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GRAND TRUNK RAILWAY SYSTEM

LOW RATES

PACIFIC COAST AND RETURN

VANCOUVER, B.C., \$95.80
VICTORIA, B.C.,
SEATTLE, WASH.,
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SAN FRANCISCO, CAL., \$101.80
LOS ANGELES, CAL.,

HOMESEEKERS' EXCURSIONS

TO

Western Canada and Return

Tuesday, July 9th, and every second Tuesday thereafter until Sept. 17th. Tickets good for 60 days.

For full information apply to J. P. HANLEY.

Gen. Pass. Agent, Corner Johnson and Ontario Sts.

KINGSTON & PEMBROKE RAILWAY

IN CONNECTION WITH CANADIAN PACIFIC RAILWAY.

Low Rates Pacific Coast & Return

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For particulars at K. & P. and C. P. Ticket Office, Ontario Street, F. CONWAY, Gen. Pass. Agent.

ALLAN LINE

Royal Mail Steamers

St. Lawrence Season

MONTREAL TO LIVERPOOL, T.T.S. SS. "Victorian and Virginian," T.T.S. SS. "Tunisian and Corsican,"

Sailings every Friday.

MONTREAL TO GLASGOW.

T.T.S. "Graham and Hepperton," T.T.S. "Scandinavian and Preoria,"

Sailings every Saturday.

MONTREAL TO HAVRE AND LONDON.

Service of moderate priced ONE-CLASS CABIN fully steamers.

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Full information and tickets on application to J. P. Hanley, C. S. Kirkpatrick, G.T.Ry. Agt., Clarence St.

Agents in Kingston, THE ALLAN LINE, 77 Yonge Street, Toronto.

LAKE ONTARIO & BAY OF QUINTE STEAM-BOAT CO. LIMITED.

SS. North King & SS. Caspian

1,000 ISLANDS—ROCHESTER.

Commencing July 2nd steamers leave at 10.15 a.m. daily for Alexandria Bay, 1,000 Islands and Gananoque.

Returning leave at 5 p.m. for Rochester, N.Y., via Bay of Quinte, calling at Picton, Deseronto and Belleville.

Freight handled with despatch at reasonable rates.

J. P. HANLEY, Ticket agent, JAS. SWIFT & Co., Freight Agents, E. E. HORSLEY, General Manager.

CANADIAN PACIFIC EMPRESSES

Length, 570 feet. Breadth, 67 1/2 feet. Tonnage, 14,000.

Wireless and Submarine Signals. TOLD ALL RECORDS BETWEEN CANADA AND LIVERPOOL.

Lake Champlain July 10

Empress of Ireland July 12

Lake Manitoba July 15

Empress of Britain July 26

Lake Champlain Aug. 7

Empress of Ireland Aug. 9

Lake Manitoba Aug. 15

Empress of Britain Aug. 23

Lake Champlain Aug. 29

Empress of Ireland Sept. 6

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Tickets and all information from steamship agents or F. CONWAY, WAY, G.P.A., K. & P.B., Kingston, Ont.

BEST SUMMER TRIP

If you want the best summer trip to be had, take the

BLACK DIAMOND SS LINE

Sailings every Wednesday from Montreal down the St. Lawrence River to St. Johns, Nfld., calling at Quebec, Charlottetown, P.E.I., and Sydney, N.S.

\$60.00 and up, return fare including meals and berth. Every comfort & Marconi service, etc.

SS CITY OF SYDNEY and SS MONTREAL. Illustrated booklet "B" sent free upon application.

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MAGIC BAKING POWDER

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RADWAY'S READY RELIEF Cures Dysentery

Take from half to a teaspoonful of Relief in half tumbler of water, until the discharge ceases; also, wet a flannel with Relief, and keep it across the loins. The patient should confine himself to meat broths, crackers, toast and keep as still as possible.

LIME FOR SALE

DRURY'S Coal and Wood Yard, Phone 443, 232 Wellington St.

Electric Restorer for Men

Phosphorus restores every nerve in the body to its proper tension; restores vitality. Premature decay and all sexual weakness averted at once. Phosphorus will make you a new man. Price \$3 a box, or two for \$5. Mailed to any address. The School Drug Co., St. Catharines, Ont.

