

fire destroyed A. E. May's implement warehouse, owned by James Thompson, D. Hunt's large livery stables, M. Lyon's residence, Walker's auction rooms and E. Ross's office, the latter owned by J. Thompson.—Two stores on Front street, Belleville, Ont., owned by Mr. Templeton, were totally destroyed by fire on the 1st inst. Loss on building, \$7,000; insurance, \$5,600. An adjoining building owned by Thos. Walters and John Lewis, was also gutted by fire on the same date. Loss on building, \$1,800; insurance, \$1,500.

CONTRACTS AWARDED.

YARMOUTH, N. S.—The contract has been awarded for building the Nova Scotia Coast Line Railway from this place to Lockport.

CORNWALL, ONT.—Mr. Lyons, of Ottawa has been awarded the contract for the erection of the new St. Columban's church. The contract price is \$44,000. Work will be commenced early in the spring.

VANCOUVER, B. C.—The Pentiction Townsite Company has arranged with the British Columbia Iron Works Company for the construction of a waterworks plant sufficient to provide an ample water supply from OKanagan Lake.

TORONTO, ONT.—The following are the prices at which the contracts were awarded by the City Council for the annual supply of sewer pipe, the successful tenderers being the Mimico Sewer Pipe Co.: 6-inch pipe, 7½ c. per foot; 9-inch pipe, 12½ c. per foot; 12-inch pipe, 20 c. per foot; 15-inch pipe, 32 c. per foot; 18-inch pipe, 45 c. per foot. Inverts, 1 ft. 2 in. x 1 ft. 9 in., 18 c. per foot; 2 ft. x 3 ft., 27 c. per foot. Stoppers 6-inch 3c. each; 9-inch, 5c. each. Curves, elbows and bends, 6-inch, 25 c. each; 9-inch 40 c. each; 12-inch, 75 c. each; 15-inch \$1 each; 18-inch, \$1.50 each. Junctions of 2-foot lengths, 6-in. off 9-in., 60 c. each; 6-in. off 12 in., 85 c. each; 9-in. off 12 in. 85 c. each; 6 in. off 15 in., \$1.15 each; 9 in. off 15 in., \$1.15 each; 6 in. off 18 in., \$1.60 each; 9 in. off 18 in., \$1.60 each; Reducers, 9 in. to 6 in., 40 c. each; 9 in. to 4 in., 25 c. each.

BUSINESS NOTES.

Jos. Dequire, lumber merchant, Montreal, has assigned at the instance of D. S. Marquis, with liabilities about \$6,500.

The *Legal and Commercial Exchange* reports the following: J. L. Gordon, lumber dealer, Pilot Mound, Man., has sold out to A. & E. Gordon.—Murdoch McLean, painter, of Moncton, N. B., has assigned.—The Bently Lumber Co. Lethbridge, N. W. T., has sold out to Stanbury & Clapman.—Mr. William Young, of Young Bros., plumbers, Hamilton, Ont., died last week.

CLOSE HIPS ON SLATE ROOFS.

One of the recent "fads" of the last decade, says the *National Builder*, is the use of "Close Hips" in slate roofing. Close hips were used originally as a matter of economy, and not on account of any merit possessed by them, architecturally or otherwise. At that time sheet lead, which was the material used for flashings, was very expensive, and hips were worked close to save the cost of that material by dispensing with the use of flashings. We are credibly informed that some slaters at this time work close hips without flashings, should the architect fail to mention the same in his specifications.

A close hip without flashings may not leak, or if it does leak it may be in such quantity as to be absorbed by the sheathing and hip rafters, and not appear on the ceiling below; in such cases it is well to remember that the sheathing and hip rafters will not dry out very rapidly by reason of the roof covering above, and this occasional wetting and slow drying will augment the rotting of the roof timbers at the hips. Where close hips are

insisted on being used, the "specifications" should require that "piece flashings be worked in with each course," the flashings to extend not less than three inches on each side of the hip, and to have an end lap on each course equivalent to the lap given the third course of slate over the first course, commonly called the cover.

VENTILATION SPACE.

