

City Council make an appropriation to obtain the services of some competent engineer to confer with the City Engineer on the relative merits of the different schemes advocated.—Ald. Thompson is advocating the erection of a large hotel in Toronto, at a cost of about a million dollars. A committee has been appointed by the City Council to consider the question.—Mr. E. B. Jarvis, architect, is building a residence on St. George street for Mr. Columbus Green, to cost about \$8,000. The foundation has been commenced.

FIRES.

The Bedford House at Port Arthur, Ont., owned by C. A. Cordingly, was gutted by fire last week. No insurance. D. Fisher's Woollen mills at Pusley, Ont., were burned on the 3rd inst. Loss, \$8,000, covered by insurance.—The fruit evaporating factory of Moore & Wilson, at Owen Sound, Ont., was destroyed by fire a few days ago. Loss \$1,200. Rebuilding will be commenced at once. The stores of R. A. Kirkwood, T. Smith, and J. Ostrander, at Dutton, Ont., were destroyed by fire on the 8th inst. Loss, \$4,000; partially insured.—The Bras d'Or House at Baddeck, N. S., owned by Alex. Anderson, was burned to the ground on Monday last. The building was partially insured. A three storey brick dwelling at Howick, Que., occupied by Mrs. J. B. Desautels, was burned to the ground last week. Loss, \$4,000.—At West Selkirk, Man., on Sunday last, fire destroyed Wheaton & Co.'s stables and warehouse. Loss, \$12,000; no insurance.

CONTRACTS AWARDED.

WYOMING, ONT. The successful tenderer for the erection of the Masonic Temple is J. C. Foster, at the price of \$1,650. Eight tenders were sent in.

HALIFAX, N. S.—Spencer, Turner & Logan, of Truro, have been awarded a contract by the College Board of the Presbyterian church for the erection of three residences on the Pine Hill grounds. Contract price, \$4,128.

STRAITFORD, ONT.—The Fire and Light Committee received the following tenders for the construction of an electric light station and fire hall: Thos. Orr & Son, \$3,895; Porteous & McLagan, \$3,975; John J. Young, \$3,390. The latter tender has been accepted.

KINGSTON, ONT.—The Kingston Vehicle Company have accepted the following tenders for the erection of workshops: Masonry, A. Newlands; carpentry, E. Storey; iron work, McKelvey & Birch; painting, J. Boulanger. Total amount of accepted tenders, \$2,450.—Tenders for additions to Mr. Welsh's houses on Division street have been accepted as follows: masonry, Clugston Bros.; carpentry, B. Asseltine & Son; painting and glazing, McMahon & Son; plumbing, W. D. Muckler; tin-smithing, Nugent & Taylor; heating, Elliott Bros.

ATHENS, ONT. Eleven tenders were sent in for the proposed House of Industry to be erected here and were as follows: T. H. Fitzgibbon, Brockville, \$14,928; Robert Cameron, Almonte, \$14,650; John D. Warwick, Brockville, \$12,445; Smith & Wilson, Toronto, \$11,950; W. G. Tompkins, Brockville, \$14,184; M. Healey, Smith's Falls, \$13,440; M. Ryan, Smith's Falls, \$14,500; Miller Bros., Brockville, \$14,192.50; George Wilson, Gananoque, \$13,950; A. Berry, Andrews-ville, \$13,743; Simpson & Haggerty, Brockville, \$11,937.60. The contract has been awarded to the lowest tenderer, Simpson & Haggerty.

BUSINESS NOTES.

The estate of Withrow and Hillock, Toronto, is advertised for sale by tender, the creditors having decided to close down the business.

Mr. W. H. Elliott has retired from the firm of Elliott & Son, interior decorators, Toronto. The business will be carried on under the same name by Mr. William Elliott.

NEW COMPANIES.

OTTAWA, ONT.—Crown Pressed Brick Co., incorporated; capital \$100,000.

VANCOUVER, B. C.—Provincial Mining and Dredging Co., incorporated; capital, \$1,000,000; trustees, Hugh McLean, Norman McLean and W. F. Gore.

