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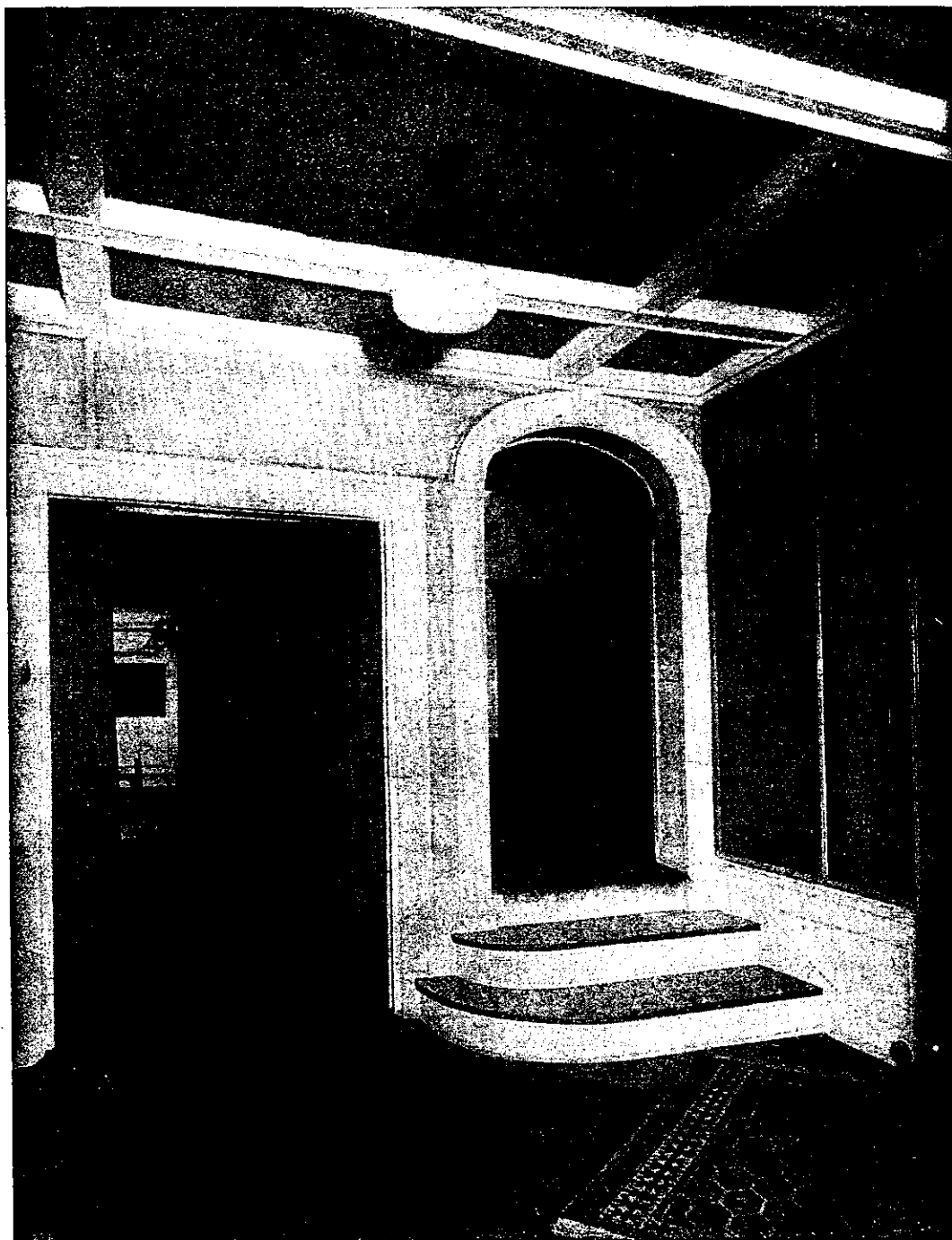
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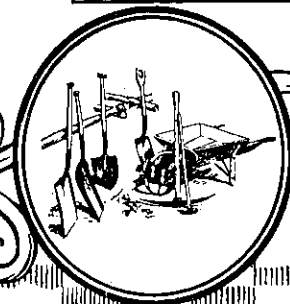
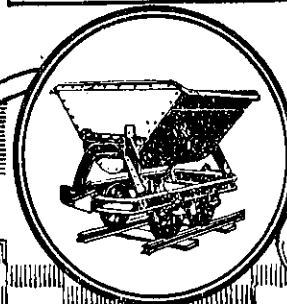
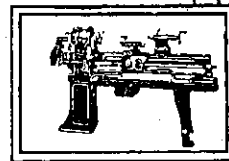
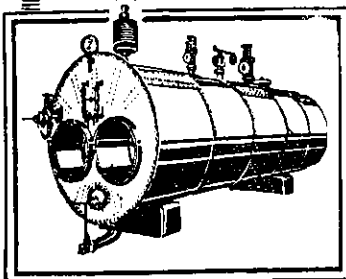
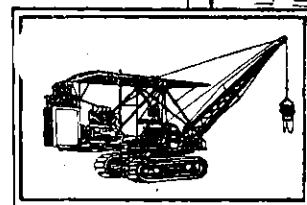
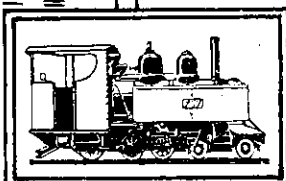
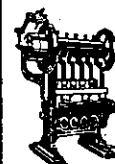
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CHAS. E. WHEELER, Editor.

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

*Official Journal of the Dominion Federated Sawmillers' Association (Incorp.).*

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# · N · Z · BUILDING · PROGRESS

## THE ELEMENT OF VOTES.

Our politicians frequently adopt some palliative measures to stifle a popular grievance without thinking of the principle involved. Their vision ends with the particular deputation, heavily laden with electoral votes, which thrusts its partial case before them. The farmers, a strong political force, did more to stop the export of white pine than all the timber conservatives ever born in New Zealand, and the housing shortage practically eliminated the remaining timber export. Then the Minister in charge of State Forests publicly took credit for the fact that timber was much cheaper in New Zealand than outside, and he mentioned the big difference between local "controlled" rates and the price which could be obtained "free on board." Butter is commanding a very high price "free on board," but like timber, it ought to be cheaper to the local consumer, says the Government, but something much fairer than a stoppage of export is being planned for the sake of the butter producer. We had the same consideration for stock-breeders when it became necessary to give New Zealanders cheap hides as a basis of cheap boots. Surely what is good for the farmer is equally applicable to the timber-miller—but we doubt if he commands enough electoral shrapnel to scare the politician into any consideration for him. It is certainly a worthy aim to avoid charging New Zealanders the highest prices current for their products in the world's markets, but if a principle of readjustment of local and export values is adopted to benefit one class, it would be reasonable to expect it to be generally applied.

\* \* \*

## THE END OF THE BOOM.

Throughout the world, business is approaching a nearer approximation to solid conditions. There are undoubted signs in almost every important quarter that boom, extravagance, and independence on the part of the seller—curious reversal of the usual procedure which has made the buyer the suppliant and the seller the dictator—has come to a welcome end. Trading conditions have been upside

down too long, and while a return to bedrock cannot be always secured without some shock in the readjustment process, it is well that it should have commenced. New Zealand is probably able to stand the stress of readjustment of values better than most countries, thanks to its enforced savings during the war period, the time of limited importations, but it looks as if the coming six months will be rather anxious ones for many people. There was an early indication of the necessity for caution in the action of the banks in strictly scrutinising advances, and even refusing credits in some instances. The reason is now made plain to all who care to read the very important review of the position of the wool market which was cabled by New Zealand's High Commissioner on October 14th. Without taking space for quotation, we can simply mention a few of the outstanding facts. The world's wool consumption is much less than the production and surplus stocks of the Imperial Government's wool purchases exceed two million bales. Unless the coming wool clip is very cautiously handled, and most of it held, the market will collapse. It is fortunate that the wool business has been subject to regulation, for this improves the prospect of applying restraint under present conditions when restraint is the only method of saving the situation. When it is realised that New Zealand's wool clip last year was responsible for twelve and three-quarter millions of our national income—not counting the amount used in local consumption—the effect of a depression in our principal product will be more vividly realised. It is obvious that the country's financial institutions will have a serious problem to finance the coming clip, and already the Government has promised its aid to the fullest extent. Money is not going to be flung around in the old easy fashion, and the change to carefulness will not be to the country's final disadvantage.