Quebec Steamship Company

LIMITED. River and Gulf of St. Lawrence

Summer Cruises in Cool Latitudes. "Cascapedia," 1,900 tons, with all modern comforts.

SAILS FROM MONTREAL ON THURSDAY, July 4th, at 4 p.m. 18th JULY, 19th and 29th AUGUST, and from Quebec the following day at noon for Picton, N.S., calling at Gaspe, Mal Bay, Percé, Summerside, P.E.I., and Charlottetown, P.E.I.

New York From Quebec.

Via the far-famed River Saguenay, calling at Gaspe, Charlottetown and Halifax, SS. Trinidad, 2,600 tons, sail from Quebec at 8 p.m., 12th and 26th July, 9th and 23rd August.

New York to Bermuda

Summer Excursions by the Twin Screw SS. "Bermuda," 10,518 tons displacement, sailing from New York at 2 p.m. 19th and 24th July, and every ten days thereafter. Temperature cooled by sea breeze, seldom rises above 80 degrees.

The finest trips of the season for health and comfort. For tickets and staterooms, apply to P. HANLEY, or C. S. KIRKPATRICK, Ticket Agents, Kingston, Ont. QUEBEC STEAMSHIP COMPANY, QUEBEC.

1-3 OFF STRAW HATS

Commencing Saturday

\$3.00 Hats - \$2.00

\$2.50 Hats - \$1.65

\$2.00 Hats - \$1.25

\$1.50 Hats - \$1.00

\$1.00 Hats - 65c

Children's Straw Hats

at same Rate

PANAMAS at \$5.00

Your choice of all our Best French Panamas up to \$10 each for \$5.00

The Bargains are Yours for the coming.

E. P. ENKINS CLOTHING CO.

KINGSTON CAN PRODUCE THE CHEAPEST POWER

(Continued from Page 1.)

ed, installed and operated practically the same as by steam with respect to labor requirements, wear and tear, maintenance, oil, waste, etc.

Cost of New Machinery.

The cost of sufficient new machinery to take care of the present railway and direct current light and power load, including buildings, foundations, etc., will amount to approximately \$29,150. This provides for just sufficient machinery to take care of the present load and allows no reserve for emergencies or increase of business on the direct current or railway systems.

To convert the alternating current to direct current, the use of motor generators, rotary converters or equal regulators, etc., will result in an average loss of power of approximately 12 per cent., therefore the cost of the Seymour power on the bushbars in the city's sub-station will be as shown in the summaries attached hereto.

This same expenditure of \$29,150 will almost provide for the purchase of new boilers and new steam engine with necessary piping, etc., double current generator, transformers, etc., take care of an additional 300 K.W. load.

5. In order to obtain 90 per cent. power factor required by the Seymour company, it would be necessary to use rotary converters or motor generators, and these machines must be designed to compensate for low power factor and act as rotary condensers. This is common practice and in some cases it makes the machinery cost 10 to 25 per cent. more than if the question of power factor did not require consideration.

The motors are all of small capacities and could not create any unprofitable peaks. With respect to power factor, good practice requires motors to be no larger than necessary to do the work when running at full load most of the time. The standard induction motors will, however, naturally take over-loads of 50 per cent. without injury. Small motors up to 15 H.P. may be single phase motors and have a power factor ranging from 75 to 100 per cent. One manufacturer guarantees 100 per cent. power factor for all motors.

The railway load fluctuating from 200 H.P. to 500 H.P. will have a greater variation than allowed under the Seymour company's tender, at least under present conditions. This may be taken care of by Tirrell regulator used in conjunction with a rotary converter or synchronous condenser. With peak loads of 1,100 H.P., load factor of 30 per cent., the annual kilowatt hours equals 2,168,100 K.W. hours. 1,100 H.P. purchased at \$25 per H.P. peak load basis, equals \$27,500, or 1,268 cents per K.W. hour for alternating current. However, the statistics furnished with the annual report for 1911 give the total station kilowatt output as 1,145,385 K.W. hours. This gives an annual load factor of approximately 12 per cent., and as 1,145,385 K.W. hours cost \$27,500, the cost per kilowatt hour would be 27,500/1,145,385 = 2.40 cents. K.W. hours equal 2.4c. per K.W. hour for alternating current, to which must be added the loss of power converting alternating current to direct current and interest on investment for buildings, machinery, etc., required to transform the alternating current, as shown hereinafter.

