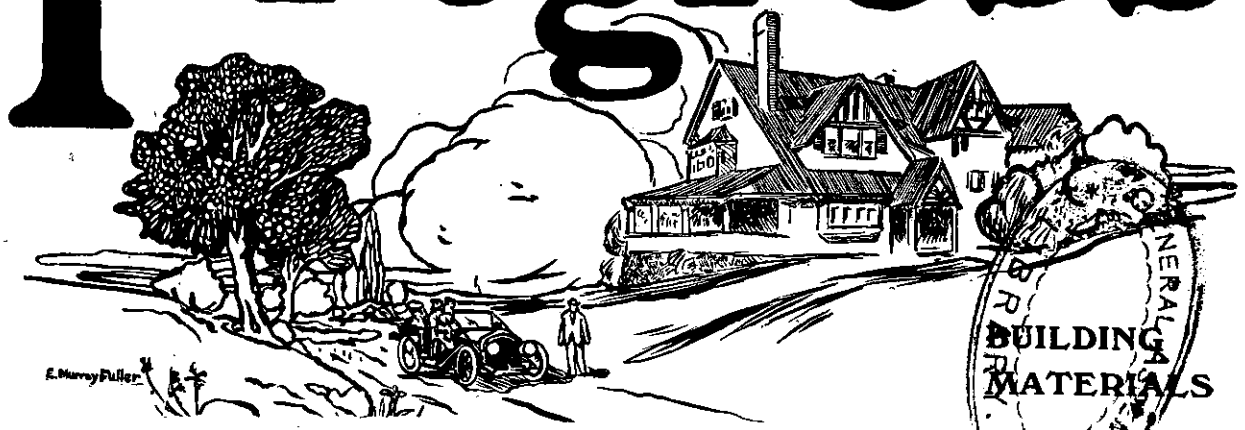
JULY, 1916. PRICE 6d. WELLINGTON EDITION.

N.Z. BUILDING

Progress



BUILDING MATERIALS

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N.Z. BUILDING PROGRESS

Published Monthly by the Proprietors, Harry H. Tombs Ltd.

8 Farish Street ——— Wellington, New Zealand

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Remittances should be made by Post Office or Money Order. All cheques, plus exchange, to be made payable to Harry H. Tombs Ltd., and sent direct to P.O. Box 481, Wellington.

All communications to be addressed to "The Proprietors, 'Progress,' Box 481, Wellington."

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The Editor will at all times be glad to receive Illustrated Articles on subjects of interest for consideration, provided the articles are short and to the point, and the facts authentic.

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.

Our 45th Competition.

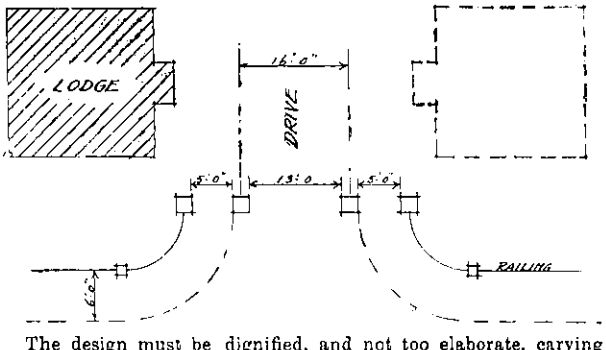
We offer a prize of £1 1 0 for the best design for a

Lodge and Entrance Gates to Public Institution.

Lodge House.—The house must contain the following accommodation, viz:—Living room (150), kitchen (120), bedroom (120), and two smaller bedrooms, scullery-washhouse, store, cupboards, etc., and bathroom, all on one floor. The plan must be symmetrical, the entrance facing the drive, and the design in severe Renaissance style with flat roof. Fenestration, proportion, and similarity in the three principal elevations (N., W., and S.) must be specially studied. There may be small loggia or portico at the entrance.

Gates.—The gate piers, 4 in number, must accord with the design of the lodge,—on two must be an escutcheon for the arms of the Institution, the crest may form the finals,— the other two must bear lamp standards.

The materials allowed are as follows:—Piers—Freestone with Granite base. Gates and Lamps—Wrot Iron. Lodge—Brick or terra-cotta walling, with freestone dressings and cornice, asphalte roof. One bay of iron railing with brick dwarf wall, stonecurb and piers, must be shown.



The design must be dignified, and not too elaborate, carving only allowed in the finals, and mantling to escutcheon. It is to be assumed that a similar lodge can be built on the opposite side, as shown dotted on plan, to complete the symmetry of the scheme.

The plan is not to scale, and, except dimensions, is only suggestive, the exact location of lodge is at discretion.

Drawings required.—Plan of lodge and dissimilar elevations, one of which must show the gates, and section, to ⅛ inch scale; details of gates and piers ¾ inch scale; and sketch perspective from within grounds showing lodge and gates.

Messrs. Atkins and Bacon of Wellington, have kindly set this subject.

Designs must be sent in, finished as above, under a nom-de-plume, addressed to **Progress,** 8 Farish Street, Wellington, and marked clearly "Forty-fifth Prize Competition" on outside with a covering letter giving competitor's name, and address of employer. Designs to be sent in by August 10th.

Our 46th Competition

We offer a prize of £1 1 0 for the design adjudged to be the best for a

A Seaside Bungalow.

To be built on level land of unlimited width, facing the water which is due north of the site. The water supply to be from the rain fall. 1800 gallons storage being provided for. Drainage into septic tank the effluent of which can spread in the sand.

Choice of materials left with competitor.

The accommodation shall be:—Living room 200 sq. ft., bedroom 170 sq. ft., 2nd ditto 120 sq. ft., 3rd ditto 100 sq. ft., kitchen 160 sq. ft. The areas given are approximate. There shall be good verandah or verandahs. Bathroom, W.C., small scullery, (this may be designed in combination with the kitchen), pantry, etc. Cost need not be considered.

Mr. F. de J. Clere, F.R.I.B.A., of Wellington, has kindly set this subject.

Our 47th Competition

We offer a prize of £1 1 0 for the design adjudged to be the best for a

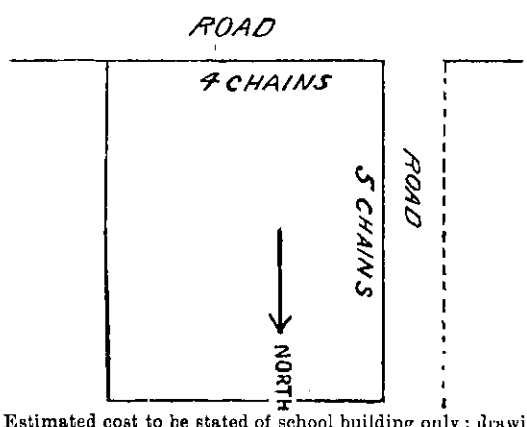
Country School

for a maximum of a 160 boys and girls of various ages.

Accommodation required:—1.—Infant room and 1st standard. 2.—2nd and 3rd standard's room. 3.—4th standard's room. 4.—5th standard's room. 5.—6th form. 6.—Small room for teachers with fire place; ample cloak accommodation; lavatory accommodation; playing sheds for boys, girls and infants.

Heating need not be provided for; walls to be of brick or concrete; drainage to Septic tank; ventilation to be indicated; ample provision to be made for insuring abundance of fresh air from the windows; a short index specification of materials to accompany the drawings; drawings to be finished in pencil and coloured.

Drawings required:—Block plan of whole site showing lay out of sheds and playing areas, scale twenty feet to the inch; ground floor plan to ⅛inch scale; 2 elevations ⅛inch scale; 2 sections ⅛inch scale; ½inch detail of some feature of building.



Estimated cost to be stated of school building only; drawings of playing sheds are not required.

Mr. H. Mandeno of Dunedin has kindly set this subject.

Designs must be sent in, finished as above, under a nom-de-plume, addressed to **Progress,** 8 Farish Street Wellington, and marked clearly, "Forty-seventh Prize Competition" on outside with a covering letter giving competitor's name, and address of employer. Designs to be sent in by October 10th.

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REGISTERED AS A NEWSPAPER

N.Z. BUILDING

PROGRESS

(With which is incorporated "The Scientific New Zealander")

A Journal for Progressive men interested in the development of New Zealand's Architecture, Building, Engineering and Industries

Official Organ of the N. Z. Institute of Architects, and Institute of Local Government Engineers of N. Z.

Editor: Chas. E. Wheeler. Editor of Engineering and Motoring Section: Robt. Whitson

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WELLINGTON, AUCKLAND, CHRISTCHURCH, AND DUNEDIN, NEW ZEALAND, JULY, 1916.

Contents for July

Editorial Comment

Housing Schemes

If landlords made the profits they are accused of making by people who only pay rent, or owe it, we ought to be witnessing a huge building boom in Wellington. There, according to law of supply and demand, is the place to put money into bricks and mortar. But it cannot be said that residental work is maintaining the builders and architects of the capital city. Houses are scarce and dear, and the demand, even at high prices, is far from satisfied. A tenants' association has been started to deal with exacting landlords, and the all-embracing power of the State invoked to help people out of their difficulties. A small number of workers' dwellings is being put in hand by the Labour Department, in connection with its excellent scheme for financing working men into their own homes, but this is a trifling palliative. The working man, like everyone else, does not like to use up too much of daylight hours in getting to and from his work. Business men whose time is counted above Arbitration Court rates, cheerfully pay high rates and buy expensive residence sites as close to the heart of the city as possible. "Time is money," they argue, and they decline to depend on trams, trains, and similar uncomfortable methods of travelling in "rush" hours. A ten minutes' walk is better than a half hour's experience of the inside of a crowded public vehicle. While we hear much of the woes of the working man—honest, well-founded complaints of men who have to spend at least one-third of their time earning enough to pay rent—little attention is paid to the clerical and business class, which is even worse off. Family life is becoming a negative quantity in our cities, "home influence" a mere phrase to most of the rising generation. Here is a social problem calling for careful attention. Land is dear around the business centres, but it is not used to best advantage. It may sound heretical to New Zealand ears, but the day of the little garden patch for every city home is passing. We could get better living conditions by building spacious blocks of flats, economising ground-space sufficient to permit of a pleasing garden setting, a garden which will not be shut in by close fences, but be a joy to all who pass by. Flats constitute a

sound and lucrative commercial proposition. When we find the family mansions of last generation of New Zealand business men let out in "rooms" for city folk, we wonder why shrewd and far-seeing investors have not given the community something better than these make-shift dwellings, shorn of former glory. It would not be a leap in the dark. The flat system has been perfected in older countries, and we have many New Zealand architects who could plan these buildings to best advantage, embodying all the good points of other peoples' experience, while deferring to the tastes of New Zealanders.

Timid Capital

A cynical person once declared that there is nothing more timid than a man with a million sterling—except the man with two millions! The truth of this is quite evident in New Zealand. About twenty millions sterling, two season's savings of the Dominion, lie almost unused in our banks because investors are too timid to launch out. Perhaps many who favour building schemes are waiting till prices of materials come down. Certainly most things are not encouraging in that way. But will they be any better when peace comes, and all the pent-up energy of the waiting ones is let loose upon a busy world? First call on the resources of English and European factories must be to repair the ravages of war. We are a long way off, and we may have to take second place in the matter of supplies for some time after the old world begins to get on its industrial feet. War taxation makes people cautious, and labour shortage frightens others. Discussing this lethargy among investors, the Wellington "Post" deals with that part of the Finance Bill providing that the excess profits tax of 45 per cent. be levied on the returns (above 6 per cent,) from land and buildings. In equity, the Wellington Chamber of Commerce urges that the 6 per cent. should be net; that is, that repairs, depreciation, and other outgoings should be allowed for. Most people who have any knowledge of a landlord's troubles over repairs and bad debts will, says the "Post," agree with the principle that the 6 per cent. return should be net. If that is conceded, the landlord, it seems to the "Post," has no further grievance, because a net return of 6 per cent. is not a bad result in war time; and because the landlord who does get into higher percentages is still allowed to retain 55 per cent of the excess.

Businesses and the War Tax

Incomes derived from employment are exempt from the 45 per cent tax on excess profits, but the architect carries on a business, and is therefore liable—that is if he has been lucky enough to make war profits! If the Finance Act operates without regard to special circumstances it would inflict serious hardship upon the proprietors of growing businesses, and particularly those which depend wholly on individual exertion. The young professional man who began to work up his connection just before the war, and who now enjoys a fairly good income, would be taxed heavier than the owner of a flourishing business which has made good profits all the time, maintaining, but not exceeding average profits, during war-time. Unless the profits exceed those of pre-war years, there is no 45 per cent. excess profits tax. Obviously, it would be grossly unjust to regard the growing income of a new business as all "excess profits," and we are glad to say that the Rt. Hon. Sir Joseph Ward recognises the importance of this point. In moving the second reading of the Finance Act, he promised Parliament that this matter would receive attention from the Land and Income Tax Department. Provision, said the Finance Minister, would be made to see that no hardship was inflicted on young professional men who had just started in business and who were making higher profits, not because of the war, but in spite of the war. But they would not be altogether relieved of contributing to the cost of the war, provided they earned over £300 a year. The last reference is to the income tax. It is 8d. in the £ on the incomes of £300 and in that vicinity, plus a special war-tax addition of 6d. in the £ up to £900, then 1/- in the £ upon higher sums. This will be fairly heavy impost on professional men just now, but in view of the object on which their income-tax is being expended, they will pay cheerfully, hoping the good result of sacrifice will speedily come in a knock-out blow against the Central powers.

