

THE SEMI-WEEKLY TELEGRAPH, ST. JOHN, N. B., FEBRUARY 26, 1902.

PLAN FOR TUNNEL UNDER THE HARBOR TO CONNECT CITY PROPER AND CARLETON

Held That the Scheme is More Feasible Than a Bridge—City Engineer Explains Project—How the Tunnel Could Be Laid.

How would you like to go by tunnel to Carleton? This is a possibility that looms up before St. John. And the scheme is pronounced eminently practicable. The considerations are very interesting.

In the near future the city council must consider ways and means for more closely connecting the east and west sides of the city of St. John. Doubtless among the early settlers landed on these shores and erected their humble homes on both sides of the harbor they did not entertain the question. If they had they doubtless would have banded all on one side and either St. John or Carleton might have been non-existent. At any rate, the city would probably not have occupied its present site. But at that time there were no prophets and the possibility of bringing St. John and Carleton into closer connection than nature intended did not occur to the people.

When the expansion of the then young city made such connection a matter worthy of serious thought, a boat ferry was devised, which, after a career of signal service, gave way to the steam ferry system.

As its inception this steam ferry was regarded as a marvel of ingenuity and enterprise, but whatever might have been thought of it then it is now certainly obsolete and a more up-to-date means of transit must be brought to light.

No but what the ferry has justified its existence, but the increasing trade of the west side, particularly in relation to the export of Canada's products to the marts of the old world, has made it imperative that the ferry must in time be supplemented by something else.

The city council has on several occasions, considered the building of a bridge, but there are many obstacles in the way. The only place where a bridge could be constructed, except at a cost which would be almost prohibitive, is at Navy Island, and even there the locality would not be the most convenient one for the present business interests of St. John and Carleton.

It would seriously interfere with navigation and this, in view of the fact that the shipping trade here is believed by many to be but in its infancy, is a grave consideration.

A few days ago the bills and by-laws committee was empowered to secure authority for the construction of such a bridge and the proposition then was to make the eastern terminus Union street and the western terminus near the old fort—Navy Island being utilized as a natural support for the centre of the bridge.

To make this practicable and so that it would interfere with navigation as little as possible it would seem necessary to construct two draws in the bridge, one on the eastern side of the island to permit of access to the I. O. B. terminal facilities, and the other at the western end to allow vessels of light draught to get through the falls and into the river at Indianhook.

The bridge might be built high enough to make the latter draw unnecessary, but in any case the original cost would be more than \$500,000 and the expense of maintenance considerable.

This is the condition in which the matter now stands and in this connection it will be interesting to know what City Engineer Hurd Peters proposed as an alternative more than 20 years ago, and to

which was then given considerable serious thought. He proposed a tunnel—a double subway, beginning near the head of the ferry floats on the eastern side of the harbor, proceeding along under Water street to the vicinity of Reed's Point, and thence curving across under the river channel in the direction of Rodney wharf, at the head of which it would emerge into daylight again. The total length of the subway would depend upon its depth. For instance, to descend and rise from a point 100 feet below Water street (which is about what was proposed by Mr. Peters, so as to pass under the harbor at sufficient depth to be out of the reach of disturbance by anchors of ships) requires a 1 per cent grade a distance of 2,000 feet. The same grade to ascend would give a total of 4,000 feet, or a few feet more than three-quarters of a mile.

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The manner in which Mr. Peters proposed to build the subway is substantially the same as that adopted by the engineers who built the London and Southwark subway, which was constructed by a Mr. Greathead, with Sir John Fowler as consulting engineer. That subway passed under the bed of the Thames. There were two tubes, one for traffic each way. Each tube was 40 feet in diameter and consisted of rings of segment of iron bolted together by internal flanges, and was built as the excavation proceeded. At the head of the subway there was a steel shield consisting of a cylinder six feet long and of sufficient diameter to slide easily over the portion of the subway already bolted together. The forward end of the cylinder was connected with a cutting edge, while about midway there was a bulkhead with a door in it. Through this aperture the workmen moved a part of the earth in front, cutting out a small chamber, considerably less in diameter than the shield. This done, the shield was forced forward by six hydraulic rams, fed by two hand pumps. The hydraulic cylinders were bolted to the shield, while the ram-heads abutted against the last ring of the completed tunnel. The cutting edge cleared the exact circle of the earth, forcing the material into the space prepared for its reception, from which it was dug out and loaded through the door into the tube for its removal.

As the shield moved forward it left at its rear an annular space between the iron and the surrounding earth, and this was immediately filled with grouting of cement to protect the iron from corrosion and to prevent any subsidence of either the tunnel or the ground.

