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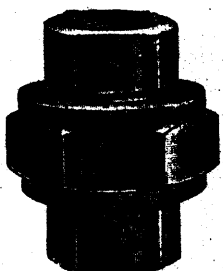
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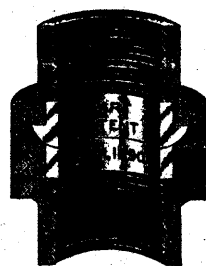


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TORONTO, CANADA, JANUARY, 1901.

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American Car Ferries.

By *Waldon Fawcett.*

There would appear to be but small doubt that the car ferry, at least in anything approaching its present form, is an American invention, & certainly the process of development through which it has passed during the past few years has resulted in the evolution of a singular type of craft. Car ferries may, perhaps, be best described as connecting links in railway systems crossing stretches of water so expansive that to bridge them would be either impracticable or very costly. In appearance they are suggestive of the flat-bottomed boat, being somewhat tub-like, in order that space may be provided on the main deck for the storage of the greatest possible number of railroad cars.

In size the car ferries in service in American waters range all the way from the small ferry steamers in service on some rivers, & which mayhap have not room for more than one or two cars, to the immense vessels built especially for this work which are in commission the year round on the Great Lakes & are capable of transporting at one time nearly three dozen loaded freight cars. The car ferries in the great fleet now in service in America include both steamers & barges or floats, which having no power of their own, must be towed either by tugs or car ferry steamers. Some of the vessels have only a single railroad track down the centre of the deck, while others have 4 tracks abreast, each only a little short of 300 ft. in length.

The greatest interest attaches to the car ferries on the Great Lakes, not because they are the largest & most powerful in the country, as from the fact that they have been constructed especially for ice-breaking, in order that communication might be maintained throughout the winter on the frozen inland seas. They served as the models for the great ice-fighting steamers which the Czar's government has had constructed at great expense during the past few years in order to keep open some of the more important Russian ports heretofore closed to navigation during many months of the year. The Russian engineers visited the Great Lakes in the dead of winter & studied the operation of the car ferries, & the Detroit naval architect, who designed most of the American vessels, was later summoned to St. Petersburg for the purpose of consultation.

The car ferry of ice-crushing propensities is, it may be noted, a comparatively recent acquisition even in this country. Until some 15 years ago the railways having termini at ports on the Great Lakes were dependent solely upon iron-shod ferry-boats. At some

places, as for instance at Detroit, where the cars need to be ferried only across a river with a fairly swift-running current, little difficulty was encountered by these vessels in keeping communication open, but farther north, at the Straits of Mackinaw & in other localities where there is a considerable expanse of open water, it was frequently found impossible to keep a path open through the ice fields, & the interruptions of freight & passenger traffic which resulted were both annoying & expensive to the railway companies. The idea of the ice-breaking car ferry steamer, as at present constructed, was discovered purely by

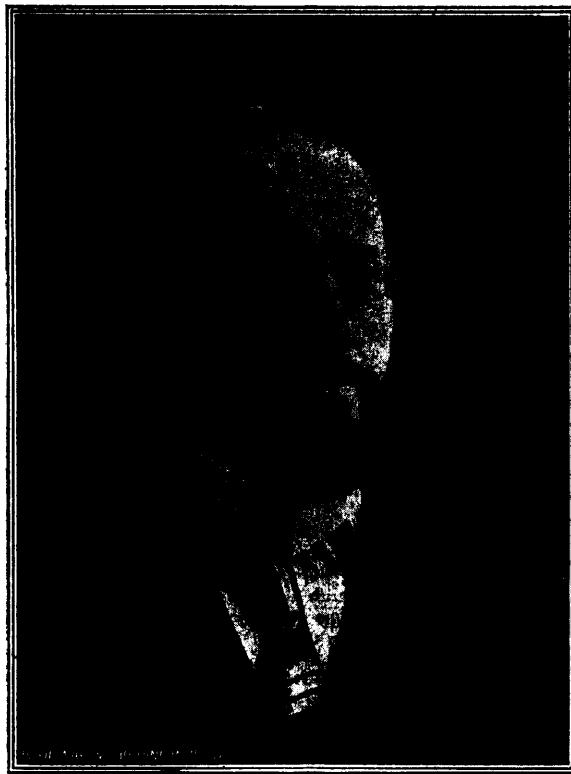
water due to the rapid revolutions of the propeller wheel.

The outcome of the matter was the submission of a proposition for the construction of a car ferry steamer fitted with a screw propeller at each end. It was argued that, thus equipped, a vessel would not only have the requisite force to drive her forward at the speed required, but would also be provided with a weapon which could be used effectively against ice of great thickness. How meagre, however, was the original conception of the magnitude of the project may be imagined from the fact that whereas \$75,000 was the original estimate of the cost of such a vessel, it was found when it came to placing the contract that the expenditure would necessarily exceed \$285,000.

Three of the principal railways in Michigan made the construction of the vessel a joint project, & in 1888 the St. Ignace, as she was called, went into service between Mackinaw City & St. Ignace, a distance of eight miles, & henceforth passenger & freight trains were transferred complete between these two ports. The St. Ignace was 235 ft. in length, 52 ft. beam, & of 1,200 tons burden. The slanting prow, which had been a distinctive characteristic of the old-fashioned car ferries, was retained in the new boat. It aided in the crushing, a work which was, of course, rendered all the easier by the action of the forward propeller in sucking the water from under the frozen field.

After half a dozen years of efficient service the St. Ignace was found to be incapable of accommodating the increasing railway traffic, & there was constructed, at a cost of some \$750,000, that powerful ice-breaking ferry steamer the Sainte Marie, which weighs upward of 6,000,000 pounds & plows her way through ice several feet in thickness. The Sainte Marie is 305 ft. in length & 53 ft. beam. The hull below the water-line is of the heaviest oak construction, sheathed with $\frac{1}{4}$ -in. steel, & the vessel is fitted with engines of 4,500 h.p.

Probably the most remarkable car ferry steamer on this continent, if not in the world, is the Pere Marquette, which is operated between Ludington, Mich., & Manitowoc., Wis., & which has succeeded in keeping navigation open on her 56-mile route across Lake Michigan during the severest winters of the past decade. This vessel is 350 ft. in length, 56 in breadth, & 36 deep. She displaces over 4,000 tons on a draught of 12 ft., & her usual cargo consists of 30 loaded freight cars. When the Pere Marquette went into dry dock for repairs in the autumn of 1899, she had travelled more than 40,000 miles without any attention from the refitters, & when it is explained that much of this service had been at a speed of 10 miles an hour



GEORGE TURNBULL BELL,

General Passenger and Ticket Agent, Grand Trunk Railway System.

accident by a party of railway officials & shipbuilders who stood, one day, watching one of the old-fashioned ferry-boats backing away from an ice-bound wharf. As the vessel made successive trips back & forth across the river, it was noted that she made her way against the ice better when going astern than when steaming forward in the usual way. To an engineer who was present this circumstance suggested grave possibilities, & he undertook experiments immediately thereafter, with the result that he discovered that a disrupting influence of considerable magnitude was exerted upon the ice by the disturbance of the

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through ice 14 ins. thick, some idea of the
wonderful staunchness of the vessel may be
gained.

It will doubtless surprise many readers to
learn that officers of the Flint & Pere Mar-
quette R.R. Co., which operates the vessel
just described, are unanimous in the declara-
tion that she does more satisfactory work in
the intensely cold weather than when a milder
temperature prevails. Very frequently in the
dead of winter, when the thermometer ranges
from 18 to 35 degrees below zero, the ice in
the path of the Pere Marquette varies from
hard blue ice of 1 ft. thickness to 15 ft. of
snow ice where it has windrowed; & yet the
vessel has never consumed more than 48
hours in making any one trip.

All of these car ferries are provided with
the necessary jack-screws, chain, clamps,
&c., for firmly securing the railway cars; &
the loading & unloading docks are equipped
with a novel device corresponding to a giant
gang-plank, which adjusts itself to the move-
ment of the waves & thus enables cars to be
transferred even though a heavy sea be run-
ning. There have been occasions in rough
weather when cars have been loosened from
their fastenings while in transit, and have col-
lided with other cars, inflicting considerable
damage; but, of course, these instances are
rare.

Occasionally, too, the smaller & less power-
ful car ferries, such as those in service across
Lake Erie from the U. S. to the Canadian
shore, become imprisoned in floating fields of
ice, & a year or two ago the ferry steamer
Shenango was thus imprisoned for nearly a
month.

At almost every port on the Atlantic coast
from Boston to the Chesapeake car-ferry
steamers, of a distinctive American type,
are in service transporting cars for compar-
atively short distances. Few of these boats,
however, are capable of carrying more than
a dozen cars, & in many cases the capacity
does not reach that figure. Some of these
vessels have cost as much as \$200,000, so that
it will be seen that a fleet of a dozen or more
boats, such as some of the more important

railroads operate, represents quite an invest-
ment. Car ferries are also in service at some
points on the Ohio, Mississippi & other inland
rivers; but they conform to the general type,
except so far as they are of light draught,
drawing in some instances only 2 or 3 ft. of
water.

Some illustrations of the Lake Erie & De-
troit River Ry. car ferry, Shenango, no. 1,
are given on page 3. The centre view shows
her dock at Rondeau, Ont.

Richmond Locomotives for the Wabash.

The Richmond Locomotive & Machine
Works has received an order from the Wa-
bash R.R. for 50 locomotives as follows:

34 19 in. x 28 in. two-cylinder compound
moguls.

6 19 in. x 28 in. ten-wheeled passenger lo-
comotives.

6 19 in. x 28 in. Atlantic type passenger lo-
comotives.

4 18 in. x 24 in. switching locomotives.
The general dimensions are as follows:

COMPOUND MOGUL LOCOMOTIVES.

Cylinders 19 ins. x 28 ins.
Diameter of driving wheel centres 56 ins.
Wheel base of engine 22 ft. 4 ins.
Rigid wheel base 14 ft.
Weight on drivers about 110,000 lbs.
Weight on truck about 20,000 lbs.
Total weight of engine in working order about 130,000
lbs.
Radial stay boiler 60 ins. diameter.
Length of fire box 108 ins.
Width of fire box 42½ ins.
Tubes 2 in. diameter 11 ft. 4½ in. in length.
Capacity of tank 5,000 gallons.

TEN-WHEELED PASSENGER LOCOMOTIVES.

Cylinders 19 ins. x 28 ins.
Diameter of driving wheel centres 66 ins.
Driving wheel base 14 ft.
Weight on drivers about 112,000 lbs.
Weight on truck about 35,000 lbs.
Total weight of engine in working order about 147,000
lbs.
Radial stay boiler 62 ins. diameter.
Length of fire box 120 ins.
Width of fire box 42½ ins.
Tank capacity 5,000 gallons.

SWITCHING LOCOMOTIVES.

Cylinders 18 ins. x 24 ins.
Diameter of driving wheel centres 44 ins.
Wheel base of engine 10 ft. 6 ins.
Weight on drivers about 102,000 lbs.
Radial stay boiler 60 ins. diameter.
Length of fire box 84 ins.
Width of fire box 33½ ins.
Tubes 2 ins. diameter, 10 ft. 4½ in. in length,
Tank capacity 3,000 gallons.

The 19 in. x 28 in. Atlantic type passenger
locomotives are to be exact duplicates of the
10-wheeled passenger locomotives, with the
exception of the trailing wheels.

Electric Switch & Signal Lamps.

The N. L. Piper Railway Supply Co., Ltd.,
Toronto, successor to the well-known firm of
Noah L. Piper & Son, has invented an elec-
tric attachment for its standard switch lamps.
These patent switch lamps have been adopt-
ed as standards by all the principal railways
in Canada, & by using the new attachments
the same lamps can be converted so as to use
incandescent lights, & should anything go
wrong with the current or plant, can be in-
stantly changed back to coal oil. This is a
distinct advantage over a lamp fitted for elec-
tric light only, & will appeal to all practical
railway men as being the only reliable way to
have them fitted. Incandescent lighting of
railway yards has proved very satisfactory,
& no doubt in the near future will come into
general use. Having switch lamps construct-
ed so that it is not necessary to depend en-
tirely on the electric light should remove all
objections to its adoption.

The Piper semaphore & order board signals
are very easily changed to use electric lights,
& owing to their construction are perfectly
weather proof.

Intercolonial Elevator at St. John, N.B.

The movement at Montreal a year or two ago to have the Dominion Government build & operate the grain elevators & public warehouses at Montreal instead of turning the sites over to private individuals for exploitation was a failure, so far as that city is concerned. The Government did, however, erect public elevators at Halifax, N.S., & St. John, N.B., the two ocean terminals of the Government Railway System. J. A. Jamieson, of Montreal, the elevator architect & builder, was selected to design both elevators, & he also secured the contract for the construction of the St. John building.

All the machinery & other equipment were manufactured in Canada, from original designs & detail shop drawings supplied by the architect & are the very best that can be made for the purpose. All bearings have genuine turned balls & sockets, are ring oiling & both oil & dust proof, & will run fully six months without

trimming table, buzz planer & joiner, drilling machine, blacksmith shop, etc., & every part of the lumber entering into the construction of the building was framed, machined & manufactured in the mill ready to go together in the building, & the cribbing lumber for the bins was cut accurately to length, marked, & the number of pieces counted, & was all prepared in such a manner that the whole building was practically constructed with a gang of carpenters without any tools whatever, other wise than the necessary hammers to drive nails.

The elevator has a storage capacity of 600,000 bush. Its size on the ground is 96 ft. by 137½ ft., & its height 158 ft. It is equipped with 6 stands of elevators, having an elevating capacity each of 10,000 bush. an hour, & other modern equipments in proportion for receiving & loading grain. So far as known the belt conveyer from this house to the deep water dock is the longest straight run of conveyer on the continent, being over half a mile in length & containing over a mile of belting,

of the weighman, & operated by him without leaving the scales. Above the "distributing floor" is the "scale floor," on which are located six 1,200 bush. hopper scales, & on the floor above this are the garners, of which there are 6, holding 1,400 bush. each.

The top floor contains the heads of all the elevator legs & the machinery for driving them. At the discharge point on each of the elevator heads is located a switch valve, which can be operated to discharge the grain into either of two garners from each elevator leg, the switch valves being controlled through a steel cable & lever by the weighman on the scale floor. When grain is wanted for shipment it is drawn from the bottom of the storage bins & run through spouts to the sinks & boots, & again elevated by the leg, weighed & spouted to the shipping bins. The shipping bins are situated over the belt conveyer, which carries the grain to the wharf & discharges it into the holds of ocean steamers. This conveyer is an endless rubber belt, 3 ft'



LAKE ERIE AND DETROIT RIVER RY.'S CAR FERRY, SHENANGO, NO. 1.

requiring any additional oil. As there are over 1,500 bearings in this plant the saving in labor & oil & the value of perfect lubrications will be appreciated. All power is transmitted by manilla rope on the continuous wind system & each elevator leg & all machines are driven by a separate drive from the main shaft which is situated in the basement, & set on concrete piers entirely separate from the building, & each drive is furnished with a friction clutch on the main shaft. There are no shafts longer than 8 ft. above the bins, & as there are only two ball & socket bearings on each shaft, no settlement of the bins can cause heating of the bearings. This machinery runs with such complete absence of noise or vibration that it is almost impossible to tell when it is running.

Before starting the work of construction, the contractor fitted upon the ground a complete mill, consisting of timber planer & matcher, large cut-off saw, gaging & sizing machine, boring machine, swinging cut-off saw, bevel-cutting saws, band saw, special

which weighs about 12½ tons. It has a carrying capacity of 17,000 bush. an hour.

The foundations of the elevator consist of 96 concrete piers which rest on bed rock. All around the building a concrete retaining wall was built between the piers. The first story consists of the heavy timber frame, 24 ft. high. It is called the "work floor." The timber used is all of prime quality Georgia pine, planed on all four sides. Through this story are two railway tracks for unloading grain. The automatic power shovels, the car puller for moving cars, & all mechanisms for the general working of the building are located on this floor. From the top of the main frame, extending to a height of 73 ft., are the storage bins, 83 in number, ranging in capacity from 2,000 to 8,000 bush. each. All these bins have hopper bottoms. Above the bins, on the first floor of the cupola, or the "distributing floor," the architect's special system of distributing spouts for running the grain from the different scale hoppers to the bins, is located. It is under the direct control

wide, running on turned clear cedar rollers, with steel shaft through each, the grain being loaded on the belt in a continuous stream through a concentrating hopper. The belt may be loaded to within an inch of the edge without danger of spilling. When the grain reaches the part of the conveyer house above the steamship, the grain is taken off the belt by means of an automatic travelling tripper at any desired point to throw it to any of the different shipping spouts to the steamer's hold. This belt runs in a gallery, which is carried high up on bents across Mill St., over the pond & the railway tracks, & down to the deep water wharf, where the height is 50 ft. above the wharf.

All the lumber used in the construction of the spouting, scale hoppers, garners, & leg housing is of clear pine & spruce, kiln dried & planed, the finishing of this work being equal to the best flouring mill practice, & every part is thoroughly dust tight. All the garners, scale hoppers & spouting throughout are lined with sheet steel.

Enameled Iron Station Names.

Guaranteed not to fade or in any way to perish from exposure.

As used on the Canadian Pacific & Canadian Northern Railways. Sign 12 ins. high. Letters 9 ins. high. Length according to number of letters in name. The sign shown is 45 ins. long.



Style no. 1. White letters on blue ground.

Twenty-nine of these signs supplied the C.P.R. Co. for the Crow's Nest Pass Ry. averaged 6½ ft. in length, the longest being 11 ft. 2 ins. & the shortest 3 ft. 9 ins.

Mr. Wm. Whyte, Manager of the Canadian Pacific Railway Co.'s lines west of Fort William, writes,—“I have pleasure in stating that I am very well satisfied with the enameled iron signs supplied by the Acton Burrows Co. for station names on the western lines of this Company. They have now been in use for some time & have proved very satisfactory. The lettering is clear & distinct & the signs have proved to be impervious to the weather. They have a brighter & neater appearance & are very much more satisfactory than painted wooden ones, & considering their lasting qualities will be found more economical.”

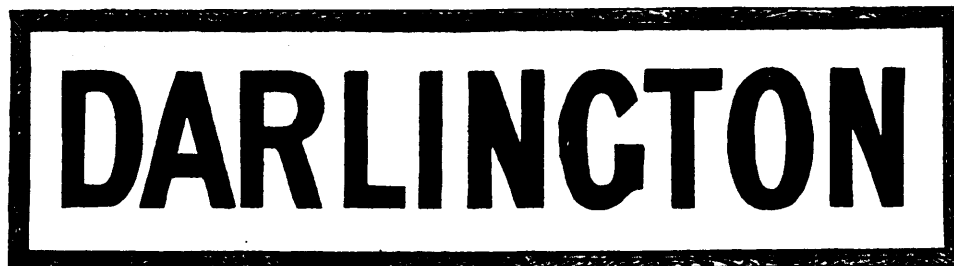
Mr. H. P. Timmerman, General Superintendent of the Atlantic Division of the Canadian Pacific Ry., writes,—“The enameled iron station names supplied by the Acton Burrows Co., in 1898, for a number of stations on this division, have proved very satisfactory. The letters are well formed & distinct, & the signs present a clean, bright appearance, being just as good now as when they were new.”



Style no. 2, as used on the Grand Trunk Ry. System. Black letters on white ground. This sign is 14 ins. high by 7 ft. long. Length varies with number of letters in name of station.



Style no. 3, as used on the Pennsylvania Railroad. White letters on black ground. This sign is 12 ins. high by 6 ft. long. Length varies with number of letters in name of station.



Style no. 4, as used on the Northeastern Railway of England. Dark brown letters on light ground, framed in wood. This sign is 6 x 18 ft.

These signs have long been used on most European railways, & for a number of years on the Pennsylvania R.R., the New York Central & Hudson River R.R., the Manhattan Elevated R.R., the Long Island R.R., & many other lines in the United States. They are also being extensively used in Canada & are giving complete satisfaction as the best outdoor signs produced.

They can be made in any color, size, or shape.

Estimates promptly furnished on application.

The Acton Burrows Co., 29 Melinda Street, Toronto.

Importers of Enameled Iron Signs of the best English manufacture.

The rope transmission for driving the shipping belt conveyer is one of the longest on the continent, the distance between the main shaft & the furthest driven pulley being 1,900 ft., & between the main shaft & the conveyer it is carried underneath the railway track in the basement, horizontally, for a distance of 50 ft., then vertically for 25 ft., turning off at right angles from the driving shaft. Over 3½ miles of 1¼ in. rope are used in this drive.

The power house is of brick, 44 x 45½ ft. in size, with a brick wall between the boiler & engine room. The boiler room has a concrete floor with granolithic finish, while the engine room has a polished birch floor, cement finished walls & stamped steel ceiling, all painted in harmonizing tints. There are two 200 h. p. boilers, & a compound Corliss engine of 400 h. p., with steam condenser &c. In this room there are also a fire pump of 500 gallons capacity, attached to a stand pipe, running to the top of the elevator, with hose & nozzle connections, & electric signals on every floor, & the electric light engine & dynamo.

The elevator is equipped with exhaust fans & a complete dust collecting & sweeper plant, all dust being taken from the building & separated through a special separator on top of the power house & fed into the furnaces. There are also speaking tubes, electric bells & signals, connecting with all parts of the building & conveyer gallery, & such other facilities which go to make up a complete equipment.

Although the elevator was completed in Dec., 1899, it was unable to do any business last season on account of the deep water wharf not being completed, but since the opening of this season's business it has been handling a large amount of grain, & every part of it, including the long conveyer, has worked perfectly.

Sir Wm. Van Horne in Cuba.

The following article on the railway situation in Cuba, taken from the Railroad Gazette, New York, will be read with especial interest in Canada, as it refers particularly to the Cuba Co., of which Sir Wm. Van Horne is the head:—

When we contemplate Cuba with some knowledge & a reasonable imagination we find it one of the most interesting spots on the globe. The island lies at the very doors of the richest & most enterprising of the nations, of which nation it has suddenly become the ward. It lies in the track of great currents of commerce, & has numerous commodious & safe natural harbors. It is said, indeed, that no other coast line of the same length has so many good harbors. It has a fertile soil & no desert areas. It has abundant rains, numerous running streams, & a climate favorable to vigorous vegetable life. This great island, with an area of 45,000 square miles, a varied topography & a beautiful winter climate is destined to become a garden, & before many decades pass, the shores of its ample bays will be lined with thriving

towns, & on the hills overlooking them will be the winter palaces of rich men from the U.S. & Canada. In the interior a prosperous & contented population will work farms & mills & mines, & build towns where now is the wilderness.

All of this & much more must happen. But how soon it will happen; who will own the farms & build the towns; whose ships will lie in the harbors & whose palaces will line the seaside hills—all these matters depend a good deal on the wisdom of the people of the U.S., who have undertaken to liberate & redeem Cuba, & to start her in the way she should go.

It is so obvious as to be commonplace,

one strong company that could build & work a rational system, laid out & operated to develop, with the greatest speed, the country & its harbors. Obviously, this system would have a continuous trunk line from end to end of the island with numerous laterals reaching the coast at convenient ports. Some such plan as this is, we judge, now in contemplation, but in the way of it stands recent law of the U.S.

In Cuba, according to the Spanish law, the railroads are divided into three classes; first, railroads for general service & public use; second, railroads for private service & public use; third, railroads for private service & private use. The first one carries the right of eminent domain or forcible expropriation, it being considered as of public utility, but this class of railroads cannot be built now on account of the act passed something like two years ago, which bears the name of Senator Foraker. That prohibits the U.S. authorities in Cuba from granting concessions or exclusive privileges. Its first result was to protect U.S. officials in Cuba from the multiplied importunities for privileges, concessions, charter rights & monopolies which came in clouds at a time when every energy was needed for bettering immediate & serious social & physical conditions. But later it became apparent that the resolution stood in the way of legitimate enterprise & worked to discourage investors, & to delay the industrial reconstruction of the island, & the Government at Washington was urged to modify the strict terms of the law. The military authorities had (as doubtless they were bound to do) given the strictest construction to the law, so that even a small ferry-boat concession to run a ferry-boat across a



INTERCOLONIAL RAILWAY ELEVATOR AT ST. JOHN, N.B.

that after good government the most powerful element in the development of these islands must be the railroad. Abundant means of cheap transportation must lie at the bottom of any substantial & wide prosperity for the islands. We need not stop now to try to illustrate or prove these statements; no doubt our readers accept them. But railroads must be provided by money from outside of the islands, & that again is obvious. Furthermore, those who invest in Cuban railroads must be prepared to wait a long time for interest on their investment. The island has always been poor & thinly peopled, notwithstanding its favorable natural conditions, & now after the recent years of war the population & wealth are further reduced. This sparse & poor population cannot contribute much tonnage or pay high rates. The island must be nursed into prosperity by a railroad policy that can afford to wait for returns, & this implies ample rights now & reasonable security for the future. And so we come around again to the proposition that the speed of the development of Cuba, & much of its direction, depends upon the wisdom or unwisdom of the present protectors of the island, the people of the U.S.

Perhaps it will be granted by most people that the ideal railroad conditions for Cuba would be the ownership of all the railroads by

stream was refused. It seemed to be practicable to mitigate the severity of the law by instruction from the administrative authorities so as not to interfere with projects of manifest use. We do not understand, however, that any considerable amelioration of the action of the law has been secured, & so the building of the trunk line, or of those parts of it immediately contemplated, has been a matter of considerable delay & uncertainty. The company which is working seriously in this direction has bought most of its right-of-way, but it cannot go far without crossing highways & streams which are public domain, & formal permission to cross these cannot be had under the Foraker law. Provisional permits have, however, been granted by the Secretary of Public Works with the approval of the Governor-General, these, of course, being subject to revocation. Such in brief is the legal situation, from which a way out must be found.

