young men, and, indeed, many no longer young, who have never taken the position and received the emoluments which their talents and industries should command. They spend their lives as architectural assistants, doing the more arduous work connected with an architect's business, including often a great deal of first-rate original designing, for which they receive but a very inadequate salary. The architectural "ghost" who makes designs for which his principal gets the credit, and the pay is a melancholy figure." Of course this is a terrible state of affairs. It is impossible, however, to imagine vast crowds of men so utterless spiritless as to put up with injustice of this kind, though here and there may be a genius who suffers from neglect and imposition. In New Zealand genius neglected is not so prevalent as it is thought to be in Britain. On the other hand many people are in favour of the competition system because it calls out the best talent, and if youth or "ghosts" have the talent, the system will give them the career.

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The National Harbour Works at Dover are described in most of our exchanges as being stupendous. They need to be, for the number of times the works have been the plaything of the sea are a familiar story And the sea thereabouts when in a rage is something to remember, in fact never is forgotten by anyone who has made closer acquaintance with it. This time the nation seems determined that the old fishing village's fame from its earliest days as the starting place for the Continent, shall be emphasised by one of the best artificial harbours in the known world Some idea of the magnitude of the work may be gathered from the length of the piers and breakwater, which is between two and three miles Commencing at the engine sheds with quite an array of locomotives, you pass on to the stoneyard where Goliath cranes are lifting 45-ton blocks of concrete with the greatest ease. From thence on to the eastern arm, the full length of which has a fine elevated promenade protected on the weather side with a solid granite coping. From the eastern arm you cross over a temporary bridge on to the breakwater, which is about 40 ft. wide and from 60 ft. to 70 ft. deep. Here the divers are working in bells and dresses day and night, rapidly placing in position the huge blocks of concrete, all of which have been made at the ancient port of Sandwich. The blocks that are exposed to the water are cased with 12 in of granite built into them when moulded. The harbour will be one of the largest in the world and will cost from £12,000,000 to £13,000,000.

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Talking of architects and those capable assistants who, according to some authorities quoted above, do the work for which inferior men get the credit and the pecuniary reward, what shall we say of the great architects who left their work for the admiration of generations of grateful men, but no hint of their names or their no doubt, most interesting personalities. Take the case of this very Westminster Abbey, which shelters the dust of so many architects of note, none of whom ever did anything to come up to the famous Abbey The architect of that great pile, is not mentioned in any history; he has been forgotten. We are reminded of the fact by the following fine verses in the *Westminster Gazette* —

Dead men, whose heavy ashes here we hide,
Not yours, I think, the ghosts to stir this shade
But comes he never that this Abbey made,
Whose name we know not, neither how he died?

Princes and kings that gave their gold in pride
Lie still enough, nor stir themselves at all,
But he that flung these arches up so tall
Should sometimes wish to see how they abide.

Now, while his pillars all stand sentinel,
While for one hour the city thunders sleep,
In some still shadow surely he must wait,

To fade at dawn contented, for that still
Darkness and silence in their vigil keep
This his immortal shrine inviolate

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The new store which Messrs. Williams & Kettle have found it necessary to erect at Port Ahuriri, to meet the requirements of their large and steadily increasing business, is now completed It is situated at the corner of Bridge street and Ossian street, with a lofty and imposing facade to Bridge street Though not at present required, provision has been made for a second story which can be added at a comparatively trifling cost in the future The store has a depth of 155 ft with a frontage of 135 ft, and is capable of holding for sale purposes nearly 3000 bales of wool It is built on the usual lines, with the exception of the roof, which is known as the saw-tooth roof, and which was introduced into this district some six years ago by Mr C. Tilleard Natusch, whose Napier representative, Mr Rene Natusch, prepared the plans and supervised the erection of the building The wall of the store next Messrs. Williams and Creagh created considerable curiosity and criticism while in course of erection, as it was erected of reinforced concrete according to plans and specification specially prepared by Mr. Rene Natusch This is understood to be the first time that reinforced concrete has been used to a large extent in a building in Napier. The contract price was £4200, and the work was carried out by Messrs. Bull Bros. in a good and workmanlike manner to the entire satisfaction of the firm and the architect. The dumping plant, which is of the most improved type, was put in by Messrs. Jas J Niven & Co

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The work of the New Zealand Brick, Tile, and Pottery Company, New Lynn, Auckland, are being laid out with the intention of making them the most up-to-date plant of its kind in the southern hemisphere Many New Zealanders will be surprised to hear of the extent of these works when completed. They stand upon 73 acres of land, and clay has been tested as far down as 150 ft. One machine is capable of turning out 100,000 bricks per day on the plastic system, of any colour that may be required; but though the machine has this large capacity, it is doubtful if the bricks can be removed in their plastic state as fast as the machine is capable of making them. The plastic system generally is not supposed to give such a perfectly formed brick as the various press machines, but this particular machine turns out bricks wonderfully true, square, and smooth. After leaving the machine they are dried by artificial heat in one day, and are then burnt and ready for market in about two weeks The kiln is of the continuous kind, with a capacity of from 30 to 40 thousand daily; the draught is specially controlled and arranged in such a way as to be away from the workmen, making it much more pleasant to operate Sanitary ware will be specialised, and very soon glazed bricks and tiles will be made. The larger kinds of pottery, as demi-johns, bread pans, sinks, etc., will be also made here. Fire-clay goods will constitute a fair percentage of the output, as a specially good clay is available. The abattoirs at Otahuhu are taking the first of the company's output As artificial drying forms a feature in the process of manufacture, a large Hornsby steam boiler of 390 h p, working pressure 160 lb per sq in., is installed and supplies heat for artificial drying and steam for the engine, which is one of Tangyes' 165 h p The managing director is Mr. Hugo Friedlander of Ashburton Mr. A. Crum kindly showed our representative around, and we hope when these works are in regular running order to supply our readers with some views of them.

