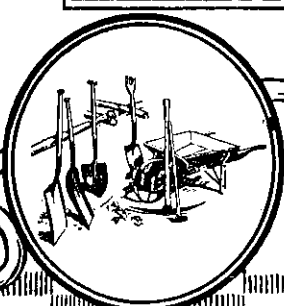
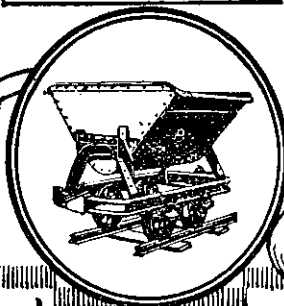
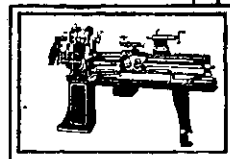
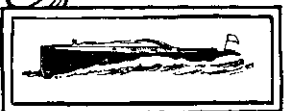
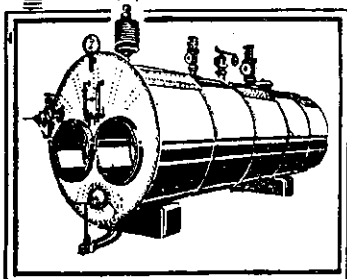
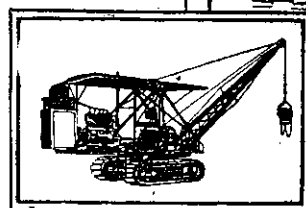
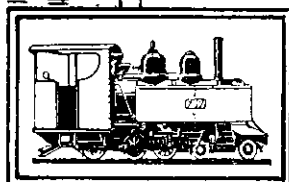
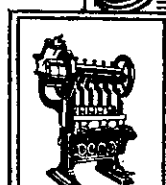
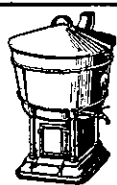


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Official Journal of the Dominion Federated Sawmillers' Association (Incorp.).

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To our Advertisers—All copy for advertising matter must be in our hands by the 10th of the month preceding publication, otherwise no responsibility with regard to insertion will be undertaken.

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.

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N·Z·BUILDING· PROGRESS

HEAVY TAXATION.

As the whole world seems to be settling down to a more solid basis of business, the time has arrived in New Zealand when the Government should determinedly face the evil of inflated currency and also attempt to reduce its abnormally high taxation. The war surtax on incomes has remained in operation so long that it has now become a serious burden to the commercial community. This year's payments are, of course, being made on the basis of last year's profits. At that time the process of "passing it on" was in full operation, but the poor, patient public has reached the limit of its possibilities in this respect, and extravagance is giving place to more care in buying. Traders who promptly invested last year's boom profits in goods to be sold—vain thought!—at boom prices find a difficulty in meeting their income tax, especially when the compulsory loan has also to be provided for. It must be quite evident to the Minister of Finance that the millions which flowed so easily into the Treasury through the income tax channel are not to be obtained next year, and he would be wise in fixing a reduced rate for the current year in respect of taxation to be paid next January. The short session gives this opportunity, and we hope that the chance will be taken, as a definite reduction in the income tax will enable a number of hard-hit firms and companies to face the year with a good chance of keeping off the financial rocks during the storms which seem inevitable.

INSTALMENT PAYMENTS OF INCOME TAX.

We cannot understand why the New Zealand income tax is collected so late after the closing of the year in respect to which it is paid. Things move slowly in connection with affairs Governmental, especially where money is concerned, but the existence of a British precedent for collection of income tax by instalments should be enough to guarantee that there is nothing ruinously revolutionary about the idea. In normal times, the Government habitually has to borrow, on short-dated bills, a large sum every year in anticipation of revenue to be received through the land and income taxation. This taxation is usually paid on

the basis of the year ended March 31st, yet the Treasury does not get the money for nearly a twelvemonth, and has to issue Government I.O.U's until it arrives. The unsoundness of the practice has been criticised by the present Prime Minister in his capacity as an Oppositionist, but he has made no change himself. Possibly this is due to the upsetting influence of war conditions, but the times are now ripe for an improvement in our taxation methods, and we hope he will consider this matter. It would actually pay the Government to allow a small rebate on the first instalment of income tax if it was paid in the first half of the financial year. Large taxpayers have to make provision for their income tax liability, and if they could hand over a portion of the sum a few months in advance, and share in the saving made by the avoidance of Treasury bills, it would be an inducement to do so and a saving to the Government. Even if this is not accepted, the instalment principle of payment should be adopted. What is even more imperative is the necessity for removing the war tax when no war exists.

THE NATURE OF WAR MEMORIALS.

Our friend Mr. Hurst Seager returns to the charge in regard to a national highway as a permanent war memorial to the sacrifices made by our brave men in the Great War. The subject is almost past debate in New Zealand, as the Government has decided upon a non-utilitarian memorial in the vicinity of the Dominion's capital, but it is fair to Mr. Hurst Seager to say that he put forward the idea in January, 1919, with a view to securing something more than a roadway. In the circular he sent out at the time to the municipalities, he pointed out that monuments should be erected along the road at frequent intervals, bearing the names of men from the district who had made the great sacrifice. There should be commemorative mile-stones along the roadway, and columns and arches forming the entrance to towns and cities. Throughout the length of the road, he suggested, there should be formed self-contained garden cities on town-planning lines, formed not only as a repatriation scheme but as a means of increasing the country's productivity. "Whatever amount is

spent on the road," stated the circular, "will be amply repaid by the facilities afforded for traffic and the enormous saving effected in the cost of haulage. Thus and thus only is it a work of utility." In calling our attention to the original scheme, Mr. Hurst Seager writes as follows:—

The Editor, "Progress."

Dear Sir,—In your November issue you refer in an Editorial to the effort being made by motorists to urge the Government to construct the Memorial Highway pleaded for in 1919.

I quite agree with you that the road itself cannot be regarded as a memorial: it was not suggested that it should be anything more than a means of linking together the whole of both islands and making possible the expression of national feeling in the memorials along its route. The memorials should not be in any sense utilitarian, but should have as their sole purpose the dedication to honour of those who fell.

Yours faithfully,

January 5th, 1921. S. HURST SEAGER.

We are glad to thus do justice to Mr. Hurst Seager's original conception of the memorial, but at the same time we are relieved to know that the Government has taken no risk of incurring the suggestion that, under guise of a memorial to brave men's sacrifices, it provides something which will save the people's pockets. No matter in what frame of mind the promoters of the highway memorial tackle the subject, it will be regarded as a purely commercial exploitation of our sacred feelings.

N.Z. INSTITUTE OF ARCHITECTS.

We heartily congratulate the Institute of Architects upon its wise decision to drop the charge of one and a half per cent. commission to builders for the plans and detail drawings supplied to them for the purpose of carrying out the contract. It has been a course of wonder to us that the architect should have so long allowed himself to be placed in the false position of taking a commission from the builder while he was acting as the owner's representative. The only redeeming feature was that it was well known to be a practice of the profession, but it was a bad practice. Now the owner will pay the fee, and the builder will get his plans without the necessity of adding 1½ per cent. to his contract price to pay for them. The architect will be in a sounder position in relation to his client, and there can be no unpleasant suggestions that he is under an obligation to the contractor whom he is supposed to carefully watch on the owner's behalf.

BUILDING GUILDS.

Wellington carpenters have decided to go in for building operations under the guild system. It is an interesting experiment, this elimination of the employer, and we will watch it with interest, and no hostility. There is a strong cult which believes

the capitalist to be a parasitic growth on society, and no doubt there are some forms of capitalism which perform no more useful function than the fifth wheel of a coach. But work, to be economical and successful, must be well organised, and there must be discipline. If the carpenter trade-unionists realise this thoroughly and carry it out, they ought to be successful. When the North Island Main Trunk railway was being pushed on in the central section, co-operative labour was largely employed on the earthworks, and the gangs had a sound custom of balloting regularly as to the constitution of the working party. If it had been "carrying a passenger," as the phrase went, the ballot usually eliminated him, and the team was reconstituted of willing workers. Building guilds are being tried in England. "The Garden Cities and Town Planning Magazine" recently mentioned the Manchester Guild. "Progress seems to be proceeding with the attempt to do without the employer in the building industry," it stated, "and the Ministry of Health have come to a working basis with the Manchester Guild, which, though not the first of the Guilds, is by far the most active and enterprising. Before sanctioning contracts with the Guild the Ministry required to be satisfied that the organisation was in a position to carry out its obligations. It was natural that the Ministry should be cautious with an untried and novel contracting body. The basis of the agreement seems to be that the Co-operative Wholesale Society will be associated with the Guild for the purchase of materials, that the same body will insure any local authority entering into a contract with the Guild against loss, and that the Guild is to receive a remuneration of £40 per house, plus 6 per cent. on the prime cost to cover plant and overhead charges. It remains to be seen what contracts will be entered into on this basis. If the Guild can supply the labour—in other words, if the operatives really want to be their own employers—the Guild should have no difficulty in getting work. The experiment is one of profound interest. We hope it will be sufficiently well conducted to receive a fair trial."

ARCHITECTURAL PROPAGANDA.

In the discussion which took place on Mr. Ford's motion to enlarge the activities of the Institute, much was said about propaganda. Several members considered that the best medium for publicity was to make *Progress* the official organ of the Institute. We understand that this view commended itself to the meeting, and that in the future greater use will be made of our paper. We desire to assure the Institute that we shall be very pleased to assist them in this way and will gladly publish any current news they may care to send us. We have specially enlarged this issue to include a synopsis of the principal matters dealt with at the annual meetings, and are sending copies to all members with our compliments. We hope the matter contained herein will be of interest to them.

New Zealand Institute of Architects.

Fifteenth Annual Meeting, held at Napier last month.