NEW GLASGOW, N. S.—Stellarton Gold Mining Co., seeking incorporation; capital, \$20,000; applicants, John McQuarrie, Sherbrooke, W. L. Ormond, of Thorborn, James Keith, of New Glasgow and others.

ST. LAMBERT, QUE.—South Shore Electric Company, seeking incorporation; capital, \$25,000; incorporators, Hon. Louis Lourville, Montreal, W. B. Powell, H. Williams, and J. Horsfall, of St. Lambert, and others.

BUCKINGHAM, QUE.—Buckingham Electric Railway, Light and Power Co., seeking incorporation; capital stock, \$100,000, to build a railway from Du Lievre to Buckingham, and to carry on a general electrical business; incorporators, A. McLaren and Thos. Wells, of Buckingham, Thos. Kennedy and E. S. Leatham, Ottawa, and Henry Ayles, of Aylmer.

DRAWINGS FOR STEAM FITTERS.

The remark is made, we are glad to say, only sometimes, says the Master Steam Fitter, that the idea of making drawings for steam fitters is a work of supererogation, that it is not only superfluous but a waste of time, for the reason, it is said, that steam fitters cannot and will not work closely to the dimensions given; there are standard sizes of pipe, standard flanges, certain and positive sizes of gate and globe valves, of elbows and check valves, and of fittings generally, all of which can be purchased by the ton. Therefore the drawing to be of any value or use can define position only, as all the rest is known and can be easily "got at" by measurement during, and according to the progress of the work. Now, this objection to making drawings is met by the fact that it is position that is mostly wanted. It must be known in advance of the work. Floors have to be cut, beams avoided, radiators placed, risers and returns provided for, and lots of other things to be looked out for *in advance*. It is far better for steam fitters in designing their plants to study over accurate scale drawings, with figured dimensions and written instructions on them, and to see where and "how they are going to come out" than to feel their way along from basement to attic of a high building. Correct drawings always pay for present use, and prove valuable for future guidance and reference.

General plans, on account of the extensiveness of buildings have to be drawn on a small scale. A floor of the dimensions 100 x 50 feet would if drawn to a scale of $\frac{1}{4}$ " = 1 foot occupy a space on a sheet of drawing paper of 100 by fifty half inches. 100 half inches equal 50 inches and 50 half inches equal 25 inches. Consequently the floor would be represented by a space of 50 x 25 inches. If drawn to a scale of $\frac{1}{2}$ " = 1 foot, then the drawing would be 25 x 12½ inches. The larger the scale the better. Even with a scale of $\frac{1}{2}$ " = 1 foot, the diameters of pipe and valves become very small, but diameters and position can always be clearly defined by neat figures and written remarks. On the other hand large blue prints are more

cumbersome and difficult to handle and are liable to be torn. For this reason a convenient scale is $\frac{3}{4}$ " = 1 foot. The two foot rule then will measure 48 feet; and every $\frac{1}{4}$ inch is equivalent to 6 inches; every 16.5 equivalent to 3 inches.

FIXING TILES.

If there be no cellar or other opening underneath the space intended for the tile pavement, the foundation may be brought up to within 3in. of the proposed surface of the pavement with brick, gravel, broken stone, clean stone clippings, or other solid waste substances free from chips and shavings, so that complete solidity may be secured. Upon this substratum a mortar of gravel and cement should be spread, leaving a depth of tin. for $\frac{1}{2}$ in. tiles, and of 1½in. for 1in. tiles. A floating of cement and sand, in equal proportions, should then be spread $\frac{1}{4}$ in. thick over the cement and gravel layer. Upon this, when hard, the tiling may be fixed.

The above method is equally applicable, so far as requisite, to places above a cellar or other opening below, provided a firm foundation be given by an archway of brick or stone, or other equally solid substance. But when there is only an ordinary floor or floor joist, it is necessary that the surface of this floor should be 4in. lower than the surface of the intended pavement. There being, at that depth, a strong flooring of plank or rough boards, the mixture of cement and gravel, as above, may be spread upon it, and finished in the same manner.

FILLING FOR BOLT HOLES.