Timber Supplies

We welcome the formation of an organisation of New Zealand private citizens to promote afforestation. It is well supported by influential people, some of whom hold, we think unfairly, that the Government has done nothing in the matter. Very valuable work has been accomplished by the Forestry Department, a section of the Crown Lands Department. Wasted volcanic plains in the Waiotapu district are beginning to become verdant and productive, thanks to the useful work of the Prisons Department backed by expert foresters. Much of the pioneer work of forestry in New Zealand has been done, and when public interest is sufficiently aroused, the Government will be induced to invest more money in this tremendously fine reproductive work. While we are so much concerned about our wasting forests, we have the encouraging spectacle of an official visitor from British Columbia, Mr. H. R. McMillan, principal of the British Columbian Forestry Department, who for the last sixteen months, has been touring the world to find fresh markets for the surplus timber of the thickly-wooded surface of the Rocky Mountains. Mr. McMillan points out that so far the afforestation problems of Canada had been comparatively simple, for there was a very great surplus of timber in British Columbia such as was now being exported for building purposes from the United States to Australia, and to a lesser extent to New Zealand. Although he was an official of the British Columbia Forestry Department, he was now touring under Dominion auspices looking for fresh markets, in the Empire and without, for the timbers of Canada. The native timber of British Columbia was practically the same as that exported by the United States, and the present move of the Trade and Commerce Department was to get information as to how exporters should organise to take a more important part in the timber exporting industry. The position in British Columbia in regard to forestry, pointed out Mr. McMillan, was totally dissimalar to that of New Zealand, where problems of afforestation were already commanding public attention owing to the timber output being insufficient to meet the demands of the country. Mr. McMillan's remarks give hope to us that a well thought-out scheme of planting waste areas with quick-growing trees would soon relieve the Dominion of any fear of timber famine.

Building Materials

The Development of the Dominion's Resources.

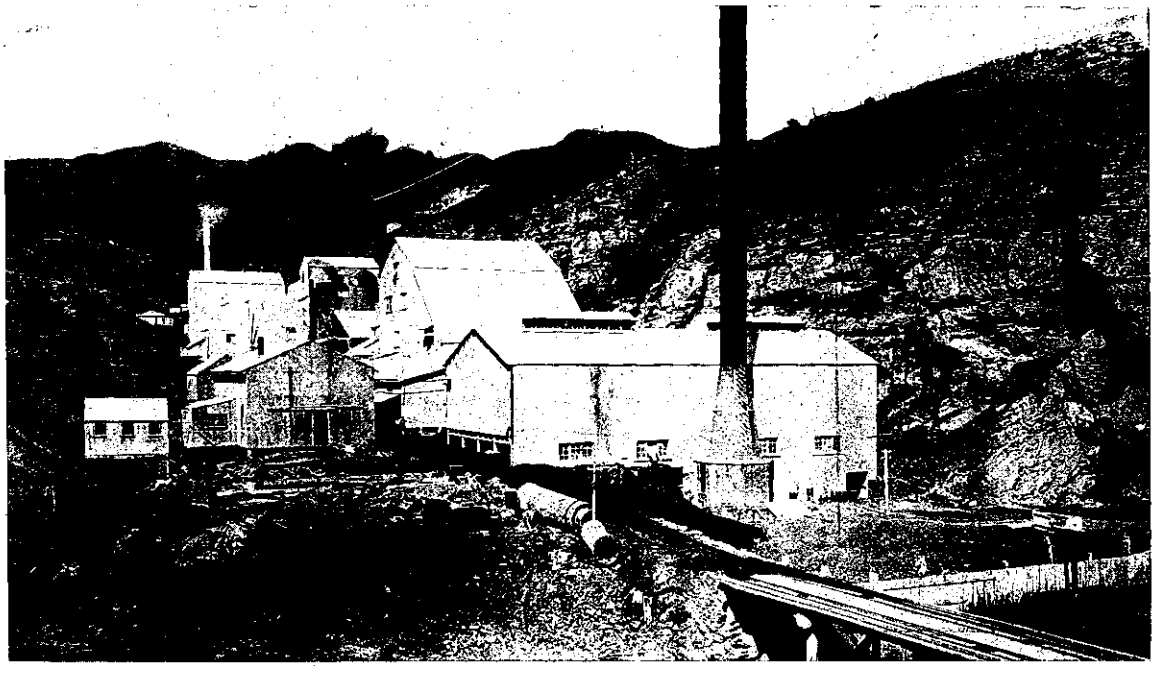
By R. Whitson.

Possibly the present is not an opportune time to discuss matters relative to building, in fact in travelling from one end of the Dominion to the other this remark has been frequently made to us by many prominent men connected with the building trade, With all due deference however, to the opinions of those who have no doubt carefully thought this matter out, we venture to hold a different and incidentally a broader view of matters as they at present stand. The present war is bringing about some extraordinary changes in the once accepted, settled routine of many lines of business, and it is but natural that we, being at the extreme distance from most of the old world centres and markets at a time when freights are high and scarce, and the production of imported building materials has been reduced to a minimum owing to local conditions in the manufacturing centres, should be among the first to feel the sudden cessation of those supplies that we have in the past depended on.

This dependence we are paying for now at a cost out of all proportion to the partial stoppage of our oversea supplies, and the disquieting thing is the knowledge that had time and effort been concentrated on our own resources we should to-day have been in a very much stronger position to carry on our Dominion business with material produced in our own country. The average business man will tell you if you want a thing done to do it yourself, but in the pre-war days of cheap freights, low costs and moderate duties, one never heard the user of imported goods carry the argument to the length of saying "if you want a thing produced, produce it yourself."

It is easy to be wise after an event, and no doubt hundreds connected with many trades realize this now, but the number of building jobs held up at present from north to south of the Dominion, is sufficient justification for the statement that a great deal more could have been done towards developing our natural resources, than has yet been accomplished.

We do not for a moment contend that this country is, or could be as yet sufficiently developed to supply all materials necessary for the modern type of building, to do so would be palpably absurd. Such materials as tiles for roofing, glass windows, and ordinary door fittings, are not a commercial possibility yet in New Zealand owing to the price of Dominion labour and raw materials.



Our Industries—The Golden Bay Cement Works. The Cement Industry has made Immense Strides in N.Z. of late years

We say a 'commercial' possibility in order that we may not be thought to be belittling the worthy efforts of those industrial pioneers who are, and have been for some time past, endeavouring to produce the three items specified at a price that can compare favourably with the imported equivalent. We know that in the Dominion roofing tiles are made, that glass has been produced, and that certain types of door and sash fasteners are turned out for special requirements, but the fact that these essentials to building are not carried in stock by dealers, and that the average builder does not know that such goods are or ever have been made in the Dominion, architectural and building, is a solution of at least some of the difficulties that are holding back big building schemes that cannot be much longer delayed.

The situation is one that needs tackling at once, not by the isolated individual here and there who might succeed in supplying his local demand for some one building essential, but by a combination of those bigger men who are suffering from their inability to carry out such work that is offering, owing to the closing of the markets from which they have hitherto drawn their supplies.

It seems to us that a great deal lies in the power

Another New Zealand Industry—Timber lying in Booms ready for Milling

is sufficient indication of the extent to which their manufacture has been carried.

Wherein lies the reason of the want of development that some of our building lines have suffered from? Is it that oversea costs were low, freights cheap, and designs superior? Is it that a higher protective tariff has been wanted to encourage local manufacture? Or is it that the cost of labour and raw material have been prohibitive? We do not attempt to solve a problem that has engaged the best thought of some of our leading manufacturers, but we venture to suggest that the reason will be found in a combination of some of the above suggestions.

What does concern us deeply as a newspaper whose interests are more or less devoted to matters of the Master Builders. They are at the moment the greatest sufferers, for they are unable to get their usual supplies, and without these supplies at a reasonable price they are unable to tender for any work offering at a price that would make a tender possible of acceptance.

Supposing, as at the moment of writing seems probable, that the present war conditions, with the corresponding cessation of supplies, exists for another year, and that trade conditions take still a further period of eighteen months or two years to regain their pre-war status, is it to be imagined for a moment that in a progressive and prosperous country such as New Zealand, a country into which, owing to our natural resources, money is at present

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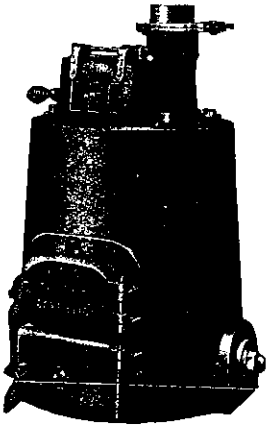

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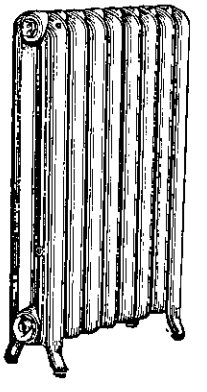


flowing at an unprecedented rate, that building in the bigger sense of the word is to remain at a standstill until the world's markets are open to us again. Such a supposition is not tenable, for the demands of public service and public accommodation are already insistant.

A solution has to be found for the present difficulties, not a "carry-over" or a "hold-back" policy that will see us through the next three years of industrial turmoil, and eventually land us where we were in our pre-war days, a country boasting of its independence as a whole, and yet depending on other countries for the very material of which it builds its houses, but a real solution that will place us further ahead, and make us more independent than we were before our outside supplies were stopped.

Assuming that a certain proportion of important building must proceed within the next three years, even after making mental provision for some of the wealthy public and private concerns that out of pure timidity cancelled work that was already in hand at the latter end of 1914, (and who incidentally will probably pay a good deal more when fresh tenders are called for the same work which has to be eventually carried out) it seems fairly obvious that such work that is completed will have to be built with Dominion produced material.

This is entirely as it should be, though as we previously pointed out some few items must necessarily be excepted. But we contend that such items of import can and should be cut down to an absolute minimum.

Whether the solution of the difficulties lies entirely with the architects, or whether they should be overcome by collaboration of the architects and master-builders is a point that is not essential so long as the end is obtained, but it seems to us that in those buildings that must of necessity be gone on with in the near future, either Dominion produced material must be found to carry out the accepted designs, or else that the designs themselves must be altered to bring them within the scope of the Dominion materials.

Something will undoubtedly have to be sacrificed here and there in design to make possible the building of factories and large buildings under present conditions, but the sooner those interested in building schemes realize that those conditions actually exist, and are not likely to improve in the near future, and also that an impatient public will not wait indefinitely, the sooner will they bestir themselves to overcome or circumvent the real or imaginary difficulties that up to the present have demanded oversea importations for their solution.

We have no intention of itemizing the various materials that have come by use to be deemed more or less essential in the building of to-day, but to illustrate our point consider the position of the market to-day in the matter of steel girders.

For the moment ignoring American girders which are prohibitive even if procurable, it may be said that steel girders and joists are, as far as New Zealand is concerned completely off the market. Does that mean that given a building that has been originally designed mainly in steel frame, that it cannot be gone on with until steel work is again procurable at something approximating the pre-war figure? To assume that the stoppage of steel supplies has stopped building is surely taking a pretty narrow view of the capabilities of our Dominion architects, and yet we have heard men with business sense enough to know better, say that they are unable to go on with various building schemes until they can procure steel girders!

How many years ago is it that steel girders were put on the market for builders' use, and what did the designing architects employ before their advent? A little thought will surely show that these modern aids to building are not absolutely essential, for nobody will contend that magnificent buildings were not put up before the invention of steel girders. In a modified design where the use of steel is necessarily cut out, girder spans may have to be shortened, story posts may have to be increased, and various other sacrifices made, but after all who in abnormal times expects to build on exactly normal lines? The fact remains that before the use of steel, such buildings were put up, and it can be done again if, as we say, the architects and builders tackle the problem wholeheartedly.

We have taken steel as an example because it is most quoted as the present impediment to building schemes, but it is really only indicative of half a dozen building lines that are apparently proving bogeys to those who wish to build.

Looking at the building problem from as broad a viewpoint as possible the outstanding need would seem to be the encouragement of Dominion resources. Few countries in the world have such wealth of raw material to draw upon—practically nothing is denied us. Coal, iron and cement are found in enormous deposits often side by side to facilitate cheap working—while our timber for both indoor and outdoor work, and beauty of marking are world-famed, while if anything further were desired to make our position unique, we have it in the power running to waste in our rivers which is, as yet, practically undeveloped. We needed waking up to our possibilities as a producing country, and we say it with all due honour to those who have already taken the Dominion so far along certain commercial lines, but we contend that for every industry already safely established on business lines in New Zealand, there are other equal possibilities awaiting development.