\* \* \*

## WORLD'S PRICE FOR BUTTER.

The brightest feature of the Dominion's trade is the splendid prospect ahead of the butter producers this season. They, at any rate, will get boom prices until next March, possibly for a longer period, but

the Imperial Government is not disposed to make any more long-range purchases, a fact which the butter producers should not forget even while they are jubilant over the present position, and the admission of their right to get the world's market price for the whole of their production. The fact that butter at 2s. 3d. for the local consumer involves a subsidy from the public funds of about £600,000 during the coming year is causing concern to the Minister of Finance, who showed it by throwing overboard his promise not to increase taxation, introducing a measure which will take at least a quarter of a million more out of the death duties and gift duties. He had commenced to speak hopefully of a reduction of taxation next year, but this promise, too, has been withdrawn. If the wool situation does not improve within the year, he will not enjoy another six million revenue from income tax, and will have to adjust his plans accordingly. We notice that Mr. W. T. Irvine, Secretary of the Dominion Sawmillers' Association, has made a statement to the press contrasting the favourable treatment of the butter producers with the restriction of prices to the sawmiller, and the almost total cessation of his export trade, so that the New Zealand user of timber may benefit. Mr. Irvine makes the following comment: "Contrast this position with that of the dairy farmer, who, while advocating restriction of price for the sawmiller, demands the world's market price for his product sold in the Dominion, and contrast it with the position of the flourmiller, whose wheat is subsidised, to enable him to sell at a fixed price. There is nothing of that sort with the sawmiller, who is limited as to export, and is restricted as to local price without subsidy or compensation of any kind—all for the benefit of the community. The sawmiller is therefore compelled to become a public benefactor, and, while paying heavy taxation in the ordinary course, is mulcted in the difference between the export price and the local price. That implies double taxation. Is this the Government's square deal, or in any sense fair play? The principle of the payment of subsidies I do not desire to discuss for the present, but if it holds good for the butter producer, it must, in common fairness, apply to the sawmiller." However, there is little hope for the sawmiller. The Government has reached its limit in the way of resources, and has become so anxious about the future that a little matter of injustice to the sawmiller will trouble it not at all. The return to sane trading conditions throughout the world seems to be well under weigh, and when this has been accomplished the cost of production should decrease, competition will become active, and the necessity for Government control should cease to exist.

\* \* \*

#### A TOWN PLANNING POWER.

Until the Municipal Corporations Act was taken in hand for consolidation this session, Wellington City was the only municipality in New Zealand which had any real power to interfere with sub-

divisions which, while keeping within the edge of the law, were not in the general interests of a district. There has been no statutory power to insist upon provision of reserves, or any proper regard for the future requirements of a developing district. A subdivision might lie awkwardly across the route from a city to a great residential area, but the street plan adopted by its owners could disregard the wider interests of the community so long as the thoroughfares gave the necessary access of the stipulated width. Now the law will enable enlightened municipalities to apply town-planning principles, backed by a statute, for the Municipal Corporations Act contains the following important clause, which in proper hands constitutes an effective little Town Planning Act:

#### *Subdivisions of Land.*

(1.) Where any person holding any land in a borough proposes to sell or lease part thereof, a plan of subdivision showing the several allotments and their dimensions, and the streets and reserves, if any, proposed to be made, shall be prepared by a licensed surveyor, and approved by the Council, before any part of the land is so disposed of or is advertised or offered for disposition.

(2.) In any such case the Council may, before approving any plan of subdivision, require the owner to make further provision for the construction of streets, or the making of reserves, or may require such other alterations of the plan as it thinks proper.

(3.) Any person aggrieved by the decision of the Council under this section may appeal in the prescribed manner to a Board, to be appointed in that behalf by the Governor-General.

(4.) The said Board shall consist of the Surveyor-General or other qualified surveyor in the service of the Crown, and of two other persons.

(5.) On any such appeal the decision of not less than two members of the Board shall be the decision of the Board, and the decision of the Board shall be final.

(6.) Every person who disposes of any land to which this section applies, or advertises or offers for disposition any such land otherwise than in accordance with a plan of subdivision approved by the Council, or, in case of an appeal, in accordance with a plan of subdivision approved by the Board under this section, commits an offence and is liable on summary conviction to a fine of one hundred pounds.

(7.) In no case shall the plans of any land to which this section relates be deposited under the Land Transfer Act, 1915, or the Deeds Registration Act, 1908, nor shall the transfer of any allotment or subdivision of any such land be registered under either of those Acts unless the plan has been duly approved under this section.

(8.) Nothing in this part of this Act shall apply to land to which section three of the Wellington City Empowering Act, 1917, applies.



# Hanworth Park Garden Suburb

## Two New Zealand Architects Chosen on a Big English Scheme.

New Zealand has talked town planning, but there has been no comprehensive scheme of town development carried out in the Dominion. New Zealand architects have been alive to the value of proper development of the natural features of the locality of a residential site, but they have never had the opportunity of dealing with any area except on the

London is twelve miles distant, and as the London and South-Western railway station at Feltham is only a few minutes distant from the estate, the residents will be able to get to Waterloo in 26 minutes, or to the West End in half an hour, the latter journey involving a change to the District Railway.



Cardinal River, which runs through the estate, is utilised to add to the attractiveness of the suburb.

chequer-board arrangement, and it is in England that the chance has come to two young New Zealanders to take a prominent part in an attractive town planning scheme. We reproduce in this issue a number of illustrations of Hanworth Park Garden Suburb, where a housing scheme to provide 3,160 dwellings for the City or West End worker are to be built at a total cost of three millions sterling.

The perspective plan on pp. 36-37 shows how the area of 376 acres is to be designed. The planners had to deal with an area of English countryside, with many of the pretty features of the English village, and a fine country residence and grounds. Beautiful avenues of trees stand on the estate, and they will not be interfered with. There will be a reservation of 56 acres of park lands, leaving 320 acres for dwellings, or eight to the acre.

Hanworth Park is being developed in accordance with the Garden Suburbs methods, with a limited return to the shareholders in the way of dividend, and under the control of the Ministry of Health, so that all the houses will be subsidised by the Government, thus appreciably reducing the cost to the tenants, who will have easy facilities of becoming owners. The architects are two New Zealanders, Messrs. H. L. Massey and A. P. Morgan, A.A.R.I.B.A., A.A.N.Z.I.A., who have established themselves at 85, New Oxford Street, London, W.C.1.

As the scheme is notable not only for its extensive character, but the association of New Zealanders with the planning, we have secured full details of the lay-out, and a number of illustrations of existing features which are being utilised to add to the beauty of the residential area.

These natural beauties are many, as will readily be seen from the photographs reproduced; and the present lay-out is based mainly on existing avenues and other natural features which have been allowed to influence the design and thus tend to a more rational and natural development rather than an arbitrary arrangement which would necessitate the cutting down of many beautiful and fine old trees and the abolition of other beauty spots.

All trees other than those absolutely necessary to the development of the scheme in making room for the necessary buildings will be retained. As the outcome of this policy, development will proceed along the lines of an old English village which grows up around existing natural features and which

Provision will be made for the majority of residents' desire for their own private garden by enclosing the gardens at the backs of the houses with hedges. Ample garden space is allowed for each house, and in addition to having one section laid out in lawn and flowers, sufficient will remain for a kitchen garden as well. However, the tenant will be quite at liberty to do as he pleases, whether he prefers kitchen garden or flowers, or both.

The principal entrance to the new development will be by means of Hanworth road, which enters the site approximately half-way down the length, and is in itself a through route to Richmond, Hampton, Teddington, etc. Hanworth road gives direct access to the proposed new Centre from Felt-



Chestnut Lane - A beautiful spot for houses. In the lay-out of the estate, this avenue is adapted to the road plan, and is not destroyed.

is directly opposed to the modern system of an arbitrary and uninspired planning so often seen in the present day suburb.

The avenues will be laid out as principal residential roads and the houses will be set back beyond the trees. Grass margins will be formed on either side of the road beneath the trees and the front gardens as usually understood will be non-existent. No front fences or hedges will be formed, but the whole of the front will be laid out as a large lawn, with gardens, which will be kept up by the estate. This will do away with the usual monotonous row of small front gardens, very often untidy and neglected, and will have the effect of making the houses appear as though set in one large park.

ham railway station, a distance which can be easily covered in a ten minutes' walk.

Around the Public Centre will be grouped the public buildings, comprising the post office, banks, public hall and cinema, etc. For the time being, however, these will, of course, not be included in the scheme until such time as they will be required. Provision, however, must be made for them with a view to the future growth of the suburb and the probable increase of the population to about 20,000 people when additional public amenities will undoubtedly be required.

The Centre is placed, as it should be, right in the heart of the scheme, and so within easy access of any portion of the site. It is situated on a broad

residential avenue, and is about midway between the Church green and the Central Park. Looking to the N.E. the vista will be formed by the Avenue, and will terminate on the Green, whilst in the opposite direction the vista will be direct through the Park and terminate on the schools centre in the S.W.

Taking advantage of existing avenues, a Coppice and other natural features, a Ring Avenue has been planned making a complete circuit of the whole lay-out, whilst radiation has been provided by means of footpaths passing between the private gardens of the houses, so that it will be possible to arrive quickly at any point of the site without necessarily keeping to the roads. These paths will be made interesting by judicious planting and in addition to

brought up-to-date, will be formed into a clubhouse for the use of the tenants of the estate. The grounds are already laid out and abounding as they do with natural beauty, will form an excellent pleasure ground.

In addition to the existing park, a further fourteen acres will be provided as recreation ground, and will extend from the boundary of the present park to the Circular Avenue. Here will be placed the tennis courts and football ground, etc. The balcony of the clubhouse will overlook the park and recreation ground and will enjoy a practically unimpeded view to the S.W. boundary.

