

erection of a new depot.—A petition for an asphalt pavement on St. Etienne street, opposite the general offices of the Grand Trunk Railway Company, has been presented to Council. The cost is placed at \$5,000.

HAMILTON, ONT.—Charles Mills, architect, has prepared plans for the following buildings: A pair of dwellings on Hughson street north; detached dwelling on Wellington street north; two semi-detached dwellings on Market street; alterations to dwelling on King street west; detached house on Bay street north; alterations to dwelling on King street west; detached house on Bay street north; alterations to residence on Park street south; boat house, to be built at Hamilton Beach; detached dwelling on Wentworth street; two detached dwellings on Yonge street; alterations to house on Augusta street; additions to residence on Robinson street; heating and ventilating the Burlington west public school; power station and other buildings for the H. C. and N. electric railway, additions and alterations to dwelling on Bay street north. He has also been instructed to prepare plans for two hotels to be erected at Niagara Falls, to be equipped with all modern improvements for summer and winter travel. One will be situated near the park, to cost about \$40,000, and the other near the G. T. R. Station.—Mr. W. A. Edwards, architect, will receive tenders until Saturday next for the erection of a brick hotel for James Barton, of Barton street.—Mr. R. Clohery, architect, has invited tenders for the erection of a Catholic church on Herkimer street.

TORONTO, ONT.—C. F. Fraser, Commissioner of Public Works, for Ontario, will receive tenders until Tuesday, the 15th inst., for the following work: filter house, root house and addition to cow stables and boiler house, and for electric plant at Mimico Asylum; sewerage discharge pipe and additions to north building and bursar's house at London Asylum; hot water apparatus and coal shed at Hamilton Asylum; carpenter work, etc., for new Infirmary and root house at Kingston Asylum; Hospital, barn and piggery at the Deaf and Dumb Institute, Belleville; addition, etc., for Convocation Hall and Dairy Building at Agricultural College, Guelph; two new steam boilers, etc., at School of Practical Science, Toronto.—The difficulty between the City Council and the Street Railway Company regarding the paving of certain streets on which an electric street car service is to be established, seems likely shortly to be overcome, the Board of Works having recommended that the City Engineer be authorized to proceed with the work covered by the contracts now awarded, and to call for tenders for the balance.—Mr. W. Wahrer, Secretary Germania Hall Company, 41 Wellington street east, is desirous of securing a suitable site on which to erect a club house and gymnasium.—The Land Security Company have invited tenders for excavating for a cellar of a stone and brick building on Victoria street south of their present premises. Mr. G. M. Miller will have charge of the work.—Building permits have been granted as follows: W. G. Shaw, 77 Victoria st., 2 story and attic bk. dwelling, 66 Brooklin ave., cost \$1,700.

**FIRES.**

Wilson & Co's. lead works at Hamilton, Ont., were destroyed by fire on Monday last. The loss will be from \$7,000 to \$10,000, and it is said there is no insurance on the building.—The planing mill of the Safety Lumber Company at Norman, Man., was destroyed by fire recently. The value of the mill and machinery was about \$7,000; insurance \$3,500.—Mr. George Holden's residence at Meaford, Ont., has been destroyed by fire.—The planing mill of Napoleon Martin, situated on St. Patrick street, Montreal, was gutted by fire on Saturday last. Loss \$13,000.—Mr. A. Guertin's window and sash factory adjoining was damaged to the extent of \$3,000. A fine brick residence at Valentyn, Ont., owned by Mr. John Miller, was burned last week. Loss \$1,500; insurance \$600.—Four residence at Winnipeg, Man., were destroyed by fire on Friday of last week. They were owned by Dr. Crawford and Mr. G. A. McCarthy.—The saw mill at Turner's Station, Ont., owned by Sewers & Thompson, of Teeswater, and leased by J. A. McArthur, was totally destroyed by fire recently. Loss \$4,000.—The village of Ste. Jerome, Que., was damaged by fire to the extent of \$30,000, recently. The losers are: E. Gibeau, \$20,000, insurance \$9,000; Dame Cote, house, \$2,000, no insurance; Dame Trotter, \$1,500, insured.—The flax mill at St. Mary's, Ont., owned by Weir & Weir, was destroyed by fire on Tuesday last. The loss on building and machinery is about \$3,000. The electric light station, owned by Mr. L. H. Reesor, was also situated in the building and was partially destroyed.