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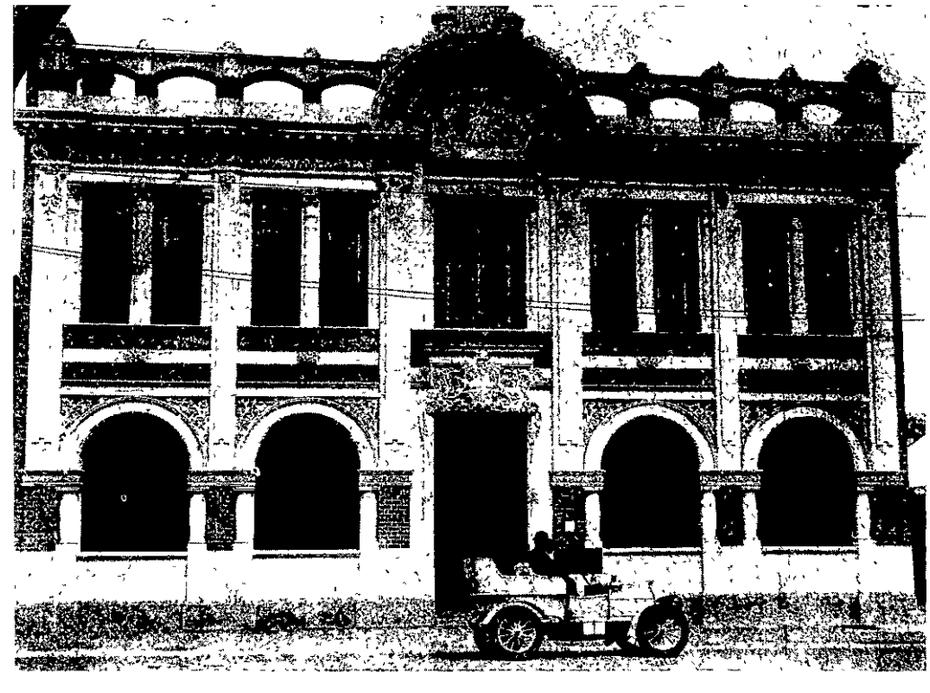
In laying out work on planed surfaces of steel or iron use blue vitriol and water on the surface This will copper-over the surface nicely, so that all lines will show plainly If on oily surfaces, add a little oil of vitriol; this will eat the oil off and leave a nicely coppered surface.

Constructional Lesson from San Francisco.

In the January number of *Concrete and Constructional Engineering*, Captain Sewell has a valuable article on reinforced concrete as a fire-resistant. The article was partly written before the catastrophe at San Francisco occurred, but its publication was deferred until the author had an opportunity of incorporating some additional matter suggested by the results of the catastrophe on concrete buildings. The article is illustrated by some striking photographs showing the effects of the earthquake and fire on buildings of various types. The author thus summarises his conclusions —

In general, the San Francisco fire brought out nothing new relative to the value of the various materials used for fire-resisting purposes. It demonstrated beyond question that the commercial work in the United States, both reinforced concrete and hollow tiles, have been applied in a flimsy and inadequate way. Both the San Francisco fire and the Baltimore fire demonstrated that commercial hollow tile work is very apt to fail by expansion stresses in the exposed webs, and that reinforced concrete was likely to be seriously damaged by the dehydration of the cement. Both fires indicated clearly, however, that both of these materials can be used so as to secure adequate and satisfactory results, and, in the writer's opinion, when so used, the cost will be about the same in both cases.



THE DUNLOP CO'S FINE NEW PREMISES IN WORCESTER STREET, CHRISTCHURCH.

While this is an article especially on reinforced concrete, the writer would point out that the serious problem in congested districts of large cities is not so much the securing of a fireproof covering for the street frame or a fireproof construction which will have such resistance that it will come through a fierce fire undamaged, as the devising of means of excluding an external fire.

The question of window protection is by all odds the most important one at the present time. Had the fire been kept out of the fireproof buildings in San Francisco, none of the weakness in either concrete or hollow tiles would have been developed, and even the flimsy commercial type would have been, on the whole good enough. However even a fire originating within would have done serious structural damage to the fire proof construction in San Francisco; so that, after the question of window protection is properly attended to the interior fire-resisting features should also be improved.

So far as the concrete itself is concerned, that which was used in San Francisco for fire-resisting purposes was so poor to begin with that the writer had great difficulty in many cases in determining whether its unsatisfactory condition at the time he examined it was due to the fire or to carelessness or neglect in its original installation Careful examination, however, indicated that the surfaces exposed to the fire were manifestly in worse condition than the portion which had been protected from the fire, although it was all so inferior that there was not very much room for a different quality.