

follows:—Mr. Hopkins, 3 storey bk. hotel, s. w. cor. Church and Carleton sts., cost \$13,000. F. H. Herbert, architect; E. J. Lennox, architect, re-erection of warehouse, 34 Wellington street w., cost \$4,500; R. Lennox, 3 storey bk. hotel, 829 Yonge st., cost \$8,000; Michael Fennell, alterations to dwellings, 104-6 Farley ave., cost \$2,000; J. Y. Reid, to rebuild 27-29 Wellington st. w., cost \$9,000.—The rebuilding of Webb's building will be open for tender next week at the office of Mr. E. J. Lennox.

FIRES.

The residence of James Costello, at Westmeath, Ont., was burned recently. Loss above insurance, \$800.—The residence of William Matthews, at Lakefield, Ont., has been burned. Loss, \$1,000; no insurance.—Dalton & Co.'s general store at Carberry, Man., which also contained the post-office, was burned on Tuesday last. Loss, \$14,000; insurance on building \$2,000.—The Hudson Bay Co.'s flour mill, at Prince Albert, N. W. T., together with the elevator was consumed by fire on the 25th inst.—James Minchinton's residence at Napanee, Ont., was burned recently. No insurance.—The Patron store at Hepworth, Ont., owned by Geo. Moore, was burned on the 21st inst. Loss covered by insurance.—A store at Stratford, Ont., owned by S. R. Hesson, was destroyed by fire last week.—The stables of the Halifax Street Railway Company were totally consumed by fire on the 21st inst. Sixteen cars were burned. The loss is only partially covered by insurance.—R. H. Toy's bake shop at Kingston, Ont., was destroyed by fire recently. Loss, \$3,000; insured.

CONTRACTS AWARDED.

QUEBEC, QUE.—P. Boulanger has been given a contract to erect a residence for F. X. Jobin, St. Roch's, at a cost of \$9,000.

HULL, QUE.—F. Gougeon, contractor, of this town, has been awarded the contract for the erection of a villa residence at Wakefield for H. Bate.

PRESTON, ONT.—The contract for the erection of an opera house has been awarded to Henry Wildfong, of Berlin. The promoter is Otto Homuth. The building will be two storeys, 64x75 feet.

MONTREAL, QUE.—Messrs. Wright & Son, architects, have awarded contracts as follows, for alterations to the Ottawa building for R. H. Stephens: carpenter and joiner's work, S. Anderson; iron work, R. Donaldson & Son.

COLLINGWOOD, ONT.—The contract for building Mr. Tucker's house, which is to be brick cased, was let to D. Peterman & Son last week, for the sum of \$1,462.—Messrs. Stevens & Burdette have received the contract for removing the obstructions out of Mad and Nottawasaga rivers. The work was let by the corporation of Sunnidale township, and the amount to be paid for the work is \$3,464.

OTTAWA, ONT.—The Board of Works have awarded tenders as follows for the supply of limestone for macadam purposes: east of the canal, John Holt, 50 toise at \$3.65 per toise (delivered); Victor Laporte, 20 toise at \$3.65; John Sullivan, 20 toise at \$3.65; C. B. Wright & Co., 115 toise at \$1.50 per toise at the quarry. West of the canal: Thos. McLaughlin, 270 toise at \$1.50; John Mahony, 50 toise at \$3.80; G. Bishoprick, 50 toise at \$1.25 at the quarry.—The following are the tenders received by the Board of Works for the asphalt of Bank and Sparks streets: the Warren Scharf Co., New York, Trinidad asphalt, \$4.85 per sq. yard, granite tothing, 90 cents per lineal foot, dressed limestone curbing, \$1.05 per lineal foot; Bastien and Valiquette, Montreal, rock asphalt, \$3.94, Trinidad, \$4.00, Bermuda Lake, \$4.50, granite, 75 cents, limestone

curbing, 70 cents; Heney and Smith, Ottawa, rock, \$3.05, Trinidad, \$3.02 1-2, Bermuda Lake, \$3.00, granite, 80 cents, limestone, 40 cents; Patrick Burns, Ottawa, rock, \$3.75, Trinidad, \$3.50, Bermuda Lake, \$3.50, granite, 60 cents, limestone, 60 cents; Jas. Cochrane, Montreal, for Sparks st., rock, \$4.04, Trinidad, \$3.81, Bermuda Lake, \$4.00, granite, 59 cents, limestone, 53 cents, for Bank st., rock, \$4.03, Trinidad, \$3.86, Bermuda, \$4.49; S. Poulin, Ottawa, rock, \$3.66, Trinidad, \$3.50, Bermuda, \$3.45, granite, \$1.25, limestone, 75 cents; Alex. MacLean, Ottawa, rock, \$4.05, granite, 45 cents, limestone, 50 cents; Baskerville, O'Connor, Cassidy and Loughran, rock, \$4.53, Trinidad, \$4.25, Bermuda, \$4.25, granite, 50 cents, limestone, \$1.00. The tender of Heney & Smith, of Ottawa, has been accepted by the Board, the total amount of their tender being \$28,680 for Sparks st., and \$22,818 for Bank st., which is \$7,125 less on the whole than the city-engineer's estimate.—Contracts have just been awarded for the building of three more 10-mile sections of the Ottawa, Arnprior and Parry Sound railway. The contractors are, E. Fauquier, O'Neil & Ferguson and Poulin Fitzpatrick. Mr. Fauquier will construct the first ten miles west of the present terminus of the line at Long Lake, O'Neil & Ferguson the next ten miles westward of Mr. Fauquier's section, and Poulin & Fitzpatrick the 10 miles eastward from Emsdale, the present terminus of the Parry Sound and Colonization railway. Between O'Neil's and Poulin's contracts, there remains 40 miles yet to be contracted for, and it is possible that these sections may not be constructed until next year.

CAISSONS V. DOCK GATES.

At a recent meeting of the Civil and Mechanical Engineer's Society, a paper was read by Mr. A. W. Ackermann, entitled "Caissons v. Dock Gates." He gave a concise history of caissons, which were apparently first used in France at the port of Rochefort in the year 1728 A. D. There is, however, some evidence of their having been used at a much earlier date by the Venetian Republic. General Bentham first introduced them into England for use in H. M. Dockyard, Portsmouth. The early caissons were constructed of wood and heavily ballasted. Iron caissons were first used at H. M. Dockyard, Woolwich. No great improvement in their design took place until 1865, when the extension works of H. M. Dockyards, Chatham and Portsmouth, were undertaken by Sir Andrew Clarke, R. E., K. C. M. G., Director of works for the Admiralty. The principles involved in designing caissons were explained. The advantages of caissons over dock gates were forcibly pointed out. The difference between ship and sliding caissons was clearly described, together with numerous details of their construction and the machinery used in connection with them.

CEMENT MIXER.—A practical and convenient apparatus has been devised by which much of the labor and trouble involved in the mixing of cement is saved. It consists of a substantial bowl of cast brass fitted with cross-arms, easily removable, which furnish a bearing for a center crank shaft. The hand crank, when rotated, transmits its motion to a short crank in the bowl. This crank carries a paddle which circles in the ma-

terial in the bowl, and, at the same time, a pinion on top of the paddle shaft engages with a fixed annular gear, which causes the paddle to rotate on its axis—the combined movements thus given to the paddle mixer producing a thorough distribution to all parts of the contents. An advantage of special note in this mixer is that it is constructed entirely of brass, except the hand crank outside. When ready to empty the bowl, all the working parts can be removed in a moment by drawing out a couple of pins.

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