**CONTRACTS AWARDED.**

PETERBORO, ONT.—The Wm. Hamilton Company, of this city, have been awarded the contract for the machinery for the new system of waterworks.

VANCOUVER, B. C.—Mr. McGillivray has secured the contract for the construction of the Nakusp and Slocan railways.—Messrs. W. Bailey & Co., have been awarded the contract for building the new block for Capt. N. Thompson. The building will be of brick with dressed sandstone front.

STRATFORD, ONT.—The directors of the

Stratford Park Co. have awarded the contract for draining the grounds and the construction of the horse and bicycle tracks to Messrs. McKay & Clark, of Woodstock, at the price of \$2,283.50.—The contract for the construction of 30,000 feet of cement pavement, tenders for which were advertised for in this journal some few weeks ago has been awarded to Mr. James Dunn, at 10 1/2 cents per foot.

WINNIPEG, MAN.—The Board of Works has accepted the tender of Thomas Sharp, for an artificial stone sidewalk on Main street, from Ryan to Graham streets, at \$3.15 per square yard. The tender of Jos. Williams for curbing was accepted, at \$1.05 per yard. The cost of the walk will be about \$10,395; approximate area, 3,300 square yards.—John Kerr has been awarded the contract for sewer construction on Lewis street, Fort Rouge and Edmonton streets, the amount of tender being \$1,095.80.

TORONTO, ONT.—A sub-committee of the Board of Works, at a meeting held on Monday last, recommended the acceptance of the following tenders: Granolithic pavement—Sherbourne street, from Wilton ave. to Bloor street, west side, Gardner & Co., \$1.12 per lineal foot, and 15 cents per foot re-setting curb, Asphalt pavement—Czar street, from Yonge to North street, Trinidad Company, \$4,479. Cedar block pavement—Mansfield avenue, from Manning avenue to Clinton street, Clark & Connolly, \$592; Euclid place, from Euclid avenue to eastern terminus, Construction & Paving Company, \$200; Water meters—Matthew Warnock, agent for Siemens meter. Prices, 10-inch meter, \$350 each, 8-inch, \$250 each, 6-inch, \$180. Five meters will be required.

**METHODS BY WHICH OBELISKS WERE MOVED.**

The obelisks of the Pharaohs are made of red granite called syenite. In quarries at Syene may yet be seen an unfinished obelisk, still adhering to the native rock, with traces of workmen's tools so clearly seen on its surface that one might suppose they had been suddenly called away and intended soon to return and finish their work.

This unfinished obelisk, says the Rev. J. King, in his "Cleopatra's Needle," shows the mode in which the ancients separated these immense monoliths from the native rock. In a sharply cut groove marking the boundary of the stone are holes evidently designed for wooden wedges. After these had been firmly driven into the holes, the groove was filled with water. The wedges gradually absorbing the water, swelled and cracked the granite throughout the length of the groove. The block, once detached from the rock, was pushed forward, upon rollers made of the stems of palm trees, from the quarries to the edge of the Nile, where it was surrounded by a large timber raft.

It lay by the river side until the next inundation of the Nile, when the rising waters floated the raft down the stream to the city where it was to be set up. Thousands of willing hands pushed it on rollers up an inclined plane to the front of the temple where it was designed to stand. The pedestal had previously been placed in position, and a firm causeway of sand covered with planks led to the top of it. Then by means of rollers, levers, and ropes made of the date palm, the obelisk was gradually hoisted into an upright position.

**PREVENTION OF RUST.**

The prevention of rust on iron and steel may be accomplished in various ways.

(1) In the German army, oil of gutta-percha is used for this purpose. It is applied with a flannel rag, and will stand for years. To take off this preventative, apply from twelve to twenty-four hours, when both the old and the new application can be wiped off.

(2) A solution of gutta-percha in benzene, of the consistency of cream, is a simple preservative against rust on metal. It can be applied with a brush, and as easily removed by the application of benzene.

(3) Dissolve 30 grains of camphor with a pound of fat, take off the froth, and add graphite until it has attained the color of iron. Wipe the surface and then apply the mixture, and wipe off after twenty-four hours with a soft cloth. This will keep tools or polished iron or steel free from rust for many months.

(4) To preserve polished iron surfaces from rust, melt together seven parts of

tallow and one part of resin stirring the mixture until it cools. Apply in a half liquid state; if too stiff, thin with benzene or petroleum. It preserves the polish, and can easily be removed.