Notwithstanding this unfortunate situation, the company to which we have referred, namely, the Cuba Co., is proceeding fast with a great scheme. The eastern provinces of the island, namely, Santiago & Puerto Principe, have almost no railroad. The Cuba Co. has started a line in Santiago from San Luis, the terminal of the Santiago railroad, running westerly by Bayamo & Tunas in the direction

of the long axis of the island. In the Province of Santiago it will build two branches, one to the Bay of Nipe, on the north coast, & one to Manzanillo, on the south coast. The line to Nipe is now considered a part of the main line, for it is proposed to make a great shipping terminal on the bay. This bay is said to be the largest in the world, & on its shore the Co. has acquired something like 20,000 acres of land. Indeed, the Co. has land in other parts of the island, a part of its scheme being to exploit the natural resources of the island & its ports as well as to work railroads. This seems to be a necessary plan, for it seems to be the only way by which tonnage can soon be developed. The Co. has also begun work at points further westward, namely, at Ciego de Avila, in the Province of Puerto Principe, & at Santa Clara, in the Province of the same name. If one will look at the maps he will see that these points lie approximately in the long axis of the island, & so we judge that the work there begun is part of the general scheme of a continuous trunk system.

It is apparent that as the Co. proceeds westward it will encounter a new kind of difficulties. From Santa Clara (a little west of the middle of the island) to Pinar del Rio, near the western end, there are five important railroad companies. Three of these belong to two English companies, & two are mostly owned by Spaniards. For two years negotiations have been pending for the purchase by the English companies of the Spanish roads, but so far we believe these negotiations have not succeeded. We have understood that there is an agreement under which the Cuba Co. will not build west of Santa Clara, while the owners of the existing railroads will not build east of that city. Concerning this agreement & policy we have, however, no precise knowledge, but it would not surprise us if the Cuba

Co. should, sooner or later, become the owner of all of the railroads, which, from our point of view, would be an excellent outcome.

Alberta Railway & Coal Company.

A summary of the directors' report for the year ended June 30, 1900, was given in our last issue. Following is a statement of the revenue account for the same period:

RECEIPTS.		£	s.	d.
Balance on the following accounts—				
Railway & colliery.....	20,275	1	2	
House rents & water privileges.....	400	0	8	
		20,675	1	10
EXPENDITURES.		£	s.	d.
General expenses in Canada—				
Salaries of President, Accountant & Cashier, clerical assistance, stationery, printing, stamps, telegrams, rent of telephones, lighting & other sundry general expenses, including travelling expenses.....	3,755	1	5	
Insurance.....	571	5	8	
General law charges..	92	9	4	
Advertising.....	79	2	2	
		4,497	18	7
Expenditure in London—				
Agency, including office management & rent.....	500	0	0	
General Expenses, including advertising, printing, stationery, telegrams, postages, etc.....	142	7	10	
Law charges.....	131	12	10	
		774	0	8
Interest on Loans.....		307	8	11
Taxes.....		1,328	2	10
Trustees' remuneration.....		200	0	0
Directors' Fees.....		900	0	0
Land grant expenses.....		467	0	9
Exchange on cheques & bank charges..		419	11	3

Discount on issue of £18,100 prior lien debenture stock.....	2,715	0	0
Balance.....	9,065	18	10
	£20,675	1	10

Out of the balance of £9,065 18s. 10d., £4,437 6s. 9d. was paid for interest on prior lien debenture stock, leaving £4,628 12s. 1d. to be carried to the general balance account as profit.

The directors expressed regret at the death of Sir Roderick Cameron, who was a member of the board. The annual meeting was held in London, Eng., Dec. 17, 1900. Following are the officers for the current year: President, E. T. Galt, Lethbridge; Vice-President, Col. K. R. B. Wodehouse, London; other directors, W. Burdett-Coutts, London; E. Crabb, London; Lord Farrer, London; H. Joseph, Montreal; W. M. Ramsay, Montreal; E. Waterhouse, London.

The Mica Boiler Covering Co., with headquarters in Montreal, is extending its business very rapidly. It has recently completed some large contracts in Montreal, including one at the Royal Victoria Hospital, one of the largest that has been given out for some time in that city, also several others, the principal being the Canada Sugar Refining Co., & the Colonial Bleaching & Printing Co., also the Great Northern elevator, etc., at Quebec. The Co. has just been advised that its English office has secured from the British Admiralty an order to cover all the engines, boilers & pipes, etc., on Her Majesty's new battleship Drake, & orders for other battleships are expected. The Co. is expecting to close a contract to cover 25 locomotives for the Great Eastern Ry. of England. It has already done work for that Co., also for the London & Lancashire Ry. & some other English lines, & expects to do a large business in future with some of the principal British railways.

The NORTHEY GASOLINE ENGINE WITH TRIPLEX PUMP FOR TANK AND FIRE DUTIES.

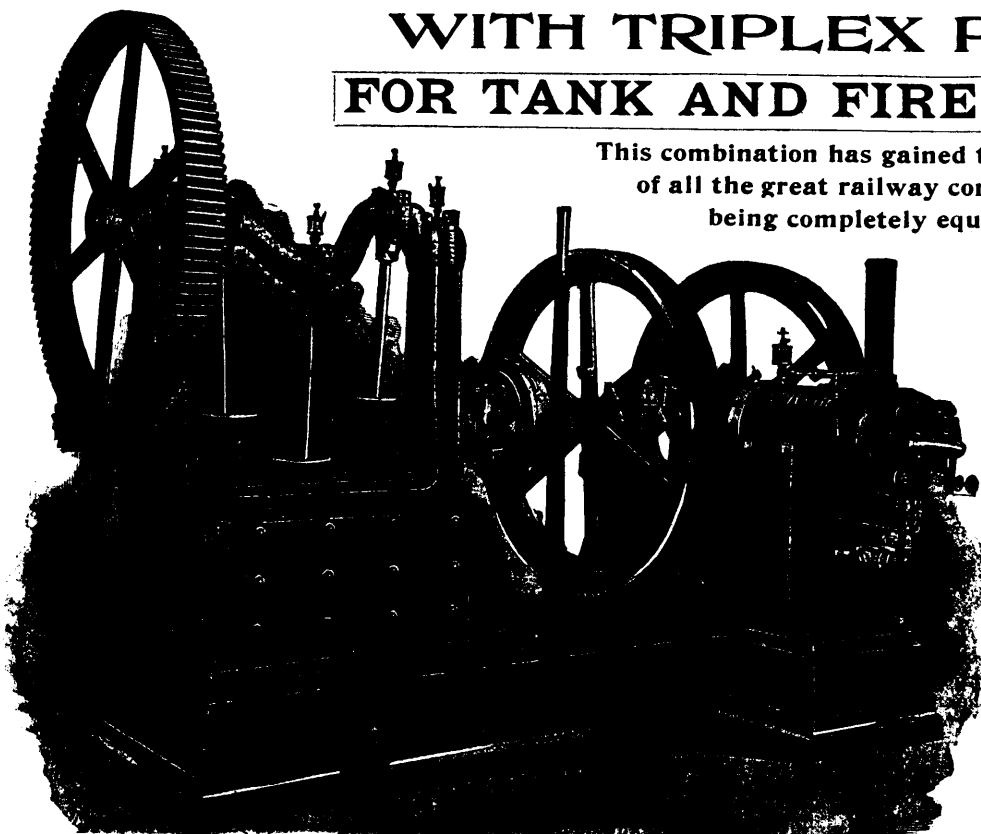
This combination has gained the heartiest endorsement of all the great railway corporations. Some are being completely equipped with them.

This cut illustrates a very satisfactory combination of the Triplex Power Pump, actuated by The Northey Gas and Gasoline Engine, for duties wherever an independent pumping plant, ready for instant service, is required. The advantages of this plant are: economy in space occupied, low running expenses, extreme ease in handling (any person can operate it), readiness on the minute for service at all hours, making it invaluable in case of fires, and the absolute safety and precision with which it performs its work.

The Triplex Pump used, with pistons placed 120 degrees apart, gives a practically constant flow of water, minimising strain on pump, connections, piping, etc. Both machines are heavily and solidly built, and carry the most ample guarantees.

We will be pleased to send you catalogues and specifications.

The Northey Co., Limited,
Manufacturers of Pumping Machinery of every description.
1032 King St. Subway,
TORONTO, CANADA



Among the Express Companies.

The Canadian Ex. Co. has reopened its route between Norton & Chipman, N.B.

The Canadian Ex. Co. has closed its routes between Grimsby & Smithville & Cornwall.

The Canadian Ex. Co. has opened offices at Charettes Mills, Montcalm & St. Julienne, Que.

The Alaska Pacific Ex. Co. has opened an office in the Dominion Ex. Co.'s office, Hastings St., Vancouver.

The Canadian Ex. Co. has reopened its office at Niagara Falls South, Drummondville, Ont. Offices have also been opened at Alburg Springs, N.Y., & Malagath, N.S.

J. R. Haycock has been appointed Route Agent of the Dominion Ex. Co. for New Brunswick & Nova Scotia, with headquarters at St. John, N.B., vice H. Henderson transferred.

Owing to the retirement of C. Percy, Treasurer of the Canadian Ex. Co., money orders commencing with series C., 625,000, will bear the signature of W. T. Anderson, Assistant Treasurer.

The Canadian Ex. Co. has extended its service over the extension of the Central Ontario Ry. from Ormsby Jct. to Bancroft, & has opened offices at Bancroft, L'Amable & Ormsby Jct.

The Canadian Ex. Co. has appointed W. C. Raynsford agent at Detroit, Mich., vice A. D. Chapman transferred; H. H. Maydole has been appointed agent at Buffalo, N.Y., vice R. D. Smith transferred.

ada, from Hawkesbury, Ont., to River a Pierre, Que., & has opened offices at New Glasgow, St. Boniface, St. Canut, Ste. Elizabeth, St. Justin, St. Norbert, Ste. Ursule, St. Jerome, Joliette, & Lachute, all in Que.

The Canadian Ex. Co. has retired from the Atlantic & Lake Superior Ry. (Baie des Chaleur Ry.) owing to the unsatisfactory condition of the latter Co.'s finances, & the following offices in Quebec have been closed:—Black Capes, Bonaventura, Caplin, Carleton, Cascapedia, Boucherville, Charlesburg, Marie East, New Richmond, New Carlisle, Oak Bay, St. Croix.

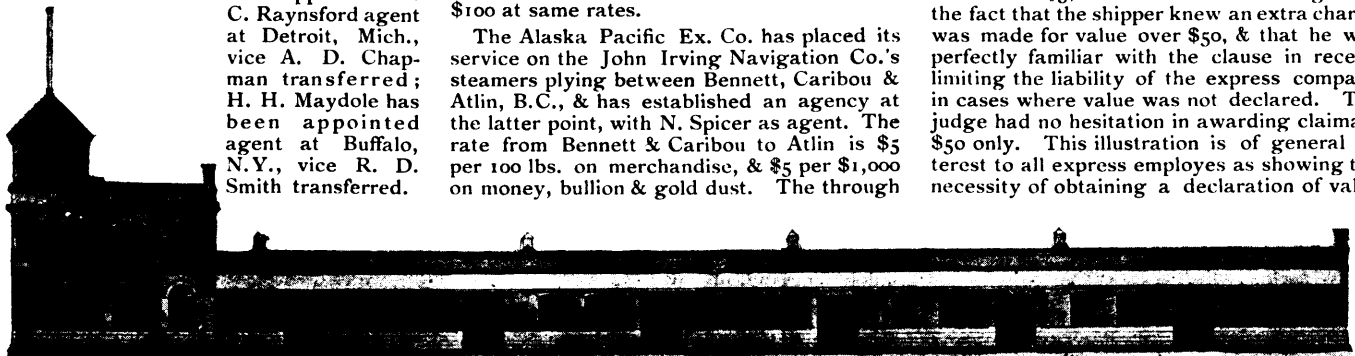
The Great Northern Ex. Co. has extended its service over the Kootenay Valley Ry. & Navigation Co., from Bonner's Ferry, Idaho, to Kuskanook, B.C. At Kuskanook connection is made with boat for Pilot Bay, Kaslo, & Nelson, B.C. Matter destined to Kaslo, B.C., & points on the Kaslo & Slocan Ry., will hereafter be routed via Bonner's Ferry, Idaho, except from points on the Spokane Falls & Northern Ry.

The Alaska Pacific Ex. Co. has commenced issuing money orders. Its rates run from 10c. for not over \$5, to 50c. for \$100, over \$100 being charged at the same rates. For orders issued in the Yukon district, payable in Alaska or in any other part of the U.S., & on orders issued in Puget Sound or Alaska, payable in the Yukon, the rates are from 25c. for not over \$5, to \$1 for not over \$100, over \$100 at same rates.

The Alaska Pacific Ex. Co. has placed its service on the John Irving Navigation Co.'s steamers plying between Bennett, Caribou & Atlin, B.C., & has established an agency at the latter point, with N. Spicer as agent. The rate from Bennett & Caribou to Atlin is \$5 per 100 lbs. on merchandise, & \$5 per \$1,000 on money, bullion & gold dust. The through

went to New York & took up the study of civil engineering in the work on the Rappahannock Canal. He afterwards made his home in Fredericksburg, Va., & then moved to New York, where he aided in laying out Staten Island. In 1853 he went to Kingston, Ont., & became interested in the idea of forming an express company. This was suggested to some of the leading business men & met their approval, & in 1855 the British & North American Ex. Co. was founded, & a contract made for five years with the G.T.R. Mr. Clark was made Superintendent, & the business extended from Portland to Quebec & Montreal, besides other parts of Canada. Later this company was consolidated with the British American Express, under the name of the Canadian Ex. Co., & was capitalized for \$500,000. Mr. Clark kept up his active interest in the business until about 26 years ago, when he retired from active life because of his age.—Express Gazette.

A decision of much interest to express companies was recently given in Massachusetts on the validity of the \$50 limit of valuation when value is not declared. The circumstances of the case were as follow:—A box was delivered to the driver of an express company properly addressed to its destination, but no marks as to its value was shown thereon, and which driver received for as "value asked but not given." The box never reached its destination & claim was made for alleged value of \$3,000. The evidence brought out the fact that the shipper knew an extra charge was made for value over \$50, & that he was perfectly familiar with the clause in receipt limiting the liability of the express company in cases where value was not declared. The judge had no hesitation in awarding claimant \$50 only. This illustration is of general interest to all express employes as showing the necessity of obtaining a declaration of value



CANADIAN EXPRESS CO.'S OFFICE AND FREIGHT SHED, UNION STATION, TORONTO.

Plans are being prepared for a building at the west side of Toronto Union station for the special accommodation of the Dominion Ex. Co.'s business, which has outgrown its present quarters.

The Dominion Ex. Co. is accepting goods for shipment to Rainy River, Fort Frances, Boucherville, & other points on the Lake of the Woods. All shipments should be accompanied by invoice, & consigned care of stage line at Beaudette.

While navigation is closed on the upper Yukon, the Alaska Pacific Ex. Co.'s business is being carried between White Horse & Dawson by the Canadian Development Co., which is operating dog & horse stages to carry the mails, &c.

The Canadian Ex. Co. has closed its routes between Guelph & Erin, & on the Detroit & River St. Clair Ry., closing the following offices in Michigan:—Algonac, Anchorville, Fairhaven, Marine City, New Baltimore, Pearl Beach, West Detroit.

The Canadian Ex. Co. has taken route 62 from Mr. Hackett's division & placed it in Mr. Creighton's division. River du Loup, Que., will be under Mr. Hackett's supervision. Route 89 (West of St. Flavie) has been taken from Mr. Hackett's division & placed in Mr. Creighton's division.

The Canadian Ex. Co. has extended its service over the Great Northern Ry. of Can-

ada, from Dawson, Yukon, is \$16 on merchandise & \$17.50 on money.

The Dominion Ex. Co. has opened the following routes:—Canadian Northern Railway, between St. Boniface Jct., Man., & Beaudette, Minn.; between Dauphin & Grandview, Man.; & between Novra & Trackend, Man.; Beamsville & St. Catharines, Ont., wagon route reopened; Central Ontario Ry. between Marmora & Bancroft, Ont.; C.P.R. between Greenwood & Midway, B.C.; between Eholt & Phoenix, B.C.; between Perth Jct. & Plaster Rock, N.B., & between Antler & Arcola, Assa.

The British America Express Co., Ltd., has been incorporated by Dominion letters patent, with a capital of \$100,000, the incorporators being H. C. Hamilton, N. Simpson, P. T. Rowland, W. Brown, G. A. Hunter & W. A. Adams, of Sault Ste. Marie. The Co. is empowered to carry on throughout Canada & elsewhere the business of a common carrier, & all the business of an express company, & to do all things usually done by an express company in the course of its business. This Co. has been incorporated for the purpose of handling the express business on the Algoma Central railway & steamship lines.

John C. Clark, who died at his home in Springfield, Mass., recently, aged 87, was one of the founders of the Canadian Ex. Co. He was born in Canaresaga, Ont., in 1813, & passed his early life there. Later he

for all consignments, & if not given to so mark receipt. The judgment also brought out very strongly the absolute necessity of making shippers acquainted with the terms of receipts, so that they may protect themselves against possible loss, & agents should see that receiving clerks, drivers & others understand the importance of bringing home to shippers the risk they run by failing to declare value.

The Canadian Ex. Co. has erected an office building & freight shed at Toronto Union station, the buildings extending along the south side of Station st. from York st. to within 36 ft. of the premises heretofore occupied by the Co. in the eastern portion of the Union station building, & which will as soon as possible be transferred to the station authorities for additional baggage room. The office building, situated at the corner of York & Station streets, is two stories, with tower. The ground floor, with an entrance at the corner of York & Station streets, & another on York st., comprises receiving office, & agent's & cashier's offices. The first floor contains the stationery department, filing rooms for correspondence & books, & lavatories. The tower room will probably not be occupied for a time at least. The shipping & receiving shed, running west from the office building, is 229x38 ft., the front wall being 20 ft. high & the ceiling 16 ft. from the ground. On the Station st. side is an iron verandah 10 ft. wide. At the northwest corner of the shed is a cold

& warm storage room 24x12 ft., a lavatory is placed in the southwest corner, & the whole of the rest of the building is undivided, with the exception of two way billing coops. Each side of the shed, facing Station st. & the tracks respectively, has six double doors 8 ft. wide; a similar double door is located at the west end, & another one at the east end opening into the receiving office. There is also connection between the agent's office & the shed. The shed has four glass sky lights, 16x10 ft., with ventilators, besides 13 windows on each side, & is exceptionally well lighted. The space of 36 ft. between the west end of the shed & the east side of the Union station building has been roofed over to form a driveway, through which wagons, etc., will have access to the south or track side of the shed. There is also a driveway from York st. along the south side of the building. Longford stone has been used for the foundations & for the first 4 ft. of the walls, above which is red-pressed brick. The building is lit by electricity & heated by steam from the Union station plant. The construction was done by the G.T.R., under the supervision of G. A. Mitchell, Master of Bridges & Buildings. An illustration of the buildings is given on page 8. The Co.'s main office in Toronto will remain at 55 to 57 Yonge St., as heretofore, & Superintendent Sparling will also continue his office there.

C.P.R. Earnings, Expenses, &c.

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

	Earnings.	Expenses.	Net Profits.	Increase or Decrease.
Jan.	\$2,152,071.32	\$1,460,501.71	\$691,569.61	\$74,035.75+
Feb.	1,954,087.59	1,331,355.34	622,732.25	23,039.77+
Mar.	2,294,786.97	1,495,685.73	799,101.24	20,794.33+
Apr.	2,491,194.47	1,464,126.85	1,027,067.62	106,764.13+
May.	2,662,897.81	1,583,227.32	1,079,670.49	46,911.88+
June.	2,612,759.73	1,554,954.11	1,057,805.62	38,745.42+
July.	2,471,169.64	1,586,795.74	884,373.90	88,587.73+
Aug.	2,637,983.61	1,583,598.01	1,054,385.60	35,643.88+
Sept.	2,663,491.82	1,604,791.81	1,058,700.01	88,185.54+
Oct.	2,774,826.60	1,696,652.19	1,078,174.41	332,841.53+
Nov.	2,748,660.22	1,683,111.90	1,065,548.32	216,687.56+
Dec.	2,988,911.25	1,559,545.64	1,428,365.61	62,384.05+

\$30,452,811.03 \$18,595,256.35 \$11,857,554.68 \$372,580.81 + Increase. - Decrease.

Mileage increased to 7,467.

SUBSIDIARY LINES.

DULUTH, SOUTH SHORE & ATLANTIC.—Approximate earnings for Dec., \$181,410; decrease from Dec., 1899, \$22,460.

For the 10 months to Oct. 31 the net earnings were \$844,332, against \$772,808 for corresponding period.

HANCOCK & CALUMET.—Approximate earnings for Dec., \$22,047; increase over Dec., 1899, \$2,809.

MINERAL RANGE.—Approximate earnings for Dec., \$21,841; increase over Dec., 1899, \$2,574.

MINNEAPOLIS, ST. PAUL & SAULT STE. MARIE.—Approximate earnings for Dec., \$390,637; increase over Dec., 1899, \$20,623.

Net earnings for 10 months to Oct. 31, \$1,714,914, against \$1,782,581 for corresponding period.

Canadian Pacific Railway Land Sales.

	Acres.		Amount.	
	1900	1899	1900	1899
Jan.	31,486	14,718	\$100,857.85	\$46,411.35
Feb.	23,613	13,747	75,771.19	43,371.69
Mar.	31,183	24,945	97,777.79	75,400.76
April.	58,457	36,626	181,775.78	116,835.84
May.	66,057	26,584	214,851.09	88,928.98
June.	57,831	54,225	188,779.64	169,192.74
July.	49,715	47,401	129,481.42	149,546.48
Aug.	34,178	35,214	103,480.78	110,705.50
Sept.	21,807	25,517	69,012.54	83,719.70
Oct.	18,858	30,473	62,799.54	90,429.09
Nov.	22,408	42,633	69,627.27	140,491.39
Dec.	27,388	52,729	83,558.59	166,580.54
	431,981	403,912	\$1,377,713.48	\$1,290,674.06

Grand Trunk Earnings, Expenses, &c.

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

	1900.	1899.	Increase.	Decrease.
July	\$1,844,458	\$1,799,945	\$44,513	.....
Aug.	2,088,602	2,064,269	24,333	.....
Sept.	2,117,690	2,178,393	.....	60,613
Oct.	2,176,028	2,158,337	17,691	.....
Nov.	2,029,891	2,100,214	.....	70,323
Dec.	2,489,130	2,434,194	54,936	.....
	\$12,745,799	\$12,735,262	\$10,537	\$130,936

The following figures are issued from the London, England, office :

GRAND TRUNK RAILWAY.

Revenue statement for Nov., 1900 :				
	1900.	1899.	Increase.	Decrease.
Gross receipts	£397,100	£412,800	.....	£15,700
Working expenses	255,300	265,600	.....	10,300
Net profit	£141,800	£147,200	.....	£5,400
Aggregate from July 1 to Nov. 30, 1900 :				
	1900.	1899.	Increase.	Decrease.
Gross receipts	£2,009,300	£2,017,447	.....	£8,147
Working expenses	1,285,100	1,278,115	6,985	.....
Net profit	£724,200	£739,332	.....	£15,132

DETROIT, GRAND HAVEN & MILWAUKEE RY.
Revenue statement for Nov., 1900 :

	1900.	1899.	Increase.	Decrease.
Gross receipts	£19,900	£18,700	£1,200	.....
Working expenses	14,800	13,600	1,200	.....
Net profit	£5,100	£5,100	.....	.....
Aggregate from July 1 to Nov. 30, 1900 :				
	1900.	1899.	Increase.	Decrease.
Gross receipts	£97,800	£99,004	.....	£1,204
Working expenses	73,900	63,911	9,989	.....
Net profit	£23,900	£35,093	.....	£11,193

TRAFFIC RECEIPTS OF THE SYSTEM.

	1900.	1899.	Increase.	Decrease.
Grand Trunk	£2,418,548	£2,425,365	.....	£6,817
D., G. H. & M.	117,008	117,223	.....	215
Total	£2,535,556	£2,542,588	.....	£7,032

The C.P.R.'s Freight Rates.

The Freight Traffic Manager of the C.P.R. has given the following replies to a series of questions put to him in regard to the charges of the Globe that the freight rates of the C.P.R., in certain particulars, are exorbitant :

"Question—Is it true that the farmers & stock-raisers of Ontario see the produce of Michigan & other States carried past their doors at lower rates than they can obtain for the shorter haul to the seaboard or the markets in eastern Canada?"

"Answer.—The rates on live stock paid by the Ontario shippers to the seaboard are on a parity with rates from the U.S., for instance, while the rate from Chicago is 28c. per 100 lbs. to Boston, the rate from Windsor & stations east on the main line is 25c. per 100 lbs., & this rate includes Boston terminals of 3/4c. per 100 lbs."

"Q.—Is there a terminal charge on Canadian cattle now imposed at Boston which is not imposed on U.S. cattle, although both may be carried on Canadian railways?"

"A.—There has been no extra terminal charge made at Boston on Canadian export cattle for several years. The C.P.R. notified the Boston & Maine R.R. in Aug., 1897, that they would participate in absorbing the Boston terminals."

"Q.—Is it true, as stated by the Globe, that Second Vice-President Berry, of the Boston & Maine R.R., wrote to yourself & Mr. Reeve, when he was General Traffic Manager of the G.T.R., advising you that the B. & M. was willing that the former terminal charge of 3/4c. per 100 lbs. should be deducted from the through rate before quoting, & that you took no action?"

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J. B. MILLER

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"A.—It is not true, as stated, that the B. & M. R.R. advised it was willing to pro-rate the terminal charge of 3½c. per 100 lbs., & that the C.P.R. took no action."

"Q.—Is the explanation given by the correspondent, signing himself 'St. Lawrence,' in his letter headed 'Railway Defence,' which appeared in the Globe recently, justifying a \$6 ore rate, the true one? He alleges that the rate referred to was the proportion of a through rate to a smelter in the U.S., & the shipper was in no way affected thereby, because if the C.P.R. had taken less than the U.S. road, a smelter would have showed the difference."

"A.—The explanation given by 'St. Lawrence' as regards rate on ore is quite correct. The through rates & divisions from the mine to the smelter were made jointly by the C.P.R., Great Northern Ry., & American Smelting Refining Co., & do not in any way interest the mine owner. Even if the C.P.R. had carried the ore for nothing, the mine owner would have received exactly the same price for his ore, the reason for this being that there was an agreement made by the various smelters that a certain uniform price be charged for freight & treatment to all mine owners, which would not vary, irrespective of the question of freight rate & regardless of the distance the ore was hauled from the mine to the smelter."

