

perience, yet can show but few or inferior tools, should be looked at closely before his statements are accepted as true. Many young men who are working at their trades as apprentices or learners, are unable to purchase tools while in their present position, but they should, if their wages will permit, buy an odd tool now and again. Another way is to lay aside a small amount from each week's wages for the purpose of buying books, trade journals and tools. Divide equally between books and tools, as one is just as necessary as the other; and make a list of what is needed, then purchase the first on the list, as soon as the allotted cash amounts to the sum required. A little judgment will be necessary in the purchase of both books and tools, and it will be well to consult some old workman in whom perfect confidence can be placed. One thing, however, it will always be right to subscribe for, is the journal representing the trade followed, that is published in your own district, province or country; then, if it can be afforded, other current journals may be added. As regards books, there are so many now devoted to the building branches—many of which are first class—that there will be no trouble in making a selection. By following these suggestions a young man will soon own a good "kit" of tools and a valuable and instructive library. Another thing, too, he will have the habit of saving a little money, a habit that will have as much value as his tools.

MANY plasterers and others who visited the Columbian Exposition in Chicago, were struck with the appearance of the marble-like buildings, and no doubt wondered how the fine white effect was obtained. The material used to accomplish this effect is a peculiar mixture called "staff," but which is little known in America. It is chiefly composed of plaster of Paris and a small percentage of cement, into which are introduced fibres of hemp, jute, sisal grass or other similar substance, to give it toughness, so that it may be bent, sawn, nailed or bored. It is cast in moulds like ordinary plaster; after being wet to the consistency of thick cream or batter, a layer is spread in the well lubricated mould. Next follows a layer of the long tough fibres; over this is poured another coating of the liquid plaster, then another layer of long fibre, and so on until the mould is properly filled to the required depth. In case of statues and statuary groups, the models are first fashioned in clay and coated with staff. Most of the workmen employed on the works of the White City were German, French and Italian, the art and practice of staff-making being understood by but a few people in Canada or the United States. The composition hardens sufficiently to be handled in about ten minutes after it is formed, a quality that is often of great advantage. "Staff" is fire-proof, and, to a considerable extent, water-proof. If kept painted it will withstand the weather for a number of years. If it cracks or crumbles off, it can be readily repaired with a brush or trowel, from a tub of the liquid mixture. For inside decoration it possesses superior qualities and ought to be better known and used in Canada than it is. The ordinary plasterer who is expert in casting ornamental plaster work will find no difficulty in making and manipulating "staff," and the more substantial results will more than repay him for his extra care and trouble. There are a thousand uses to which it may be applied with advantage.

Rights of Canadian Contractors.

A RECENT despatch from Montreal to the Toronto World draws attention to an injustice which it is claimed is inflicted upon Canadian contractors in connection with the awarding of contracts by the Dominion government. It is correctly pointed out, that in past years many of the largest contracts have been given to American firms who have no interest whatever in Canada except to enrich themselves by the profits realized from public contracts. On the other hand, Canadian contractors are not only prevented from obtaining United States government contracts by a law which provides that only full-fledged Americans be allowed to tender, but by the alien labor law Canadians are restricted from even obtaining employment without first taking out naturalization papers. A few years ago Major McLennan, M. P. for Glengarry, introduced a bill in the Dominion Parliament to prevent contracts from being awarded to any but Canadian contractors, thereby placing contractors in both countries on the same footing, but he was turned aside in his purpose by the promise of an ex-Minister that he would stipulate that American contractors must employ only Canadian labor. This was not regarded as satisfactory by our own contractors, who hoped for some relief upon the return to power of the present government. This, however is apparently not to be obtained, if we may judge by the provisions governing work for which tenders were recently asked. In the case of the deepening of the St. Lawrence canals, the tenders for each section were to be accompanied by a marked cheque ranging from \$75,000 to \$150,000. This sum, it is claimed, is beyond all reason, and is the means of greatly reducing competition. Apart from the injustice done to contractors who are perfectly capable of executing the contracts, the country is likely to be called upon to pay higher prices for the work than would be the case were the conditions governing the tenders less stringent. It is urgently to be hoped that the future policy of the present government will be in the direction of fairer dealing with Canadian contractors.

USEFUL HINTS.

PAINT FOR IRON WORK.—The following is quoted by Walter G. Berg in an article in the Engineering News, as being the formula recommended by Dr. C. B. Dudley, of the Pennsylvania Railroad: French ochre, 39 pounds; lamp black, 1 pound; raw linseed oil, 54 pounds; Japan, 6 pounds.

Ebonising for floors can be easily done says the Plumber and Decorator, by boiling logwood chips in water—one pound of chips to one pound of water—till the liquid is well coloured. Apply this to the floor evenly and carefully, giving a second application if the boards are close textured. When this is quite dry, apply in a similar way a strong solution of sulphate of iron in water. A good chemical ink-like black will be the result, which, after sizing, may be varnished like any other stain, or preferable it may be polished with beeswax and turpentine. The duller surface so given is better, artistically speaking, than the glaring, shining surface given by a varnish, at any rate where a black stain is used.

FRESH CEMENT, TO PAINT OVER.—A contributor to Painting and Decorating recommends that the wall be washed with dilute sulphuric acid several days before painting. This will change the surplus caustic lime to sulphate of lime or gypsum. The acid should be about one-half chamber acid and one half water, but if quick action is wanted 66% acid will answer. This should be repeated before painting, and a coat of raw linseed oil flowed on freely should be given for the first coat. While this cannot be always guaranteed as effectual for making the paint hold, it is the best method our correspondent has heard of for the purpose, and is worth trying when it is absolutely necessary to paint over fresh cement.