

edifice on Ryde street, near Charlevoix street, Point St. Charles.—Casimir St. Jean, architect, has prepared plans and will shortly call for tenders for the construction of the Presbytery of St. Joseph de Soré.

TORONTO, ONT.—The Board of Works has ordered the laying of 15,000 feet of new wooden sidewalks, at a cost of \$10,000.—A petition has been sent to Council asking for a cedar block pavement on Roseberry avenue.—The Council has adopted the recommendations of the Board of Works for the asphaltting of Carlton street and Hoskin avenue.—Building permits have been granted as follows: C. J. Gibson, architect, 1 story and attic bk. dwelling, s. side Hawthorne ave., between Jameson and Dowling ave., cost \$4,500; Dr. King, 2 story bk add. and alterations to dwelling, cor. Queen and Berti st., cost \$3,500; G. T. Ry. 2 story brick extension, s. w. wing, Union Station, cost \$15,000; Nicola Canessa, corner Portland and Farley ave., pr. s. d. 2 story bk. dwellings, 148-50 Portland st., cost \$3,000.

FIRES.

The Dresden Canning and Pickling Company's factory at Dresden, Ont., was burned on the 20th inst.—Messrs Neveux, Clinton & Baxter's hardware store at Windsor, Ont., was damaged by fire recently to the extent of \$20,000, of which \$5,000 is on the building. The loss is covered by insurance.—The Commercial hotel at Southampton, Ont., owned by D. Teahan, was destroyed by fire last week.—M. Creighton's five story roller grist mill at Comber, Ont., was totally destroyed by fire on the 23rd inst. Loss, \$12,000; insurance, \$6,000.—The premises of Mr. D. Falordeau at Quebec were burned last week, together with some surrounding buildings. Loss, \$30,000; insurance, \$10,000.—The town hall and lock up at Glencoe, Ont., have been destroyed by fire.—A two-story frame dwelling at St. Mary's, Ont., owned by James Guest, was burned on Tuesday last. Loss \$2,500; insurance \$2,400.

CONTRACTS AWARDED.

VICTORIA, B. C.—The contract for building the new Provincial gaol has been awarded to H. McAdie, of Nanaimo.

KINGSTON, ONT.—The Canadian Granite Co., of Ottawa, have been given the contract to construct a number of granolithic walks in this city.

WINDSOR, ONT.—Messrs. Foster & Lutz of Detroit, have been awarded the contract for the new Dougall block on West Sandwich street, at the price of \$5,000.

QUEBEC, QUE.—The municipality of Hedleyville has awarded a contract for the construction of their aqueduct to Lavelle & Co., of Montreal. The cost of the work is not to exceed \$55,000.

LONGFORD MILLS, ONT.—The Longford Quarry and Lime Co., have been awarded the contract for stone for abutments and piers of a large bridge to be erected across the Trent River below Hastings, Ont., requiring 500 cubic yards of masonry. The same company have secured the contract for stone for the foundations of the new Union station, Toronto, and have shipped over 80 cars.

BARRIE, ONT.—Messrs. Thos. Kennedy & Sons, architects, have awarded contracts as follows for a new separate school to be erected in this town to cost \$6,000:—Carpentry, A. Rankin, Barrie; brick work, Orr Bros., Toronto; galvanized iron work, Moor & Macdonald; painting, Mara Bros; plastering, T. Connors; also contracts for caretaker's residence in Union Cemetery, to cost \$2,000, as follows:—Carpentry, T. Bringham; brick work, Orr Bros.

MONTREAL, QUE.—A. C. Hutchison, architect, has awarded the following contracts: residence on Oliver street, Cote St. Antoine, for John Archibald—Masonry, J. C. St. Louis; carpentry, Robert Sharp; two story building, corner

Windsor and Lagauchetiere street for John McLean—Masonry, J. B. St. Louis; carpentry, Ford & Casey; roofing, Montreal Roofing Co.; plumbing and heating, John Date; brick work, Alex. Wand; plastering, John McLean; painting and glazing, Castle & Son.—The City Council has awarded the contract for the supply of gas for the next ten years to Messrs. John Coates & Co.