"Q.—Is it true that in the fixing of through rates from the Atlantic coast to such places as Calgary or Medicine Hat or Revelstoke, the basis upon which the rates are fixed is that of the through rate from the Atlantic coast to Vancouver, plus the rate from Vancouver to the ultimate point of destination?"

"A.—As regards the question of through rates from the Atlantic seaboard to such points as Calgary, Medicine Hat & Revelstoke, these points are not affected by the rate to Vancouver. It sometimes occurs that a very low rate is made from the Atlantic seaboard to the Pacific coast on certain commodities as against competition via Cape Horn, & occasionally these rates may affect to some extent the rates to interior points a few hundred miles distant from the coast, which is to the advantage of the interior, for if the railways were debarred from competing with the water routes on coast traffic, no advantage would result to the interior towns, while, on the other hand, if the railways deem it advisable to make a low rate to the Pacific coast on certain kinds of heavy freight, that rate is taken into account in the rate charged on the same commodities to the interior."

"Q.—In addition to the ordinary rate schedules given to the shippers are there any billing instructions to the company's employes which will cause a difference of rates that would not appear in the schedules? It is alleged that sometimes the schedules show a rate agreeing with the competitive rate, but this is not the one actually enforced."

"A.—In addition to the tariff showing class rates the railways issue commodity tariffs, which are not secret, but open tariffs, & can be seen by the public any time."

"Q.—What have you to say to the contention made by A. McNeill, of Walkerville, that grapes, being a commodity which has a less marketable value than grain (estimated by the ton), ought to be carried by the railways at a less cost? Mr. McNeill says grapes are worth to the grower only \$12 to \$16 a ton."

"A.—The statement made by Mr. McNeill that fresh fruits are carried to the Northwest in common box cars, the same as used in transporting grain, is incorrect. All fruit is now transported in special equipment, either ventilated or refrigerator cars, generally the latter, as it is necessary to keep the cars iced in warm weather, & when it is cold refrigerator cars are needed to keep the fruit from freez-

ing. Only 20,000 lbs. of fruit can be loaded on a car, whereas 60,000 lbs. of grain is a carload. As regards the question of price, the statement was made by Mr. McNeill that grapes were worth 11c. a basket of 10 lbs. at Walkerville, which is certainly very much higher than the value of wheat. The rate on fruit from Windsor to Brandon is 1c. per lb. in car loads, but shippers can forward by express in small lots at 20c. a basket, equivalent to 2c. a lb., so that grapes can be laid down in Brandon in small quantities at a cost of about 3c. a lb., which certainly must be considered a low price for that class of goods, nearly 2,000 miles distant from the point of production. If, as stated by Mr. McNeill, grapes cost 50c. a basket laid down at Brandon, the difference is somebody's profit, not the railway's."

"Q.—What about the statement that a merchant of Minnedosa was able to team a case of plate glass from Winnipeg to Minnedosa cheaper than the railway would haul it?"

"A.—The mention made by the Globe of a case wherein a merchant of Minnedosa was able to team a case of plate glass from Winnipeg to Minnedosa cheaper than the railway would haul it refers to a transaction which occurred over 10 years ago, when Minnedosa was a point on the M. & N.W.R. & not on the C.P.R. The case of glass in question was too large to be loaded in a box car, & the railways asked to be paid for hauling a flat car to be provided especially for this shipment."

The Toronto Railway Company.

Following is an abstract of the report for the year ended Dec. 31, 1900, presented at the annual meeting on Jan. 16. The gross earnings amounted to \$1,501,001.28, an increase over the preceding year of \$167,458.84. This large increase exceeded the most sanguine expectations of the directors, & augurs well for the future of the Co. The financial statement shows a net profit of \$454,162.85, as compared with \$432,869.43 the previous year. The Co. has declared out of the net profit 4 quarterly dividends of 1% each, aggregating \$240,000, which leaves, after deducting pavement charges paid to the city, \$150,162.85. The total expenditure on capital account during the year amounted to \$185,000. The surplus, as in previous years, has been expended in enlarging the power plant, extensions of lines, additions to the rolling stock & feed wires, the purchase of real estate & construction of buildings required for the business, making a total of over \$1,000,000 expended in this way out of surplus earnings. A new 1600 h.p. direct connected engine & generator was installed in the power house. The rolling stock has been increased during the year by a large number of cars built at the Co.'s workshops, & additional cars are being constructed, which will be ready for next season's traffic. The cars constructed have been chiefly large double truck cars, equipped with 4 motors each. An extension was made to the St. Lawrence st. car house, giving additional storage capacity for the increased rolling stock. The percentage of operating expenses to earnings was 51%, as compared with 48.8% last year, an increase of 2.2%. This was due to the larger number of cars operated to meet the requirements of the service, the higher price of coal, & increased wages granted by the Co. to its motormen, conductors, & other employes. The power plant, tracks, rolling stock & system generally received careful attention & have been maintained in a high state of efficiency. The total amount paid to the city in taxes & pavement charges during the year was \$204,383.81, & in addition thereto the Co. paid the Provincial tax levied under the Revenue Act.

STATISTICAL STATEMENT 1892-1900.

	1892	1893	1894	1895	1896	1897	1898	1899	1900
Gross earnings	\$830,008.49	\$900,232.59	\$958,370.74	\$992,800.88	\$997,273.20	\$1,077,612.53	\$1,210,618.24	\$1,335,342.44	\$1,501,001.28
Operating expenses	590,333.26	537,597.15	517,707.53	489,914.76	507,760.31	545,801.25	578,857.26	650,324.55	775,980.84
Net earnings	239,675.23	362,635.44	440,663.21	502,886.04	489,512.89	531,811.28	631,760.98	683,217.89	725,020.46
Passengers carried	19,122,022	21,215,010	22,609,338	23,353,228	23,537,911	25,271,314	28,710,388	31,826,940	36,061,867
Transfers	5,592,708	8,477,147	7,438,171	7,257,572	7,354,895	8,169,022	9,287,239	10,538,279	12,570,704
Percentage of operating expenses to earnings	71.9	59.07	54.0	49.3	50.9	48.8	47.4	48.8	51.0

FINANCIAL STATEMENT YEAR ENDED DEC. 31, 1900.

ASSETS.	
Road & equipment, real estate & buildings, including pavements & suburban lines	\$10,343,394.49
Stores in hand	65,372.16
Accounts receivable	28,740.31
Cash in bank	115,422.83
Cash in hand	13,790.46
	<u>\$10,566,720.25</u>
LIABILITIES.	
Capital	\$6,000,000.00
Bonds—Tor. Ry. Co., 4½% Stg.	\$1,881,953.33
" " " Cur.	628,000.00
" " " 6% Deben	600,000.00
Tor. & Mim. Elec. Ry. & Lt. Co.	100,000.00
Tor. & Scar. Ry., L. & P. Co.	40,000.00
	<u>\$3,249,953.33</u>
Less bonds not sold, & in hand for future requirements of the Co.	250,000.00
	<u>2,999,953.33</u>
Mortgages	70,000.00
Advance on bonds	200,000.00
Accrued interest on bonds	54,872.32
Accounts and wages payable	84,651.18
Unredeemed tickets	10,748.70
Uniforms	207.60
Dividend 18, payable Jan. 2, 1901	60,000.00
Balance profit & loss—	
As at Dec. 31, 1899	\$939,624.27
Less directors' fees, 1899	3,500.00
	<u>\$936,124.27</u>
As at Dec. 31, 1900	150,162.85
	<u>1,086,287.12</u>
	<u>\$10,566,720.25</u>

INCOME ACCOUNT.

Dividends paid April 1, July 2, Oct. 1, 1900, & Jan. 2, 1901.....	\$240,000.00
Pavement charges.....	64,000.00
Balance.....	150,162.85
Income over & above all expenses & fixed charges to Dec. 31, 1900.....	\$ 454,162.85

Ottawa Electric Railway Company.

At the seventh annual meeting of shareholders, Jan. 28, the following report was submitted:—The net profit for the year ended Dec. 31, 1900, was \$101,116.57, out of which 4 quarterly dividends of 2% each have been declared, amounting in all to \$65,184.00. Of the balance it is proposed to place \$18,000.00 to credit of contingent account, leaving \$17,932.57 to be carried forward to credit of profit & loss. The gross earnings for the year were \$314,146.64, compared with \$231,802.06 in 1898, & \$263,545.05 in 1899. In Aug. last arrangements were completed with the Dominion Rifle Association to extend a double track line from Rockliffe terminus to the new rifle range, about two miles, the Association agreeing to supply rails, ties & free right of way. The line was opened in time for the annual matches of the D.R.A. in Sept. & proved most popular. As anticipated in last report the Britannia line was opened on May 24, & throughout the summer & fall did a very heavy business. The stone pier, built 1,000 ft. out into the bay, was a great attraction, & when the work of laying out the ground is completed the place will be unsurpassed in the country as a summer resort. In Oct. work was commenced on the paving of Somerset st., from Bank st. to Bay st., with asphalt. This work, as well as the extension of a single track along Bell st., from Emily to the C.A.R. bridge, was completed in Nov. The further extension of the Bell st. line to the southerly end of Bell st., will be carried out next spring. On April 26, power house no. 1 was destroyed by the fire which swept over Ottawa & Hull. The insurance money received will be sufficient to replace the power house, but a certain loss will result from damage to tracks, overhead work, & bridges, throughout the city & Hull. This loss will be provided for out of the contingent account, as referred to elsewhere. The increase in business during past year has been most gratifying, & should be maintained throughout the coming year, when we will have the full advantage of the new extensions to Britannia-on-the-Bay & Rockliffe rifle range.

STATISTICAL STATEMENT, 1892 TO 1900.

Gross receipts.....	11 mos. ended May 31, 1892.	\$71,608.09	12 mos. ended May 31, 1893.	\$110,071.67	12 mos. ended May 31, 1894.	\$120,484.02	12 mos. ended May 31, 1895.	\$193,991.36	7 mos. ended Dec. 31, 1895.*	\$128,173.08	12 mos. ended Dec. 31, 1896.	\$212,105.95	12 mos. ended Dec. 31, 1897.	\$223,801.67	12 mos. ended Dec. 31, 1898.	\$231,802.06	12 mos. ended Dec. 31, 1899.	\$263,545.05	12 mos. ended Dec. 31, 1900.	\$315,022.08
Total expenses.....		45,199.80	70,221.25	83,324.64	122,335.67	83,324.64	122,335.67	122,335.67	73,983.48	73,983.48	144,360.24	151,462.04	151,462.04	178,304.68	159,188.91	159,188.91	178,304.68	213,905.51	213,905.51	
Net profit.....		26,408.29	39,850.42	37,159.38	71,655.69	37,159.38	71,655.69	71,655.69	54,190.50	54,190.50	67,745.61	60,640.91	72,339.63	72,339.63	72,613.15	72,613.15	85,180.37	101,116.57	101,116.57	
Passengers carried.....		1,520,405	2,394,504	2,797,281	4,119,084	4,119,084	4,119,084	4,119,084	2,843,173	2,843,173	4,583,255	4,762,082	4,762,082	5,133,938	5,133,938	5,133,938	5,833,859	7,094,656	7,094,656	
Percentage of operating expenses to receipts.....		63.1%	63.1%	68.1%	63.1%	68.1%	63.1%	63.1%	32.9%	32.9%	32.9%	32.9%	32.9%	32.9%	32.9%	32.9%	32.9%	32.9%	32.9%	

* 7 months only. The Co.'s year was changed to correspond with the calendar year.

ASSETS DEC. 31, 1900.

Road-bed & equipment, waterpower, property & plant, real estate & buildings.....	\$1,479,098.35
Stores.....	6,628.10
Accounts receivable.....	2,391.26
Discount unearned.....	4,136.67
Cash.....	3,922.90
Total.....	\$1,496,177.28

LIABILITIES.

Capital stock.....	\$814,800.00
Bonds, 4%.....	500,000.00
Dividend 26, payable Jan. 2, 1901.....	16,296.00
Bank of Commerce.....	4,167.90
Bills payable.....	25,000.00
Interest on bonds.....	5,000.00
Contingent account.....	18,000.00
Balance profit & loss account.....	112,913.38
Total.....	\$1,496,177.28

PROFIT AND LOSS ACCOUNT.

Balance at credit of profit & loss Dec. 31, 1899.....	\$94,980.81
Net profit for 1900.....	101,116.57
Total.....	\$196,097.38
Dividends paid April, July & Oct., 1900, & Jan., 1901.....	\$65,184.00
Contingent account.....	18,000.00
Balance at credit Dec. 31, 1900.....	112,913.38
Total.....	\$196,097.38

McCaskill, Dougall & Co., manufacturers of railway & carriage varnishes & japans, Montreal, have sent to their customers an attractive calendar for 1901.

A. O. Norton, manufacturer of ball-bearing jacks & "sure drop" track jacks, Coaticook, Que., has issued an attractive calendar, which may be had for the asking. He has also brought out a new edition of his illustrated catalogue, which should be in the hands of every user of jacks.

Muskoka Navigation Co.—At the recent annual meeting the old board was re-elected as follows:—President, J. S. Playfair; Vice-President, L. W. Smith; Manager & Secretary, A. P. Cockburn; other directors, H. H. Cook & G. Homer. The Co. is in a prosperous condition, & a policy of improved service, with greater expedition in the transportation of passengers, is to be carried out. Hotel accommodation along the route of the Co.'s steamers is constantly improving. It is expected that the Magnetawan division of the Co. will undergo an onward movement the coming season. The combined paddle & screw steamer Monarch is being made more comfortable for the summer passenger business, & the terminal at Burks Fall's is to be improved by the construction of a spur line between the station & steamboat landing.

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Canadian Pacific Navigation Company.

The C.P.R. Co. has bought a controlling interest in the stock of the Canadian Pacific Navigation Co., which has its head-quarters at Victoria, B.C., operating steamboats between Victoria & Vancouver, between Victoria & New Westminster & on the Fraser River & also between Victoria & Barclay Sound, Vancouver Island, & between Victoria & Port Simpson, Naas River, B.C., Wrangel & Skagway, Alaska.

The negotiations which resulted in the transfer of a controlling interest were conducted at Victoria by Commissioner Chipman, of the Hudson's Bay Co. At one time the H.B. Co. had a majority of the stock in the C.P.N. Co., but before Mr. Chipman's appointment to the Commissionership a portion of the Co.'s holding was disposed of & the control passed into the hands of people in Victoria. For many years the C.P.N. Co. was under the management of Captain Jno.

most effective service possible on all routes. It is not the C.P.R. Co.'s intention to ask a bonus from either Vancouver or Victoria, & there can be little doubt that the purchase which has been made will result beneficially to the trade of B.C. The C.P.N. Co.'s business has in the past been a profitable one, but it could not well continue either in the interests of the shareholders or of the Province without the expenditure of a large amount of additional capital. It is a source of satisfaction that the proposition has been readily received, & appears to be alike satisfactory to all concerned."

It is expected that one of the first results of the C.P.R. ownership will be a much-needed improvement in the service between Vancouver & Victoria, & especial attention will no doubt be given to the northern trade between Victoria & Vancouver, & the northern B.C. & Alaska ports, so as to divert it from Seattle & other Puget Sound ports, which have now almost a monopoly of it. We are officially in-

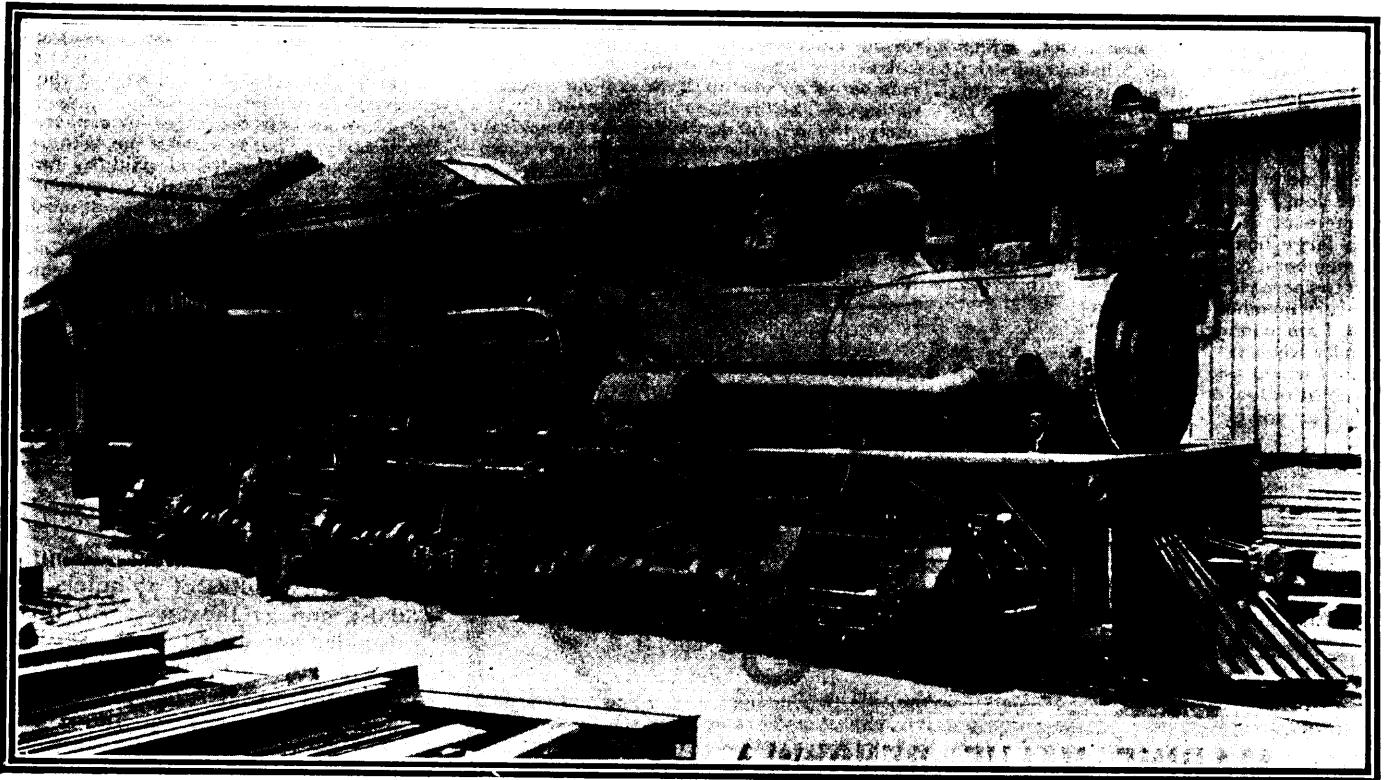
ly increased, & during the last few years an 8% annual dividend has been paid. The board, according to the last available returns, was composed of President R. P. Rithet, Secretary-Treasurer F. W. Vincent; other directors, T. Earle, M.P., Hon. J. H. Turner, Minister of Finance for B.C., J. Thomson, representing the Hudson's Bay Co.'s interests, & Capt. J. Irving.

The C.P.N. Co.'s ocean going fleet consists of the following steamers:—The *Islander*, screw, built in 1888 at Yoker, G.B., length 240 ft., breadth 42 ft., depth 14 ft., tonnage, gross, 1495, register 478.

The *Charmer*, screw, built in 1886 at San Francisco, length 200 ft., breadth 42 ft., depth 12 ft. 9 ins., tonnage, gross, 1044, register 497.

The *Danube*, screw, built in 1869 at Govan, G.B., length 215½ ft., breadth 27 ft. 7 ins., depth 20 ft. 7 ins., tonnage, gross, 887, register 561.

The *Yosemite*, sidewheeler, built in 1862 at



SHAY LOCOMOTIVE USED ON THE ROSSLAND, B. C., SECTION OF THE CANADIAN PACIFIC RV. SEE PG. 13.

Irving, of Victoria, son of Captain Wm. Irving, the pioneer steamboat man on the Fraser River, the presidency of the Co. being held by his brother-in-law, R. P. Rithet, a leading merchant of Victoria. Capt. Jno. Irving retired from the management some two years ago, since which he has been steamboating on the Yukon route, & was succeeded by F. W. Vincent, C. S. Baxter being Passenger Agent, & G. A. Carleton, General Freight Agent.

When the transfer of the stock was recently announced, Mr. Chipman made a statement to the press in which he said: "All are agreed that it is necessary to do something to improve & protect the trade of British Columbia. The C.P.R. has long given earnest attention to this question, & has felt that steamship service must be increased & improved, in order to retain the northern trade for the Canadian coast. With this end in view the C.P.R. has acquired a controlling interest in the C.P.N. Co., & proposes spending a large amount of money in improving the present fleet & adding to it modern vessels, so as to provide the

formed that the steamers will be operated for a time at any rate in the name of the C. P.N. Co., as heretofore. No decision has been reached regarding the management or the details of the improvements to be made in the fleet & in the service.

The business now carried on by the C.P.N. Co. has grown out of the steamboat business at one time conducted by the Pioneer Line & by the Hudson's Bay Co., the C.P.N. Co. having taken over the boats owned by them, paying for them in capital stock in the C.P.N. Co., which was incorporated in 1883 with an authorized capital of \$500,000, of which \$356,000 was subscribed & paid up. The Co. has an indebtedness of \$75,000 on the first issue of its debentures, issued in 1893, payable in 1903. In March, 1890, the Co. gave a chattel mortgage to the B.C. Land & Investment Agency for \$250,000, covering 13 steamboats & some real estate in Victoria, Vancouver & Port Hammond, but it is said that only a few thousand dollars' worth of the second debentures have been issued. Since the Yukon development began the Co.'s business has large-

San Francisco, length 282 ft. 3 ins., breadth 34 ft. 9 ins., depth 13 ft. 2 ins., tonnage, gross, 1525, register 1055.

The *Princess Louise*, sidewheeler, built in 1869 in New York, length 184 ft., breadth 30 ft., depth 13 ft., tonnage, gross, 932, register 544.

The R. P. Rithet, sidewheels, built in 1882 at Victoria, B.C., length 117 ft., breadth 33½ ft., depth 8 ft. 5 ins., tonnage, gross, 817, register 686.

The *Tees*, screw, built in 1893 at Thornaby-on-Tees, G.B., length 165 ft., breadth 26 ft., depth 10 ft. 8 ins., tonnage, gross, 569, register 231.

The *Willagra*, screw, built in 1891 at Astoria, U.S.A., length 136 ft., breadth 22 ft., depth 10 ft., tonnage, gross, 373, register 245.

The *Amur*, screw, built in 1890 in Sunderland, Eng., length 216 ft., breadth 28 ft. 1 in., depth 11 ft. 2 ins., tonnage 570.

The *Queen City*, screw, built in 1894 at Vancouver, B.C., length 116 ft., breadth 27 ft., depth 10 ft., tonnage, gross, 391, register 214.

The *Maude*, screw, built in 1872 at San

Juan, B.C., length 113 ft. 5 ins., breadth 21 ft., depth 9 ft., tonnage, gross, 175, register 94.

The Beaver, sidewheels, built in 1898 at Victoria, length 140 ft., breadth 28 ft., depth 5 ft. 1 in, tonnage, gross, 545, register 344.

On the Fraser the Co. has the Transfer & some other river boats. The Transfer, sidewheels, was built in 1893 at New Westminster, length 122 ft., breadth 24 ft. 5 ins., depth 5½ ft., tonnage, gross, 264, register 98.

Canadian Ticket Agents' Association.

The following official circulars, recently issued, will be of interest, not only to members of the Association, but to ticket agents generally. The Association has done much useful work, & its annual reunions have been very enjoyable. A strong effort is being made to increase the already large membership, & we hope it will be successful.

The President, F. W. Churchill, has issued the following circular to the members:—

"It was with very sincere regret that I was unable to join you in Hamilton in Oct., & journey with you through the Muskoka district, but I trust that the fates may be kinder this year, & that our meeting in Montreal may be a banner one. I desire to thank you most cordially for the honor you have done me in placing me in the chair for a second term, & assure you I shall do my utmost to forward the interests of our Association. There is still a large field from which we can draw new members, & I ask you to make a special effort to increase our membership this year. Let every member make this a personal matter, & I am confident that there will be no difficulty whatever in adding 50% to our numbers. I would ask you to read with care the new constitution & by-laws, & send in your \$2 the day you get our genial Secretary's let-

ter, thus obviating much correspondence & possible friction. I shall esteem it a favor if you will send me any suggestions which you think may be in our common interest, or which are calculated to increase the usefulness & weight of our Association. Wishing you & yours an abundance of all that is good."

CIRCULAR FROM THE SECRETARY-TREASURER.

E. De La Hooke has issued the following:—"If our meeting at Hamilton & its accompaniments in Oct. last did not surpass all previous efforts, it certainly equalled the best & distanced many. The membership attendance was but a few short of that at Winnipeg in 1899, which up to date flies the banner in this particular; & the number of guests & other lines' representatives far exceeded that at any previous gathering, 149 gentlemen sitting down to the banquet held at the Hotel Royal on the evening of October 10th. Our stay in the Ambitious City was a most pleasant one, thanks to Messrs. Morgan & Grant, who had arranged so enjoyable & varied a programme for our entertainment. The trip to the Muskoka lakes which followed will long be remembered as one of the very pleasantest of outings. The liberal provision made for the party, 180 in number, as regards special train & boat service; the satisfactory hotel accommodation, although so late in the season; the enchanting yet ever changing views of island, bay & inlet, all tended to leave a lasting impression of a perfect excursion.

"It might be thought by some who were not present that but little time had been allowed for the meeting proper, & but little work accomplished. All the time needed was employed, & some very important legislation enacted. One result was an amended constitution & framing of by-laws, a copy of which I take pleasure in now sending you.

Allow me to draw your attention to one of the most important changes: Article 3 in the constitution provides for an increase in the annual subscription from \$1 to \$2. This increased fee will cover a copy of THE RAILWAY & SHIPPING WORLD, to be sent monthly from the office of publication to each member. It will be found a most interesting railway journal, & has been made the official organ of the Association; its columns will be open for any items of correspondence which in the opinion of the Editor would be of interest to our members. In view of the fact that the Association has to pay in advance for this periodical, it is more than ever necessary that members pay their annual subscriptions promptly—for the Association are not in a position to supply the journal, pay for it in advance, & stand out of money perhaps never to be collected. The paper will be withheld from all members whose subscriptions have not been paid on or before Feb. 15. Any member having paid up & not receiving his WORLD regularly will please advise the Secretary. I would respectfully ask members to read, mark, learn & inwardly digest the by-laws governing this all-important matter of payment of dues, as it is the wish of the Executive to have them enforced.

