

A NEW SYSTEM OF TESTING CEMENT.

Prof. T. Hudson Beare, of the Liverpool University College, has contributed to the *Builder* an account of some experiments with Mr. Arnold's method of gauging cement for testing, the object of which is to eliminate some of the errors incidental to the ordinary method of gauging test briquettes by hand. In this new system the molds are of the ordinary form and cross-section; but for briquettes, which when finished, are to measure an inch in thickness, they are 2 inches deep. The molds are placed on a stout, flat tray, with a shallow rim all around it, and are then filled with dry cement; a measured quantity (0.3 pound) being placed in each. A brass die of the exact shape and size of a finished briquette is then placed on top of the cement in each mold, compressing the contents. This compression is completed under a small hand screw press, which so compacts the dry powder that it only occupies half the mold; the die being then flush with the top of the mold. The result of this part of the process is the formation of an exceedingly closely compacted briquette of dry cement exactly an inch thick. Water is then poured into the tray, and is taken up by the briquettes, by capillary attraction, which goes on for 20 minutes. The molds are removed from the tray and placed on a table, die downwards, to set for 24 hours. The after-procedure is precisely the same as with ordinary cement testing. At the end of the 24 hours the briquettes are removed from the molds and placed in water, where they remain for their appointed time before being broken. Professor Beare found all the briquettes exceedingly compact and close-grained. Owing to the quantity of cement in each being about 15 per cent, in excess of that in ordinary test pieces, the strength was uniformly higher. It was shown, however, that the tests possessed remarkable uniformity—much more, indeed, than a clever manipulator could be expected to obtain by hand gauging. If, therefore, some such system were adopted, Professor Beare thinks one element of uncertainty, due to the personality of the gauger, might be eliminated.

TO MAKE FIREPROOF PAINT.

Twenty parts of finely pulverized glass, twenty parts of finely pulverized porcelain, twenty parts of any sort of stone in powder, ten parts of calcined lime, and thirty parts of water-glass (silicate of soda), such as is usually found in commerce. The solid elements having been powdered as finely

as possible and sifted, are moistened and then intimately mixed with the water-glass. This yields a mass of syrupy consistency that may be employed for painting, either alone or mixed with color. The addition of the lime gives a certain unctuousity to the mass for whitewashing, and its combination with the silicic acid of the soluble glass serves to bind the other materials together. The proportion of the different elements above mentioned may be changed save that of the water-glass, which must remain constant. These elements may even be replaced one by another; but it is always well to preserve the lime. Instead of silicate of soda (soluble glass of soda), soluble glass of potash might be used; but the former is less expensive. The coating is applied with a brush, as other paints are, as uniformly as possible over the surface to be protected. The first coat hardens immediately, and a second one may be applied six hours or more afterwards. Two coats are sufficient. This paint may likewise be employed as a preservative against rust, and used as a coating for iron bridges, etc.

*174 1/2 Notre Dame Street,
Montreal, October 14, 1890*

*C. H. Mortimer Esq.
Publ. Canadian Architect & Builder,
and Contract Record.*

Dear Sir,

I have to inform you, that, the following resolution was unanimously adopted, at the First Annual Meeting of the Province of Quebec Association of Architects held in Montreal on 10th & 11th inst.:-

We the Architects of the Province of Quebec now assembled in convention being satisfied that the Canadian Contract Record affords us a direct communication with the contractor. Resolved: That we pledge our support to it by using its columns when calling for tenders.

*Yours truly
C. Bluff
Secretary.*

Prices of Building Materials.

LUMBER.	
CAR OR CARGO LOTS.	
1 1/2 and thicker clear picks, Am. ins.	\$30 00 @ 32 00
1 1/2 and thicker, three uppers, Am. ins.	37 00
1 1/2 and thicker, pickings, Am. ins.	27 00
1 x 10 and 12 dressing and better.	18 00 20 00
1 x 10 and 12 mill run.	13 00 14 00
1 x 10 and 12 dressing.	14 00 16 00
1 x 10 and 12 common.	12 00 13 00
1 x 10 and 12 spruce culls.	10 00 11 00
1 x 10 and 12 maple culls.	9 00
1 inch clear and picks.	28 00 30 00
1 inch dressing and better.	18 00 20 00
1 inch siding, mill run.	14 00 16 00
1 inch siding, common.	11 00 12 00
1 inch siding, ship culls.	\$10 00 \$11 00
1 inch siding, mill culls.	8 00 9 00
Cull scantling.	8 00 9 00
1 1/2 and thicker cutting up plank.	22 00 25 00
1 inch strips, 4 in. to 8 in. mill run.	14 00 15 00
1 inch strips, common.	11 00 12 00
1 1/2 inch flooring.	14 00 15 00
1 1/2 inch flooring.	14 00 16 00
XXX shingles, sawn.	1 30 @ 2 35
XX shingles, sawn.	1 30 1 35
Eastlake galvanized steel shingles, 24 W. G., per square.	6 00
Eastlake galvanized steel shingles, 26 W. G., per square.	5 00
Eastlake painted steel shingles, per sq.	4 00
Round pointed galvanized steel shingles, per sq.	6 00
Round pointed painted steel shingles, per sq.	4 25
Round pointed, unpainted, Terme tin shingles.	4 00
Manitoba galvanized steel siding, per square.	5 00
Manitoba painted steel siding, per sq.	3 50
Painted sheet steel pressed brick.	3 50
Painted crimped steel sheeting.	3 40
Price of Copper shingles according to weight.	

