

# 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.

## PROVINCIAL NOTES.

MESSRS. Maisey & Johns, architects, Lambton quay, Wellington, report having let the contract for three residences and a two-story factory and stable in brick at satisfactory prices. The same firm have also in hand plans of the projected Royal arcade, Wellington, for a syndicate, and the new Primitive Methodist church, Newtown.

A new Presbyterian church with a lofty spire of 96 ft. is nearing completion at Hastings. Architect, C. Tilleard Natusch.

The Taranaki County Council have raised £12,000 for re-erecting bridges in the County. Steel alone was first tried, and a ninety-foot span bridge was erected over the Waiongona river near Sentry hill, and one fifty-five feet over the Waipuku. The decaying flooring and corrosion through rust, accentuated by the exceptional rainfall, prompted the Council to avoid that system where possible, substituting steel buried in concrete.

Twelve tenders have been received for the erection of a shop at Karori. The contract will be signed in a few days. Architect, John S. Swan.

A residence is in course of erection at Eyreton, near Kaiapoi, for Mr. R. O. Dixon. This building is of timber, and has ten rooms with rough-cast gables and chimneys with tarred chimney tops. A notable feature of this structure will be the front, which is to consist of two wings converging on a central bay forming a forecourt where it is intended to lay out a winter garden. Architect, H. L. White.

A ten-roomed house is in course of erection for the head master of the Gisborne school. Architect, C. Tilleard Natusch.

The Piaku bridge, thirty feet span with a twenty-foot roadway, is now finished and will soon be opened for traffic. Considerable skill has been shown in building this bridge; the traffic was not stopped at all during the progress of the work—the new bridge practically enclosing the old one.

A contract has been let for steel girders and cast-iron work at Nelson. Architect, John S. Swan; contractors, Robertson Bros.

A two-story brick building to be used as show-rooms, workshops and foundry is in course of erection in Manchester street, Christchurch, for Messrs. W. H. Price & Son, brass-founders, pump makers, etc., of Carlyle street, Sydenham. The contract price of this building is estimated to be £2,300, and the firm expect to occupy their new premises before November.

A gallery and adjuncts in connection with St. Peters church, Ferry road, Woolston, is in course of erection. Architect, H. L. White.

Mr. Ernest Leslie, second master of the Gisborne school, has recently entered into occupation of his picturesque residence. Architect, C. Tilleard Natusch.

The bridge over the Wanganui river on the Tariki road is of three spans, the centre span being 60ft. and end spans of 20 and 24 ft. The height above water is 32 ft. and the piers are of concrete reinforced with steel railway rails. The centre span has under-truss beams encased in concrete, with a floor six inches thick, having expanded steel reinforcement.

A contract has been let at £170 for the erection of a cottage at Petone. Architect, John S. Swan; contractor, W. Olliver.

A two-storied building of brick with bands of Oamaru stone the bays and gables of half-timbered work, is in course of erection for Mrs. Cook, Armagh street, Christchurch. Architects, Collins & Harman; contractors, Thos. Henshall & Son.

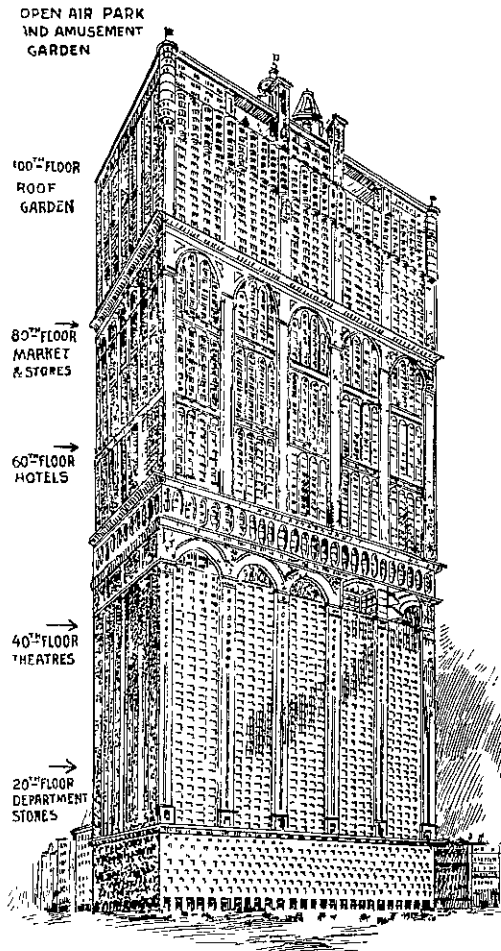
A contract has been let at £3,400 for the erection of a brick warehouse on Taupo quay, Wanganui. Architect, John S. Swan; contractors, Davis and Browman

When the plans are out for the renewal of the Waiwakaiho bridge we shall be able to give further information. The proposal is for a concrete and steel structure of four spans, two of 66 ft. and two of 30 ft., clear.