New Industries for Queensland

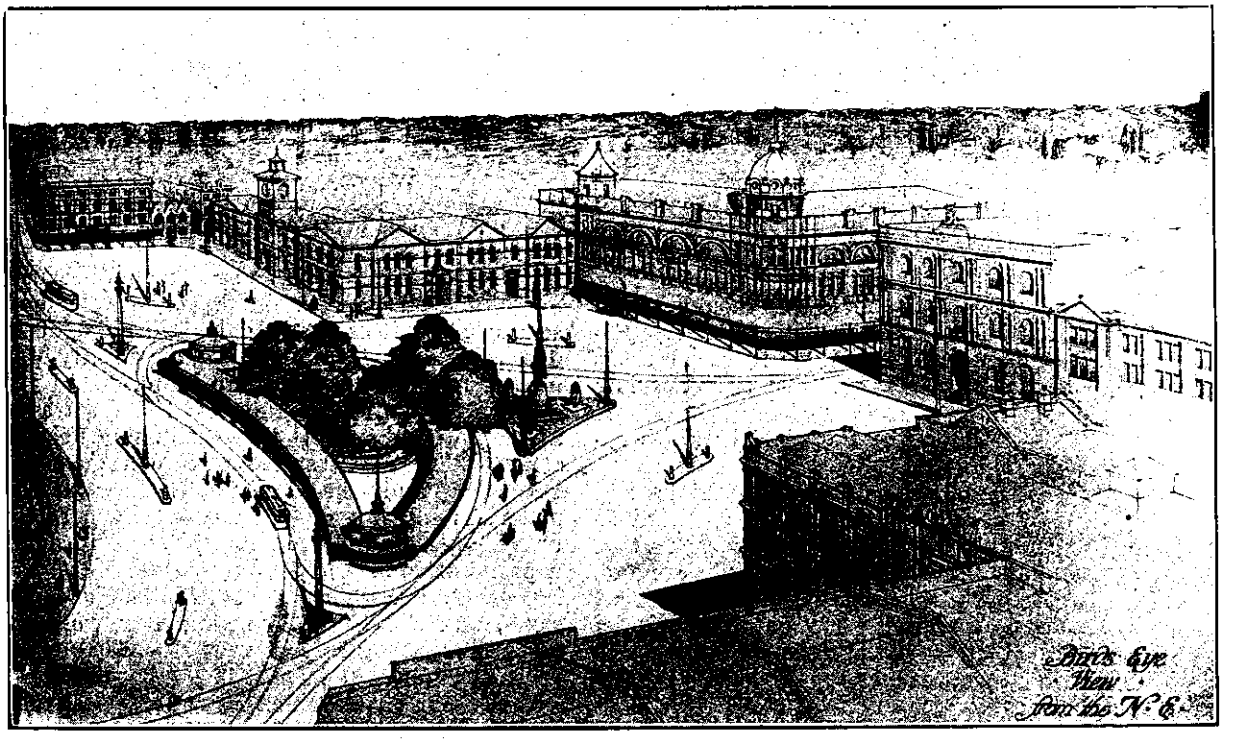
"The Queensland Industrial Gazette" for May 10 mentions that many new products, the result of new capital ventures, have been placed on the market in Queensland, including, among others:—Brass buckles, harness and leather mountings, brass mounts for military equipment such as studs, &c., mild forged steel heel plates for boots, knitting needles, strong-room doors, engineers' turning lathes, dehorning instruments, and numerous veterinary implements.

Cathedral Square, Christchurch.

Competition for Improvements won by Messrs. Hart & Reese, Architects, Christchurch.

Sometime this month a conference will take place between the Christchurch Beautifying Association, the Tramway Board, and the City Council, to go into the question of the Assessor's report on the recent competition set by Mr. Seager, F.R.I.B.A. for the best design for Improving Cathedral Square.

As reported in our June issue, seven competitive designs were sent in, and one non-competitive (by Mr. G. S. Keesing of Sydney). The winning design (No. 6) by Messrs Hart & Reese, and the one placed second (No. 8) by Mr. Roy Lovell Smith of Christchurch are reproduced in this issue. Other competitors were:—Mr. Leslie D. Coombs, A.R.I.B.A. of Dunedin No. 7; Messrs Salmond & Vanes, A.R.I.B.A. of Dunedin (No. 3); Messrs Atkins & Bacon, F.R.I.B.A. of Wellington; and Messrs Macfie & Hood.



Winning Design by Messrs. Hart & Reese, Architects, of Christchurch, in Cathedral Square Improvements' Competition, promoted by the Christchurch Beautifying Association.

The Assessor reports as follows:—

Christchurch, May 31st, 1916.

The Chairman and Members of the
Christchurch Beautifying Association.

CATHEDRAL SQUARE IMPROVEMENT COMPETITION.

Gentlemen,—

I have to report that seven designs were received in this competition and that a sketch design was received from Mr. Keesing of Sydney, possessing very considerable merit. He wrote to say that as he was leaving for the war he could not complete it but forwarded "not for competition" his sketch showing his ideas as far as he had time to express them.

The seven designs were very carefully examined. It was quickly apparent that one design was unquestionably far ahead of the others and would take first place, but as several of the others were evenly matched it was necessary to submit all of them to a very careful scrutiny and give comparative marks for each feature of the design.

The competition was suggested by the desire to have an artistic shelter to take the place of the one now existing. But the question of the form and position of the shelter is so intimately bound up with the consideration of the general lay-out and improvement of the square itself, that it is impossible to consider the one without very carefully considering the other.

The "Conditions" of competition were therefore prepared with the desire to ensure that the shelters themselves should not only be artistic, but that they should form part of a general scheme of improvement which would get rid of the very great inconveniences, and the appalling unsightliness which now exist. The present defects and suggestions for improvement are stated in the "Conditions." I am pleased to be able to report that Competitor No. 6 has by his very excellent scheme not only eliminated the defects pointed out, but has improved on my suggestions for removing them.

It will be seen by the list of marks forwarded herewith, that No. 6 gains 123 marks out of a possible 127, while No. 8 comes second with 87 marks. No. 7 is only two marks less.

No. 6 DESIGN.—I cannot too highly praise this design. It is one the designer may well be proud of, for it shows a scheme which if carried out—with but one or two very minor alterations—would convert Cathedral Square into by far the most attractive civic centre in the Dominion, and one which would be comparable with the best seen elsewhere.

This design and Nos. 7 and 8, adopt the suggestion for north and south shelters in the centre part of the square, but the essential difference between No. 6 and Nos. 7 and 8, is that while Nos. 7 and 8 retain the double line of trams on the eastern side of the shelters with its acknowledged defects, No. 6 separates the lines, leaving the line on which the trams run from north to south in its present position, and removing the south to north lines to the western side of the shelter. By running the present south to north line to the western side of the shelter, it has been possible to place the shelters further east thus making a very easy curve for the new south to north line. The north and south shelters are connected by a covered collonade on the east and west sides thus forming with the shelters, a continuous curved shelter of pleasing form. The shelters terminate north and south in circular rooms in which at the north end is the parcel office, and ladies' room and at the south end the ticket office and inspectors' room.

These terminal rooms are covered by raised domes thus giving the required relief and emphasis to the design without clashing in any way with the view of the Cathedral.

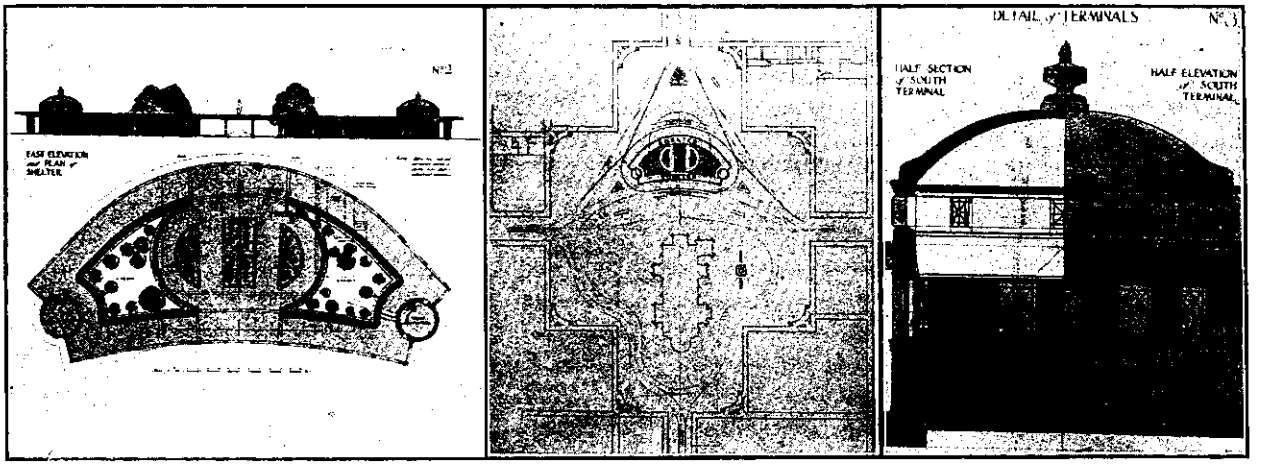
The connecting colonnades open on to a central garden space which is formed on the site of the present grass mound. In this the present trees are carefully preserved. This garden is a most convenient and delightful feature of the design as it provides well sheltered seats in what may be formed into a beauty spot—a charming resting and meeting place free from the rush of tram passengers.

The paths through this garden form a most convenient and pleasing connection between the east and west colonnades of the shelters and would thus materially relieve the traffic along them.

This arrangement of lines enables the passengers to enter the cars from the shelter side and to leave by the opposite side—an arrangement which would remove the present most inconvenient and annoying scramble, and would save a very considerable amount of time and expense to the Tramway Board.

This feature has not been noted by the competitor, and he has not provided a footway on the Eastern side, but there is ample room for one 12 ft. wide and still leave a roadway 6 ft. wider than the roadway north and south of it.

It is well sugested that the Godley statue should be moved to the westwards and placed in a curved triangular pavement corresponding to the space formed by the tram lines. The space between the eastern side of this curved pavement and the tram line going north, would form an ideal landing space for passengers coming from the south, quite free from vehicular traffic.



Elevation, Plan and Details of Messrs. Hart and Reese's Design in recent Competition for Improvements of Cathedral Square, Christchurch.

It will be seen that this design provides for no less than 440 ft. run of colonnade without in any way encroaching upon required traffic space. This would allow for ten trams to stand opposite the colonnades. The details of the design are in excellent taste and the architectural treatment is carried into supporting columns, lamp standards and flower vases which would all increase the aesthetic value of the scheme.

A further consideration of the vehicular traffic problem suggests a somewhat different placing of the "Islands" shown in the scheme. I have therefore prepared a scheme in accordance with this design as a basis which will I think, fulfil the requirements. At present vehicular and pedestrian traffic run riot, a proper system must be accepted and the traffic regulated in accord with it.

COST.—The estimated cost of the scheme is £2,500 for the main shelter and £300 each for the two auxiliary shelters which are placed north and

south of the Cathedral, making a total of £3,100 a very moderate amount to pay for the very great convenience and civic improvement shown.

I suggest the following alterations:—A 10 ft. or 12 ft. wide pavement on the east side of the north to south trams; include the windows of ticket office looking north-east and north-west in the inspectors' office by altering partition as shown, thus giving the inspectors a good view of all points of the system; re-arrange "Islands" in accord with scheme for vehicular traffic.

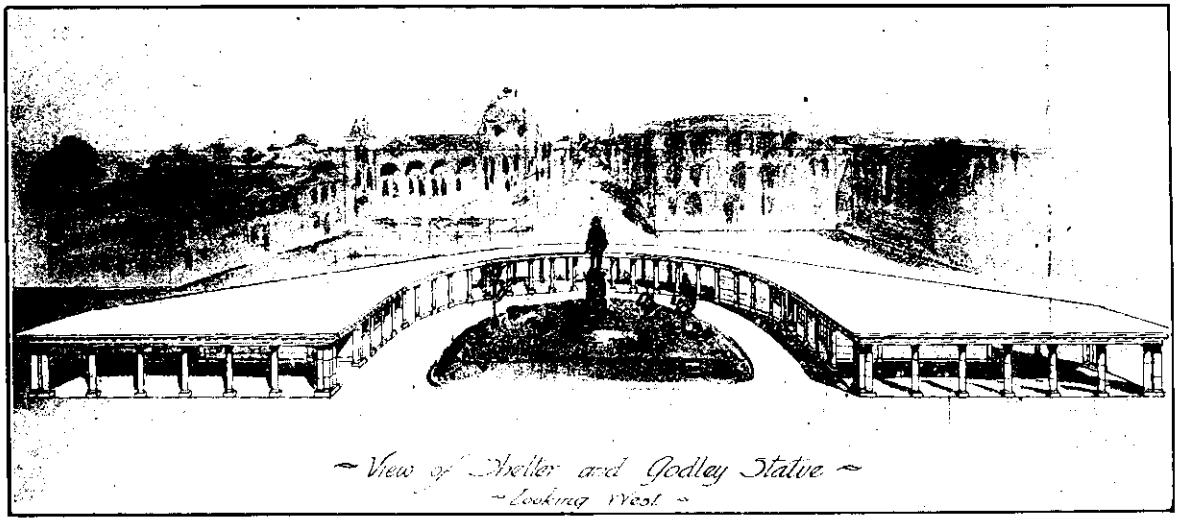
DESIGN No. 8.—This is also a good design but the relative value of the two designs is accurately shown by the relative marks 87 to 123. The position of the shelter is very good and a connecting curved colonnade is formed on the western side. The grass mound and statue are shown to remain as at present.

