wire from Toronto to Teeswater; one wire from Toronto to Owen Sound and loops; pole line and one no. 8 gauge wire from Ridgetown to St. Thomas; making a total increase in mileage, of poles 44 miles, and of wire 311 miles.

WESTERN DIVISION.—Laid 3,000 ft. 10 conductor aerial cable to connect main office and Board of Trade, Winnipeg. Added to wire mileage: one no. 6 gauge wire from Swift Current to Kootenay Landing, B.C.; one no. 8 gauge wire from Portage la Prairie to Brandon, Man.; one no. 8 gauge wire from Brandon to Estevan, Man.; and one no. 8 gauge wire from Brandon to Rapid City, Man., thus increasing the mileage by 853 miles of wire.

In addition to the above a large amount of work in reconstruction and general repairs was performed on all divisions.

General Telephone Matters.

A telephone line from Perth to Balderson, Ont., is reported as under construction.

The Farmers Electric, Water and Telephone Co., Cardston, Alta., has been incorporated.

The Alberta Mercantile Co. is installing a telephone line between Frank and Blairmore, Alta.

The Vernon and Nelson Telephone Co. is reported to have raised the rates on its system in Grand Forks, B.C., on Jan. 1.

The Valley Telephone Co. having increased its rates, the residents of Wolfville, N.S., are talking of establishing a local telephone system.

At the recent municipal elections in Ottawa, 4,415 votes were cast in favor of, and 3,071 against, the city owning and operating a telephone exchange.

The Bell Telephone Co. will apply at the next session of the Dominion Parliament for an act authorizing it to increase its capital stock, and for other powers.

A Vancouver, B.C., firm recently received a telephone message from Loomis, Wash. It was sent to Spokane, via Greenwood, B.C., and from Spokane, via Seattle, to Vancouver.

The British Columbia Telephones, Ltd., subsidiary, the New Westminster and Burrard Inlet Telephone Co., is said to have lost about \$5,000 by the recent storm in the Vancouver district.

The New Brunswick Telephone Co. having completed its St. John-St. Stephen long distance line, residents of N.B. can have through

connection with Portland, Me., Boston, Mass., and other U.S. cities.

At the annual meeting of the Victoria, N.B., Telephone Co., Jan. 7, the following officers were elected: President and Manager, G. T. Baird; Secretary-Treasurer, D. Baird; other Directors, A. H. Baird, G. W. H. Perley, and J. McNair.

The Cranbrook Electric Light Co. is constructing a telephone line between Cranbrook, Marysville and Kimberley, B.C. It is reported that the Co. has also acquired the Cranbrook and Fort Steele lines, making its system about 35 miles in length.

It is claimed that experiments recently made in Brussels, Belgium, have demonstrated that Dr. Sylvestro, a Frenchman, has invented a spectograph, which enables a person using the telephone to see who is at the other end of the wire.

The Bell Telephone Co.'s arrangement with the city of Hamilton, Ont., will expire on Mar. 1, and the Co. has not applied for a renewal of the franchise. At present the city receives \$1,500 a year for an exclusive franchise and special privileges, and pays the Co. about \$2,000 for telephones.

D. W. Ross, M.D., Florenceville, N.B., gives notice that application will be made at the next session of the New Brunswick Legislature for an act to incorporate the Union Telephone Co., Ltd., with power to operate a telephone line throughout the counties of Carleton, York, Victoria and Madawaska.

The Parrsboro Shore Telephone Co. has purchased the telephone line recently constructed by H. C. Jenks, between Parrsboro, Newville and River Herbert, N.S., 25 miles. The price paid is reported to be \$1,100. The Co. will probably extend the line to Amherst and Joggins, making about 35 miles in all.

The Dominion Subway Co., Ltd., has been incorporated under the Dominion Companies' Act to construct, operate and dispose of underground conduits, wires, cables and pneumatic powers, with a capital of \$100,000, and head office in Montreal. The provisional directors are: C. F. Sise, Hon. R. McKay, R. Archer, H. Paton and C. Cassils, of Montreal.

The Nova Scotia Telephone Co.'s officers are: President, B. W. Chipman; Vice-President, R. Uniacke; Secretary-Treasurer, T. N. Goudge; other directors: C. F. Fraser, B. F. Pearson, R. L. Borden, M.P.; Dr. A. C. Cogswell, and C. F. Sise, President Bell Telephone Co., Montreal. J. H. Wingfield has been appointed General Manager, succeeding the late C. E. Harris.

