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Should subscribers continue to receive copies of this journal after expiry of current year, it will be accepted as an intimation that they are desirous of subscribing for a further period of twelve months.

In case of change of address, or irregularity of this paper's delivery, subscribers should send immediate notice.

Publisher's Announcements.

Soldiers' Memorial Competition.

SPECIAL NOTICE!

Owing to the Holidays, it is found impossible to publish the result of our Open Competition for Soldiers' Memorial until the February issue.

EDITOR, "Progress.

Conditions of "Progress" Competitions

The Editor reserves the right of publishing any or all the designs submitted, and while every care will be taken of drawings, no responsibility is accepted should any loss or damage be sustained. Those desiring their designs returned must send postage to cover cost of same. No award will be made unless at least three designs are sent in for any one competition. Unless otherwise stated drawings are to be in black and white only.

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WELLINGTON, AUCKLAND, CHRISTCHURCH, AND DUNEDIN, NEW ZEALAND, JANUARY, 1919.

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Editorial Comment

Price of Roofing Iron. Since the news of the Armistice came, there have been persistent reports in the newspapers of an early reduction in the high prices for roofing iron which have ruled for the past two years and more. Actual sales at these reduced prices have been referred to, though the quality of the material was not mentioned, and there appears to be little doubt that this necessary building commodity will revert to pre-war conditions, as regards supplies and prices, during the next twelve months. Within a few weeks an augmentation of the depleted stocks in the Dominion may be looked for, but it is doubtful whether the price for the best iron will be much below £50 a ton. This price, while showing a substantial reduction on the prices of a few weeks ago, is still far above the pre-war price, which was about £18 per ton, to which rate or a near price the prices must drop within the year 1919. A factor which has operated as much as any in making galvanised iron difficult to obtain during the war has been the practice of building huge portable sheds and shelters of ungalvanised corrugated iron, in the war zones. These huge buildings were, it is said, a Canadian innovation, and were made in the shape of an enclosed arch or tunnel. The whole of the framework, which was made in sections of angle-iron, was bolted together and the corrugated iron bolted over it. In a few hours these enormous buildings could be put up or taken down. Their only drawback, from the soldiers' point of view, was that they were not shell-proof and only moderately shrapnel-proof. The cessation of the construction of these and the reversion of munition factories to ordinary trade industries means that there will be large supplies of building iron available for shipment overseas from Britain. Already several New Zealand importers have had advice of considerable shipments being made, and it is only a matter of weeks when fairly ample supplies of good iron should reach New Zealand.

Warm Roofs.

The scarcity and high price of roofing iron has not been without its advantages as well as its disadvantages. One of the former lies in the fact that many homes, built during the war, will be more warmly roofed than others built under normal conditions. The reason for this is that in many cases, so-called temporary roofs of pliant bituminous material have been used in place of iron, the intention being to cover these over with iron or slates when these materials are available at moderate prices. This will be done in order to comply with the wishes of mortgagors, and especially the Advances to Settlers Department, who prefer roofs of iron or slates. The result of the combination of these two types of permanent and temporary roofing materials must be to make the houses upon which they are placed absolutely weather-proof and very warm in winter. Particularly should this be the case when the felt roofing has been fixed on with cement paint, instead of being nailed on and only the seams cemented. In the former case, with the material firmly stuck to the sarking boards, there is no possibility of the wind getting under it. Double or triple skins of this material fixed in such a manner will make a roof which would last well over ten years. The material has no chance to wrinkle or sag, as it will sometimes do when only nailed to the boards. The danger in the cementing process lies in putting on too much cement. It is then liable to drip through the cracks between the sarking boards on to the ceilings below in hot weather. Ordinary care will obviate such a contingency, and such a roof is very solid, warm and weatherproof. Necessity has led many house builders to make acquaintance with these "temporary" roofings to the advantage of the house builders.

N.Z. Building Stone.

The recently reported advance in the price of Italian marble is likely to be reflected upon the marble-quarrying and other building stone industries in New Zealand in a marked degree. Ample proof has been demonstrated that the building stones of New Zealand are equal to those of any country in the world, and as the diminishing supply of timber causes the prices of that material to rise, stone and brick must be increasingly used in the Dominion. At the present, and in the immediate future, however, it is in public buildings that the greatest use will be made of New Zealand building stone. Competition from overseas, especially as regards marble, has hampered the industry in New Zealand. Prior to the war, Italian marble of the best quality could be landed at Wellington at a price which was 4/- per cubic foot less than that of marble quarried from the Takaka ranges and carried across the Straits. In spite of this handicap, the men behind the Takaka enterprise have stuck to their industry, and if the reported heavy increase in price of Italian marble is correct, they may at last reap something of the just reward

of which they have been deprived by the discrepancy between the low cost of Italian labour and the cost of labour in New Zealand.

While on this subject, we may remark that nothing has been heard for a long time about the New Zealand Government's plan of providing separate headstones for the graves of our soldiers wherever they are situated. Whatever is done in connection with this scheme will have to be co-ordinated with the general arrangements now being perfected by a Commission in London representing all the overseas Dominions. We hope, however, that when a design is approved, that New Zealand's graves will be denoted by a tasteful monument in New Zealand marble, for the sample headstones prepared from this material are excellent in appearance, and of course, extremely durable. The difference in price between New Zealand and imported marble was largely a question of labour cost, but of late years, the marble saw and plane have revolutionised the industry, and with this advantage, the energetic capitalists who have persevered so heroically for years with the difficult task of getting the local product into the market should be able to secure fair returns, having regard to the high cost of freight from Europe, a handicap on the imported article which will continue for some time, although one reduction in freight has been announced. The losses through submarining, and the enormous demands for tonnage to carry supplies to Europe will keep the world's shipping well employed for a considerable time, so that we cannot hope to see freights down to pre-war level for a few years, if at all.

Congestion in Cities.

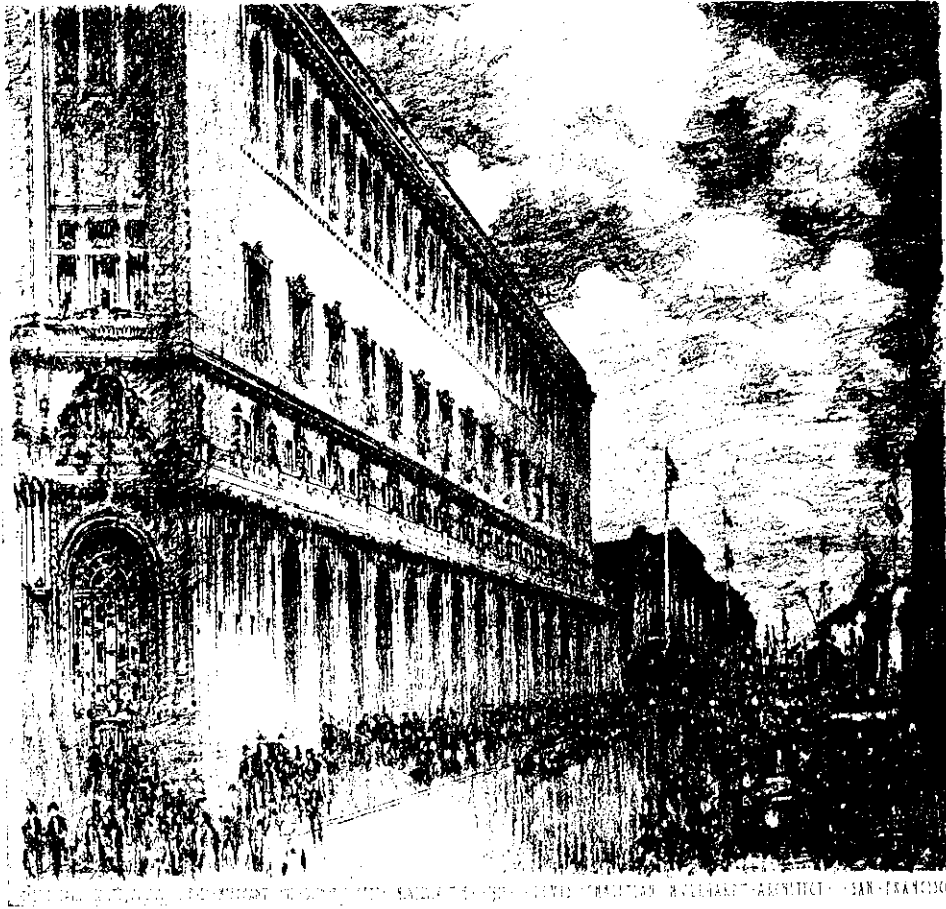
A problem which will have to be faced in New Zealand very soon is that of the crowding into the cities of workers and the difficulty of finding habitations in the cities in which hygienic conditions will prevail. Excepting Christchurch, where the level country enables tramway trailers to be used, the tramway systems have failed to solve the question of providing suburban services to carry workers to and from their homes, with the result that the people are acquiring the habit of living in rooms and flats in the cities. The recent epidemic demonstrated the danger of this practice from the health point of view. If this problem of crowded cities is to be dealt with seriously, a greater use must be made of the railways, and of the water suburbs of Auckland, Wellington and Dunedin. To talk of extending the Wellington tramways to Lower Hutt, for example, as Mr. J. P. Luke, M.P., C.M.G., has been doing, is to evade the issue. What the trams cannot do on short services, they certainly would be unable to cope with on longer runs. Railway trains, given quick despatch, are better than trams, and water travel is better still. The discomforts of winter weather can be overcome by the provision of adequate ferry boats, of which there are very few in New Zealand at the present time. For a young, small country like New Zealand to suffer from crowded cities is a sad reflection on the enterprise of the people's leaders.

Some Pan-Pacific Architecture

LOUIS CHRISTIAN MULLGARDT, of San Francisco,
California.