Messrs. Bradley Bros., Christchurch, wish us to state that they executed the lead lights in the West End Chambers, a building illustrated in our last issue.

The plans have just been completed for extensive additions and alterations to Mr. John Marshall's residence at Tutu Totara. Architect, C. Tilleard Natusch.

A contract has been signed for the erection of additions to a residence at the Upper Hutt for £300. Architect, John S. Swan; contractor, Humphries Bros.



BUILDING OF 100 STORIES FOR NEW YORK CITY.

A large arch bridge is to be erected over the Waiongona river, Mountain road, having a clear span of 45ft.; the arch is reinforced with steel rails and expanded steel. The height of this bridge is 29 ft. above the river. The plan shows a very massive structure, having concrete piers 8 ft. thick with steel rails embedded in them.

Mr. Leslie Gorton, of Feilding, is having a residence erected from the designs of Mr. C. Tilleard Natusch, who, during the past few years, has acted as architect for Col. Gorton & Mr. Norman Gorton.

Another small span arch bridge is going over the Maketehmu stream near to the Norfolk road railway station. This is an arch bridge of 14 ft. span reinforced with railway rails. The piers are erected over the Oakura river, South road, for another bridge. It was intended to build this bridge of wood, but it is now proposed to use reinforced concrete; plans are not yet prepared, but it should be a good structure, as the height of the piers above water is 25ft. and span 62ft.

Extensive additions, covering 150 ft. x 82 ft., are being made to Messrs. Williams & Kettle's stores at Port Ahuriri from the plans of Mr. C. Tilleard Natusch, his son Mr. Rene Natusch, being in charge of the works under his father. All the foundations and the party wall are of reinforced concrete.

## Building of 100 Stories.

CONCRETE is the building material of the future—that is, concrete reinforced with steel rods and small rails. Not destructible by fire, and defying the disintegrating powers of other elements, the compound is easily worked and is cheap, and these things make the ideal material for modern construction.

There are predictions that an office and general mercantile building, as illustrated on this page, will rear itself in lower New York in the not-far-distant future to a height of one hundred stories—close on a thousand feet high.

American engineers began the study of concrete and the uses to which it might be put many years ago, and it is believed they have mastered its problems. There is no steel framework, strictly speaking, in the modern concrete building; there is neither brick nor wood. The foundations are generally of concrete laid on the same base that foundations for other buildings of like dimensions are laid upon, and on these concrete foundations the concrete superstructure is raised.

On the concrete foundations, instead of the erection of heavy steel posts and pillars, four or five small steel rails of perhaps the weight of light railroad rails are placed on end where there is to be a pillar, and around these a mould is built, and into this the concrete is poured and tamped. This mixture dries, and if properly made is harder and more enduring than granite. It will not crack under heat, no matter how great, nor crumble under the beating of the weather. The longer it stands, the harder it seems to become. Stone of most kinds will crack, and steel will warp under stress of extreme heat, but concrete will do neither.

Another thing that gives value to concrete in the eyes of builders, and also in those of the owners of the structures, is its comparative cheapness. For one thing, there are no excessive profits. It is as well known as mortar, has been used as long and is nearly as easily mixed, although more care must be taken.

For ordinary concrete the formula is one part of Portland cement, two or three parts of sand and four or five parts of well-broken stone. The mixing is done by machinery and at a speed which in some cases keeps a steady procession of men with wheelbarrows carrying the mixed product from the machine. The cement is the most expensive ingredient of the mass, and the greatest danger in handling the concrete is in not having the pieces of stone properly distributed in the mould. The question of the proper preparation is one that must be answered by the man in charge of the mixing.

As an illustration of what can be done with fireproof materials, Mr. Starrett, a New York contractor, referred to a building which his company is now finishing for the United States Express Company in New York. From basement to roof there is not an ounce of wood or other inflammable material. Most of the fittings are of metal. These things are required by the building laws of the American city, which provide that any structure more than one hundred and fifty feet high must be fireproof. Experience has shown the architects that to be fireproof, a building must be as free from inflammable materials within as without.

## The Building Situation in San Francisco.

Of the many accounts which have appeared in the British and American press of the devastation wrought by the great earthquake and fire at San Francisco, one of the most interesting is that contributed by the special correspondent of the *New York Carpentry and Building*, who