The Practical Engineer for August 24th, states that in building the viaducts for the terminal connections of the Merchant Bridge at St. Louis, a number of the steel columns supporting the viaducts were anchored to solid rock. To ascertain the best filling for the bolt holes driven in the rock, a number of experimental holes were drilled, in which were inserted rods fastened by wedges, by rust joint cement, by sulphur, by lead, and by Portland cement, used neat, and also mixed with sand. The rods, when their fastenings had become hard, were then either pulled out or torn in two. Those fastened with wedges and the rust joint cement came out very easily. With the lead fastenings and with the sulphur, two out of three were broken and the other pulled out, whilst with the six bolts fastened with cement only one pulled out. Only two bolts were fixed with cement mortar, which consisted of equal parts of cement and sand, and both these broke.

Of all woodwork that with the high varnish polish is the most difficult to keep looking well—it is so easy to mar and so difficult to repair. When dents and scratches do not go entirely through the polish they may sometimes be removed by rubbing over with linseed oil and rotten stone, using a small piece of flat felt to do the rubbing, says James Thompson, in the "Ladies' Home Journal." Care, however, should be used, so as not to rub too hard. Hardwood floors, if polished with shellac or varnish, may be first washed with soap and water, and then rubbed with a cloth wet with oil and turpentine, or kerosene and water.

A method of drawing designs on glass with an aluminium pencil has, says the Globe, been brought out in France. This metal, like cobalt and some others, has the property of leaving a metallic trace, like that of lead, on glass quite free from grease, and the trace is so adherent as to be practically permanent if not removed by hydrochloric acid. The pencil employed has a rotary point, which is found to make the metal adhere better than a fixed point as in the ordinary pencil.

MUNICIPAL DEPARTMENT.

ROAD MAKING.

Mr. Frank Wood, C. E., closes an article on the above subject in the Contract Journal, with the following brief summary of the foundation and more technical details.

Foundation.—If ground is of a rocky nature, the surface should be levelled and a coat of rock pitching laid—rock to be 9in. deep, 3in. broad, and 6in. to 9in. long—or, if ground be of a soft and yielding nature, the surface instead of being "pitched" to have a 5 in. coat of concrete in the proportion of five of broken stone, bricks, etc., three of good clean gravel, one of Portland cement. On the top of this finishing coat, $\frac{3}{4}$ in. thick, in the proportion of five to Oporto, or other suitable or similar gravel to one of Portland cement.

Blinding.—Fill in the crevices of the pitching with small pieces of rock or flag chippings. A 2 in. coat of good clean gravel ($\frac{1}{2}$ in. mesh) should be laid on the blinding coat of the pitching or the finishing coat of concrete.

Kerbing. Kerbs should be laid leaving joints not exceeding $\frac{1}{4}$ in. Each kerb not less than 3 ft. 6 in. long, with ends dressed square to surface.

Channelling.—Laid with an even fall to the gullies, joints not to exceed $\frac{1}{2}$ in.

Paving. The paving should be laid as above described, either over half the roadway or two-thirds, according to the width, well racked with $\frac{1}{2}$ in. granite chippings and well rammed. All joints, including those of the channels, to be filled in with a mixture of pitch and creosote oil of such a consistency as to be elastic when cold. Cover this with a coat of fine gravel.

Macadam.—Should be filled in the remaining portion of roadway, either mixed with the above mentioned consistency of pitch and creosote oil, or in its loose state. If tarred, roll the surface until it coincides with the contour of the roadway, and is thoroughly consolidated. If in its loose state, cover with clean road scrapings and roll as before.

Footway.—The footway should be excavated 5 in. below finished surface; fill in with a coat of rock sand or cinders; 3 in. flagging, asphalt, or artificial stone, in accordance with conditions mentioned before, should be laid on this, with a fall of 1 in. in 3 ft. towards the kerb. Flags to be not less in area than $\frac{1}{4}$ superficial feet.

Paving Granite

Granite Sets for Street Paving.
CURBING cut to any shape ordered.
Quarries, St. Philippe d'Argentine, P. Q.

Address all communications to
JOS. BRUNET - COTE DES NEIGES, MONTREAL

STEAM AND POWER

FOR ALL DUTIES

Pumps
& HYDRAULIC
MACHINERY

NORTHEY CO.
LTD.

Toronto

Ont.