Dr. Poore in his "Essays on Rural Hygiene" has something to say about ventilation and breathing space, and points out the average dinner party and the average "At Home" are alike in need of reform in this respect. He says:—The average London dining room is, perhaps 20 ft. by 16 ft. by 12 ft., and contains, inclusive of the space, occupied by furniture, &c., less than 4,000 cubic feet, or space considered sufficient for five convicts in prison. If we wish to do honor to our guests we invite sometimes as many as 18, and to wait upon these we employ four servants, and we light the room with half-a-dozen lamps or their equivalent, i. e., we put into our 4,000 cubic feet of space the equivalent of 28 people, and we give them 143 cubic feet of space each, and as we provide no adequate inlet or outlet for fresh air, it is not to be wondered at the discomfort often reaches agony point, and the conversation lags, nor is it a matter of purpose that the average London dinner, where you are suffocated and overfed, is reckoned among the duties rather than the pleasures of existence, and that the malaise of the following day is (often wrongly) attributed to the quality of the wine. Dr. Poore thinks that an "At Home," where the guests have about 50 cubic feet of air apiece, is worse still, and expresses a hope that it may some day be considered "bad form" to give guests not more than one-twentieth part of cubic space and far less than one-twentieth of the fresh air which is allotted to criminals. In this many weary-party-goers will sorrowfully agree with him.

USEFUL HINTS.

Paste may be kept several months without getting mouldy if a little pulverised blue stone is added while hot.

To imitate ground glass, paint the glass with the following mixture:—Mastic, 2 drachms; sandarach, 9 drachms; ether, 12 ounces; benzine, 8 ounces.

Amongst others, the following is given as a good recipe for polishing marble:—Magnesia, ½ oz.; oxalic acid, 2 oz.; with warm rain water, 1 pint. Polish with woollen cloths.

Plumbers should be careful not to use lead in contact with oak, unless the latter is perfectly dry and free from sap, otherwise the gallic or acetic acid in the wood will turn the lead into acetate of lead or ceruse.

In priming woodwork it is very necessary to remember that fine ochre or other pigment should be used. If the material be coarse the oil soaks into the wood and leaves the pigment on the surface. Zinc should never be used for priming.

Excavation on the site of the Roman city of Silchester, near Reading, shows that the whole of the rooms in one house, in the time of Julius Caesar, were warmed by a single fire, the hot air being allowed to pass under the floor of each room.

PAINTING WALLS WITH CEMENT COATING.—No glue should ever touch the cement, as it is apt to peel off. Take oil and coat the whole surface before painting. On such a base oil paints will adhere perfectly. Skim milk, sweet, mixed to the thickness of cream with fresh common cistern cement, any of the earthy pigments being added, makes an excellent paint for such surface, the lime in the cement and the caseine in the milk making an insoluble compound.

To cure the stickiness of varnished surfaces that is sometimes met with where the varnish has been applied to dirty or

somewhat greasy surfaces, such as seats, etc., one or more coats of shellac dissolved in alcohol will generally prove effective.

The art of producing mosaics is being extended to leather, the pieces being variously colored, some having metallic hues, others with a transparent glaze over another color. They are attached by glue to a hardwood ground, framed the depth of the pieces, which are shaped as required.

An electric light, with lens and mirror, has been advantageously used in the shaft sinking at the Walkinshaw colliery, near Paisley, Scotland. This light, fixed at the top of the shaft, had an illuminating power of 4,000 to 5,000 c. p., and was operated by an Elwell-Parker continuous current, compound-wound machine of the equivalent of 2 H.P. The shaft was circular, 13 ft. in diameter and 200 ft. deep, lined with brick. From the brilliancy of the light at the bottom it was believed that this light would have answered for a 1,200 ft. shaft. It could not, however, pierce the fog and smoke following a shot, and this was the most serious drawback.

CHEMICAL-COATED WIRE NAILS.—One of the great merits that was claimed for the wire nail at its introduction was its holding power, says *The Age of Steel*. This has been accentuated lately by the advent of what is known as the chemical coated wire nail. The nail is made of somewhat lighter gauge than the average standard wire nail, but has the same number of nails to the pound, and is sold by the count instead of by the weight. Thus a certain number of nails is guaranteed to the keg, and this number is branded on the keg, so that the user gets just as many nails as of the regular standard nails. The nail itself is coated with a preparation which gives it extraordinary holding powers, in fact, when the nail is once driven in it is almost impossible to pull it out again. For box makers' use and for other purposes it seems to be a most excellent article.

