

office, Cornwall.—The Minister of Public Works states that he will recommend the plan in the Dominion estimates of a large sum to improve the French river from its mouth to Lake Nipissing, a distance of 50 miles. The building of three dams and three locks will be required.

TORONTO, ONT.—Symons & Rae, architects, 35 Adelaide st. East, want tenders by 5 p.m. Thursday, 25th inst., for the erection of a hospital at Upper Canada College, including carpenter, plastering, painting, plumbing, heating and concrete work.—At the annual meeting of the Bloor Street Baptist church held last week, it was stated that it was proposed to enlarge the present auditorium so as to provide increased seating capacity for 300 persons. At a meeting of the Board of Management of the Working Boys' Home held last week, it was decided to begin the new building in the spring if the present premises on Frederick St. can be disposed of.—The authorities of the G. T. and C. P. Railway Companies are considering plans for increasing the baggage and express facilities at this place.—The county offices in the new municipal building will be furnished immediately.—Ald. Burns, Chairman of the Property Committee, points out that questions to be considered this year will include the extension of the cattle market and improvements and extensions to fire halls and police stations.—The Heinz Pickle Co., of Pittsburgh, Pa., have decided to erect a factory in this city, and have been in communication with the Assessment Commissioner regarding a site.—W. Mortimer Clark gives notice of application to parliament for the incorporation of a company to build a railway from this city to Colingwood.—Building permits have been granted as follows: W. Willis, two-storey brick dwelling, south side Bismark ave., cost \$1,400 (M. Wilmott, architect); T. J. Applegath, alterations to store front, wood and glass, 145 Yonge street, cost \$850 (F. H. Herbert, architect, R. G. Kirby, builder); Arthur Mitchell, two-storey wood and rough-cast dwelling, Wright avenue, near Sorauren, cost \$900; Arthur Harvey, two two-storey wood and rough-cast dwellings, Wright avenue, cost \$1,000 each; Robert Simpson Co., six-storey brick, stone and steel addition to store, 164 Yonge street, cost \$40,000 (Burke & Horwood, architects, E. Witchall & Co., builders).

FIRES.

J. W. Beck & Co.'s wholesale warehouse at Winnipeg, Man.; loss \$20,000, covered by insurance.—Furniture factory of R. S. Porteous at Stratford, Ont.; loss \$5,000, insurance \$3,000.—Office of the Pictou Advocate at Pictou, N.S.; plant valued at \$6,000.—A report from Skagway states that a large part of the business portion of Dawson has been destroyed by fire, the loss exceeding \$500,000.

CONTRACTS AWARDED.

PORT COLBORNE, ONT.—Residence for Philip Grobb. Reichman & Anthes, contractors.

MULGRAVE, N.S.—Simmons & Burpee, of St. Marys, have been awarded the contract for building a wharf at this place; price about \$25,000.

ST JOHN, N.B.—The Lordly Manufacturing Co. have been awarded the contract for furniture for the new Indian-town school.—Alterations to Merchants' Bank: Masonry work, John Flood; carpenter work, Edward Bates.

BROUICHÉ, N.B.—James Barnes, M.P.P., of this place, has secured the contract for erecting a telephone line between Fredricton and Chatham, for the New Brunswick Telephone Co. He will supply the necessary poles, cross-arms, etc.

STEEL AND CEMENT FACING FOR A PROTECTION PIER.

The pivot pier of the draw span for the Davenport, Rock Island & Northwestern Railway at the Davenport crossing of the Mississippi River, is exposed to floods and very heavy ice flow, and is protected by an upstream fender pier. This is a continuous timber crib 26 feet wide, 250 feet long and 28 feet high, built in water 7 feet deep at its low stage. The crib is strengthened by four interior longitudinal walls and by transverse walls 8 feet apart. At the upstream end the sides converge to form a nose with an angle, measured in plan, of 90 degrees at the point and 45 degrees at each shoulder. The cutting edge is battered 6 inches to the foot.

