

to be received by the Secretary, Alexander Robertson, before Tuesday the 18th inst.—The Royal Electric Co. propose to erect new workshops and make other improvements.—Tenders are being called by W. E. Doan, architect, for the reconstruction of the organ at St. Patrick's church.—Building permits have been granted as follows: A. Collin, two 2 story brick tenement buildings on Breboeuf st., cost \$1,600; alterations to store, cor. German and Vitre sts.; L. R. Bardon, brick store, cor. St. Denis and Rachael sts., cost \$1,675; P. J. Murray, two story brick tenement building, cor. Shaw and Kent sts., cost \$1,200; Thos. Styles, three story brick tenement building on Conway st., cost \$3,000.

TORONTO, ONT.—Mr. Geo. W. Gouinlock, architect, has just completed plans and will receive tenders for a brick residence to be built on lot 3, con. 1, East York Township for Mr. A. H. Dewdney.—The H. P. Davies Co. are said to be considering the erection of a factory for the manufacture of bicycles.—Parker & Co., 388 Spadina ave., want tenders for erecting a workshop.—The Universal Knitting Co. have applied to the City Council for a site on which to erect a new factory.—The new building proposed to be erected by the Metallic Roofing Co. will cost upwards of \$10,000. Tenders will be invited by the High School Board for new steam pipes at Harbord street Collegiate Institute.—A movement has been started to build a bicycle track and club house in the west end of the city. A committee from the Inter-Club Association, which is composed of representatives from the different clubs, has the matter in hand, and will report on the most suitable available location.—R. A. Smith, Secretary Toronto Ferry Co., invites tenders until Monday next, the 10th inst., for moving back the Hotel Hanlan on Toronto Island and for the erection of a new foundation for the same. Plans and particulars may be obtained from A. R. Denison, architect, 20 King st. west.

OTTAWA, ONT.—The Waterworks Committee has decided to purchase a number of hydrants.—Tenders are invited by A. Benoit, Secretary Militia Department, until Tuesday, the 18th inst., for the erection of monuments at Chateauguay, Que., and Lundy's Lane, Ont. Plans may be seen at the above department, in this city, and at the office of the Deputy-Adjutant General in Montreal and Toronto.—A petition is being circulated asking for the paving of Sparks street with rock asphalt. It is proposed to have the work done next summer.—At a recent meeting of the Pontiac and Pacific Junction Railway Company, it was decided to make Black river the terminus of the road for the present. To extend the line to Pembroke, as proposed, would require the construction of two bridges over the Ottawa river at Allumette Island, at a cost of \$200,000, which amount the company were not prepared to expend at present.—The C. P. R. authorities have proposed a new agreement regarding the construction of the Montreal and Ottawa Railway. They will bind themselves to construct and operate the road as far west as Alfred village during 1895, to expend \$50,000 on construction work westward from Alfred, in addition to the \$100,000 which they have in the Dominion Government's agreement bound themselves to expend during the year 1896. The agreement has been signed by Vice-President Shaughnessy and forwarded for the approval of the Ontario Government.—At a meeting of the City Council held on Monday last, it was resolved to call for tenders to be received until January 30th next.

FIRES.

Two frame dwellings at Kingston, Ont., owned by Mrs. Miller, were burned last week. They were insured for \$800.—Trueman Bros.' large saw mill at Irumanville, N. S., was destroyed by fire on Friday of last week. The mill was comparatively new and was valued at \$2,000.—Fire at Colborne, Ont., on the 30th

ultimo, destroyed the following buildings: T. H. Peterson's block, insurance, \$1,200; Thos. Brown's block, insurance, \$4,000; Yeaman's buildings, including dwelling, partially insured; Burleigh's livery stables, insured, and Simmon's block, insured for \$1,200.—The store of Joseph Beaudin, at Buckingham, Que., was totally destroyed by fire last week. The loss is estimated at \$20,000.—The shingle mill of Cowan & McGinty, at Marble Cove, near St. John, N. B., was consumed by fire a few days ago. The mill was valued at \$14,000 and was insured for \$4,000.—The Union hotel at Cookstown, Ont., was burned on Tuesday last. The building was owned by Mrs. Stephen Clement, of Brandon, Man., and was valued at \$2,500; insurance, \$1,500.—James Tierney's outbuildings and James Davidson's residence at Fallofield, near Ottawa, were burned a few days ago. Loss, \$10,000.