(5) To make a preservative for iron or steel, it is best to use nothing but linseed oil, thickened with a pigment related to the metal itself, and native oxide or roasted oxide of iron is the best for the purpose. Boiled linseed oil will form a skin through which no oxidation can take place.

(6) Slack a piece of fresh lime in a covered vessel with only water enough to make it crumble. While the lime is yet hot mix it with enough tallow to make a soft dough, and apply this mixture to polished surfaces. As it does not dry to any extent or becomes hard, it is easily removed.

(7) Olmstead varnish preparation has been in use for many years, and has proven itself perfect, especially for planed and ground surfaces and on Russian iron, which are very sensitive to rust. It is made by melting first 60 grains of resin and then one pound of fresh tallow or grease, when both are to be united. It must be applied while warm, and the surface must be perfectly clean before application. This can be removed without much trouble.—*Iron Trade Advertiser.*

**MUNICIPAL DEPARTMENT.**

**SANITARY INSTITUTE.**

At an examination for inspectors of nuisances, held in London on April 14th and 15th, the following were the questions set:

1. On receipt of a public analyst's certificate of the adulteration of the cow's milk of which you have taken a sample, what is the evidence you will require to produce in court to secure a conviction?
2. What statutory powers are available for dealing with the sanitary evils of "sweating" in a work place?
3. Explain the advantages and disadvantages of the different materials of which water-cisterns are made. How should overflows be arranged? How should water-closets be supplied?
4. To what classes of food exposed for sale would you direct your attention in a time of threatened cholera. Describe the steps you would take upon the discovery of, and in dealing with, unsound food.
5. On receiving a notification certificate of a case of typhus in a cellar of a tenement house, how would you act? How would you protect yourself against infection?
6. Mention the articles usually found in a bedroom recently occupied by a fever patient, and describe the methods to be employed for the disinfection of each of them.
7. Describe in detail the methods that should be adopted for the discharge of the waste and overflow from an ordinary bath and safe and from a lavatory basin, both in the same room. Illustrate your answer by a sketch.
8. How should a house-drain be ventilated? Show this by a diagram.
9. Write (in official form) such a report as you would make stating that a builder, Mr. —, having laid a drain improperly, detail the defects, and the alterations you have called upon him to take.

**ELECTRIC VENTILATION OF SEWERS.**

The municipal authorities of an English town have accepted the offer of a local lighting company to provide electromotors for ventilating the up-take columns of sewers. The motors are to be continuously supplied with current for three months for \$25 each, tests being taken in the meantime of the amount of foul air extracted from the sewer. The introduction of electromotors for this purpose is by no means the first occasion on which mechanical power has been employed for removing dangerous gases. Large blowers and fans have been successfully used for carrying a supply of fresh air through the

workings at mines and collieries. Formerly the ventilation was effected by hot air currents, a furnace being kept up in the up-take for the purpose of heating the outgoing air and thus creating a draught. The superiority of electrical ventilation, however, has been so conclusively demonstrated for almost all ordinary conditions that it is being very largely used, and in an indefinite number of ways, of which the case just quoted is an example.

Philadelphia alleyways are to be hereafter paved with an improved patent pavement when declared defective in paving or drainage. The board of health has issued the following specifications for laying such pavements. All alleys 5 ft. or less in width shall be excavated to the depth of 18 ins. below the lines given by the surveyor of the district, the excavation thus made to be filled to the depth of 14 ins. with clean sand, well tamped. Upon this shall be laid a concrete, to be composed of one part of imported Portland cement (either of Hilton or Manheimer brand,) three parts of clean, sharp, coarse bar sand, thoroughly mixed dry and made into a mortar with the least quantity of water and thoroughly intermixed with broken stone or approved furnace slag, in such quantity that when tramped or rammed solidly in place free mortar will rise to the surface and exhibit a depth of 3 ins. of the said concrete. Upon this concrete foundation a surface shall be laid 1 in. in thickness, composed of one part of Portland cement (Dyckerhoff or Star Stettin brands) and two parts of crushed granite to pass through a 1 1/2-in. sieve, free of dust, with just sufficient water to make mortar, to be thoroughly tramped solid to the lines and grade given by the surveyor of the district, and dressed with a small quantity of dryer, composed of one-half pure cement and one-half flint sand, floated over the entire surface as a finish.

**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.

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