The grouting is raised in a wrought iron vessel provided with paddles, to be worked from the outside. The vessel is closed and compressed air at a pressure of 30 or 40 pounds to the square inch is admitted to it, while the paddles are kept at work. By means of a hosepipe with a nozzle the grouting is forced through holes in the iron until the cavity is filled with a shell of cement, which fits exactly and forms an impervious coat around the iron, protecting it from moisture and oxidation. The holes are closed at the end after the shield has been moved forward a ring of segments is bolted in—the rate of progress in the London-Southwark subway being about 10 feet a day. Clay, mud, gravel and boulders have been dealt with and removed without difficulty, and rock also by the insertion in the front of the shield of a shaft carrying a diamond-tipped roller. There is no water to be met with, the tunnel being absolutely tight and no subsidence of the surface, as the space excavated is immediately filled with grouting.

It would have the further advantage over a ferry of being open at all times of the day or night without liability to interruption from fogs, storms, the disabling of a ferry steamer or other causes.

An estimate made when the plans were drawn up showed that such a subway would cost the city between \$700,000 and \$800,000. Assuming the money could be borrowed at four per cent, the annual interest charge would be \$30,000 to \$32,000—little more than the cost of ferry maintenance.

If the system of tolls was maintained, the possibility was that it might have become self-supporting, as communication would be always open. It was thought if construction was carried on from both ends simultaneously the subway could be completed in about seven months from the date of awarding the contract.

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Her husband and daughter, Mrs. F. H. Ellis, were with her. Mrs. Baird leaves many relatives and friends who deeply regret her death. W. W. Baird is a son.

Thomas H. Dunphy, Kingsclear. Fredericton, Feb. 23—(Special)—The death occurred at Kingsclear, N. B., last night, of Thomas H. Dunphy, one of the oldest and best known residents of the county. Heart failure was the cause. He was 79 years of age, and is survived by two sons, Austin, foreman of the Herald office, Tyler, of St. John, and two daughters, Mrs. Miller, of St. Paul, and Mrs. Charles Herrin, of Roxbury.

Mr. Dunphy in the old stage coach days, conducted a popular hotel at Springhill, and carried her majesty's mails for a number of years. He was at one time a municipal councillor for Kingsclear. Of late years he has made his home at Springhill, and was one of the old hand men of the place. The funeral will take place at 11 o'clock Monday. Interment at Pickard burying ground, Douglas.

Mrs. Charles Burrill. Mrs. Charles Burrill, widow of the leader of the Carleton Corner band, who died several months ago, passed away Sunday evening after a short illness, aged 40 years and leaving three sons.

Dr. Francis H. Russell. Farmington, Me., Feb. 24.—Dr. Francis H. Russell, aged 54, died this afternoon of paralysis of the throat. He was probably the best known practitioner in this part of Maine.

A. N. Tupper, Truro. Truro, N. S., Feb. 24—(Special)—A. N. Tupper, aged 76, justice of the peace, agent of several fire insurance companies and prominent citizen, died Sunday morning of pneumonia. He was ill a week. Deceased came to Truro about 20 years ago from Stovington, N. B. He was a strong supporter of the Congregational church in this town. He leaves a widow and adopted daughter, Mrs. A. M. Tupper. The funeral will be Wednesday morning, interment at Stewiack.

Mrs. Samuel Green. Fredericton, Feb. 22—News was received yesterday of the sudden death of heart disease, at Hurd's Park, on Thursday last, of Mrs. Samuel Green, sister of F. E. Rabbit, of Gibson, aged 60 years. She leaves a husband, two sons and four daughters.

Arthur B. Swift, Lawyer. Fall River, Mass., Feb. 22—Arthur B. Swift, senior member of the law firm of Swift & Grime, died today, aged 62 years.

Dr. Coventry Windsor, Ont. Windsor, Ont., Feb. 22—(Special)—Dr. Coventry Windsor, medical health officer of Windsor, died last night of pneumonia.

John W. Cooke, Ingersoll, Ont. Ingersoll, Feb. 23—(Special)—John W. Cooke died this afternoon. He had been identified with business interests for years, and was a large exporter.

Miss Mattie Doherty. Miss Mattie Doherty died at the General Hospital Thursday evening. Miss Doherty was about 70 years of age and a native of Salmon River, Queens county.

Keturah Lacke. On Feb. 15th there occurred at Upperham, Kings county, the death of Keturah Lacke, aged 18 years, who died at the age of 18 years. Death was due to consumption.