The design of the shelter is not so good as its general plan. The Roman Doric order is selected. This is too ponderous and demands that the space between the columns shall be too small to make it suitable for a tram shelter. The spaces between the bases of the columns is only 6 ft. and the cornice gives shelter to a distance of 18 in. beyond them. A much more original and freer treatment is demanded in a work of this kind. No. 6 has adopted a free modern treatment which enables him to place his columns 13 ft. apart and to give an overhang to his roof of 4 ft. thus affording a clear covered space closer to the sides of the trams.

No. 7 DESIGN.—No. 7 in his design of the shelter is better than No. 8 approaching in this more nearly to the merits of No. 6, but the columns being 9 ft. 6 ins. apart at the bases are too close and although he has an overhang of 4ft. 6 ins. from the base his total width of shelter is only 13 ft. as compared with 19 ft. in No. 6 and with 17 ft. 6 ins. on the west side and 16 ft. in the remainder of No. 8. The depth should certainly not be less than 19 ft. as drifting rain especially on the south-west side would often fall 7 ft. or 8 ft. within the shelter, and anything less than 19 ft. would not afford sufficient well protected sitting and standing space.

No. 7 design has his two main shelters 165 feet apart with no covered connection between them. He leaves the whole of the central grass mound, railings and Godley statue as at present. The shelters are of curved triangular plan set in the angles made by the tram lines. This is certainly a very great improvement on the existing arrangements but does not reach the convenience nor have they the aesthetic value of No. 6. Placing the shelters so far apart makes them occupy valuable traffic space and leaves as a comparatively waste space the whole of the centre of the square. The design is however, so good and of so nearly equal merit to No. 8, that I would suggest an honorarium of £5 5s. be given in recognition of its merits.

No. 3 DESIGN.—The only other design which I might refer to in detail other than by means of the marks is No. 3, which comes next on the list. The author of this design has spared himself no pains in preparing his scheme and in thinking out the details. It is an extremely disappointing design in that the principles upon which he has based it is wholly wrong and the whole of his work is thrown away. The scheme is based on the total alteration of the tramway service in the square so that all cars pass round the square instead of passing through it. The competitor presents his design with great confidence for it is he says, based on the tram service at Milan. This is an instance of the great error into which architects and town-planners may be led by seeking for precedent instead of thinking out the problem as it stands and solving it in accord with well defined principles. I am well acquainted with the tramway system at Milan and forward herewith a sketch which I have made of it and also a photograph which I took in 1908. By the plan it will be seen that the square at Milan is totally different from Cathedral



Cathedral Square Competition—Design placed Second by Mr. Roy Lovell-Smith, Architect, of Christchurch.

Square in that all the main streets on which the tram lines run, enter the square at the angles not in the centre of the sides as here, and all the trams it will be seen, which do not pass along the streets bounding the ends of the square, circle round a portion of the square and leave it as quickly as possible. Had the competitor given a moment's consideration to the effect of his proposition before he went to the trouble of preparing his very excellent set of drawings, he would have realized that the scheme was an absolutely impossible one.

The increase of railage in the square and the method of service adopted increases the car mileage per annum no less than 18,720 miles on week days and 3,120 miles on Sundays. As the total expense of running the cars is 6.107 pence per mile and as this cost would be increased by 50 per cent. when running on the sharp curves shown round the square, the increased cost of running would be £833 per year without reckoning the interest on the initial expenditure required to alter the tram system and lay down the new lines. For this expenditure there is no compensating advantage but on the contrary a most decided disadvantage for the cars would be running in the square no less than 60½ extra miles during one day. It is difficult to understand how a competitor can with confidence present such a scheme as likely to fulfil the requirements demanded, namely a scheme "which would facilitate traffic and prevent the present and increasing concentration." It is clear therefore that any scheme adopting this principle cannot possibly be entertained. In addition to the great cost to the Tramway Board, the public would most decidely object to being carried all round the square when there is an easy direct way through it.

This design has four shelters which are placed in exactly the spaces that should be reserved for the traffic. Although the defects of this design are so obvious, I have carefully examined every part and awarded marks giving full credit for those portions of the design which show merit. It will be noted that this competitor gains very few marks for the general effect and this by reason of the fact that all the shelters have their solid back towards the outer part of the square and however well designed the details might be, these great masses would certainly not add to the dignity and beauty of the square as a whole and it is for this reason also that only low marks can be given for elevations.

It will be noted that the three first designs all have their shelters open on all sides which not only increases their usefulness but they also form an attractive feature from every point of view.

The draughtmanship of this design No. 3 is excellent and therefore I feel quite justified in awarding a special prize offered of £5 5s. 0d. for excellence of draughtmanship.

The remainder of the designs do not call for special mention as the marks will show my opinion of the value of the separate parts, and by them it will be seen that my criticism of No. 3 applies equally to the lay-out of Nos. 2 and 4.

In conclusion I congratulate the Beautifying Association on being the medium through which so excellent a scheme has been prepared for the consideration of the Council. I trust the scheme will meet with the full approval of the Council and the Tramway Board and it is to be hoped the rate-payers will demand that it be carried out in its entirety as quickly as possible

MARKS GIVEN IN COMPETITION FOR CATHEDRAL SQUARE IMPROVEMENT SCHEME.

	Marks	No. 1	No. 2	No. 3	No. 4	No. 6	No. 7	No. 8
General Effect ..	25	4	6	5	4	25	18	20
Lay-out of lines and convenience of Tram Passengers.								
Route -								
Square to:								
1 Papanui ..	2	1	0	0	0	2	2	2
9 Fendalton ..	2	1	0	0	0	2	2	2
11 Cranford Street	2	1	0	0	0	2	2	2
2 Edgeware Road	2	1	0	0	0	2	2	2
1 Railway ..	2	1	0	0	0	2	1	1
9 Opawa ..	2	1	0	0	0	2	1	1
11 Coronation St. ..	2	1	0	0	0	2	1	1
2 Cashmere Hills	2	1	0	0	0	2	1	1
Square from :—								
3 Sumner ..	2	1	0	1	1	2	2	0
4 Woolston ..	2	1	0	1	1	2	2	0
8 Riccarton ..	2	1	1	0	2	2	1	1
5 New Brighton ..	2	1	0	1	1	2	1	1
12 St. Martins ..	2	1	0	1	1	2	1	1
Square to :—								
3 Sumner ..	2	1	0	0	1	2	2	0
4 Woolston ..	2	1	0	0	1	2	2	0
8 Riccarton ..	2	1	1	0	2	2	1	1
5 New Brighton ..	2	0	0	0	1	2	1	1
12 St Martins ..	2	1	0	0	1	2	1	1
6-7 Lincoln Road to Dallington ..	2	0	0	0	0	2	2	2
6-7 Dallington to Lincoln Road ..	2	0	0	2	0	2	1	1
10 Burwood to Burwood	2	0	0	2	0	1	1	0
Position of Shelters	10	5	5	0	5	10	8	10
Plan of Shelters -								
Public Space ..	5	3	4	4	4	5	4	5
Ticket Office ..	5	4	4	3	3	5	3	5
Inspectors' Office	5	3	1	3	3	5	2	3
Ladies' Retiring Room ..	5	4	5	5	5	5	3	5
Access to Lavatories	5	2	2	2	0	2	1	5
Elevations of Shelters	20	4	8	15	4	20	15	13
Lamps, Posts, &c. ..	5	0	2	5	0	5	1	0
Total ..	127	46	39	50	40	123	85	87

My recommendations are that the first prize of £25 be awarded to the author of design No. 6 and that he be entrusted with the commission for carrying out the design when it has met with the approval of the Council and rate-payers.

That the second prize of £15 be awarded to the author of design No. 8 and that an honorarium of £5 5s. 0d. be awarded to the author of Design No. 7 and that a special prize for draughtsmanship be awarded to the author of design No. 3.

Yours faithfully,

S. HURST SEAGER,

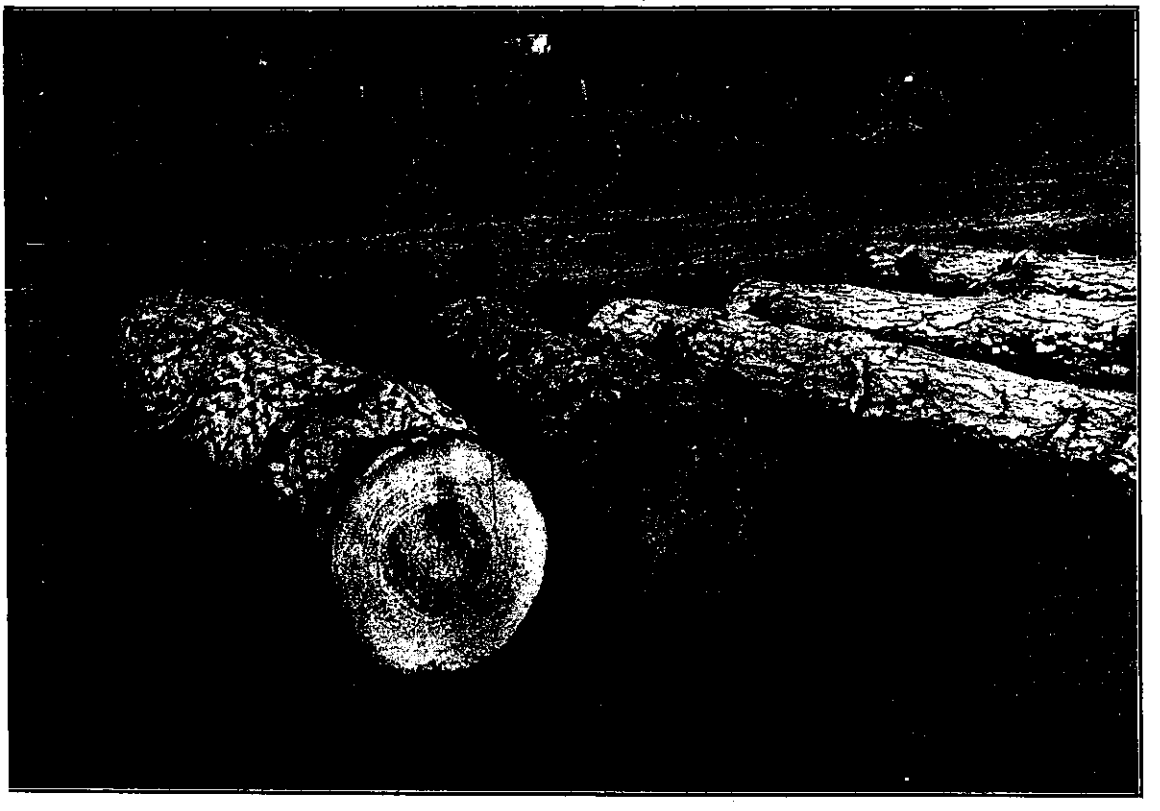
Assessor.

Our Diminishing Timber Supply

The Monterey Pine as a Building Material.

In a recent issue of the Agricultural Journal, Mr. A. H. Cockayne draws attention to the value of the much neglected Monterey Pine, or *Pinus Insignis*, as a Building Material. His remarks are of great interest at the present time as the question of our diminishing timber supplies is occupying much public attention.

Until quite recently the Monterey pine (*Pinus radiata*) was looked upon as quite valueless for any other purpose save that of the rapid production of shelter. Even at the present time the statement that priority the name *Pinus radiata* is the only correct one and the specific designation *insignis* is merely a synonym. In point of fact, however, the translation of the botanical name *Pinus insignis* into the popular



Logs ready for Milling cut from a Twenty-seven year old Plantation, planted 12 feet apart

it is by far the most valuable and profitable timber tree that can be planted may, perhaps, not receive general acceptation. Nevertheless such a statement is absolutely correct, and can be amply substantiated by the results already secured in those localities where plantations have been converted into timber.

The Monterey pine was originally described by Don, in the year 1836, under the name of *Pinus radiata*. Two years later it was again described under the name of *Pinus insignis*, and it is by this designation that it is generally known in New Zealand. Thus, according to the botanical rules of one has become so widespread that it is unlikely that the correct botanical title will ever be applied to this tree. Indeed, the name *insignis* so aptly describes the many valuable characters of this truly remarkable pine that it is a pity it cannot be rightly accepted as the correct one.

Pinus radiata is a native of Southern California, and grows naturally on dry rocky and sandy hills near the sea. It is confined to a few limited localities—namely, Pescadero, Monterey, and San Simeon on the mainland, and the outlying islands of Santa Rosa and Santa Cruz. It is especially abundant in

Plantation from which Timber for Mr. Snowden's House was cut. Trees 6 feet apart. Average diameter 4 feet. From ground 2 feet.

Method of Felling.—The trees are cut close to the ground. This tree was quite isolated and still yielded excellent timber.

the neighbourhood of Monterey, a locality that is also the home of another well-known tree, the macrocarpa (*Cupressus Macrocarpa*).

The Monterey pine has now been introduced into nearly all those countries where it is hardy, but it is only in New Zealand, Australia, and South Africa that it has been utilized as a timber tree. Its employment in forestry is now being adopted to a limited extent in Ireland and parts of England, but its real value is not properly appreciated outside Australasia.