Additional to the Central Park, the wooded land on the E. boundary, which has about forty per cent.



Though building land, these beautiful trees will be preserved.

beautifying the backs of the houses (usually an eyesore), will in themselves form pleasant walks and will give access to the houses without at the same time destroying the privacy of the gardens.

The houses will be set back from the roads and grouped round greens and quadrangles. Where this is not practicable or desirable, the building line will be varied somewhat in order to avoid the monotonous regularity of long rows of houses built up to the same building line. At no point of the lay-out will the houses on opposite sides of the road be closer than fifty feet, and in the majority of cases the average distance apart will be seventy feet.

Hanworth Park, situated centrally on the site, will be retained permanently as Park land, and the existing large house, after being remodelled and

area of water, will also be retained as Park Land and formed into a Water Garden. Here again the existing natural beauties dictated the ultimate use of an otherwise waste piece of land.

The belt of trees on Hounslow road, extending for nearly the whole length of the site, will be retained after being cleared of underbrush, and suitably laid out. This belt will form an effective wind screen to the whole suburb from the prevailing wind and will in addition serve the purpose of linking up the whole of the site with Park Land.

The river Longford, which passes under the aerodrome through a double culvert, emerges again where it flows through the Central Park. Thence after passing under a stone bridge on the Circular Avenue, it flows along the side of a new road to be

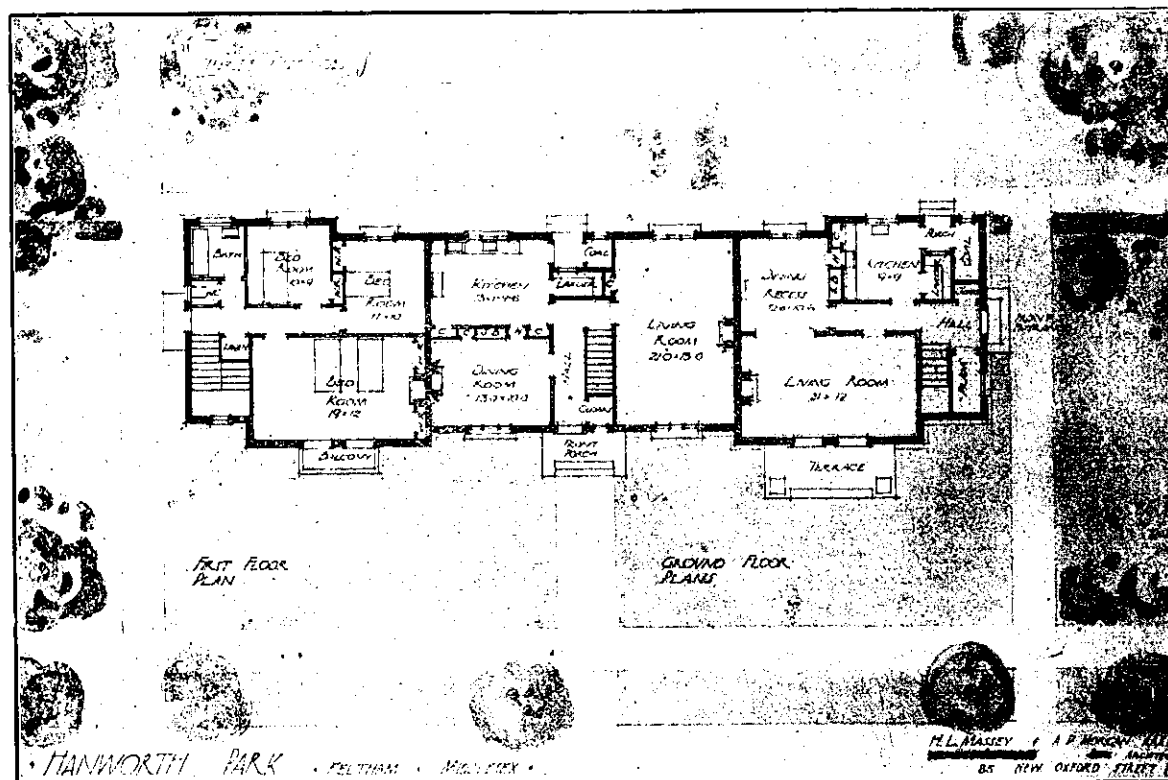


Block of three Cottages—Front Elevation.

formed connecting the Circular Avenue with Hounslow road. Access to the houses on the S.E. bank of the river will be by means of a small foot-bridge placed centrally along the new road and giving on to a small green, around which the houses will be grouped.

The shopping centre will be on the N.E. side of Hanworth road, immediately at the entrance to the suburb.

A fine mansion and its beautiful gardens, situated in the centre of the Central Park, will be available for the use of the tenants. The usual amenities of



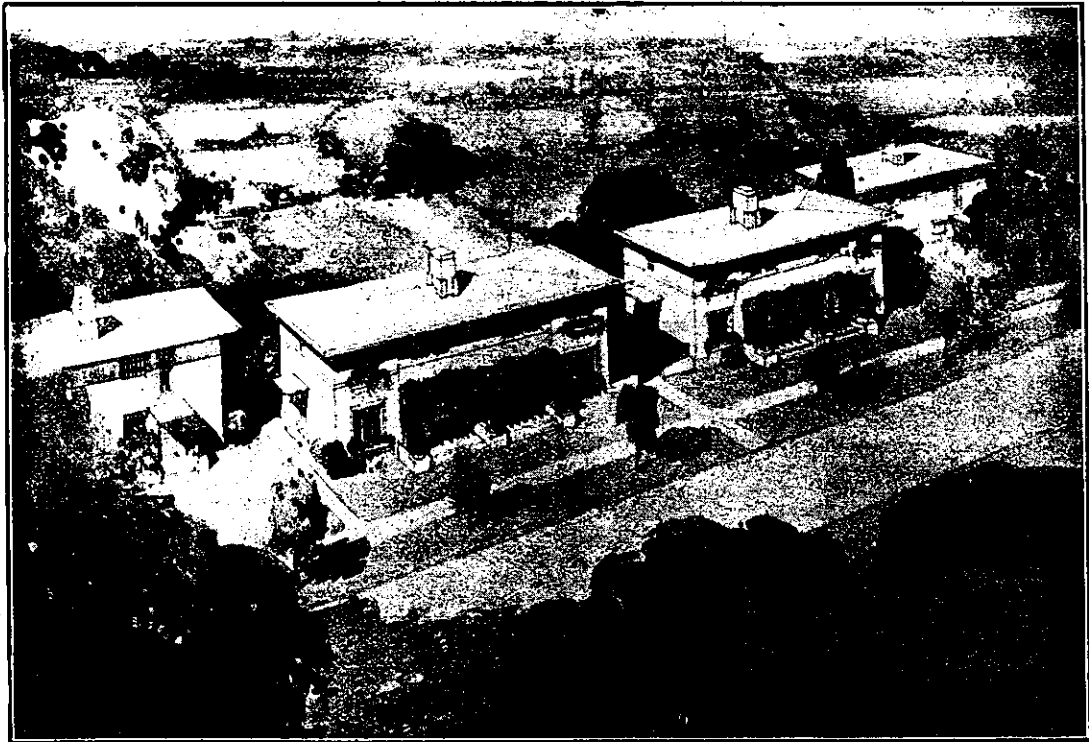
Block of three Cottages—Plan of Ground Floor.

a clubhouse will be provided in the form of reading and writing rooms, billiards and games rooms, restaurant, and possibly living-in quarters. In con-

to the development of the scheme. Added interest will be given this portion of the lay-out by leaving two rows of trees along the fronts of the houses on



View of a Group of Cottages. The Material used throughout, including Roofs, is Concrete.



Perspective View of Semi-detached Cottages.

junction with the club an open-air swimming bath is projected, situated in a corner of the Park.

