

## THE APPRENTICESHIP QUESTION.

The National Association of Master Plumbers of the United States, at their annual convention held in St. Louis recently, set forth their position on this question by resolution as follows:—

"Be it recommended that the apprenticeship committee feel that all local associations of Master Plumbers should at all times have control of the apprentices, and not the journeymen, and it is further recommended that local associations, on making agreements with their journeymen, should insist on regulating the number of apprentices to be employed at the trade, and not let the journeymen regulate it for them, to the total abolition of the apprentice, as it now exists in several localities."

## ARMORED CONCRETE VAULTS.

To the Editor of THE CANADIAN ARCHITECT AND BUILDER:—

I was interested in your paragraph in a recent issue of the CANADIAN ARCHITECT AND BUILDER on "Vaults" and the reference to the Baltimore Fire. I agree that brick and cement work properly built fulfils in a great measure its purpose in protecting valuable documents, etc., but I would prefer "armored concrete" as a building material for vaults, in fact for any fireproof work.

It may interest some of your readers to know that two armored concrete vaults have been constructed quite recently right here in the city of Toronto—at Messrs. Eby, Blain's warehouse in Front Street. The walls were 25 inches thick supported on a solid foundation 4 feet thick of cement concrete, with an air space in the centre of the walls of 2" galvanized iron sheeting properly ventilated. The ceilings were heavily armored with sheets of expanded metal: iron rods placed diagonally and cramped at the ends, and 10 inch rolled steel joists imbedded in the concrete, which was 3 feet thick. The doors of the vaults were properly built in the concrete.

I have had considerable experience with armored concrete and I firmly believe that it is the best material for vault construction. The cost may be a trifle in excess of properly built brickwork in cement. It has been proven that cement concrete will withstand the effects of fire better than brickwork.

The subject is one of great importance to the merchants of Toronto, as many must surely know by bitter experience by losing valuable documents and business records in the late fire. One has only to walk through the fire district to-day and see the miserably constructed vaults of bricks and mortar of the poorest type, still standing total wrecks amongst the ruins.

Respectfully yours,

ROBERT BENNETT,

Concrete Engineer and Specialist.

Toronto, October 4th, 1904.

## NOTES.

E. James & Company, roofers, etc., Montreal, is composed of C. O. Darcie and A. T. James.

F. E. Came, manufacturer of railway appliances, St. Croix, N. B., is reported to have assigned on demand of Arthur Hersey, of Montreal. The assets are stated to amount to \$63,000, with liabilities somewhat less.

A fourteen storey New York office building, containing 927,000 cubic feet of space, shows a consumption of 118 to 125 tons of coal per month, or an average of 48 tons per day, equal to 1½ pounds per day per 1,000 cubic feet of space.

A paper read before the chemical section of the Franklin Institute a short time ago dealt with the durability in pigments, and showed the advantage of microscopical examination. This is the more important where the object is protection rather than decoration; and one point brought out clearly in the paper read was that the current arguments for thinning out paints with oil to make them cover more surface are fallacious.

A well-designed chimney stack is not only useful constructionally, but if arranged at the end of a house, gives great character and charm, and deserves much time and attention being spent on it. If building in brick, try and plan your fireplaces and flues so that the chimney stacks are solid and square; anything is better than a long flat chimney of some ten or a dozen flues and only 18 in. wide! Its effect is always poverty-stricken, and the additional brickwork in the chimneys makes them stronger and warmer, and consequently able to draw better.—Mr. Guy Dawber.

## ANNOUNCEMENT

George A. Ross and David H. Macfarlane announce that they have formed a partnership for the general practice of Architecture under the firm name of Ross & Macfarlane, Room 51, Bank of Ottawa Building, 51, James Street, Montreal. Telephone Main 227. They will be pleased to receive samples and catalogues.

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