EMPLOYMENT IN NEW ZEALAND

The value of *Pinus radiata* for the rapid production of shelter and its adaptability to all types of soils was early demonstrated in New Zealand, and this tree rapidly became popular in the formation of plantations. It was employed, both pure and mixed, with other species; but owing to its overpoweringly rapid growth it is not suitable for mixed planting, a fact not even yet properly recognized. The pine plantations were primarily intended for shelter and breakwind purposes, and the idea that this tree was capable of producing valuable timber was not seriously considered. At best the timber of the Monterey pine was looked upon as inferior firewood. Thus there sprang up a decided prejudice against any extensive planting. It was thought better to employ those kinds that were considered in other countries to be valuable for timber production. The estimation in which the timber of the Monterey pine was held can be well gauged by the fact that of the 20,000 acres planted by the Forestry Branch of the Lands and Survey Department there are roughly only 100 acres devoted to this tree. The main plantation of some 70 acres is over twenty miles from a railway line, and will be ready for conversion long before any other plantations in its vicinity, so that it could not have been planted with any idea that the trees would be worth converting.

PRESENT OPINION ON THE VALUE OF THE TIMBER

During the past few years a great deal of timber has been cut out of the pine plantations in Canterbury. The uses to which it has been put clearly indicate that *Pinus radiata* is among the most valuable trees that can be planted. Not only that, but its phenominal rapidity of growth and great yield quite upset the general idea that small private plantations for timber production alone will not pay for their cost of planting and maintenance. In fact, it can be shown that *Pinus radiata* will return quite large profits when grown on land the rental value of which is considerably higher than that at which forestry has been thought to be a payable proposition.

Pinus radiata was first employed in housebuilding some thirty-seven years ago, when Mr. Cathcart Wason had some twenty-year-old trees converted into timber. With this material several houses and outbuildings were erected in the vicinity of Barr Hill, in Canterbury. These are still standing, and the timber, which has been kept painted, is still in an excellent state of preservation.

The advent of the travelling sawmill marked the commencement of the employment of pine timber for general constructional purposes. The farming community of Canterbury rapidly recognized the timber potentialities of their shelter plantations of *Pinus radiata*. As soon as conversion became practicable by means of the portable mill the adoption of pine timber for general requirements soon became popular. Several of these travelling mills are now annually employed during the winter converting *Pinus radiata* into timber, and many buildings have been erected during the past ten years. At first the timber was used mainly for rough outbuildings, such as stables, wool-sheds, and other farm buildings. During the past few years, however, many excellent residences, where *Pinus radiata* has taken the place of matai and rimu for all purposes except flooring, have been erected in various parts of Canterbury. Again, during the past year over two million feet of timber has been disposed of in Christchurch for box-making purposes, and the demand for this class of timber is so great that within a very few years all the mature plantations in the neighbourhood of the city will have been milled.

This house, the Residence of Mr. F. Sowden, Aylesbury, Canterbury, was built of *Pinus radiata* Timber grown on the Property.

The great argument against *Pinus radiata* timber is that it is not durable. This is certainly true where the timber is in contact with the ground or is exposed to the weather in an unpainted condition. The

buildings that have been erected, however, show that with ordinary care the timber, even from quite young trees, is extremely durable. Much of the pine timber at present available is not suited for general constructional purposes, owing to the knotty character of the wood. This is not to be wondered at when it is considered that the existing plantations were never intended to provide building timber and were not planted under modern forestry conditions. It is indeed remarkable that plantations where the trees are often more than 12 feet apart should be capable of yielding any constructional timber at all.

There seems no doubt that when *Pinus radiata* is planted for the express purpose of yielding building timber excellent results will be obtained.

From the above it can be seen that considerable use is being made of *Pinus radiata* timber at the present time, and that the unwarrantable prejudice against its employment is rapidly becoming a thing of the past. Even if this very rapidly grown timber should prove to be inferior from the point of view of durability, the use of timber-preservatives should remove the only possible objection that can be raised against the planting of such a tree. Its great yield and rapidity of growth enable timber to be produced more cheaply than with any other tree, and this fact alone must place this pine in the forefront for afforestation purposes. Apart from building timber, the growing consumption of box timber in itself requires the extensive planting of some tree that will satisfy the future demand. In this respect *Pinus radiata* is especially suitable, and, were the timber useless for any other purpose, its production on a large scale would be more than justified.

Country House Lighting

(Contributed)

Most household inventions such as the sewing machine and modern cooking ranges benefit all sections of the community, and the man out back (provided his circumstances permit) is able to make his home almost as up-to-date and comfortable as that of his city cousin, while the advent of motor cars and good roads has taken away almost the last drawback of country life, i.e., isolation.

In the matter of house lighting, however, the country householder is at a serious disadvantage. Coal gas and electric light are in universal use in all large towns, and the city housewife would rather part with her sewing machine than lose her gas stove, and go back to kerosene lamps, which are used in most country homes to-day. A number of self-contained gaslighting systems are, of course, obtainable in New Zealand at present, but the majority of them are far from being an efficient substitute for coal gas or electric light.

Acetylene gas is a great improvement on kerosene lamps, but its objectionable features are well known. The gas is highly explosive and therefore dangerous, besides having an objectionable smell, while the cleaning and filling of the carbide trays, which have to be attended to almost every day, is a most disagreeable operation. The average life of an Acetylene plant is usually only about four years, and the present high cost of carbide makes the running expenses almost prohibitive.

Machine made gas, known as air gas, is made by mixing benzine vapour with air. The gas is generated in a large machine outside the house, and forced through ordinary gas pipes to the lamps by means of a small engine, or a series of pulleys, ropes and weights. The light produced is of excellent quality, but the plant is complicated, requires expert attention, and involves a considerable amount of labour to operate. The gas mixture varies with every change of temperature, and in frosty weather many air gas plants will not produce gas at all. Only the highest grade of petrol can be used in air gas machines.

Hollow-wire lighting systems which also generate gas from benzine vapour and air are in great demand at present. There are two kinds of hollow-wire plants on the market, but the one adopted by the New Zealand Government for use in country post offices, wireless stations, etc., appears to be the most up-to-date and efficient. The initial cost is small, the lamps are lighted by an ordinary wax match, and inverted gas mantles are used. The small generator, in which the gas is generated, is fitted with an automatic cleaning attachment, which keeps the gas tip clean, while for quality and general convenience the light compares very favourably with city gas. Excellent cooking facilities in the way of stoves and ovens are obtainable and any grade of petrol or benzine can be used, the plant requiring practically no attention. The other system works on much the same principle, but an asbestos torch dipped in methylated spirit is required to start it operating, while the generator must be frequently taken down in order that the tip may be cleaned.

The question of lighting for houses, shops, halls, churches, etc., in the country has been a bugbear to architects and builders for many years, and many of them are enquiring into the undoubted advantages supplied by the hollow-wire systems. On enquiry it was found that all of the plants at present being used by the New Zealand Government are giving complete satisfaction. One plant installed in the Awarua wireless station has been in constant use on an average of twelve hours per night for nearly a year, and according to the engineer in charge, has not developed a single fault, while during the past year hollow-wire systems have been installed in many of the finest country homes in the Dominion. When such satisfactory results have been achieved, there should be reason to conclude that the lighting problem in the country has been definitely solved.

Own your own Home!

Every man owes it to his family and himself and the community, to save and establish a home. He makes a better citizen in peace and war. You never hear of a man taking up a gun in defence of a boarding house.

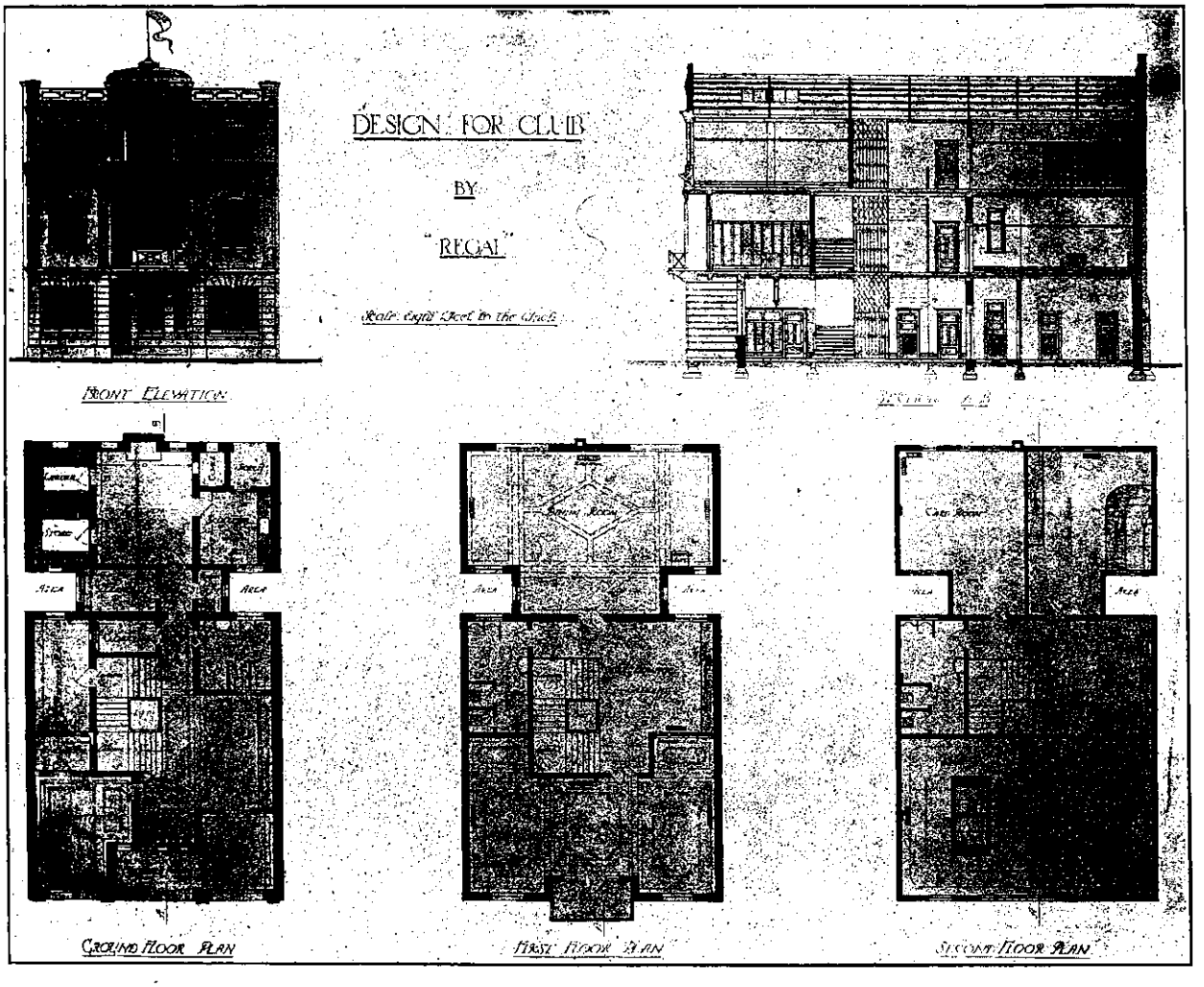
Our 43rd Competition

A SMALL CLUB

Only two designs were sent in for the competition for a small club, viz:—"Regal" by L. H. Charlton with Mr. A. Garnett, Hastings, and "Pax" by H. C. Critchfield with Messrs. Anscombe & Smith of Invercargill. As the conditions of these competitions call for at least three designs before an award is made there will be no prize payable in this instance.

The elevations are tame and uninteresting and show a lack of study in classical forms. The section shows nothing of interest while the front and back walls are shown solid. The detail is merely an enlarged drawing of the central portion. The drawings as a whole are indifferently drawn with a thin weak line while the cross hatching is a useless waste of time.

Good points. Billiard room well placed but a greater distance should have been left between the tables. Dining room and conveniences well arranged.



Design "Regal" by L. H. Charlton with Mr. A. Garnett of Hastings

"Regal's" design is placed first. Mr. G. A. J. Hart, of Messrs. Hart & Reese of Christchurch, who kindly set this subject reports as follows:—

"PAX"—*Errors.* Lockers and porter's rooms should have been arranged in a less prominent position. They take up valuable space at entrance. Fire places in lounge and smoking room badly placed, and take up too much valuable room. Reading room needlessly cut up; would have been much better had the recessed portion of balcony which projects into the room been omitted. W.Cs. on second floor should abut against outside wall instead of against interior wall. Reading room also in a good position. With a little rearrangement the plan could have been made more direct and useful.

"REGAL"—*Errors.* Valuable space wasted by indirect access which causes ugly breaks in the plan. W.Cs. wrongly placed, should abut against area walls in each case. The flight of steps leading to porter's room should not have been shown in solid lines. Reading room needlessly broken up; would have been better without the recessed balcony projecting into the room. The lounge at first floor level is also rather wasteful. The elevations are somewhat weak,

Gas Automatic Water Heater for Domestic Hot Water Supply.

This Heater will supply hot water to any part of the house.

Heating capacity three gallons per minute.

The heater is the "enclosed type" principle, i.e. water does not come into contact with the products of combustion from the gas.

Instantaneous and continuous supply of hot water night and day simply by turning on a faucet.

Made throughout of heavy planished and tinned sheet copper.