YARD QUOTATIONS.	
Mill cull boards and scantling.	10 00
Shipping cull boards, promiscuous widths.	13 00
Shipping cull boards, stocks.	14 00
Hemlock cantling and joist up to 16 ft.	11 00 18 00
" " " " 18 "	13 00
" " " " 20 "	14 00
Scantling and joist, up to 16 ft.	14 00
" " " " 18 ft.	15 00
" " " " 20 ft.	17 00
" " " " 22 ft.	19 00
" " " " 24 ft.	21 00
" " " " 26 ft.	23 00
" " " " 28 ft.	25 00
" " " " 30 ft.	27 00
" " " " 32 ft.	29 00
" " " " 34 ft.	31 00
" " " " 36 ft.	33 00
" " " " 38 ft.	35 00
" " " " 40 to 44 ft.	38 00
Cutting up planks, 1 1/2 and thicker, dry board.	25 00 28 00
Cedar for block paving, per cord.	5 00
Cedar for Kerbing, 4 x 14, per M.	14 00
B. M.	
1 1/2 inch flooring, dressed, F. M.	28 00 31 00
1 1/2 inch flooring rough, B. M.	18 00 22 00
1 1/2 " " dressed, F. M.	25 00 28 00
1 1/2 " " undressed, B. M.	18 00 19 00
" " " dressed.	18 00 22 00
" " " undressed.	12 00 15 00
Boards sheeting, dressed.	22 00 35 00
Clapboarding, dressed.	12 00
XXX sawn shingles, per M, 16 in.	2 65 2 75
Sawn lath.	2 00 2 20
Red oak.	30 00 40 00
White.	25 00 45 00
Basswood, No. 1 and 2.	18 00 20 00
Cherry, No. 1 and 2.	70 00 70 00
White ash, No. 1 and 2.	25 00 25 00
Black ash, No. 1 and 2.	20 00 20 00
Dressing stocks.	16 00 22 00
Picks, American inspection.	40 00
Three uppers, American inspection.	50 00

BRICK—M	
Common Walling.	\$7 50
Good Facing.	9 00
Sewer.	8 50 9 00

Pressed Brick:	
Plain brick, f. o. b. at Milton, per M.	\$18 00
" " 2nd quality, per M.	14 00
" " 3rd	10 00
Hard Building.	8 00
Moulded and Ornamental, per 100.	\$3 to 10 00
First quality, f. o. b. at Campbellville, per M.	18 00
2nd	13 00
3rd	10 00
Hard Building.	8 00
Ornamental, per 100.	\$3 to 10 00
Tiles.	24 00

Stone.	
Common Rubble, Per Toise, delivered.	14 00.
Large flat.	18 00
Foundation Blocks, " Cubic Foot.	18 00

Slate: Roofing (per square).	
" red.	16 00
" purple.	9 00
" unloading green.	9 00.
" black slate.	7 50
Terra Cotta Tile, per sq.	25 00
Ornamental Black Slate Roofing.	8 00

Sand:	
Per Load of 1 1/2 Cubic Yards.	1 5

PAINTS. (In oil, per lb.)	
White lead, Can.	6 25 6 50
" zinc, Can.	6 1/2 7 00
Red lead, Eng.	5 1/2 6 1/2
" venetian.	1 60 1 75
" vermilion.	90 1 00
" Indian, Eng.	10 12
Yellow ochre.	5 10
Yellow chrome.	15 20
Green, chrome.	7 18
" Paris.	25 40
Black, lamp.	15 21
Blue, ultramarine.	24 35
Oil, linseed, raw (per gallon).	68 70
" " boiled.	72 75
" " refined.	78 80
Putty.	2 1/2 2 1/2
Whiting, dry.	75 1 00
Paris white Eng., dry.	60 1 25
Litharge, Am.	6 1/2 8
Sienna, burnt.	15 20
Umber.	8 1/2 12

CEMENT, LIME, etc.	
Lime, Per Barrel of 2 bushels, Grey.	40
" " " White.	55
Plaster, Calcined, New Brunswick.	2 00
" " " Nova Scotia.	2 00
Hair, Plasterers', per bag.	1 00
Cement, Portland, per bbl.	2 80 3 00
" Thorold.	1 50
" Queenston.	1 50
" Napanee.	2 50
" Hull.	1 50

HARDWARE.	
Cut Nails:	
American Pattern, 1 1/2 inch, per keg.	4 15
" " 1 1/2 to 1 3/4 inch, per keg	3 40
Canadian Pattern, 1 1/2 inch, per keg.	3 65
" " 1 1/2 to 1 3/4 inch, per keg	3 15
" " 2 to 2 1/2 inch, "	3 25
" " 2 1/2 to 3 inch, "	3 90
" " 3 inch and larger.	2 61
Steel nails 10c. per keg extra.	
Finishing nails, 1 inch, per keg.	5 75
" " 1 1/2 inch, "	5 05
" " 2 inch, "	4 50
" " 1 1/2 " " and larger.	4 20
" " " " " "	3 15