The Fifteenth Annual Meeting of the New Zealand Institute of Architects, which was held at Napier on February 23rd, 24th and 25th last, is probably one of the most important meetings held by the Institute since its foundation in 1905. The Institute has now reached a stage in its development when a new and progressive policy becomes imperative, and in venturing this opinion one in no way detracts from the volume or value of the work done in the past. The original founders of the Institute did admirable work in their day, work that the needs of the time required, that is to say, they put in the foundations of the Institute conscientiously and thoroughly, so that the future erection might rest as upon a rock and be enabled to resist the encroachments of time and circumstance. The development and improvement in constitutional methods necessitated by war created problems, and the restrictions on building activities made by Government have brought about a position which requires the most careful consideration, and special means must be devised to meet altered conditions, consequently a change in the policy of the Institute was due, and its purpose and need were apparent. These changes were amply illustrated by the several notices of motion brought forward for consideration.

Perhaps the most important of these, involving as it does an almost entire change of custom, was the determination to do away with the receipt of any portion of the architects' fees from anyone except the employer himself. The scale of charges provides for a charge of one and a-half per cent. for providing working plans and copies, with full detailed plans to the builders, to enable him to carry out his contract. The present scale clearly states this charge is payable by the employer or the contractor as may be mutually arranged. In the result, of course, the charge is one against the employer, as where it is paid to the architect it is of course added to the amount of the contract price. In view of the gradual growth of public opinion against this custom, it has now been decided, by a substantial majority of the members at the meeting, to charge this sum direct to the employer.

It has been very clear that for some time past the present income of the Institute is insufficient to meet the ever increasing demands brought about by the natural development of its functions, and the necessity for much greater activity to enable the profession to meet the peculiar circumstances and conditions with which it is now faced. Mr. C. Reginald Ford, of Wanganui, was the author of a proposal to increase the annual subscription of the members to such a figure as would enable certain activities to be initiated, activities which, it was

hoped, would serve to put the Institute (and, through the Institute, its members) on a much better footing, and to give it a wider scope and influence in the community.

Owing to the courtesy of the President, Mr. Ford was given an opportunity to circularise all the members, and his views and suggestions were very ably and clearly set out in his memorandum. The means by which these suggestions were to be given effect to provoked a long discussion. It was finally decided that what was needed was:—(a) A better system of training and examination for future architects; (b) a more active policy with regard to the legislative enactments; (c) the development of a legal status and authority for the Institute the better to exercise its disciplinary functions; (d) the establishment of a carefully considered and executed policy of propaganda in the direction of advertising the Institute not only to the general public but to its own members; (e) the establishment of prizes and awards for students and the encouragement of Students' Associations; and (f) a general revision of its domestic affairs. Such a policy must of necessity call for greater service on the part of the Institute officials with the consequent increase in the remuneration paid to them, this the meeting fully recognised, and cheerfully amended the rule giving authority to raise the subscriptions to such an amount as would meet the demands made upon the Council. The subscriptions finally agreed upon were as follows:—

	£	s.	d.
Fellows in practice	6	6	0
Fellows not in practice	6	6	0
Associates in practice	6	6	0
Associates not in practice	2	2	0
Members residing overseas for study not less than six months	1	1	0

Some division of opinion occurred as to the fees payable by Associates in practice, and it was decided that they should pay the same fees as the Fellows on the ground that the amendment to the voting powers of members would bring about equality in voting for all practitioners as distinct from non-practitioners. All practitioners will now be entitled, at all meetings, to two votes, and non-practitioners to one vote.

Such a radical change in policy and so marked an increase in the subscriptions must, of course, excite some measure of comment amongst those who were unable to be present to hear all the arguments by which the decision was justified. The Council, however, asks members to give the proposals a fair trial, and it is believed that so much good will arise from the greater activities ordered that in the result all members will benefit and the body cor-

porate will grow so greatly in usefulness as to fully merit the sacrifices members are now asked to make.

The New Zealand Federated Builders' Association wrote asking for a conference with the Institute for the purpose of revising the General Conditions of Contract. While this was agreed to, it was first decided to set up a special committee to consult with the branches for the purpose of framing a preliminary report as to what amendments, if any, the general body of members desired, so that the Council when meeting the Builders' Federation may be unanimous as to the desire of its members on any point that is to be discussed.

Special committees were also set up to make a general revision of the wording of the scale of charges and the regulations regarding architectural competitions. The most important Committee was the one entrusted with the revision of the Syllabus of Training and Examination. All these committees are required to prepare their reports as speedily as possible for submission to a special meeting of the Council in accordance with Regulation No. 187, so that amendment may be made as soon as possible. Another drastic change made by this meeting was in the method of dealing with offenders against the Code of Ethics. Hitherto the Council of the Institute has, upon a report by the Discipline Committee, constituted itself sole judge in any case brought against one of its members. It is now deemed wiser for the Council to divest itself of this power and by a small amending Act transfer the right of trying cases to the Supreme Court of New Zealand. Of late there have been very few cases of misconduct on the part of members, and it is believed that the new method will have so much publicity attached to it that it will act as a marked deterrent in the future. Apart from this the new method is one which commends itself to all the members.

The question of the existing building restrictions was also considered. It was agreed that while the war was in progress some control of all material within the State was essential, and so the public submitted to what, in other circumstances, would not have been tolerated. It was considered that the time has now arrived when all these restrictions both as regards building and materials, should be swept away in the interests of the public, and so that trade may resume its normal flow. It was unanimously resolved to ask the Government to remove all these restrictions at once, so that the public be no longer hampered by what has proved an utter failure.

Generally speaking the meeting, which lasted three days, was marked by a desire to face all the problems placed before it in a thoroughly business-like manner, and the tone and general attitude of the members was such as to inspire great confidence in the future of the Institute. The members of the Hawkes Bay Branch proved themselves admirable hosts and did everything possible for the comfort and convenience of the delegates.

The following officers were elected for the ensuing year:—President, Mr. C. R. Ford, Wanganui; Past Presidents, Messrs. Wm. C. Chatfield, T. Mahoney, C. J. Brodrick, P. Y. Wales, W. A. Cumming, Chas. A. Lawrence, J. Louis Salmond; Vice-Presidents, Messrs. B. C. Chilwell, J. H. Burr, T. H. Battle, W. Crichton, E. J. Greenstreet, L. D. Coombs, C. J. Brodrick; Elected Members—Auckland: Messrs. Savage, Gummer and Morran; Hawkes Bay: Messrs. Greig and Davies; Taranaki-Wanganui: Messrs. Ford and Duffill; Wellington: Messrs. Swan, Page and Munnings; Canterbury: Messrs. Hart, Penlington and Murray; Otago: Messrs. Hooper and Mandeno; Southland: Mr. E. R. Wilson; Ex-officio Members, W. Fielding, Hon. Treasurer, and W. Gray Young, Hon. Secretary.

The officers of the District Branches for 1921 are as follows:—Auckland: Mr. B. C. Chilwell (Chairman), Mr. K. W. Aimer (District Secretary). Hawkes Bay-Gisborne: Mr. J. H. Burr (Chairman), Mr. H. A. Westerholm (District Secretary). Taranaki-Wanganui: Mr. T. H. Battle (Chairman), Mr. C. R. Ford (District Secretary). Wellington: Mr. Wm. Crichton (Chairman), Mr. S. Fearn (District Secretary). Canterbury: Mr. E. J. Greenstreet (Chairman), Mr. H. St. A. Murray (District Secretary). Otago: Mr. L. D. Coombs (Chairman), Mr. H. Mandeno (District Secretary). Southland: Mr. J. Brodrick (Chairman), Mr. C. H. Roberts (District Secretary).

Competitions.

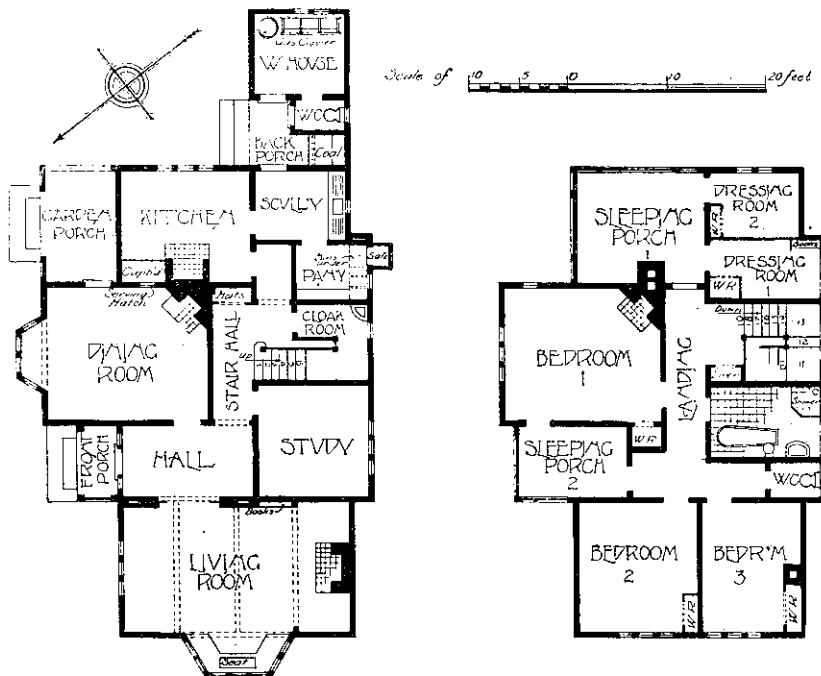
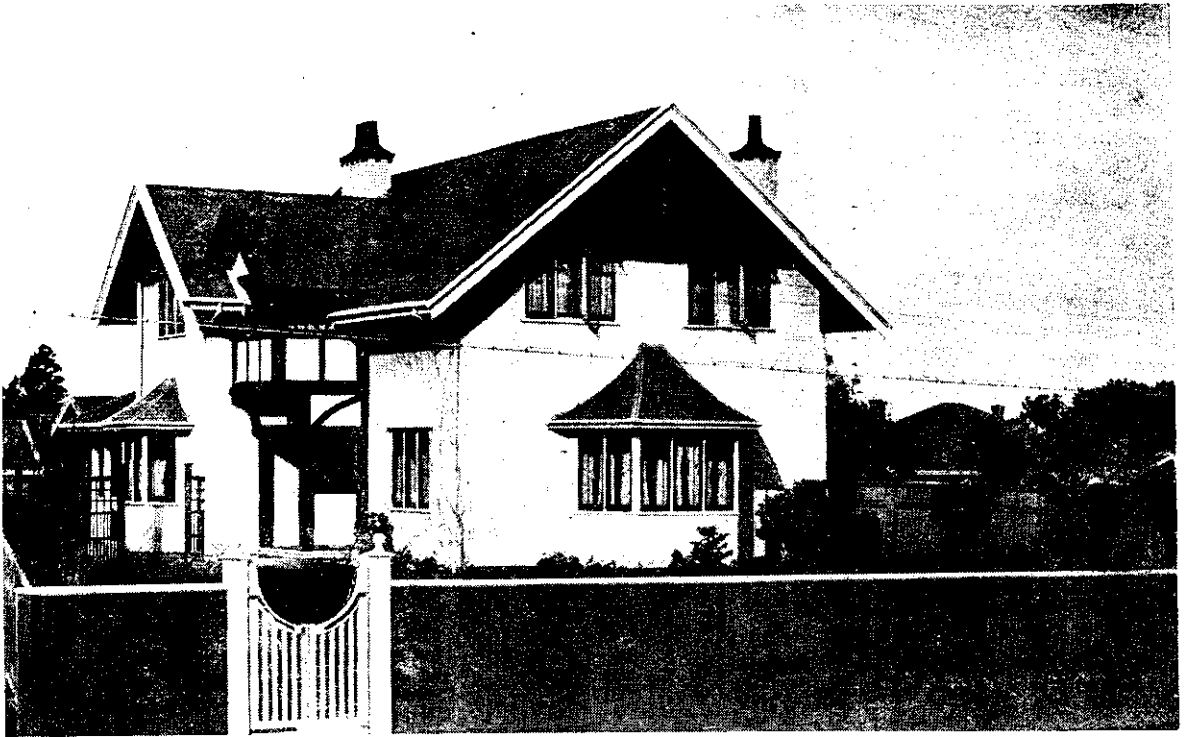
The competition recently inaugurated by the Auckland University has not yet been settled. It was decided to have the plans which were delayed through the shipping trouble in Australia dealt with equitably, and in consequence to postpone the adjudication of the competition.