"The following resolution was passed at the meeting: That in view of the withdrawal of commissions heretofore paid by foreign railroads, the members of the Canadian Ticket Agents' Association assembled, most respectfully request that the general passenger agents of the several railroads in Canada take into consideration the severe pecuniary loss sustained by such action, & that they adopt a scale of payment, by salary or otherwise, whereby agents will in the absence of such 'casuals' be more fitly remunerated for the responsibilities of their positions. This resolution was submitted to the general pas-

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WHEN YOU GET THERE

You are within from half a minute to fifteen minutes of 77 hotels, 85 clubs, and 31 theaters. All this, provided you arrive in the second city of the world at **Grand Central Station**, this being the Metropolitan terminus of the **New York Central**, which is the only trunk line whose trains enter the city of New York.

The following remark of an experienced traveler tells the whole story:

"For the excellence of its track; the speed of its trains, the safety and comfort of its patrons, the loveliness and variety of its scenery, the number and importance of its cities, and the uniformly correct character of its service, the **New York Central** is not surpassed by any similar institution on either side of the Atlantic."

Call on nearest ticket agent of the C.P.R. or T.H. & B. for further information, or address

LOUIS DRAGO, H. PARRY,
Can. Passr. Agent, Genl. Agent,
TORONTO, ONT. BUFFALO, N.Y.

GEORGE H. DANIELS,
Genl. Passr. Agent, Grand Central Station,
NEW YORK.

THE HUNTER, ROSE CO.,
All kinds of... Limited.
**PRINTING, BOOKBINDING,
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senger agents concerned, & replies received, all of which expressed a similar sentiment, viz: That it was a matter that could only be dealt with satisfactorily with each individual ticket agent; & that to formulate a scale of remuneration applicable in all cases was not feasible.

"Membership certificates for 1901 are now ready, & I hope that this month I shall be kept busy receiving subscriptions & sending out the 'chromos'—Please remember that it is now necessary to send \$2. Agents not members can become such by remitting \$3 (\$1 entrance fee, \$2 annual subscription, payable in advance.)

"Montreal being slated for our next meeting, it is hoped that many recruits from that section of the country will join the ranks. All such are assured of a hearty welcome. Be one of us now & at Montreal. At an early date a new list of members will be issued. In this the first year of the twentieth century it is desired to make as bold a showing as possible, but only the names of such members as have paid for 1901 will be included. Let all old members & many new ones so act that their names will appear. We are rapidly approaching the 200 mark—let's get there without delay. I beg to enclose copy of a circular from our President, & recommend same to your consideration. Wishing all a happy & prosperous New Year."

I will simply mention a few of the most prominent: the trip through the Thousand Islands & the rapids of the St. Lawrence. Or for those of your members who will come from the South, & who will not take in the Pan-American Exposition on the way to your Convention, I would mention via Lakes Champlain & George; or from the Eastern section, our line from Portland via the White Mountains. Montreal is a very fine city, & there are any number of steamer & rail side-trips that could be made with pleasure & be of interest to the ticket agents' fraternity.

"I shall be very pleased indeed to extend the courtesy of our line to the members of your Association to the place where your meeting is to be held, as soon as it is decided, & also for whatever side-trips may be required."

C. E. E. Ussher, General Passenger Agent of the C.P.R. Eastern Lines, wrote:—"I have your favor & note that the Executive Committee of your Association will hold its meeting at Buffalo in order to fix upon the place for the next annual Convention of your Association, which will be at either Montreal or Toronto. I shall be glad to issue transportation to any members of your Association on application from the respective heads of their departments. I trust that you will have a pleasant meeting."

F. P. Dwyer, Eastern Passenger Agent of the G.T.R. at New York, having addressed

G.T.R. Compound Consolidation Locomotive.

On this page is an illustration of one of the compound consolidation locomotives recently built for the G.T.R. by the Baldwin Locomotive works. Following are the general dimensions:

Gauge.....	4 ft. 8½ in.
Cylinders, diameter (high pressure).....	15½ in.
" " (low pressure).....	26 in.
" stroke.....	28 in.
" valve.....	balanced piston
Boiler, diameter.....	66 in.
" thickness of sheets.....	11-16 in.
" working pressure.....	200 lbs.
" fuel.....	soft coal
Fire box, material.....	steel
" length.....	114 3-16 in.
" width.....	41 3-8 in.
" depth, front.....	65½ in.
" " back.....	62½ in.
" thickness of sheets, sides.....	5-16 in.
" " " back.....	5-16 in.
" " " crown.....	3-8 in.
" " " tube.....	½ in.
Tubes, number.....	260
" diameter.....	2 in.
" length.....	14 ft. 0 in.
Heating surface, fire box.....	161.1 sq. ft.
" tubes.....	1,894.4 sq. ft.
" total.....	2,055.5 sq. ft.
" grate area.....	32.7 sq. ft.
Driving wheels, diameter outside.....	56 in.
" " of centre.....	50 in.
" journals.....	8 in. x 12 in.
Engine truck wheels, diameter.....	33 in.
" journals.....	5 in. x 9½ in.
Wheel base, driving.....	15 ft. 3 in.



BALDWIN COMPOUND CONSOLIDATION LOCOMOTIVE FOR THE GRAND TRUND RAILWAY.

International Association of Ticket Agents.

At a meeting of the Executive Committee at Buffalo recently the principal business was the selection of the place for the Convention of 1901. A letter was read from G. T. Bell, General Passenger Agent of the G.T.R., as follows:—"I am very glad indeed to learn that your Association contemplates visiting Canada, & I do hope that the result of your meeting at Buffalo will be a decision in favor of either Toronto or Montreal. It would be out of place for us to suggest one place as against the other; but if it is the opinion of your Committee that Toronto is the proper location, there are many reasons that can be advanced to sustain this opinion. I might mention many points of interest in the vicinity of Toronto, prominent among which are Muskoka Lakes, Lake of Bays, Magnetawan & Kawartha Lakes district, & I think probably the easiest way to bring those particular points before the members of your Executive Committee will be—& I am arranging to send you same—a small package of each of our folders descriptive of the regions referred to.

"Should Montreal be the favored spot, there are very many attractive resorts in its vicinity, & a trip to Montreal is in itself a treat. The various routes by which Montreal is reached I presume are all familiar to you.

the Committee, it was unanimously decided to hold the Convention in Toronto Sep. 11, 1901. Salt Lake, Milwaukee & other cities were also in the field.

The officers of the Association are: E. N. Blood, President, Buffalo; J. A. Robbins, 1st Vice-President, Chicago; W. F. Hambright, 2nd Vice-President, Lancaster, Pa.; J. B. Goodhue, 3rd Vice-President, Beaumont, Texas; C. G. Cadwallader, Secretary, Philadelphia; Ellwood Ramsey, Treasurer, Philadelphia; J. H. Sterling, Auditor, Pittsburgh.

Executive Committee:—F. S. Montgomery, Vincennes, Ind.; S. T. Swift, Lexington, Ky.; W. F. Fernald, Old Orchard, Me.; L. C. Boyle, Viroqua, Wis.; W. D. Knott, Wadley, Ga.

The White Pass & Yukon Ry.'s Traffic Department has got out some unique packs of souvenir playing cards, which are very much out of the ordinary. The suit, &c., are shown in the upper left & lower right hand corners of the cards, while the rest of the face of the cards is filled with half-tone views of scenery on the W.P. & Y.R., beautifully printed, each card having a different view. The cards are of the best quality, with gilt edges. They can be obtained at 50c. a pack, by addressing the Traffic Manager, W.P. & Y.R., Seattle, Wash.

Wheel Base, total engine.....	23 ft. 6 in.
" " total engine and tender.....	53 ft. 9 in.
Weight, on drivers.....	143,400 lbs.
" " on truck.....	17,900 lbs.
" total engine.....	161,300 lbs.
" total engine and tender.....	251,000 lbs.
Tender, diameter of wheels.....	33 in.
" journals.....	5 in. x 9 in.
" tank capacity.....	4,500 gals.
Service, freight.....	

Shay Locomotive on the C.P.R.

On page 11 is an illustration of a Shay locomotive, which is in use on the heavy grade between Smelter Jct. & Rosslund, on the Columbia & Western Ry., operated by the C.P.R. The builders furnish the following description:—

"The Shay locomotive was designed to operate on heavy grades and sharp curves, & to meet requirements not promisable by any other type of engine. It is built on centre bearing swiveled trucks, the locomotive frame with water & fuel rests on the trucks, which are under each end, the entire weight is useful for adhesion, & is distributed on 8 or 12 drivers, which admits of using lighter rail & also allows its use on wood rail when necessity requires it. The trucks with drive wheels are free to swivel and vibrate independently of the locomotive frame, & thereby adjust themselves to curves and irregularities of the track with the least possible friction. The

power is conveyed from the engines to the drive wheels by means of a horizontal shaft, in sections, each section provided with a universal joint & expansion couplings, forming a flexible shaft, which is rigid in revolution, but flexible in all other directions. On this flexible shaft are steel pinions pressed & keyed, on which engage the steel gear rims, which are bolted to the right hand drive wheels of each truck; the horizontal & crank shafts are connected by means of the universal couplings, which have proven reliable & efficient. The engines, all being on the right side, are firmly fastened to the boiler in an upright position, which secures to the cylinders the least possible wear. The piston heads are solid & have rings sprung in which correspond to the best practice of locomotive construction. The piston rods are of steel. The links & parts connected thereto are of forged steel or Norway iron case hardened. The connecting rods are of forged iron; the ends at the cross head are forged solid & cut out to receive the brasses, while the crank end has the strap securely fastened with turned steel bolts, making a strong & substantial connecting rod. The boxes are of the best composition metal & well fitted. The crank

shaft is of forged iron, & having three pins set at 120° each insures a regular & steady motion while running, & renders it impossible to get more than one pin on the centre, which is a great advantage in a locomotive. The slides are bolted to the engine frame & bored out to receive the cross head, & are adjustable. The engines are self-contained & cast in one piece, which insures the cross head & cylinder being in line. The cross heads are made of steel castings with bronze gibbs. The trucks are all built of iron & are strong & substantial; the truck beams are built of steel channels strongly bolted together. Heavy I beams are used in the engine frame. The engines, boiler, tank & cab are all securely attached to frame. The cab is of neat design. The engines and machinery, all being on the right side of boiler & mostly in front of the cab, are at all times under the eye of the engineer. The equilibrium is gained by setting the boiler to the left of the centre of the frame, & the cylinders & most of the machinery being on the right side makes the locomotive in perfect balance. The valve & link motion are of the most improved kind & design; the fittings & trimmings are of the same kind & are what are used on all first-

class locomotives. Boiler is covered with asbestos cement & wood lagging on outside & cased with planished iron.

Following are the general dimensions:—

Gauge	4 ft. 8½ in.
Fuel used	Bituminous coal
Average total weight in working order (about)	207,500 lbs
Length of engine and tender	58 ft. 10 in.
Extreme length above rail	14 ft. 3 in.
Total wheel base of engine and tender	43 ft. 10 in.
Driving wheel base	43 ft. 10 in.
Driving wheels (12)	40 in. diameter
Journals	7 in. dia. x 8 in. long
Cylinders (3 in number)	15 in. x 17 in. stroke
Boiler, type of	Waggon top
Working pressure	180 lbs. per sq. inch
Material in barrel	steel
Thickness of do	½ in.
Diam. at front end	56 in. outside
Tubes	2 in. O.D.
Number of tubes	224
Length between tube sheets	11 ft 10½ in.
Firebox length	7 ft. 0 in.
" width	4 ft. 1-9 in.
" depth	6 ft. 1¾ in. at front end. 5 ft. 10¼ in. " back "
Total heating surface	1,554 sq. ft.
Tube	1,407 "
Firebox	147 "
Grate area	28.8 "
Wheels steel tyred and steel gear rims attached having 41 teeth, 2½ pitch.	
Pinions on shafts are steel and have 20 teeth.	
Tender capacity, coal 6 tons, water about 2,900 Imperial gallons.	

It Leads Them All.

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GURNEY STANDARD SCALES.

WE MAKE SCALES FOR ALL PURPOSES. ALSO THE REED RECORDING ATTACHMENT FOR RAILROAD TRACK SCALES.

Write For Descriptive Circular.

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HAMILTON, ONT., CANADA.

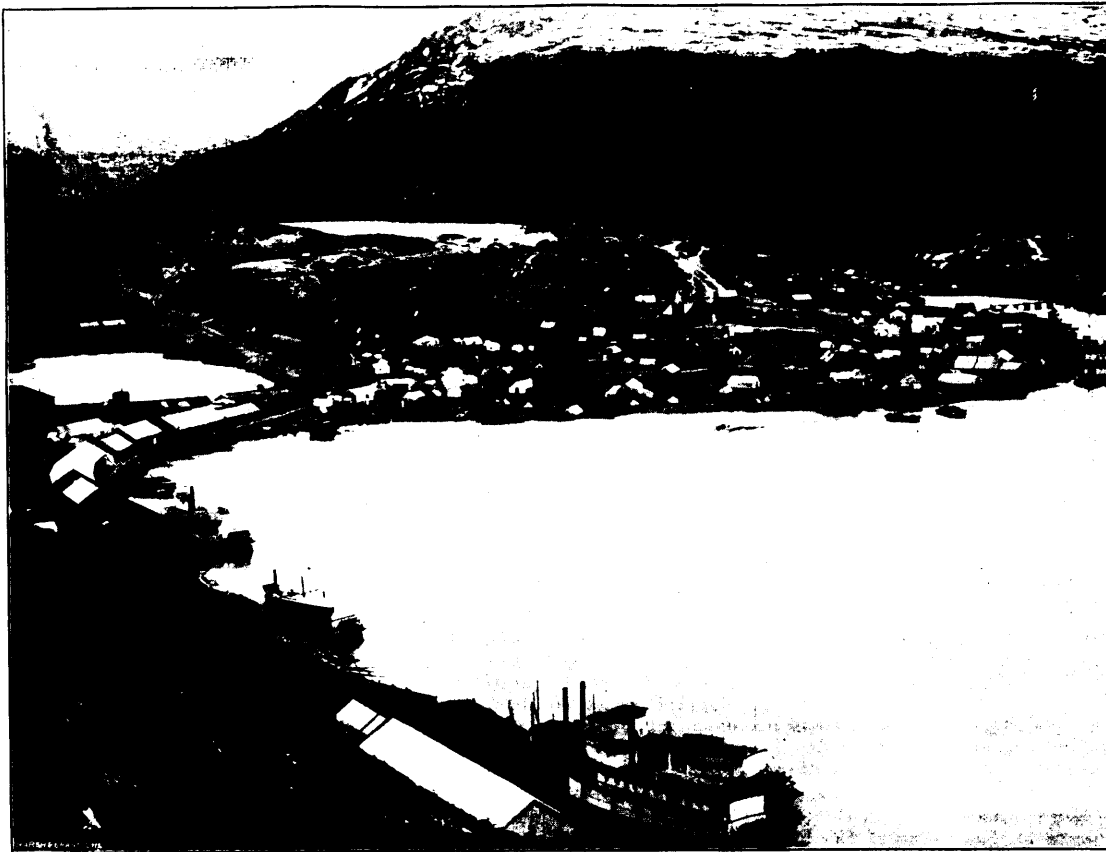
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BENNETT, B. C., ON THE WHITE PASS AND YUKON RAILWAY.

Radius of sharpest curves advised	100 ft.
Radius of sharpest curves practicable	100 "
Hauling capacity in tons of 2,000 lbs. (exclusive of loco. and tender)	
On absolute level	3860
On $\frac{1}{2}$ grades 26 4-10 ft. per mile	1620
" 1 " 52 8-10 " " "	1006
" 2 " 105 6-10 " " "	565
" 3 " 158 4-10 " " "	379
" 4 " 211 2-10 " " "	279
" 5 " 264 " " "	216
" 6 " 316 8-10 " " "	173

RAILWAY APPOINTMENTS, ETC.

Algoma Central.—C. McCarthy has been appointed Assistant Purchasing Agent, with headquarters at Sault Ste. Marie, Ont.

Canadian Pacific.—E. A. Williams, heretofore Mechanical Superintendent of the Minneapolis, St. Paul & Sault Ste. Marie Ry., has been appointed Superintendent of Rolling Stock of the C.P.R., succeeding R. Atkinson, resigned.

No one has been appointed Assistant Auditor of Disbursements, to succeed A. A. Goodchild, recently appointed Auditor of Statistics, & it is not likely that the position will be filled for the present.

E. Tiffin having resigned as General Freight Agent of the Ontario Division, to accept the Traffic Managership of the I.C.R. & P.E.I.R., the duties of the former position will, until further notice, be assumed by the Assistant General Freight Agent, W. B. Lanigan, with office at Toronto.

G. J. Bury has been appointed Superintendent of the Crow's Nest Pass division, with headquarters at Cranbrook, B.C., succeeding J. A. Cameron, who has been granted leave of absence on account of ill-health. Mr. Cameron will remain in the Co.'s service, but his duties have not been decided on. Mr. Bury has been succeeded as Superintendent from Port Arthur to Winnipeg by T. G. Ross, with headquarters at Port Arthur. Mr. Ross has been succeeded as Assistant Superintendent of the Manitoba lines,

with headquarters at Winnipeg, by R. Peard, heretofore Chief Train Despatcher at Winnipeg.

E. J. Duchesnay, Superintendent at Revelstoke, has not resigned to become Superintendent of the Cuba Co., as reported in the daily papers.

H. E. Macdonnell has been appointed Acting Assistant General Freight Agent of the Kootenay & Boundary districts, comprising lines west of Fernie & south of Golden, Arrow Head & Penticton, not H. D. Macdonnell, as stated in our last issue.

J. S. Carter has been appointed District Passenger Agent of the Kootenay District, with office at Nelson, B.C., reporting to the Assistant General Passenger Agent at Vancouver. Mr. Carter has been succeeded as ticket agent at Winnipeg Station by W. M. McLeod. Mr. McLeod has been succeeded as City Ticket Agent at Winnipeg by A. E. Smith, & Mr. Smith has been succeeded as Ticket Agent at Brandon by D. B. Niblock, heretofore Ticket Clerk in Winnipeg city office.

Chicago, Milwaukee, & St. Paul.—W. J. Underwood has been appointed Assistant General Manager. C. A. Goodnow, heretofore Assistant General Superintendent at Chicago, succeeds Mr. Underwood as General Superintendent.

Delaware & Hudson.—John E. Hawkins, formerly in the foreign freight office of the G.T.R. in Montreal, has been appointed Canadian Freight Agent of the D. & H., with headquarters in Montreal, to succeed A. C. McCullough, promoted to be General Southern Agent, with headquarters in Philadelphia.

Erie. At a recent meeting of the directors new interests in this Co. were disclosed by the election of J. J. Hill, of the Great Northern; N. B. Ream, of Chicago, a Director of the Baltimore & Ohio, & R. Bacon, of J. P. Morgan & Co., to succeed Messrs. Quintard, Goodwin & Williamson.

Grand Trunk.—A. G. Elvin having resigned to accept service with another company, has been succeeded as Master Mechanic in charge of Montreal works by J. E. Muhlfeld, heretofore Master Mechanic of the Western Division at Fort Gratiot, Mich.

E. D. Jameson has been appointed Master Mechanic of the Western division, with headquarters at Battle Creek, having jurisdiction over all matters pertaining to this department excepting those at Fort Gratiot shops & Port Huron Tunnel pumping station.

J. McGrath has been appointed Master Mechanic in charge of Fort Gratiot shops, & Port Huron & Sarnia pumping stations.

The following station agents have been installed:—Swansea, W. F. Briggs; London East, D. M. Kennedy; Norwich, B.T., H. F. Bickford; Capac, F. H. Lord; 47th Street, J. Hermany; Halsted Street, C. W. Brown; Nunica, B. Dell; Slocum, A. O. Wood; Harvard, G. L. Knight.

Intercolonial & P.E.I.R.—E. Tiffin, heretofore General Freight Agent of the Ontario Division of the C. P.R. has been appointed Traffic Manager of the I. C. R. & P. E. I. R., with headquarters at Moncton, N.B. He will have charge of both the freight & passenger traffic departments.

Minneapolis, St. Paul, & Sault Ste. Marie.—F. W. Curtis, heretofore Assistant Superintendent, has been appointed Superintendent of the Wisconsin & Peninsular division, with headquarters at Minneapolis, Minn., succeeding G. R. Huntington, promoted to be General Superintendent.

New York Central & Hudson River.—At a recent meeting of directors the following changes in the organization of the Co. took effect:—C. C. Clarke, on account of advancing years, resigned as Vice-President, after a valuable & extended service of over 46 years. E. V. W. Rossiter was appointed Vice-President, succeeding Mr. Clarke, & G. S. Prince was appointed Treasurer, succeeding Mr. Rossiter. E. L. Rossiter & W. A. Greer have been appointed Assistant Treasurers.

Northern Navigation Co.—The report that J. R. Promberger, Freight Agent of the C.P.R. at Fort William, had been appointed Manager of the N.N. Co., is incorrect. The appointment has been given to W. Askin, heretofore General Agent of the Co.

Richelieu & Ontario Navigation Co.—H. Foster Chaffee has been appointed Western Passenger Agent, with headquarters in Toronto, in charge of ticket office in Toronto & with jurisdiction in passenger matters west of Toronto in Ontario. J. F. Dolan, heretofore Ticket Agent at Toronto, has been appointed Ticket Agent at Montreal, vice Chaffee, promoted. Appointments effective Feb. 1, 1901.

J. C. McFadzen, G.T.R. freight agent, at Port Huron, Mich., who has been promoted to be freight agent at New London, Connecticut, on the Central Vermont Ry., was presented with a gold-headed cane prior to leaving Port Huron, by the staff of the G.T.R. at Port Huron & Fort Gratiot.

Mainly About People.

G. H. Lovitt, shipowner, Yarmouth, N.S., died recently.

Twin boys arrived on Dec. 27th at the New York residence of A. J. McDougall, G. E. Agent of the Illinois Central Ry.

J. M. Lyons, General Passenger & Ticket Agent of the Intercolonial, sent his many friends an amusing New Year's card.

R. G. Reid, proprietor of the Newfoundland Railway, came to Montreal for Christmas & the first part of the new year.

Superintendent Mooney, of the Brockville, Westport & Sault Ste. Marie Ry., desires to retire on account of continued ill health.

Lord Mount Stephen has given £25,000 to the Provost of Aberdeen for the purpose of clearing the Aberdeen, Scotland, infirmity of debt.

L. A. Hamilton, ex-Land Commissioner of the C.P.R. at Winnipeg, has taken up his residence for the present at 120 Madison Ave., Toronto.

A contemporary perpetrates this—"The Reeve of the G.T.R. receives more pay than all the other reeves of Ontario put together. 'Tisn't fair."

A two-story block on Main St., Winnipeg, owned by W. R. Baker, Executive Agent of the C.P.R., was burned Jan. 6. Loss \$12,000. Insurance \$5,000.

John I. Hobson, a well-known agriculturist, who died recently at Guelph, Ont., aged 65, was a brother of Jos. Hobson, Chief Engineer of the G.T.R.

E. Tiffin has gone to Moncton, N.B., to assume his duties as Traffic Manager of the I.C.R. Mrs. & Miss Tiffin will remain in Toronto until the spring.

Frank Sargent, Chief of the Brotherhood of Locomotive Firemen, has refused the position of Chief of the U.S. Government Bureau of Engraving & Printing.

Mrs. Stiff, wife of C. Stiff, Secretary of the Hamilton Board of Trade, & formerly of the Great Western Ry., died at Hamilton Dec. 30, of apoplexy, aged 53.

Joshua Henshaw, who 10 years ago retired from the position of Paymaster of the G.T.R., after having served the Co. since 1850, died in Montreal Dec. 15, aged 72.

The engagement has been announced of Capt. Wm. Hendrie, jr., of Hamilton, son of the G.T.R. cartage contractor, & Miss Brown, daughter of Adam Brown, of Hamilton.

A marriage has been arranged between P. R. Gardner, of London, England, & Miss Ruth Scott, daughter of the General Manager of the Great Northern & Quebec & Lake St. John railways.

Capt. Sam. Anderson, who died at Deseronto, Ont., Jan. 15, was for 25 years in the employment of the Calvin Co., of Garden Island, & for 19 years with the Deseronto Navigation Co.

T. Hay, C.P.R. Superintendent, who sometime since was transferred to North Bay, was recently presented with an address & \$225 in gold by the employes of the Schrieber & Nepigon divisions.

W. S. Stout, Vice-President & General Manager of the Dominion Express Co., has left for England accompanied by Mrs. & Miss Louise Stout. They will probably be away for a couple of months.

Mrs. Frances Burpee, daughter of C. E. Lachler, General Freight & Passenger Manager of the International Steamship Co. at Boston, & formerly agent at St. John, N.B., died at the latter place recently.

Dr. J. W. A. Hickson, eldest son of the late Sir Jos. Hickson, General Manager of the G.T.R., has been appointed assistant to Prof. Clark Murray in the department of philosophy at McGill University, Montreal.

J. E. Hawken, on resigning from the G.-T.R. recently to become Canadian Freight Agent of the Delaware & Hudson Ry. at Montreal, was presented with a gold chain & locket by a number of his railway friends.

F. E. Shannon, son of G. W. Shannon, town ticket agent of the G.T.R. & agent of the Canadian Express Co. at Valleyfield, Que., died recently, aged 20, of tuberculosis. He had been engaged in his father's office.

A. B. Stickney, President of the Chicago Great Western Ry., formerly General Superintendent of the C.P.R. at Winnipeg, was married on New Year's Day to Miss May Crosby, second daughter of Judge J. Crosby, of Dexter, Me.

Hon. L. J. Forget, President of the Richelieu & Ontario Navigation Co., & of the Montreal Street Ry., is spending the winter in Europe, accompanied by Mrs. & the Misses Forget. The engagement is announced of Miss Blanche Forget to Guy Boyer.