In regard to reduction in the engine room staff if the power is purchased, three men instead of four could operate the plant.

Would Increase Rates.

Provided power was purchased from the Seymour company, the city would not be able to lower the present rates, but instead, would be obliged to increase the present rates.

If 1,500 horse power is purchased at \$36 per horse power, at the hydro commission's sub-station, it would have to be sold at a price varying from \$15 to \$50 per horse power delivered, in order to cover the loss to the city's sub-station, cost of operating, cost of transmitting to customers, interest, depreciation and repairs on lines, transforming apparatus, etc. This figure is based on delivering power to customers located on an average of one-half mile from the city's sub-station. The price, of course, would vary according to conditions of use, location, power factor, load factor, etc.

Before the power is transformed to direct current the above price would have to be increased 15 to 20 per cent.

No Advantage to Waterworks.

With respect to the city's water works station, this station, if capacity of standpipe is only sufficient to supply water requirements for a few hours during parts of each day. As the underwriters would, in all probability, object to draining the reservoir and even though they did not object, it would not be a safe thing to figure on doing. The underwriters may even object to electric pumping from power received over a long transmission line, unless steam boilers were maintained ready for instant use. Therefore, there would be no advantage or gain by electric pumping.

In view of the above and assuming that 300 horse power must be purchased for pumping, there would be a loss by using electric power as against the present method. The cost of present and electric pumping is given in summaries hereinafter.

The Street Railway.

The street railway company now pay 1.15c. per K.W. hour. The revenue from this service for 1911 was \$3,553.40. Purchasing this power from the Seymour company on the basis of \$25 per horse power, plus loss of conversions to direct current, plus interest and depreciation, etc., on necessary investment, equals 330 horse power = 80 per cent. efficiency = 355 horse power = \$25 = \$8,875, plus interest, etc., of \$1,500 on the apparatus required to convert alternating current to direct current, makes the total cost of this power, \$10,375. This amount does not include the necessary labor to operate practically the same machinery as is now operated by steam. The above calculation is based on the railway

company's requirements for power being shown on railway load curves furnished.

Cannot Consider Hydro-Electric.

From the foregoing it is quite evident that the city cannot under present conditions consider the purchase of hydro-electric power at the flat rate price of \$25 per horse power, per annum. Unfortunately the existing conditions in Kingston are just diametrically opposite to what they should be in order to consider using purchased power on the flat rate basis. These conditions are:

Low load-factor of 12 per cent. No 24 hour storage for water works system.

Electric light and power plant and water works pumping plant separate.

Mixed lighting and power system, consisting of alternating current, 51 per cent. direct current, 49 per cent. street railway current, 20 per cent.

The street railway demand momentary peak loads of 400 to 150 horse power, and only using 352,000 horse power hours, giving a load factor of approximately 11 per cent.

Steam boilers cannot be discontinued at the waterworks for reasons stated hereinafter.

Steam for gas manufacturing being necessary the present boilers and labor to operate them must continue in service, even though Hydro-Electric power be purchased.

New Apparatus Needed.

In order to take care of the present and future increase of business it is apparent that in addition to the present boilers, engine and generating equipment will be necessary in the very near future.

A study of the situation may show that new boilers, a double current generator and engine, condensers, etc., could be installed in the present buildings. Such an addition to the present plant would take care of the city's requirements for a few years. In the meantime an effort should be made to concentrate a direct current system to the centre of the city, change all outlying direct current service to alternating current, and eventually change all direct current to alternating current if the purchase of Hydro-Electric power is to be considered at some future date. However, as long as the city continues to operate the street railway system, there will be no great necessity to entirely eliminate the direct current lighting and power system.

