

received.—A company will ask power from the Ontario legislature to construct a railway between the towns of Pembroke and Bancroft.—The city council has given notice that it is proposed to construct the following local improvement works: Macadam roadway on Gerrard street east, from Yonge to Jarvis street, cost \$4,110; macadam roadway on Washington avenue, from Spadina avenue to Huron street, cost \$1,832; cement concrete sidewalks on Yonge street, from Yorkville avenue to Davenport road, cost \$656, and on Sussex avenue, from St. George to Huron street, cost \$360.—The Fire & Light Committee has recommended the enlargement of the Cowan avenue fire hall, at a cost of \$4,000. It is probable that a hook and ladder truck will also be purchased.—Mr. Wallace Nesbitt, solicitor for the Canadian Niagara Power Company, states that the company will deliver power in Toronto from Niagara Falls before November, 1899. The plan, he says, is to build the plant below Peter Island, on the Canadian side, at a cost of \$2,500,000. The cost of poles and wire necessary is placed at \$600,000.—Building permits have been granted as below: Church Society of Quebec, three three-storey brick stores, 342-46 Queen street west, cost \$12,000; trustees Toronto General Hospital, two-storey brick addition to houses, 446 and 448 King street east, cost \$1,500; George M. Bryan, two storey and attic brick building on Walker avenue, cost \$2,000.—The McCormack Manufacturing Company, of Chicago, the largest concern of its kind in the United States, purpose establishing a branch factory in this city. Mr. W. Stanhope, the company's Canadian representative, is now looking for a suitable site.—Mr. F. H. Herbert, architect, 9 Toronto street, invites tenders in this issue up to Friday next, for the excavation, masonry and brickwork of three detached residences to be erected on the west side of Madison avenue.

FIRES.

Recent fires include the following: D. Mace's residence at Tamworth, Ont.; loss \$8,000, insurance \$3,000.—Millar Bros.' flour and feed store at Regina, N.W.T.—Building at 138 King street west, Toronto, owned by the Baldwin Estate, partially damaged. The agent is Charles Miller.—The large drygoods warehouse of S. Green-shields & Co., Montreal, and the adjoining buildings, occupied by McIntyre, French & Co., totally destroyed; loss nearly \$1,000,000.—The Allison House at Sackville, N.B., owned by the University of Mount Allison, and occupied by Dr. J. Calkin, totally destroyed.—Haldane's printing establishment on Elgin street, Ottawa, damaged to the extent of \$12,000.

CONTRACTS AWARDED.

CHATHAM, ONT.—Blonde Bros., this city, are successful contractors for residence for J. M. Park.

HULL, QUE.—The Jacques Cartier Bank purchased the \$8,000 of electric light debentures, at par.

VICTORIA, B.C.—The contract for A. E. Haynes' residence at Oak Bay has been let to T. H. Matthew.

MITCHELL, ONT.—The town has sold \$7,028 of debentures to O'Hara & Co., of Toronto, at a premium of \$192.

DESERONTO, ONT.—Boyle & Son have the contract for putting a galvanized iron roof on the chemical works.

OWEN SOUND, ONT.—The tender of Parker & Co. has been accepted, at \$1,350, for twelve electric fire alarm boxes.

WALKERTON, ONT.—H. O'Hara & Co., of Toronto, secured the \$20,000 of debentures, payable in twenty years, and drawing 4 per cent. interest; price \$21,160.

TORONTO, ONT.—The contract for

erecting shelters at the Queen street subway has been let by the city to the Shipway Manufacturing Company; price, \$558.

PETROLEA, ONT.—The contract for the erection of the new Methodist church has been given to George Proctor, of Sarnia, at the price of \$15,600, exclusive of seating.

NEW WESTMINSTER, B.C.—J. G. Tarks, architect, has let the contract to George Bishop for a new building in this city for the Douglas estate. It will be in half timbered style, and will cost about \$10,000.

LONDESBORO, ONT.—M. Mains, of this place, has been awarded contracts for building barns for the following during 1899: James Graham, Goderich township, 54 x 76 feet; William Graham, Stanley, 60 x 80 feet; David Mountain, Hullett, 59 x 74 feet, and Guy Hicks, Goderich, 52 x 52 feet.

VANCOUVER, B. C.—Thomas Tompkins has completed arrangements with the C.P.R. for the construction of several new buildings for the company in this province. Work will be commenced in a few days on an addition of 150 rooms to the Hotel Vancouver, from plans by Edward Maxwell, architect, Montreal. The new station at New Westminster will be commenced at an early date, while Mr. Mr. Tompkins will also have charge of the erection of an hotel at Sicoumas Junction.