The St. Lawrence Telephone Co. recently formed to take over a private line belonging to C. F. Beauchemin and H. F. Paulin, between Sorel and Nicolet, will make application to the Quebec Legislature at its next session for an act of incorporation. Among the powers asked for are permission to manufacture, buy and lease telephones. The capital is to be \$15,000 in 150 shares, and the head office is to be at St. Francois du lac.

The New Brunswick Telephone Co.'s new offices at St. John will be ready for the installation of the plant by the middle of Feb. On the ground floor there will be five public toll rooms, store rooms and the heating plant; on the first floor will be the manager's private office, the public offices, board room, etc.; on the top floor there will be an operating room, 56 x 28 ft.; a long distance booth for use at nights and on Sundays; a waiting room, and wire and battery rooms. The new exchange will be ready for use in May.

Judgment was given, Jan. 17, at Osgoode Hall, Toronto, by Justice Britton, continuing the injunction obtained by the Citizens' Telephone and Electric Co. of Rat Portage, Ont., restraining the town council of that place from

amending a by-law reducing rates, and dismissing an action brought by the town council against the Co. to have a contract made between the parties declared void. The town council has a bill before the Ontario Legislature, asking for power, among other things, to take over the undertaking and plant of the Co.

A Paris cablegram of Jan. 14 says: "The telephone department has decided to substitute electric lamp lights for the present call arrangement. In order to make a connection with the office the person who desires to use the telephone simply unhooks the receiver." It might surprise the Parisians to know that the "central energy" system is already established in Canada. The Bell Telephone Co. equipped its Ottawa exchange with it some time since, and it is also in operation in the North Toronto and Parkdale exchanges, Toronto, and in Winnipeg.

R. K. Houlgate, of the British Columbia Telephones, Ltd., has obtained an order directing that the mortgage debentures of the Columbia Telegraph and Telephone Co. of Grand Forks, B.C., shall constitute a fixed charge on the Co.'s property; to have an account taken of the amount due on the debentures, and to have them enforced by foreclosure or sale. The C. T. and T. Co. is a competing line with the British Columbia Telephones, Ltd., subsidiary, the Vernon and Nelson Telephone Co., and a rate war has been waged between them for some time past. As the result of the suit it is expected that the V. and N. Co. will absorb the C. T. and T. Co.

Duplicating Telephone Systems.

Detroit, Mich., has had two opposition telephone companies, and a co-operative company is now proposed. The Detroit Free Press of Jan. 21 says:—"A Detroit banker was asked yesterday whether there is much chance that the proposed Detroit co-operative telephone company could borrow money from local financial institutions, should it need to raise money in this way. The financier said he doubted whether any Detroit bank would take such a chance, owing to the poor results shown by telephone concerns in this city. He cited the Detroit Telephone Co., which was floated with such a trumpeting prospectus, and which finally passed into the hands of the Michigan Telephone Co. He also showed that for more than a year the latter company has paid no dividend, while there is a lot of unpaid floating indebtedness on the plant. Furthermore, he spoke of the difficulties of the People's Co. and other Everett-Moore telephone properties to indicate that there is little temptation for any capitalist to risk money in telephone propositions. One of the best of the Everett-Moore telephone concerns was supposed to be the U.S. Telephone Co., which has a toll line for Ohio, Indiana, West Virginia, Michigan, Pennsylvania and Kentucky. Yet the Nov. statement of the Co. shows a surplus, after paying expenses, interest and taxes, of only \$49, or less than \$600 a year. This would not begin to pay for the deterioration of the plant, according to a telephone expert, to say nothing of paying dividends on the \$2,000,000 of stock. The Findlay Telephone Co. last Nov. showed a deficit of \$114.15, and the Columbiana Telephone Co. had a surplus for Nov. of only \$42. Such figures as these are not promising for telephone investors."

As a result of the great storm in the last days of 1901 the telegraph and telephone systems of Vancouver and the greater portion of the B.C. coast were destroyed. In Vancouver alone the damage to wires was estimated at \$15,000.