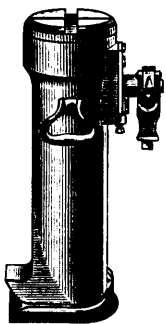
T. D. Beddoe & T. Hawson, of Chicago, in order to express their congratulations to G. B. Reeve on his appointment to the G.T.R. General Managership, have issued a booklet containing his portrait & reproductions of a large number of press references to him.

Hayter Reed, Manager of the C.P.R. Co.'s Chateau Frontenac Hotel, Quebec, gave a charming Christmas entertainment to the employes on the afternoon of Dec. 25. Master Gordon Reed acted as Santa Claus, & from a gaily decked Christmas tree gave each a little gift.

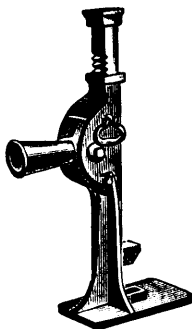
Norton's Ball Bearing Jacks.

Standard Wherever Jacks are Used.

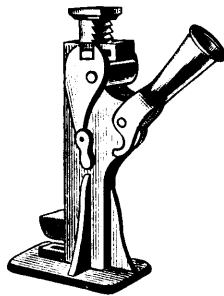
50 STYLES. 8 TO 70 TONS CAPACITY.



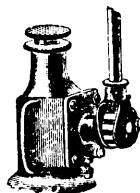
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10 Ton Automatic Lowering Jack.



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8 Ton Jack.

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Ship Lamps, Head Lights, Railway Signals and Lamps.

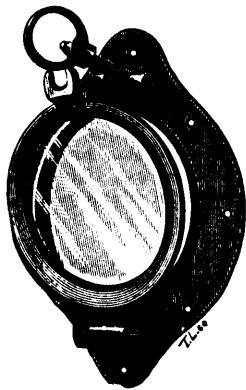
COTTON WASTE—All Grades.

Write for Catalogue.

The N. L. Piper Railway Supply Co.,

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314 Front Street West, - TORONTO.



STEEL, PEECH & TOZER,

LIMITED,

SHEFFIELD, ENGLAND.

STEEL AXLES, TYRES, AND SPRING STEEL.

"PHENIX" Loco. Spring Steel is the accepted Standard in Canada.

SOLE AGENTS:

James Hutton & Co., Montreal.

LOW RATES WEST AND NORTHWEST.

On February 12th, and on each Tuesday until April 30th, the Chicago, Milwaukee & St. Paul Railway will sell one-way second-class tickets at the following very low rates:

To Montana points	\$25.00
To North Pacific Coast points.....	30.00
To California.....	30.00

These tickets will be good on all trains, and purchasers will have choice of six routes and eight trains via St. Paul and two routes and three trains via Missouri River each Tuesday. The route of the Famous Pioneer Limited trains and the U.S. Government Fast Mail trains.

All Ticket Agents sell tickets via the Chicago, Milwaukee & St. Paul Railway, or for further information address A. J. Taylor, Canadian Passenger Agent, 8 King Street East, Toronto, Ont.

GUIDE To WINNIPEG, MANITOBA, TERRITORIES. **STOVEL'S** POCKET DIRECTORY.

RAILWAY and STEAMSHIP TIMETABLES, MAPS, Etc. At Bookstores. On Trains. 5c.

J. Francis Lee, who recently resigned the general agency of the Passenger Department of the C.P.R. at Chicago, to become Traffic Manager of the White Pass & Yukon, was entertained at dinner in Chicago shortly before leaving for Seattle, & was presented with a beautiful loving cup.

Miss Munro, of Toronto, is seeking a divorce from R. L. Middleton, now doing a long term in Kingston Penitentiary for fake railway enterprises in Oxford County, Ont. Among other escapades he married Miss Munro. After his arrest it was discovered he already had a wife living.

R. M. Stocking, Agent of the Quebec Central Ry. at Quebec, and representative of a number of steamship lines, died there recently. He was also Vice-Consul for the U.S., & proprietor of the St. Lawrence Hall, Cacouna. His business is being carried on by his son F. S. Stocking.

Lord Strathcona has purchased a second residence in London, Eng., on Grosvenor st. This makes seven residences which he possesses—two in London, one in Scotland, Knebworth & Stevenage (Hertfordshire), the Montreal residence, Silver Heights, Winnipeg, & Norway House, Pictou.

President Hays, of the Southern Pacific, has not lost interest in Canadian Railways. In a recent letter from San Francisco he says:—"I shall be glad to keep informed of railway matters in Canada, & for the purpose of doing so will be glad to have my name on THE RAILWAY & SHIPPING WORLD'S subscription list.

A. A. Goodchild, who has been appointed Auditor of Statistics of the C.P.R., was born at Peckham, Eng., June 3, 1866. He came to Canada in July, 1886, and entered the service of the G.T.R. the same month. After service in the Audit & Accountant's office for 18 months, he entered the service of the C.P.R. Jan. 1, 1888, in the Comptroller's office. He was appointed Assistant Auditor of Disbursements Oct. 1, 1899.

The Duke & Duchess of York, accompanied by Prince Alexander of Teck, made a few days' visit to Lord & Lady Mount Stephen, at Brocket Hall, Hatfield, Eng., in Dec. Their Royal Highnesses' visit to Brocket Hall was their second one. Lady Mount Stephen was, as Miss Tuffnell, a lady-in-waiting to the Duchess of York's mother, the late Princess Mary Adelaide. Brocket belongs to Earl Cowper, & Lord Melbourne & Lord Palmerston both died there.

J. Bonner, who has recently been appointed Assistant Auditor of Freight & Telegraph receipts of the C.P.R., was born in Canterbury, Eng. He came to America in Nov., 1880, & was for 18 months in the audit office of the Chicago & G.T.R. at Port Huron. In Dec., 1882, he was appointed to the audit office of the C.P.R. at Winnipeg, & was transferred to Montreal in Feb., 1885, as Chief Statistical Clerk in the audit office, holding that appointment until appointed to his present position.

Wm. Polson, who died in Toronto Jan. 7, was born in Montreal in 1834. From an early age he exhibited great aptitude for mechanics & became a skilled mechanical engineer. He was appointed Mechanical Superintendent of the Cobourg, Peterboro' & Marmora Ry. at Cobourg, a position which he relinquished to accept a similar post on the Grand Junction Ry. at Belleville. In 1883 he severed his connection with the railway, & has since been Superintendent of the Polson Iron Works at Toronto, of which his only surviving son, F. B. Polson, is one of the proprietors.

D. L. Caven, for many years connected with Canadian railways in various capacities, died recently at Columbus, Ohio. He was at one time agent for the G.T.R. at Stratford, Ont., & was for a number of years travelling passenger agent for the Chicago, Rock Island

& Pacific. He severed his connection with that line in 1891, to accept a similar position with the C.P.R. at Toronto. He was subsequently transferred to St. John, N.B. Latterly he has been acting in the interests of Canadian immigration in the States of Michigan & Ohio securing settlers for the Northwest.

T. D. Shipman, formerly ticket agent of the G.T.R. at Quebec, died there Dec. 20, aged 85. He retired five years ago. His death occurred very shortly after that of his former partner, R. M. Stocking, with whom he was associated for 25 years. They were joint owners of the St. Lawrence Hall, Cacouna, which they practically erected, for the old cottage which they bought has disappeared. Mr. Shipman was the first ticket agent of any kind at Quebec, & also had an agency in Levis, where as well as selling tickets to immigrants he carried on a brokerage business, changing their money for them. He was the first ticket agent appointed by the G.T.R. at Quebec.

G. R. Huntington, recently promoted to be General Superintendent of the Minneapolis, St. Paul & Sault Ste. Marie at Minneapolis, Minn., was born in Sept., 1867, & entered railway service in May, 1883, as office boy in the Superintendent's office of the Southern Minnesota division of the Chicago, Milwaukee & St. Paul at La Crosse, Wis. He continued with the Co. as operator, agent & Assistant Train Despatcher until 1888, when he was made Assistant Train Despatcher of the Wisconsin Division of the Minneapolis, St. Paul & Sault Ste. Marie. He has served since then as Chief Despatcher to June, 1894, & Chief Clerk to the General Manager to Feb., 1899. In June following he was made Superintendent of the Wisconsin & Peninsula Divisions.

G. T. Bell, General Passenger & Ticket Agent of the G.T.R. system, whose portrait appears on pg. 1, was born at Montreal Sept. 7, 1861. He entered railway service in 1878, since which he has been consecutively, 1878 to Nov., 1880, clerk Car Mileage Office, Great Western Ry.; Nov., 1880, to Nov., 1882, stenographer to General Passenger Agent & Rate Clerk same line; Nov., 1882, to 1884, chief clerk to Assistant General Passenger Agent G.T.R.; Jan. 1, 1884, to April 25, 1892, chief clerk to General Passenger Agent; April 25, 1892, to April, 1896, Assistant General Passenger Agent at Montreal; April, 1896, to August, 1899, Assistant General Passenger & Ticket Agent at Montreal; Aug., 1899, to May, 1900, First Assistant General Passenger & Ticket Agent at Chicago; May, 1900, General Passenger & Ticket Agent at Montreal.

Wm. Ellis, formerly superintendent of the Welland canal, died at St. Catharines, Ont., Dec. 15, of inflammation of the lungs, after about a week's illness. He came to Canada from England about 1850 as agent for Morton, Peto & Co., railway contractors, who built a large portion of the G.T. Railway between Brockville & Montreal. In 1880 He was appointed Superintendent of the Welland canal, which position he held until April, 1887, when he was superannuated. He was a Conservative, & in 1872 contested Grenville against Hon. C. F. Fraser, but was defeated by a narrow majority. He was twice married. His first wife was Miss Jessop of Prescott. He leaves one son, Dr. Ellis, of Prentice, & one daughter, Mrs. Dr. Greenwood, of St. Catharines, by his first wife. His second wife, with two children, also survive him. He was 75 years of age.

E. A. Williams, recently appointed Superintendent of Rolling Stock of the C.P.R., was born Oct. 4, 1848, near Wiscasset, Me., & was educated in the Milwaukee public schools. He entered railway service in 1865 as machinist apprentice on the Milwaukee & Prairie du Chien road, since which he has been con-

secutively, from Aug., 1877, to Dec., 1880, roundhouse foreman, Chicago, Milwaukee & St. Paul Ry. at Prairie du Chien, Wis.; Dec., 1880, to March, 1886, general foreman Southern Minnesota division of the same road at Wells, Minn.; Mar., 1886, to July, 1890, Assistant General Master Mechanic of the same road at Milwaukee, Wis.; July, 1890, to Sept., 1893, Master Mechanic of the Minneapolis, St. Paul & Sault Ste. Marie Ry. in charge of locomotive & car departments. In Sept., 1893, he was made Mechanical Superintendent of the same road, & has held that position continuously since.

W. H. Kelson, General Storekeeper of the C.P.R., whose portrait appeared in our last issue, was born in Bath, Eng., Sept. 5, 1850. He arrived in the U.S. in June, 1866, & after farming for one year & being for three years in the dry-goods business in Wisconsin, entered railway service as a timekeeper in the Master Mechanic's office of the Southern Minnesota R.R., Dec. 1, 1870. He was Chief Clerk of that office from June, 1871, until June, 1879, when, owing to the transfer of the S.M.R.R. to the Chicago, Milwaukee & St. Paul system, he was moved to Milwaukee. He was Chief Clerk of the General Master Mechanic's office to Dec. 31, 1879, and Chief Clerk of the General Storekeeper's office from Jan. 1, 1880, to Feb. 10, 1882. He then entered the service of the C.P.R. as Storekeeper of the Western Division at Winnipeg, remaining in that position until Jan. 30, 1885 when he was transferred to Montreal, since which time he has been General Storekeeper of the system.

The will of Henry Villard, formerly President of the Northern Pacific, who died at his country home, Dobbs' Ferry, N.Y., in Nov. last, was recently probated. The value of the estate is not given. To his wife he leaves \$250,000 & all the household furniture, bric-a-brac, etc.; to his son Oswald \$50,000, to his daughter Helen \$25,000 & the income on \$25,000 yearly. To his son Harold he gives a share of the residuary estate. To his sister, the wife of Gen. Alexander, of Munich, he gives 20,000 marks. The bequests include: Columbia University, \$50,000; Harvard University, \$50,000; Dobbs Ferry Hospital Association, \$50,000; New York Infirmary for Women & Children, \$5,000; German Society of New York, \$5,000; Society for the Prevention of Cruelty to Children, \$2,500; hospital at Speyer, Germany, which he founded, 60,000 marks; museum at Kaiserslautern, 50,000 marks; the Town of Speyer, 50,000 marks, the income from which is to be applied to the making of loans to deserving mechanics.

E. Tiffin, who has been appointed Traffic Manager of the Intercolonial Ry., was born at Hamilton, Ont., in 1849. He entered railway service in 1863, since which he has been consecutively, 1863 to 1865, messenger Chief Engineer's office, Great Western Ry. of Canada; 1865 to 1867, clerk in General Manager's office; 1867 to 1869, ticket clerk in London & Toronto, Ont.; 1869 to 1871, clerk in Superintendent's office; 1871 to 1877, station-master at Brantford, Ont.; 1877 to 1881, travelling freight agent same road; 1881 to 1888, General Freight Agent Credit Valley Ry. at Toronto, & remained in that capacity under several reorganizations, namely, Credit Valley & Toronto Grey & Bruce Rys., Ontario & Quebec Ry., & finally, Ontario Division, Canadian Pacific Ry.; 1888 to 1890, General Southwestern Agent Commercial Express Fast Freight line at St. Louis, Mo.; 1890 to Feb., 1896, General Freight Agent Atlantic division C.P.Ry. at St. John, N.B.; Feb., 1896, to Jan., 1901, General Freight Agent Ontario division same road at Toronto.

F. P. Brothers, Superintendent of the Cuba Co. died at Ciego de Avila, Cuba, Dec. 28, of typhoid. He went to Cuba in Oct. to superintend the construction of the Cuba Co.'s

railway, of which Sir Wm. Van Horne is President. Mr. Brothers was born in Quebec about 60 years ago. Early in his career he was employed by Jas. Ross in the construction of the Credit Valley Ry., & later in the building of the C.P.R. through the Rocky Mountains, the Calgary & Edmonton line, & the Regina & Long Lake Ry. Early in 1893 he went to Montreal, & was appointed Manager of Construction of the Montreal St. Ry. About the beginning of 1895 he went to St. John, N.B., to superintend the establishment of the St. John St. Ry., which was completed in a year. He returned to Montreal in 1896, & remained there till the fall of 1898, when he went to Kingston, Jamaica, where he built the street railway line during the year. From Kingston he went, in Jan., 1900, to Demerara, & built a street car line in Georgetown for the Demerara Electric Co. Last Sept. he paid a short visit to Canada, previous to going to Cuba. Mrs. Brothers & their only son, about 15 years old, were in Toronto when the news of the death came, & it was their intention to

have gone to Cuba immediately after New Year's.

The Hon. Donald MacInnes, who died at Clifton Springs, N.Y., Dec. 1, was born in Oban, Scotland, in 1826, his father being a Highland grazier. The latter with his family came to Canada, & settled on a 200-acre farm in the township of Beverly. This he cultivated until his death in 1852. The late Senator, after finishing his education, was employed in various mercantile pursuits, finally forming a partnership with a Mr. Prentice in a general mercantile trade, the firm name being D. MacInnes & Co.; this partnership was a most successful one, & the business was continued after Mr. Prentice's death by Mr. MacInnes, his whole energy being turned to the dry goods trade. This he worked up to the point where he did a wholesale trade of over \$1,500,000 per annum. Mr. MacInnes suffered a heavy loss by fire in 1879, which completely destroyed the building. He was interested in the Cornwall Cotton Co., & was a director of the C.P.R. He

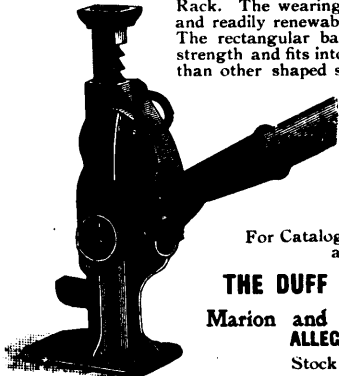
was also a director of the Canada Life for a number of years. For years he made his residence at Dundurn park, which he sold to the city of Hamilton last year. In 1863 he was married to Amelia fourth daughter of the late Hon. Sir J. B. Robinson. Mrs. MacInnes died some years ago, & the following family is left:—Beverley MacInnes, the eldest son, who is Secretary to Lord Mountstephen, in England; William R., the General Freight Agent of the C.P.R. at Winnipeg; Duncan, who is a captain in the Royal Engineers, & took a most prominent part in the defence of Kimberley in the South African war; Charles S., of the law firm of McCarthy, Osler & Creelman, Toronto; & Mrs. A. H. Campbell, of Toronto. Mr. MacInnes was buried at Hamilton, among the pallbearers being President T. G. Shaughnessy, E. B. Osler, M.P., & W. D. Matthews, of the C.P.R. directorate

Telephonic communication has been established between St. Michael & Nome, Alaska, by means of a temporary submarine cable. The toll is \$2 for ten words.

THE BARRETT TRACK JACK.

Recommended as a standard by the Road Masters' Association of America.

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



No. 2 Automatic Lowering.

The Barrett Jack is the safest, best and strongest known to the railroad world to-day.

Lifting capacity 10 to 15 tons.

For Catalogue and Price List, apply to

THE DUFF MANUFAC. CO.

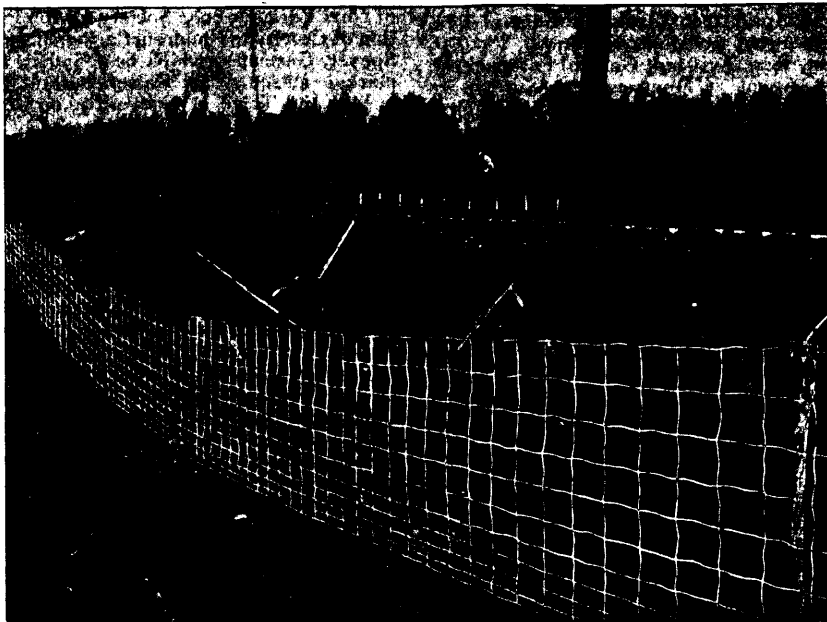
Marion and Martin Avenues, ALLEGHENY, PA.

Stock carried by

JAMES COOPER, Agent, 299 St. James St., Montreal.



No. 1 Trip.



PAGE FENCE ON G. T. R. NEAR PORT PERRY.

Page fencing is in use on all of the leading railroads of Canada, We now make our own wire and hence we can furnish a still better fence than ever.. Glad to furnish further information.

THE PAGE WIRE FENCE CO., LIMITED, WALKERVILLE, ONT.

Edward L. Drewry
REDWOOD
BREWERY,

Fine **Winnipeg, Manitoba**
ALES, EXTRA PORTER

... AND ...
PREMIUM LAGER.
Most Extensive and Complete Brewery and Malshouses in Western Canada.

CHOICE MALT FOR SALE.

Manufacturer of the Celebrated

Golden Key Brand **AERATED WATERS.**

Sale One Hundred Millions a year.

R·I·P·A·N·S

THE WONDERFUL MEDICINE

They relieve Distress from Dyspepsia, Indigestion and Too Hearty Eating: are a perfect remedy for Dizziness, Nausea, Drowsiness, Bad Taste in the Mouth, Coated Tongue, Pain in the Side, TORPID LIVER.

They regulate the Bowels.
They Cure Sick Headache.
A Single One Gives Relief.

WANTED

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.

Note the word R·I·P·A·N·S on the packet. Send 5 cents to Ripans Chemical Co., No. 10 Spruce St., New York, for 10 samples and 1,000 testimonials.

TORONTO ENGRAVING CO.
DESIGNERS, ENGRAVERS,
ELECTROTYPERS.
92 BAY ST.

The Heraldry of Railways.

Under the above heading the Montreal Star recently published an article on the trade-marks of railways, in which it said:—The managements of Canadian railways do not appear to have the same love of romance & heraldry as the management of lines in the U.S. In the latter country there are dozens of lines which are familiarly known by sobriquets, & others which adopt as their trade-mark or device some special symbol. These emblems, or symbols, usually emphasize some special characteristic of the territory through which the railway passes, some peculiarity in the road itself, or a nickname given to it by its own or the employes of some other lines.

The devices are often very cleverly & aptly selected, & become to the railway company very much what the trade-mark is to the merchant. They appear upon all the folders, are used in all advertising matter, & often appear on the locomotives & cars of the company. In this way they become familiar to the travelling public, & in time become the sign by which the railway is popularly known to other railways & the public generally.

It is rather a strange thing that among Canadian railways the devices chosen are of the most matter-of-fact kind. Some of them are striking & make good enough advertisements, but there is an utter absence of the heraldic spirit which characterizes the emblems of so many of the large railway systems on the other side of the line. There is not a vestige of romance, or even an attempt at the representation of heraldic mysticism, in the devices of the large Canadian railways.

The familiar trade-mark of the C.P.R. consists of a heart-shaped shield, surmounted by a beaver couchant, the beaver being, perhaps, the most distinctive of the fur-bearing animals of the Dominion. With the maple leaf, it divides the honor of being



the national emblem. The trade-mark was designed by a prominent official of the Co. in the early days of its history, some time in the eighties, & was immediately adopted by the passenger department of the road, as a suitable emblem. Ever since the characteristic shield has appeared on the numerous pamphlets, maps, folders & other advertising matter issued by the Co., & is now readily recognized as the sign-manual of the C.P.R. In 1890 the design was copyrighted, & has since been used exclusively by the Co. on its railway & steamship literature.

The moosehead was adopted as the heraldic device of the Intercolonial Ry. in 1883, & in



1897 the Dominion arms were made a companion device, as indicating the government ownership of the railway. Both of these devices appear on the folders, but the moosehead surrounded by a circle is the recognized trade-mark, to be used either with or without the arms. An official of the Passenger Department has furnished the following:—“The moosehead is used by the I.C.R. as representative of the largest & finest of the game animals in Canada, & one which is of itself intercolonial in being common to Quebec, New Brunswick & Nova Scotia. No railway in America passes for so long a distance through a country which is recognized everywhere as the home of the moose. Apart from this geo-



graphical application, the moose is held by the I.C.R. as representing the Government line in its position as a leader among railways as the moose is king of the forests. In the size, symmetry of form, strength, endurance & speed of the moose, are found the points of excellence for which the I.C.R. seeks to commend itself to the public. The I.C.R. has the motto of ‘Safety, Speed & Comfort,’ the relation of which to the trade-mark is as follows: The moose, through its size, strength & courage, is able to hold its own against all rivals in its domain. It has a speed which distances its opponents, & its coat, proof against storm & cold, gives comfort at all seasons. Thus, these qualities typical of the moose, are kept in view by the railway in its construction & maintenance, & with especial reference to the transportation of passengers over its lines.”



The device of the G.T.R. is, perhaps, the most prosaic of the larger railway corporations in the Dominion. It has, however, been the device of that Co. sufficiently long to make it well known to the travelling public. The G.T.R. has the distinction of being one of the oldest railway lines in the country as well as one of the largest & most important. The Montreal Star states that the present device has been used since the earliest days of the

Co.'s organization. This, however, is not correct, as it was not adopted until the change in management in 1896, when the title Grand Trunk Railway was changed to Grand Trunk Railway System. Prior to that the device used was a circular one containing the words “Grand Trunk Railway Great International Route.”

The Canada Atlantic has for a considerable time used a shield bearing the words “Canada Atlantic Railway,” plain but striking, but latterly a good deal of its literature has on it another shield device, bearing the words “The Algonquin Park Route,” which is especially used to attract attention to sportman's territory traversed by the western portion of the line.



The Quebec & Lake St. John Ry. uses the device here reproduced on its winter time tables, but on its summer time tables, booklets & hangers, the prominent feature is a ouananiche, or fresh water salmon, for which the Lake St. John region is famous.

The Northern Pacific's trade-mark is unique. In the 11th century there was a Chinaman who was named Chow Lien Chi. One day in his rambling he found a cave that had an entrance on each side. Both were crescent shaped, with the sides facing each other. The cave itself was as round as a moon inside.



Out of these opposed crescents & the moon-shaped cave he evolved a diagram that has become noted among the Chinese. It is now used also as a symbol for something else. From the mysteries of an ancient Chinese philosophy it has been dragged forth to illustrate the modern American system of transportation, & now does duty as the trade-mark of the N.P.R. The design is a circle, the centre composed of two eel-shaped crescents, one above the other. The upper crescent is either red or white, the lower one black. In China the figure is known as a nomad, & in the original there are used certain mystic characters grouped around the crescents.

The latter are known as "Yang" & "Yin," the male and female principles of life. In the new they stand for "Motion & Rest," & "Force & Matter." This design is used on the Co.'s cars, printed matter, & on the windows of its ticket offices.



The Wabash shows a banner of red, with a black centre, on which is imposed the single word "Wabash." In 1884 the road copyrighted a trade-mark that showed

the forward part of a locomotive with the word "Wabash" illuminated by the rays of the headlight, & which was enclosed in an oblong square. This continued to be used until 1886, when it was changed into the form of a flag or banner, & from that time until now the Wabash R.R. has been known as the "Banner Route." It was afterward thought that the engine took up too much room on the banner & not enough space was given the word "Wabash," & in order to make that word as conspicuous as possible, in 1894 the headlight was dispensed with, & the whole space on the banner was given to the word "Wabash."