* * *

Twenty-one competitive designs for the memorial to be erected in the grounds of the Auckland Grammar School in memory of old boys who fell in the war have been received by the Secretary of the Old Boys' Association. Designs were sent in from all parts of the Dominion, and one was sent from Sydney. The memorial is to take the form of a monument, and is to cost £2,500 to erect.

The designs have been placed on view at the Board of Governors room in Victoria Arcade. At the annual meeting of the Old Boys' Association a committee comprising the headmaster of the school (Mr. J. W. Tibbs), the newly-elected President of the Association (Mr. H. Turnbull), and several prominent old boys, was appointed to select the most suitable design.

The Minister of Education said in Dunedin that the cost of building was from 25 to 30 per cent. less in the South Island than in the North Island.



House built in Wanganui to design by Messrs. Ford & Talboys. The porch is genuine "half-timber" work in solid Jarrah. Posts, beams, &c. mortised and tenoned together.

Housing the Sunday School.

The Rev. N. Friberg, Diocesan Organiser for Sunday Schools, Dunedin, recently gave a lecture on the above subject, from which we make the following extracts:—

A recent issue of the *Sunday School Chronicle* of London, England, tells of a great commission appointed by the Sunday School Union for the express purpose of considering structural improvement of modern Sunday school buildings. Nothing practical seems to have resulted, but the attempt is not a day too soon, for out of the Sunday school, we are told, there come four-fifths of the additions to our congregations by confirmation or conversion, yet throughout the country, probably not over one-fourth of the Church's time, workers, or money is devoted to Sunday school work.

Marion Lawrence, the U.S. Sunday School expert, writes in his well-known book:—"I have been told of one fine church recently completed, whose audience room will accommodate a thousand people, while its Sunday school will accommodate less than 200. Unless that church changes its attitude towards its Sunday school work, it will probably see the day when its Sunday schoolroom will be large enough for the church service."

Every essential of a good church building can be secured without extravagant expenditure of money. Extravagance and parsimony in church buildings are both sins of the first magnitude. Where parsimony furnishes the chief hindrance we should remember that such conditions do not usually result from lack of money, but from lack of conscience.

There is no reason why a church building should be less suitably arranged for the work done in it than a factory, or a well-ordered kitchen in our homes.

STEPS TO SECURE A NEW BUILDING.

First Step: Realise the need.—Until there is a general recognition of the fact that a new building is a necessity, it is almost useless to proceed further.

Second Step: Create the sentiment.—There will be heard such expressions as these:

New buildings cost money!

The present building has done good service for many years!

Wait until times are better!

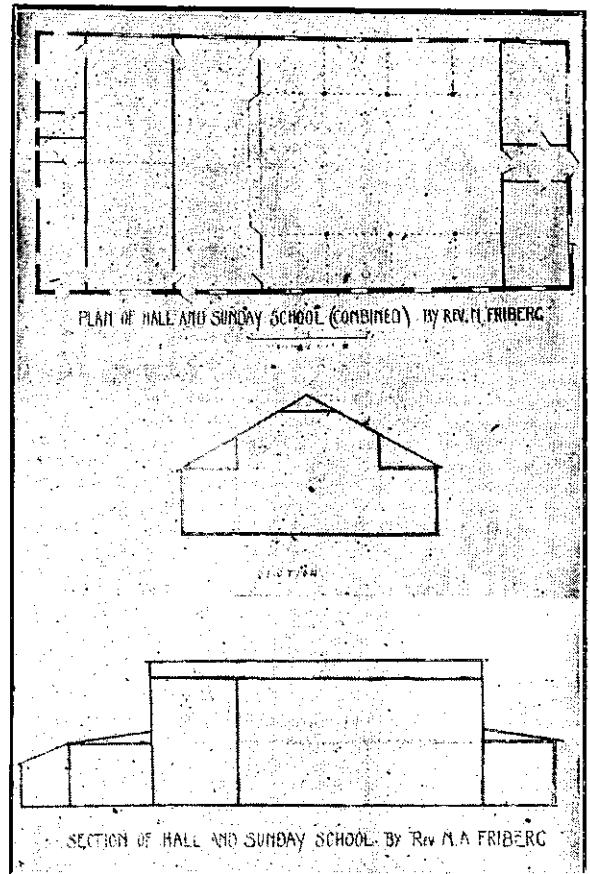
(a) Very clearly must it be shown that the Sunday school can do much better work and be of greater help to the church if properly housed and equipped.

(b) Begin a nest-egg as an *educational influence*. The ever-present fact—even among the penny-saving Sunday school scholars—that a *new* building is "in the air," hastens the day of its appearing.

Third Step: Decide tentatively, and appoint a Building Committee. Since it is a Sunday school building that they are considering, the committee should be very much alive to the interests of the Sunday school. It will be time well spent if some

of the members of this committee visit a few up-to-date buildings, where new and valuable ideas may be caught and put to practical use.

Fourth Step: Engage an architect.—Probably more blunders are made at this point than at any other in the whole range of church building. Many building committees make costly mistakes erecting great monuments to their own lack of wisdom; giving point to Prof. McCabe's witty saying: "You can pay off a mortgage, but you cannot remove a regret." Give the architect his proper place and treat him as you would your lawyer or your



Plan and Section of a Sunday School, by the Rev. N. A. Friberg.

physician. Lay before him all the conditions entering into the matter and trust him to bring about the right result.

Fifth Step: Decide cost and plans.—Since church buildings abide for many years either as a joy or an eyesore, it is better to defer building temporarily than to put up a makeshift; and if it be decided to begin with only a portion, the completed building should be planned to adequately meet the needs of the date of completion.

Sixth Step: Get the money.—Do not begin definite operations until sufficient funds have been secured or pledged to warrant the step. Churches should transact business in a businesslike way. It may be well to issue a sort of prospectus, stating briefly the needs of the school and the purpose of

the church in building. This prospectus should be a creditable piece of printing, giving pictures of the proposed building, elevation, ground floor plans, etc. A blank pledge card should be printed on one page of the prospectus. Much more money will be pledged if the pledges cover a period of years; but the period should not be too long—three years is better than five—for all pledges show a shrinkage because of deaths, removals and other causes, amounting often to 10 per cent. and seldom being below 5 per cent.

The easiest way to raise money for any Christian enterprise is by straight-out giving. Avoid teas, fairs, bazaars as means for raising money for God's house or for His work. These may have their value socially, but we should not rely upon these for money-raising.

Allow special gifts—one man may find a window, another an organ, or a cupboard.

Sometimes a device that appeals to the eye is useful in letting all see and have an interest in the progress of the movement, *e.g.*: A large drawing of the elevation of the building could be placed upon the wall. Cover the entire drawing with small cards marked with various sums—£1, £5, £10, etc.—and as these sums are subscribed remove the cards or replace them with cards of a different colour bearing the names of the donors of the sums of money.

Despise not the small gifts, but work hard for the large ones.

Keep everybody busy and work to a climax.

There are three types of Sunday school buildings:

- (a) The hall or barn pure and simple, turned over to the Sunday school every Sunday afternoon. (We need not pause to discuss this type.)
- (b) The Sunday school pure and simple. This is the modern ideal, especially since the knowledge of child nature and of child development has given rise to the system of graded lessons. In it the departments have separate entrances and assembly rooms, and the class teachers have privacy provided them while giving their lessons.
- (c) The parish hall and Sunday school combined.

This is the type of building which usually is built, and Sunday school teachers should be alert to secure as many conveniences as possible for their own particular work. In such a building the Ladies' Guild would be catered for; also the Young People's Clubs, as well as parochial meetings and entertainments.

A useful type of building, combining all these services, is here as it might be sketched out for and submitted to an architect to knock into shape.

The points to be noted are:—

- (a) The hall is 42ft. x 42ft. and can seat 300 people.

The cost would run from £2,000 upwards, according to finish in detail.

