is to invest $100,000 in building and equipment.—The Separate School Board have had plans prepared for an addition of two rooms to the Sacred Heart School. A resolution that a new school site be purchased in the west end has been referred back to permit of inspection of other sites.—Tenders for building the new small-pox hospital were opened last week and referred back, in order that legislation might be obtained for the expenditure of $6,000 instead of $4,000 as now provided.

Building permits have been granted as follows : Public School Board, two storey brick and stone school on Bathurst street, near College, cost $20,000 (Holtby Bros., contractors) ; H. McCarter, 2 storey bk. fronted dwelling, Brooklyn ave., cost $1,200 ; J. Northway & Son, four storey bk. and steel warehouse, 91 Wellington st., cost $30,000 (Burke & Horwood, architects, Dancy Bros., builders) ; Beatty Manufacturing Co., 5 storey bk. factory, n. e. cor. King and Portland streets, cost $14,000 (Chadwick & Beckett, architects, Davidge & Lunn, contractors).

MONTREAL, QUE.—Building permits have been issued as follows : C. S. Reinhardt, four storey house, 381 Mountain st., cost $17,000, S. Findlay, architect ; J. B. Ratelle, three storey house 116 Montcalm st., cost $2,700, S. Trappier, architect ; N. Nolin, repairs to four houses, 94 St. Norbert st., cost $1,600 ; R. Chartrand, repairs to two two-storey houses, 436 to 444 Centre st., cost $1,000 ; L. Dupont, two two-storey houses, Delormier and Lafontaine sts., cost $3,000.

FIRES.

Saw factory at St. Catharines, Ont., owned by William Chaplin, totally destroyed; loss $75,000, insurance $24,000. —Saw mill of Alex. McLaren at 107 Papineau avenue, Montreal. The loss on mill and yard is in the vicinity of $50,000, largely covered by insurance.—Windsor Hotel at Merrickville, Ont., a three storey brick building owned by Mrs. Payne and leased by John Wright ; loss on building $8,000, insurance $4,000.—Dry house of D. G. Loomis & Sons at Ascot Corner, Que.—Paper mill of Taylor Bros. at Toronto, damaged to extent of $15,000.

CONTRACTS AWARDED.

KARS, ONT.—Storehouse for Craig & Son : E. Lindsay, contractor.

ST. CATHARINES, ONT.—Residence for Thos. Eustice : S. G. Dolson, architect ; Newman Bros., contractors.

DESERONTO, ONT.—The contract for building post office here has been let to Alex. Newman, of Kingston.

PARIS, ONT.—Mr. Griffiths, of Woodstock, is putting in the foundation for the new post office to be built here.

FORT WILLIAM, ONT.—Alex. Cameron has secured the contract for installing hot water heating system in S. C. Young's residence.

RAT PORTAGE, ONT.—Stephens & McKinnon have been awarded the contract of adding another storey and building a wing to F. Hockley's residence.

ROBSON, B. C.—The Domion Bridge Company will commence work immediatly ly on the new C.P.R. bridge over the Columbia river from Stoke's Landing to Castlegar.

BELLEVILLE, ONT.—The city council has just accepted the following tenders for debentures : La Caisse d'Economic de Notre Dame de Quebec, $40,000 at 100¾ ; J. Gay & Go., $50,000 at par.

PRESCOTT, ONT.—The Imperial Starch Co has awarded to E A. Wallberg, C.E., of Montreal, Toronto, and Buffalo, the contract for the complete equipment of machinery and plant for its new starch and glucose factory, the contract price bring $60,000. He will let sub-contracts a,

once from his Toronto office, Temple Building, for many parts of the equipment.

TORONTO, ONT.—The contract for lighting the streets of the city by electricity has been awarded to the Toronto Electric Light Co., at $74.82½ per light for 1,100 lights. The contract for low candle power lighting has been awarded to the Hydro-Carbon Light & Power Co., at $31 per light for the first thousand lights.—Tenders were awarded by the city council last week as follows . Asphalt pavement, Harbord street, Bathurst to Markam, Warren-Scharf Co., $2,288 ; cedar-block pavement, Parson avenue, Sorauren to Roncesvalles, Dominion Paving Co., $2,300 ; scoria block pavement on track allowance, Parliament, Queen to Winchester, Constructing & Paving Co., $14,900 ; concrete sidewalks, St. Vincent street, west side, Grenville to Grosvenor, A. Goodwin & Co., $1,300 ; Rose avenue, west side, Prospect to Wellesley, Gardiner & Co., 73 cents ; Bloor street, south side, Brunswick avenue to Bathurst, Harvard Paving Co., 74 cents; Bloor street, south side, Huron to Major, Harvard Paving Co., 74 cents ; Bathurst street, west side, Mc Donell square to 100 feet south of Queen, Constructing & Paving Co., $1.19 ; tile pipe sewer, Bain avenue, Pape to Carlaw, F. J. Beharriell, $867 ; Custom House lane, Yonge to Bay, F. J. Beharriell, $483.