CONTRACTS AWARDED.

OTTAWA, ONT.—The contract for a new dairy building at Rideau Hall has been awarded to Hugh Gilmour. The cost will be about \$2,000.

VIRIDIAN, MAN.—The contract for erecting the new town buildings has been let to J. C. Saul and Geo. Marshall. The contract price is \$4,125.

MONTE BELLO, QUE.—The contract for erecting a new R. C. church has been let to Mr. Fautoux. Work will be commenced in the spring, and the cost will be about \$20,000.

HAMILTON, ONT.—The Philadelphia Engineering Company have awarded the contract for brickwork in connection with the smelting works to Ald. Wm. Hancock. About 250,000 brick will be required.

TORONTO, ONT.—The Metallic Roofing Co., of this city, have supplied 40,000 square feet of the "Owl" brand galvanized corrugated iron for the new works of the Sydenham Glass Co., Wallaceburg, Ont., also a large quantity of their roofing for the new mill of the St. Anthony Lumber Co., at Murchison.

MONTREAL, QUE.—W. E. Doran, architect, has awarded the contract for the new interior wood work of St. Patrick's church to Paquette & Godbout, of St. Hyacinthe, Que.—W. McLea Walbank, architect, has awarded contracts for alterations to residence on Sherbrooke st., for S. Davis as follows: masonry, Wighton & Morrison; carpenter and joiners' work, Wm. Swan; roofing, Jos. Thibault; plastering, Decary, Beaudoin & Beaudoin. Also for the painting and glazing of a summer residence for E. K. Greene, at Dorval, Que., to G. S. Kimber.—A. C. Hutchison, architect, has awarded contracts for a fire station at Cote Ste. Antoine as follows: masonry and brickwork, Geo. Morrison & Co.; carpenter and joiners' work, roofing, plumbing, painting and iron work, John Morrison.

NEW COMPANIES.

OTTAWA, ONT.—Ottawa Porcelain & Carbon Co., seeking incorporation; capital \$100,000; applicants, J. W. McRae, Thos. Ahearn, Thos. Birkett and others.

PRESCOTT, ONT.—Prescott Electric Co., seeking incorporation, capital \$250,000, applicants, J. W. McRae and Wm. Scott, of Ottawa, N. Willard, of Prescott, and others.

TORONTO, ONT.—Mica Boiler Covering Co., applying for incorporation; capital \$50,000; applicants, Horace Thorn, A. D. Benjamin, John Foy, Nicol Kingsmill and others.

SHERBROOKE, QUE.—Royal Paper Mill Co., applying for incorporation; capital \$400,000; to manufacture pulp paper and lumber; applicants, W. B. Ives, F. P. Buck and others.

PERTH, ONT.—Facer Hammered Solid Steel Car & Locomotive Wheel Co., applying for incorporation; capital \$150,000; to manufacture steel wheels. A. T. Wilson, of this town, is one of the promoters.

MONTREAL, QUE.—Dominion Rubber Reclaiming Co., incorporated; capital

\$100,000; charter members, Wm. Clendinning, Wm. Currie, W. T. Costigan and W. D. Lighthall, of Montreal, and Francois Dagenais, of St. Henri.

ST. JOHN, N. B.—Portland Rolling Mills Co., Ltd., seeking incorporation; capital \$200,000; incorporators, J. C. Robertson, J. Mowat, C. A. Palmer and T. Miller, of St. John, and J. D. Chipman, of St. Stephen.

BUSINESS NOTES.

Chas. G. Brodeur, plumber, Montreal, has assigned.

Bowes & Lahey, pair ers, Dartmouth, N. S., have dissolved partnership.

D. Quesnel, of Quebec, Sharpe & Co., paints, glass, etc., Montreal, is dead.

Froud & McGregor, contracting carpenters, Peterboro', Ont., have assigned to W. J. Morrow.

The estate of E. Chauteloup, brass founder, Montreal, has been purchased by James E. King and David Yulle.

The creditors and shareholders of the Hamilton Bridge Company have decided to close down the works and to sell the property in one block by tender. C. S. Scott was appointed permanent liquidator.

