

streets, \$27,500; Ernest street, \$4,300, Wellington street from the subway to the western limits, \$109,000, and Yonge street \$24,500. It has also been decided to recommend the macadamizing of Sanguinet, Lafontaine, Delisle, Ottawa, Queen and Grey Nun streets.—The Montreal Masonic Temple Company have accepted plans prepared by Mr. David R. Brown, for their proposed Masonic Temple, and tenders for its erection will be invited at an early date. The ground floor will be occupied for two stores, with hall for concerts in the rear. The first floor will consist of offices, the second of the club rooms, while the top floor will be solely for Masonic purposes. The cost, according to the architect's estimate, will be about \$60,000.—Messrs. Brown & Mac Vicar, architects, are preparing plans for 12 cottages, and have completed plans for a residence for Mrs. John Bulmer. Same architects have also sketches under way for four stores to be erected on Notre Dame street.

TORONTO, ONT.—At the last meeting of the Executive Committee of the City Council the following improvements on Station street were approved of: an 11 ft. cement concrete sidewalk on both sides, from the west side of York street to the east side of Simcoe street, and a 43 ft. asphalt pavement, cost \$12,800. The city's share will be \$4,500; an asphalt pavement will be constructed in Adelaide street, between Yonge and Church streets, at a cost of \$14,800.—The Comet Bicycle Co., will erect a new factory on the south side of Temperance street, at a cost of \$15,000.—Mr. C. J. McCuaig has written to the City Council offering a site on Bloor street west for the proposed consumptive hospital.—The City Clerk has received a petition against the construction of an asphalt pavement on Beverley street. The petitioners ask to have the present cedar block pavement reconstructed.

HAMILTON, ONT.—Tenders are being received this week by the City Clerk for the construction of a number of sewers.—It is reported that Mr. O. E. Konkle is undecided whether to erect a hotel and opera house on the Case property recently purchased, or to build stores thereon, as he is considering the purchase of the Hamilton Ladies' College, with the idea of converting it into a first class hotel. Should the Ladies' College be purchased the institution will probably be established in a more suitable location.—Specifications for the construction of the proposed Trinidad asphalt pavements on King and James streets have been prepared and approved of by the Council, and tenders for the work will be asked for without delay. The Council will also invite plans for a House of Refuge.—Building permits have been granted as follows: O. A. Hovning, two 2 story brick stores on James street, between Murray and Barton streets, cost \$5,000; Hiram Jones, one two story brick dwelling on Macaulay street, between Mary street and Ferguson avenue, cost \$1,200; E. W. Simonds, two two story detached brick dwellings on Simcoe street, between Ferguson avenue and Mary street, cost \$2,000; James Anderson, two story brick dwelling on Wentworth streets, between Barton and Cannon streets, cost \$1,200.

#### FIRES.

The St. Francois Xavier Industrial Orphan Home, corner St. Catharine and St. Urbain streets, Montreal, was damaged by fire a few days ago to the extent of \$10,000.—Fire at Blackstock, Ont., on the 2nd inst., destroyed Mrs. Mahood's dwelling, R. J. McNally's furniture store, R. McGill's dwelling and R. K. Alderson's telegraph and post office. The sash and door factory at Weston, Ont., owned by Edwin Shuttleworth, together with the machinery, was consumed by fire last week. The loss is partially covered by insurance.—R. Vause's woollen mills at Glenoe, Ont., have been entirely destroyed by fire. Loss, \$4,500; covered by insurance. James Bower's sash and door factory at Orangeville, Ont., was burned to the ground on Tuesday last.

Loss, \$8,000, insurance, \$2,000.—The Presbyterian church on Dumfries street, Paris, Ont., was destroyed by fire on the 3rd inst. Insurance, \$6,000.

#### CONTRACTS AWARDED.

WATERLOO, ONT.—The contract for supplying the town with sewer pipe has been awarded to the Hamilton and Toronto Sewer Pipe Co., of Hamilton. Over three miles of pipe will be required.

BROCKVILLE, ONT.—The contract for the erection of Mr. Newton Cossitt's brick terrace of five houses, corner King and Park streets, has been awarded to Mr. C. E. Simpson. Mr. George A. Allen is the architect.

WINNIPEG, MAN.—The Committee on Works at their last meeting awarded the following contracts: supply of 3,300 feet of sewer pipe, Kelly Bros. & Co., \$2,110.53; brick sewer on Bannatyne avenue, Rourke & Cass, \$6,725; artificial stone walk on east side Donald street, Manitoba Paving Co., \$1,820; pipe sewers on Furby, Edmonton and Ellen streets, Doidge & Co., \$2,210.