A large orchard on the N.E. boundary of the site will be preserved as far as possible, and only those trees will be removed which are absolutely necessary

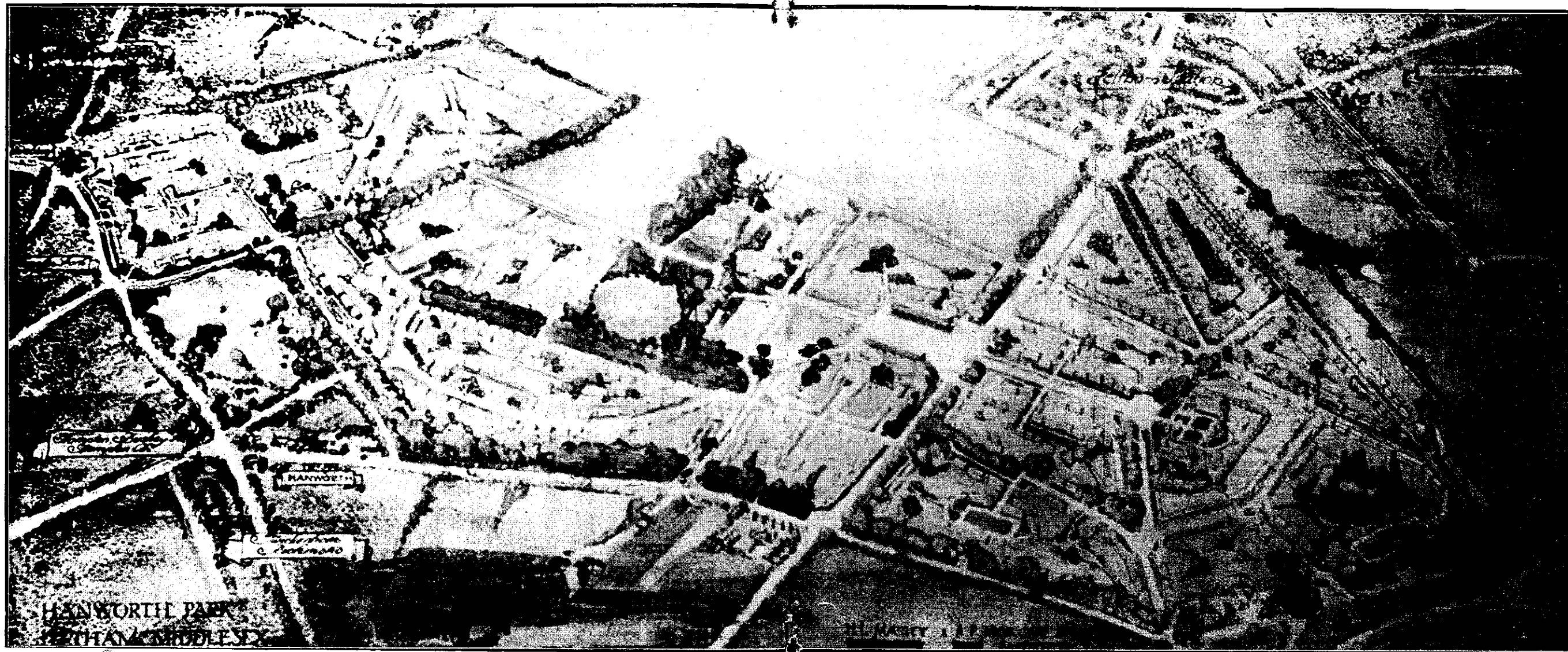
both sides of the road, leaving the remainder to be incorporated in the private gardens of the houses concerned.

The coppice on the south side of the church green has been utilised in the lay-out to mark the junction

of two fine avenues, and will also terminate the vista from the entrance on Hounslow road.

The main avenues having already been described, it only remain to indicate the nature of the secondary roads. It is proposed that these shall be formed on approved garden city lines, with sufficient width of metalling to meet the requirements of the volume of traffic on the particular road. The upkeep of the

The types of houses to be built will average from five to six rooms, comprising living room, dining room, three to four bedrooms, scullery, etc., and will be constructed in concrete, with cavity walls and concrete partitions. The average superficial area of each house will not exceed 1,400 super feet, and will be built in semi-detached blocks and also in blocks of three, four, and six. Ample provision will be



GENERAL VIEW OF HANWORTH PARK, FELTHAM, MIDDLESEX, ENGLAND.

frontages will be borne by the estate, as it is intended to do away with the untidy practice of front fences and hedges that so often spoil the appearance of suburb schemes. The average distance between houses will vary from between fifty to seventy feet. Where greens or quadrangles occur, this will be considerably more. The average distance between blocks of houses will be about thirty feet.

made in each house, and these features will comprise a perambulator store, larder, linen store, separate bath and w.c., ample cloak room, and folding doors between the two principal rooms, thus enabling these two rooms to be thrown into one when occasion demands. A copper and tub will be provided, and the scullery designed similar to a laboratory, where labour-saving conditions are considered.

## Workers' Dwellings.

### The Dunedin Project Stopped.

The scheme projected by the Dunedin City Council for workers' dwellings at Maori Hill, as outlined by us some time back, is not to be proceeded with. The Public Works Committee report on the project

was received from the Fletcher Construction Company.

"A careful comparison of the prices set out in the respective tenders has been made, and the offer by the Fletcher Construction Company is the lowest.

"Accordingly, your committee begs now to ask authority to treat with the Fletcher Construction Company for the acceptance of a tender for the erec-

Messrs. H. I. Massey and A. P. Morgan, A.A.R.I.B.A., and A.A.N.Z.I.A., Architects.

as follows:—

"Your Committee begs now to report having considered the tenders received at the last meeting of council for the erection of these buildings.

"The tenders received comprised in all 14, sent in by the four architects, either for part or the whole of the scheme. In response to our own advertisement one tender for the erection of 34 dwellings

tion of 34 fully-detached dwellings on the basis of £687 for a three-roomed house, £792 for a four-roomed house, and £1,136 for a five-roomed house.

"Allowing for the combined shop and dwellings, and assuming that an equal number of each of the three classes of houses should be erected, the total outlay for building would be £30,063, but your committee is of opinion that it would be advisable to

reconsider the matter of the actual allotment of buildings as between three, four, and five-roomed houses, and if council is now prepared to authorise the acceptance of a tender your committee would then be in a position to negotiate and finally settle the details, when the total sum of the proposed contract could be ascertained. When this information is to hand it will be possible to ask the Finance Committee to provide by way of a new special order for the total sum required under the scheme."

The report was taken in committee.

An amendment that the report be referred back to the committee for a further report was lost.

The motion that the report be adopted was then put and lost.

In answer to a question earlier in the evening the Mayor said that something would have to be done now with the tenders. He took it that the whole thing had been washed off.

It was then formally moved: "That no tenders be accepted."

## The Auckland Competition.

### New Arts Building.

The invitation to architects to submit competitive designs for the Auckland University College's new Arts buildings on the Metropolitan Grounds resulted in the receipt of 44 designs. From this number six have been selected; those responsible for them are being invited, in accordance with the resolution of the College Council, to forward final designs, from which one will be chosen as the winning design. When the competition was first announced it was suggested that the new building should be erected not more than fifteen feet back from the Princes street frontage. This, however, was only a suggestion, and not a direction. Some of those who submitted designs adopted the Princes street frontage, but a large number did not do so, their plans providing for the use of various other portions of the grounds. In connection with the final designs, this freedom of choice as to the position of the building has been made quite definite. An objection to this course was raised at a recent meeting by certain members of the council, who considered that if the building were placed elsewhere than on the Princes street frontage it would not have such a good aspect. Ultimately it was decided by three votes to two not to limit the position to the Princes street frontage. After the winning design has been selected it is proposed to hold an exhibition of all the designs submitted.

### Our Competitions.

Details of our Architectural Competitions will be found on page 44. The results of our 66th Competition for a Workman's Cottage will be announced next month.

## Approved Methods of Construction.

That concrete possesses qualities that make it pre-eminently suitable as a material for the construction of small houses and cottages is becoming ever more widely recognised. And as its use becomes more general, so will its limitations become known and its weaknesses be guarded against. Before the war concrete was only used tentatively as a cottage building material, and, as is inevitable under such circumstances, certain mistakes occurred, chiefly through lack of experience, which tended to bring the material into discredit, the effort in this direction being made either by those who were merely prejudiced against any form of novelty in building, or by those against whose interests it was that a new and competing material should assert itself. Thus disproportionate emphasis was given to the fact that in certain cases walls sweated, in others the houses were made uncomfortable by reverberation, and some were not entirely weather-proof. As experience in the use of concrete for the cottage grows so will these mistakes tend to become rarer, and even now it is possible to look ahead to the day when every builder and contractor, however small may be his business or limited his resources, will, nevertheless, be as accustomed to build in concrete as in brick or stone, and a faulty concrete dwelling will be no more frequent than a faulty building in these hitherto more familiar materials.

It has been almost possible to trace the growing confidence that is being felt in concrete by the continual concessions in its favour that are being made by the Ministry of Health. These have now received certain further extensions. The issue of "Housing" (the official publication of the Ministry of Health), London, of July 5th, contains a list of methods of construction which may be employed by persons desirous of obtaining the grant under the Housing (Additional Powers) Act, 1919. This list, which is additional to the various patent systems that are from time to time receiving approval, allows of certain reductions in the thickness of walls and allows cement tiles to be used as a roof covering. But with regard to the latter, the Standardisation Committee suggests that a local authority intending to use them should obtain a guarantee from the makers that the tiles will form a durable and strong roof covering—a very wise precaution.

Of the various special systems of construction that have been passed by the Standardisation Committee by far the largest number comprise some form of concrete construction. The loud but ephemeral outcry that took place in the London press in September and October of last year on behalf of the timber house has proved abortive. The reason is simple. Timber construction is not indigenous to the country. There are many examples of timber houses in various parts of England, but the total number is quite insignificant. Concrete, however, is entirely indigenous, and it is, therefore, but right that it should become a nationally recognised system



of building, gradually establishing a tradition of workmanship and of design; moreover, it is a material particularly consistent with modern ideas of health, sanitation and prevention of fire risk. We feel perfectly convinced that the growing confidence which the Ministry of Health and local authorities generally are placing in concrete is entirely justified. As for the æsthetic aspect of the concrete house, many examples can be seen whose range has been extensive, both in style and in locality, and which contain amongst them sufficient charm to satisfy the most fastidious.