OTTAWA, ONT.—The Canada Atlantic Railway Company will heat their new shops by the fan system, as supplied by the Buffalo Forge Co. The contract has been awarded to their Canadian representative, Mr. E. A. Wallberg, of Montreal.—The government has let the contract for building the power house at the Soulages Canal to William Stewart, of this city. It is understood that the contract for the electrical equipment has been awarded to the Canadian General Electric Company, of Toronto.—Butterworth & Co. have been awarded the contract for installing steam heating apparatus in the Eclipse Manufacturing Company's building on Albert street.

PETERBORO', ONT.—The town council received the following tenders for the supply of a steam road roller: W. C. Oastler, Aveling & Porter roller, \$3,200; Sawyer & Massey Co., Russell roller, \$3,250; Buffalo Pitts Co., \$3,450; R. E. H. Buckner, Aveling & Porter roller, single engine, \$3,150; R. E. H. Buckner, Aveling & Porter roller, compound engine, \$3,575; Harrisburg Foundry & Machine Works, \$2,800. At a meeting held to consider the tenders it developed that the Russel roller could be purchased for \$3,000, and a resolution to accept same at that price received a majority vote. It is stated, however, that some of the aldermen intend protesting the awarding of the contract.

BIDS.

ORILLIA, ONT.—Tenders for the proposed electrical power transmission plant were opened by the council last week. For the electrical machinery three tenders were submitted, from the Canadian General Electric Company, Toronto, Royal Electric Company, Montreal, and Westinghouse Electric & Manufacturing Company, of Pittsburg, Pa., through the Central Construction Company, of Buffalo, N.Y. For the transmission line supply and construction, tenders were submitted by the Canadian General Electric Company, Central Construction Company and P. H. Patriarche, contracting electrical engineer, Toronto. Three tenders were also submitted for the hydraulic machinery and construction, from William Kennedy & Sons, of Owen Sound, Ont., Central Construction Company, and P. H. Patriarche. No decision has been reached as yet, but it is believed that the council

favor the tenders of P. H. Patriarche, for the whole equipment, including electrical apparatus of the Royal Electric Company's manufacture, at \$66,680, and the Central Construction Company, of Buffalo, including Westinghouse electrical apparatus, at \$67,200.

GEOMETRY FOR MASONS.

Although the simpler operations in preparing plocks of stone for building purposes may be performed by a careful use of the tools provided, none of the intricate forms required in the details of architectural construction can be successfully worked out or produced with certainty, so as to avoid the clumsy wasting of material, without application of the elementary rules of geometry. The square, the straight edge, will indeed enable the mason to reduce his blocks to level faces, and to render these parallel or rectangular, as may be desired, but they will not enable him to strike out correct curves, to determine the alterations produced in regular or irregular figures by their transference to planes at various angles. For these, and indeed nearly all the problems he will be required to solve, in working out each portion of the general designs upon the individual block, the mason must refer to the rules of practical geometry; and in proportion to his own practical acquaintance with them will he be able to apply, and, if necessary, combine them, so as to arrive at the particular solution he requires. For measuring and laying down angles, the mason uses a bevel, which consists simply of two legs or sticks, jointed in the manner of a 2-ft. rule, but so that each leg may pass freely over or within the other, and thus form acute or obtuse angles with it. They should work rather stiffly, or have a clamp screw for fixing the bevel to any desired opening, without danger of disturbance. Some bevels are furnished with an arch, on which the degrees of the circle are graduated, and by which any desired angle may be correctly ascertained. Besides the compasses for describing circles, the trammel is a useful instrument, by which the mason describes ellipses for arches, &c. This consists of two pieces of wood fixed together at right angles to and crossing each other. These have slits cut nearly throughout their whole lengths, in which two pins or studs, attached to a separate stick or piece of wood, may be moved along. The studs are capable of adjustment in their relative positions on the piece to which they belong. A pencil or pointer at the other end of this piece will describe true ellipses, the proportion of the axes of which depend on the position of the studs. Besides the square for setting out right angles up to 2 ft. or 3 ft. in length of side, the long square or level is used in trying long lines. This is provided with a plumb-bob, or weight of lead or brass, etc., suspended by a string for indicating when the upright part of the level is vertical, and the long frame, which is fixed truly at right angles with the upright part, is consequently truly horizontal or level. This instrument is sometimes furnished