Architecture and Building.

The Architectural Editor will be glad to receive suggestions or matter from those interested in this section.
Address: Architectural Editor, Progress, *Progress Buildings, Cuba Street, Wellington.*

Twelve new workers' dwellings are in course of erection in Tennyson street, Sydenham, Christchurch. Contractors, J. Greig, and Dibnah & Gant.

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An up-to-date butcher's shop is in course of erection in Cashel street, Christchurch, for the Christchurch Meat Co. Contractor, C. H. Cox.

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A three-story brick building is in course of erection in Cashel street, Christchurch, for the Australian Widows' Fund Assurance Co. Architect, F. J. Barlow, A.R.I.B.A.; contractor, W. H. Bowen.

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The new Presbyterian church at Ashburton is in course of erection. This structure is a brick building with a spire, and the contract price is about £2,700. Architects, England Bros.; contractor, W. Reid.

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Alteration and commodious wood-and-iron additions to the Carlton hotel, Bealey avenue, Christchurch, forming extra acccomodation during the Exhibition period, have just been completed. Contractor, P. M. Stewart, Papanui.

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A gothic roof of reinforced concrete has been built for a church in Belgium. It has a central span of 23 ft., and side spans of 11½ft. The concrete is covered with mortar and plaster mouldings.

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A two-story brick building with iron roof, to be occupied as a technical college and workshop, is in course of erection at the corner of Moorhouse avenue and Barbadoes street, Christchurch. Architects, Hurst Seager & Wood; contractor, H. Green.

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A three-storey brick building, facing the lane off Hereford street, Christchurch, for Messrs. Hement Bros., and to be occupied by tenants as offices, is in course of erection. Architects, Collins & Harman; contractors, W. Greig & Son.

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A large wood-and-iron building, adjoining the N.Z. Shipping Co.'s sheds, and to be occupied by the Massey-Harris Co. as a bulk store, is in course of erection at Lyttelton. The building has about 10,200 feet of floor space. Architects, Hurst Seager & Wood; contractor, J. Rowe.

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The contract for the additions that are to be made to the Central Public Library, Wellington, has been secured by Mr. W. G. Emeny at £1210. The unsuccessful tenderers were —J. Moffatt, £1288 10s.; A. Wilkenning, £1480; Martin, Hurrell & Snaddon, £1556; M'Lean & Gray, £1685 10s., Meyer & Illingworth, £1768.

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A two-story brick building for offices and store is in course of erection in Tuam street, Christchurch, for the Christchurch Brick Co. (T. N. Horsley). This building is constructed of red bricks, rock-faced bricks, and sand-lime bricks combined with terra-cotta. The ground floor is finished with paving bricks, and houses an electric elevator running to the upper floor. Architects, Hurst Seager & Wood.

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A large gathering assembled in the vicinity of Messrs. J. Nathan & Co.'s new building, Wellington, on the 24th October last, to witness a public demonstration of the efficiency of Humphries' Patent Safety Scaffold Bracket. Amongst those present were the Premier, Sir J. G. Ward, the Hons. Mr. Hall-Jones (Minister of Public Works), Mr. J. A. Millar (Minister of Labour), and members of both Houses of Parliament and the representatives of the Wellington City Council.

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In the big cities we always find the trouble that in a short time new buildings look old, and the old buildings look very dirty. In many places the buildings are cleaned on the outside or planed over in order to give it a cleaner appearance. In Berlin a steam cleaner has made its appearance and has given very satisfactory results. The whole outfit consists of a small boiler, and the man who cleans the outside of the building washes the whole front clean with steam.

In order to determine if brick clays, which have a medium percentage of lime, could be used for brick manufacturing, a Mr. Loeser conducted a number of tests. The principal tests were the mechanical separation by washing. He also tried the very intimate mixing by fine grinding. Of the two experiments the best results were obtained by washing, and it was distinctly shown in the experiments that the fine grinding of the lime had not the desired effect.

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In architectural beauty, in the splendour of its interior decorations, the Congressional Library at Washington ranks with the first great public buildings of the world.

As the illustration shows, the library building is rectangular in shape, with a central tower, from which run four internal wings. Three of these wings are filled with book stacks; the fourth is the entrance rotunda. Two of the book stacks are very large, each containing twenty-six miles of shelving.

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The ceramic school in Bunzlau had, in the summer of 1905, 86 students, and in the winter term of 1905–06, 66 students. The faculty has now seven teachers, with Prof. Dr. Pukall as director. The ceramic school of Hohr did not have as many students. The day course was attended by 44 students, while the night course had 49 students. As scholarships this institution received from the German Association of Ceramic Manufacturers 200 marks, while the Chamber of Commerce gave 100 marks and the County Commissioners 500 marks. The faculty consists of four teachers, two assistants and two shop assistants.