### The First Garden City.

The first garden city of Letchworth is one of the greatest achievements of the present century, yet its place as a town development scheme in the political economy of the time is by no means as fully realised as it deserves to be. Even the town planner has not hitherto given Letchworth the attention that he should. It is easy to find fault with it. The town does not come up to many people's expectations. It is a common experience to find people disappointed with it on a first visit. Even those who care most for it find a difficulty at times in being patient over some mistakes that have been and are being made; but when all is said the town remains a community of the highest importance in relation to the future of England. Superficial observers, it is true, have sometimes overpraised it, and accounts of the town that have been published in England and abroad have frequently been misleading in their exaggeration. This kind of exaggeration is worse than any other. What can be truly said of the town is that it suggests great possibilities that have not yet been fulfilled. The existence of the First Garden City Ltd. in its relation to the town is itself a unique event of far-reaching importance; for the Company is the freeholder of the whole of the town land, and under its control and according to its plan the town is being built. The full meaning of this has by no means been realised, least of all by the Company, with the consequence that with the one exception of local option on the drink trade, none of the opportunities for social or economic experiment that are implicit within it have been explored. We do not think the time has passed for these opportunities to be made something of. The plan, the housing, the industrial equipment, the social institutions, the agricultural policy, the domestic arrangements of the town are all worthy of study. As a place of residence the town is of infinitely superior standing to any suburb; as a manufacturing centre it has proved its efficiency; and in every other aspect it shows what even a small amount of organisation may accomplish. It is of no advantage to attempt to show that in every detail of its development the town is a success; we do not think that to be of any consequence in an experimental scheme. It is sufficient that in its essential parts it stands the test of actual experience. Letchworth has proved that the garden

city principle of town development is sound. That was what it was established to do, and it has done it. It has done it so well that no one who takes the trouble to examine into the matter can fail to be convinced.—*Garden Cities and Town Planning Magazine.*

### Road Construction in America.

It is interesting to note how the concrete road in America has developed alongside the increasing use of the motor-driven vehicle. This point is best illustrated by the following figures:—

At the close of the year 1909 there were six miles of concrete road in all the United States. At the end of 1919 there were over 11,000 miles of concrete road. During the same period the automobile traffic had increased from 127,731 cars to 8,000,000.

Motor cars demand a smooth rigid road. This was not the case when the horse was the motive power. Horse-drawn travel compacts dirt and gravel roads, while motor traffic disrupts these same roads. The cost of driving intricate and expensive motor vehicles is correspondingly more expensive on poor roads.

The farmer, who, in the United States, was at first strongly opposed to motor-driven vehicles, soon discovered they were valuable aids to him in his work, and thus the rural communities began to demand concrete roads, and farmers are consistent supporters of this type of road.

As is well known, the State of California builds her roads almost exclusively of concrete. In this State alone 2,500 miles of roads are made of concrete. In the case of the "Ridge Route," a Californian concrete highway, covering a stretch of 30 miles and costing about 1,200,000 dollars, it has been estimated that with the heavy traffic passing over this road the total cost of building would be absorbed in less than 200 days by the saving in gasoline, tyres and upkeep on the vehicles passing over it.

### Memorial Entrance in Christchurch.

A plan of the memorial entrance it is proposed to erect at Lancaster Park, came before the Board of Control at a meeting held this month, from the architects, Messrs. J. S. and M. J. Guthrie. The plan provides for a handsome ferro-concrete structure, 100 feet in length, with a depth of twelve feet, and ten stiles, each fitted with collapsible iron gates. Provision is also made for an office, and, surmounting the whole structure, will be an appropriate inscription. The architects stated that the cost of the entrance would probably be from £1500 to £1600. It was decided that the secretary should write to the Government for permission to commence the work, and that the architects should be instructed to call for tenders.



# 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.

The table printed in this issue, showing the quantity of building timber produced, exported, and used locally in the years 1919-20, as compared with 1917-18, should go a long way towards silencing those who are continually crying out against the export of timber whilst local requirements remain unsatisfied. It will be observed that in the later period only 5.3 per cent. of the total produced was exported, against 22.9 per cent. in 1917-18, the reduction of the quantity exported in proportion to the total output being thus 17.6 per cent. within the two-yearly period. This goes to show the sawmiller is out to satisfy local requirements, but in doing so he is clearly entitled to look for the same price as he would receive if the timber were exported to Australia. The sawmiller cannot possibly see any difference between his position and that of the butter producer, who claims to receive the export value of his product if sold in the local market. This claim is continually being put forward by farmers' unions, dairy companies and others, and exactly the same principle, we contend, applies to timber—and until local prices are on a parity with the export price, sawmillers feel they are unfairly treated and have genuine cause for dissatisfaction. A copy of the table was laid on the table of the House a day or two ago, and apparently gave such genuine satisfaction that no comments from members were forthcoming.

Amendments to the "Workers Compensation Act" have been introduced in the House by the Minister for Labour, the Hon. Sir W. H. Herries—the principal of which is the increase in the maximum amount payable from £500 to £750. Provision is also made for reducing the period of incapacitation in which compensation should be paid from seven to three days. The maximum weekly compensation payable in case of accident is increased from £2 10s. to £3 15s., and of medical expenses from £1 to £20. The section of the principal Act which makes compensation payable to mining contractors is applied to contractors to cut standing timber, including the cutting of scrub and the clearing of land of stumps and logs. Compensation in cases of minor accidents are also increased, and the jurisdiction of Magistrates is extended to include cases where the claim does not exceed £50.

A report of the proceedings at the annual meeting of the New Zealand Forestry League is just to hand, giving reprints of papers contributed by Mr. W. J. Butler (Hokitika), president of the Sawmillers' Federation, entitled "A Commercial Analysis of the Natural Process of Producing Timber," and by Mr. A. Leigh Hunt on "The Uses of New Zealand

Timber for Furniture.' Captain MacIntosh Ellis, Director of Forestry, was amongst those present, and in the course of his remarks emphasised his opinion that New Zealand would advance in forestry only so far as the Forestry League would let the movement go. Amongst the councillors elected for the ensuing year are Messrs. Butler (Hokitika), R. A. Wilson (Bulls), and S. M. Stone (Wellington), each of whom is directly connected with the sawmilling industry. An effort is being made by the Federation to induce all of its members to become members of the League, as it is felt the claims of sawmillers should have a prominent place in the discussions of the council, and that the sawmilling industry must go hand in hand with forestry development schemes. In Canada the business public form the bulk of the members of the League, as the industry is a permanent one, and is looked upon as being of national importance.

Owing to the increased railway tariff, and the added cost of timber landed in the various centres, the Board of Trade has approved of an increase of 1s. per 100 feet on the Auckland timber merchants' prices for kauri, matai, rimu and totara. Wellington timber merchants' prices are also increased 1s. per 100 feet with the approval of the Board for the same reason.

Comparative statement showing the output, export and quantity placed on the New Zealand market of rimu, kauri, matai and totara for the years 1917-18 and 1919-20.

1917-18.					
Timber.	Output.	Export.	Per cent.	Placed on N.Z. Market.	Per cent.
Rimu	111,318,579	27,583,235	23.7	88,875,298	76.3
Kauri	21,835,023	10,454,494	34.8	10,552,692	65.2
Matai	11,930,040	493,964	3.8	12,374,501	96.2
Totara	13,387,038	57,337	0.4	13,518,126	99.6
Totals	158,470,680	38,589,030	22.9	134,320,617	77.1
1919-20.					
Timber.	Output.	Export.	Per cent.	Placed on N.Z. Market.	Per cent.
Rimu	145,584,203	10,101,000	7	135,483,203	93
Kauri	22,598,391	362,000	1.6	22,236,391	98.4
Matai	17,820,597	Nil	—	17,820,597	100
Totara	4,414,298	Nil	—	14,414,298	100
Totals	200,417,489	10,463,000	5.3	189,954,489	94.7

(Note.—The discrepancy between the total output in 1917 and the quantities exported and placed on the New Zealand market during that period is accounted for by stocks held at the beginning of the period.)

Quantities placed on the New Zealand market.

Year 1919-20, excess over year 1917-18.

Rimu	...	...	46,607,905	sup. ft.
Kauri	...	...	2,683,609	sup. ft.
Matai	...	...	5,446,096	sup. ft.
Totara	...	...	896,172	sup. ft.

Total ... .. 55,633,872 sup. ft.

Percentage of increase on 1917-18.

Rimu	...	...	52.5	per cent.
Kauri	...	...	13.7	per cent.
Matai	...	...	44.0	per cent.
Totara	...	...	6.6	per cent.

Total ... .. 41.4 per cent.

9th September, 1920.

\* \* \*

The basis rates to be charged by sawmillers in Otago and Southland will be on truck Riverton, with the addition of actual railway freight from Riverton to point of delivery. West Coast prices being fixed on f.o.b. Greymouth basis, an increase of 6d. per 100 feet all round has received the Board's approval.