Niagara Falls Park & River Ry.—At the annual meeting at Osler & Hammond's office, Toronto, recently, the following were elected:—President, W. C. Ely, Buffalo, N.Y.; Vice-President, W. B. Rankine, Buffalo; General Manager, B. Van Horn, Buffalo; other directors, E. B. Osler, T. G. Blackstock, W. H. Beatty, Toronto; W. Hendrie, Hamilton; Secretary-Treasurer, R. F. Rankine, Buffalo.

The first sleeping cars built in Japan have just been completed.

The Great Northern Ry. is building at Superior, Wis., a steel grain elevator with a capacity of 2,500,000 bush.

An electric railway between Rome & Naples is proposed, the line being 133 miles long. The idea is to furnish fast trains, with frequent service.

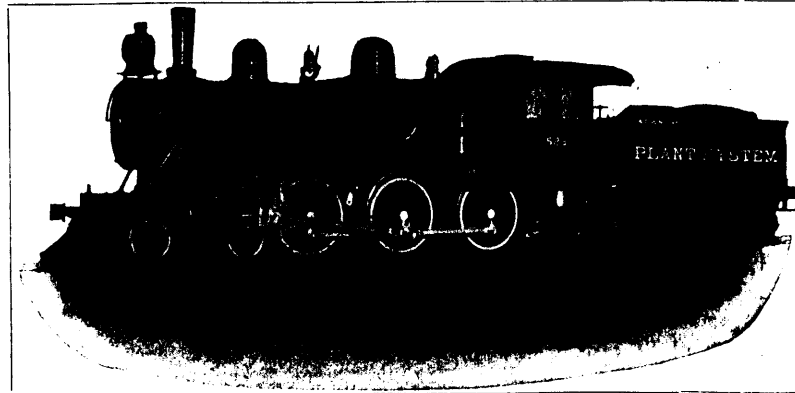
The à la carte system of dining cars of the Pennsylvania R.R. west of Pittsburg has been abandoned in favor of the table d'hôte plan, ballots having been given to passengers for several months in order that they might vote as to their preference.

At the New Orleans station, at Paris, France, a most elaborate system of travelling ramps has been devised for the transportation of baggage about the building. The pieces are taken from the low level of the tracks & are hoisted to the baggage room, where they are discharged at sorting tables.

The Question of Freight Rates.

"St. Lawrence" writes:—We Canadians believe in political machinery to such an extent that we employ more of it than any other community in the world. For 6,000,000 people, we have nine governors, including the Governor-General, 70 ministers of the Crown, a central Parliament, & eight local legislatures, containing over 700 paid law-makers, not to mention the 2,500 municipal councils, with probably 10,000 unpaid ones; while of the office-holders, Federal, provincial, & municipal, it may be said, in Eastern hyperbole, that they are like grasshoppers for multitude. The only objection one hears on the street to the creation of a railway commission is that it will add to this tremendous outfit of governing apparatus. The objectors, however, are very few. When France owned Canada the Government operated for a time the iron forge at Three Rivers, & besides maintaining a small army of lay employes, appointed a chaplain to the institution. "This," said a writer of the period, "is truly characteristic; every tenth man in Canada is office-holder or office-seeker, & everybody is pleased when a new berth, however superfluous, is created." Time has wrought many changes, but the craze for governing ourselves to death appears to be as deep-rooted as ever.

It is well known that railway commissions in England & the U.S. have not performed all,



Richmond Locomotive and Machine Works,

RICHMOND, VIRGINIA, U.S.A.

BUILDERS OF

Simple and Compound

LOCOMOTIVES.

Adapted to every variety of service.

MANITOBA

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

CROPS.

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

STOCK.

Beef Cattle exported during the year	12,000
Stockers exported.....	35,000
Total value dairy products.....	\$470,559 09

10,500 FARM LABORERS

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

MANITOBA FARMERS ARE PROSPEROUS.

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

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

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

For full information, maps, etc., FREE, address HON. R. P. ROBLIN, Minister of Agriculture and Immigration, Winnipeg, Manitoba. Or JAMES HARTNEY, Manitoba Emigration Agt., Union Station, Toronto, Ont.

THE FAVORITE ROUTE

To **New York** and
.....**Philadelphia**

GRAND TRUNK RAILWAY

in connection with the

LEHIGH VALLEY RAILROAD

Route of the "Black Diamond Express," handsomest train in the world.

Leaving **Toronto** daily (except Sunday) at 9 a.m., Hamilton 9.55 a.m., arrive **New York** 10.08 p.m.

Fast Night **New York** and **Philadelphia** Express, leaving **Toronto** 6.15 p.m. daily, arrive **New York** 9.38 a.m., **Philadelphia** 8.56 a.m.

Pullman Sleepers from **Toronto**, **Hamilton** and **London** to **New York** and **Buffalo** to **Philadelphia**.

Call on Grand Trunk Ticket Agents for tickets and further information, or address

Robt. S. Lewis,

Canadian Pass'g'r Agt., 33 Yonge St., Toronto.

Geo. R. Chesbrough,

West'n Pass'g'r Agt., Buffalo, N.Y.

Chas. S. Lee,

Gen'l Pass'g'r Agt.,
New York.

A. A. Heard,

Ass't Gen'l Pass'g'r Agt.,
New York.

All C.P.R. Agents in

**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.

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or anything like all, that was expected of them. There is sure to be greater disappointment here, because instead of the railways being in private hands, as in those two countries, we have a combination of Government ownership & private ownership which will render state regulation an exceptionally difficult task. Then the fact that we still find it necessary to subsidize railways implies that we are building them in advance of the requirements of trade & industry, which in turn suggests that a Canadian commission will not be able to exercise quite so free a hand as the English & U.S. commissions in imposing regulations, especially as so much depends, from the nature of the case, upon securing foreign traffic for our lines. So far as the C.P.R. & G.T.R. are concerned, however, they will be glad to see a commission appointed if only because it will tend to remove a good deal of popular misconception on the subject of rates & cognate matters. Instead of rushing to a newspaper, anyone who thinks he has been wronged will henceforth submit the case to a tribunal whose sole aim will be to elicit truth & establish justice. The press is a great institution, but trial by newspaper is never satisfactory. Not being an expert, the editor blunders even when trying to be fair. But when, as sometimes happens, he abandons honest criticism, & starts a crusade against a railway for purposes of his own, his procedure resembles that of a devil's advocate; he scours the country for all the hearsay, no matter how false, that tells against the road, suppresses everything that tells in its favor, & of course, soon convinces his readers, who are the jury, that it is a public enemy. From such a judge the railways will be only too glad to appeal to the more equitable methods of a commission.

In a former letter I dealt with a number of charges preferred against the G.T.R. & the C.P.R. by the Toronto Globe, which had relied too much upon information furnished by uninstructed or designing persons. Here is a brief reply to the fresh charges which have appeared since then in the Globe & in other quarters:—

(1.) Charge—C.P.R. rates are so high that in some instances it is cheaper to haul goods by team over the prairies. A Minnedosa merchant has teamed plate-glass from Winnipeg rather than pay the rail rate.—Toronto Globe.

Answer—The case occurred 10 years ago. The C.P.R. had nothing whatever to do with it. Minnedosa is on the Manitoba & North-Western Ry., at that time wholly distinct from the C.P.R. The glass was too large to be loaded in a box car. The local agent of the M. & N.-W. suggested that it should be carried on a flat car. As the merchant had nothing save the glass to put on the flat car, he was told that he would have to pay for a minimum load of 20,000 lbs., unless the C.P.R. agent at Winnipeg could find something. The merchant refused to consider this proposal, & the conversation terminated. On the same principle, a livery man who has a vehicle capable of carrying 10 persons, fixes a minimum charge when its use is required by only one or two. A single passenger would have no right to expect to get off with the rate per head which would be charged if he & nine others were aboard. Similarly, if I occupy space in the advertising columns of a newspaper, I must pay for it whether my reading matter fills it or not. The transaction was confined to the merchant & local officer of the M. & N.-W.R. at Minnedosa. The C.P.R. officials knew no more about it than the editor of the Globe. When glass is carried by flat car on the C.P.R., shippers fill up with paints or other material, & obtain ordinary box car rates.

(2.) Charge—The price of hay, f.o.b., at Sifton is \$7 a ton. Price at Brandon, \$15. C.P.R. rates are so high that hay cannot be

shipped profitably from Sifton to Brandon.—Brandon letter.

Answer.—Sifton is not on the C.P.R., but on the Canadian Northern. The latter charges \$3.20 a ton for carrying hay from Sifton to Portage la Prairie—its line terminates at Gladstone, but it has running powers to Portage—while the C.P.R. charges 70c. from Portage to Brandon.

(3.) Charge—There is a brisk demand for eggs in the Kootenay country. But C.P.R. rates are so high that the farmers of Edmonton, Calgary, & Manitoba cannot ship profitably, & Americans, even at points like Sioux City, are getting the business.—Edmonton paper.

Answer.—Eggs have been shipped from Sioux City to Kootenay this winter. The rate from there is \$1.94 per 100 lbs., in carload lots, & there is the Customs duty besides. The rate from Edmonton is \$1, from Calgary, 75c., from Manitoba points, \$1.25.

(4.) Charge—The hay rate from Pearce to Fernie has lately been increased from 16 to 21c., & from Pincher Creek to Fernie, from 11½ to 16c. per 100 lbs., contrary to the Crow's Nest agreement with the Government. Further, the rates on merchandise & produce from eastern points to Nelson, 200 miles west of Fernie, are lower than to Fernie itself.—Toronto Globe.

Answer.—Merchandise & produce rates to Fernie are lower, as a matter of fact, than to Nelson, except in the case of one or two special articles like Milwaukee beer, where they are the same as to Nelson. It is not true that hay rates have been increased. The rate from Pearce to Fernie is not 21c. but 15c.; from Pincher to Fernie 11½c., as before. In his eagerness to attack the railway, the Globe's informant has overlooked the existence of a special commodity tariff, in which hay is included, & taken the rates of the ordinary mileage tariff.

(5.) Charge—G.T.R. & C.P.R. rates on implements from Toronto & Brantford to Winnipeg via North Bay, are so exorbitant, as compared with rates from Chicago, that they eat up the protection of 20% granted to the Canadian maker by the Customs tariff.—Winnipeg letter.

Answer.—Rate from Brantford & Toronto to Winnipeg via North Bay 67½c. per 100 lbs. Rate from Chicago, about 500 miles nearer, 60½c. Difference in favour of Chicago rate, \$16.80 per carload of 24,000 lbs. But as the average carload of U.S. implements is worth about \$1,500, the Customs duty against Chicago is \$300.

(6.) Charge—The C.P.R. in British Columbia demands no less than \$6 for carrying ore 53 miles, hence mines are closing.—Toronto Globe.

Answer.—The case in question has been stated in a different form. As it stands it has reference to an arrangement which does not affect the mine owners. The C.P.R. & Great Northern had a common rate of \$9.75 for ore from Moyie to Great Falls, Mont. The G.N. proposed that instead of carrying the ore to Lethbridge the C.P.R. should deliver it at Creston Jct., 53 miles from Moyie, to a G.N. branch running to Bonner's Ferry, Idaho, on the main line. The distance from Moyie to Lethbridge is 227 miles. The G.N. offered to allow the C.P.R. \$6.25 for the short haul to Creston, & the latter accepted the offer in preference to carrying the ore to Lethbridge for \$6.70. The mine-owner's rate to the Great Falls smelter is not increased, the change being simply one of route. The G.N. can afford to carry ore cheaply to Great Falls, because it gets the hauling eastward of the product of the smelter. But if the C.P.R. were to carry to Creston for nothing, the rate from Moyie to Great Falls would still be \$9.75. That rate is fixed, as part of the freight-&-treatment charge, by the U.S. smelter combine, which has the silver-lead miners of

British Columbia by the throat. There are no lead refineries in B.C.; Canadian pig lead must go to the U.S. refineries or remain unmined. The combine fixes its freight-&-treatment charges to suit the interests of its various works in the U.S., & Canadian mine-owners suffer accordingly. The U.S. tariff is arranged to suit the combine.

(7.) Charge—The Great Northern carries ore from Butte to Great Falls, 182 miles, for 80c. a ton. Compare this with the rates that prevail on the C.P.R. in British Columbia.—Toronto Globe.

Answer.—The ore rate from Butte to Great Falls is not, & never was, 80c. The current rate is \$1.75. The Globe is comparing rates on lines whose conditions are quite dissimilar. Butte & Anaconda, hard by, produce immense quantities of ore, principally copper, & a good deal of it is carried to the Great Falls smelter by the Great Northern, which, as just observed, gets the carriage of the product. Coal is carried back to Butte—there is a load both ways; whereas the coke produced at Fernie & the ore going to the smelters at Nelson, Trail, & Grand Forks, both move in the same direction, & the cars return empty. It is scarcely necessary to add that the cost of operating the Crow's Nest line is higher than that of operating the Butte & Great Falls division of the Great Northern.

This, I think, exhausts the list of fresh charges. It is clear that the eastern editor who undertakes to deal with transportation in the West, & who wishes to be fair, would do well to fortify his mind with Paul's advice to Timothy:—"Refuse old wives' fables. For in doing this thou shalt save both thyself & them that hear thee." Without doubt the Globe is anxious to help the settlers of Manitoba & B.C., but in what way could it inflict greater damage upon them than by giving currency to false statements, calculated to make outsiders believe that that portion of Canada is not a desirable place to dwell in or emigrate to? A railway commission would, of course, make short work of fiction of this sort. It would likewise serve to educate the people on transportation matters in general. One of the first lessons it would teach is that transportation has its laws, a law in this sense signifying a rule which hitherto has always & everywhere been found to hold good, & which will doubtless continue to hold good till the end of time. Take the rates on through & local traffic as an example. This is a puzzling subject for many. The G.T.R. & C.P.R., these persons say, procured their charters from the Canadian Parliament on the understanding that they were to benefit the Canadian people above all others. Therefore, when they favor the U.S. shipper by giving him a lower rate per mile, say, from Chicago to Montreal, or St. John, Portland, or Boston, than they give the Ontario shipper, they are guilty, morally speaking, of breach of faith. Their conduct is all the more reprehensible considering that both have received subsidies from the Canadian treasury while the man in the U.S. has not contributed a dollar.

I have not space to give the reasons why, but it is a law of transportation that railways are justified in granting, nay, from the nature of things are obliged to grant, lower rates per mile to through than to local traffic. If better terms cannot be got, through traffic may be carried at the very smallest margin of profit, at rates so low that if they were applied to the local traffic, the line would be bankrupt. Furthermore, if railways were prevented from doing this it would be all the worse for the shipper of local traffic, because if they lost their through traffic revenue they would be forced to charge higher rates on local; & he would be still further injured by the dismissal of the hundreds of local employes in handling through traffic. Last year nearly 8,000,000 tons of through or U.S. traffic passed through Canada by rail. It is usually provided, how-

ever, that there shall not be a higher charge for a short than for a long haul on goods of the same kind going in the same direction under similar conditions, the shorter being included in the longer haul. But this restriction, which is found substantially as here given, in the railway statutes alike of Canada, England & the U.S. may be suspended when circumstances warrant. It very seldom happens that the C.P.R. & G.T.R. violate the long & short haul provision. They never violate it deliberately or with intent to prejudice the Canadian shipper. Occasionally a fierce rate war at Chicago forces rates down to an abnormally low level for a week or two, & the rates on Canadian freight are not reduced in proportion, simply because to do so would demoralize business. These exceptions barred, the charge for Canadian traffic on those two lines is never higher than the charge for U.S.

The Globe fancies, however, that it can show that they do discriminate against Canadian traffic by citing the fact that the export cattle rate from Chicago to Boston over the G.T.R. is \$56 a car, while the rate from Listowel, Ont., is \$64.

Listowel is not on the through line between Chicago & Boston; it is on a branch; consequently the shorter haul from there is not included in the longer from Chicago. It is one thing for the G.T.R. to obtain train loads of cattle at Chicago day after day, & quite another to bring a carload or two at irregular intervals from Listowel to the nearest main line point. The through rate from Chicago is forced down by the competition of U.S. roads;

the G.T.R. must meet the lowest rate or lose the business. If it lost the business it would have to come down upon Listowel shippers for higher rates. The question, then, really comes to this:—Is the rate from Listowel reasonable in itself? Similar cases have been decided by the Inter-State Commission at Washington. In the Humboldt case, in 1892, Humboldt complained that the rate on sugar from San Francisco thither was 85c. per 100 lbs., while to Kansas City it was 65c., although Humboldt was nearer, but not on the through line. Held, "that the reduced rate to Kansas City being forced upon the carriers by competitive conditions beyond their control, & the rate to Humboldt not being unreasonable in itself, but lower than it would be except for the influence of the competitive conditions, & it not appearing that substantial injustice results from the higher rate at Humboldt, the lower rate to Kansas City & the higher rate to Humboldt are not deemed to be in contravention of the statute."

The Listowel case cannot in fairness, then, be adduced as proof that the C.P.R. & G.T.R. wilfully discriminate against Canadian traffic, except on rare occasions, when the competition at Chicago, over which they have no control, is unusually severe.

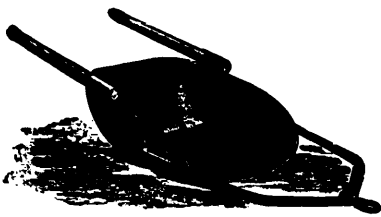
If, however, the G.T.R. & C.P.R. deserve condemnation on this account, a fortiori, the Globe ought to condemn the Intercolonial, a road built with the money of the Canadian people, which is a worse sinner by a good deal, since it is not under the necessity of carrying U.S. traffic in order to earn dividends. There is no published rate on wheat from

Parry Sound to St. John via the Canada Atlantic & Intercolonial, but I am informed on good authority that U.S. grain has been carried between those two points this winter for 6c. a bushel. As, technically speaking, the Canada Atlantic originates the traffic and hauls it as far as Montreal, nearly 400 miles, the Intercolonial must get considerably less than 6c. for hauling it from Montreal to St. John, 740 miles. Yet the Intercolonial rate on Canadian wheat originating at Montreal, & going to St. John, exceeds 6c. Here is discrimination with a vengeance—discrimination not against a place on a branch, but against a place on the through line, which is none other than the commercial metropolis of Canada.

In reality no one who understands the railway business blames Mr. Blair. He has elevators & steamships to fill at St. John, & must get U.S. grain in face of the strenuous competition of U.S. seaboard routes, at rates so low that it would be impossible without serious loss to handle Canadian grain at intermediate points for the same figure. His position is identical with that of Mr. Shaughnessy & Mr. Reeve. Yet these two men, managing roads built with private capital, are pilloried as a brace of despots who compel the Canadian shipper to speak low & in a bondsman's key, & fleece him into the bargain, while Mr. Blair is lauded by the Globe as the shipper's friend. And it is actually suggested by Mr. Blair himself that he should extend the Intercolonial to Parry Sound to enable him to carry U.S. grain at a still lower rate!

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newspaper, especially by a party newspaper, is not satisfactory, & the company roads will be happy to see a fairer, more reasonable & more consistent tribunal established.

Interstate Commerce Commission.

Following is a synopsis of some portions of the 14th annual report of the U.S. Interstate Commerce Commission recently transmitted to Congress, & which are of interest on this side of the line:

ADDITIONAL LEGISLATION.—The subject of further legislation amending the act to regulate commerce has been fully discussed in previous reports, & recommendations both general & specific have been repeatedly made. The reasons for urging these amendments have been carefully explained, & repetition of the argument at this time can hardly be expected. While the attitude of the Commission has been misunderstood by some & misrepresented by others, the views heretofore officially expressed are believed to be justified alike by experience & reflection. They are confirmed by later & current observation. Knowledge of present conditions & tendencies increases rather than lessens the necessity for legislative action upon the lines already indicated, & in such other directions as will furnish an adequate & workable statute for the regulation of commerce "among the several states."

One aspect of the situation, however, is specially referred to. The Commission says it must be apparent to the thoughtful mind that equal charges for equal service can not be secured without some restraint upon the competitive action of independent lines, & refers to classification, interchange of cars, switching service, storage & terminal charges, demurrage, car-service rules, & other similar matters as having been looked upon with favor as operating to public advantage. Uniform classification, for example, is regarded so desirable that the Commission has recommended & urged its adoption by voluntary action, or, that failing, by compulsory legislation. The act to regulate commerce seems to favor associated action by competing roads for purposes of this kind. True, it prohibits pooling—that is, the actual division of competitive traffic or the earnings derived therefrom—and even this provision is believed by many to be practically inconsistent with uniform charges to all shippers & the fair adjustment of rates between different communities & different articles of traffic.

Whatever view may be held as to the degree of incompatibility between the prohibition of pooling & the other provisions of the act, it was generally understood, after the act was passed, that mutual agreements respecting the matters above mentioned, not involving the division of tonnage or revenue, were in no respect made unlawful by the act, but were regarded rather as aids to its proper observance. Accordingly numerous associations were formed & many features of the railway service more or less subjected to common control by carriers otherwise in actual competition. The tendency & intended results of these arrangements were to remove the practices & charges included in their terms from the field of competition.

These conditions are said to be materially changed, in their legal aspects at least, by the passage of the anti-trust law & the interpretation which that law has received. The prohibition against railway association is no longer limited to the pooling of competitive traffic or the revenue therefrom, but extends to every form of combination which directly restrains competitive freedom. While this does not mean that every such agreement violates the anti-trust law, it does mean that all such engagements as actually restrict competition are void from their inception & subject those who

make them, or who connive in efforts to continue them to the hazard of criminal prosecution.

It is evident that railway managers generally have made no attempt to conform their practices to the spirit of this law. They may keep within its letter & succeed in avoiding its penalties, but they claim that they are virtually compelled to counteract its aim & evade its observance. Thus it happens that some of the most important and useful incidents of railway service are maintained by methods which are believed to be inharmonious with if not in actual violation of a Federal statute. This is more than the question of pooling contracts between rival carriers—it is the question of such agreements as relate to classification, terminal charges, & the like—concerning which uniformity, certainty, and stability are of manifest benefit & convenience to the public.

Under the conditions now existing it is inevitable that frequent discriminations should occur & endless acts of injustice be committed. Theoretically it is possible for each road to observe its published schedules in every particular, but this in many cases must be done, if done at all, only at the loss of needed traffic, unless all rival roads with equal strictness & honesty conform in like manner to their published rates. The idea of public regulation implies certain standards of correct conduct to which all carriers shall conform. It also implies some measure of supervision & control over those subject to its requirements, to the end that these standards may be observed & practices made to conform thereto. This, without doubt, is inconsistent, to some degree at least, with actual & constant competition, as that term is commonly understood.

If, as is alleged, that competition is compelled in all things by one law which is binding upon the carriers, it can hardly be supposed that another law of more or less diverse & opposing tendency will at the same time be obeyed. It is universal experience that capital takes advantage of competition. If public transportation can be bought & sold like a commodity, the largest purchaser will, some of the time, if not all of the time, get the best terms. It is idle to suppose that railways will actually & all the while compete with each other as to every item of service or facility & at the same time expect that all their patrons, small & large, will be treated exactly alike. Such a result has never yet been realized, & practically will not be realized. The policy now pursued can not & will not prevent an outcome of vicious discriminations. And what is most unfortunate of all, those discriminations favor the few & place the many at disadvantage. They aid the strong, who have no need of assistance, & handicap the weak with burdens which by comparison are always unjust & often destructive.

The present state of the law & the facts here referred to have undoubtedly furnished a great incentive to the consolidation or unification of rival lines, which is at once the most conspicuous & the most significant result of current railway financiering.

RAILWAY COMBINATIONS.—One of the striking features of recent times in the industrial world has been the tendency to combine for the purpose of limiting or eliminating competition. In no branch of industry, probably, is the inducement to form combinations of this sort greater, nor the advantages to be hoped for from them when formed more certain, than in railway operations.

No competition is so destructive as that between railways. In most kinds of business competition stops with the bankruptcy of one or more of the competitors, but here the weak, roundabout, bankrupt line can often inflict as serious damage as could a prosperous rival.

The nature of the business renders possible large profits from such combinations without attracting undue attention. Transportation

is analogous to a tax imposed in varying degrees upon almost all commodities. With important exceptions, moderate advances in rates, if equally distributed, would not be especially noticed by the public as a whole. But every such advance adds to the net revenues of the railway, & a very slight increase in all rates, if it should be permanently maintained, would enhance enormously the value of railway securities.

No kind of property lends itself so readily to the permanent formation of such combinations as railway property. He who combines all the factories in the U.S. of a certain kind may lose in a short time the benefit of that monopoly by the erection of other factories of the same kind, but a monopoly created by the combination of all the railways now controlling any considerable area of the U.S. is reasonably certain to continue for years to come.

In addition to these inducements, the statutes of the land operate to produce the same result. Many years ago the railway managers found it necessary, in what they believed to be legitimate self-protection, to form pooling contracts. They still believe that the right to make & enforce such contracts is a proper & essential one, but the Interstate Commerce Act renders the formation of these contracts not only illegal but criminal. That act also provides that carriers shall publish their rates & adhere to them, but the anti-trust act, as interpreted by the courts, renders any agreement with reference to the making or maintaining of interstate rates a crime. If carriers are to make public their rates & to charge all shippers the same rate, they must, as a practical matter, agree to some extent with respect to these rates. When railway managers believe that the law forbids in one act what they deem necessary to the observance of another, the obvious tendency of the enforcement of such a law is to lead to the discovery, if possible, of some way in which it can be avoided. So if there can be no agreement in the operation of independent railways, it seems inevitable that there will be unity or agreement in their ownership.

No one at all acquainted with what is transpiring can doubt that combinations have been formed & are certain to be formed among railways which will be more extensive, more permanent & more far-reaching in their ultimate results than those of any other department of industry. The experience of 13 years shows that there is no serious difficulty in securing, upon the part of competitive lines, the adoption & publication of rates satisfactory to the carriers, but hitherto it has been found impossible to secure the actual observance of rates on competitive traffic when adopted. A railway will seldom reduce the open rate unless to meet some actual or supposed departure from that rate by a rival line, for it is well understood that such a reduction by one means simply a corresponding reduction by others. To prevent rate competition, therefore, it is only necessary to secure compliance with the open tariff. In order to do this it is only necessary that a competing line should own or control, or that some person in its interest should own or control, enough of the stock of its competitor to influence the election of a board of directors, & this seems to have been the method recently adopted in many instances.