TORONTO, ONT.—The contract for the heating apparatus for the new drill hall in this city has been awarded by the Dominion Government to Messrs Bennett & Wright.—Contracts were awarded last week by the Board of Works as follows: vitrified brick pavements with scoria toothing on track allowance—College street, from College avenue to Bathurst, D. L. Van Vlack, \$7,170; College street, from Clinton to Concord avenue, Shannon, Whilans & Co., \$10,552; College street, from Concord avenue to Dufferin street, D. L. Van Vlack, \$10,195; granite set on concrete, Bloor street, from Yonge street to Spadina avenue, \$11,429 and Bathurst street, from Bloor to the C. P. R. tracks, \$7,756, Chas. Farquhar; stone sets on concrete, Church street, from Queen to Bloor, E. M. Cathro, \$16,187; brick sets on concrete and scoria toothing, Bathurst street, from Queen to Bloor, J. H. McKnight, \$26,367.

WIRE ROPES FOR DERRICKS.

In a letter referring to the collapse of a derrick on Ludgate Hill, Messrs. Ransome & Rapier say:—

The log pole or jib, usually 50 feet to 60 feet long, and itself weighing a couple of tons or so, is usually held to the mast or vertical portion of the framing by a chain, which is wound up or paid out in order to vary the radius of the long arm or jib. Now, if that chain were to break, nothing can prevent the jib falling down with a crash into the street below. The chain ought to be replaced by a steel wire rope, because the most careful examination and even testing of a chain will not always discover a fault. It is not uncommon, when a chain breaks, to hear it stated that it had lifted a far heavier load the day before. We have known a chain lift 10 tons one day and break with a 2-ton load the next day.

A steel wire rope, on the other hand, is much more trustworthy, because it always gives timely warning of any defect. It consists of many strands, and these do not all give way at once; but, if any one strand does break, it generally frays out, and the beginning of mischief is thus rendered visible to the eye long before the stage of danger approaches. The best practice is to have two such ropes for the derrick jib, both in constant use, and either of them of ample strength to sustain the whole load.

Our own practice, for many years, has been to use such ropes for all lifting purposes, whether it be in the smallest crane or in the great Titan cranes for lifting 50 tons. Such ropes are so inexpensive that they can be applied with a factor of safety of ten to twenty times the working load; and, when so used, they last many years, without giving any anxiety to the user, and with absolute safety to the passers-by. There are other advantages attending their use, but the public safety is the point on which we now desire to fix attention.

In parts of Central Asia bricks are baked in cylindrical ovens about three days, and then burned in an atmosphere of steam, which is produced by closing the heated oven with covers of wet felt. The bricks are turned by the steam from red to dark gray, acquire great hardness and become sonorous. They are said to resist weathering better than fire-burnt bricks.

Mr. E. Lowry, who carried on business as contractor in the City of Winnipeg, for some years, died at Boissevain last week.

Mr. W. R. Smith, contractor, of Woodstock, Ont., died on Thursday of last week.

MUNICIPAL DEPARTMENT.

THE MANUFACTURE OF SEWER-PIPE.

BY EDWARD ORTON, JR.
(Continued.)

The heat used in sewer-pipes burning is only that necessary to get a good salt glaze; about one barrel of salt to a kiln is required. Coal is the fuel invariably used. The finished pipe are, after some coating, stacked up in piles ready for sale. The fittings which go with the pipe, such as curves, elbows, traps, Y's and T's, and all the other special shapes are made by hand in plaster molds. The "rivet pipe" manufactured in Ohio are made from a homogeneous clay, i. e., the clay by the nature of the preparatory steps, is reduced to a fine, even state of division, and by the character of the tempering plant is made into a perfectly uniform paste. And as it enters the pressing chamber in a comparatively fine state, the force which compresses it does not make the line of demarkation between the particles which compose the mass apparent as it would if the clay were not as soft as it is, and as finely divided. So when a piece of river pipe is broken its fracture shows an even, fine-grained structure, not as fine as stoneware, but very sunilar and varying from a buff to a grayish-blue. This latter is the best tint to get, as it insures the combination of whatever impurity the clay contains with the free sand, and development of the best qualities of the clay. The use of salt makes the color a necessity, as a rule, for the combination of iron always begins before the glazing by salt vapor does. The strength that these pipe have is far in advance of any other Ohio pipe, as the structure, seen on the fracture, would show. The degree of heat which the clay will stand without injurious effects is far above the glazing heat of the pipe, and the only precaution in the burning to be observed is to secure enough heat with no close limit on the side of excess. The iron found in these Kittanning clays is present in small grains, which, under the action of the salt glaze, make unsightly black blisters and holes in the surface, though in no degree injuring the utility of the ware; this feature has hitherto much injured its popularity. It is beginning to receive more credit than ever before, because its superior strength and durability are now being recognized. The color of the river pipe is light-red; in spots, where the heat did not get access to it, it is light-buff, and in over-burnt portions, a dark-red color, which has not a pleasing effect. The even, beautiful red color of the Akron and Columbus pipe have been the secrets which have given them the popularity above other kinds, but experience teaches that the color is not essential to the best results. The river pipe, on account of their light red color, and mottled, spotted appearance, have not had popularity in the West, particularly in Chicago, the greatest of all markets, but they are constantly gaining ground there.