REPAIRING A FAMOUS STEEPLE.

The famous steeple of the Old South Church, in Boston, is being repaired, says a recent issue of one of our Eastern contemporaries. The man who is doing the job has worked at the business 17 years, and has climbed most of the tall steeples in the country, and has even worked at a dizzy altitude on Bunker Hill Monument. One of his greatest feats was the repairing of the chimney at the Charleston Navy Yard, which is 247 feet high. He mounted it on 30-foot ladders, each ladder being secured and hauled up by himself. The Old South steeple on which he is now at work is 165 feet in height. It is cracked in places and the vane moves only in a strong wind. The vane will be taken off its iron spindle, lowered to the ground and regilded. When it is set up again the spindle will be greased with a piece of beef fat, which is expected to do its work for six years, or until 1900, when somebody will have to climb up and lubricate it again.

MUNICIPAL DEPARTMENT.

THE MANUFACTURE AND USE OF PAVING BRICK.

In this country, says Mr. Daniel W. Mead, in the Brickmaker, the climate in which the majority of paving brick is used is so severe that the disintegrating effects of frost are the most severe test a paving brick must stand, especially in streets of moderate traffic. Hence, one of the first requisites of such a brick must be that it will not absorb a large percentage of water. The permissible ratio of absorption cannot be definitely fixed at any given percentage, for it is found that this ratio varies with different classes of brick. One class of brick, which seems to be uniformly made from clays which approach near to fire clays in character, will admit 4 or 5 per cent. of water and still not crumble through the action of frost; while others, if not burned hard enough to render them impervious to more than 2½ or 3 per cent., will be rapidly disintegrated by the frost. A core or lamination affords a seam where the frost may enter and is inadmissible in paving brick. Fire cracks should be limited in number and extent. The presence of lime in itself is not detrimental in limited quantities, yet this must not exist as lime pebbles or it will render the product entirely unfit for use by disintegrating and crumbling it.

The specific gravity of a brick is somewhat of an index of its comparative value, as the more material contained in it, the greater its density, and other things being equal, the greater its resistance to abrasion, crushing, etc. A certain amount of toughness is desirable in a paving brick,

to prevent spaltering and breaking under traffic. This quality, the writer believes, is at present over estimated, as when laid in the street a brick can splinter only to a limited extent at the corners, after which the shape assumed is such as to greatly resist abrasion. The brick must be of sufficient factor of safety. Further than this, these qualities are of little material value. In making tests for relative qualities of brick, nothing will take the place of experience. A few general suggestions, however, for making ready tests, such as are now in use, are offered with the hope that they may prove serviceable. The test for crushing strength is believed by the writer to be of little or no value unless in the comparison of the value of high grade paving brick. The test is difficult of application, requiring expensive machinery, and unless carefully made by skilful observers, under definite given conditions, the results are very uncertain and unreliable.

The transverse strength can be determined with greater accuracy than the crushing strength, it also represents both the compressive and tensile strength of the material, and is, therefore, a better test of the qualities of the brick. In testing for ratio of absorption the brick should be placed in a drying oven and kept at a temperature of 212 F. for ten hours or more if they have previously been saturated. They should then be weighed, and after the weight is carefully determined, placed in a vessel of water and kept for 24 hours at a temperature of about 60° F., after which they should be taken out, the surface water carefully removed and again carefully weighed. The gain in weight divided by the original weight will give the ratio of absorption. The presence of caustic lime is easily told by immersing the brick from one to four days in water. If caustic lime is present it will make its appearance by breaking or cracking the brick, or by "poppers" showing on the surface. The specific gravity can be readily determined. The test for toughness or abrasive strength is usually made in an ordinary foundry tumbler.

The brick should be tested a few at a time, with about 100 pounds of "foundry shot" weighing not more than ¼ pound to the piece. Heavy pieces of iron should not be used in the test, as they break the brick to pieces instead of wearing it. The different shapes of the brick are apt to make a material difference in their wearing during the first half hour. This is caused by some brick being manufactured with round edges and some with square edges; the latter, being more easily broken or abraded, cause a great loss in the material so made. For this reason they should be weighed after the first half hour, and the results for the second or third half hour to be used in comparison.

(To be Continued.)

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