- (b) Provision is made for a gallery 42ft. x 9ft., giving seating accommodation for an extra 60 people.
- (c) The stage is 24ft. x 15ft., ample for any ordinary drama or operetta.
- (d) The floor of the hall is flat, for use as a ball-room.
- (e) The hall and the stage can be cleared by doors opening outwards.
- (f) Scenery can be removed from the stage and stored in lean-to room, 21ft. x 8ft., without having to turn any corners inside the building.
- (g) The pillars and the arrangements necessary for the stalls should bazaars be held in the hall.
- (h) A guildroom 42ft. x 15ft. is provided.
- (i) A roller partition can completely divide the guildroom into two compartments: one a men's dressing room and the other a ladies' (for dances or dramatic performances).
- (j) From each such compartment a door leads to a section of the lean-to, fitted with all necessary conveniences.
- (k) Two club rooms (suitable also as cloak rooms or for library purposes) are placed at the front of the hall.
- (l) The double doors at the front entrance admit very large articles into the hall.

All these considerations concern the use of the building as a parish hall; the points of special interest to Sunday school teachers are:—

- (m) The three main departments are separately provided for:
 - (1) The Bible classes use the two club rooms: room for 20 in each.
 - (2) The senior department uses the main hall entering by the front entrance.
 - (3) The infants enter through the lean-to and assemble in the guild room: space for 120.
- (n) For teaching purposes:—
 - (1) The infants use the roller partitions in the guild room and also the whole of the stage for the small classes on chairs; also the lean-to.
 - (2) The senior department by the use of roller partitions can subdivide the hall into eight class-rooms: six being 11ft. x 9ft and two being 9ft. x 9ft. If necessary the gallery could be used too, as well as the middle space, so 120 could easily be accommodated.
- (o) Every department and subdivision is directly and sufficiently lighted.

I may add by way of summary that the building thus designed will contain accommodation for an audience of 300; for a guild of 30 or 40; for a Sunday school numbering 300; and this, too, with the separate assembly of the chief departments and with the subdivision into private compartments for class teaching.

Conditions of Contract.

In course of the discussion which arose at the annual meeting of the Architects' Institute on the subject of the General Conditions of Contract, much criticism was levelled at the present form, which was declared to be too complicated and too full of ambiguities. One Councillor produced some American and Canadian forms which, on inspection, proved to be brief, concise and very businesslike documents, and it was agreed that these should be very carefully considered by the Revising Committee and, where possible, embodied in the new conditions.

Members generally expressed themselves freely as to the course the Revising Committees should adopt and their views, summarised, are:—

1. Invite all Branches to submit notes.
2. Draw preliminary draft from these notes, setting out clearly the recommendations from each Branch.
3. Send such preliminary draft to all the Branches for full discussion.
4. Convene a meeting at which each Branch is represented by an authorised delegate and draw up complete report.
5. Submit such report to the Council for confirmation.

The same procedure was suggested when revising the Scale of Charges, the Syllabus of Examination, the Competitions Rules, and, indeed, any forms or conditions which affected the practice of members.

The suggestions are, of course, very thorough and businesslike, and should produce entire uniformity.

Cost of Replacing Old Schools.

When replying to a deputation asking for an increase in a grant for the erection of a new building at the South School, Invercargill, the Minister for Education, the Hon. C. J. Parr, outlined his policy in regard to applications for the replacement of old schools. The South School was certainly 40 years old, he said, but there were hundreds of buildings just as old throughout the Dominion. The question was whether £10,000 should be expected now to erect three new rooms, or extensive repairs made at a much smaller outlay. In the cities there were dozens of old schools housing 600 or 700 children, and these could be made quite comfortable with a limited expenditure. Certainly the Government could not afford to scrap them under the present conditions. Moreover, the timber in these buildings was often much better than anything his architects could give him to-day. Where there were defects, such as bad lighting and ventilation, they should be remedied, and no doubt Parliament would be prepared to make a very con-

siderable vote for the remodelling of old buildings. Of course, where a school was worm-eaten, he would lay the case before Cabinet without hesitation, but where the timber was good he would not hold out the hope that he would assist them to get a new building at this unpromising time.

Central Queensland War Memorial Architectural Competition.

The memorial is to be erected at Rockhampton at a cost of £10,000, and architects are invited to submit competitive designs under conditions, copies of which may be obtained from A. E. Forde, Esq., Hon. Secretary, Denham Street, Rockhampton. Two prizes are to be awarded—the first, £100, and the second, £50. John Sulman, Esq., F.R.I.B.A., of Sydney, is adjudicator.

N.Z.I.A. Correspondence.

Some interesting information was put forward at the annual meeting at Napier of the New Zealand Institute of Architects as to the volume of work done in the head office during the year. To take one small item in the accounts, viz., postage, which was shown at £70. It was pointed out that at 2d. per letter this meant that 8,400 letters or documents had been issued during the year. This alone is no small labour, more especially when one considers that while some of these are circulars they represent the results of several meetings of committees at which the subject dealt with had first been very fully discussed. The secretarial work of the past year has been no light matter, and it is not to be wondered at that a request was made for a revision of the terms of engagement. The time is not far distant when the Institute will have to very seriously consider the wisdom and necessity for retaining the full-time service of its Secretary. It might also consider a project for procuring a permanent home of its own.

Building Restrictions.

The existing restrictions on buildings and the so-called control of building material came in for very severe criticism at the architects' meeting recently in Napier. Doubtless the restrictions were well intentioned and while the nation was at war were, within limits, justified. Their continuance at the present time is not justified, and in the result is causing much interference with legitimate trade and much inconvenience and annoyance to the public generally.

The meeting unanimously resolved to petition the Government for the removal of the control which has proved such a failure.

Here and There.

Quite a controversy appears to have arisen over the question as to whether the wood borer will attack pig lead. In Wellington recently a city plumber pointed to a lead gutter which, he asserted, had been pierced by the borer. Another plumber attributed the tiny holes to the corrosive action of iron nails, but it is felt that the irregularity of the holes is against that theory. A third party believes that the wood borer will attack lead. Recently, he states, he was doing some repair work, and in finishing off a job near a sink he placed a layer of white lead beneath a sheet of glass. The thickness of the white lead was threequarters of an inch, but the borer came right through the lead. Of course, the glass was too much for the pest. This informant is inclined to the belief that if the wood borer will go through white lead it will go through pig lead. * * *

It is reported (says the Wanganui "Chronicle") that the wholesale price of building timber is likely to recede early next month. This is no doubt due to a general slackening in the demand, as there is not the same difficulty at present in getting orders filled as was the case a few months ago. * * *

The raising of a loan of £250,000, bearing interest at $5\frac{1}{2}$ per cent., by the Napier Harbour Board for the construction of harbour works is authorised in the "Gazette." The Lyttelton Harbour Board is authorised to borrow £150,000 for harbour works at the same rate of interest. The Timaru Harbour Board has permission to raise £9,000 for the erection of workers' dwellings. * * *

It has been decided by the Auckland University College to agree to the suggestion that the Auckland branch of the New Zealand Institute of Architects should confer with the Council, with a view to deciding by what means the branch might assist in the development of the School of Architecture. The conference was fixed for April 11th, at 4 p.m.

Concrete Roads.

The value of the cement concrete roadway, which connects Toronto and Hamilton, is declared by Mr. George H. Gooderham, Chairman of the Toronto-Hamilton Highway Commission, to be of "greater importance than any other section of highway in Canada." On the busiest days the traffic exceeds 8,000 vehicles, the average being about 3,000, and the average motor lorry traffic about 400 per day. Farmers living fifteen miles from the Toronto market who formerly made three trips by team per week by being up early and late now leave home at eight in the morning, are home for dinner and supper, and make twelve trips per week by motor lorries in comfort. Many of the farmers, Mr. Gooderham declares, sell all their market produce at their own gates to the motorist, and some of them six miles off the highway haul it to wayside and community markets which have been encouraged by the Commission.—*Commercial Motor*.

Britain to Harness Tides.

A Million Horse-Power Possible.

The striking photograph shown on the next page taken from official material and issued with the authority of the Transport Ministry, gives a pictorial presentation of the great Severn Barrage Scheme, the first big effort in England to utilise tides for generating electricity.

The scheme has been developed by three distinguished engineers in the service of the Government, Sir Alexander Gibb, Mr. J. Ferguson, and Mr. T. R. Menzies.

Owing to its formation, the Severn Estuary affords many favourable features for such a development. The principal points of the scheme are shown in the photograph, and include a three-mile long barrage with automatic sluices, a road and railway viaduct, a ship lock, a reservoir in the Welsh hills, and an enormous power station, the capacity of which, it is estimated, will be a million horse-power.

"Harnessing Niagara" has ceased to be a proposition approaching the miraculous, for the feat was achieved long since, and there are several other engineering accomplishments of the same kind, one or two of them in Scotland. But it has been left to the British Ministry of Transport to announce a scheme of magnitude transcending everything yet devised, and worked out in detail "to a logical conclusion to employ the rotating forces of the earth, in conjunction with the attractive powers of the sun and moon, for the use and benefit of mankind."

The words quoted are from a memorandum of the Ministry of Transport issued recently, and the document, in its closing paragraph, commends the venture as "opening up a vista which is little short of a revolution in the industrial life of the West and Midlands of England, effectually solving the problem of congestion for all traffic between South Wales and the West of England, both by road and rail, and bringing within the reach of all classes of the community the blessings of light, purity, and power."

The following are the principal details of the scheme:—

Resources Available.

A Committee of the Board of Trade, under the presidency of Sir John Snell, has been looking into the water-power resources of the United Kingdom which could be made available for industrial purposes, and the memorandum of the Ministry of Transport sets out the conclusion that "the power available in the Severn dwarfs into insignificance all the other potential sources of inland water power within the United Kingdom put together." The river is unique in combining in itself all the conditions essential to the economic development of tidal water power on a large scale. Those conditions are:—

An exceptionally high range of tide.

An estuary of large capacity.

An ideal geographical situation, in relation to the industrial centres of the country.

Suitable land along the banks of the estuary for the development of industrialism.

The Need of the Moment.

