

erect an elevator at this place, to cost about \$250,000. Work will be commenced immediately.

**TORONTO, ONT.**—The Board of Control have accepted tenders as follows for asphalt pavements: Bernard ave., Bedford to St. George, \$4,487, and Brunswick ave., Ulster to Sussex, \$9,200, Construction & Paving Co.; Palmerston avenue, Arthur to College, \$11,045, Warren-Scharf Company.

**KINGSTON, ONT.**—Following are the successful tenderers for alterations and additions to residence for A. B. Cunningham: Carpenter work, Samuel Hyland; hot water heating, plumbing and gas-fitting and tinsmithing, J. Jamieson; painting and glazing, T. Milo; masonry, bricklaying, plastering, etc., N. Langdon and R. Hamilton. H. P. Smith, architect.

### MARKET CONDITIONS.

A very light movement of builders' supplies is reported, and with scarcely an exception prices remain unchanged. Owing to the increased cost of raw materials, it is understood that the plumbers of Toronto will, at an early meeting, consider the question of advancing prices on plumbing work. It is felt that they have not increased their prices in proportion to the advanced cost of material. Pig iron has so far advanced that buyers hesitate to place further orders. No. 1 Hamilton is quoted at \$25 per ton at the furnace, and No. 1 Southern at \$24 per ton in bond, Toronto.

### BEST PAINT FOR GALVANIZED IRON.

By JOSEPH GRIGGS.

The painting of galvanized iron so that the coating will adhere firmly and neither crack nor peel, is a problem that many of the craft have tried to solve in the past without success. In our daily travels through the streets of large cities, if we keep our eyes open, we can see coats of paint, plain and sanded, hanging down in large shreds from galvanized iron bay window sheetings, cornices, awnings, etc., leaving the metal exposed, and this peeling will take place in anywhere from two months to one year's time after painting. To prevent such a result, we must of necessity first look to the causes which bring it about. In the first place, galvanized iron is prepared by first pickling black iron in a solution of sulphuric acid and water, so as to remove mill scales, rust and grease in order to make the subsequent galvanic bath take the proper hold. This bath, which consists of melted zinc and tin, produces a coating on the iron which is of very much the same nature as sheet zinc, and every painter of experience knows that ordinary oil paint will not adhere to metallic zinc. Next it will be observed that the handling of the metal in course of erection is liable to make its surface greasy, and it is but natural that unless grease and dust, etc., be removed preparatory to first coating, the paint cannot adhere to the metal. A wash with strong soda water, or soft water to which some ammonia has been added, and subsequent rinsing with clear water, will remove the grease. A still better wash is dilute muriatic acid, which will, on drying, produce a grayish film,

that should be rinsed with clear water and the surface allowed to dry before beginning to prime.

As to the paint for first coating galvanized iron, beware of white lead, because it remains soft and eventually peels, of zinc white, which will crack and flake, of any of the light carbon paints, which require much oil to spread, because these will wrinkle and later on part. The cheap, ordinary mineral paints will not serve the purpose either, because these are most liable to peeling. Red lead, as a base for an all-oil paint, has given best service, but it, too, has given away at times, and the cause of the trouble appears to be that in an all-oil paint the oil is attacked by the metallic zinc. The writer has found, after many trials, that a paint made from a heavy pigment, that requires a small percentage of thinner for spreading, will serve the purpose of first coating galvanized iron best of all. Thus, a mixture of equal parts by measure (not weight) of dry red lead and first-class mineral brown, ground together dry and then mixed by hand with equal parts of pure raw linseed oil and pure spirits of turpentine, without the use of any japan or liquid dryer, has given the most durable and effective results. Over this priming any good oil paint may be applied and permanent adhesion may be looked for.

The reason for employing dry red lead is to let the paint oxidize on the surface, rather than to have it saponify the oil in the pot, as there is ample proof that such paint is most liable to peel, it having lost its cementing qualities. Let it be noted, however, that this semi-flat, yet fairly elastic paint, is to be used for first coat only and not as a finish. It is intended to isolate the oil paint from the metallic surface to prevent the latter from acting on the oil. And under no consideration should boiled oil be used in mixing this first coat for galvanized iron. If a good grade of mineral brown cannot be had, a fine, chemically pure oxide of iron, such as Indian red, may be used in its place and serve the purpose even better. And no more of the paint should be made at any time than can be used the same day.

A meeting of the creditors of Labelle & Deschamps, plumbers, Montreal, will be held on January 10th.

### BORING HOLES IN BRICKS.

Holes may be very quickly drilled in brick or stone walls by making the cutting end of the drill in the form of a cross with four cutting edges, says an exchange. The drill is held in one hand and rotated while being struck with a hammer. When the holes are required to be deep, a projection may be made on the outer end by which it can be knocked out of the hole quickly. The cutting end should be larger than the shank, so as to allow the clearance, and the shank should be sufficiently long to allow a hammer to be used for knocking it out of a deep hole. An old twist-bit also makes a good boring tool for the purpose required, also a piece of steel tube such as bicycles are made with, will, if jagged at the end, answer very well. These tools are only suitable where the bricks are very soft.

### REMOVING GREASE SPOTS FROM STONE.

"T. C." writes from Norwalk, Conn.: "Please tell me how to remove grease from stone slabs in a passage."

ANSWER.—Pour strong soda dissolved in water, while boiling hot, on the spot or spots, mix some fuller's earth in boiling water to a thin paste, put a coat of this over the spots and let it remain over night. If this has not taken all of the grease out, repeat the operation. Sometimes, when the grease has not penetrated deeply, it may be removed by rubbing the spot with a hard stone and sand, using very hot water and soap and soda.

### ATTACHING A BLOCK AND FALL TO A SMOKESTACK.

The following is given as a method of attaching a block and fall to the top of a smokestack 57 feet high that has no ladder attached to it: An iron smokestack of the above height is generally of a fair diameter, and has knees or brackets riveted on inside on which to get to the top. A man climbs up on these and takes with him a rope, one end of which he throws to the ground, and then pulls up hooks, block and fall. If the stack is not provided with brackets in the manner described, it will be necessary to have extension ladders or scaffold.

The Morgan Lumber Co., Limited, Toronto, has obtained a charter.

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