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# THE Canadian Contract Record

A Weekly Journal of Advance Information and Public Works.

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## THE CANADIAN CONTRACT RECORD,

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The purpose of this journal is to supply Contractors, Manufacturers and Dealers throughout Canada, with advance information regarding contracts open to tender, and to furnish Architects, Municipal and other Corporations with a direct medium of communication with Contractors.

*Information from any part of the Dominion regarding contracts open to tender will be gratefully received.*

### ADVERTISING RATES ON APPLICATION.

*At its Convention held in Toronto, Nov. 20 and 21, 1889, the Ontario Association of Architects signified its approval of the CANADIAN CONTRACT RECORD, and pledged its members to use this journal as their medium of communication with contractors with respect to advertisements for Tenders.*

*The publisher of the "Canadian Contract Record" desires to ensure the regular and prompt delivery of this Journal to every subscriber, and requests that any cause of complaint in this particular be reported at once to the office of publication. Subscribers who may change their address should also give prompt notice of same, and in doing so, should give both old and new address.*

### THE CUBIC CONTENTS IN CEMENT BARRELS.

In our issue of Feb. 8 a correspondent puts a question concerning the cubic capacity of Portland cement barrels as placed on the market by various makers. The fact is that there is no fixed standard of size of barrel, and each manufacturer of cement makes a barrel that will hold a fixed quantity of his cement, as measured by the "struck bushel." And as cements vary much in weight, the barrels to hold this cement must be proportioned accordingly.

The query referred to has brought several replies, and giving these as sent us, and tabulating them, we have the following for barrels of various brands :

Brand.	Weight.	Bushels.	Cubic contents.
Keene's Portland	400 lbs.	3½	(loose) 4.25 cu. ft.
Francis "			3.38 "
White Bros "			3.16 "
Johnstone "			3.38 "
Improved Anchor Copely Co.			3.32 "
Saylor's American Portland.			2.85 "
Alsens, German Portland.			3.33 "
Louisville, natural cement.			3.75 "

A well-known manufacturer of cement writes us that in this country cement is packed in barrels ranging from 15 to 18 in. in diameter at the head. Cement is also sold by the "barrel," but the weight may vary from 265 to 300 lbs. net per barrel. He says the western cements, such as Louisville, Akron and Utica are sold at 280 lbs. gross, and 265 lbs. net per barrel; the Potomac cements at 300 lbs. gross, and 280 lbs. net, and the Rosendales of New York and Pennsylvania, the heaviest of natural cements, at 320 lbs. gross, and 300 lbs. net per barrel.

The size of the barrel, while generally larger for the lighter

cements, may also be made so, owing to hand-packing and the absence of proper machinery for compressing the cement in the barrels. This is often the case in smaller works; and the same rule applies to Portland cements, where a light-burned Portland, weighing 100 lbs. to the struck bushel, will require a larger barrel to give the consumer 380 lbs. net weight, than if a heavy-burned Portland were used weighing 118 lbs. to 125 lbs. per struck bushel. In the trade, 380 lbs. net constitutes a "barrel" of Portland cement.—*Engineering News.*

### EQUALIZING TABLES OF AREAS OF PIPES.

The accompanying table is a useful one for engineers and steam fitters. It gives the extreme number of small pipes that are equal in area to one larger pipe. Its practical use is learned quickest by giving an example. Suppose that instead of having one 3" pipe, it was thought better to have a number of ½" pipes, giving in all the same area as the area of the 3" pipe. Looking at the table we find at the top of the eighth vertical column 3", and immediately underneath this and on the horizontal row of figures with ½" we find 24, which is the number of ½" pipes required to give the same area as the 3" pipe.

The internal area of the 3" pipe is given at the bottom of the vertical column, as 7.388. The internal area of ½" pipe is .3048, which, multiplied by 24, is .3048 × 24 = 7.315.

Column.	12.	11.	10.	9.	8.	7.	6.	5.	4.	3.	2.	1.	Internal Areas of Pipes.
Sizes of Pipes.	5-in.	4½-in.	4-in.	3½-in.	3-in.	2½-in.	2-in.	1½-in.	1¼-in.	1-in.	¾-in.	½-in.	.3048
12.	55.	52.	41.	32.	24.	15.6	11.	6.6	4.9	2.8	1.7	1.	
11.	37.	30.	23.	18.	13.8	8.9	5.2	3.8	2.6	1.6	1.	1.	
10.	23.	18.	14.	11.	8.5	5.5	3.8	2.3	1.7	1.	1.	1.	
9.	13.	10.	8.	6.6	4.9	3.1	2.3	1.3	1.	1.	1.	1.	
8.	9.7	7.7	6.2	4.8	3.6	2.3	1.3	1.	1.	1.	1.	1.	
7.	5.3	4.7	3.6	2.9	2.2	1.4	1.	1.	1.	1.	1.	1.	
6.	4.1	3.3	2.6	2.	1.5	1.	1.	1.	1.	1.	1.	1.	
5.	2.7	2.1	1.7	1.3	1.	1.	1.	1.	1.	1.	1.	1.	
4.	1.6	1.2	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	
3.	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	
2.	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	
1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	
Internal Areas of Pipes.	19.99	15.93	12.73	9.887	7.388	4.783	3.355	2.038	1.196	.8627	.5333	.3048	

Example 2. Suppose, instead of one 5" pipe, a number of 1" pipes is wanted. The area of 5" is given as 19.99. Under the 5" vertical column, No. 12, and on the horizontal row of figures with 1", we find 23.

The internal area of 1" pipe is .8627, which, multiplied by 23, is .8627 × 23 = 19.84.—*American Engineer.*

The Canadian Contractors' Hand-Book, 50 cents to "RECORD" subscribers.