With the exception of small pilot jets, there is no gas consumption unless hot water is being drawn off in some part of the house.

Manufactured in the Company's Workshops.

Supplied and fixed in the Company's area of gas supply for the sum of £30 net cash, including heater, cold water storage tank, and pipes and fittings to points for bath, lavatory basin, and sink or tub.

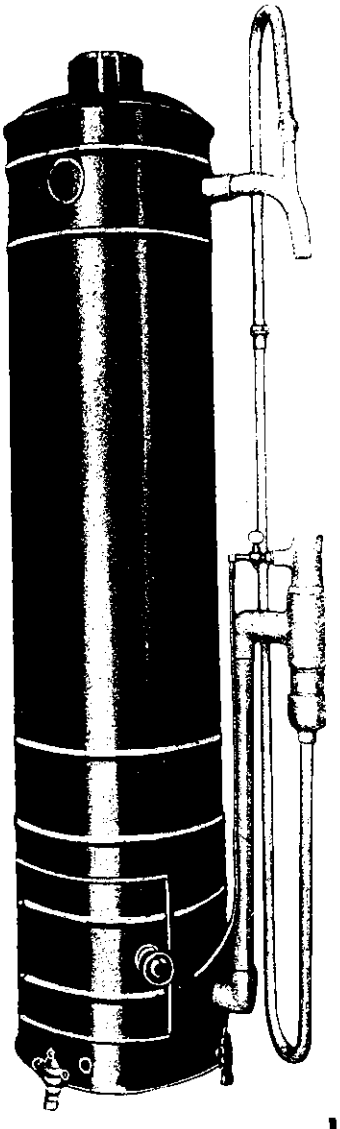
The line sketch below shows the arrangements of the Auto. heater and all the pipe connections.

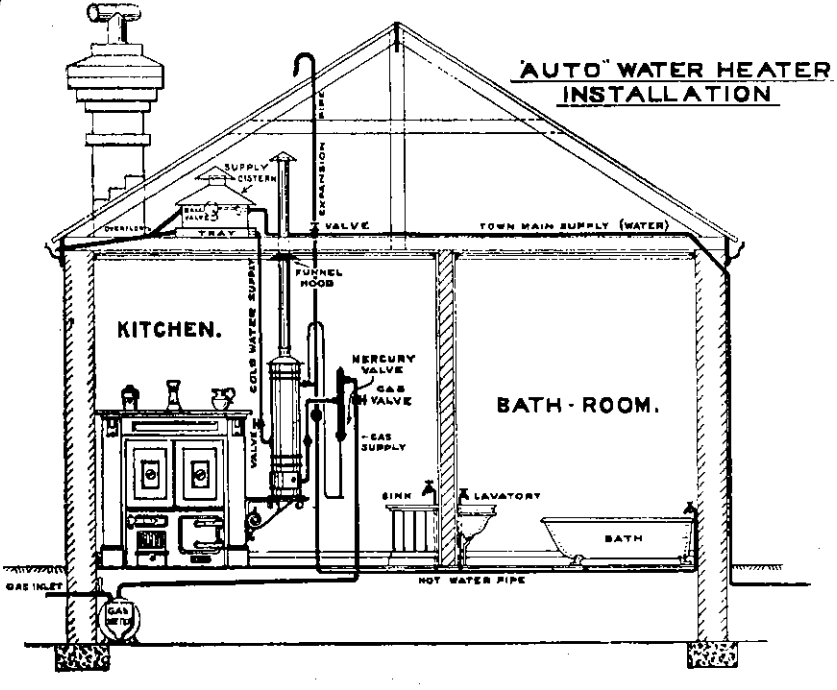
On application the Company will supply special drawings and suggestions for the installation of gas heated hot water apparatus to suit consumers' special requirements (large quantities or small)

The advantages of the gas Auto. heater over other systems of hot water supply are recognised by Architects and Builders.

Since the introduction of the Auto. heater, the Company has supplied and fixed a large number in the City.

The heater can be seen working in the Company's Showroom.





The Wellington Gas Company, Limited.

the pediments over windows on 1st and 2nd floors too thin and out of proportion. Section uninteresting.

Good points. The dining room is well placed and makes a nice room. Billiard room also good room with tables shown better than in former design. The details are neatly drawn but would have been better if more attention given to setting out the order. The drawings as a whole show care and the author should in time turn out some very creditable work.

Master Painters' Annual Conference

The Master Painters held their Annual Conference at Christchurch last month which was attended by delegates from all over New Zealand. It was decided that a New Zealand Federation of Master Painters' and Signwriters' Association of Employers be formed.

An address on Technical Education was given by Mr. J. B. Chetwin, the Auckland representative.

Mr. Chetwin said, in dealing with technical education, he would apply it particularly to the craft they represented. He was very doubtful if there was any craft in which there was such a wide scope for development, but the trade, as at present constituted, entirely failed to realise the position or that that scope ranged from wall-painting to decorative figure or landscape work. The craft afforded a scope for the ambitious apprentice, and he hoped the Federation would find ways and means not only for providing education from within, but would try to educate people outside to a greater appreciation of the work done by the decorator, and would lay down definite principles in order to build up the craft and put it on a footing equal to, if not better, than that of any other trade. It was the duty of the master painter to cultivate on definite principles the proper system on which the business should be worked, and to eradicate those things which were undesirable. They had art and technical schools, open to their apprentices, but these had had very little effect on the improvement of the craft. Those schools had no definite system laid out whereby a boy going through their syllabus would at least learn definite principles to make him a master of his craft, and also no definite system of education which would enable the same boy to get a commercial training suitable for his calling and make him a capable citizen. They had for some reason or other allowed their trade to fall down to the lowest trade status, and if they allowed that to go forth, they would only weaken their own trade structure. The old times when workmen knew how to do their work out of hand were gone, and now men must know not only how to do their work, but why it was done. His Association (the Auckland Master Painters) had realized the benefits of technical education, and had drawn up a comprehensive syllabus, which had been laid before Mr. Herdman Smith, the director of the local School of Art, and Mr. Smith was of opinion that it was equal to the best continental Decoration School Syllabus.

Mr. W. Nichol (Wellington) in thanking Mr. Chetwin for his address, spoke very earnestly on the proper manner in which to treat the boys, and make the trade attractive. He dwelt on the need for raising the status of the trade.

Mr. Cooper (Timaru), said he did not wonder that there were boys wanted in the trade. They wheeled barrows and were covered with paint, and the trade was in no manner of means made inviting. Give the boy, he said, something attractive at the outset, and the boy would take an interest in the trade. A great deal of the old attraction had gone out of the trade. They no longer painted—they used coats of oil or varnish.

Mr. E. J. Bell (Christchurch) said he was glad to see that the syllabus drawn up by Mr. Chetwin included such subjects as English and book-keeping. The trade had sunk to a level in which its members were regarded as little better than labourers. The cure was the uplifting of the whole trade, and in the present uplifting of the nation he felt sure that that would occur. He asked why in this uplifting a member of the trade could not also be a gentleman and a valued citizen as well as a painter. That, he held, was the effect of a proper technical school training.

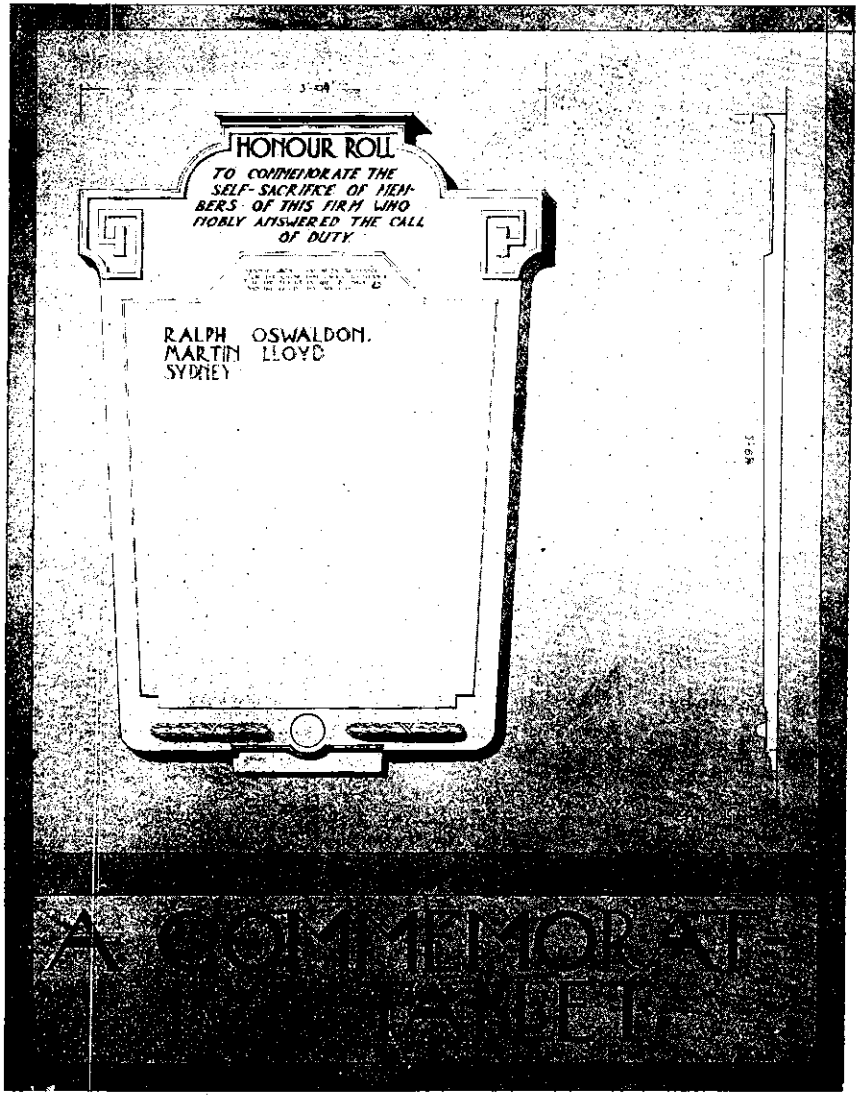
Mr. Birch said a great evil lay in the conservatism or jealousy of the older men, and he instanced a case in his own experience, a grainer and marbler absolutely refusing to allow anyone in the trade to watch him at his work. "I had to pay to learn this job," he said, "and if you want to learn it you must get four or five together and pay me a good round sum to get me to teach you."

After further discussion Mr. Chetwin was accorded a hearty vote of thanks for his address.

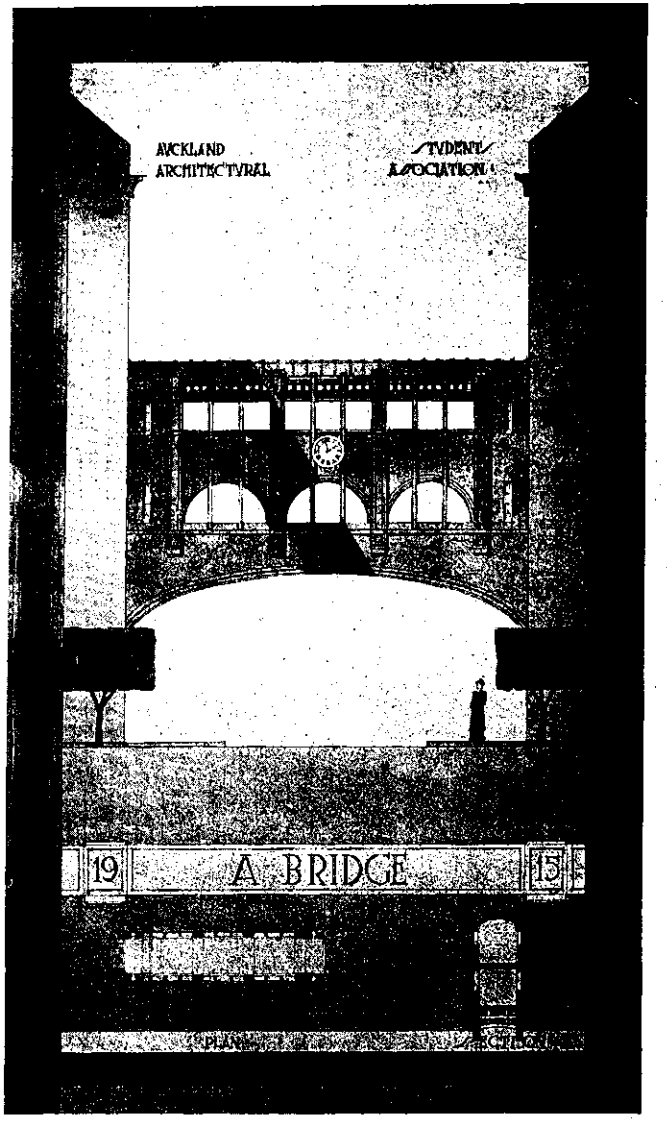
In the evening Mr. Collins (Wellington), gave an address on "Contracts." He thought that there should first be some clearly defined method of drawing up specifications. At present two men would read the same specifications and go away with two very different conceptions. This accounted for much of the difference between tenders. Tenderers had great difficulty in properly understanding the special customs of architects and differences arose. The Federation would indeed justify its existence if it did nothing more than draw up a model specification. He then touched on the "jobber," with whom business was verbal, to whom a price was given for £50 worth, while his interest was only nominal, and who thus got painters to tender—not to the principal, but to him (the jobber). He suggested that in this connexion a clause should be inserted in all jobbing contracts providing that only painters need apply. Painters had little trouble with the architects except in certain cases in which the Lien Act caused friction. He thought a compensatory measure might supplant the Lien Act. They should ask the architects to allow two days and two nights to be allowed to sub-contractors to study the specification. The sizes of glass should be clearly stated and adhered to, any alterations to be paid for. He also suggested that tenders should be paid 2½ per cent. on all jobs over £50.