With the memorandum is issued a map showing the site of the proposed tidal water power in relation to the chief industrial areas. The Birmingham and South Wales districts, of course, are most immediately affected, but just north of the Birmingham and Coventry areas are those from Nottingham to Leeds, and from Stafford to Liverpool and Manchester and beyond. The study of the whole project was undertaken by the Ministry "in view of the necessity for immediate increased railway communication between South Wales and other parts of the Kingdom; the long-felt need of access over the Severn Estuary for vehicular traffic; and the possibility of combining these with a large scheme for cheaper power for industrial purposes."

These studies, which have been worked out by the Civil Engineering Department of the Ministry, have resulted in the formulation of a comprehensive scheme, on a site further down the River Severn than the Beachley scheme, and of a very much greater potentiality, which provides:

Over half a million horse-power during a ten-hour day, with

A peak-load capacity of over a million horse-power at an estimated cost for generation at present-day prices of

A little over a halfpenny per Board of Trade unit.

The largest horse-power of any scheme now in existence is the 385,500 of the Amalgamated Niagara Falls Company.

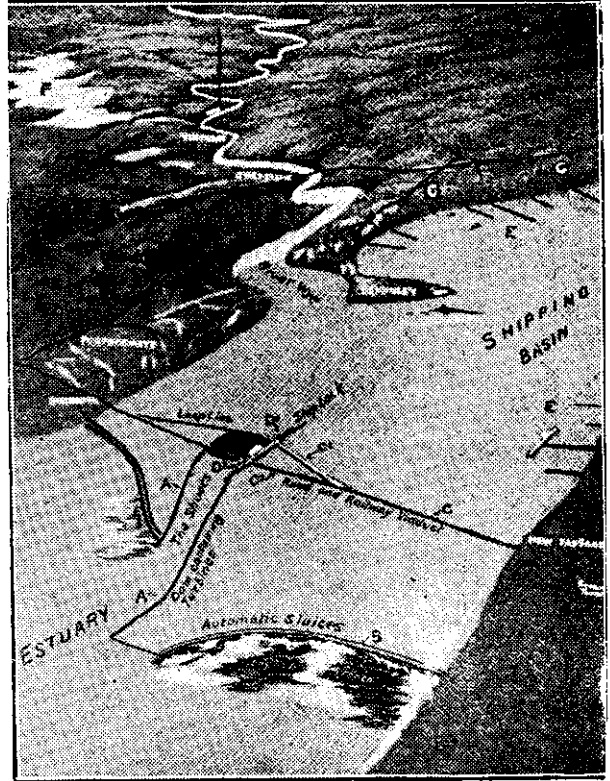
An incidental advantage of the scheme would, it is urged, be the annual saving of three to four million tons of coal, and "its execution would mean the employment for a period running into years of an army of men of all grades, both technical and labouring, whose numbers could not fail to run into many thousands."

Some of the Provisions.

The scheme provides for a level road for vehicular traffic over the Severn, which would obviate a detour for all traffic between Newport and Bristol of about 50 miles by way of Gloucester. It also provides for the quadrupling of the Great Western Railway Company's line, when required, between the West of England and South Wales, at a considerably less cost than could be achieved in any other way. It also creates a locked basin of over 27 square miles for shipping purposes on the Upper Severn above the line of the Severn Tunnel, a very large portion of which would be suitable for the accommodation of vessels of the largest size, and usable at all states of the tide. This portion of the scheme, by bringing the great shipping further up the estuary and nearer to the existing industrial

areas, would materially shorten the distance and lessen the cost of transit to inland places such as Birmingham.

The problem of allowing shipping to pass up and down the river without interfering with or interrupting the passage of trains across the bridge over the river would be met by the provision of a locking basin capable of taking the largest ships on the line of the navigable channel and intersecting the barrage. The ships would be led into and worked



Key to Reference Letters on Photograph.

A.A.—Concrete dam containing turbines driven by impounded water and generating electricity. **B.**—Automatic flap sluices operated by tide for impounding rising tidal water. **C.**—Road and railway viaduct. **C1 & C2.**—Alternative loop for diversion of railway traffic to ensure continuous railway working as required. **D1, D2.**—Ship lock. **E, E', & E''.**—Piers and wharves for shipping as required. **F.**—Salt water lake for accumulating water power against neap tide deficiencies, and times when tides are such that the turbines are not working. **G, G'.**—River-side areas lending themselves to industrial development.

Note.—North of Tintern and indicated by a vertical line is the site of power house, in proximity to F.

through this locking basin by electric locomotives, somewhat similar to those in use on the Panama Canal.

The railway and road traffic would be passed over either end of this basin by means of lifting bridges operating in such a way as to ensure that there is no delay either to railway, road, or river traffic. This is effected by duplicating the railway into the form of a loop where it crosses the locking basin, and so controlling and interlocking the arrangements as to allow continuous free passage for the railway or road traffic on one or other branches of the loop with safety.

Storing Up Energy.

There is about five times as much water power available during a big spring tide on the Severn as there is during a small neap tide, and it is quite impossible to generate power at a constant rate during the day, whatever system of turbines and turbine working may be adopted. It therefore becomes absolutely necessary to store part of the energy obtained from turbines working in the dam which is available during the periods of spring tides and during the period of working, in order to make good the deficiency of energy which exists during the neap tides, and during those periods when the turbines are not working.

The method of storage which has been adopted is that of pumping sea water from a low level to a high level when surplus energy is available, and of using the same water to drive other turbines in passing from the high level to the low level at periods when the stored-up energy is required for industrial purposes. An artificial salt-water lake has been provided for at a high elevation in order to achieve the object desired. It is designed to force the water up from the low level of the River Wye in a tunnel driven through more than a mile of solid rock, and made to discharge into the lake. This tunnel would be 40ft. in diameter, or nearly four times the area of an ordinary double-line railway tunnel, and would be the largest tunnel of its kind in the world.

Enormous Enterprises.

There would be two separate installations in connection with the power scheme:—(1) A great concrete dam or barrage across the Severn within which sluices and turbines would be installed for utilising the power of the tides, and with which would be combined the road bridge and the railway bridge over the Severn at this place; and (2) an energy storage plant comprising the great high-level lake and tunnel in combination with an immense pumping and turbine power house on the banks of the tidal portion of the Wye. The site which has been selected for the great dam or barrage lies close to the line of the Severn Tunnel. An almost ideal site is provided. At this place the estuary is about $2\frac{1}{2}$ miles wide, with low-lying country on either side. The greater part of the bed of the river is exposed dry at low water, and there are great sheets of rock known as "English stones," covered with seaweed, occupying an area of very nearly a square mile.

The "English Stones."

The upper structure of these rocks is what is known as "Keuper mari," and between these rocks on the English side and the rocks on the Monmouth shore side there is a wide deep channel worn out of the solid Pennant sandstone, known as "The Shoots." The rocks on either side shelve steeply into this deep gully, which is rather wider and very much deeper than the Thames at Westminster. It is proposed to construct the hydro-electric barrage

along the edge of these rocks on either side of the river, utilising "The Shoots," or deep gully, as a tail race for carrying away the water from the turbines, and an ingenious form of dam has been devised of great structural strength in reinforced concrete to suit the circumstances of the case. Within this dam there will be chambers, in which the turbines and generating machinery will be housed.

The method which it is proposed to adopt in order to utilise the power of the tides is to trap the water in the upper part of the estuary above the dam at high water so as to create an artificial difference in the level between the water thus impounded above the dam and the water in the estuary below the dam, for a period of several hours round about the period of low tide. During these hours, when the difference of level exists between the water inside and the water outside, sufficient water inside will be allowed to pass through the turbines in the hydro-electric barrage to generate upwards of a million horse-power.

Such are the main lines of the Ministry of Transport's stupendous scheme.

Building Supplies in Christchurch.

"Timber and cement both plentiful," was the text of an optimistic report by the building trade authorities early this month. The strike in Wellington has diverted to Lyttelton several shiploads of timber consigned from West Coast mills, and imported cement is now available in fairly large quantities all over the North and South Islands. Though the amount of timber coming in is not yet sufficient to build up reserve stocks, there is ample on hand for everyday requirements.

"The supply has been better for some time," said a contractor. "The waterside strike in Wellington has benefited Canterbury already, because we are getting a large share of the usual North Island consignments. Even before the strike an improvement was evident, due to the slack demand in Australia, where foreign timbers are in increasing use. At the present time there are three boats loading on the West Coast for Lyttelton. The supply of hardwood has also been heavier lately."

"How will that affect house-building operations?" he was asked.

"There is bound to be a quiet spell ahead on account of money tightness, but so far builders have plenty of work in hand and in sight," he replied. "So far every carpenter is in employment, and business is steady and sound. The demand for houses shows no sign of easing off, and prices all round are as high as ever. Cement is not hard to obtain, and that is helping work."

Other reports say that Oregon timber is being shipped freely to New Zealand, and there are hints of a reduction in price.

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.]

Acting Editor: ARTHUR SEED.

The latest news from Mr. W. T. Irvine is by letter from him from Sydney, dated March 1st, in which he states that he is hoping to leave for New Zealand by the Manuka on the 17th. Our sawmiller readers will be pleased to learn that Mr. Irvine is now much better, and is anxious to get back to New Zealand and back to harness. He mentions having met Messrs. Bush and Syme in Sydney on their return from London, and these gentlemen were to have left for New Zealand on the 2nd inst.

* * *

At a recent meeting of the Council of the Forestry League it was definitely decided to appoint an organiser for the League and to carry out an active campaign to secure a larger membership and make the League the active and influential body that the importance of its aims should warrant. Provided the necessary finances can be arranged to cover the cost of salary and expenses, it has been decided to appoint Mr. Will Lawson as organiser, and we have no doubt that Mr. Lawson will do ample justice to the position, as his work in publicity and organisation in other directions is already well known. An appeal is being sent out by the League for a certain number of life members with a 12-guinea subscription, or for a sufficient number of people to guarantee, say, £10 or £20 each for twelve months in order to ensure the necessary finance of the organisation campaign, and we would urge our readers to give this matter their active support, for to our mind the need of a very strong Forestry League is imperative to create such a body of public opinion as will ensure the definite carrying out of the Forestry policy recently laid down by Sir Francis Bell and to assist the aims and objects of Captain Ellis, the Director of Forestry. Without a very strong body of public opinion behind it the Progressive Forestry Policy is quite apt to be put on one side by our politicians; but if it has sufficient public support then the Government should be able to place the Forestry Department and its policy on such a definite basis that it is not likely to be assailed or altered by any future Government. It is essential that forestry should be placed beyond the reach of political influence, and to this end the organisation campaign about to be launched by the Forestry League should do good work, and it should receive the active support of every person with an interest in the future of our country, and especially of sawmillers, the future of whose industry is so dependent upon the successful carrying out of the Forestry Policy in this country.