The name of Louis Mullgardt is not yet very familiar to New Zealanders, but he is widely known in America and England as the designer, among

stopped, for the time being, the discussion of the financing of the scheme. However, the war now being over, the promoters are getting busy again.



The business block for Messrs. Theo. H. Davies & Co., Ltd., as Mr. Mullgardt would complete it. Although the thermometer never rises above 85 degrees Fahrenheit in Honolulu, the city is classed as semi-tropical, and the architect has made his buildings to conform and blend with the mountains, skies and foliage that are ever prominent. It is the "New Idea" in architecture, compelling Nature to assist in planning the beautiful.

other buildings, of the "Court of Ages" at the San Francisco Exposition. He is described as a creator of "scenic" architecture by the editor of the "Mid-Pacific Magazine," to which paper we are indebted for the information published herein.

Most of us here have heard in a vague way of the proposed Pan-Pacific Exposition, but few of us have any definite idea of what is being done in Honolulu, and of the extent to which the Hawaiians have carried their plans. It seems that a great Exposition was planned some years ago, but the war

and it is proposed to make the Pan-Pacific Peace Exposition architecturally one of the most beautiful monuments ever erected in any land. Its buildings will be permanent, representing the architecture of every Pacific land, and will remain after the Exposition, so that at the "cross roads" of the Pacific for all time the architecture of the Great Ocean may be studied.

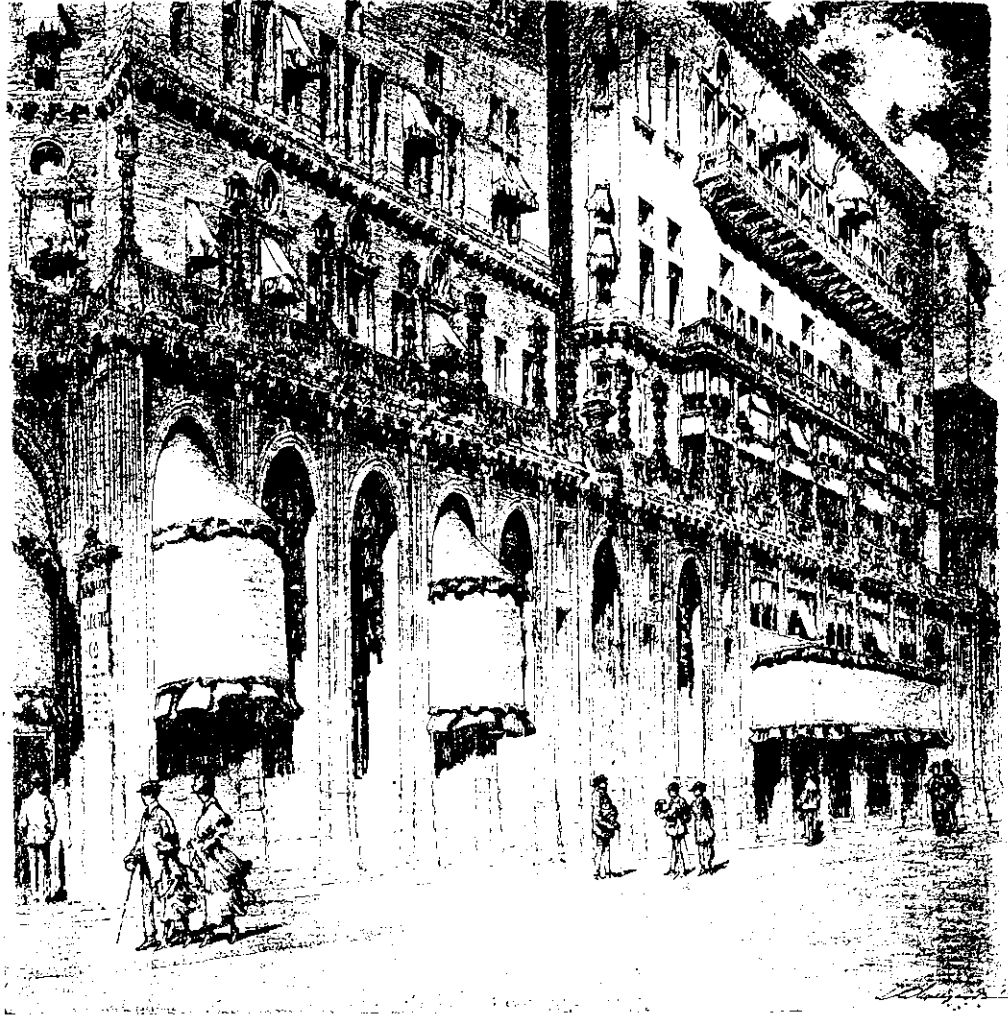
Louis Christian Mullgardt was one of the Art Commissioners of the Panama-Pacific Exposition. This American architect has designed great build-

ings for the City of London, and now he has been appointed to submit plans for the building of the Pan-Pacific Peace Exposition in Honolulu.

Mr. Mullgardt was sent for some two years ago by the leading business men of Honolulu to design and construct both a civic and business centre for that city, and some of the designs for these proposed buildings are shown in this issue.

But it is Mullgardt the architect that interests us most at present, for he is now called upon to create an architecture typical and suggestive of the Pan-Pacific idea.

In interpreting architecturally for the commercial civic centre a true artistic spirit of Honolulu, Mr. Mullgardt set forth his ideas in the following statement to the press:—



A design by Louis Christian Mullgardt for the home of the Hawaiian Electric Company, and for that of the Charles Brewer Estate Ltd., Honolulu—a part of the Commercial Civic Centre of the city, which should be built under the direction of this famous architect, the designer of the "Court of Ages" at the San Francisco Exposition. The plan of this Commercial Civic Centre is rich in suggestion for festal occasion, both by day and night. It is the dawn of a distinctive Pan-Pacific style of architecture.

In taking hold of Pan-Pacific work, Mr. Mullgardt will have associated with him in Hawaii Lionel Walden, D. Howard Hitchcock, and Gordon Osborne, as well as the leading architects of Honolulu, and others who will be summoned from other Pacific lands.

Not only is Louis Christian Mullgardt known as an architect, but his black and white drawings place him in high position among the artists of the land.

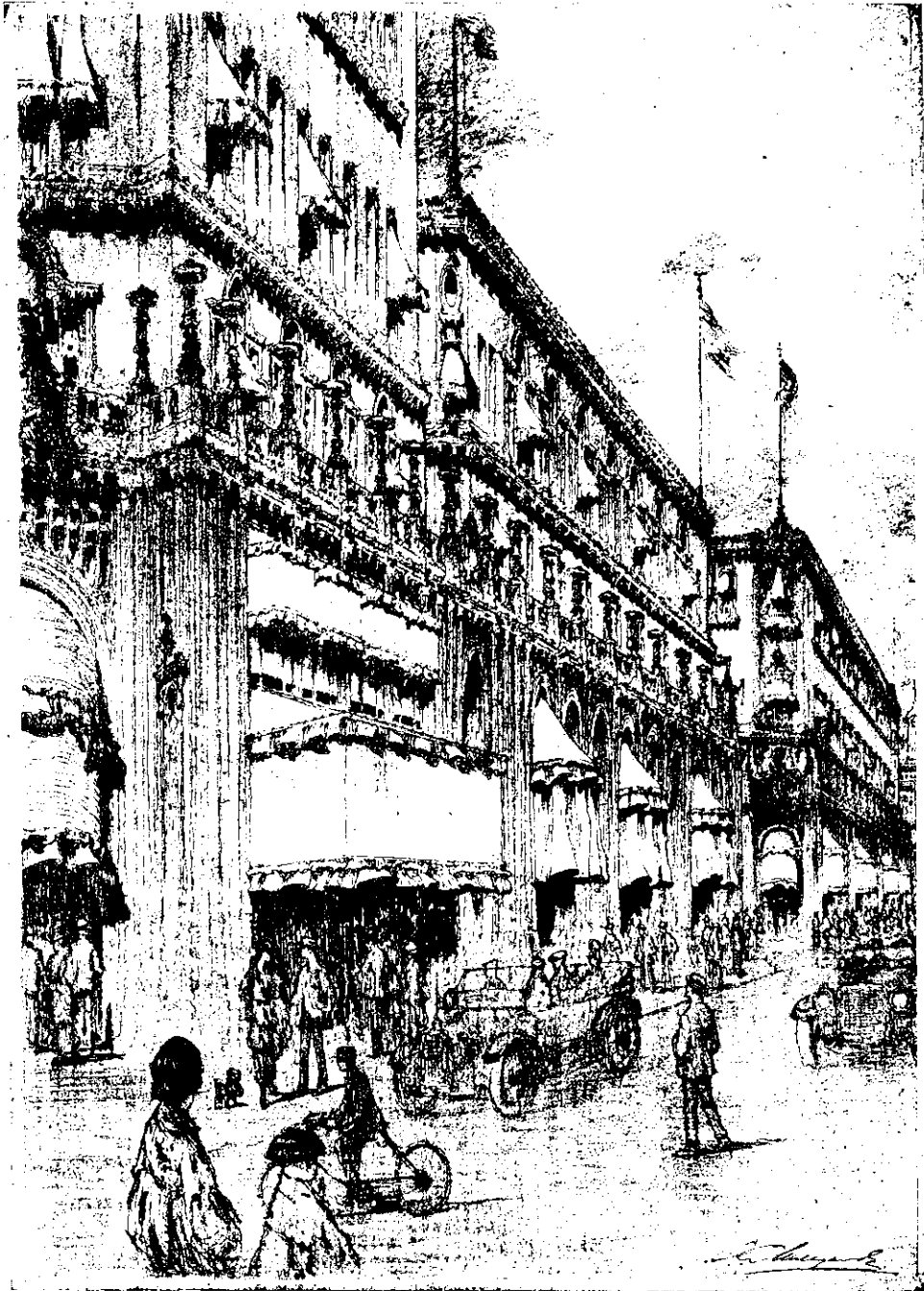
"Honolulu is an acknowledged cosmopolitan world centre. Her individuality is as distinct and definable as any one of the characterful world's concentration points.