The Commission has no official knowledge of the extent of recent railway combinations, but it has informed itself as well as possible from unofficial sources. Disregarding mere rumors, but taking account of well-authenticated statements, there were absorbed in various ways between July 1, 1899, & Nov. 1, 1900, 25,311 miles of railways. There are in the whole U.S. something less than 200,000 miles of railway; & more than one-eighth of this entire mileage was, within the above period, brought, in one way & another, under

the control of other lines. The scope & effect of these operations is illustrated by some examples given in the report. The Commission goes on to say that when we consider what has actually been done, what is undoubtedly in contemplation, the entire feasibility of these schemes, the very great advantage which would result to the owners of the properties involved, & the fact that a step once taken in that direction is seldom retraced, it becomes evident that in the immediate future the main transportation lines of the U.S. will be thrown into great groups, controlling their own territory, & not subject, with respect to most of their traffic, to serious competition.

Such a condition is not without its benefits. The evils which competition begets will largely disappear with that competition & many of the worst forms of discrimination will cease. Owing to wasteful competition transportation by rail actually costs more than it ought. To eliminate that competition will be to work an actual saving in the cost of the service, and this should redound to the benefit of both the carrier and the shipper.

The danger lies in the fact that the only check upon the rate is thereby removed. Hitherto competition between carriers has kept down the price of carriage. If that is taken away nothing remains except the force of popular opinion & the feeble restraints of the present law, which are of little effect when directed against slight & gradual advances. It will lie within the power of two or three men, or at most a small group of men, to say what tax shall be imposed upon the vast traffic moving between the east & west. The nature of the service & the conditions under which this species of property is operated

may be such that it cannot be, & perhaps, ought not to be, brought under the controlling force of competition, but those very conditions make it imperatively necessary that some other control should be substituted for competition.

It is idle to say that freight rates cannot be advanced. During the past year they have been, by concerted action upon a vast volume of traffic, advanced in every part of this country. It is equally idle to say that they will not be advanced. It is both human nature & the lesson of history that unlimited power induces misuse of that power. Railways are not combining for the purpose of "extortion & abuse," but none the less should the people provide some protection against that possible result of the combination.

ADVANCES IN RATE BY CHANGES IN CLASSIFICATION.—Under this heading the Commission says that 824 changes were made in the official classification on Jan. 1, 1900, by carriers using that classification, of which 818 produced advances in rates, & 6 resulted in reductions. Based on Chicago-New York rates, of these advances 434 increased the rate 42.8%, & 32 as low as 15.3%. Six of the advances amounted to 100% of the old rate. The average advance was 35.5%. Changes in the southern classification since Jan. 1, 1900 last, worked an advance in rate on 531 articles, & a reduction upon 105. Using rates from Ohio River points to Atlanta as a basis, the average advance was about 30%, & the average reduction about 26%. Changes were made in the western classification on Jan. 25 to the number of 257, of which 240 were advances & 17 reductions. The percentage as computed on rates from Chicago to the Missouri River were on the average 47.4% for

advances, & 31.7% for reductions. By these changes in classification, therefore, rates upon a considerable part of freight traffic in all portions of the U.S., many of them applying on the most common articles of merchandise, have been very materially advanced. In addition, many commodity rates have been withdrawn, thus making the articles affected take higher class rates.

The Commission refers to its investigation of last Dec., in regard to the changes proposed to be made in the official classification, & says such changes were not made because some articles were found to be paying too low rates or others too high rates compared with other articles in the same class, but that the railways had determined to increase their revenues, & instructed the classification committee to make the changes for that purpose. There was no claim of any unusual need of revenue. Not for years had traffic been so heavy or gross receipts so large as then, but it was insisted that the cost of operation had been enhanced, & net revenues would thereby be decreased. Comparisons are made in the report for three large eastern systems, which show that the percentage of operating expenses in the earnings was less in the year ending June 30, 1900, than for the corresponding year 1899, or for the average from 1890 to 1898. Another comparison of these statements shows greater net earnings per mile for 1900 than for 1899, or for the average from 1890 to 1898. It cannot be said what effect these advances in rate, which prevailed during the last half of the year 1900, may have had upon the result for the entire year; but when it is considered that gross receipts, & therefore net revenues, enormously increased during that year, it is evident that there is

C. P. R. LANDS.

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

Lands in the Province of Manitoba average \$3 to \$6 an acre.

Lands in Assiniboia, east of the 3rd meridian, average \$3 to \$4 an acre.

Lands west of the 3rd meridian, including the Calgary District, generally \$3 per acre.

Lands in Northern Alberta and the Lake Dauphin District, \$3 per acre.

TERMS OF PAYMENT.

The aggregate amount of purchase money and interest is divided into ten instalments, as shown in the table below; the first to be paid at the time of purchase, the remainder annually thereafter, except in the case of the settler who goes into actual residence on the land and breaks up at least one-sixteenth thereof within one year, who is entitled to have second instalment deferred for two years from date of purchase.

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

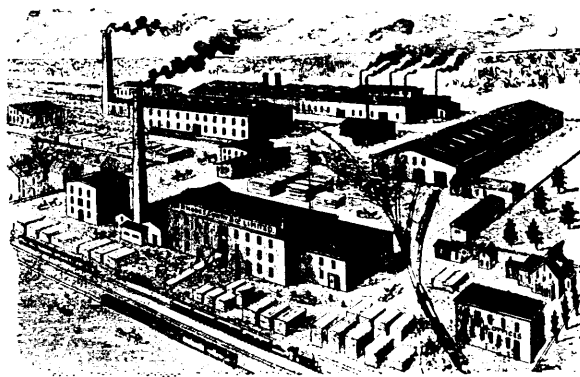
160 acres at \$3.00 per acre, 1st instalment \$71.90, and nine equal instalments of \$60.
160 acres at \$3.50 per acre, 1st instalment \$83.90, and nine equal instalments of \$70.
160 acres at \$4.00 per acre, 1st instalment \$95.85, and nine equal instalments of \$80.
160 acres at \$4.50 per acre, 1st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

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

Interest at six per cent. will be charged on overdue instalments.

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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 "
Montreal Warehousing Co.'s Belt Conveyer System	"	"

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little in the claim that increased cost of operation justified these advances in rate.

The Commission says its purpose is not to criticise the action of the railways in this respect, but rather to call attention to what has been done, & thereby to what may be done. It has been the understanding of late that the statutes of the U.S. prohibited the advance of interstate rates by concerted action among the carriers, yet here we find an instance where in every part of this country carriers have by concerted action, without any notice to shippers, & indeed, against the vehement protest of shippers, advanced their rates upon a large portion of the merchandise carried under class rates an average of one-fourth. If this can be done with respect to that portion of railway traffic, it can be done with respect to all of it; & if rates can be advanced 25% they can be still further advanced by the same method. It can no longer be said that a general advance of freight rates is altogether a fancy, for it has become an accomplished fact. Neither can it be said that the public can escape such an advance, however unjust. Hundreds of persons have demanded relief from what has been actually done. In some instances, where the shipper was great enough, or the organization to which he belonged powerful enough, that relief has been voluntarily granted by the railways, but the general public & the small shipper have been compelled to make the best of it. Neither, says the Commission, is it our purpose in calling attention to this matter to suggest that the law should be so interpreted or amended as to forbid changes in classification by agreement. A uniform classification is a public necessity.

Previous to the act to regulate commerce there were 138 classifications in territory now covered by the official. A return to that condition would be intolerable. Moreover, the application of that act practically compels carriers to adopt a uniform classification, & it would be the height of injustice to forbid by one statute the thing which another statute in effect compels. But it is equally wrong & intolerable that a classification committee or a railway manager should be able by a stroke of the pen, without consultation with the public, without even informing the public, to arbitrarily change the rates at which freight traffic shall be handled. Carriers should have the right to agree upon a uniform classification, & to amend that classification, but when hundreds of shippers complain that a public servant has perpetrated a wrong upon the public in the discharge of a public duty, there should be some public tribunal before which inquiry can be had & by which redress can be administered.

THE BUFFALO GRAIN POOL.—The Commission next refers to a pending investigation in regard to the handling of grain between points of production & consumption, & in the course of a hearing recently had in New York City certain facts were developed with reference to what is known as the Buffalo grain pool. The effect of this arrangement has been to create a tonnage pool of the grain moving by rail between Buffalo & New York. Whether the traffic distributed by this pool falls within the jurisdiction of the act to regulate commerce, & whether, therefore, the pool itself is prohibited by the fifth section of the act, is a matter about which, in advance of further investigation & consideration, no opinion is expressed. The carriers insist that this is not interstate traffic within the act. However that may be, the operation of this pool is instructive, & apparently bears out what the Commission has predicted in previous reports. First, all discrimination & favoritism between shippers are done away with. Second, all competition in respect to the rate is removed. Still, after everything has been said, the fact remains that the existence of this pool probably makes it possible

to maintain between Buffalo & New York a rate from 1 to 2c. a bushel higher than has in recent years actually been paid. If other combinations could be made to eliminate competition in other directions, much greater advances would be possible. The Commission has previously expressed the belief that arrangements of this kind might properly in some cases be permitted, but only after a method had been provided by which the rate, when made, could be actually controlled.

IMPORTANCE OF SLIGHT CHANGES IN RATE.—The thought naturally suggests itself, is the advance of 1 or 2c. a bushel in this rate of much consequence? One cent a bushel applied to all the grain which moved through the port of Buffalo in 1899 would amount to \$1,500,000; & applied to all the grain moving by rail in the U.S. for that year, it would have aggregated almost \$10,000,000.

Another excellent illustration of the importance of these slight discriminations is found in the case of the city of Danville. The Commission directed a comparatively small reduction in the Danville rate as compared with that in the rate to Lynchburg, & the Southern Ry. thereupon filed a statement showing what these reductions would amount to as applied to the traffic actually handled in & out of Danville during 1899. From this statement it fairly appeared that the little community of Danville paid during that year at least \$50,000 more than would have been paid at the rival city of Lynchburg, only 66 miles away, for corresponding transportation. Similar conditions exist in many parts of the country.

JOINT RATES & THEIR DIVISION.—Ordinarily complaint is directed against an unreasonable rate or a wrong adjustment of rates—most frequently the latter. It has been pointed out in previous reports that wrongs of this character can not be effectively corrected unless the regulating body has power to determine what rate or what relation of rates shall be substituted in place of the one found to be unreasonable. Incidentally in that same connection it has been observed that when the rate attacked is a joint rate, participated in by two or more carriers, no relief can be granted unless the further authority exists to determine the divisions of this joint rate which each carrier shall receive when the carriers do not themselves agree. The Commission refers to certain cases now pending before it as strongly indicating the necessity for power over divisions of the joint rate. This matter of joint rates & their divisions, while it has not received much attention up to the present time, will be found ultimately of first consequence. Shippers are mainly interested in joint rates. The bulk of the transportation, in respect of which the rate is of the greatest consequence, is probably carried upon joint rates. If these rates are to be regulated, authority must be given over their divisions. It is possible that such authority exists now, but the carriers deny this, & the importance of the subject should not be overlooked.

COMPLAINTS.—During the year 639 complaints of unlawful rates & practices of railways have been filed with the Commission by shippers & shipping organizations. Many of these complaints refer to the increases in classification, & consequently in rates, which have been made by carriers throughout the country since the last report was submitted. The others generally allege excessive & preferential rates & discrimination or prejudice in the provision of transportation facilities. These 639 complaints include informal as well as formal proceedings. Some informal cases presented matters not within the jurisdiction of the Commission, & a large number appeared after examination to involve matters which could not be adjusted by correspondence, & in these cases the complainants were advised that authoritative rulings could only be made upon regular complaint & formal hearing.

But few of this large number actually reached the formal stage, however, & in the great majority of cases the reason why the complainants did not follow that course was doubtless on account of the defective state of the law. They presented their grievances to the Commission in the hope that some relief might come from its mediation, but that failing, they were unwilling to undertake the trouble of preparing & presenting their cases in regular trial before a Commission which, as the law now stands, is without power to provide an adequate remedy & unable in any case to have its order promptly enforced. Eighty-three complaints were satisfied as the result of investigations by the Commission & 34 are still pending.

CASES DECIDED BY THE COMMISSION.—The important features of the decisions rendered by the Commission during the year are stated. Extended reference is made to the Danville, Va., case. This case involved greater charges for shorter than for longer hauls, & in its decision the Commission stated the interpretation of the long & short haul clause of the act as laid down by the U.S. Supreme Court. The Commission held that the rates complained of were unlawful, but that certain greater charges, found & stated in the decision, might lawfully be made to the intermediate than to the longer distance point. A similar conclusion was reached in the Hampton, Fla., case & the Kearney, Nebr., case. A number of other decisions are also treated in the report under the following headings: "Pennsylvania demurrage case," "Reparation," "The commutation ticket case," "Rates on roofing slag," & "Unreasonable rates on vegetables." Several cases were disposed of during the year through concession of relief by the carriers, & a number were discontinued for want of prosecution.

Eighteen civil cases are pending in the Federal courts to enforce orders of the Commission. Some cases involving criminal violations of the statute have been disposed of upon pleas of guilty & the imposition of fines. A number of indictments alleging criminal violations are awaiting trial in Louisiana.

COURT DECISIONS.—The Behlmer case, otherwise known as the Summerville, S.C., long & short haul case, was decided by the U.S. Supreme Court in favor of the railway companies on Jan. 8 last. In deciding the case the court referred to its former decisions construing the long & short haul clause of the law & defined somewhat more fully its view concerning the effect of competition in cases brought under that provision of the statute. The Supreme Court decided that the construction given in this cause by the Commission & the circuit court of appeals to the fourth section of the act was erroneous, & hence that both the Commission & the circuit court of appeals mistakenly considered, as a matter of law, that competition, however material, arising from carriers who were subject to the act to regulate commerce could not be taken into consideration, & likewise that all competition, however substantial, not originating at the initial point of the traffic, was equally, as a matter of law, excluded from view. No decision was rendered by the court upon the facts in this case.

In a proceeding known as the Colorado fuel & iron case the circuit court of appeals reversed the decree of the circuit court & directed dismissal of the complaint. This case was based upon an order of the Commission holding that the rate on iron & steel articles from Pueblo, Colo., to San Francisco, Cal., amounting to \$1.60 per 100 lbs., was unlawful under the act, & that the rates charged on such articles from Pueblo to San Francisco should not be more than 75% of the rates contemporaneously charged on like traffic from Chicago to San Francisco, nor more than 45c. per 100 lbs. on steel rails & fastenings & 37½c. per 100 lbs. on bar iron & other enumerated iron

articles. The circuit court upheld the decision of the Commission, but the Circuit Court of Appeals, following later decisions of the Supreme Court, held that the Commission was without authority under the act to regulate commerce to prescribe rates for future observance by the carriers, & that this applied as well to an order of the Commission determining the relation of rates between localities as to an order prescribing maximum rates.

The court further said that determining the relation of rates involved the exercise of legislative functions to the same extent as fixing the rate on an independent consideration of what would be a reasonable compensation for the service. The Commission points out in this report a distinction apparently made between prescribing maximum rates & determining the relation of rates by the Supreme Court in the maximum rate case, in which the Commission's power to prescribe maximum reasonable rates was denied. In reviewing the decision of the Court of Appeals, the Commission takes occasion to state the necessity for authority to regulate rates for the future, & demonstrates that a suit at law for damages cannot, in the very nature of things, be an effectual or appropriate remedy. As a rule, says the Commission, the persons actually injured cannot obtain redress in suits for damages, & in those cases where the real sufferer can sue & recover the excess above un-

reasonable or unjust charges the aggrieved shipper cannot afford to bring & maintain an expensive suit every time an unreasonable or unjust rate is charged, nor to do business in reliance upon a possible recovery in the law courts of sums unlawfully exacted for transportation during any given period.

STATISTICS OF RAILWAYS.—An abstract of the preliminary report on the income account of railways in the U.S. for the year ended June 30, 1900, prepared by the Statistician to the Commission, appears in the report. The results of the operations of the railways during the last fiscal year are summarized in this advance income account statement. Following are some of the salient items stated therein:

The preliminary report is based upon returns of operating roads representing 190,746.09 miles of line, or about 98% of the mileage in operation at the end of the year. The gross earnings of these roads were \$1,480,673,054, or \$7,776 per mile of line. Of these earnings, \$396,860,760 were classed as passenger earnings & \$1,048,268,875 as freight earnings. The gross earnings shown in the final report for the preceding year were

NOTICE.—The Canadian Northern Railway Company will apply to the Parliament of Canada, at its next session, for an Act, confirming the amalgamations with the Ontario and Rainy River Railway Company and the Manitoba and South Eastern Railway Company, and confirming the bond issues and mortgages securing the same covering the Ontario Division and the Gilbert Plains Branch of the company, and authorizing the company to make traffic and other arrangements with the company constructing a bridge over the Rainy River and with the Minnesota and Manitoba Railroad Company, and empowering the company to construct the following lines of railway, viz:—

1. Commencing at a point on the company's line between Winnipeg and Marchand, thence in a generally westerly direction to a point at or near Carman, thence in a generally westerly direction passing through or near Belmont to the western boundary of Manitoba.
2. Commencing at a point on the last mentioned line between Carman and the Red River, thence in a generally north westerly direction to a point at or near Portage la Prairie.
3. Commencing at a point on said first mentioned line west of Carman, thence in a generally southerly direction passing through or near Manitou to the international boundary.
4. Commencing at a point on the line between Carman and the Red River, thence in a generally southerly direction to a point at or near Emerson, and commencing at a point on said line, thence in a generally easterly direction along or near the row of townships numbered one to a point on the company's main line between Vassar and Sprague.
5. Commencing at a point ten miles north of the company's line between Winnipeg and Ste. Anne, thence in a generally southerly direction to the international boundary.
6. Commencing at a point on the company's line at or near the end of the forty miles constructed by the Winnipeg Great Northern Railway Company, thence to or near the Village of St. Laurent, thence to Oak Point on Lake Manitoba, thence in a generally northerly direction to a point at or near Grand Rapids on the Saskatchewan River.
7. Commencing at a point on the company's line between Oakland and Macdonald, thence in a generally westerly direction to a point in or near Brandon, thence in a generally north-westerly direction to the Provincial boundary at or near Township 15 or 16, thence in a generally north-westerly direction to a point on the company's line northwest of Battleford.

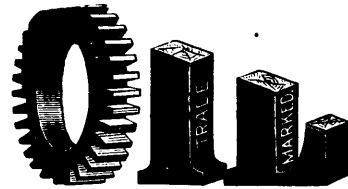
J. M. SMITH,

Secretary, Canadian Northern Railway Company.
Dated 2nd January, 1901.

CHARLES DRINKWATER,
Secretary.

Montreal, 22nd January, 1901.

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The Canadian Pacific Railway Company.

The Montreal Register of the Common Stock of the Company will be re-opened on Tuesday, the Fifth February next. On and after that date transfers may be made at the Office of the Secretary of the Company of stock which has been discharged from the New York or London Register, to the Montreal Register. Rules governing such transfers and the discharge of stock to and from the several Registers may be had on application to the undersigned.

CHARLES DRINKWATER,
Secretary.

Montreal, 22nd January, 1901.

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\$1,313,610,118. Operating expenses for the last fiscal year aggregated \$956,814,142, or \$5,025 per mile of line. The net earnings of the roads embraced in this advance report were \$523,858,912 for 1900, or \$73,110,747 more than they were for 1899. Income from investments & other sources amounting to \$60,675,700 was received, so that the total income was \$584,534,612.

The total deductions from income were \$395,811,056. This item includes interest on bonds, rents for leased lines, taxes (\$44,396,165), & other charges to income. The amount of dividends declared was \$109,400,147, which is \$27,555,388 greater than the amount declared by corresponding roads for 1899. The resulting surplus from the operation of the roads covered by this preliminary report was \$79,323,409. The surplus shown in the final report for the preceding year was \$53,064,877.

It should be understood that the amount of dividends stated does not include the dividends paid to stockholders by railway companies, the mileage of which is operated under lease or some other form of control.

SAFETY APPLIANCES.—The safety appliance act became fully effective on Aug. 1 last, the Commission having extended the time of carriers to comply with the law in respect to couplers & train brakes to that date. Railway equipment in regard to hand holds & grab irons & standard height of drawbars shows approximately perfect compliance with the statute. The Government has not undertaken to decide the coupler that shall be used, the number or location of hand holds or grab irons, the height of drawbars, or the number of cars in a train to be provided with the air-brake. These matters are all left to the carriers.

Since the law went into effect no complete or accurate information regarding accidents has been obtained. As the roads are merely required to make annual returns of the casualties to their employes, the value of the law can only be matter of conjecture for a year at least. The Commission points out that a large number of the accidents to employes can only be attributed to carelessness. Impressed with the necessity of particularly directing the attention of the employes to this subject, the Secretary of the Commission addressed a letter to the subordinate branches of various railway organizations calling attention, among other things, to the need of greater care & caution on the part of railway employes in the discharge of their duties. It was also suggested that reports of accidents shall be made by the organizations to the Commission, with a view of minimizing, as much as possible, the need of resorting to the courts for enforcement of the law, & so avoiding the friction & consequent hostility which frequent litigations of this character must inevitably engender. No prosecutions under the act have yet been found necessary. In cases where it was found necessary to call attention to defects in appliances or in their operation, the railway managers have thus far readily complied with not only the letter, but the spirit of the law, & have not been inclined to cavil about the application of the statute in doubtful cases.

June 30, 1899, there were 928,924 persons employed on U. S. railways. During the year ending that date 2,210 of such employes were killed & 34,923 were injured in railway accidents. The number of killed & injured in coupling & uncoupling cars was somewhat less in that year than in the year preceding. Tables given in the report comparing accident statistics in 1893, 1897, 1898, 1899, & partial statistics for 1900, show on the whole some decrease in the number of accidents in 1899 & 1900. In 1893, in coupling & uncoupling cars, the ratio of killed & injured to the number employed was: killed, 1 in 349; injured, 1 in 13. In 1899 these ratios were: killed, 1 in 563, and injured, 1 in 22.

To the end that every precaution may be taken, & that no careless, indifferent, ignorant or selfish individual may be permitted to endanger his fellows, a system of public supervision should be maintained & a close inspection made of the rolling stock in service, so that no wear or breakage may go unnoticed & unremedied. It is not proposed that such public inspection shall in any respect interfere with the duties of the operating companies respecting repairs. Such inspection will require some expenditure of money—small, however, in comparison with the interests affected. Any appropriation of the public funds must be justified by the object to be attained, & here follows a comparison of expenditures made in the Life-Saving Service, Light-House Establishment, & Steamboat-Inspection Service, which are favorable to the proposed inspection on railways.

The sum of \$15,000, appropriated by Congress at its last session to enable the Commission to keep informed regarding compliance with this act & to render its requirements effective, was expended mainly in the employment of competent inspectors. Their reports are not confined to failures to comply with the law. They include all such matters as tend, in their opinion, to increase the risk to employes in this hazardous service. When received, these reports are immediately transmitted to the presidents of the railroad companies concerned, & their attention called to any neglect of their subordinates in not conforming with the requirements of law or the rules established by themselves. This course has proved highly salutary, for in every case these communications have received favorable responses, while subsequent examination of the equipment has shown that the defects have been repaired, & more stringent orders have been issued by the railroad officials. The defects reported by the inspectors are summarized at some length in the report, & the failure to keep automatic couplers in proper repair is noted as a most fruitful source of accident to the men. It is observed, however, that much improvement in this respect has resulted from the system of inspection established by the Commission.

The Commission also says that any estimate of reduction in the number of accidents due to the adoption of these safety appliances must take into account the changes in conditions since 1893, when the law was enacted. At that time the average train load was about 184 tons, while in 1899 it had risen to an average of 243½ tons. The small cars & lighter locomotives then in general use have given place to much heavier equipment. Steel cars have been introduced, capable of carrying 50 tons each. The use of heavy cars & engines in the same trains with old wooden & lighter cars subjects the draft rigging & couplers of these lighter cars to unusual strain, & results in many accidents which formerly would not have occurred. Of course, the risk to the men employed in handling trains of cars of mixed capacity & greatly varying strength is much increased. This was a risk the employe was not called upon to take in 1893, when the law was enacted. The law can only reach its highest value & efficiency when all interested—the railroads, the employes & the Commission—are working to the common end of securing from its operation the greatest practical results.

Passenger-Catching Devices.

The selection of novelties for reminders is a part of the work of some passenger agents. The Plant System & the Seaboard Air Line have always been partial to these. A fair example of this class of devices advertising the Seaboard Air Line was a miniature baggage truck in nickel. This sold for a profit, so perhaps it may be considered a good idea.

Tom Anderson, of the Seaboard, now of the Southern Pacific, must be credited with a large share of the novelties issued by railroads for attracting attention, while he was closely seconded by Jos. Strang. Anderson was the designer of the gold-tipped rabbit's foot, which was projected as an advertisement, though it met with such favor that the manufacturing jewelers took it up & put a foot on the market without any advertisement attached, & sold many thousands for 25c. each. Strang was the designer of hundreds of the almanacs, calendars & fierce lithos used in the South during the boom period when passenger agents who didn't show up business got a walking-ticket. B. W. Wrenn, of the Plant System; C. S. Lee, of the Lehigh Valley, & C. S. Fee, of the Northern Pacific, are other passenger agents who have invented other catchy devices.

C. S. Lee, of the Lehigh Valley, of late years has accepted the principle that there is nothing like heart-to-heart talks to win passengers, & he works it successfully. Not long ago he sent to all his ticket agents a circular which stated in substance:

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

"Mr. & Mrs. G. G. Green, of Woodbury, are going to Pasadena, Cal., for the winter."

"Z. Z. Smith, of Crescent Terrace, who has been very ill with influenza, is convalescent."

"The marriage of Wm. Gayblood & Miss Primrose on Christmas Day promises to be one of the events of the season."

Mr. Lee continues his instructions to the station agents by saying:

"I want you to clip these articles or take note of them, & at the first opportunity call upon Mr. Green & explain to him the merits of this line; these people in nearly every instance will be glad of the information, & appreciate your enterprise, with the result that business will be secured."

