TO PREPARE MORTAR.

The slaking operation should be done in a watertight box made of boards, and so much water should be mixed in that the contents will never get dry, and a sheet of water will remain on top to prevent access of air. If the box will not hold the entire quantity of lime required, the contents may be emptied into a cavity made in the ground close to the pan, and this process may be repeated. This should be done at least two weeks before sand is added, or before the mortar is prepared for use. Slaked lime prepared and kept as stated has been found free of carbonic acid after many years, air and gas having not been able to find access. Instead of following the procedure in slaking lime recommended above, we see in America, or at least in the neighborhood of New York, a faulty process adopted, which consists in loosely mixing the sand with the slaking lime immediately after water has been added, and forming a dry heap on the surface of the ground, which is left lying there several weeks to give time for complete slaking before the sand is worked in evenly, and the mortar considered ready for use. This heap arrangement is perfectly adapted to circulating air through a material which should be guarded against contact with air. The sun heats the surface of it, makes the air escape after it has given up its share of carbonic acid gas, while at the base of the heap and at the shady side a fresh supply enters to fill up the vacuum after it has circulated through the heap, and has been robbed of its share of carbonic acid gas. That this procedure really happens in such a heap we can easily see when we place a lump of freshly-slaked lime in a wineglass, and in another glass a small quantity of material taken from a heap such as described, and which has been prepared a few days before. Fill both glasses nearly up with water, and add a few drops of muriatic or sulphuric acid to each. In the first glass nothing can be observed, while in the second glass we will see, in the shape of small bubbles, the carbonic acid escape, which has been absorbed by the lime from the atmospheric air circulating in the heap.

The foundations of the cathedral of Saint John the Divine in New York City, now being constructed, contain some 13,000 cubic yards of concrete and 5,000 cubic yards of dimensioned granite masonry. This building will be 520 feet long and 290 feet wide and will have a tower 445 feet high, and the foundations referred to are those for the tower and adjacent choir. The main tower rests on arches sprung from four smaller corner towers, and each of the smaller towers transmits an estimated pressure of 17,000 tons to the bed of concrete 38 feet square which supports its base. The concrete footing rests on solid rock and is rammed in horizontal 10 inch layers with 20-pound rammers. The concrete is composed of 1 part Portland cement, 2 parts sharp sand and 3 parts quartz gravel, 1½ inches to 2 inches large, from Port Eaton on Long Island. The concrete is mixed by machine and deposited quite dry. When stopping work for the night, the top layer is terminated with a long sloping edge, and in the morning this is plastered with a mortar of 1 part cement to 2 parts of sand before the concrete work is resumed. A very solid homogeneous mass is thus obtained.

Cookson & Plowes, plumbers, Victoria, B. C., are reported to have dissolved.

DEBENTURES PURCHASED

Municipalities issuing debentures, no matter for what purpose, will find a ready purchaser by applying to *G. A. STIMSON, 9 Toronto Street, Toronto.*

Any assistance required in computing calculations in connection with sinking fund, etc., will be gladly given.

N.B.—Money to loan at lowest rates on first mortgage.

Imperial Trusts Company of Canada

32 CHURCH STREET, TORONTO

Capital, $400,000.

The Company is ready at all times to purchase MUNICIPAL DEBENTURES, and has always such Securities on hand for sale. Allows 4% interest per annum on money, and takes charge of Sinking Funds on special terms. J. S. LOCKIE, Manager.

The London and Canadian Loan and Agency Co., Ltd.

Capital, $5,000,000.00.

MUNICIPAL DEBENTURES PURCHASED.
MORTGAGES PURCHASED.
MONEY TO LOAN AT CURRENT RATES.

103 Bay St., Toronto. - J. F. KIRK, Manager.

DEBENTURES PURCHASED.

WE will pay the highest price for MUNICIPAL DEBENTURES. We tender our services to those not having books to make for them the calculations necessary when issuing debentures payable in annual instalments. ÆMILIUS JARVIS & CO. (Member Toronto Stock Exchange), 23 King St. W., Toronto.

EUREKA CONCRETE ( ) PAVING COMPANY

FOR SIDEWALKS,
STABLE FLOORS,
CELLAR FLOORS,
BREWERY FLOORS, ETC

A. GARDNER & CO.

17 Yonge St. Arcade - TORONTO
Telephone 2147

W. McNALLY & CO.

Building and Contractors' Supplies . . . . .

SEWER PIPES + PORTLAND CEMENTS

PATENT WALL PLASTER - The hardest, quickest drying and cheapest material made.

Corner McGill and Wellington Streets, MONTREAL

THE THREE RIVERS IRONWORKS CO.

THREE RIVERS, P. Q.

MANUFACTURERS OF

Cast Iron Water and Gas Pipes

of best quality, from 2 inches in diameter.

HYDRANTS, VALVES and GENERAL CASTINGS.

Drummond McCall Pipe Foundry Company,

MONTREAL

MANUFACTURERS OF

CAST IRON WATER AND GAS PIPES

WORKS: LACHINE, QUE. PRICES ON APPLICATION.

Cast Iron Pipe · Special Castings

HYDRANTS AND VALVES

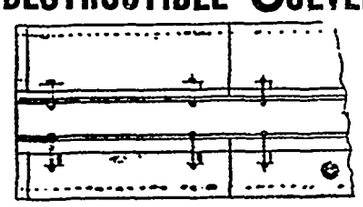
MANUFACTURED BY

THE WM. CLENDINNENG & SON CO., Ltd.

Correspondence solicited. *Montreal and St. Henry.*

HERCULES INDESTRUCTIBLE CULVERT

20 per cent. more waterway than circular form.



Unrivalled for Strength . Durability Cheapness.

Made in sizes of 20 in., 24 in, 30 in., 3 ft. 4 in. and 5 ft.

Write for prices to

EDWIN W. SMITH

344 Garth St., Hamilton, Ont.

THE G. & J. BROWN MFG. CO.

Railway and Contractors' Plant.

BRIDGE BUILDERS

BELLEVILLE, ONT.