## School of Forestry.

### Auckland's Claim Urged.

#### Special Facilities Admitted.

The claims of Auckland to the School of Forestry were urged upon the Prime Minister and other members of Cabinet by a representative deputation from Auckland. While unable to give a definite answer upon the matter, the Prime Minister admitted that Auckland did possess special facilities for the school.

Professor A. P. W. Thomas explained that the University Senate, which was representative of all the colleges, had decided that each college should specialise in some particular subject, and had agreed that Otago should have the Medical School, Canterbury the School of Engineering, Wellington the Law School, and Auckland the School of Forestry and the school of Agriculture. He went into detail concerning the special advantages of Auckland, dwelling particularly on its forests, and the fact that it was a great timber centre, in which the whole process could be studied.

Mr. A. B. Chappell, Registrar of the Auckland University College, conveyed the eagerness of the Auckland Harbour Board to co-operate in the work of the school, and to throw open its bush for research. As regards college facilities, he gave details to show that the institution was thoroughly up to date. Incidentally he mentioned that a great deal of forestry research had already been undertaken by the local biologist.

Mr. J. Butler, of the Kauri Timber Company, said the time had come to look at forestry from the economic point of view. He stressed the great possibilities for research in the Auckland Province, and maintained that it was the only area in which the seed could be watched from its generation until the tree reached the saw. There were admirable forest lands and the best of waterways upon which to transport the logs. The Auckland sawmillers would do their utmost to assist the school and, if possible, would establish logging scholarships.

The Hon. E. Mitchelson said the matter was one which affected the whole Dominion, and from that point of view he was quite convinced the right place to put the school was Auckland.

Mr. W. B. Leyland, of the Leyland-O'Brien Timber Company, promised hearty co-operation in the work of the school, and said he was sure that one, if not two, scholarships would be provided by the millers of Auckland.

Mr. S. I. Clark, of the Auckland Industrial Association, said the practical side of the work must not be forgotten, and, in that respect, Auckland had all the natural facilities for instruction. He thought, however, that each district should have its separate demonstration area.

Mr. J. H. Upton, on behalf of the Chamber of Commerce, said the greatest weight should be given to the opinions of the expert timber men. Nature herself, he added, had decided where the School of Forestry should be situated in New Zealand. The North was an area of trees and forests.

The Prime Minister said he and his colleagues were glad to see the great interest which was being manifested in the establishment of the school. Forestry was becoming increasingly important, and the only pity was that the matter had not been got under way sooner. The Dominion to-day would give anything for the timber ruthlessly destroyed 25 years ago. Referring to Auckland's claim to the School of Forestry, he said he knew that Auckland possessed special facilities, not the least important of which were its magnificent waterways. The Ministry recognised that it was its duty to provide for the timber requirements of future generations, and steps in this direction had already been undertaken, but now that the war was over more must be done. It would be the business of Cabinet to decide upon the most suitable locality for the purposes of the School of Forestry, but he could not commit Cabinet to-day. What he could say, however, was that Cabinet would undoubtedly select what appeared to it to be the most suitable for the Dominion as a whole.

It is not so long since beech timber was looked on as of no value, except for firewood; but in consequence of tests conducted in Australia comparatively recently, a wonderful demand has sprung up for this class of wood, which when thoroughly seasoned, is being used extensively in the manufacture of pianofortes and billiard tables. Besides, several other articles are being steadily manufactured. The waste pieces are now being used in the manufacture

of cheese crates and beer barrels. A gentleman connected with the timber industry, who gave these facts to a reporter (says a southern exchange), stated that beech was of no use unless it was thoroughly seasoned, but when so treated it was recognised as having the greatest resistance of any timber now procurable in quantities. When varnished and polished, he declared, beech greatly resembled oak. The demand for beech may be gathered from the fact that two Southland mills alone turned out from 12,000ft. to 16,000ft. per day.

### Logging and Lumbering in New Zealand.

"The timber industry of New Zealand was never in a more prosperous condition than it is to-day," remarked James A. Gorrie, manager New Zealand Powell Wood Process, Ltd., Rangataua, New Zealand, on the occasion of his recent visit to the Pacific Coast where he spent several weeks in British Columbia, Washington, Oregon and California, visiting various lumber and logging operations. While in Portland he purchased a Willamette donkey engine for his camp, and was proceeding to London to purchase a locomotive of the Mallet type for use on his company's logging road. The Heisler, Climax and Shay locomotives are in use very generally on the New Zealand logging roads, as well as donkey engines manufactured in New Zealand.

The principal lumbering operations are carried forward on the North Island of which Wellington and Auckland are the chief cities. On the South Island, Dunedin and Christchurch are the large cities. The population of New Zealand is, in round numbers, 1,250,000 of which 750,000 live on the North Island and 500,000 on the South Island.

"The elevation on the North Island in which the company is operating is about 2,700 feet above sea level, and is at the base of Mount Ruapehu which has a height of 10,600 feet and is snow covered. One of the principal woods manufactured is rimu (or Betts pine), which will run as high as 60,000 feet per acre. The trees will average 3 to 4 feet, in some cases running up to 5 and 6 feet. This wood could be classified as a semi-hardwood, yet it has the characteristics of a softwood.

#### *Other New Zealand Species.*

"Matai is another species of timber which comprises from 20 to 25 per cent. of the stand. It will run from 2 to 4 feet on the stump and yields three 16-foot logs.

White pine will run about 10 per cent of an average forest stand. In some cases pure stands of white pine are found. This timber will run from 18 inches to 4 feet and will produce from three to four 16-foot logs. This wood is very soft and white, odorless and highly prized for butter boxes and similar uses. During the war the New Zealand Government threatened to prohibit its export to Australia, but the latter country threatened to retaliate by not per-

mitting the export of coal. The embargo never became effective.

"Totara is one of the largest timbers New Zealand possesses. It will run from 3 to 6 feet in diameter and yield four 16-foot logs. It is soft in texture and very durable when exposed to the weather.

"There are probably 100 logging roads in New Zealand with a gauge of 42 inches. This is the Government standard. It will be remembered all roads in New Zealand are operated by the Government. The donkey engines run in size from 8in. to 10in. up to 10in. x 12in., with two cylinders, double drums. The average yarding distances are 1300 to 1500 feet. The main lines are usually 7-8 and one inch, with 5-8 trip. The engines are usually mounted on a car, with ground yarding the common practice. There are only three high leads in use at the camps of Butter Bros., West Coast, South Island; Kauri Timber Co., Northern Wairoa, North Island and Powell Wood Process, Ltd., Rangataua, North Island. The average length of these sky lines is from 1200 to 2000 feet, generally single lines. The Powell Company utilise 1½-inch double lines with wire core. The donkey engine is the Napier, built by the Vulcan Foundry, Napier. The frame is made of fabricated steel. A steam pressure of 150 to 160 pounds is allowed. The engineers are generally certificated men but on the smaller machines this is not necessary.

"On the sky lines we usually yard about 300 feet on either side. I have been looking for a practical self locking carriage for a sky line but have not been able to locate one on the Pacific Coast. Our carriage works pretty well most of the time, but occasionally it gives us trouble.

#### *Output 1500 Feet per Man per Day.*

"We get an output of about 1500 feet to the man on an eight-hour basis. The roads have a length of 4 to 20 miles and cost about 8000 dollars per mile for construction. The average haul would be between four to five miles. The average logging labour cost would be about five dollars from the stump to the mill. The men are boarded on a basis of 5 to 5.50 dollars per 7-day week. Camps do not furnish bedding. Hot and cold water is generally provided. Men care for their own camps or huts as we call them. A hut is generally provided for each man who likes to be alone at night, reading his paper after the day's work is over. By working eight hours and 40 minutes for five days it permits of a Saturday half-holiday.

"Wages will average in the industry about one dollar less than on the Pacific Coast.

"The sawmills are generally circular, with only an occasional band mill. The saws come almost entirely from the United States.

"The weight of the rail is usually from 20 to 40 pounds, with locomotives running in weight from 16 to 55 tons. Roads are generally well constructed with 2000 ties or sleepers, as we call them, to the mile. The grade runs from 5 to 7 per cent. In

some cases we lower the logs on inclines and chutes are utilized occasionally.

#### *Motor Truck Haulage.*

"We are using in New Zealand motor trucks in the woods. The usual plan is to utilize big wheels eight to ten feet in diameter with a reach or tongue. The axle is arched, which gives a clearance sufficient to transport a 5-foot log. The clearance between the wheels is 6 feet. We estimate to carry two-thirds of the weight on the big wheels or 'jinkers' as we call them, and one-third on the motor truck. We plan not to overload the truck but to give it only a sufficient load to insure traction.

"Australia offers a better field for the exploitation of the motor truck in logging than New Zealand due to the fact that the timber is generally more scattered with no underbrush. The track-laying tractor can be used with the big wheels or 'jinkers' successfully. Perham and Larsen, Ltd., Rangataua, N.Z., are using successfully a tractor on their farm. This company also operates a lumber plant. In some few cases bullock teams are employed in logging but they are getting rare. Some contracts are awarded for logging by the mills, more particularly on the North Island in the Kauri forests. This timber runs up to 8 feet in diameter, formerly water driven but now transported on railroads.