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It is sometimes thought that reinforced concrete is necessarily a fire-resisting material. This is by no means the case. It all depends upon the composition of the concrete. One of the resolutions adopted at the Milan International Congress deals with reinforced concrete, and is in the following terms:— (*a*) That the Congress considers that no reinforced concrete construction should be permissible in buildings intended to be fire-resisting, unless the aggregate be most carefully selected and applied in such a manner as to give substantial protection to all metal parts. That it is advisable, where reinforced concrete is intended to be fire-resisting, that every portion of the metal rods or bars contained therein be covered by not less than 2 in. of concrete, the aggregate of which must be able to pass through a sieve of not more than 1 in. in diameter and that Portland cement of great firmness only be used. (*b*) That, where feasible, all external angles should be rounded. (*c*) Any angle-iron needed for mechanical protection should be held in position independently of the concrete.

Fireproof Buildings.

A PLEA FOR FIRE-RESISTING METHODS OF CONSTRUCTION.

In the September number of the *Engineering Magazine* there is an interesting article by Mr. Joseph K. Freitag on fire losses in the United States. It is suggested, of course, by the San Francisco disaster, but deals with problems of importance to the whole building world. The author shows that the loss of life and property in the great dramatic catastrophe, which so startled the world, is equalled by the regular annual aggregate of similar losses in the United States, and much of this loss he thinks is preventable.

The remedy for these great losses in life and property is not to be found, the author thinks, in either increased insurance, or in improved methods of fire fighting. Insurance is a palliative, and not a cure, and the same may be said of fire departments. Neither reaches deep enough to effect the removal of the cause, and make impossible fires of any degree of magnitude. Of course, fire-fighting facilities will always be required to cope with incipient fires but the true underlying remedy for this great loss of life and property must lie in the universal application of fire-resisting methods to building construction—not in mercantile buildings in congested city areas alone, but in all schools, churches, places of amusement, hospitals, town halls and even in city and country residences.

Fire-resisting Construction to be Universal.

For the efficiency of fire-resisting construction varies with the universality of its adoption. No building can be considered as a unit, regardless of its neighbours, for as long as a modern fireproof (or fire-resisting, as it is now generally called by fire protectionists) building stands in the midst of highly dangerous inflammable neighbours, just so long is the term fireproof a misnomer, and highly misleading to the layman who thinks that because termed "fireproof" the structure is therefore proof against all fire damage to itself or to its contents. This was well exemplified in the Baltimore fire, where the structures which had been built after fire-resisting methods were found to have been gutted by fire, and to have sustained great damage, although still standing and capable of being re-used, at least as far as essential structural portions were concerned. But it must be remembered that no building erected of the materials which Nature has given us to use can be designed or constructed to withstand conflagration at its height.

Fireproof Cities Needed.

Fireproof buildings must stand in fireproof cities, for each added example of fire-resisting construction contributes just so much to the bulwarks protecting all. We know by ample experience that buildings can be and are being constructed which will safely withstand all that can reasonably be expected of them as to fire-resistance—namely, that under any ordinary conditions they will safely confine fire within the edifice or compartment where it originated, or safely exclude fire from any exterior hazard of not too great intensity. Their ability to fulfil these conditions has been fully demonstrated, both by buildings threatened by destruction from without, where the construction has prevailed against the attack, and in other cases where the fire resistance of the structure served to confine an otherwise dangerous fire to the compartment where it originated, almost without the knowledge of other occupants of the building. But individual examples are not sufficient. The practice of fire resistance must be so universal in building construction that no conditions could result in the spread of fire beyond the original premises, or at least, beyond immediate neighbours. Both the Paterson and Baltimore fires plainly demonstrated the ability of adequate fire-resisting structures to obstruct even conflagration in its path.

Europe and America Compared.

The author proceeds to compare fire losses in American cities with cities in England and Europe, to the great advantage of the latter. In American cities the fire losses are much greater than in most European cities, and this in spite of the fact that the daily number of fires is about the same, and in spite of the unusually marked superiority of American fire-fighting facilities. The real reason for the difference is to be found in the methods of building construction, While American cities have permitted the erection of "fire-traps" on every hand, Continental municipal regulations limit the height and area of buildings, and the character of the building materials, and generally enforce adequate fire-resistive construction throughout all city buildings.

In Europe it appears fires seldom spread beyond the building in which they originate whereas, in America, a small fire rapidly becomes a wide-spread conflagration. Mr. Freitag takes, by way of example, the Spanish city of Malaga, where the fire losses in 1890 amounted to but £1,000, with a population of 135,000 persons. The entire fire department was most primitive,about equal to what would be found in a small American town, say, fifty years ago; yet the prevalent mode of building of brick, stone, and iron, with heavy fire-walls between all buildings, has accomplished this most insignificant fire loss.

Supply and Cost of Material.

Naturally the scarcity of lumber for building purposes, and its consequent high price, has had much to do to bring about this status of building