We were recently called upon by Messrs. B. Bannon and Captain Charles K. Rowles, who are representing Messrs. Spear and Jackson, the prominent English saw makers, and were pleased to hear from them that their visit to this country is the direct outcome of the general trade awakening of Great Britain. Captain Rowles (of Messrs. Price and Walker, one of the largest sawmilling firms in England) is on a special mission to visit the whole of the sawmilling districts in New Zealand and to meet every person possible connected with the industry in order that he should learn at first hand the exact requirements of this country in regard to saws, so that Messrs. Spear and Jackson may be able to produce an article which will give entire satisfaction to the users. We are told that the English manufacturer is now able to produce saws and planer and veneering knives at a cost that will land them in this country at a price very considerably below that now being charged for the American article. Captain Rowles has had experience in the sawmilling industry in Russia, Siberia, India, Siam, Australia and Canada, and is a practical sawmilling expert, having managed the milling interests of his firm in Russia in pre-war days, and he is anxious to place at the disposal of any sawmillers in this country his advice on any matters in which he can be of assistance. We feel sure that our sawmiller readers will be pleased to meet this gentleman, and to know that we have now in this country a representative of a British firm whose mission is to assist in bringing British trade methods quite up-to-date.

* * *

The Statement of Forestry Policy laid down by the Commissioner of State Forests, Sir Francis Bell, to the delegates of the Dominion Federated Sawmillers' Association, which was commented on in our last issue, was recently distributed to members of the Forestry League with a circular asking for members' comment upon the Policy. At the last meeting of the Council of the Forestry League a considerable number of replies were read, and among these were very able letters from the Rev. J. H. Simmonds, of Wesley Training College, Auckland; A. Bathgate, Esq., of Dunedin; and W. Stewart, Esq., Government Surveyor, Kokakoriki, Taumarunui. There is no doubt that the wide publicity given to and the distribution of the Statement of Forestry Policy has stimulated wide interest in these matters, but in all the replies received by the Forestry League there appeared no new ground covered or suggestions made that had not already

been dealt with in the full discussion which took place between the Executive of the Federation and Sir Francis Bell and the officers of the State Forest Service; except perhaps the suggestion put forward by Mr. Bathgate that no attention appears to have been paid in the Policy Statement to the afforestation of the head waters of rivers that are not already clothed with forest. Many such rivers, we understand, are to be found in Canterbury and Otago, and there is no doubt that the afforestation of the sources of these rivers is a matter which should surely warrant attention. The Rev. J. H. Simmonds stressed the necessity of devoting expenditure and attention to the planting of areas close to markets rather than distant areas such as Rotorua, etc., and particularly suggested the wisdom of seeking such places as the Marlborough Sounds for afforestation, for there the land is in large measure unsuitable for farming and is centrally situated, sloping as it does to such excellent waterways for the rafting of logs or towing of timber, the locality certainly stands out as one most eminently suitable for afforestation purposes, particularly so as such large markets are so near at hand. We consider, however, that attention should be paid to idle lands even closer to markets than this, and would point out the poor land along that range of hills running from Eastbourne along the eastern side of the Hutt Valley right to Kaitoke. In this range of hills there is a very considerable area of poor land at present lying waste, and there is no doubt that the Government could acquire this land at a very reasonable figure even were it taken under the Public Works Act, and here, of all places, should afforestation prove a success, for there would be a very ready and close market for all forest products and a return could be looked for at an early stage from the sale of firewood, posts, poles and props that would be available from the first thinnings. Moreover, a steady supply of forest labour could always be counted upon in such a locality as this so close to a main centre.

We have received from the Director of the State Forest Services (Captain L. Macintosh Ellis) a copy of his Report on Forest Conditions in New Zealand, which was laid on the table of the House of Representatives last session and which has now been printed. It is undoubtedly a most able and instructive report, and is accompanied with maps of both islands showing the several conservation regions and coloured reference of State forests, provisional State forests, forest reserves, etc., and also has copious diagrams and tables dealing with timber output, export, royalties, licenses, prices, etc., all of which are of great value to those engaged in the timber industry and will be of considerable use for reference purposes. It is too large a matter to deal with in a short paragraph, but as most of our readers will have had copies of Mr. W. J. Butler's able Digest of the Report, which was printed some months ago, and as the Report itself was widely dealt with by the Press

at the time it was presented, they are probably already fairly conversant with its main features. We would recommend, however, all those who are interested in the timber business to obtain a copy if possible.

* * *

In the January issue of *The Australian Forestry Journal* (which is issued monthly by the Forestry Commissioners of New South Wales) there are many excellent articles which are, of course, mostly of interest to Australians, but its principal article, entitled "The Awakening of New Zealand," deals with the establishing of our State Forest Service and quotes from the Report above referred to. The article in question closes as follows: "*The Forestry Journal* hopes to be able to treat of New Zealand plans when they shall have more advanced; meantime it is gratifying to note the alertness with which the authorities in the Dominion are proceeding to cover the hiatus that has been long allowed to exist in forestry industry in Australasia. The creation of a Forestry Department in that country has come about not a day too soon; the wonder is that the generally progressive spirit of the people of that fine country permitted it to be without such an institution so long."

It would be an excellent thing if our State Forest Service issued a *Forestry Journal* also, or perhaps the monthly *Journal of Agriculture* could be enlarged to embrace forestry and become *The Journal of Agriculture and Forestry*. As it is we notice there is an article in the February issue of the journal by Captain Ellis on "Forestry in New Zealand: The Government Policy and Private Planting," and there have constantly appeared articles more in relation to forestry than agriculture. An official monthly organ dealing with forestry and timber matters is certainly needed to stimulate public interest in this all-important subject and such important industry. We are pleased to know that the Forestry League is taking this matter up with the Government, and hope a publication will result that will be of interest and assistance to the saw-milling industry in particular, but will also keep public opinion and sentiment up to "concert pitch" in forestry matters.

* * *

Professor Ernest H. Wilson has just concluded his visit to and investigations in New Zealand, and in next issue we hope to print some of his published views concerning the Dominion, but following is reprint from *The Weekly Times*, Melbourne, following this gentleman's visit to Australia:--

FOREST WEALTH.

"There seems to be a sort of arboricidal mania here," said Professor Ernest H. Wilson, Assistant Director of the Arnold Arboretum of Harvard University, when discussing his impressions of Australia, and more particularly of New South Wales. There are tens of thousands of thoughtful Australians in all parts of the Commonwealth who will agree with him. In nearly all the States vast

forests have been and are still being destroyed by the axe and by fire, and at a conservative estimate Australia must be losing millions of pounds annually. In Victoria, however, there have been signs of a new spirit since the constitution of the Forestry Commission. An educational campaign designed to make the public realise the value of our timber assets and the necessity for protecting them is being carried out by the Commissioners. Machinery has also been devised for the prevention and suppression of fires, but valuable as this may be, the public will feel more satisfied if assured that a sufficient number of rangers have been appointed to keep it working effectively. Other States have not all appreciated the importance of taking similar measures. Much timber is still being destroyed, and the value of existing supplies is realised by very few persons. There is reason to believe that Professor Wilson is right when he says that many Australians continue to import from America and other countries in ignorance of the fact that their own woods could often be used for precisely the same purposes. It is true that the Australian public is gradually losing its conservatism in this respect. Local hardwoods are now recognised as being among the best in the world, and a number of our more ornamental timbers are used, with excellent effect, in the construction of furniture. Unfortunately the recognition of this has been accompanied by enormously increased prices for our native woods. The fact that Australian timbers can be used in the manufacture of furniture has been of great assistance, however, to those who are endeavouring to protect forest areas from fire and destruction by settlers. As the Victorian Forest Commission pointed out in reply to Professor Wilson, a new era is being ushered in, at all events in Victoria. But the advice which the Professor summed up in the sentence—"For heaven's sake stop making havoc of your heritage of natural forest"—is sound, and needs reiteration.

Need for Afforestation.

The enormous wastage of timber in the Great War has accomplished what had almost come to seem the impossible feat of awakening England and the British Empire as a whole to the urgent need of an intelligent and active forest policy. In the case of the British Isles there are large areas, more especially in the Highlands, crying out for afforestation. Yet far from these areas being planted, the area already under timber has of recent years been steadily shrinking. And this in spite of the fact that England has been paying to foreign countries some £70,000,000 a year for her timber imports. But, thanks to the war, she has already begun to change all this. By the Forestry Act of August, 1919, there came into being a Forestry Commission under the chairmanship of Lord Lovat. The Commission consists of eight members ap-

pointed for a five-year term, and has very wide powers, and a fund of three and a-half millions at its disposal. It lost very little time in getting to work, and, owing largely to the labours of the interim authority, which preceded it, was in a position to work effectively from the very start. By February last arrangements had been made to secure in Scotland alone 16,000 acres of land suitable for planting, and there were in the various nurseries some 40,000,000 seedlings coming on. A School of Forestry for the training of partially-disabled soldiers had been set on foot at Birnam, and was already well established. A beginning had been made with the work of planting, and by a happy coincidence the first English planting in Devon had been begun on the same day as the first Scottish planting in Aberdeen. But this was by no means all that had been done; some of the earliest official bulletins of the Commission were able to announce that "Rules of the procedure have been made, the preliminary work of the Commissioners and Assistant Commissioners has been allocated; a ten years' planting programme has been considered; the planting programme for 1919-20 has been arranged and is being carried out, and steps have been taken to meet the shortage of forest tree seeds. In addition, the appointment of consultative committees is proceeding, and conferences with certain public departments have been held in London. In London, Dublin and Edinburgh schools are being arranged for the training of forestry apprentices. Statistical work is being carried out, surveys are being undertaken, and afforestation land in various parts of the United Kingdom is being inspected with a view to acquisition.