To change from steam to Hydro-Electric power on flat rate basis and show a saving, the conditions should be such as will permit the following: Discontinue use of boilers, discontinue

How's This? We offer One Hundred Dollars Reward for any case of Catarrh that cannot be cured by Hall's Catarrh Cure.

F. J. CHENEY & CO. Toledo, O. We, the undersigned, have known F. J. Cheney for many years, and believe him perfectly honorable in all business transactions and financially able to carry out any obligations made by him.

WALDING, KINNAN & MARVIN Wholesale Druggists, Toledo, O. Hall's Catarrh Cure is taken internally, acting directly upon the blood and mucous surfaces of the system. It is guaranteed to cure. Price 75 cents per bottle. Sold by all Druggists. Take Hall's Family Pills for constipation.

SCRANTON COAL

The kind you are looking for is the kind we sell. SCRANTON COAL is good Coal and we guarantee prompt delivery. Booth & Co. FOOT WEST STREET.

For Potatoes

Land Plaster will start the plants into vigorous growth

P. WALSH

55-57 BARRACK STREET.

IN FAVOR OF THE LADIES.

The satisfactory work we do in cleaning fine costumes brings us a large trade from the best people of city and country. Our methods and results are unequalled.

R. PARKER & CO., Dyers and Cleaners, 60 Princess St., Kingston, Ont.

FRESH ARRIVAL Ganong's Chocolates

The Finest in the City. 50 cents per pound A. J. REES 166 Princess St. Phone 58

use of running machinery, discontinuing greater portion of labor, good load factor, thirty per cent. to fifty per cent. and upwards.

All lighting and power service to be supplied direct from the alternating system.

Milling Company's Offer.

Referring to the proposal submitted by the Kingston Milling Company, limited, offering to supply power at three-quarters of a cent per K.W. hour, with a minimum supply of 200 H.P. during part of the year, and not more than 400 H.P. during the remaining portion of the year: The proposal would be attractive if the supply could be guaranteed at a minimum of 400 H.P. However, as the power supply falls off to 100 H.P. it would be necessary to increase the city's steam plant, even though a contract was made with the milling company. It may, however, be profitable to purchase power from the milling company during the winter months only, provided they have a surplus of 300 to 400 H.P. The proposal as submitted, however, would not save the present coal costs, but in order to use this power it will be necessary to install motor generators, rotary converters, etc., transform the power at a loss of twelve per cent., plus interest and depreciation and maintenance on running machinery, labor, etc.

Add to Steam Plant.

In view of the above it is evident that unless means of materially increasing the load factor of the city's system is in sight, or the Hydro Commission or Seymour company will supply alternating current and direct current power at present cost of steam power, exclusive of fixed charges on present investment, there remains but one method of caring for increased business, and that is, to add to the present steam plant.

The schedule contains an estimate of the probable cost of a 300 K.W. double current generator, engine, boilers, etc., to increase the capacity of the present steam plant by 400 additional horse power. This figure is approximate and will vary depending upon results of a study of the exact requirements and best method of increasing the plant. Respectfully submitted, R. S. KELSCHE.

To Add Machinery.

The members of the utilities committee present were Alds. Bagey (chairman), Elliott, Harrison, Bailey, Harty and Ross.

The report of Mr. Kelsch was read by the general manager, Mr. Folger, but there was very little discussion on it, all the members being of the opinion that it would be best to follow out the suggestion of Mr. Kelsch, along the line of making the necessary additions to the present plant, and action was taken along this line.

Mr. Folger will secure an estimate of the cost of the proposed expenditure for the two new boilers, generator, etc., wanted, when another meeting of the committee will be held, and the matter brought before a special meeting of the city council, as soon as possible.

Ald. Elliott pointed out that a good deal of time and thought had been given over to study of the power question, by the committee, and complaints had been made in some quarters, but the committee had, nevertheless, taken the best possible course in the matter, so as to give the best service to the people.

The chairman said that the report of Mr. Kelsch would be a great source of information to those who had been making a cry for the city to sign up for power, at once, and not to waste so much time over it.

Mr. Folger, in speaking of the present plant, pointed out that it would not be able to hold the city over this fall, at any rate. The increase in the number of consumers would necessitate alterations.