COMMON ELECTRIC TERMS

People who are not actively engaged in electrical work are becoming familiar with the names of the common electrical units, volt, ampere, ohm, and watt, but few of them have any idea of what these words mean. A simple analogy may be of assistance to them. Imagine a pipe carrying a stream of water—an ordinary service pipe from a street main entering a house, for example. If water is flowing through it its analogy to a wire carrying a current of electricity is quite close. The pressure of the water is measured in pounds per square inch. The corresponding pressure of electro-motive force, which forces the electric current through the wire, is measured in volts.

The rate of flow of the water in the pipe is measured in gallons per minute; the electrical flow is measured in precisely corresponding units called amperes. Suppose, with a given pressure on the pipe, its area of cross section is made smaller or its length larger, or it is roughened inside, less water will flow through it, or we may say its resistance is increased. This property of all substances and objects which conduct electricity—resistance—is of great importance. It is measured in units called ohms.

To illustrate these units practically, an ordinary cell or battery, wet or dry, such as is used with electric bells, keeps up a pressure of about one and one-half volts on wires connected with it. The current used in ringing an electric door bell is about one-tenth of an ampere. The resistance of iron telegraph wire is about twenty ohms per mile for the ordinary size.

Whenever a current of an ampere passes under a pressure of one volt it does one watt of work. The watt is an exceedingly useful unit; it represents work done at a given rate of power, and it is the connecting unit between electrical and mechanical measurements. It represents work equal to lifting ¾ lb. 1 ft.

in 1 second. A 16 c.p. lamp uses about fifty watts. A fan motor of the usual kind requires about eighty watts, both taking current from mains kept at a pressure of 125 volts. Larger powers are expressed in kilowatts, a kilowatt being 1,000 watts, and equivalent to about 1⅓ h.p.

All these units are named for famous electricians, the ohm in recognition of Dr. George Francis Ohm, a Danish physician, who discovered the laws of electrical resistance. The volt is named after Alessandro Volta, who invented the electric battery just a century ago this year. The ampere commerorates the name of Andre Marie Ampere, a French electrician, who did brilliant work in the early years of the nineteenth century, and the watt is named for James Watt, the man who made the steam engine practical.

QUANTITY OF MORTAR REQUIRED FOR 1,000 BRICKS.

The amount of mortar required to lay 1,000 bricks will vary with the size of the bricks used, and with the thickness of the joints. With the standard size of bricks, which should be 8¼ in. x 4 in. x 2½ in., a cubic yard of brickwork laid with half-inch joints will require from 0.35 to 0.40 per cubic yard. If the joints are one-quarter to three-eighths thick, says the St. Louis Builder, a cubic yard of brickwork will require from 0.25 to 0.30 cubic yards of mortar ; or 1,000 bricks will require from 4 to 5 cubic feet of mortar. If the joints are one-eighth of an inch thick, as for pressed brickwork, 1,000 bricks will require from one and a half to two cubic feet of mortar. This being known, it should not be difficult for an estimator to be able to tell exactly the cost of the materials required to build up 1,000 bricks in a wall, having the cost of bricks, sand and lime at hand, including hauling, with the above data before him. It is a little difficult to tell exactly how many bricks a man will lay in a day of ten hours, as conditions vary, and some men are much more expert than others ; but if well supplied with material, and no scaffold to adjust, and a long wall to work at, from 15 to 16 hundred may be considered a pretty good day's work. If, however, there are many openings to fit around, or neat facing to do, from 1,000 to 1,200 will be a good average day's work. In good ordinary street fronts, from 800 to 1,000 is a good day's work ; but in the finest front work, when there are numerous angles, doorways, belting courses or cornice work, from 200 to 400 is a fair day's work. In large works, such as factories, warehouses, or similar buildings, or where walls are very thick and the work coarse, a good man will lay from 1,700 to 2,000 bricks per day ; this, however, is rather the exception than the rule, and the lower figure is the safest to estimate upon. A good laboring man will mix mortar and carry it and bricks for three bricklayers, if mortar and bricks are not more than 25 feet from the building, and provided he does not have to carry water or climb a ladder. In all cases, however, the lime must have been slaked and is in a putty state, and this is an item the estimator must consider. To slake lime and run it off and have it ready for the laborer to make into mortar, as a matter of cost, depends on the quantity made at each slaking. As the brickwork of a building rises so also does the cost. Whatever may be the figures obtained as the cost of laying 1,000 bricks for the first storey, 5 per cent. should be added to it for laying the bricks of the second storey, and 12½ for the third storey, and a corresponding percentageorf the work laid in higher storeys. Getting the figures giving the cost in situ of brickwork, is one of the easiest problems in estimating, yet how seldom two estimators give in figures alike?