"Snow is with us on the other side of the equator in July, August and September to a depth of eight inches but remains only a short time. We have the sun almost every day—winter and summer. There are probably only six operations in New Zealand which operate in the snow.

#### *Making Log Ride Easily.*

"We find that by utilizing a piece of boiler iron to form what we call a "pan," which is placed in front of the log being yarded, it helps naturally to permit the log to glide over obstructions and allows it to 'nose over' with greater ease and does away with the need of sniping.

"Private timber holdings are pretty well exhausted and the bulk of the operators buy from the Government. The prices range from two to three dollars per 1000 feet. Payment is made on a basis of ten per cent of the value down, on the agreed estimate and the balance is by promissory demand notes payable as the timber is cut. The Government restricts purchases to 1000 to 1200 acres in one holding and does not permit of transfers except under certain conditions, imposed by the Land Board. Timber is sold generally by public auction, in some cases private tenders are accepted. Spark arresters are used in donkey engines which have horizontal boilers which can take 5 foot wood.

American gasoline Wade drag saws are used to cut wood for the engines. Unions are recognised by law. In the lumber industry we have three different unions to deal with. Collective bargaining is recognised by government. Compulsory arbitration has been found as a rule to work satisfactorily.

"New Zealand lumber prices are not quite so

high as in the Pacific Coast states. We find the average efficiency of the men has gone down considerably since the war.

"Shingles are used to some extent but principally tile and galvanized iron. The latter will last for 20 years in our climate.

Mr. Gorrie, while in California, was the guest of Manager Henry Stoddard, of the San Vicente Lumber Co., of Santa Cruz, who introduced him to redwood logging. The trip was a most enjoyable one. He was accompanied by the editor of "The Timberman." Mr. Gorrie will return to the United States in about two months. He visited Denver, Chicago, Detroit and New York. He desires to express, through "The Timberman," his thanks for the warm hospitality shown him by the lumber industry of the Pacific Coast.—*The Timberman.*

### Sawn Timber Output.

The statement prepared by the Dominion Federated Sawmillers' Association, showing actual output of sawn timber of various kinds from New Zealand sawmills during the year ended 31st March, 1920, compiled from returns by Board of Trade, August 27th, 1920, is as follows:—

White Pine	...	...	82,419,821
Rimu	...	...	145,584,203
Kauri	...	...	22,598,391
Matai	...	...	17,820,597
Totara	...	...	14,414,298
Beech	...	...	9,650,344
Hinau	...	...	4,247
Tarairo	...	...	174,650
Tanekaha	...	...	54,328
Pukatea	...	...	200,000
Pinus Insignis	...	...	3,064,201
Bluegum	...	...	80,000
Kawhaka	...	...	50,000
Silver Pine	...	...	50,000

Total Output, all classes	296,165,080
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### Lumber Situation in Finland.

Finland's influence on the lumber market was very great in 1919. If the large Finnish stocks had not existed, Sweden undoubtedly could have increased the price several pounds per standard. The total sales from Finland in 1919 amounted to from 650,000 to 700,000 standards, or 115,500,000 feet. Winter sawing was considerably delayed in southern Finland. "Finland will be no cheap competitor that will undersell the Swedish suppliers," reports the commercial attache at Copenhagen. "The inclination of foreigners to force themselves into Finnish enterprises has been so great that the government has now taken over the majority of shares in several lumber companies which were especially threatened."

## Our 67th Competition.

We offer a prize of £1 is. for the design adjudged the best for a

### SMALL HOUSE,

in the suburbs of a town.

The object of this competition is to attempt to produce a plan of a house, which will be as labour-saving as possible, consistent with comfort and appearance.

In these days of high costs, when most families have to economise to a great extent, and also where the household duties have to be carried out by the householders themselves (domestic assistance being practically unobtainable), it is essential that all unnecessary work and running up and down stairs, and along passages be eliminated. Consequently a one-storey house, with two rooms in the roof, will be more easily worked than the usual two-storey house. For the same reason the orthodox drawing room will be dispensed with, also the kitchen, which being usually some little way from the dining room, entails a great deal of carrying dishes, etc., backwards and forwards. In short, anything which can be done to save unnecessary work, and yet preserve the self respect and aesthetic feelings of the family, should be embodied in the plans. The elevations should be simple in detail yet interesting in their massing. Careful proportioning of windows and other features costs nothing, but makes all the difference to the general effect.

Schedule of Rooms required:—Living room about 20 x 16, with open brick fireplace. North aspect. Bay window. Opening direct off this, and separated therefrom by sliding doors, a kitchenette about 8 x 6, with gas cooker and gas hot water system, sink and bench. Opening off this a small bedroom about 100 super feet. Pantry about 50 super feet, with safe ventilated to open air. South aspect. Small back porch with glass door. Wash house, (gas boiler), coal house, and small combined workshop and tool house off the porch. One bedroom about 18 x 14, with East and North aspect—fireplace. One bedroom about 14 x 12—fireplace. Bath room about 9 x 7, with extra door to outside. W.C. close to bath room. Linen cupboard about 30 super feet. Verandah about 12 x 7 with access from living room, and not at front door. N. and W. aspect. To be planned so as not to interfere with direct sunshine to any room. Small front vestibule and small hall. Stairs to attic to start adjacent to living room door. To be kept as simple as possible, about 2 ft. 6 in. wide, close to balustrade, etc., to save dusting. Attic plan—Two bedrooms about 16 x 14 each. A fireplace in one balcony on sunny side. Small sink in recess. Box room. Cupboard on landing. Materials of brick or concrete, slate or tiled roof. The site faces N., and is a chain wide. Drawings required.—Plans of both floors. Four elevations. One section. Roof plan in conjunction with Attic plan. Drains to be indicated. Scale one eighth of an inch to one foot, all to be finished in ink, coloured and shaded. Sheets to be rolled drawing-side out.

Mr. Basil Hooper, A.R.I.B.A., of Dunedin, has kindly set this subject and will adjudicate.

Designs must be sent in finished as above under a *nom-de-plume*, addressed to the Editor "N.Z. Building Progress," 22, Wingfield Street, Wellington, and clearly marked "Sixty-seventh" Competition on outside, with a covering letter giving competitor's name, and address of employer. Designs must be sent in by October 27th.

## Our 68th Competition.

We offer a prize of £1 is. for the best

### MEASURED DRAWING

of an Architectural feature to the outside of a building, such as an Entrance Doorway, a Porchway an Oriel Bay, etc.

Drawings required: (1) Photograph shewing feature and sufficient of building to which feature belongs. (2) Pencil freehand sketch of feature also the sketches of plans and sections made on the site shewing measurements thereon. (3) Office drawn details in pencil from freehand sketches of plan, section, and elevation. (4) Some full sized details of mouldings, etc.

Marks will be given for excellence of subject chosen, draughtsmanship and general quality of work submitted. Drawings may be shaded in pencil or finished in wash.

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 the Editor "N.Z. Building Progress," 22, Wingfield Street, Wellington, and clearly marked "Sixty-eighth" Competition on outside, with a covering letter giving competitor's name, and address of employer. Designs must be sent in by November 27th.

## Our 69th Competition.

We offer a prize of £1 is. for the best design for a

### GOLF CLUB HOUSE

for a nine-hole course in a country district. Membership 100—75 men and 25 women. Club house about 75 feet from main road, which runs at right angles to front of building. First tee, 200 feet from road on an axial line running through centre of building from road. This axial line is due north and south—first tee pointing to north.

Accommodation.—Entrance hall, small office for secretary, two lounge rooms (one for men and one for women), common dining room, kitchen, scullery, necessary larder accommodation, etc., and lavatories for staff. Changing rooms, with lockers for men and women, with lavatories. Large loggia. Heating by open fires. To be planned on one or two floors, as desired.

Materials.—Any materials other than wood.

Cost.—Reasonable economy to be aimed at.

Drawings.—One-eighth inch scale in ink. Plan or plans: four elevations and one section. Block plan to small scale showing area from road to first tee by about 200 feet wide, laid out in some simple orderly manner.

Design.—English domestic. Competitors who display character and good taste in design will gain ascendancy.

Mr. S. Fearn, of Wellington, has kindly set this subject.

Designs must be sent in finished as above under a *nom-de-plume*, addressed to the Editor "N.Z. Building Progress," 22, Wingfield Street, Wellington, and clearly marked "Sixty-ninth" Competition on outside, with a covering letter giving competitor's name, and address of employer. Designs must be sent in by December 27th.

## Building Notes.

### AUCKLAND.

The ten houses being erected by the Auckland City Council, under the Municipal Housing Scheme, at Grey Lynn are expected to be completed in December. The Engineer does not expect that his original estimate of £10,000 for the ten houses will be exceeded. The Mayor recommended at the last meeting that if financial provision can be made the Council should proceed with the erection of houses in further batches of ten.

The Raglan County Council proposes raising a loan of £10,000 for the purpose of erecting workers' dwellings.