SPLENDID GROWTH MADE.

Every District in Alberta Expects a Record Crop.

Calgary, Alta., July 4.—The salient features of the crop reports from all over the province are the universally splendid growth made in every district following the recent timely rain and the increased acreage under cultivation. Given propitious weather during the next two months, there should be a record crop in Alberta. Both in the north and south spring wheat is heading out and has reached a growth varying from eight to twenty-four inches.

There is every indication also of a very good hay yield, the majority of points reporting excellent grass crops. Alfalfa is phenomenal and will far exceed any previous year. All crops are about two weeks ahead of the same period last year, and it is estimated that in Southern Alberta the yield will be sixty per cent. greater than last year. Winter wheat is averaging thirty inches and will be ready for harvesting within three weeks. Both oats and barley appear well advanced and in splendid condition.

In some wheat fields in the south where cutworms have done damage, flax has been substituted and is coming fast. Damage from any source has been slight and none is reported north due to cut worms.

So far there has been no loss through hail, though slight showers have fallen here and there. Farmers everywhere appear particularly optimistic as to the prospects of a bumper yield, for up to the present the amount of moisture from rains, and spells of heat following, have been most opportune.

SENATOR WILSON DEAD.

Resident of St. Thomas and Sat in Ontario Legislature.

St. Thomas, July 4.—Senator John Wilson died shortly after noon, at his residence here, yesterday, after a short illness. He was appointed in 1904.

Hon. John Henry Wilson, M.D., was born near Ottawa in 1834 and was educated at Victoria College. He was a member of the Ontario legislature (1871-9) and was elected to the House of Commons in 1882 and 1887.

Many farms south and north of Regina were wrecked in Sunday's cyclone.

James Loucks, one of the victims of the Regina cyclone, formerly lived in Ogdenburg.

Weather Probabilities:

Toronto, Ont., July 4th, 10 a.m.—Disturbance Valley and Upper St. Lawrence—Moderate westerly to southerly winds; clear and very warm today and on Friday, but a few scattered thunderstorms.

SPECIAL

Something Very New for Summer Wear

The New Blazer is being given great attention and has gained immense popularity in New York and other fashion centres.

We have for your inspection several yardage Blazer cloths—to be had at 60c in white ground with stripe of blue and stripe of black—Cream ground with narrow stripe and border of Saxe Blue and narrow stripe of black with border of red.

PATTERN 6917. Ladies' Home Journal Pattern

shows how this coat can be made very simply in several pretty designs.

WE INVITE YOUR INSPECTION.

Store Closes 5 p. m. daily—Saturdays excepted. Shop Early.

STEACY'S THE STORE OF SATISFACTION

CHEW KING GEORGE'S NAVY PLUG

For Sale Everywhere

THE ROCK CITY TOBACCO CO. LTD. QUEBEC

Dr. J. Collis Browne's Chlorodyne

THE ORIGINAL AND ONLY GENUINE.

Acts like a Charm in DIARRHOEA and is the only Specific in CHOLERA and DYSENTERY.

Checks and arrests those too often fatal diseases—FEVER, CROUP, AGUE.

The best Remedy known for COUGHS, COLDS, ASTHMA, BRONCHITIS. Effectually cuts short all attacks of SPASMS.

Is the only palliative in NEURALGIA, RHEUMATISM, TOOTHACHE.

Chlorodyne is a liquid taken in wine, graduated according to the malady. It invariably relieves pain of whatever kind; creates a calm refreshing sleep; allays irritation of the nervous system when all other remedies fail. Invariably has good effects; and can be taken when no other medicine can be tolerated.

INSIST ON HAVING Dr. J. COLLIS BROWNE'S CHLORODYNE.

The immense success of this Remedy has given rise to many imitations.

N.B.—Every bottle of Genuine Chlorodyne bears on the stamp the name of the inventor, Dr. J. Collis Browne.

CONVINCING MEDICAL TESTIMONY WITH EACH BOTTLE.

Sold by all Chemists. Prices in England: 1/6, 2/6, 4/6.

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