A facing of heavy steel plates was proposed to protect the inclined surfaces of the nose, but as this involved a plank sheathing and it was difficult to secure the plates, it was determined to use old rails instead. These were procured, practically from scrap, in 28-foot lengths, and of a section which had originally weighed 56 pounds per yard. They were spaced 5 inches apart centers, and spiked on each side in the ordinary way to each horizontal course of the crib. In addition they were secured by drift bolts through holes drilled in both sides of the base so as to afford additional resistance to overturning, and for the same reason several of the rails on each side of the nose and at the shoulder were bolted together through their webs.

The space between the rails was filled with one-to-one mortar of Portland cement, well tamped. This work was done as low down on the crib as possible, in a season of low water. The weather at the time was cold and the materials for the mortar were heated and applied only during the middle of the warmest days. The work was subjected to an unusually heavy flow of thick ice during the first winter and in the following spring showed no signs of wear or deterioration. The work was executed by the employees of the railroad company under the supervision of Mr. C. F. Loweth, chief engineer.—Engineering Record.

BUSINESS NOTES.

Caron & Racicot, plumbers, Montreal, have dissolved partnership.

Chatillon & Page, plumbers, Montreal, have registered partnership.

The dissolution is announced of Gamelin & Huot, architects, Montreal.

Andrew Clanahan, builder, of Glencoe, Ont., is reported to have assigned to C. B. Armstrong.

A meeting of the creditors of J. A. Frappier, architect, Montreal, was held on Monday last.

Cossette & Frere, builders, Valleyfield, Que., have dissolved partnership, O. Cossette continuing.

Labelle & Deschamps, plumbers, Montreal, are said to be offering to compromise with their creditors.

Alex. Desmarteau has been appointed curator of the estate of C. Narbonne, contractor, Longueuil, Que.

PRIZE FOR BRIDGE DESIGN.

The government of New South Wales, Australia, is offering a prize of £1,000 for the best competitive design submitted before August 1st, 1900, for a bridge to be built across Sydney harbor. The estimated cost of the bridge is £500,000.

The great difficulty hitherto experienced with cast or wrought iron objects coated with enamel is the unequal expansion and contraction of the two substances, this causing a splintering of the enamel, but M. Sagliot lately brought before the French Societe d'Encouragement pour l'Industrie Nationale the results of his experiments in this connection, that have enabled him to constitute a whole series of enamels having various degrees of expansion. It appears that enamels containing cryolite, flourspar, and a little rutile, or native titanitic acid, possess very high degrees of dilation, and that cast or wrought iron, coated with calcareous enamels containing no lead, which are not at all injurious, may be formed by using boric acid.

The paper by Mr. Bernard Drake on "Some Practical Hints on the Production and Use of Electricity for Lighting Country Houses," mentions many points often neglected in the management of the electric lighting of a house which, when attended to lead to greater economy and a more restful illumination. For example, when lamps are placed against walls, it is better to shade them only in front, and so obtain the full advantage of the reflection of the wall. An eight-candle power lamp under these circumstances produces a better illumination than a sixteen power lamp shaded all round. Mr. Drake showed a very striking experiment, proving conclusively that a frosted glow-lamp produced a better illumination than a clear lamp of the same candle power as measured by a photometer. Each of the lamps was placed in a box open at the top and covered with dark green cloth inside.—The Builder.

A very important point has been elucidated by Dr. Heinics, who conducted in Germany the following experiments: He took equally large pieces of oak, poplar, and pinewood and of iron and cement plates, and covered each piece with oil paint, size paint, lime paint, or enamel paint, as well as with a few proprietary compositions. After the paint had dried perfectly, the plates were coated with cultures of various disease inciting bacteria. In this condition the plates were laid in an incubator, in which an ordinary room temperature was maintained. From time to time a little was scraped off from the surface of the plates in order to examine them as to the amount of live bacteria present. The result was that upon oil paint coatings the bacteria were found to die off quicker than on articles coated with other pigments. On enamel paint the bacteria die more slowly, and still slower on lime and size paint. This heterogeneous behavior is probably not due to the chemical properties of the paints, but to the different physical qualities, especially to the fact that the liquids containing bacteria dry more slowly or quickly upon the various paints. Professor Loeffler attaches considerable practical importance to the result, and recommends the use of only oil paint in hospitals, schools, barracks, and other buildings.