INCOMBUSTIBLE WASH FOR WALLS.—Slack stone lime in a large tub or barrel with boiling water, covering the tub or barrel to keep in all the steam. When thus slacked, pass six quarts of it through a fine sieve. It will then be in a state of fine flour. Now, to six quarts of this lime add one quart of rock salt, and one gallon of water; then boil the mixture, and skim it clean. To every five gallons of this skimmed mixture, add one pound of alum, half a pound of copperas, by slow degrees add three fourths of a pound of potash, and four quarts of fine sand or hickory ashes sifted. We suppose any kind of good hardwood ashes will answer as well as hickory. This mixture will now admit of any coloring matter you please and may be applied with a brush. It looks better than paint, and is as durable as slate. It will stop small leaks in the roof, prevent the moss from growing over and rotting the wood, and render it incombustible from sparks falling upon it. When laid upon brickwork, it renders the brick impervious to rain or wet.

A STEREOCROMIC PAINT FOR HOSPITAL WARD.—The first common rough-cast, which is only levelled superficially, is generally followed up, not with the usual fine finish, but with a finish composed of a mixture of two parts of finely sifted sand and one part of slaked lime with a solution of potash and water-glass, of which sufficient is taken to work the material into a stiff paste. This paste must be laid on as soon as possible, and polished as smoothly as circumstances will permit. When dry, the walls must be well whitewashed and, when this is dry a coat of water-glass be applied, a second being given 24 hours later. If it is desired to paint the walls, the colours used must be worked up with glass-water; certain colours, however, such as Prussian blue, chrome yellow, emerald green, &c., may not be used. Finally, wash down with water by means of a hose with moveable rose. This paint, or composition, may be cleansed with wet cloths and prevents the penetration of damp.

MUNICIPAL DEPARTMENT.

SINKING FUND VS. INSTALMENT PLAN DEBENTURES.

Editor CONTRACT RECORD.

DEAR SIR,—In answer to your enquiry, I certainly think that debentures issued payable at the end of the term, i. e. on the Sinking Fund plan, would sell for considerably more than those issued on the Instalment plan. The difference in price would much more than recoup the municipality for the extra work required in managing the Sinking Fund. It is not every purchaser of debentures who will buy those repayable in instalments and consequently municipalities issuing in that manner are deprived of reaching some of the best purchasers in the market.

I might just add that as there is so much trouble arising out of by-laws irregularly and wrongly drawn, it would well repay every municipality to have its by-laws drawn by some competent solicitor.

I shall always be glad to assist in any calculation in connection with Sinking Fund, etc., where it is intended to place debentures on the market for sale.

Yours truly,

G. A. STIMSON.

THE SYSTEMATIC CLEANSING OF DRAINS.

At a meeting of the Bexley Local Board, held a short while back, Mr. E. Reeve Boulter, the surveyor, submitted a report on this subject. He said the cleansing of house drains is a matter which requires the serious attention of all sanitary authorities. The cleansing of drains means not only the removal of solid obstruction matter, but also the prevention of gaseous accumulations. Many persons labor under the impression that when a drain is once laid no further attention is required in connection with it. They would, however, ridicule the idea if it was suggested that they should apply the same principle to the chimneys of their houses. These are periodically cleaned, and surely drains should have similar attention. Only very recently (within the last few months), in connecting a drain with the sewer, the drain in question having been in use barely six months, it was found that the disconnecting trap was completely clogged with matter, and the drain above the trap blocked. This state of affairs arose solely from want of attention and not from any defect in construction. In speaking of drains, all traps, chambers, &c., are intended to be included. A system of sewerage has lately been constructed in a portion of the district, and which will have to be periodically flushed to prevent accumulation. If this is necessary in the case of the sewer, is it not also necessary with respect to the drain? Carelessness and the want of attention are the principal sources of stopped drains. The owners of property are frequently called upon to have work done for the removal of stoppages (of course entailing expense) which might have been obviated by a little attention on the part of the tenant. It must be remembered, too, that a drain once disturbed is seldom or never made perfect again. Mr. Boulter says his attention has long been directed to the necessity of adopting some means by which, when a drain is once laid, it shall not be necessary to interfere with it again, so far as its position goes; but he finds it is not possible to keep it thoroughly cleansed under existing circumstances. His proposition is that the sanitary authority of the district should undertake the work, which is now generally neglected by the occupiers of houses (who are, in the majority of cases, ratepayers), and that the cost of carrying out this work should be a charge upon the rates. He proposes to deal with the question in the following way: A workman in the employ of the authority would be furnished with certain implements and deodorants (removed from place to place as necessity required, in a perambulator, similar to that in use at