The Purchasing Agents' Guide

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

Accident Insurance Travelers' Insurance Co. Montreal.	Half Tones Acton Burrows Co. Toronto.	Rope Rice Lewis & Son. Toronto. The Hudson's Bay Company. Toronto.
Aerated Waters E. L. Drewry. Winnipeg.	Hand & Push Cars F. E. Came. Montreal.	Scales The Gurney Scale Company. Hamilton, Ont.
Air Brakes & Fittings Westinghouse Mfg. Co. Hamilton, Ont.	Hardware Rice Lewis & Son. Toronto. The Hudson's Bay Company. Toronto.	Semaphore Arms Acton Burrows Co. Toronto.
Ales E. L. Drewry. Winnipeg.	Headlights N. L. Piper Railway Supply Co. Toronto.	Shafting Rice Lewis & Son. Toronto.
Anchors Rice Lewis & Son. Toronto.	Hose Rice Lewis & Son. Toronto.	Shipbuilders' Tools & Supplies Rice Lewis & Son. Toronto.
Axles Rhodes, Curry & Co. Amherst, N.S.	Illustrations Acton Burrows Co. Toronto.	Ships Polson Iron Works. Toronto.
Babbit Rice Lewis & Son. Toronto.	Iron Rice Lewis & Son. Toronto.	Shovels James Cooper. Montreal. The Hudson's Bay Company. Toronto. Rice Lewis & Son. Toronto.
Blankets & Bedding The Hudson's Bay Company. Toronto.	Iron Signs Acton Burrows Co. Toronto.	Signal House Numbers Acton Burrows Co. Toronto.
Block & Tackle Rice Lewis & Son. Toronto.	Japans McCaskill, Dougall & Co. Montreal.	Signals N. L. Piper Railway Supply Co. Toronto.
Boat Fittings & Hardware Rice Lewis & Son. Toronto.	Lager Beer, &c. E. L. Drewry. Winnipeg.	Signs Acton Burrows Co. Toronto.
Boiler Covering Mica Boiler Covering Co. Montreal.	Lamps & Lanterns The Hudson's Bay Company. Toronto. Rice Lewis & Son. Toronto. N. L. Piper Railway Supply Co. Toronto.	Signs Acton Burrows Co. Toronto.
Boilers Polson Iron Works. Toronto.	Launches Polson Iron Works. Toronto.	Snow Ploughs Rhodes, Curry & Co. Amherst, N.S.
Bolts Rice Lewis & Son. Toronto.	Life Insurance Independent Order of Foresters. Toronto. Travelers' Insurance Co. Montreal.	Spikes Rice Lewis & Son. Toronto.
Brake Shoes F. E. Came. Montreal.	Linoleum and Floor Coverings The Hudson's Bay Company. Toronto.	Station Name Signs Acton Burrows Co. Toronto.
Bridge Numbers Acton Burrows Co. Toronto.	Locomotives (Compressed Air) American Locomotive Co. New York, N.Y. Baldwin Locomotive Works. Philadelphia, Pa.	Steamboats Polson Iron Works. Toronto.
Buckets Rice Lewis & Son. Toronto.	Locomotives (Electric) American Locomotive Co. New York, N.Y. Baldwin Locomotive Works. Philadelphia, Pa.	Steamboat Signs Acton Burrows Co. Toronto.
Cables, Electric The Wire and Cable Co. Montreal.	Locomotives (Steam) American Locomotive Co. New York, N.Y. Baldwin Locomotive Works. Philadelphia, Pa. Canadian Locomotive Co. Kingston, Ont.	Steam Shovels M. Beatty & Sons. Welland, Ont. James Cooper. Montreal.
Carpets The Hudson's Bay Company. Toronto.	Locomotives (Raek) American Locomotive Co. New York, N.Y. Baldwin Locomotive Works. Philadelphia, Pa.	Steel Rice Lewis & Son. Toronto.
Cars Rhodes, Curry & Co. Amherst, N.S.	Lubricators Rice Lewis & Son. Toronto.	Steel Castings F. E. Came. Montreal.
Car Wheels Rhodes, Curry & Co. Amherst, N.S.	Machine Tools John Bertram & Sons Co. Dundas, Ont.	Switch Targets Acton Burrows Co. Toronto.
Castings Rhodes, Curry & Co. Amherst, N.S.	Matches The Hudson's Bay Company. Toronto.	Switches F. E. Came. Montreal.