MONTREAL, QUE.—Contracts for sewers and the supplying and laying of flagstones have been awarded by the Road Committee as follows: O. Durocher—Mignonne street, between St. Denis and Sanguinet streets, sewer and excavation, \$9.70 per lineal yard; Lasalle street, from Mary Ann to Mount Royal avenue, including excavation and refilling, \$12.69 per lineal yard; Mount Royal avenue, from Amherst to Papineau avenue, \$15.94 per lineal yard. L. McDonald—Notre Dame street, between Guy and Lusignan streets, including excavation \$9.24. M. Gosselin—Stanley street, from end of existing sewer northward, including excavation \$9.09; F. D. Lawrence—Laying curbstones, flagstone sidewalks and crossings, and the hauling and laying on sand of scoria blocks, at prices ranging from 3 cents to 65 cents. Supplying stones, scoria blocks, 210 per square yard; sidewalk flags, \$1.55, \$2.15 and \$2.75 per sq. yard; crosswalk flags, 50 cents and 95 cents per lineal foot. O. Moncau—Curbstones, 48½ cents for 6 x 20 straight, and 55 cents for curves.—Mr. W. McLea Walbank, architect, has awarded contracts for the erection of a factory, corner William and Seigneurs streets, for Messrs. Robin & Sadler as follows: roofing, Campbell & Co.; painting, W. P. Scott.—John Rose & Co. have been awarded the contract to change the old style hydraulic elevator in the Wilson building, Place d'Armes Hill for a new Otis electric machine.—Messrs. Perrault, Mesnard & Venne have awarded the contract for the wood work of St. Gabriel Catholic church to James Shearer, and the contract for painting to Lefebvre & Co. Same architects have also awarded a contract for two stores and dwellings to be erected on Notre Dame street west, for estate C. S. Rodier as follows: masonry, H. Dulort; iron work, A. & E. Lognon; plastering, Decary, Decary & Blandin.

#### BIDS.

MONTREAL, QUE.—The following tenders have been received by the Road Committee for laying asphalt and composition sidewalks: Bastien and Valiquette, Val de Travers, \$3; Limmer, \$2; Nuefchatel, \$3; Catania, \$2; Vorwhole, \$2.25; Seysell, \$2.50. Sicily Asphaltum Paving Co., Limmer, \$2.19; cement, \$2.48. P. Dansecau, Firimite chain, etc., \$2.65. Baccetti Sidewalk Co., \$2.10½.

#### BUSINESS NOTES.

The firm of Howard Bros., contractors, Hamilton has been dissolved.

Wm. Byrd, contractor, Montreal, has assigned. Liabilities, \$3,345.

A demand of assignment has been made upon Wm. Johnston, paint manufacturer, Montreal.

McLachlan & Wilson, lumber merchants, St. John, N. B., have dissolved partnership.

#### BRICK-WORK.

Brick-work is generally measured by 1,000 bricks laid in the wall. In consequence of variations in size of bricks, no rule for volume of laid brick can be exact. The following scale is, however, a fair average:

7	Common Bricks to a super. ft. 4" Wall.
14	" " " " " 9" "
21	" " " " " 13" "
28	" " " " " 18" "
35	" " " " " 22" "

Corners are not measured twice as in stone work. Openings over 2 feet square are deducted. Arches are counted from the spring. Fancy work counted 1½ bricks for 1. Pillars are measured on their face only.

A cubic yard of mortar requires 1 cubic yard of sand and 9 bushels of lime, and will fill 30 hods.

One thousand bricks, closely stacked, occupy about 56 cubic feet.

One thousand old bricks, cleaned and loosely stacked, occupy about 72 cubic feet.

One superficial foot of gauged arches requires 10 bricks.