Funeral of Rev. D. M. Bliss. Amherst, N. S., Feb. 23—(Special)—The funeral of Rev. D. M. Bliss, for 50 years rector of St. Mark's church, Westmoreland, took place this afternoon, and the large number of people, many from a distance, who assembled, testified to the high esteem in which deceased was held. The services were conducted by Rt. Rev. Bishop Kingston, Fredericton; Rev. C. Wiggins, Sackville, and Rev. Mr. Quinn, chief of St. Mark's church, Amherst. Present were Rev. R. Campbell, Dorchester; Rev. A. J. Creswell, Amherst; Rev. R. Marshall, (Methodist), Point de Bute, and Rev. H. Hooper, son-in-law of deceased. In the congregation were many who had sat under his ministry for 50 years. The services were most impressive. The interment took place at St. Mary's burying ground. Among the mourners besides the immediate family were Col. Stewart, Halifax, Stipendiary Townsman, Amherst, and Mr. Hennessey, of Bangor.

WANTED. Our New Household Manual is one of the most valuable books we every offer. It is a pocket volume, packed with information of great importance to the household. It contains a complete directory of the family. It is a book that should be in every home. It is a book that is read with interest and pleasure. It is a book that is read with interest and pleasure. It is a book that is read with interest and pleasure.

SALESMAN WANTED—A young man having had two or three years experience in the Dry Goods and Boot and Shoe business. Must have good references. Any information or work apply at once. P. O. box 77, St. John, west. 2-19 dw.

MONEY TO LOAN. MONEY TO LOAN on city, town, village or country property in amounts to suit at low rate of interest. H. H. Pickett, solicitor, 20 Princeps street, St. John.

FOR SALE. VALUABLE FARM FOR SALE or Rent in Sussex, known as the Moorbury Farm. For particulars inquire of T. Setton, Moncton. 1-29-2009-9

MEDICAL PRACTICE FOR SALE—A large general practice in a thickly settled and growing town. The most profitable and desirable. Included in the sale is a fitted up with every modern convenience. Good outbuildings, barn, garden, etc. Correspondence mutually confidential. Address: "Doctor," care of Telegraph, St. John, N. B. 2-10 1m d&w

SLOOP ADRIFF. WHITE SLOOP MAGDALENE, of St. Andrews, N. B., which parted from her moorings at 10 o'clock on M. Feb. 2nd, and was blown to sea. Liberal reward for her recovery if found. Any information thankfully received. Address: JOSEPH THOMPSON'S MACHINE WORKS, 24-25 Bay Street, St. John, N. B. Tel. 92.

MANCHESTER, ROBERTSON & ALLISON ST. JOHN, N. B. GLOBE-WEARICKE "ELASTIC" BOOK-CASE (A system of units; ten, or a dozen books, one unit—more books more units, and get them as wanted. Grades and prices to suit all tastes and requirements. An ideal book-case for the home. Call and see them or write for booklet.)

DOWLING BROTHERS, 95 King Street. New Wash Goods. New Wool Dress Goods. 200 Pieces New Wash Goods, 100 Pieces New Dress Goods including Plain Scotch Zephyrs, Stripe Zephyrs, Organdy Muslins, Dimity Muslins, Honiton Muslin. Batistes and Gauzy Grass Linen for making up over colored linings. Colors: Pinks, blues, light greens, grays, rears, linen colors and fancy floral designs on white grounds. Prices: 10c, 12c, 14c, 15c, 16c, 18c, 20c, 30c yard.

DOWLING BROTHERS, 95 King Street. ARCHBISHOP CORRIGAN INJURED IN CHURCH. NEW FURNACE STEAMER. Public Notice. EPPS'S COCOA. FEED FLOUR. JAMES COLLINS, 208 and 210 Union Street, St. John, N. B.

Public Notice. IS HEREBY GIVEN that all persons owing arrears of rates and taxes in the Several Parishes in the Municipality of the City and County of Saint John are required to make immediate payment to the undersigned, at his office, No. 42 Princeps Street, in the City of Saint John, otherwise legal proceedings will be commenced to enforce such payment. Dated the 22nd day of January, A. D. 1902. By Order, GEO. R. VINCENT, Secretary.

CURES WEAK MEN FREE. Send Name and Address Today—You Can Have It Free and Be Strong and Vigorous for Life. INSURES LOVE AND A HAPPY HOME. L. W. KNAPP, M. D. How any man may quickly cure himself completely brood me up. I am just as after years of suffering from sexual weakness, lost vitality, night losses, varicocele, etc., and enlarge small weak organs to full size and vigor. Simply send your name and address to Dr. L. W. Knapp, 1669 Hill Street, Detroit, Mich., and he will gladly send the free receipt with full directions so that any man may easily cure himself at home. This is certainly a most generous offer and the following extracts taken from his daily mail show what men think of his generosity: "Dear Sir—Please accept my sincere thanks for yours of recent date. I have given your treatment a thorough test and a benefit has been extraordinary. It has