The Education Board, through its architect, Mr. John Farrell, invites tenders, closing October 19th, for new school buildings at Tahakoa, Riverslea and Henderson Valley in wood, and additions in brick to the Paeroa School, and to Patetonga School (wood).

Tenders were invited last month for extensive alterations to the Bank of New Zealand, Thames.

The Devonport Borough Council propose raising a loan of £140,750 for street improvements; also for the erection of a Fire Brigade Station, £8,500; bathing houses at Cheltenham, Vauxhall and Stanley Bay beaches, £5,000; a sum of £2,500 for a kiosk on the Windsor Reserve; £1,250 for the construction of an embankment across Shoal Bay Park, and £3,500 for a swimming pool in King Edward Parade.

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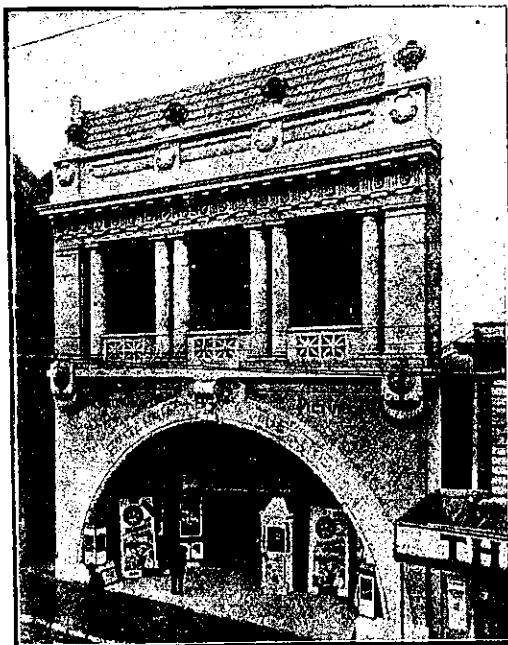
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Tenders were invited last month for the erection of eight workmen's homes at Morrinsville, to be built in brick, hollow concrete, or other non-combustible material.

#### CHRISTCHURCH.

Tenders were invited by the Christchurch City Council last month for the erection of eight workers' homes in wood at Sydenham.

The Public Works Department invited tenders, closing September 20th, for post offices at Hororata and Duvauchelles and a police station at Waiwaka.

#### MASTERTON.

The house shortage in Masterton is very acute at the present time. There were early last month 63 applications for the 48 workers' dwellings recently allocated to the town. The eight dwellings erected in High Street will not be completed for two months yet.

#### WANGANUI.

Authority has been given to the Wanganui County Council to raise a loan of £10,000 for workers' dwellings.

#### WELLINGTON.

A grant of £5,000 has been approved by Cabinet on account of £40,000 for the new building to be erected for the Wellington Girls' College. The expenditure entailed in the building scheme of the Board of Governors was £75,000, but the Government could not face that at present, so the building will be proceeded with to the extent of £40,000, leaving the remainder of the scheme to be completed later.

Preliminary plans for the proposed store on Waterloo Reclamation were approved by the Wellington Harbour Board recently, and the Engineer was authorised to prepare plans and call for tenders for the building. The new shed will be 450 feet long by 80 feet wide.

The Wellington City Council are receiving tenders up till the 14th October for the erection of strong rooms and conveniences at the City Corporation offices; also for alterations to the City Corporation Buildings, Mercer Street.

### Engineering Notes.

#### AUCKLAND.

Tenders, closing October 19th, are invited by the Public Works Department for sub-station equipment at Waikato and ironbark poles.

The New Plymouth Borough Council invited tenders (closing October 4th) for the following:—Tunnel (approximately 3,989 feet long), the construction of two races (about 2,989 feet long), and a four-foot pipe line (about 526 feet long), and other work all comprised within one contract.

The Havelock North Town Board desire tenders, which close on Friday, November 19th, for the following:—Section 2, hydraulic equipment; section 3, electrical equipment; section 4, high-lift pump.

#### CHRISTCHURCH.

Tenders are invited by the Public Works Department for the supply of seven plate girder spans for the Hope River bridges; tenders close November 10th. Also for the supply of wire ropes for the Buller and Waireka river suspension bridges, closing November 2nd.

Applications are invited for the position of District Electrical Engineer at Christchurch. Salary commencing at £650 per annum.

#### DUNEDIN.

Tenders are invited by the Southland Electric Power Board for supply of turbines, valves, steel pipe, generators, transformers, switchgear, spares and accessories. Separate tenders for steel pipe will be considered. Tenders close December 18th. Tenders also invited also for two motor lorries, 4 or 5 tons, three sets timber trucks for same, and for one 40 K.W. D.C. generator with field

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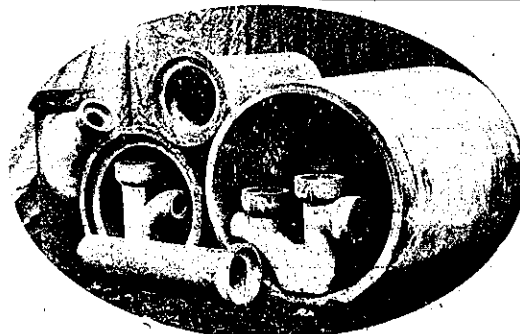
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rheostat; one 40-h.p. D.C. motor; one 25-h.p. D.C. motor; one switchboard controlling above and with four 25-amp lighting circuits, generator to be 110V, 230V, or 400V-3 wire. Motors to be compound wound if possible, and of voltage to suit generator. Tenderers to state price, whether new or secondhand, and give list with full particulars and description of items covered.

#### GISBORNE.

The Gisborne Harbour Board invite applications for the position of Resident Engineer, at a salary of £1,200 per annum. Applications close October 24th.

#### PALMERSTON NORTH.

Palmerston North Borough Council invited tenders last month for the supply and delivery of four petrol-driven motor busses, having seating accommodation for thirty passengers.

#### WELLINGTON.

The Wellington City Council invite tenders for the supply and delivery of insulated wire for the Electric Light Department; also for the delivery of cast iron pipes and fittings. Tenders in each case close on October 14th, 1920.

The Railway Department invite tenders up till October 30th for the manufacture and supply of 1,000 steel wagons.

### Patents of Interest to Builders.

*Concrete Building Construction.*—A patent, No. 41398, has been taken out by George Ogle, People's Palace, Wellington, according to which slabs are formed with bevelled ends and rebated longitudinal edges. The slabs have embedded therein horizontal rods provided with eyes at their ends. Recesses are formed in the inner sides of the slabs opposite said eyes, and holes are formed in the outer sides of the slabs directly opposite said eyes.

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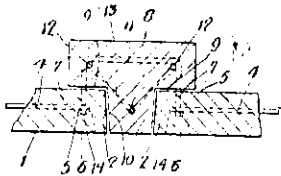
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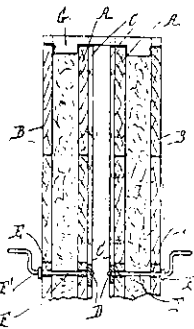


and recesses. Framing-members such as studs and corner-pieces are formed with recesses lengthwise of the member, and are provided with metal rods embedded lengthwise therein, and also with cross bolts embedded



therein, the latter being bent around and between said rods and emerging from the members in the recesses. The framing members have bevelled faces, against which the bevelled ends of the slabs fit, the ends of the cross-arms passing through the holes in the slabs.

*Cavity Concrete-Wall Moulding Frame.*—A patent, No. 43,225 has been taken out by P. J. Beaton, carpenter, of Wadestown, Wellington. In carrying out this invention the frames used are formed in the usual manner by boards fastened together in any approved way so as to form plates of the required superficial area. The inner plate of each pair of plates required to form the mould on each side of the wall-cavity is provided with metallic bar strips secured down its inside face, at any approved distances apart, and at suitable points in the length of each of such strips screw tapped holes are made and disposed coinci-



dently with apertures made in such plate, and also with apertures made in the outer plate of the corresponding mould. Threaded pins or set screws are provided to pass in through the apertures in the outside plate and to screw into the threaded holes in the metal bars of the inside plate, and these pins or set-screws, by their adjustment, serve the position and hold the inner plate firmly at the required distance in relation to the outer plate. Such pins are arranged at approved positions in the surface area of the plates, and may be varied in number in accordance with the sizes of the plates employed.

### The London Guild of Builders.

Mr. G. D. H. Cole, writing from the Labour point of view on the London Guild of Builders, says: "The Guild absolutely declines to work for, or to make, profit; it offers to build for the public at cost price, this price including the cost of materials and of labour at the hourly rate, plus 10 per cent. on these costs to meet (a) the cost of plant and administration, and (b) the cost of guaranteeing to every worker employed by the Guild a full week's wages even if weather conditions compel him to stop work for part of the time." The Guild declines to work on an ordinary profit-and-loss basis. Mr. Cole states that "the essential principle of the Building Guilds, which now exist in a considerable number of centres, is that the public will best be served if all those who are required for the actual work of building—architects, technicians, administrators, craftsmen, and labourers—bind themselves together into single fraternity, with the sole object of building houses and doing all sorts of constructional work, and not with the object of realising any profit at all."

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