

Case Institute

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THE

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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.

HINTS ON CONCRETE.

Mr. Dyckerhoff, a well-known German authority on Portland cements, has contributed a somewhat remarkable article on this subject to a recent number of the *Deutsche Bauzeitung*. He considers that a comparatively small proportion of cement thoroughly incorporated with the sand and broken stone of the concrete is much more advantageous than a much larger quantity less carefully mixed. For foundations he recommends the use of one part of cement to from six to eight parts of sand or gravel, or to from eight to ten parts of broken stone. In those cases in which the structure is subjected to heavy shearing forces, these proportions should be somewhat reduced, one part of cement to from five to six parts of sand being more suitable. In the case of very important work Mr. Dyckerhoff recommends the carrying out of experiments to settle the proper proportion of cement to sand, employing in the experiments samples of the same sand that will actually be used in the work, as sands differ so much in constitution that often a comparatively dull and bad-looking sand will give better results when tested in this way than sand of much brighter and better appearance. This of course does not apply to sands clearly clayey. In making the concrete the cement should not be measured, but weighed, as the weight contained in a measure varies considerably. In his own practice he uses as a unit a sack of cement, which is of invariable weight. The sand and cement are mixed and turned over three or four times with a spade before the water is added, after which it is again thoroughly worked till it forms a homogeneous and slightly

damp mass. The broken stone, gravel, etc., which has been carefully washed and is still damp, is then added and the whole thoroughly reworked, so as to completely cover each fragment of stone with the cement, a point of the greatest importance. Workmen are deputed to prevent any of this stone working to the top during the transit from the mixing table to the site of the works, and equal care is taken in depositing it in the trenches, careful and experienced men alone being employed, as without this precaution the success of the work cannot be assured. To finish off the work Mr. Dyckerhoff makes use of the cement mortar consisting of one part of cement to 2½ parts of sand, to which is added if the sand is coarse, one-tenth part of fat lime, which makes the mortar spread more easily.

Contractors often complain because an architect favors certain bidders into whose hands he would prefer that his contracts should go. It is to those favorites that his invitations for proposals are issued, and applications from outside parties for the privilege of estimating generally have but little effect. This disposition of the architect is not infrequently regarded as partial, to say the least, and by this action he lays himself open to the charge of having some ulterior and not altogether worthy object in view. Complaints are frequently heard from architects who have been forced by owners to employ builders whose responsibility and methods were unknown to them. The question of sympathy between architect and builder is one which we can all appreciate. The contractors with whom he has had experience are known to have good business qualifications and have been in the habit of doing good work and doing it promptly. They have earned the coveted position in his esteem by actual proof of all those qualities which brings success in every vocation. One-half of the architect's responsibility and anxiety is dissipated when his business and reputation is entrusted to such men. His success as an architect, therefore, depends in a great measure upon his ability to choose proper contractors for the owner. Sometimes, however, when compelled to take one of these new parties, he makes the acquaintance of a very honest and capable man, and puts him on the list as being worthy of patronage in the future. This winnowing process tends to purify the building trades and raises the standard of architectural practice to a higher level. We believe, however, that in order to clear themselves from any unjust aspersions, architects should show less tendency to be exclusive and extend to every builder desiring it an opportunity to prove his standing by competent testimonials and references to past work. Particularly should a fair chance be given to young mechanics who manifest a desire to establish a reputation and maintain it. Of course, no fair competition in building estimates can be obtained where the bidders are not all on the same moral level. No man whose custom is to work in strict accord with the letter of the specifications, desires to estimate in close competition with those whose purpose is to supply cheap labor and inferior materials. But this danger should not serve to entirely bar from an architect's consideration the claims of aspiring builders who must all begin business under the disadvantage of being unknown and their virtues unappreciated.—*Building Trades Journal.*

Wood brought to a mirror polish is coming into use for ornamental purposes in Germany, and has this advantage, that unlike metal, it is not affected by moisture. The stuff is first treated with a bath of caustic alkali for two or three days at a temperature between 164° and 197° F. Next comes a dip in hydrosulphate of calcium, for from twenty-four to thirty-six hours, after which a concentrated solution of sulphur is added. After another soak in an acetate of lead solution, at 95° to 120° F., it is thoroughly dried and polished with lead, tin, or zinc, as may be desired, when it resembles shining metal.