Chains Rice Lewis & Son. Toronto.	Milepost Numbers Acton Burrows Co. Toronto.	Telegraph and Telephone Wires The Wire and Cable Co. Montreal.
Contractors' Plant M. Beatty & Sons. Welland, Ont.	Mohair The Hudson's Bay Company. Toronto.	Telegraph Office Signs Acton Burrows Co. Toronto.
Cross Arms, Top Pins & Side Blocks The Firstbrook Box Co. Toronto.	Numbars Acton Burrows Co. Toronto.	Telephone Office Signs Acton Burrows Co. Toronto.
Curtains The Hudson's Bay Company. Toronto.	Oakum Rice Lewis & Son. Toronto. The Hudson's Bay Company. Toronto.	Tobacco and Cigars The Hudson's Bay Company. Toronto.
Cuts Acton Burrows Co. Toronto.	Oils Galena Oil Co. Franklin, Pa. The Imperial Oil Company. Toronto. The Queen City Oil Company. Toronto. Signal Oil Company. Franklin, Pa.	Toilet Paper The Hudson's Bay Company. Toronto.
Ditchers M. Beatty & Sons. Welland, Ont.	Office Signs Acton Burrows Co. Toronto.	Tools Rice Lewis & Son. Toronto.
Derricks M. Beatty & Sons. Welland, Ont.	Pipe Covering Mica Boiler Covering Co. Montreal.	Track Jacks Duff Manufacturing Co. Allegheny, Pa. A. O. Norton. Coaticook, Que.
Door Signs Acton Burrows Co. Toronto.	Plushes The Hudson's Bay Company. Toronto.	Track Tools F. E. Came. Montreal. James Cooper. Montreal. Rice Lewis & Son. Toronto.
Dredges M. Beatty & Sons. Welland, Ont.	Pneumatic Tools F. E. Came. Montreal.	Tramway Equipment J. J. Gartshore. Toronto.
Dry Goods The Hudson's Bay Company. Toronto.	Porter E. L. Drewry. Winnipeg.	Trucks Rice Lewis & Son. Toronto.
Electric Car Route Signs Acton Burrows Co. Toronto.	Portland Cement Rice Lewis & Son. Toronto.	Varnishes McCaskill, Dougall & Co. Montreal.
Electric Trucks Baldwin Locomotive Works. Philadelphia, Pa.	Printing The Hunter, Rose Co. Toronto. The Mail Job Printing Company. Toronto.	Vessels Polson Iron Works. Toronto.
Electric Wires The Wire and Cable Co. Montreal.	Pumps Rice Lewis & Son. Toronto.	Waste Rice Lewis & Son. Toronto. N. L. Piper Ry. Supply Co. Toronto. The Queen City Oil Co. Toronto.
Enameted Iron Signs Acton Burrows Co. Toronto.	Rails (New) James Cooper. Montreal. J. J. Gartshore. Toronto. Rice Lewis & Son. Toronto.	Wheelbarrows James Cooper. Montreal. Rice Lewis & Son. Toronto.
Engines, Stationary & Marine Polson Iron Works. Toronto.	Rails (for relaying) James Cooper. Montreal. J. J. Gartshore. Toronto.	Window Blinds The Hudson's Bay Company. Toronto.
Engraving Acton Burrows Co. Toronto. Toronto Engraving Co. Toronto.	Rail Saws F. E. Came. Montreal.	Wines and Liquors The Hudson's Bay Company. Toronto.
Express Office Signs Acton Burrows Co. Toronto.		Wire & Wire Rope Rice Lewis & Son. Toronto. The Wire and Cable Co. Montreal.
Fencing Page Wire Fence Co. Walkerville, Ont.		Yachts Polson Iron Works. Toronto.
Ferry Signs Acton Burrows Co. Toronto.		
Flags Rice Lewis & Son. Toronto. The Hudson's Bay Company. Toronto.		
Foghorns Rice Lewis & Son. Toronto.		
Furniture Office Specialty Mfg. Co. Toronto & Montreal.		
Gates Page Wire Fence Co. Walkerville, Ont.		
General Supplies The Hudson's Bay Company. Toronto.		
Grain Elevators John S. Metcalfe Co. Chicago, Ill.		
Groceries The Hudson's Bay Company. Toronto.		

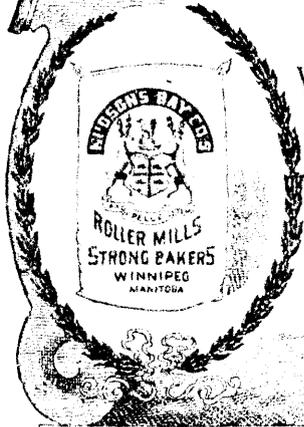


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