Nor did the Commission limit its operation to the British Isles. Under its auspices, and by its suggestion, a British Empire Forestry Conference met in last July, and after mature deliberations adopted a series of resolutions which the delegates were instructed to bring to the notice of their respective Governments. These resolutions, which have recently been published by H.M. Stationery Office, cover the whole ground of the theory and practice of forestry, urging the importance of a survey of timber resources throughout the Empire, of carefully devised and correlated schemes of research, of increased facilities for training experts, and of such immediately practical reforms as the standardisation of forest terminology, and the trade names of timbers. Special stress is laid on the vital importance of each of the Governments of the Empire laying down a clear and definite forestry policy, to be administered by a properly constituted and adequate forest service, and of each of these authorities developing systematic schemes of forestry education, framed "with a view to combining for meeting the needs of those parts which can only themselves make a partial provision for their requirements." It was further proposed as essential to the systematic development of the timber resources of the Empire, and to the diffusion of the results obtained of research, that an Imperial

Forestry Bureau, to be supported by contributions from the various Governments, should immediately be constituted, and that Imperial Forestry Conferences should from time to time be held, the next one to meet in 1923, if possible in Canada. These are large and established proposals, and should find warm support in New Zealand, for it is hardly necessary to point out how greatly our own somewhat tardily initiated forestry policy will gain through being linked up with a well-thought-out system operative throughout the Empire as a whole.

The Fire Danger

AND WELLINGTON'S NATIVE BUSH.

HEAVY PENALTIES FOR FIRE-RAISING SUGGESTED.

(By "Sylvius.")

When lands held on behalf of the commonweal are in question, personal responsibility for destruction, either by fire or other means, is practically non-existent. There are, of course, officials who are given charge of such areas, and who pay such reserves periodical visits of inspection, among other multifarious duties, but such supervision cannot be expected to involve a close day-to-day guardianship such as is given to private lands. Wellington City has done well in preserving small but valuable areas of native bush—all that remains of the wealth of magnificent forest which at one time clothed the mountains and valleys of this district. These are situated at Wadestown (within fifteen minutes of one of the city tramways), Williams Park (the Day's Bay reserve), and a fine recently-acquired area of bush at Khandallah, which has been greatly used by picnickers during the present summer. Recently a fire got a start in this last-mentioned reserve, and before it was got under some three-quarters of an acre of scrub and an edge of the real bush was destroyed. I have the authority of the Director of Reserves (Mr. J. McKenzie) for the opinion that had the wind been blowing a little stronger in the opposite direction it would have been practically impossible to have saved any portion of this splendid reserve from destruction, and the foresight of the late Onslow Borough Council and Wellington City Council in securing this reserve would have been as nought.

Another instance of how conscienceless some people are in respect to the preservation of what little native bush remains in the vicinity of Wellington was also quoted by Mr. McKenzie, who said that a person was actually observed firing the scrub in several places in close proximity to the Ngaio Gorge, and when brought to the Court for his wanton act was fined a mere £5—that for a deliberate act which might have meant the destruction of the whole of the native bush along the ridge. So keenly does Mr. McKenzie (on behalf of the city) feel that the public does not yet realise the seriousness of fire as a destroyer of irreplaceable botanic reserves that it is his intention to ask the Reserves Committee of the City Council to approach

the Minister of Justice with a view to the imposition of much heavier penalties for fire-lighting in or near any of these reserves, except in places especially provided for the use of picnic parties.

Mr. McKenzie states that in America the vast forest reserves, sometimes hundreds of square miles in area, are most jealously guarded. The Forestry Department of the United States employs a large and efficient force of men to continually guard such areas against destruction by fire. There the offence of lighting an unauthorised fire is regarded as a heinous one, and the punishment inflicted is very heavy. Lookout stations are set up on vantage points—where the guardians of the forest reside—and a special code of signals is provided by which help can be summoned should an outbreak occur. The latest method of supervising these great areas of forest is by aeroplane, showing how vastly important the State considers the matter of preserving what she has got.

The Wellington Director of Reserves believes that the same regard for our few and lamentably small forest areas should exist here, and points out how extremely precious these will become to the Empire City in the course of, say, half a century. But he cannot hold out any hope that we shall have the good luck to preserve what we have got if promiscuous fire-lighting in or even near such areas is considered an inconsequential petty offence. The public conscience, he considers, needs awakening to the dangers that come with every summer.

Take, for example, the outcry that would be raised were vernal paradise embraced in Wilton's Bush to be destroyed by the act of some skylarking boy or thoughtless adult. Thousands have visited this delightful forest resort during the summer, and have come away from its pleasant shades enraptured at the realisation that there should exist such a botanic treasure within half an hour of the centre of the city. There would immediately be a demand for stricter supervision and substantial penalties, but such could not replace the destroyed bush. Nature works slowly in New Zealand. Nowhere, since the destroying hand of the pakeha has laid waste the forest on lands of little use for man's necessities, has native bush reclothed such areas in anything like its original profusion, which is all the more reason why our little reserves should be most jealously and zealously guarded. It is to be devoutly hoped that the City Council and the Justice Department will see the point made, and back up Mr. McKenzie's laudable request for weightier and more effective means of obliterating the risk of fires within or in the vicinity of those little bits of primitive New Zealand that still glorify the land.—*Dominion.*

The Professor of Forestry at Harvard University, commenting on vague estimates made, remarked that it was often stated that figures could not lie, but he had made up his mind that liars could figure, especially when it came to estimating timber.

Our 72nd Competition.

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

TENNIS PAVILION

an ideal pavilion for a club with about fifty members. The total floor area of the building is not to exceed 1000 square feet. No limit is made in respect to cost, but the elevations are to show refinement and restraint.

Drawings required:—Floor plan or plans, three elevations, one section—all to scale of $\frac{1}{2}$ -inch to 1 foot. Do not shade drawings nor use a wash of any kind.

Mr. Leslie D. Coombs, A.R.I.B.A., 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 "Seventy-second" Competition on outside, with a covering letter giving competitor's name, and address of employer. Designs must be sent in by March 27th, 1921.

Our 73rd Competition.

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

BAND STAND

to accommodate 30 players. Materials of brick or stone or both. To be open on all sides, and situated in the middle of a park, or public gardens, of a large city. No amount of cost is specified, but the design is to be refined and in good taste. The style to be Italian Renaissance in general character, but of a free type. Provision to be made under the stand for the storage of music stands.

Drawings to be to $\frac{1}{4}$ scale. Plan, elevation, and section and perspective. Drawings inked in and shaded.

Mr. Basil Hooper, A.R.I.B.A., 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 "Seventy-third" Competition on outside, with a covering letter giving competitor's name, and address of employer. Designs must be sent in by April 27th, 1921.

Our 74th Competition.

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

PANELLED LIVING ROOM.

Drawings Required.—(1) Plan of living room and elevations of all walls, showing fireplace, mantelpiece, doors and windows to $\frac{1}{4}$ in. scale. (2) Full size details of mouldings to panelling and mantelpiece. (3) $\frac{1}{16}$ inch scale plan of the house from which the living room is taken.

The $\frac{1}{16}$ scale plan of the house may be of any design known to the competitor, or from a published design, but the living room must have a floor area of not less than 250 sq. ft. or more than 450 sq. ft., and must contain a fireplace, beam ceiling and plaster frieze. The height of the room is left to the competitor's judgment.

It is not to be assumed that panels of any size are obtainable. Marks will be given for good proportioning of panels and fireplace, etc., design of doors, and good draughtsmanship. Drawings must be finished in ink.

Mr. Gerald E. Jones, A.R.I.B.A., of Auckland, has kindly set this subject.

Designs must be sent in under a nom-de-plume, addressed to the Editor, "N.Z. Building Progress," 22 Wingfield Street, Wellington, and clearly marked "Seventy-fourth" Competition on outside, with a covering letter giving competitor's name, and address of principal. Designs must be sent in on or before May 27th.

Building Notes.

AUCKLAND.

Messrs. McDonald, Mullions and Smith, architects, invite tenders for the erection of a ferro-concrete building for offices on the corner of Princes and Shortland Streets for the Waitemata and Manukau County Councils.

The New Zealand Government Railways tender for the erection of men's cottages of 5 and 6 rooms for railway employees, closed on the 2nd of this month.

The P.W. Department invited tenders for the erection of a Post Office at Henderson.

The tender of Mr. Douglas Jack for £1,663 for extensions to the engineering building of the University was accepted by the Board last month.

A campaign to raise £10,000 for a new mission house is about to be launched by the Grey Street Mission conducted by the Order of the Good Shepherd. The sum of £1,470 is in hand, and an organised effort is to be made to raise the balance.

The new Technical High School at Pukekohe was officially opened last month by the Prime Minister. The new school, which is situated within easy distance of the main street and the railway station, is substantially built of red brick. Attached to it are 15 acres of ground, giving ample room for expansion, playing areas, and agricultural plots. The buildings themselves, which cost some £9,000, provide four main class rooms, one large laboratory, library, and numerous other offices. They are lighted by electricity, to allow of night classes being held.

CHRISTCHURCH.

A new school at Opawa was opened by the Hon. C. J. Parr last month. It is a brick structure, with four class rooms fitted to accommodate 240 pupils. When it is possible to have the whole school for Opawa under one roof, the old building now reserved for the infants will be disposed of. The new school is well appointed, and stands in the centre of four and a-half acres of ground, which will be utilised for playing areas and for gardens. The building was erected by the Canterbury Education Board's staff of workmen, Mr. B. Riley acting as foreman of works.