"She is situated on the world's invisible line of travel, like an oasis in a great desert, and is less passable in travel than other cities of importance which may be mentioned in the same category. Her phenomenal energy, growth, progress and value in exports surpass all normal apportionment.

"Honolulu is semi-tropical; the sun, abundant rains, and rich soil throughout the islands constitute the foundation of Honolulu the metropolis.

and international. There is less provincialism in Honolulu than in the City of New York. She knows herself and all cities like New York, Paris, London and the rest, whereas their interest is

"She is modern and unique in character and



The life of Louis Christian Mulharden's creation of a Commercial Civic Centre for Honolulu - the east side of Bishop Street, as it will appear should the plans of the famous architect be carried to completion.

variety of her inhabitants, pioneers, pilgrims, and new settlers of many races, who inspire and direct her phenomenal enterprises, worthy educational institutions, and other laudable causes, local, national,

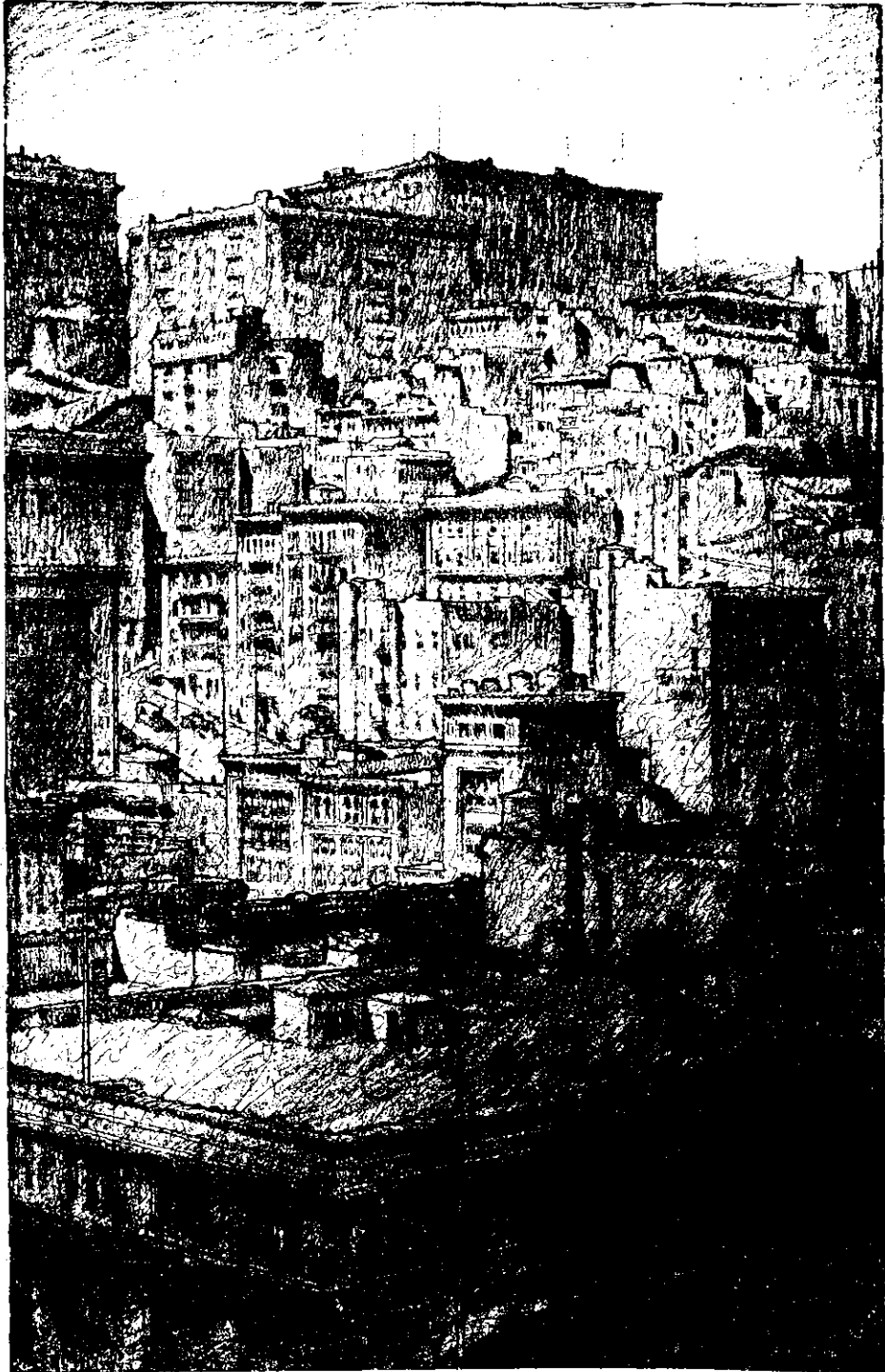
and international. They are now content to know only themselves.

"Honolulu's character is in essence an epitome of traditionally good Renaissance Europe, and our

lovable, kind, democratic country, the United States of North America; these are further blended with the benevolent interest inherent in these island

peoples and the charming influence of the Far East Orientals.

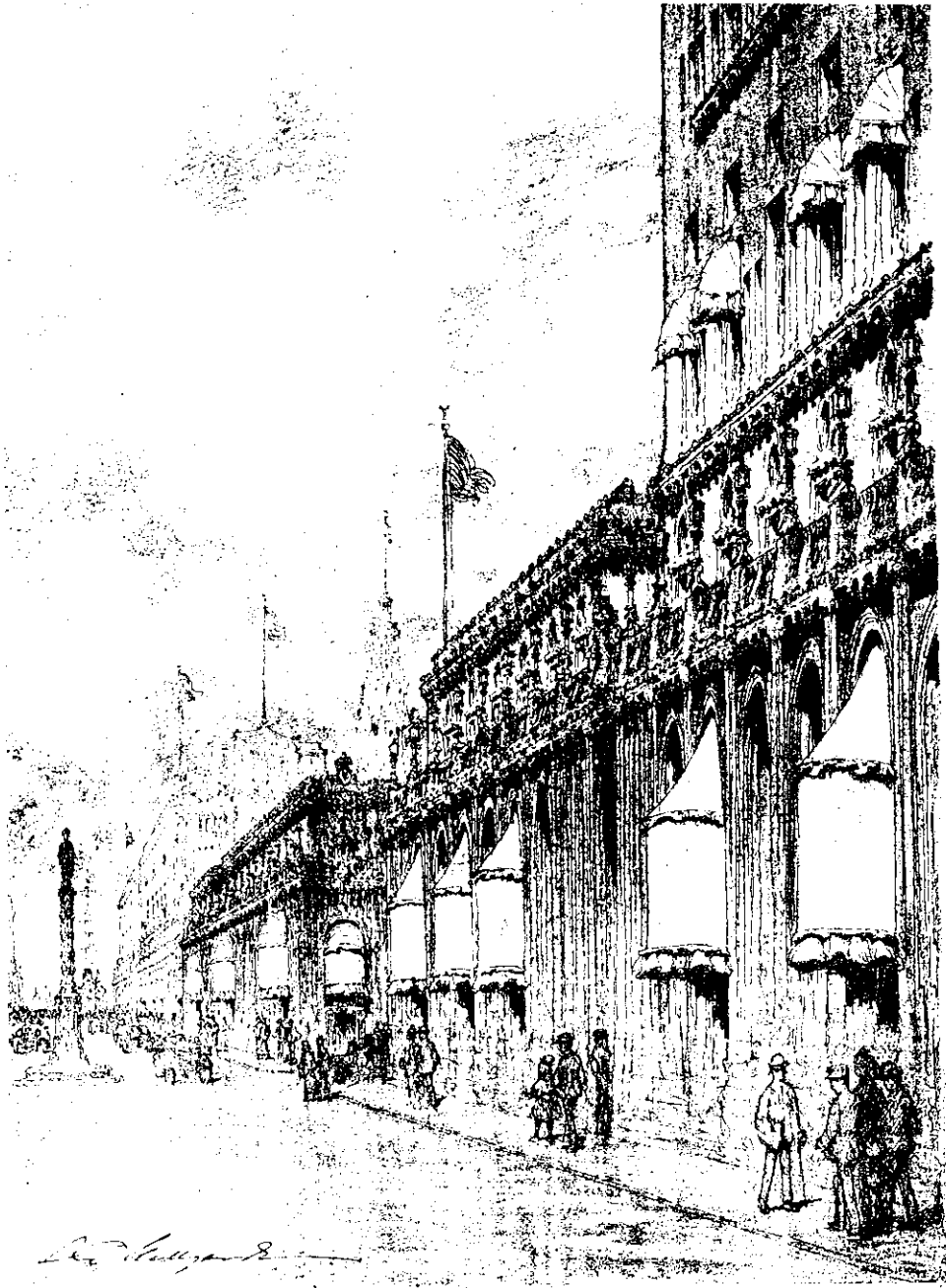
"Honolulu is new in that she is modern in



In this picture we have a vista of a part of San Francisco from a window in the upper storey of the Chronicle Building, where the offices of Mr. Mullgardt, Architect, are located.

thought and intent. She is scientifically commercial culturedly social. Her whole tendency is progressive—without interference she is destined to become a new world metropolis, as brilliant as Athens of old.

tion. The result must be a new and appropriate type of architecture, dignified and consistent. It shall breathe the greater, finer spirit of these Islands, and their intimate relationship to that which in precedent is best. It shall be essentially



Honolulu's Commercial Civic Centre, as designed by Louis Christian Mullgardt: the west side of Bishop Street, as it will look if the plans are completed.

"Honolulu's architecture will constitute a new branch of splendour on the tree of the classical Renaissance. Her knowledge and keen perception make her understand the best of traditional precedent and the perpetual possibilities of modernisa-

modern and vital, and that it may be recognised the world over as the Architecture of the Mid-Pacific, the Hawaiian Renaissance style of architecture, the spirit of the Far West."