The following day concluded the Conference and a paper was read by Mr. E. J. Bell on "Painting in regard to Public Health."

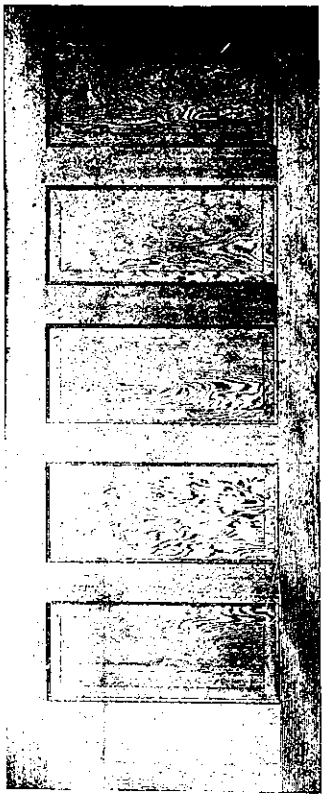
Auckland Architectural Students' Association.



Design by N. Garlick. First mention in Competition set by Mr. Bamford, A.R.I.B.A.

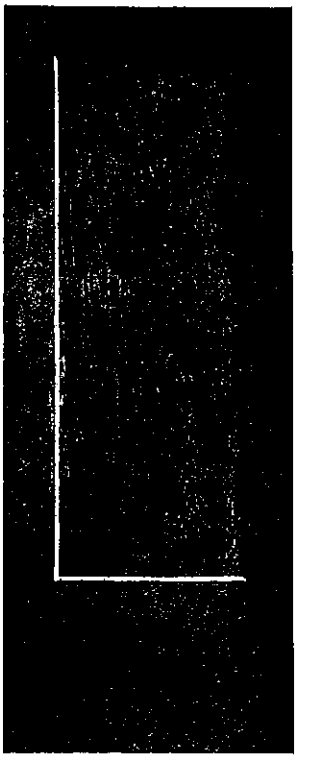


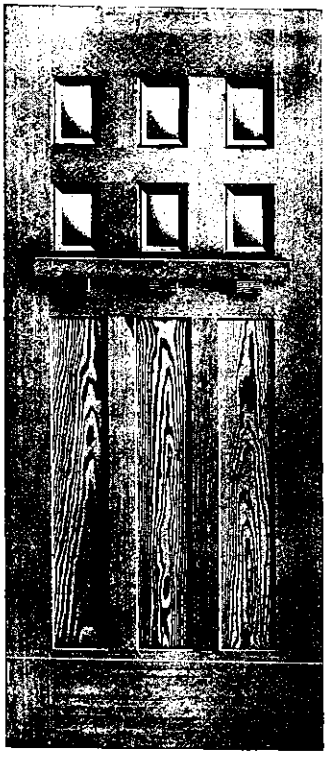
Design by Horace L. Massey. Awarded First Mention.



ELMER MOODY DOORS

of Character and Quality.





W. H. LONG & Co.

29 HUNTER STREET,

WELLINGTON.

A 378-Ton Chimney

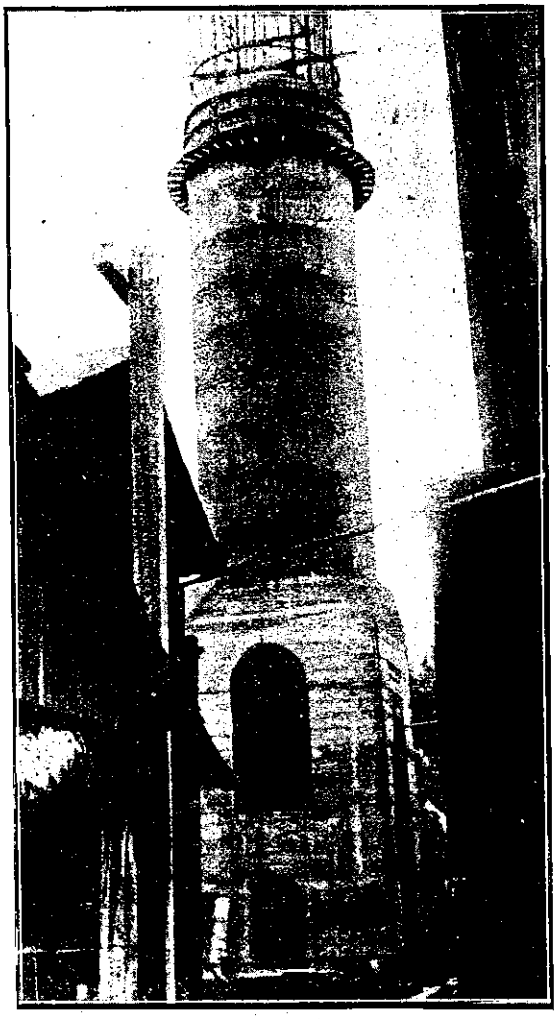
NEW FEATURE AT WARKWORTH CEMENT WORKS

A 378-ton chimney has been erected at Wilson's Portland Cement Company's works at Warkworth. It is built of ferro-concrete, and is bound to prompt inquiry on behalf of representatives of other businesses requiring tall and strong shafts.

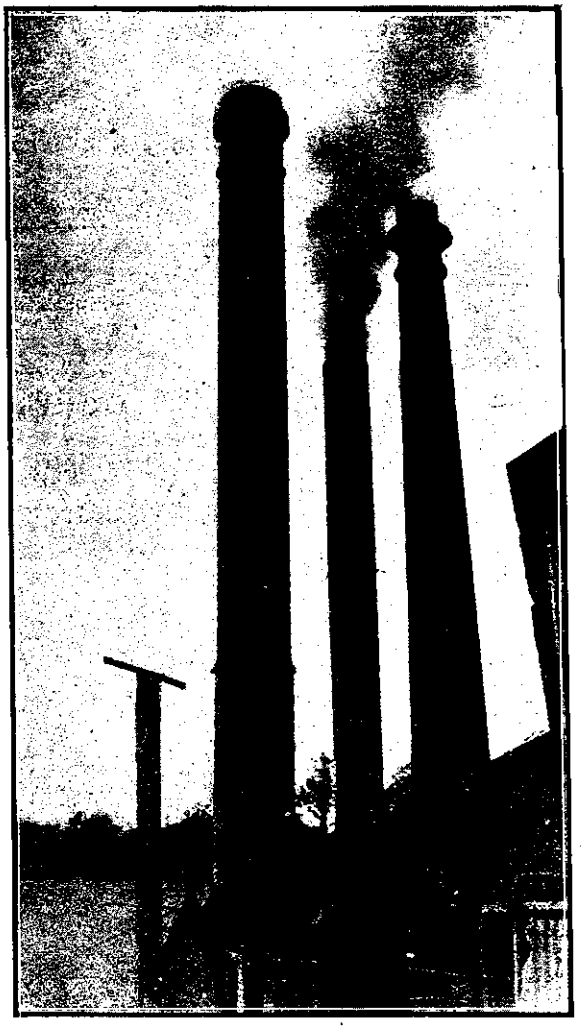
The chimney is 140-ft. high, the inside diameter being 9-feet (from top to bottom). The foundation measures 24 feet x 24 feet, working up 13 feet x 13 feet to the ground level, being 3 feet deep on solid limestone, reinforced with two tons of rails.

The base of chimney measures 12 feet x 12 feet, and has three openings, one being a manhole and the others being the flue connections. Being square on the outside and round on the inside, the walls measure at the thinnest part 18 inches and rise to a height of 21 feet where it steps into 9 inch walls, being round from there upwards for another 30 feet, where a collar projects, and then steps into a five inch wall, rising at that thickness to the head which projects out 12 inches, and then steps in again to the six inch wall. The whole is reinforced with $\frac{7}{8}$ inch $\frac{3}{4}$ inch $\frac{5}{8}$ inch uprights, and $\frac{1}{2}$ inch horizontals, round iron and steel. The approximate weight of the chimney is 378 tons, and the time taken to do the job, including foundation was a little over four months, the cost of labour from foundation being £200 15s.

The whole work was carried out under the supervision of Mr. W. Civil, the design being drawn by Mr. T. H. Wilson, works manager. The material used was as follows:—6 tons steel, iron, and wire; 2 tons 6 cwt. of 14-lb. rails; 37 tons cement; 333 yards aggregate. The proportions used were 1 cement, 2 sand, 4 shingle.



View showing Circular Formes employed



View of Finished Chimney

His Kick.

"I wont pay one cent for my advertisement this week" declared the storekeeper angrily to the editor of the country paper. "You told me you'd put the notice of the shoe polish in the reading matter."

"And didn't I do it? inquired the editor.

"No, sir!" roared the advertiser.

"No, sir, you did not! You put it in the column with a mess of poetry; that's where you put it!—Ladies' Home Journal.

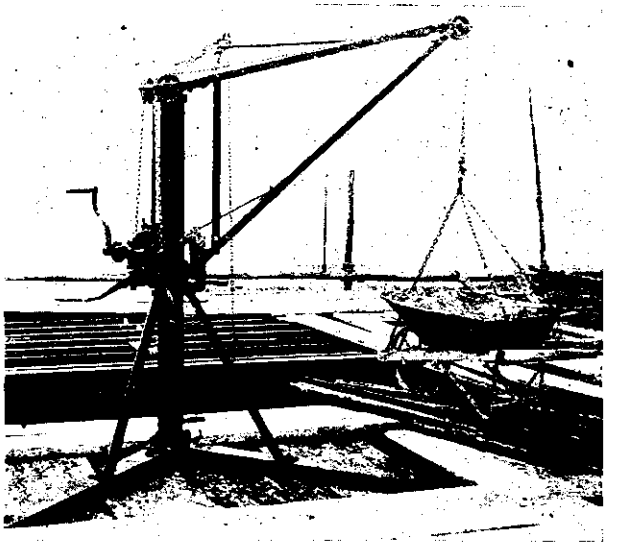
A Contractor's Claim

Last month the Registrar of the Supreme Court (Mr. W. A. Hawkins) read the reserved judgment of his Honour Mr. Justice Chapman in a case which, at the time of hearing, was described by counsel as being of the greatest importance to builders and contractors. Sanders Bros., builders and contractors, appealed against a recent judgment obtained against them in the Magistrate's Court by Strange and Co. Ltd., Christchurch, for two sums of £164 3s. 6d. and £55 3s. 9d. Mr. A. Gray, K.C., with him Mr. Beere, appeared for the appellants, and Sir John Findlay, K.C., with him Mr. J. J. McGrath, for the respondents. The case arose out of the furnishing of the new Opera House, for which the respondents were sub-contractors, the appellants being the main contractors. The question at issue was one of liability, and as to whether it rested with the main contractors or the Opera House Company, Ltd., there being no dispute as to the amounts in question. The defence in the Lower Court was that Strange and Co. Ltd., were employed by the supervising architect (who has since died) on behalf of the Opera House Company, Ltd., and not on behalf of the appellant.

Having reviewed the evidence, his Honour in his judgment said that he was only called in to decide a question of fact, and it must be decided in favour of the appellants. Costs amounting to £21 were allowed.

Something New in Builder's Plants

A TWO-WAY HOIST



One would have thought there was not much in the matter of handy derricks we could be taught, yet the fact remains that the Sasgen Derrick Co. has found it.

We have seen some of them, and can speak with pleasure upon the work done. Being made of steel their lifting power is great and their portability renders them suitable for all classes of work. They can be operated by either hand or power.

Our photograph shows one in use at the Westport Coal Co.'s new building Taranaki Street Wellington, and the contractor Mr. Lamb says it saves him a man a day—rather a good investment. When dismounted and boxed it covers about 10 cubic feet. It is a derrick for all men and all purposes.

Concrete Roofing Tiles

Now that the price of building materials is up so high, advantage will no doubt be taken where possible to utilize local productions. Concrete roofing tiles are a case in point. These are being made in Auckland, and if correctly, and carefully made good results are obtained with the use of the corrugated concrete tile.

The corrugated concrete roofing tile, has proved to be the best, and is now used very largely.

Weight, imperviousness, colour, appearance, shape, durability, protection against fire and storm and rain—the advantages are all in favour of the concrete roofing tile, if you manufacture your tiles of the right materials and in the right way. "Don't mix too dry," and "keep the freshly made tiles from draught and sun." Do not mix too wet, for if you do, the concrete will run off the pallets or the tile will lose its shape, but add as much water to your mixture as you can. To keep the freshly made tiles from draught and sun is important, because both tend to dry the tile, which is very thin, too quickly, and thus rob the concrete of the moisture which it absolutely requires for the perfect crystallization of the cement in it. This can, of course, be overcome by lightly sprinkling the tiles with water while still on the pallets, which generally improves them.