The Hon. C. J. Parr said that he had great pleasure in officially opening the new school. It was originally proposed that £2,500 should be spent in building a school on the old site, but fortunately, he thought—wiser counsels had prevailed, and the advisability of having the new school on another site was stressed by the School Committee. He paid a tribute to the sagacity of the Committee in taking up the attitude it had, and now Opawa could be congratulated in that it had got in early and had obtained a new school on spacious grounds, before the Government's money became short. The new school was built on modern lines, and he would like to see every school in New Zealand like it. He congratulated the Canterbury Education Board on the modern method in which the building had been erected. He would like to see the new school completed as soon as possible, so that all the classes could be encompassed in the one building, and the old school building could be disposed of, but as there were so many claims for school buildings and additions being made, it might be some time before anything more could be done for Opawa.

The Christchurch City Council invite tenders for small additions in brick to the Public Baths.

HAMILTON.

The New Zealand Dairy Co-operative Co., Ltd., invited tenders for a six-roomed house, 2 five-roomed and 5 four-roomed houses.

MASTERTON.

The extensive alterations at St. Bride's Convent, Masterton, are now nearing completion. The additions to St. Patrick's School are also making steady progress. Both buildings are being considerably enlarged.

ASHBURTON.

The Hospital Board have been promised a £ for £ subsidy by the Government up to £25,000 for extensions to the hospital buildings, including extra ward rooms and remodelling the institution, and building a residence for the medical superintendent.

WELLINGTON.

The Wellington Harbour Board invite tenders, closing April 20th, for the construction of a reinforced concrete store on Waterloo Quay Reclamation.

Advice has been received from the Education Department by the Wellington Education Board that an additional £7,000 had been voted for extending the Training College. The Acting-Chairman, Mr. G. London, said the Board's proposals involved an expenditure of £10,000, and, according to the Principal of the College, the carrying out of the plans was necessary, as the number of teachers had doubled in the last few years. It was decided to forward to the Minister a copy of the Principal's letter on the subject, along with a request for the additional £3,000.

Engineering Notes.

The Wellington Harbour Board invite tenders for the supply and delivery of 1,000 tons of British Portland cement.

The Featherston County Council invite tenders for the erection of seven reinforced concrete bridges for the Rimutaka Hill Road.

The P.W. Department invite tenders, closing April 10th, for the supply of Strain Insulators—400 strings, 66,000-volt.

The P.W. Department also invite tenders as follows:—Awatere River Bridge—Wire Ropes; closing April 10th, 1921. Waikato Scheme, Section 41—Transformers; closing June 28th, 1921. Lake Coleridge Scheme, Section 93—Integrating Watt Meters; closing March 8th, 1921.

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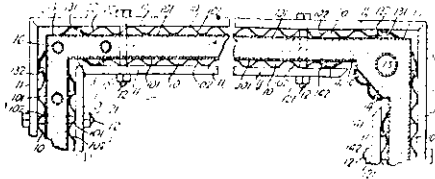


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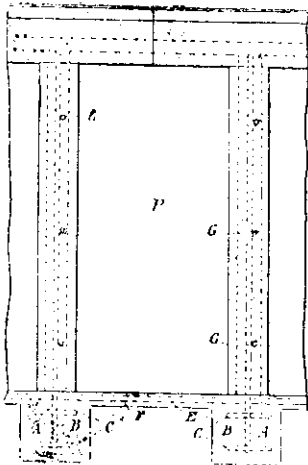
Patents of Interest to Builders.

Concrete Structures, Building.—A patent, No. 43415, has been taken out by G. H. Forester, of "Rimcore," Iver, Buckingham, Eng.; Inventor; Gilbert Marsh, of 33a Savile Row, London, Eng.; Inventor; and the said Gilbert Marsh, administrator of the estate of John Darlington Marsh, formerly of 33a Savile Row, London, March 31st, 1920. Each section consists of a plate of corrugated iron faced with a steel plate, the two plates are riveted or welded together, the corrugated iron plates of adjacent sections overlapping one another. The sections are held together by longitudinal bars and secured at the desired distance apart by bolts. To form the angles of the structure, angle-pieces are provided, which are secured to the end sections of the frames. To pro-



vide openings for fireplaces and doors, frames of the required shape are inserted between the inner and outer frames, and openings for windows are similarly made, except that the window frames are not inserted until the concrete between the inner and outer frames has reached the required height. When the inner and outer frames have been erected concrete is run in between them, but before it is thoroughly set the bolts joining together the frames are turned in order that they may be easily withdrawn afterwards. To facilitate the drying of the walls, pipes leading from the top to the bottom of the walls are inserted between the inner and outer frames before the concrete is filled in. When the concrete is set the frames can be dismantled by withdrawing the bolts and removing the longitudinal bars.

Concrete Buildings.—A patent, No. 42,872, has been taken out by John Slater Baines, of "Glenart," Coronation Road, Great Crosby, Lancaster, Eng.; Engineer; December 16th, 1919. The patent consists in forming foundation of concrete, iron or steel rods embedded in this concrete and standing upright the height of the



wall, posts (usually formed of two halves) held up by the rods, slabs grouted into grooves in the posts, and the whole well bound together by iron plates at intervals made to templet so as to fit the rods. In very thin walls the invention consists in forming the slabs in one with the post, the latter cut away on one side, and the rein-

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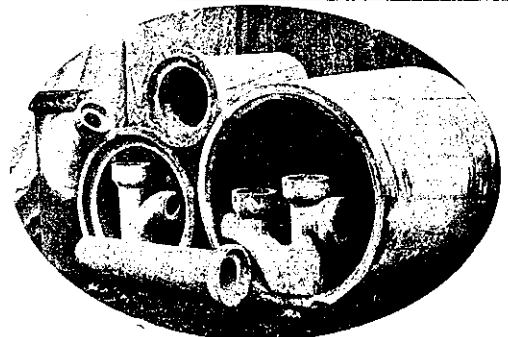
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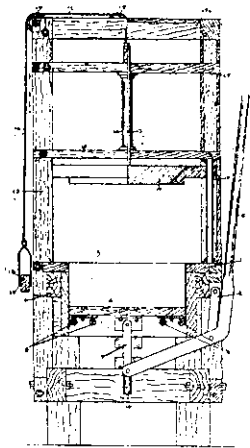
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forcements of the slab passing out into the cut-away portion, and the end of the next slab thinned down so as to be pressed in between the reinforcements and the post, and then the whole cut-away portion filled up level with concrete and cement. In the method of making walls with slabs preferably breaking joint with each other, the invention consists in the arrangement of corners of each alternate course with the slabs, beginning at the corner alternately on one side of the wall and the other, and having short pieces between the main slabs, the whole bound together with iron rods and plates at the junction, etc.

Concrete Block-making Machine.—A patent, No. 44,081, has been taken out by Mr. Edmund Anscombe, Architect,



Princes Street, Dunedin. According to the invention, the apparatus comprises a table containing a well with

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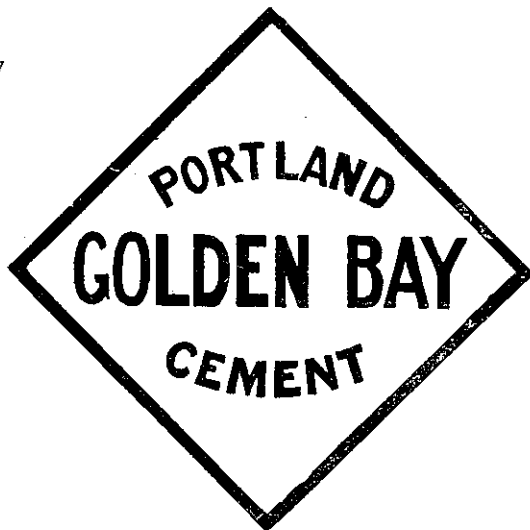
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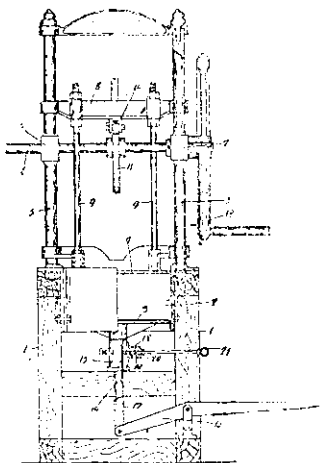
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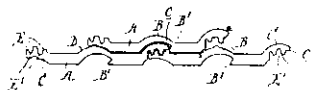
a bottom capable of being raised level with the top thereof, and a ramming-head working on vertical guides over said well. A mould to give the block to be formed the desired shape is first placed in the well. The plastic concrete is then poured on to the mould to the desired thickness, after which the ramming-head is caused to descend one or more times on to the plastic concrete and compress same to a sufficiently solid state, so that, on elevating the bottom of the well, the block can be removed therefrom, turned on to a template, and placed away to set and season.

Concrete Block-making Machine.—Another patent, No. 44,217, has been taken out by Mr. E. Anscombe, Architect, of Dunedin. According to the invention, a horizontal shaft is mounted on the vertical guides on and between which the ramming-head works. A cam keyed on the said shaft is formed with a gap, or is cut away following its greatest radius, so that a roller mounted on a cross-head also working on said vertical guides above the shaft, and supporting said cross-head by bearing on said cam, is in the course of the latter's rotation gradually raised and then allowed to drop suddenly a distance equal almost to the cam's greatest radius. The



ramming-head is connected with the cross-head and rises and falls with the latter. A hand wheel or pulley for imparting rotation to said shaft is provided thereon. The well-bottom is mounted on a central vertical shaft, which operates vertically in a guide, the lower end of said shaft being pivotally connected to the inner end of a foot-lever, fulcrumed in the stand of the machine, whereby the well-bottom can be raised and lowered. The shaft supporting the well-bottom contains a recess in which a spring-pressed catch engages when the bottom is raised to the full extent, said catch being provided with a handle by means of which it can be withdrawn from the recess when it is desired to lower the bottom.

Roofing Tile.—A patent, No. 43,309, has been taken out for a roofing tile by Fred. Onenshaw, of Gonville, Wanganui; March 9th, 1920. The tile is shaped with concave-convex ridges extending along the centre and



each edge of the tile, forming the central ridge with a hook or flange extending inwards from one edge of its under-side, and the outer edge of one of the side ridges with an undercut lip or groove shaped in correspondence with the said hook or flange, etc.

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