Egyptian Competition for Soldiers' Memorial.

We have received the following correspondence, which we commend to designers throughout the Dominion:—

Headquarters Australian Mounted Division.
A.E.F.,

12th July, 1918.

The Secretary, Society of Artists,
Wellington, N.Z.

Dear Sir,—I have been instructed by the Committee of the Anzac Memorial Fund to approach the artists of Australia and New Zealand with reference to designs for the proposed memorial to Anzac horsemen here in Egypt. I therefore enclose a pamphlet which is about to be issued, and also some commemorative verse written by one of the boys. This is forwarded in order that you may have some idea of what has already been done, and be able to realise our necessity for help in the matter of designs. We confidently appeal to the generosity of artists in our own home lands in the hope that such a response will be forthcoming as to enable us to erect a memorial which will be worthy both of the gallant dead and also of the great Dominions from whence they came.

Thanking your members in anticipation,—Yours sincerely,

(Signed) H. K. GORDON,
Chaplain-Major,
Hon. Secretary.

ANZAC HORSEMEN'S MEMORIAL.

The Committee of the Anzac Memorial Fund desires to place before members of the A.I.F. and N.Z.E.F. in Egypt and Palestine, the history and ideals of the scheme, its progress, its requirements and present position—hence this pamphlet.

The idea of a memorial originated with the 1st A.L.H. Brigade, after the Battle of Romani, and it was intended to commemorate members of that unit who had given their lives in defence of the Suez Canal. Then the Anzac Division asked that its application might be extended, with the result that there was convened a representative meeting, at which it was decided that a memorial be erected somewhere on the banks of the Canal to commemorate members of the A.L.H. and N.Z.M.R. who had fallen in its defence. (Probable form of memorial—an Anzac Horseman or men in bronze, standing on a pedestal whereon would be inscribed the names of the dead.) It was also decided that designs be called for from our men in the field and from artists in Australia and New Zealand; that the estimated sum required was from £5000 to £8000, and that all members of the A.I.F. and N.Z.E.F. in Egypt be asked to contribute one day's pay with this object in view.

A Committee was constituted as follows:—The Divisional Commander and one representative from Division, the Brigadier and two representatives

from each Brigade, together with an hon. secretary and an hon. treasurer. These gentlemen were given full powers to act for the Anzac Memorial Fund. This scale of representation has been adhered to as new units have come into being.

The scheme went slowly for a considerable time, largely owing to the fact that it was not well known amongst members of the A.L.H. and N.Z.M.R. in Egypt, and to stimulate interest a circular letter was drawn up and distributed. Therein the ideal the Committee had before it was set forth in the following words:—"The Committee wish it to be understood that the scheme of the proposed memorial is not put forward in any spirit of self-glorification, nor yet to emphasise the gallant deeds of the Anzaes, but rather as a loving tribute to brave comrades who gave their all for the Empire, and whose memory we desire to perpetuate here in a foreign land, so that generations yet to come may know how their forefathers died, and in what esteem and admiration they were held by those who fought should to shoulder with them." It was also pointed out that, whilst no public subscription would be asked for—the idea being that the memorial should be from comrade to comrade—in order to meet the expressed desire of many sorrowing relatives and friends the fund would be open to all such. This circular, together with official explanatory letters from the hon. secretary and Headquarters, Cairo, was sent to the Defence Department, Australia, the High Commissioner for the Commonwealth, London, and various Australian sculptors in the Old Country. As a result of the new interest created by these efforts of the Committee, a great many more members of the A.L.H. and N.Z.M.R. subscribed, so that the fund now stands at £3473 1s. 6d., to which the principal subscription came from:—1st A.L.H. Brigade, £744 2s. 6d.; 2nd A.L.H. Brigade, £554 15s. 6d.; N.Z.M.R. Brigade, £659 4s. 2d.; 3rd A.L.H. Brigade, £645 19s. 4d.; 4th A.L.H. Brigade, £515 8s.; and the 14th A.G.H., £96 0s. 6d.

The financial result was most gratifying, but it was otherwise with regard to designs for the memorial. Only a few came to hand, and in order to obtain more, the Committee has communicated with the Society of Artists in the Commonwealth and New Zealand, and now appeals to artists here. Both Australians and New Zealanders in Egypt and Palestine are to be commemorated, so that any design for the memorial should allow of this interpretation. The municipality of Port Said, through the Ministry of the Interior, has most generously offered a site for the memorial the Public Garden adjacent to the Casino Palace Hotel, Port Said. This spot overlooks the Canal, and is readily seen from passing ships, and after much thought, has been selected by the Committee.

Many have subscribed the day's pay asked for, but there remain many who have not, and the Committee makes a direct appeal to all members of the A.I.F. and N.Z.E.F. in Egypt and Palestine to help on this project in a practical manner.

That a permanent remembrance of those brave comrades of ours who have laid down their lives here in Egypt and Palestine is desirable seems to be the consensus of opinion, therefore let us unite to erect, in the words of an Australian poet whose commemorative verse will be published:—

*A worthy symbol to impart
Remembrance in the Anzac heart
By grace of rhyme and bronze and gold.*

The Housing Problem.

It is gratifying to note that the question of decent housing is not being allowed to drop. The papers are full of correspondence on the matter, and every idealist and politician seeking votes is making the best of his opportunity. In Auckland a big scheme is being discussed by the City Council for providing workers' homes, and in Christchurch an Association has been formed as a result of a public lecture being given by Mr. Hurst Seager, F.R.L.B.A. Mr. Seager chose as his subject "The Housing Problem and its Solution." The chair was taken by the Mayor, Mr. H. Holland, and a fair number of people turned out to hear the lecture.

Mr. Seager, in his opening remarks, said that many reformers had raised their voices during the past fifty years against the terrible housing of the poor, but no State had yet grappled with the problem. It had been left for private enterprise to give a lead in the establishment of garden cities—a lead which had subsequently been followed by the British Government when building its garden cities, of a kind, for the housing of munition workers. One of the foremost pioneers in the better housing problem was Ebenezer Howard, who had fought for better conditions and been a great advocate of the housing of the people in garden suburbs or garden cities, rather than in the congested towns. The speaker contrasted the physical, economical, moral, and intellectual conditions of life in town or city and the country. There were certain advantages, of course, in city life, more particularly from a social and economic point of view, but when the physical aspect began to be considered, the statistics showed an overwhelming advantage in favour of life in a garden suburb or garden city. These statistics showed an amazing difference in the death rates of the congested wards of the cities as compared with those of garden cities, and the figures relating to infantile mortality and physical development were as graphic. It had been said that there was a large class of people who would not benefit from bettered conditions, but who would drag down their surroundings to their own level. He did not believe this for a minute. It might not be possible to absolutely regenerate the people who at present lived under barbarous conditions, but the effect of a decent environment had been proved to be amazing on a particularly rough slum class in Liverpool, and it should and would have the same effect on other people of a similar class. As the result had been good in several cases, he thought it was their duty

to try and obtain such conditions for as many people as possible.

Mr. Seager, whose lecture was illustrated with a fine series of lantern slides, then turned to the subject of garden cities. A true garden city was a self-contained unit. In the existing ones, the industrial portion of the community was incorporated in the garden city, and the workers' homes were grouped about in a carefully studied fashion. If the population of the garden city grew beyond the dimensions for which it was originally designed, a garden suburb was established, connected with the city by tram. The speaker exhibited a number of slides, which showed vividly the contrast, from a picturesque point of view, of a city laid out in the old-fashioned rectangular style, and the more modern plan as seen in a properly planned garden city. In many cases the cost of the delightful setting out of a garden city, with its pleasing vistas in every direction, was actually no more than the cost of the old four-square style. In some examples, the cost was greater, but in every case the value received for a comparatively small extra expense was so great that the bargain was an obviously good one. It was quite a fallacy to think that crowding houses on the land, thereby creating slum conditions, was an economical procedure, and the speaker showed plans on the screen which proved that with careful arrangement practically as many houses could be placed on the land, if a scientific plan was pursued, with not anything like the same sense of overcrowding. The road problem was one which would have to be dealt with before town-planning could be properly carried out. To insist on roads 66ft. wide for all purposes was not only absurd, but most expensive. The roads should be suited to the traffic they were to bear. In some cases 66ft. would be too narrow; in others, 20ft. was plenty wide enough. By properly grading the sizes of the roads to the object they were to serve, an enormous amount of money could be saved, and a great deal of land saved for houses and gardens. It was a cardinal principal that garden cities must be for all classes of the community. There must be no special workers' community and a residential area for those who were wealthier. Of course, different classes of houses were provided in garden cities at different rentals to suit the purses of tenants, but the whole idea of the city tended to foster the idea of a single community, and not to separate class from class.

Mr. Seager showed a remarkably interesting series of views contrasting the attempts of the Australian and New Zealand Governments to deal with the housing problem. New Zealand led Australia in the matter so far, but though the idea had been good, its execution had been devoid of imagination, and the same old straight streets and four square houses with high paling fences in front had been erected, with dire results. The New Zealand Government had had a fine chance to establish a nice little garden village at Lake Coleridge, but the actual result was chaotic, and the huts and cottages had been dotted here and there without design, with a result that the place neither looked

pleasing nor was convenient. In the speaker's opinion, the formation of the garden city or village was the only true solution of the housing problem, and it would be particularly applicable for the housing of returned soldiers. With a properly designed garden settlement situated on a main line of rail, industries of all kinds could be carried out under ideal conditions, and on the outskirts of the settlement there could be gardens and orchards, and further out still, but radiating from the common centre, small dairy farms and agricultural farms.