"Before calling on Mr. Smith you can ascertain, probably without much trouble, just what place or climate would be most suitable for his convalescence, as it would be folly to suggest a long-distance trip when perhaps he cannot afford to go beyond a hundred miles. By studying customers the business of the Lehigh Valley is increased."

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

"These points may seem small in themselves, but if the advice is followed it will result in increased business."

Tom Anderson, when he became division passenger agent of the Southern Pacific, at Waco, Texas, a few months ago, adopted a new plan for announcing his appointment. He telegraphed, probably without cost, as passenger agents' business is franked, to all the editors of his acquaintance: "If you can't boost the Southern Pacific, don't knock. I may get hurt," & in the next mail came the official notice of his appointment. According to a clipping bureau, the Southern Pacific, in connection with the telegram & notice, has received over forty thousand lines of good readers to date.

C. M. Hays on the Y.P.C.A.

In answer to a request made a short time since, for his opinion on the Railway Department of the Young Men's Christian Association, Mr. Hays, then General Manager of the G.T.R., now President of the Southern Pacific, wrote:—"I think the reputation of railway employes in the operating department of the railways of the country, especially in the West, 25 years ago, was far below that which they at present have for steadiness, sobriety

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The Company undertakes the display and distribution of railway, steamship, land, exhibition, hotel and other advertising folders, maps, hangers, calendars, posters, pamphlets, etc., throughout the whole of Canada and Newfoundland,

By distributing them to railway and steamship ticket agents, hotels, etc.

By displaying folders in racks in stations, ticket offices, hotels, etc.

The Company's distribution lists, which are copyrighted, are official and up-to-date, and are periodically revised by the general passenger departments of the various transportation lines. They are the only complete lists of Canadian ticket agents in existence.

For convenience in operation the Company's system is divided into five districts, as follows :

1. **The Province of Ontario.**
2. **The Province of Quebec.**
3. **The Provinces of New Brunswick, Nova Scotia and Prince Edward Island and Newfoundland.**
4. **The Province of Manitoba and the Northwest Territories.**
5. **The Province of British Columbia.**

The Company makes contracts for the display and distribution of matter in any or the whole of these districts, and invites enquiries for terms and full particulars of the service.

List of Railways Covered.

The Company's distribution embraces all ticket agents on the following railways in Canada and Newfoundland :

Alberta Ry. & Coal Co.	Elgin & Havelock.	New York Central & H. R.
Albert Southern.	Esquimault & Nanaimo.	Niagara, St. Catharines & Toronto.
Atlantic & Lake Superior.	Grand Trunk.	Northern Pacific.
Bay of Quinte.	Great Northern of Canada.	Nova Scotia Steel Co.
Boston & Maine.	Great Northern, U.S.A.	Orford Mountain.
Brockville, Westport & Sault Ste. Marie.	Hampton & St. Martin.	Ottawa & Gatineau.
Buctouche & Moncton.	Irondale, Bancroft & Ottawa.	Pontiac Pacific Junction.
Canada Atlantic.	Kent Northern.	Prince Edward Island.
Canada Coals & Ry. Co.	Kingston & Pembroke.	Quebec Central.
Canada Eastern.	Kootenay Ry. & Nav. Co.	Quebec & Lake St. John.
Canadian Northern.	L'Assomption.	Quebec Southern.
Canadian Pacific.	Lake Erie & Detroit River.	Salisbury & Harvey.
Caraquet.	Lotbiniere & Megantic.	Shore Line, N. B.
Carillon & Grenville.	Maine Central.	Spokane Falls & Northern.
Central Ontario.	Michigan Central.	Sydney & Louisburg.
Central of New Brunswick.	Midland of Nova Scotia.	South Shore, Que.
Central of Nova Scotia.	Montford & Gatineau Colonization.	Temiscouata.
Central Vermont.	Nelson & Fort Sheppard.	Tilsonburg, Lake Erie & Pacific.
Cumberland Ry. & Coal Co.	New Brunswick & P.E.I.	Thousand Islands.
Dominion Atlantic.	Newfoundland.	Toronto, Hamilton & Buffalo.
	New York & Ottawa.	Victoria & Sidney, B.C.

& morality. There are but few of us who have been in the railway service the length of time mentioned, who cannot personally call to mind instances where engineers have been known to take out passenger trains when they were so much under the influence of liquor that they had to be lifted upon their engines, & the fact that a man was a hard drinker did not seem to militate against his getting a position in the railway service if he possessed the ability to run an engine or handle a train, while obscene & profane language was considered a sufficient accomplishment to indicate the railway man of ability. The moral standard has been raised to such an extent that the instances where either drunkenness or profanity exists are exceedingly rare; in fact, I doubt if there is any railway operating a hundred miles or more anywhere in the U. S. that does not contain in its rules the statement that intoxication or the use of intoxicating liquors will be sufficient cause for dismissal, & persons employed in any capacity who frequent gambling houses or places where liquor is sold, will not be retained in the service. The chief influences which have contributed to this marked improvement are, to my mind, the constantly decreasing railway rates & consequent necessity for the most economical operation, to be obtained only by securing for the service men whose good habits and freedom from deteriorating influences of any kind will result in careful & intelligent action, & will secure to the railway the greatest freedom from those pecuniary obligations with which recklessness or negligence in operation are sure to so heavily burden the company. I think the railway companies themselves, rather than any association, have been primarily responsible for the improvement in the character of our employes & have been forced thereto by the causes I have named. The value to the railways of the Railway Department of the Y.M.C.A. is that it offers a means for departmentizing & placing under the care of proper parties, the provision made by the railway for the employe when he is on the line of the road away from home & would otherwise be subject to the temptations & influences which surround resorts of the kind he would be compelled to patronize in order to get his rest & meals at prices he could afford to pay. It extends to its members the opportunity for improvement, for making better men of themselves physically, mentally & morally, all of which results in greater consideration for the public & greater safety to persons & property. In other words, I regard the money we spend for the support of the various buildings we have at terminals on our road devoted to the Railway Department of the Y.M.C.A. as so much premium paid toward insuring the company for expenditures for personal injuries & damage to property sure to arise when an employe's physical condition is not what it should be by reason of lack of proper rest or dissipation."

Receipts for Intercolonial Payments.

Some of the departments of the I.C.R. have been insisting on having vouchers signed in advance of payment, in other words they have refused to pass accounts unless the persons rendering them would receipt them at the time of rendering & then wait for the cheques to be sent along later. This rule was recently taken exception to by a Toronto firm which appealed to the Auditor-General, who replied as follows:—"I have your letter with reference to the regulation of the Intercolonial Railway regarding the giving of receipts before payment. I am entirely with you in the matter. It is quite contrary to my desire that a receipt should be given before payment is made. The endorsement on the cheque payable to order is as good a receipt as I want. The very fact that it can be

proven that receipts are taken as a rule before payment is made is an evidence that the receipts do not serve the purpose for which they are intended, viz., to furnish proof of payment. During the whole of my tenure of office, whenever the practice which you mention has been brought to my notice, I have ruled against it. I am very glad that you wrote to me, & I shall immediately communicate with the Intercolonial Railway on the subject."

Summer Rate Meetings.

Niagara Frontier Summer Rate Committee.—In accordance with action taken at the meeting held at Portland, Me., in Jan., 1900, the annual meetings for agreement as to summer tourist rates & arrangements from Niagara Falls, Detroit, Port Huron, Montreal & Quebec, will be held at the Windsor Hotel, Montreal, Jan. 29 & 30. The rate clerks will meet on Jan. 29, & arrange all details as far as possible, their report to be submitted for approval at the general meeting on Jan. 30. Both meetings will convene at 10 a.m.

Rail & Lake Rates.—In accordance with the decision of the meeting held in Hamilton in Feb., 1900, the annual meeting of lines interested in the construction of passenger rail & lake rates will be held at the Queen's Hotel, Toronto, Feb. 5, at 10 a.m. It has been suggested that, if possible, this meeting should agree upon the east-bound rates for Duluth, Port Arthur, Fort William, & Sault St. Marie, as well as the west-bound rates for those points, & representatives of interested lines are requested to come prepared to discuss the question.

Marconi Wireless Telegraphy.

The French Telegraph Department proposes to institute a series of experiments with wireless telegraphy for subterranean communications. The possibility of the scheme was first suggested by one of the inspectors of the department, who found his primitive trials to give satisfaction. The department intends to develop the idea upon a larger scale.

A message has been sent from the English Channel steamer, the Princess Clementine, to the wireless station at Dovercourt, Essex, by the Marconi system, a distance of 90 miles, including many miles of cliffs. The Belgian authorities are so pleased with the results obtained by the wireless telegraphic system that it will shortly be put on other vessels of the fleet.

Wireless telegraph stations are to be erected at Inishtrahull, in the north of Ireland, & at Kildonan, Arran, Scotland, respectively, for the purpose of reporting & signalling vessels at sea. Col. Hozier, on behalf of Lloyd's committee, has informed the various Glasgow shipowners of the fact, & expects that the installation will be ready for service by the end of Jan.

The British Postal Department Commission, which has been inquiring into the subject of wireless telegraphy for several months, will shortly report in favor of the earliest possible adoption of the Marconi system. The Commission is also arranging for the purchase of Marconi patents, & is negotiating with France & Germany relative to their attitudes toward the Marconi inventions.

Experiments with the Marconi system have been resumed on the Ostend-Dover mail boat; & while the steamer was making her way to Dover, in the teeth of a gale, communication was carried on satisfactorily, & messages were transmitted as usual. Messages were sent to & fro at the rate of 20 words a minute until Dover was reached, 61 miles from the mast at La Panne, between Ostend & Dunkerque.

The preliminary experiments with the Marconi installation across the Bristol Channel,

between Ilfracombe & the Mumbles lighthouse, which was erected to the order of the British government, have resulted in complete satisfaction. The distance over which the messages are transmitted is 25 miles. The Ilfracombe station is situated upon an eminence known as Compass Hill. The mast for carrying the high wire is 116 ft. in length, & is built in three sections spliced together. It measures about 4 ft. 6 ins. in circumference at the base, tapering to about 10½ ins. at the summit, & weighs nearly 2 tons. The pole is also provided with a yard-arm upon which a portion of the apparatus is suspended. In the trials the messages were recorded upon the tape machines with unflinching regularity & accuracy, even when the high wires were suspended considerably below their full height.

Stories About Mr. Hays.

During the past few weeks the name of C. M. Hays has been in the mouth of every man on the continent interested in railways. Naturally this interest has given rise to a number of stories about the new President of the Southern Pacific, which are more or less authentic. Here are some of them, culled from an exchange:

HOW \$5,000 WAS RECOVERED.

Mr. Hays late in the eighties made an investment in California. A. A. Talmage was General Manager of the Wabash at the time & Mr. Hays was his assistant. On the coast the Co. had as its representative, J. K. Woodward. The latter had been a newspaper man, & as "Jayhawker" in the Cincinnati Enquirer had had considerable vogue as a correspondent. He was a friend of Talmage, & had got his position out there on that account.

Woodward built the Laundry Farm Ry back of Oakland. It connected with the Southern Pacific at Fruitvale. It was part of a big suburban residence scheme. Among others, Woodward got Mr. Hays to invest \$5,000 in the proposition. He also got the California National Bank into its project. A smooth talker & an oily promoter, Woodward soon had his road built and a lot of improvements made without the cost of a cent to himself. The fact that he was head over heels in debt did not worry him. He was not that kind.

Soon the crash came, & the road was swallowed up in the failure of the California National Bank. Mr. Hays was out his \$5,000, & it was at a time when that money was about all of his little fortune. When he inquired into the particulars of the project's failure, he concluded that he had been duped by one of Talmage's trusted friends. He laid the facts before Talmage, & the latter is said to have laconically remarked:

"If Woodward has failed, he has failed right side up. Tell him if he does not give you your \$5,000 back you'll go out to the coast & take it out of his hide."

As the story runs, Mr. Hays did not vary one iota in obeying Talmage's suggestion. He did not have to go to California. Woodward sent him a cheque for his money. And Mr. Hays, by the way, was the only investor who got out of the Laundry Farm, now known as Leona Heights, whole.

A HAUNTED CAR.

Talmage & Hays had their own private cars on the Wabash. Late in the eighties, when Talmage died, his car was turned over to the passenger department to use in cases when people wanted a private car.

On one occasion about a year after Talmage's death, the car was rented to a St. Louis friend of Mr. Hays, who had known Mr. Talmage well. The next morning Mr. Hays was surprised to receive a telegram from him from Toledo that he had abandoned the car & rented another. On inquiring by wire as

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

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

Cost to take \$2,000 Mort. Benefit..	\$6 00
" " \$3,000 " " "	7 00
" " \$4,000 " " "	9 00
" " \$5,000 " " "	10 00
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- 3.—An Old Age Benefit consisting of exemption from payment of premiums and Court dues after age 70.
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- 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.
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Year.	Total Membership.	Benefits Paid.	Total Surplus.	Surplus per Capita.	Death Rate per 1,000.
1881	1,019	\$ 1,300 00	\$ 4,568 55	\$ 4 48	4.50
1882	1,134	12,058 86	2,967 93	2 61	11.00
1883	2,210	9,493 68	10,857 65	4 91	4.73
1884	2,558	13,914 31	23,081 85	9 01	4.23
1885	3,642	26,576 99	29,802 42	8 18	7.76
1886	5,804	28,499 82	53,981 28	9 30	4.85
1887	7,811	50,014 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	685,000 18	1,560,733 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	5.56
1898	144,000	1,170,125 14	3,186,370 36	22 12	5.67
1899	163,610	1,430,200 33	3,778,543 58	23 09	6.30

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Or Any Officer or Member of the Order.

to what was the trouble, he received a message reading something like this:

"Darned car haunted. Slept in room that Talmage always used, & saw his ghost as plain as day. Wouldn't have the car as a gift."

The papers soon got hold of the story, & from that time on the palace on wheels was known as the "hoodoo car." People wanting a private car would not think of renting it. In disgust Mr. Hays turned his own car over to the passenger department, & said he would take the Talmage for his own personal use.

He, used it frequently for about six months & it maintained its reputation as the "hoodoo car." Mr. Hays was sleeping in it one night when it was partially wrecked by one of its trucks breaking down. On another occasion it was badly stove in by a collision between a freight & passenger train, it being the hind car on the latter. Mr. Hays had it repaired each time, being determined to stay with the hoodoo car as long as possible.

One cold winter night he was travelling special in the car from Toledo to St. Louis. The stove in the car was red hot. In some mysterious way the car was soon ablaze, & Mr. Hays, his secretary, the colored porter, the brakeman & the conductor had barely time to get out with their effects.

"The hoodoo won out & that's all there is to say about it," remarked Mr. Hays, when all that was left of the car was dumped into the ditch by a wrecking car.

HATES TALE-BEARERS.

He is credited with hating a tale-bearer as much as a rattlesnake. On one occasion a subordinate official sought a private confab with him in his office, & venomously criticized a brother officer. Mr. Hays sat the tale out. At its conclusion he remarked to the purveyor of tales,

"Wait a minute. I'll ring for Mr.—& we'll settle this matter right now."

As he rang for the officer who had been maligned, the tale-bearer blanched in the face & begged to be excused from personally confronting his associate. Hays was obdurate. The other man put in an appearance, & the accuser shamefacedly left the room as Hays began to tell the stories told behind his back. A few days later the tale-bearer left the employ of the company, & it was said he had resigned on account of his health.

MR HAYS' BEARD.

He is a slave to his beard. Twelve years ago, or when only 32 years old, he found himself Vice-President & General Manager of the Wabash R.R. system. He had been put over the heads of many an older official. He was even more youthful looking than his years warranted, & those who did not know him were always picking him out for the smart, trim secretary of the Wabash's Vice-President.

An elderly lady who thought she had a grievance against the road, strolled through the open door of his St. Louis office one day.

"I want to see the Vice-President & General Manager," said she. "I've lost some baggage, & can't get any satisfaction from the lower officers of the road."

"I'm the man you're looking for," replied Mr. Hays, as he asked her to be seated.

"Lord bless me," she ejaculated as she gazed at Mr. Hays' youthful appearance. "No wonder people lose their baggage on this road when boys like you are running it."

Laughing heartily at the woman's candid exclamation, Mr. Hays heard her complaint & had it righted to her satisfaction before she left the room.

"I didn't mean," she remarked on retiring, "to blame you for being such a young Vice-President, but I'll advise you to grow a beard & look older. Your heart is all right, but your face isn't."

And he did begin forthwith assiduously to cultivate a beard. A splendid crop of whiskers added to his dignity & age, & he still has them.

Charles R. Hosmer's Mistake.

The London, Eng., Daily Mail, recently had the following:—

Here is a little story of Miss Julia Neilson's early professional days at the Haymarket, where Mr. Tree was producing "Comedy & Tragedy." One fine morning that gentleman remarked to her quite casually:—

"Oh, I've engaged Fred Terry to play lover to you, because he's tall."

Miss Neilson remembers she was pleased. "You see," she confides to us, the public, "even in the 'Yellow Dwarf' I had felt the inconvenience of being rescued by a short hero. However, Mr. Terry seemed to take the situation seriously."

How seriously let Mr. Terry say for himself:—

"I had another rather amusing experience at Montreal in 1895. We were playing there at the Royal Academy of Music. I had an introduction to Charles Hosmer, now one of my best friends. Mrs. Terry & I went to lunch with him the day we made our first appearance in Montreal. Somehow or other he had not realized the fact that we had been acting on the previous evening, & began to speak of the performance. 'An English company seems to have made a big hit last night,' he said. 'Do you know anything about them?' He did not give us time to answer the question, but went on:—'A woman called Julia Neilson has made quite a success. They say she is very good looking. Is it true?'

"'Judge for yourself,' I replied, laughing, as I turned from him towards my wife. 'This is Miss Julia Neilson.'"

A Wooden Railway.

Some papers have recently been mentioning a novel railway in the western part of British Columbia in which the rails are made of trees. This perhaps refers to the road built between Taku Arm of Tagish Lake, & Atlin Lake, a distance of about two miles. Its rails were made of wood, the sleepers were of wood, & wooden pins held them together. The road was used as a tramway to carry freight to Atlin over the Atlintoo River portage, that stream having too great a drop for navigation purposes. The construction of this road is a testimony to Canadian pluck & ingenuity, in overcoming difficulties & encountering the obstacles of nature. There was scarcely a pound of iron in the country when it was built. The only tools used in the work consisted of a cross-cut saw, two augers, picks, shovels & axes. Not only was the road itself entirely wooden, but the car which was first set upon it was constructed without a piece of iron in the whole conveyance. At either end of the line, too, there were docks for the handling of freight. There was not a single spike in either structure. As a matter of fact, the whole institution was fashioned of wood. There was no iron in the country, & the workmen were obliged to rise to the occasion, & they did so. This unique railway was begun on May 15, 1899, & completed on June 6 of that year.

The 24-hour system is to be adopted in France, following the example set in Canada on the western lines of the C.P.R. & on the I.C.R.

The Interstate Commerce Commission of the U.S. has secured for its library a complete set of THE RAILWAY & SHIPPING WORLD from its commencement.

After negotiations lasting ever since the Toronto, Hamilton & Buffalo Ry. was opened some years ago, the Post Office department recently entered into a contract with the Co. to deliver mails at all the stations on the line between Hamilton & Welland.

"Yep, I went down to see the launch, an' if it hadn't been fer de crim'nal carelessness of a woman in de crowd I'd o' thought my time well invested."

"Who wuz de woman, Weary?"

"Why, it wuz the young woman dat broke de bottle o' wine on de ship's bow."

The Adriatic Railway Co. of Italy has decided to equip electrically two branches of the main line down the coast to Brindisi. These branches extend from the main line toward the interior, where the Apennines furnish abundant water power. In the highlands of Italy there is considerable water power which has never been utilized, & it is considered possible to use these falls for the generation of electrical power.

Work is to be resumed upon the construction of the Cape to Cairo railway. It has been decided to deviate from the route originally surveyed by travelling via Wanki. This decision has been made in view of the fact that the bridging of the Zambesi River will be much facilitated at this point, & also that rich coal fields have been discovered in the vicinity of Wanki. Wanki lies about 200 miles north-westerly from Buluwayo. The coal is stated to be of great calorific value, & mines are to be sunk immediately.

In view of the success that has attended the experiments with the ice-breaking steamer Ermak in forcing a navigable channel through the ice in the Baltic Sea, the Russian government has decided to construct several other similar vessels for the same purposes in other parts of the Russian Empire. It is stated that two of them will be stationed in the East to keep the harbors of Russian Tartary open to navigation throughout the year, especially the harbor of Vladivostok, where it is proposed to lay down a number of new docks, & to provide extensive wharf accommodation.

A scheme for building a railway to the summit of Mont Blanc is being discussed at Geneva. The most favored plan is to start the line from Les Houches, on the Savoy side, whence it is 11 miles to the summit of the mountain. The plans provide for 12 stations with every convenience for travellers. The trains will be propelled by electricity, which will be obtained by utilizing the River Arve, which now furnishes power for the electric road up Mont Saleve, in the suburbs of Geneva. The author of the scheme, M. Fabre, has submitted his plans to the French government.

On the 660 miles of government lines in Japan for 1898 there were carried 28,000,000 passengers, an average per mile of 42,000. The average number of passengers per mile of railway in the U.S. is about 3,000. Taking a more striking comparison, the whole Japanese system, Government & private, in 1898, aggregating 2,468 miles, carried 84,040,963 passengers, while the New York Central, in the same year, with 2,395 miles—or almost exactly the same length—carried 24,074,254 passengers, giving a relative density in favor of the Japanese of more than 3 to 1; & this in spite of the fact that the N.Y.C. had the benefit of including among its passengers all the traffic received from Western, New England, & the other connecting lines.

The public is indebted to a London paper for introducing, through its Geneva correspondent, an engineer, who is credited with an invention of a "mechanical brake" which stops a train that is running at fifty miles an hour within a distance of 20 yards. Good! But what about the passengers? A train run-

ning at the rate of 50 miles an hour covers 73 1-3 ft. in a second; & to stop a train moving at this speed in 20 yards means that it must be brought to a full stop in 4-5 of a second. When it is remembered that, in an end-on collision, it takes several seconds for the momentum of the train to expend itself in telescoping car into car, one is moved to ask what would be the condition of the living contents of a passenger car that was brought to a stop in a fraction of the time that it takes to bring the last car of a telescoping train to rest?

C. J. Smith, Traffic Manager of the Canada Atlantic Ry., speaking in Montreal late in Nov., said there was every indication that considerable freight from the Northwest would be moving east during the next two or three months. The strong position of the C.A. is, he said, giving the seaboard lines something to think about just at the present time. In the last two years the Co. has almost doubled the volume of its shipments from Lake Michigan, the grain deliveries at Parry Sound alone having amounted this year to nearly 11,000,000 bush, against 6,000,000 in 1898. The bulk of this business comes from Chicago & Milwaukee. Some time ago an officer of an all-rail route called attention to this rapid growth, remarking that it was another instance of the advantages Canadian lines have in being free from the restrictions of the Interstate Commerce law.

An attempt is being made by several American capitalists to substitute an elaborate & complete system of electric traction, in place of horses, upon the English canals. The country is extensively intersected by these water thoroughfares, & in the manufacturing districts, owing to freightage upon them being much cheaper than upon the railway, they constitute important means of transit. F. Hawley, Vice-President of the Traction Co., has also been surveying the canals of Holland, Belgium, & France, & has sought powers to introduce electric traction thereon. He has traversed over 3,000 miles of canals in all, & the concessions for this radical change have been granted in Belgium, where it is anticipated that the installation will be completed by next year. In England the scheme is only in an

embryo stage; but in view of the great success which has attended the introduction of electric traction for other purposes, there appears every probability of the Co. receiving the necessary permission. The Co. guarantees an economy of 40% in the cost of motive power. It will also sell power to manufacturers, & supply the neighborhoods through which the canals extend with a cheap source

of electric lighting. It is also explained that another advantage of the system will be that the position of any particular boat will always be known, so that the goods will not be lost sight of by the shipper from one end of the journey to the other. Under the present system of horse traction, owing to the location of the boat not being known, goods are often lost sight of for days.

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Oblong, square ends, size 12 x 3 inches, white ground, blue letters, lined and tipped, lettered horizontally, **Push, Pull**.

Oblong, fancy ends, size 3 x 1 1/2 inches, white ground, blue letters, lined and tipped, lettered **Push, Pull**.

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Bar Room.	Men.
Luggage Room.	Private.
Office.	No Admittance.
Refreshments.	No Road.
Exit.	Boarding House.
Fire Escape.	Private Board.
Lavatory.	Dressmaking.
Ladies.	Fresh to Day.
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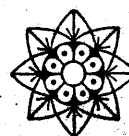
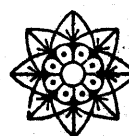
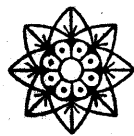
The Purchasing Agents' Guide

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

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

HUDSON'S BAY COMPANY

INCORPORATED 1870



TRADE DEPARTMENT

THE COMPANY HAS GENERAL STORES AT

BAIE DES PERES
 BATTLEFORD
 BISCOTASING
 CALGARY
 DELORAINE
 FORT FRANCES
 GLENORA
 KAMLOOPS
 LOWER FORT GARRY
 LETHBRIDGE
 MACLEOD
 MATTAWA
 PINCHER CREEK
 PORTAGE LA PRAIRIE
 PORT SIMPSON, B.C.
 PRINCE ALBERT
 QU'APPELLE
 TESLIN
 TOUCHWOOD HILLS
 VANCOUVER
 VERNON
 VICTORIA
 WABIGON
 WHITEWOOD
 WINNIPEG
 WINNIPEGOSIS
 YORKTON
 DINORWIC
 EDMONTON
 FORT WILLIAM
 MISSANABIE
 NELSON
 NEPIGON
 QUESNEL
 RAT PORTAGE
 SHOAL LAKE

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

LAND DEPARTMENT

THE COMPANY IS ENTITLED TO ONE-TWENTIETH OF THE

Fertile Belt of Manitoba

AND THE

Great North-West of Canada

IN ALL ABOUT

7,000,000 ACRES

These Comprise Some of the Best

Farming, Stock-Raising and Coal Lands in the Country

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

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

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

HUDSON'S BAY COMPANY

1 Lime Street, LONDON, E.C.

And to the Commissioner

HUDSON'S BAY COMPANY

Winnipeg, Canada