There is in use among railroads and such companies a kind of pipe which is especially fitted for their purposes. It is called among manufacturers the Cincinnati Standard, and the point of difference between it and the ordinary pipe in the market is in the thickness of the shell, making a 24-inch pipe 2 inches thick instead of 1 1/4 inches, as usual.

The river works make this pipe just as easily as they do the thinner kinds, and they claim an advantage here over their competitors who make no thick pipe.

The difference in the manufacture of pipe in the Akron and Columbus district from the river process begin in the material employed. The grinding machinery of the Akron district consists of the machines called tracers. The tracer is an excellent machine for grinding a true clay of a sandy or plastic nature, and though its work in shale is successful, yet it seems as if the heavy wet mill of a fire-brick works could not fail to be better. It would at any rate grind much more in the same time than the tracer, if it did not grind any better. The fracture of an Akron made sewer-pipe shows frequently small

pieces of shale which have escaped the wheels, and in burning, these pieces usually shrink away from the bond clay so as to make a loose spot in the pipe, and they are consequently weakening in their effect.

The grinding takes from 45 to 50 minutes, and about 1,200 pounds constitute a charge; the water used is added by the bucketful, and the clay is tempered very stiff. In many works they use only two-thirds as many machines as necessary, and run part of their plant all night to get the necessary clay for the next day's campaign. The ground clay is shoveled into a squeezer either of the screw or piston type, and it is concentrated into a long compact cylinder about 6 inches or 8 inches in diameter. This is cut up in lengths of about 15 pounds weight and is fed to the machine in that shape.

From this results the worst trouble of the Akron pipe; the stiffness of the clay and the large, well-compressed wads in which it is fed, act together in keeping the clay from homogeneous mass. Even under the powerful pressure of the machine the lines of demarkation between the different pieces going to make up a pipe are plainly to be seen on the fracture of a burnt pipe. They are arranged in circles concentric to the outside of the pipe and often a crack of one-sixteenth of an inch separates the layers of the clay. This is all developed on burning, but is not visible before to any such degree. The working of the clay is admirable. It issues from the press as smooth as if molded with oils, and the sockets are beautifully true and correct. The drying, setting and burning need no special attention. The kilns used are the same as are used for burning stoneware; they are oblong, end-fire down-drafts, about 30 to 35 feet long, and 15 to 20 feet wide, with an average capacity of about 40 tons. The burning takes six days.—The Brickmaker.

LEGAL DECISIONS AFFECTING MUNICIPALITIES.

MUNICIPALITY—STREETS—REPAIR—CONTRACT.—The Kentucky Court of Appeals held, in the recent case of The City of Louisville vs. Muldoon, that where a contractor undertook by contract with a city to construct an asphalt pavement, and to keep it in repair for a term of five years from the completion of the work, the city to retain 10 per cent of the cost as a security for the performance of the contract to keep the street in repair, in an action brought at the end of the five years by persons who had succeeded by purchase to the rights of the original contractor, seeking to recover of the city the 10 per cent retained, it was essential to the plaintiff's cause of action that they should allege that the street was kept in repair as covenanted by the original contractor, and it was not sufficient for them to allege that they were without knowledge or information sufficient to form a belief as to that matter, or that it was either kept in repair or was not kept in repair, and that they did not know which was true, and, further, that a company which covenanted with plaintiffs to keep the street in repair was joined as a defendant, there being no contract between that company and the city.

The engineer's report on the water supply of the city of St. John, N. B., for the past year shows that there are thirteen miles of leading main pipes, thirty-seven miles of distributing mains, and twenty-six miles of service pipes. This, with the addition of fifteen miles of pipes added to the west side makes ninety-one miles. The daily average consumption is 4,829,100 gallons. The sewerage system of St. John was extended during last year by 7,865 feet of main sewers, at a cost of \$16,690.

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