Mr. Seager concluded by saying that it was time to cease talking and get to work. The epidemic had shown what the organisation of citizens could do, and he appealed strongly for whole-hearted support of the town-planning ideal. He did not propose to form a new Association, but the many existing and powerful associations of citizens for many objects should combine and form a great committee which would have the advancement of town-planning as its object.

After some discussion, and the answering of questions by Mr. Seager, Mr. W. Ensom moved, and it was carried: "That an Association be formed on the lines suggested by Mr. Seager."

On Mr. J. Longton's motion, the meeting recommended the City Council to at once take into consideration the better housing of the poor of the city.

The meeting concluded with a very hearty vote of thanks to Mr. Seager for his valuable and instructive address.

Workers' Homes Scheme in Auckland.

City Sanitary Housing.

The scheme outlined for Auckland takes a more practical form, as an estimate from the City Engineer for the erection of a number of houses was actually discussed. The scheme is for the purpose of providing modern sanitary dwellings for workers at reasonable rentals and of eradicating the slum conditions that exist in certain city localities, and was introduced by the Mayor, Mr. J. H. Gunson, at the last meeting of the City Council. As the result of the adoption at the last meeting of the Mayor's recommendation that the ratepayers be requested to authorise a loan of £250,000 for the scheme, reports were received from the Mayor and the City Engineer in regard to the carrying out of the proposals.

The Mayor's report stated that in the event of the Council adopting the policy of municipal housing, it was recommended that modern workers' homes should be erected on the old abattoirs site at Grey Lynn. The erection of new houses should be undertaken before any attempt was made to dispossess people at present occupying undesirable houses, so that additional accommodation would be available for those persons when their present dwellings were demolished. Regarding the matter of authority for undertaking the scheme, the Mayor stated that the Council had power to proceed with

the scheme without submitting proposals to the ratepayers. In view of the extensive nature of the proposals, however, he recommended submitting them to the ratepayers.

The Financial Aspect.

Commenting on the financial aspect of the scheme, Mr. Gunson said it could not be expected from the outset to entirely pay its way, but he expressed the opinion that if handled in a business-like manner the undertaking would eventually prove self-supporting. There would be two sources of revenue, viz., rentals or receipts in other forms from tenants, and the returns from the sale of surplus properties that would be acquired in the present slum areas, but not utilised for house sites. After the areas had been treated, a portion of the land would be available for factory and other business sites. Thus a portion of it might be expected to become more valuable as a result of improvements and realise a price above its value on acquisition. A substantial amount of the land, however, would be required for remodelling, and therefore lost from a financial point of view.

In regard to the matter of tenancy, the report states that there are two courses which may be considered, viz., weekly tenancy, and the lease of the land on the Glasgow principle with the sale of improvements. The question of rentals was important, and if possible the rentals for the tenants for whom the houses would be provided should not exceed 12s. 6d. or 15s. a week. This matter would require careful determination. The Glasgow lease meant in effect that the occupants would acquire their own homes. This could probably be arranged under a system of weekly payments extending over a lengthy period. The City Engineer's estimates for providing dwellings on the old abattoir site, and for dealing with two areas containing undesirable houses amounted to £165,850, leaving a balance of £84,150 out of the total of £250,000 proposed to be raised. The Council was recommended to adopt the full policy involving the total of £250,000, as rapid expansion of the city was anticipated, and it was desirable to deal with the question in a comprehensive manner. When the proposals were originally submitted they were termed "a progressive housing scheme." This was intended to imply that the scheme would extend over a number of years, the first instalment of which was recommended to be the building on the old abattoir site.

Consideration of Reports.

After the presentation of the reports, the Mayor said that the scheme could not be further proceeded with until after the holiday recess, and he thought a poll on the proposal to raise £250,000 could not be taken before next March. Members should very carefully consider the reports in the meantime.

Mr. A. J. Entrican moved that the Mayor's report, together with his report of November 28th, and officers' reports, be referred to the Council in Committee for consideration at a date to be fixed. He expressed the opinion that a "do nothing" policy was a wrong one, and the Council should do

something to assist in the housing of workers. He did not think it was necessary for the Council to go outside its own properties in carrying out the scheme. He thought the Council should, in some way, be subsidised by the State. If the Government assisted the Council to get cheap money, he did not think the scheme would cost the ratepayers anything. He was opposed to letting houses erected by the Council. The central idea was to assist the workers to own their own homes.

Seconding the motion, Mr. W. J. Holdsworth, said there was a good deal of preparatory work to be done before they could go on with the scheme. The question whether it was fair to tax ratepayers to provide homes for somebody else when many were hard put to it to pay off their own homes, was a matter which should receive careful attention. The motion was carried without further discussion.

The City Engineer's Report.

The report of the City Engineer, Mr. W. E. Bush, on the development of a housing scheme, in accordance with the policy outlined by the Mayor, was prefaced by the statement that the improvement of housing conditions can be classed under three headings: (1) The putting into thorough repair and sanitary condition of existing houses and their surroundings; (2) the erection of new houses of suitable design, sound construction, and in attractive surroundings on land not at present occupied by buildings; (3) the demolition of houses which by reason of their ruinous and insanitary condition, inadequate accommodation, unsuitable location or layout, require removal in the interest of the health of their inmates and the general progress of the city. In regard to the first of these, it was stated that the policy need not involve the Council in anything but mere administrative expenditure, but would require larger power to be vested in the Council, as indicated by the City Solicitor's report. The report reviewed briefly what had been done by many of the leading municipalities in Great Britain in regard to the improvement of slum areas. Similar procedure in Auckland was only possible to a very limited extent, for the reason that whereas in England the houses were of brick, in Auckland they were timber erections.

Sites for Seventy-nine Houses.

The report recommended that first consideration should be given to the erection of dwellings on land unoccupied by buildings, and suggested utilising the old abattoir site, containing about 67 acres, at Grey Lynn for the purpose. Sites for 79 houses, all complying with the Municipal Corporations Act, and the Council's by-laws regarding frontage and area, had been laid out. Other sites were available on the property, one area being that fronting the Great North Road, but in view of the intention to ultimately lay out the greater portion of the property as a public park, it might not be desirable to alienate this frontage for building purposes.

The report states:—"The site has these advantages: It is some 140ft. above sea level; it fronts a

road 90ft. wide; it backs on to what will be a public park; it commands an uninterrupted view of the Waitakere Ranges and upper reaches of the harbour; it is easily drained, is essentially a healthy site, is within easy distance of two recently-built public schools, and is immediately available for development. Its distance from the Town Hall is 2½ miles, and half a mile from the 2d. section of the tramway, and it borders on a well-populated area. The class of dwelling to be erected on this site must either be detached or semi-detached on account of the minimum frontage of 40ft. If the houses are to be let with the idea of their ultimate purchase by the tenants, then, obviously, the detached type, although more expensive, is the better to adopt. If the Council intends to retain its ownership of the houses, I would recommend the two-storey, semi-detached type for general adoption, as being less expensive in first cost, and more attractive in appearance."

Cost of the Dwellings.

In regard to material and construction, brick or concrete are recommended, both for external and internal walls, the houses to be two-storey detached or semi-detached buildings of four and five rooms with all modern conveniences. The estimated prices range from £475 for semi-detached four-roomed houses to £610 for detached five-roomed dwellings.

In regard to the demolition of houses on account of their ruinous and insanitary condition, the report states that before this work is attempted new dwellings must be provided to accommodate those who will be disturbed by the carrying out of this part of the scheme. The area proposed to be cleared and remodelled is not specified, but plans have been prepared for a city area to be dealt with. The report states that in this locality it is possible to erect 105 houses on the semi-detached principle, which is advocated in preference to terraces. The cost of land and roading in this area is estimated at £250 per house, and the scheme could be carried out in portions so as to dispossess as few people at a time as possible. Reference is made to the desirability of dealing with other unspecified localities, including certain gully areas which it is considered advisable should be converted into open spaces or reserves.

The Engineer's estimate for the erection of 79 houses on the old abattoir site, including roading and sewers, is £46,350; for the erection of 105 houses in the city area No. 1, including land and roading, £87,500; and for 40 houses on city area No. 2, including land and roading, £32,000, making a total of £165,850.

Our Students Abroad.

We have received from Mr. Horace L. Massey, a member of the Auckland Architectural Students' Association, now serving with H.M. Forces in France, a dainty Christmas card, got up by his regiment. The outside consists of a line drawing printed in black, blue, red and gold, and appears to be the work of the sender.

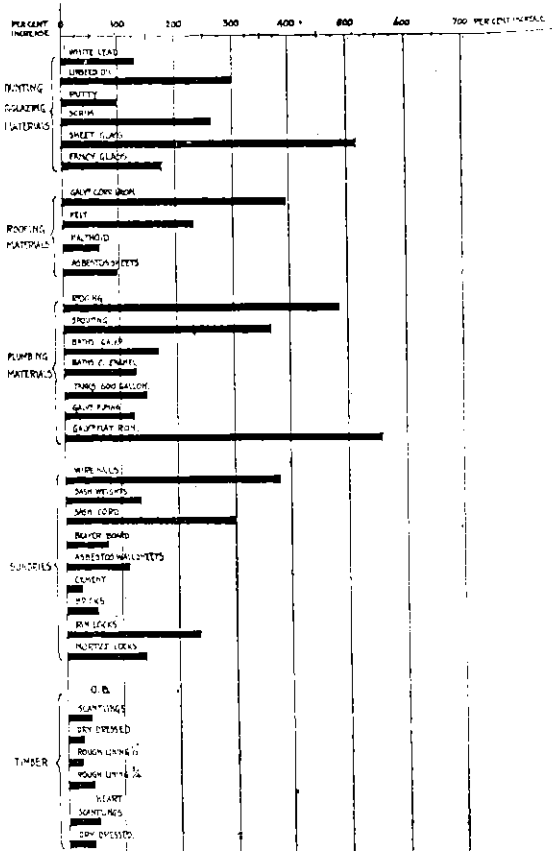
SAWMILLING SECTION.