#### MUNICIPAL DEPARTMENT.

##### A PROMISING EXPERIMENT IN MACADAM PAVING.

A new sort of street pavement is under trial in Rochester, N. Y. The city surveyor of this pretty town, Mr. J. V. McCintock, conceived the idea that if a macadam pavement could be made waterproof, so as to prevent the soaking and softening of the ground under it, a great improvement might be made in it, at a small expense. As an experiment, therefore, he macadamized a street in the central part of the city with broken trap-rock from the Hudson River Palisades. The stone used was rather small; the largest pieces would go through a one-and-one-half inch ring, and everything was used but the dust. This material was laid over an old macadam pavement, which was previously picked up, and the dirty stones removed. After rolling the pavement thoroughly with a steam roller, it was grouted with a mixture of one part American Portland cement to one part sand, with water enough to bring it to the consistency of thick cream. The pavement was first thoroughly wet, and the grout then poured gently over it from pails. One barrel of cement, costing two dollars and fifteen cents, was sufficient for eight and seven tenths square yards of pavement. After the grout had been allowed to set for twenty-four hours, sand was thrown on the surface, and water sprinkled over it. Traffic was kept off it for nine days. Although it is impossible to tell as yet how the pavement will wear, Mr. McCintock, in a letter to the Engineering Record, says that it is smooth and neat, and easily cleaned, and is popular with drivers. The principle of this pavement is not altogether new. For some years the Boston streets, in accordance, it is said, with a plan devised by the superintendent of streets, have been paved with granite blocks, the interstices of which have been filled, after laying, with hot gravel and tar, making the surface quite waterproof. This improvement has added greatly to the cleanliness and durability of the Boston pavements, at a small expense. Whether Mr. McCintock's Portland-cement grouting will do for the macadam what the coal tar concrete does for granite blocks is still a question. From our experience of Portland-cement grout, we should be strongly inclined to leave out the sand, and use the cement neat, and to keep traffic off it, if possible, for a month, wetting the pavement occasionally in the meantime. Sand in Portland-cement grout is disposed to separate from the cement, and we should think that it might hinder the cement from penetrating the smaller interstices. However, the idea seems a promising one, and if it answers tolerably well in Rochester, no doubt improvements can be made later.

Possibly the broken stones itself, instead of being laid dry and grouted, might as cheaply be laid already mixed with cement and sand, in the form of concrete, and immediately rolled. Such concrete would bear a large proportion of sand, which would reduce the expense.—American Architect.

The Victoria Railway bridge over the St. Lawrence river at Montreal, contains 3,000,000 cubic feet of masonry work and 10,500 tons of iron.

#### DEBENTURES WANTED.

Municipalities issuing debentures, no matter for what purpose, will find a ready purchaser by applying to G. A. STIMSON, 9 Toronto Street, Toronto. N.B.—Money to loan at lowest rates on first mortgage.

#### J. M. SHANLY

M. CAN. SOC. C. E. M. AM. SOC. C. E.  
CIVIL ENGINEER.  
STANDARD BUILDING MONTREAL.  
Surveys, Plans, Estimates, &c., for Water Works, Sewerage, Water power projects, Bridges, Railways, &c.  
... CONSTRUCTION SUPERINTENDED ...

#### WILLIS CHIPMAN, B. A. Sc.,

M. Can. Soc. C. E.; M. Am. Soc. C. E.;  
M. Am. W. W. Ass'n.  
CIVIL AND SANITARY ENGINEER  
Water Works Sewerage  
Sewerage Disposal  
103 BAY STREET - TORONTO.

#### J. McDOUGALL, C. E.,

ENGINEER COUNTY OF YORK,  
Consulting Engineer for Municipal Work.

Electric Railways and Bridges.

COURT HOUSE, - TORONTO.

#### JOHN D. EVANS, O.L.S.

MEM. CAN. SOC. C. E.  
LAND SURVEYOR  
Civil Engineer : Architect  
and Patent Solicitor.  
Special attention given to Consulting and  
Municipal Work.  
GRASS' BLOCK, FRONT ST., TRENTON, ONT.

#### JOHN GALT

C. E. AND M. E. M. CAN. SOC. C. E.  
Consulting Engineer.  
20 Years' Practical Experience in England, United  
States and Canada in Civil, Sanitary, Hydraulic,  
and Mechanical Engineering.  
SPECIALTIES:  
WATERWORKS, SEWERAGE, ELECTRIC RAILWAYS.  
Office: Rooms 99 and 100.  
CANADA LIFE BUILDING, - TORONTO.

#### ALAN MACDOUGALL

M. Can. Soc. C. E. M. Inst. C. E.  
CONSULTING CIVIL, SANITARY AND  
HYDRAULIC ENGINEER  
32 East Adelaide St. - TORONTO

NOTE.—Mr. Alan Macdougall is NOT the  
engineer for the County of York.

Municipal Officers, Contractors and others are  
requested to mention the CONTRACT RECORD  
when corresponding with advertisers.

#### E. D. MORRIS

Direct Importer and Dealer in  
Best English and Canadian  
PORTLAND CEMENTS  
Vitrified, Paving and Fire Bricks,  
Fire Clay, &c.

Offices: 36 Victoria St. - TORONTO