The materials used for this manufacture should be clean, sharp sand or washed granite or stone dust, all passing through an eighth inch sieve. This should be mixed in a proportion of three to one—three parts of sand, etc., to one part of cement. Mix well, for you should always remember that the difference between a tile and a brick is like that between a wine glass and a thick plate glass.

The best machines for concrete roofing tiles are the hand machines, on which a man can turn out one hundred and fifty to two hundred and fifty tiles per day, equal to about one hundred and ten to one hundred and forty super. feet of roofing.

After the pallet has been placed in the machine, the workman puts on it one shovelful of mixed material. He then tamps down and shapes the surface of the tile by means of a shaped bar. After the tile has been made the correct shape and a

smooth surface, the colour sprayer is moved over the surface of the tile, and by one quick movement an even layer of dry colour mixture is spread over the surface. This is rubbed into the surface by means of a shaped bar, which at the same time forms a kind of glaze on the tile. The man then releases the tile by pressing on the foot lever.

The tile resting on the pallet is then placed on the rack to harden. The process may seem rather complicated, but it is not in reality, and labourers can do this work to perfection, with ordinary care.

The "Colour Mixture" consists of ten parts cement with one part of special colour powder (dry) which can be bought in any shade, but should preferably have waterproofing qualities. Tiles made by this method retain their colour and do not fade, but improve with age.

To mix colour, (it is a dry powder) with cement by hand perfectly, is next to impossible. It *is* possible, but three men would not be able to mix sufficient for one tile-maker to use daily, while in a colour mixer one man in an hour can mix a quantity sufficient to keep a tile maker going for a week. This type of mill, has a number of turned steel rollers in the drum.

Two days after the tiles have been made they can be taken off the pallets and stacked. They should not be sent out or placed on the roof before they are six weeks old. This is important.

The tiles are fourteen and a half by nine inches (thickness three eighths of an inch), and one hundred and forty go to the square ten feet by ten feet. The weight is about seven hundredweight per square.

To make one thousand concrete roofing tiles requires one and a half cubic yards fresh water clean sharp sand, eleven and a half hundredweight cement, and quarter of a hundredweight special colouring.

We are indebted to the "Crown" Magazine for the above particulars.

New Tasmanian Industries

It is officially stated that contracts have been let and are now in progress for the erection of the various buildings required for the carbide factory of the Hydro-Electric Power and Metallurgical Co. Ltd., Tasmania. The company has also accepted tenders for the principal portion of the plant. With the exception of the transformers (which have to be imported), the whole of the plant is being made in Australia. Provided that there is no unexpected delay in the delivery of any of the machinery, the carbide works should be completed and ready for the application of the electric power supplied by the State hydro-electric plant at the end of nine or ten months. The works are being erected on the company's land at North-West Bay, about 14 miles south of Hobart. It is the intention of the company to push on with the carbide works as quickly as possible, and, thereafter, with the first unit of the electrolytic zinc works (Gillies patent).

Structural Steel from China

Mr Walter C. Pettit, 279 Clarence Street, Sydney, who represents, amongst other Eastern firms the Han-Yeh Ping Iron Co., of Hankow, China, returned from a visit to China and Japan on May 8. He states that whereas the foregoing company were formerly in a position to supply pig iron in this market they are not now able to do so owing to extraordinary demands of Russia and Japan, obviously in connection with the war. The firm, however, are large manufacturers of structural steel, and have now arranged to quote for this and mild steel bars in Australia. Although shipping facilities are not what could be desired, the firm are in a position to execute reasonably large orders and give fairly prompt delivery.

Albions at the Front

The following unsolicited testimonial has been received by Messrs Riley & Co. of Wellington who are the local agents for Albion lorries. The letter has been forwarded by the manufacturers to Messrs Riley & Co., they receiving it from one of the motor drivers in German South West Africa.

M.T. A.S.C., Aldershot.

Dear Sir,—

I am sending you a few photos that I thought you would like to have which have been taken in German West Africa by myself. As perhaps you know these cars belong to the South African Railways and have been running for nearly two years before they went to the Front, and as I can tell you they were the best lorry there, although they were second-hand. In fact I think with a few new tyres and a little doing up they would do another two or three year's work without trouble. As you will see according to the photos that two of your cars are loaded with two 2-ton lorries which had not done one month's work and had to be fetched home on two of your lorries. The third and fourth photos I have sent are just to show you the nature of the ground we had to travel on. In one place it took us three days to do nine miles on account of the sand, and the Albions were the only cars to get through.

Fibro Cement Manufacture in Australia

Another new industry is about to be started in new South Wales. James Hardie & Co., agents for fibro-cement slates and sheets, have obtained permission from the Federal Treasurer to establish a company for the manufacture of similar material, as they experience difficulty in importing supplies on account of the Home Government having requisitioned so much of late for new hospitals, internment camps, &c.

Concrete.

Rapidity of placing concrete where quick-setting cement is used is a point which must be carefully attended to. Some cements obtain their initial set in about ½-hr. after being wet. A slow-setting cement should be used when a long time is likely to occur between mixing and final placing.

The tendency of the average contractor is to mix concrete too wet, the cement being washed to the lowest point of the forms, and the rest of the concrete suffers in consequence.

Another Rise in Cement

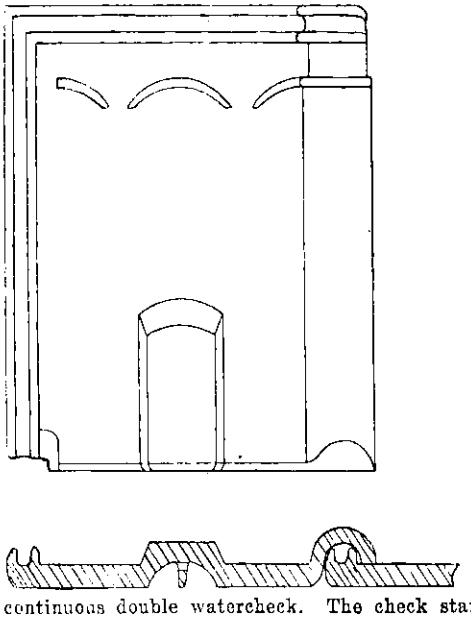
A second increase in the price of Portland cement since the outbreak of war has been made by the companies manufacturing in New Zealand. The first advance, equal to 4s. 6d. per ton, was made a year ago. In his report to the Auckland Harbour Board on Tuesday, the engineer, Mr. W. H. Hamer, stated that the price has now been increased 13.45 per cent., and the cost of all the Board's works will advance accordingly. The present advance is explained by the manufacturers to be due to the general increase in the cost of production, wages having been raised 10 per cent., by the addition of the war bonus, while raw materials and bags are much dearer and the coastal freight rates are higher.

Destructive Fire

Last month a destructive fire in Newmarket, Auckland, destroyed the Taupo Totara Timber Coy.'s premises and stock valued at about £4,000, about 250,000 feet of sawn timber being destroyed. The plant was worth £1,000.

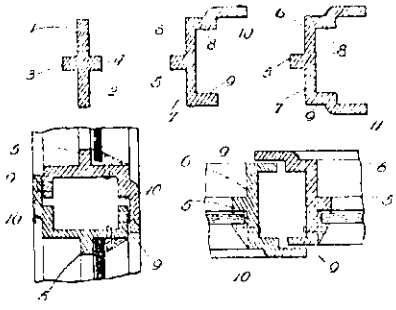
Recent Patents

Weatherproof Roofing Tile.—A patent No. 36717 for a waterproof Roofing Tile has been taken out by J. S. Rose and A. J. Warren of Christchurch. The tile contains a con-



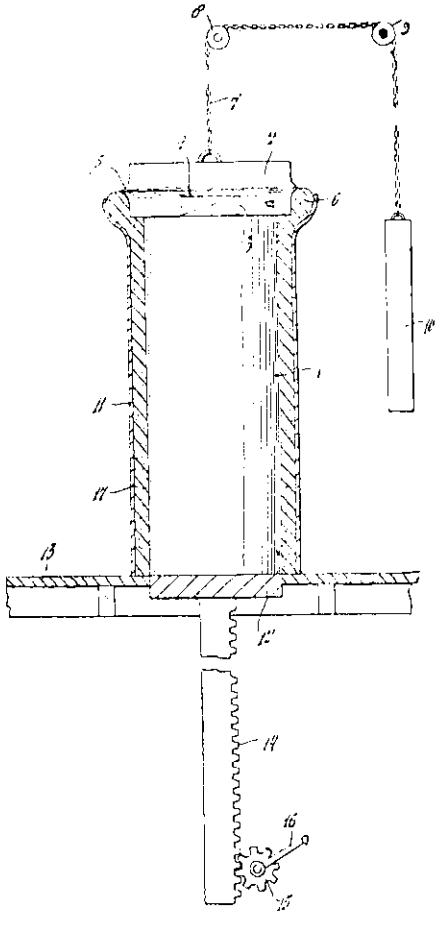
cealed continuous double watercheck. The check starts on the extreme edge of tile and continues across the top and down the side unbroken.

Metal Sections for Window Sash.—A patent No. 37,320 has been taken out by Alfred Woolnough of Dunedin comprising a main web piece, a glazing-strip projecting from said main web piece, and flanges projecting from the said main web piece in an opposite direction to the said glazing-strip, and an extending flange produced from one of the said flanges in a different plane, the two sections being used



in combination with an L piece to construct a casement. A baffle-plate may in certain circumstances be employed, and the invention also comprises some other features.

Concrete, etc., Pipe Making Mandrel.—Patent No. 36,264 by Joseph R. Dixon of Warwick Road, Hastings. According to this invention, the mandrel is made in two parts—a body and a head. The barrel of the pipe is formed around the body part of the mandrel, and the faucet is made by means of the head. The body part is provided with a dowel adapted to fit into a hole formed in the head. To make the faucet of the pipe, the head is lowered down into position upon the body part of the mandrel, and when the pipe is



completed the head is removed by means of a chain passing over a pulley. The body part of the mandrel is then lowered through the floor by means of a rack and pinion. The periphery of the head has swellings for forming the faucet.

Building Notes

AUCKLAND.

Work at the Myers Kindergarten, in Myers Park, Auckland, is proceeding rapidly. Says the "Herald"—While there still remains a good deal to be done to both building and grounds, a good idea can be formed already as to the handsome appearance the building will present when finished. At present the carpenters are busy completing the flooring of the lower storey, and when this work is finished, probably in a day or so, they will begin on the doors. The plasterers are working at the ceilings upstairs. A portion of the outer walls has already been finished, and the delicate brown tint of the rough-cast against the red brick facing makes a most attractive contrast. Outside the grounds form a beautiful setting to the handsome building. While a great amount of work has been done in the park there yet remains a large area of waste land at the western end, where the work of grading and planting is going ahead. Another entrance will be formed at Karangahape Road, and several new paths will be made. The work of asphalting the children's playground will be undertaken shortly, so that when the kindergarten opens the playing area will be available.

During the last few weeks, the Building Committee of the Y.W.C.A. has been busily engaged in revising details in connection with the plans for the new building to be erected in Upper Queen Street. The plans have now been completed, and tenders will probably be called in the course of a week or two. The building will have several notable features, one being a roof tennis court, which will command a view of the city and harbour. There will be a cafe on the top floor and a gymnasium on the ground level, sufficiently large to be used for basketball. It has been finally decided to build no accommodation for members, experience in other centres having proved that the hostel and administrative departments should be kept entirely separate. The new building will therefore be used exclusively for clubs and classes, and the rooms will represent the social centre of the association's work.

The contracts let for the new building for Messrs Whitcombe and Tombs Ltd., are as follows:—Contract No. 1 for excavating and removal of buildings, Mr. G. H. Edwards, £449. Main contract, Mr. Jas. Webster, £18,260, making total of £18,709.

CHRISTCHURCH.

During May the following building permits were issued:—Central Ward (Inner), 3 permits, value £4,600; (Outer), 4 permits, value £3,000; Linwood, 2 permits, value £850; St. Albans, 15 permits, value £6,420; Sydenham, 3 permits, value £830. Total, 27 permits, value £15,700.

WELLINGTON.

The following building permits have been received and approved by the City engineer since March 7th, 1916 to May 16th, 1916.

From 7th March, 1916 to 21st March, 1916—28 fresh applications were received for permission to erect: 30 were approved. City district, £6,977—Melrose, £6,515—Northland, £290. Total, £13,782.

From 21st March, 1916 to 4th April, 1916—29 new applications: 27 were granted. City, £2,880—Melrose, £12,789. Total, £15,769.

From 4th April, 1916 to 18th April, 1916—26 applications: 17 granted. City, £145—Melrose, £4,907—Northland, £460—Wadestown, £2,420. Total, £7,932.

From 18th April, 1916 to 2nd May, 1916—22 applications and 21 were granted. City, £5,848—Melrose, £4,434—Northland, £263. Total, £10,545.

From 2nd May, 1916 to 16th May, 1916—24 new applications and 31 were granted. City, £3,419—Melrose, £12,280—Northland, £265. Total, £16,324.

From the above it cannot but be noticed that the Melrose district is receiving a great deal of attention from the builder. The share of building permits granted in this period for Melrose being about £41,000 out of a total of £64,000.

Professional Directory

PROFESSIONAL DIRECTORY

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