[This Section is published by arrangement with the Dominion Federated Sawmillers' Association (Incorp.) in the interests of the Sawmilling Industry of N.Z.]

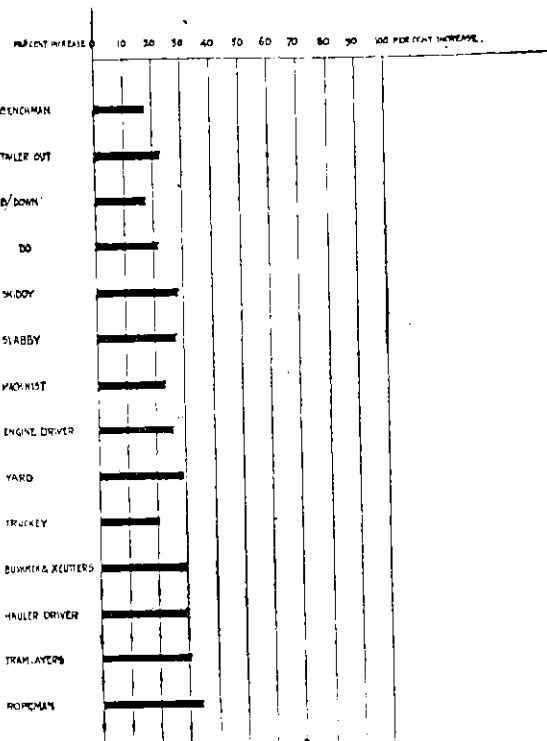
Editor: W. T. IRVINE.

In view of the request made by the Board of Trade notifying a number of millers in the North and South Islands to furnish a return of their cost of production, the method of making up the return

should be debited in a complete cost account are, of course, full depreciation of all machinery and plant; fire insurance on bush, trams and bridges, and upon value of plant machinery, timber, &c., not covered by a policy of insurance. We further maintain that a legitimate item of cost is personal supervision, which, in the case of a private firm, cannot be debited against revenue for income-tax



No. 1 Diagram showing Increase in the Prices of the Principal Building Materials as compared with Pre-war Prices.
By J. A. Bush, Rangitimu Timber Co., Marton.



No. 2 Diagram showing the Increase of Wages as compared with Pre-war Wages.
By J. A. Bush, Rangitimu Timber Co., Marton.

has engaged the attention of our Advisory Committee and others. For instance, it is contended that interest on capital employed is a legitimate item to debit against current revenue, and for the reason that in some cases most of the capital found for certain undertakings is raised by debentures, interest on which would, of course, be debited in the usual way without question. The same applies to interest on overdraft or mortgage; but if a firm or company has no borrowed capital and cannot debit interest on the capital employed, it is manifestly placed in an unfair position—for comparative purposes—with a company or firm which trades mostly upon borrowed capital. Other items that

returns—although in the case of a limited company all managerial expenses may be debited. All this goes to show the value of having a standardised system of bookkeeping and costing, and it is hoped an effort may be made to educate members in this direction, as the comparison of costs, item by item, would then show either loose management, or less favourable working conditions, where they appeared to be higher than others.

* * * *

With regard to the actual increase in the price of timber as compared with pre-war rates, three interesting tables have been submitted by Mr. I. A. Bush for reproduction in this issue. These show



respectively the relative percentage increased cost of: (1) Building materials; (2) wages increase, and (3) increased price of sawmill requisites, the majority of the items showing an enormously higher percentage increase than that of timber. Most of the talk about the increased price of timber centres round the sawmiller and hits at him every time, but so far as the public are concerned this is manifestly wrong, and we contend the agitation should begin at the other end—the house end—and work back to the sawmiller. The completed house is where the owner or tenant feels the pinch, but as many intermediaries come between the miller and

various factors contributing to the cost are in a constant state of flux.

* * *

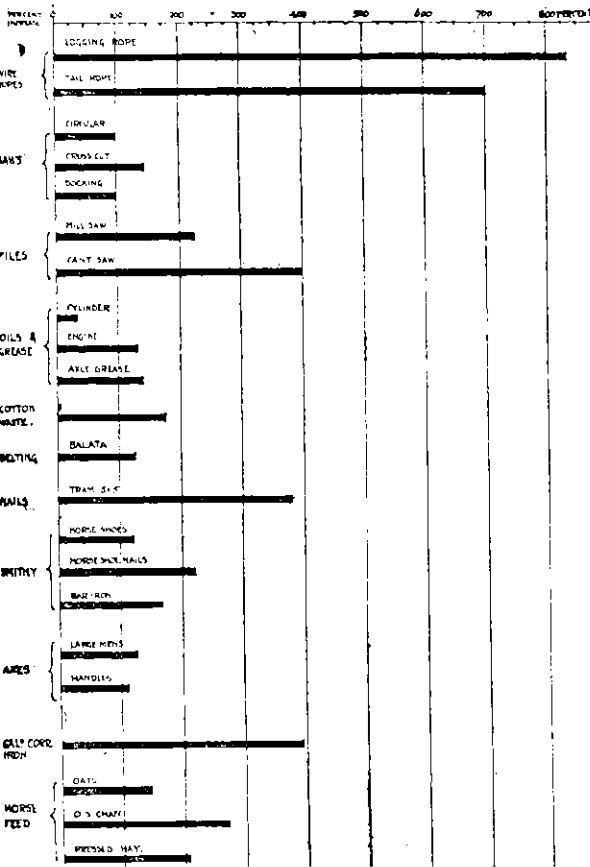
An interesting paper appears in this issue on the loss in conversion of logs into sawn timber by Mr. Jos. Butler, K.T.C., Auckland, in which he presents a formula for ascertaining the loss in sawdust on the sawn area or surface, which must be an eye-opener for many of us. He advocates, as will be noted, a standard for measuring the logs, and having ascertained the average loss of the saw-cut or kerf by all saws in general use, the result should not exceed one-sixth of the sawn area, but this will depend partly upon the saws in use, the saw set, the sizes of timber cut, and the ability of the sawyers. It is further contended that by this means excessive loss by carelessness or otherwise, can be detected and the weak spot discovered and made capable of remedy.

* * *

A War Legislation and Statute Law Amendment Act, passed in the dying hours of the session just closed, serves to show what may be done by amendment in the Legislative Council and pushed through the Lower House without any chance of obtaining the necessary consideration of members. In this enactment, under Sub-section 2 (a) of Clause 29, the Commissioner of State Forests may "purchase and hire sawmills and machinery and cut and sell timber in State forests; (b) purchase private lands for addition to or protection of State forests, and under Subsection (6) the Governor-in-Council may, from time to time by Order-in-Council, make regulations for limiting the export from New Zealand of timber, whether in logs or sawn, and prohibiting the sale of standing timber or the grant of licenses to cut standing timber, on public or private lands of any tenure, except subject to such conditions as may be prescribed." Now all this goes to show that we are being governed more and more by Order-in-Council, under which it would appear the Government takes power to do anything it may please. Surely this is a thoroughly undemocratic move, which puts back the clock of our liberties several generations, and we are making it easier for extremists and ultra-democrats to sheet home their arguments that we are being governed by an autocracy—so long as this state of things is allowed to continue.

* * *

The second sitting of the Timber Advisory Committee with the Board of Trade has just concluded its labours, the Committee itself having been augmented by a representative of the Builders and Contractors' Federation in the person of Mr. W. H. Bennett (Wellington). The Committee sat for three days, and much good work was put through tending to make the machinery of the Timber Regulations work more smoothly. This took the form of arranging easier methods for mills situated most favourably for continuing the export business, and not having a favourable local market, to enable them to get into closer touch with other mills in



No. 3 Diagram showing Increased Prices of Sawmill Requisites as compared with Pre-war Prices.
By J. A. Bush, Rangitapu Timber Co., Marton.

the owner of the completed building: such as the waggoner of the timber to railway, railway or steamer freight, wharfage, cartage to merchants' yard, sorting, stacking, and redelivering, cartage to site of building, merchants' and contractors' profits—that there are the proverbial hundred and one contributory causes towards the increased cost of the timber when it reaches the building. It is, therefore, in our opinion, impossible to fix the price of timber at any one point unless the price of all material, labour and services rendered in its production, and delivery up to that point, are also fixed. If an attempt were made to fix it on what might be considered an equitable basis to-day, it would certainly be inequitable to-morrow, because the

local-requirement districts not so near to a port of shipment, so that each could arrange with the other for the adjustment of the exportable quota of white pine; and the form of declaration necessary to be made that the quantity required for home consumption was guaranteed and reserved—was arranged in simpler and more workable form.

* * * *

The President of the Association (W. J. Butler, Esq.) writes as follows:—

Although there is every reason to believe that there will be a greatly increased demand for building timber in the near future, it is probable that closely following Peace there may be a slackening off of orders. While prices of hardware were rising there was no inducement to delay in the construction of buildings that could be finished in time to participate in the general high scale of prices; but with Peace here, and with the prospect of hardware prices declining, there will be a tendency to hesitate on the part of builders. It will be well for sawmillers not to be led into commitments for future supplies at reduced rates; but to pin their faith to the fact that on the other side of any slight depression that may meantime occur there are many years of good business ahead of them.

* * * *

An instance of how one may gather a wrong impression from a process of averaging is afforded by an article on "Building Costs" in November issue of "Progress." The per centages of increase in costs of 10 different commodities, necessary for a building, are given. The total of these is taken and divided by 10. It so happens that red pine is among the lowest, being shewn at 50% (this be it remembered is ex merchant) while spouting is shewn at 400%. In an ordinary building the value of spouting would be only a fraction of that of timber, yet by the process adopted it would appear that the average increase in cost of red pine and spouting contained in a building was 225%. There are those who would accept the average as taken in the article referred to as being the per centage of increase as applied to a building comprised of those 10 commodities. This is obviously wrong.

* * * *

Afforestation was the subject of an interesting and useful paper delivered at a meeting of the Canterbury Philosophical Institute last week by Mr. W. H. Skinner, president of the institute, and Commissioner of Crown Lands. In the course of his address Mr. Skinner said that New Zealand was very near to a timber famine, and what had been done to date to avert it was almost negligible. In the future the main forests would have to consist of imported trees that were known to thrive in New Zealand, as the native trees were too slow of growth. The State must tackle the business with determination and scientific thoroughness.

Loss in Converting Logs into Sawn Timber.

By Joseph Butler, Managing Director Kauri Timber Company, Ltd.

In order to ascertain whether a sawmiller conducts his business on efficient lines it is necessary to adopt some fairly accurate system of determining the loss entailed in converting logs into sawn timber. The object of this paper is to endeavour to get New Zealand sawmillers to standardise a system which, if inaugurated, would be of value to the trade by not only arriving at a fairly accurate system in each individual sawmillers' case, but of having a value by way of comparison with other sawmillers' returns, and by this means locate where a saving could be effected.

It would seem that the first thing to standardise would be the system of measurement. Unfortunately, custom dominates the different districts, but this could be overcome by measuring the logs in the customary way, and in such cases, where necessary, of making another measurement for the standardised way. In New Zealand, the Railways (for purposes of carrying) and the Northern millers (for purpose of contracting and buying) have adopted Hoppus' tables as the basis of measurement. Other districts adopt other methods, some the square of the quarter girth at the small end, some a square inscribed on the small end, some by the mill's output, &c. This differentiation destroys all chance of making universal comparisons.

In America they have generally adopted Boyle's scale, which closely approximates Hoppus', with the exception that it gives a slightly less measurement for smaller logs.

As Hoppus' is used by the Railways, and is also recognised by a large section of sawmillers who purchase logs, it would seem that this measurement would be the one most easily adopted.

Hoppus' measure is inaccurate so far as a log is concerned, but accurate when applied to squared timber having equal sides. Any deviation from this shape produces an inaccuracy, and in the case of a perfectly round log it becomes the difference between 3.1416 Hoppus measure and 4 actual measure; therefore, on a perfectly round log Hoppus gives 100ft. instead of 127.315 actual.

Owing to the non-symmetrical form of logs there is no way of accurately measuring their contents by a tape measure. The only reliable way would be measuring the displacement of water caused by the total submergence of the log, and this is not practicable.

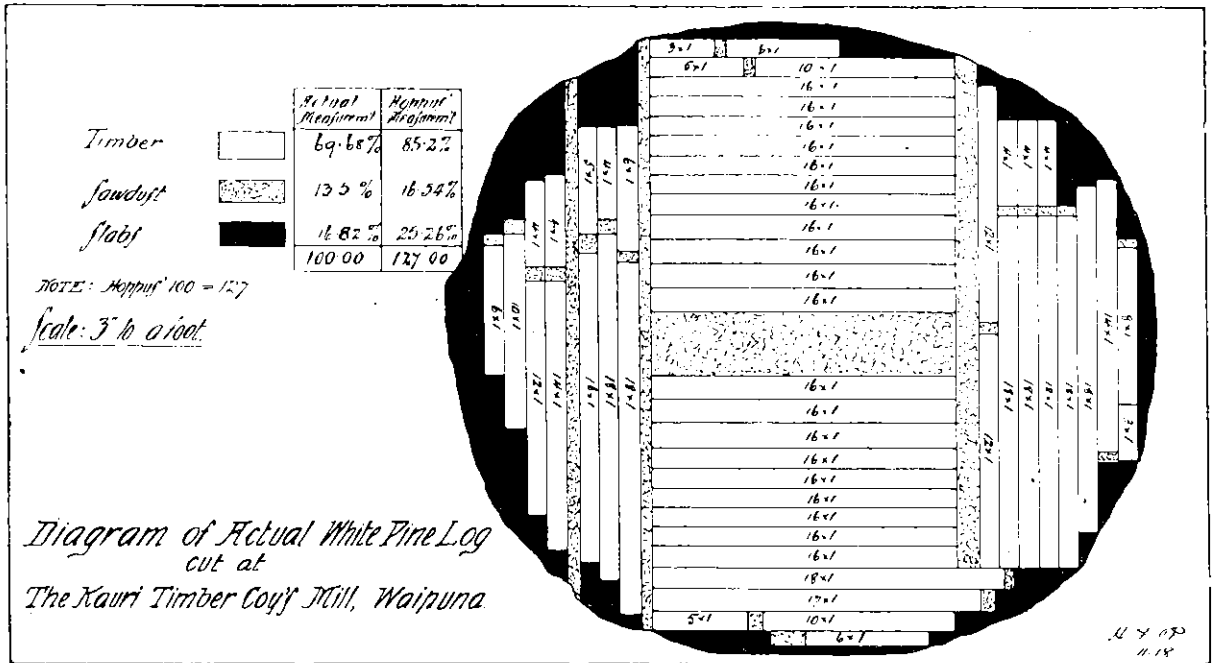
The system of weighing in the logs, and weighing out the timber and the slabs separately, might be accurate enough and would give the loss by slabs and sawdust, which is quite a desirable return, but the cost of weighing machinery and weighing would swallow up the advantage of the

return. Apart from this, the different specific gravity of the different parts of the logs would render the return more or less inaccurate.

Having determined that Hoppus is the recognised measurement for logs, there still remain a number of uncontrollable factors that destroy the accuracy of log measure. These are roughly: (1) size, (2) shape, (3) known and unknown defects, (4) size of timber required.

(1) Size.—Starting with logs at 12ft. centre girth, an allowance of 1 per cent. on every foot less in girth to 6ft., and from below 6ft. an allowance of 2 per cent. should be allowed off Hoppus measure. For over 12ft. girth, logs should be taken at net measure. There is no mathematical precision in this.

If the quantity of sawdust and the quantity of timber can be ascertained, then the quantity of slabs is also obtainable, always assuming the log-measure is accurate. Some time ago, in order to ascertain what would be a fair deduction for sawdust, the writer obtained the kerfs from nine different mills. These kerfs were on short pieces of wood sawn in a few inches and withdrawn. For the purpose of determining the width of the kerf a gauge was made by cutting longitudinally an ordinary draughtman's scale of one-tenth of an inch, at a taper of one in ten. The graduations on the scale then read as .01, so that by inserting the point of the gauge into the kerf as far as it would go the width could be read on the scale in 100ths: Each inch inserted would read as .1. By this



(2) Shape. A sectional measurement of the many-shaped logs would make any calculation covering it too complex to be of use, therefore it will have to be assumed that shapes average themselves out.

(3) Defects.—An allowance for defects involves an opinion, and opinions are of varying quantity. It will therefore have to be assumed that a fair adjustment takes place.

(4) Size of Timber Required.—This is a factor that in assessing loss in conversion has not been taken into consideration by millers, and although present market conditions absorb the contents of the log, still the mill cutting large sizes is at an advantage over the mill cutting small sizes so far as loss in sawing is concerned, and the miller who calculates timber produced under one inch in thickness as one inch also arrives at a result which varies in accordance with the proportion of timber under one inch produced.

means a much more accurate measurement could be ascertained than by the ordinary method of laying a rule across the top and guessing to the nearest thirty-second of an inch. It was surprising to find the variation of width of kerf.

Breakdown saws, including band-saws, varied from .130 to .400 of an inch.

Travelling bench saws, including band-saws, from .130 to .287 of an inch.

Drag or breast bench saws from .160 to .225 of an inch.

Gang saws showed the slight variation of .140 to .150 of an inch, due to all the saws being the same gauge, the variation being caused by more or less set of the saw.

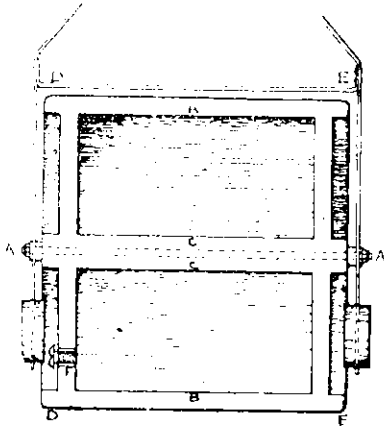
Splitting saws, including band-saws, from .080 to .135 of an inch.

Small drag saws from .130 to .270 of an inch.

(To be continued.)

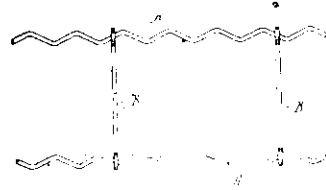
Patents of Interest to Builders.

Reinforced Concrete Water-Ballast Roller.—A patent, No. 40405, has been taken out by Robert Wilson Hood, Whangarei.



It consists in a reinforced concrete water-ballast roller, the axle embodied in a cylinder of concrete, and the use of paper and dry sand in the construction of roller.

Brickwork Metal Bonding.—A patent, No. 40363, has been taken out by Robert John Faulkner and Lewis Thomas Collius, both of Auckland. It is formed by two or more



lengths of crimped wire laid in parallel lines and connected together by rigid transverse wire links secured at their ends to the crimped wires.

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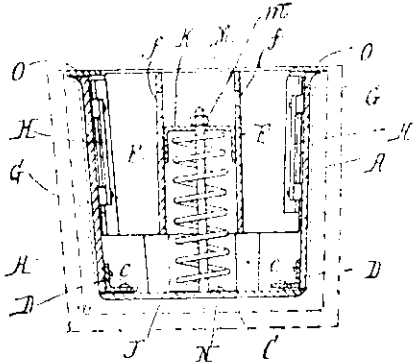


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Concrete Article Expansion Mould.—A patent, No. 39594, has been taken out by David Fisher, of 35, Majoribanks Street, Wellington. It consists in forming the mould with sides made up of a number of separate parts that are held together by an internal frame having angle-irons that overlap with lugs upon the inside of such side members. This internal frame is made of cross-members having ends that taper inwards towards their bottoms, and the sides of the mould are also correspondingly tapered, so that when the internal portion is forced down it has a wedging action to force the side members apart, and when it is drawn upward the



engagement of the angle-irons with the lugs on such members will draw the members together again. The engaging edges of the members composing the sides of the mould are made to overlap with one another at angles of 45°, so that as they are distended the joints are maintained intact. The mould thus constructed may be used as the internal die of a mould for the formation of articles of various shapes, and particularly W.C. cisterns, washing-tubs, baths, &c., in which the sides are made parallel to one another, or of cylindrical articles such as drainpipes, flower-pots, vases, and the like, the same features of construction providing for the expansion and contraction of the die or mould being embodied in all such forms.

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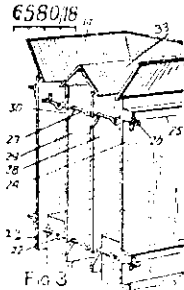
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Reinforced Concrete Walls.—A patent, No. 6580, has been taken out by F. A. Winter, New Jersey, U.S.A., to construct hollow concrete walls, the outer forms 24 are stiffened by angle-iron 25 and are secured by wedges 26 to spacing ties 27, which are kinked at 22 to receive the longitudinal reinforcing bars 23. The inner forms 29 are slotted to rest



7 figures. 19 claims.

on the ties 27 and are covered by a hood 33, which is used with the hopper 34 when filling the mould.

The forms 24 may have vertical flanged joints, to which stirrups for supporting a scaffolding plank may be secured. In forming corners, angle-plates are secured to the inner forms by hook clamps. The forms may be secured to a loop-ended tie by a beak-nosed clamp, which is tightened by a wedge.

Building Notes.

AUCKLAND.

Auckland folk are suggesting a large Peace memorial. At a meeting of the Harbour Board, Mr. H. D. Heather said that at a meeting of representatives of public bodies held in the Town Hall, it had been suggested that there should be combined action by the City Council and the suburban local bodies to erect a lasting memorial. He considered the Board might offer as a site the triangular piece of ground lately occupied by the Auckland dock, at a cost of £20,000, provided it were used for the purpose indicated. The Board was entitled to some compensation for the cost of reclamation and the loss of the dock. If his suggestion were approved, a condition would be that the site should be made a rest place for the public, with a stand of captured guns at the apex of each triangle and an obelisk with a fountain in the centre. The history of the reservation could be inscribed on the latter. He moved that the draft of proposals and his suggestion should be considered by the Board in committee. This was approved.

The new building for the Y.W.C.A. was opened last month, and the institution is in full swing. Messrs. Hoggard and Prouse and W. H. Gummer were the architects. The building itself is a handsome one, and is expected to fully meet all needs of the young women of Auckland for many years to come. The furnishing has been carried out along simple and economic lines, the more elaborately furnished rooms representing the generous gift of friends of the association.

The Auckland Grammar School Board called for tenders last month for the erection in timber of a Domestic Science building in Howe Street.

Messrs. W. A. Holman and L. V. Moses called for tenders for additions to house in Herne Bay.

CHRISTCHURCH.

The Christchurch Tramway Board is calling for tenders for its new three-storey offices in the Square. The building will be erected on the site of the premises occupied by J. Colville, plumber, and will extend by an arch over Daigety's right of way and also on the triangular plot in front of the car sheds. The Lyttelton Harbour Board's offices will be on the top storey. An effort is to be made to incorporate in

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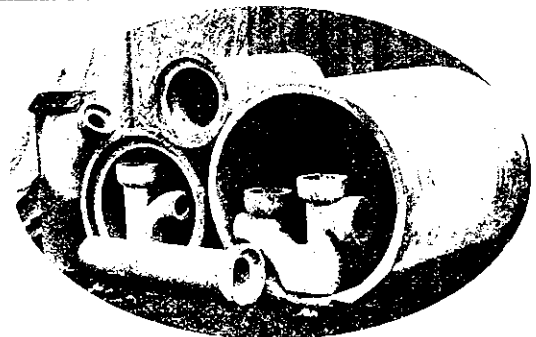
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the new building a memorial to the men of the staff who have gone on active service.

Messrs. Collins and Harman called for tenders for the erection of the new orthopaedic unit at the hospital.

A Christchurch paper states that the building restrictions imposed by the Government some time back have been removed in regard to His Majesty's new theatre, and that the building is about to be proceeded with, together with a first-class concert hall: a building that Christchurch badly wants, as the Town Hall scheme doesn't seem to be progressing.

The Hon. G. W. Russell doesn't believe in social clubs for soldiers' memorials. He suggests that Canterbury College should be turned into a University of Canterbury. He said that his long association with Canterbury College as a member of the Board of Governors, and as chairman, had brought home to him the tremendous influence education would have on the future of New Zealand. For that reason he was convinced that a memorial designed to develop the highest branches of education would be worthy of the great war in which New Zealand had fought for liberty, justice and freedom.

The City Council is calling for tenders for the erection in brick of an electric vehicle garage. Plans to be seen at Town Clerk's office.

Messrs. Harst Seager and Taylor invite tenders for two small model dwellings, one at Harmer and one at Christchurch.

HAMILTON.

Tenders are invited by the Auckland Education Board for the erection of a brick building at Whitiara, Hamilton, for a school, also for a school building at Hamilton East, in wood.

MATAMATA.

Mr. R. W. Kibblewhite, of Hamilton, invited tenders last month for the erection in brick of a coach factory for J. Pameroy and Co., Ltd.

NEW PLYMOUTH.

Messrs. Messenger and Griffiths, F.N.Z.I.A., architects to the Taranaki Hospital and Charitable Aid Board, are calling for tenders, closing on January 21st, for the erection of a Nurses' Home in reinforced concrete. The building has a frontage of 186ft. to West Street, and 82ft. to Barrett and Downe Streets, and will occupy a fine elevated site at the entrance to the main hospital. The main stair hall, 20ft. x 16ft., is entered through a spacious portico and entrance, with waiting and cloak rooms adjacent, wide corridors leading to rooms at the right and left of entrance, Sisters' sitting room 18ft. 6in. x 18ft. 6in., lecture hall and study 30ft. x 18ft., main sitting room 40ft. x 18ft. 6in., and dining room 31ft. x 27ft., with accordion doors between; kitchen 22ft. x 15ft., with scullery, pantry, larder, safe, store and vegetable rooms adjoining. Servants' quarters, laundry, and ironing rooms, boiler room (in basement), fuel shed, cycle store, ho-

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room, the remainder of the ground floor being occupied by bedrooms, bathrooms and general conveniences, with a promenade verandah along the entire northern frontage and 8ft. wide. With the exception of a recreation room 21ft. x 18ft., bathrooms and lavatories, the entire upper floor is devoted to bedrooms, fifty-five (55) in all, each 10ft. x 9ft. clear floor space, the furniture being all built into the walls between the bedrooms. Balconies 8ft. and 10ft. wide are provided on the three frontages, affording shelter in all weathers, and providing direct escapes from the majority of the bedrooms. The sanitary arrangements throughout are complete in every particular, and electric light will be installed throughout. The exterior will be finished in roughcast, with coloured cement dressings and roof of red tiles.

The same architects have just completed, on behalf of N. K. MacDiarmid, fine up-to-date suburban residence of seven rooms at Fitzroy, finished in the bungalow type in roughcast with brick relief; fences to both frontages complete in bull-nose rubble. Contractor, W. A. Graham. Also for the New Plymouth Citizens' Band Committee a comfortable "Bandroom Parlour," 35ft. x 35ft., octagonal, finished in selected rimu up to the top of windows, which are casement type throughout, and finished with a plastered frieze. The ceiling is covered and surmounted by a lantern light. The appointments are complete in every particular, with music, uniform, instrument, and store rooms, lavatories and conveniences. Competent authorities have pronounced the acoustics as perfect. Contractors, Messrs. Russell and Son, Messrs. Messenger and Griffiths have further added to the comfort of the New Plymouth museum by the inclusion of interior furnishings and exhibit show cases, the whole being finished in polished oak woodwork, plate glass fronts and shelving, and velvet-lined interiors. The work was carried out by Mr. C. N. Johnston.

ROTORUA.

Tenders were invited early last month for the erection of a Manual and Technical School Building in wood.

SILVERDALE.

The establishment of a co-operative dairy factory is proposed at Silverdale. A good site on the river bank has already been promised, and it is hoped that, if the proposal is adopted, the factory will be ready for use next season.

TE PUIA.

The sum of £7500 is provided in the Public Works Estimates for tourist and health resorts. The largest amount is £2500, which is to provide for a new hostel and improvements at Te Puia, Poverty Bay. The sum of £200 is proposed for the erection of huts and the making of improvements at the Tongariro National Park.

WAIPUKURAU.

The projected new sanatorium for tuberculosis patients at Waipukurau has not yet been started. The plans provide for only 18 single-bed shelters, 29 two-bed shelters, and wards for 14 beds, a total of 90.

WAIUKU.

Tenders for a school building were called early last month to be erected in wood at Glenbrook.

WALTON.

The erection of a cheese factory in the Walton district has been decided upon by the directors of the New Zealand Dairy Association. The factory will commence work next spring. The producers of the district have supported the project by a substantial guarantee to supply milk.

WHANGAREI.

The Auckland Education Board invites tenders for the erection of a school building at Portland, near Whangarei.

WHAREPOA.

The Public Works Department invite tenders for a new Post Office in wood. Plans and specifications to be seen at Auckland, Hamilton and Paeroa.

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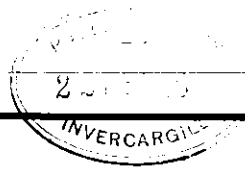
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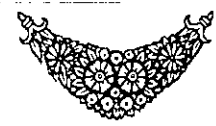
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