The Architect—His Training and Knowledge

N.Z. BUILDING PROGRESS

One of numerous Public Buildings in a modern Town-Planned Continental City

NOVEMBER, 1915. **Price 6d.**

Printed by the Proprietors, HARRY H. TOMBS, Ltd., at their registered Printing Works, 8 Farish Street, Wellington, November, 1915.

N.Z. BUILDING PROGRESS.

DIRECTORY

OF SUPPLIERS OF MATERIALS, &c., &c.

We frequently get enquiries from Architects, Builders, Engineers, &c., asking for names and addresses of suppliers of specialities connected with the various trades. Suppliers frequently assume that because they send out a printed circular or make a call now and then on users, that they have done all that is necessary to "keep the users' memory green." This is quite a mistake. The User must have **instant and ready means of reference** to some reliable source of information that he sees regularly.

This is why we have started this **"Directory"** to which hundreds of our clients refer almost daily. If you are a regular advertiser with us, your name goes into the Directory **free of charge.** If not, write us for terms which are nominal.

Architectural Works—
"Progress" Publishing Dept., 10 Willis Street

Australian Hardwood—
Samuel Brown, Ltd., Wellington

Building Stone—
Wilson, J. & A., Ltd., Buckle Street, Wellington

Buying Agents (English)—
Wm. Wilson & Sons, Abchurch Lane, London, E.C

Cement Pipes—
Cement Pipe Co., Masterton

Concrete Paint—
Holmes, Francis, Woodward Street, Wellington; Lichfield Street, Christchurch

Directory—
H. J. Clark, 46 Morgan St, Petersham, Sydney, Australia

Electric Door Bells—
Jas. Rodger & Co., Lichfield Street, Christchurch.

Engineers—
Booth, Macdonald & Co., Christchurch

Flooring Materials—
"Fama" Stonewood Co., Madras Street, Christchurch

Fire Bricks—
Tyneside Proprietary, Ltd., Customhouse Quay, Wellington

Glass, Fire Proof, Wired—
Pilkington Bros. Ltd., England. Local Agents—F. W. Butcher, Box 1054, Auckland.

Hotels—
McCarthy's Family Hotel, Taupo Quay, Wanganui

Illustration Blocks—
Nicklin, Chas. J., Cuba Street, Wellington

Lubricating Oils, etc.—
Vacuum Oil Pty. Co., Ltd., Wellington.

Marine Engines—
Bailey, Chas., Junr., Freeman's Bay, Auckland

Metal Ceilings—
Wilson & Shaw, Victoria Street, Wellington

Patent Agents—
Baldwin & Rayward, Lambton Quay, Wellington

Petrol, Kerosene, etc.—
Vacuum Oil Pty. Co., Ltd., Wellington.

Photographers—
Bartlett, W. H., 10 Willis Street, Wellington, and Queen Street, Auckland

Roofing Tiles and Slates—
Chambers, John & Son, Ltd., Auckland, Wellington, Gisborne, Christchurch and Dunedin
Gualter, Dykes & Co., Featherston Street, Wellington

Sanitary Fittings—
Jack, Jas. W., Featherston Street, Wellington

White Lead—
Keall & Perry, 27 Old Custom House Quay, Wellington

N.Z. BUILDING PROGRESS

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

8 Farish Street —— Wellington, New Zealand

TELEPHONE 1651 P.O. BOX 481.

Annual Subscriptions:—To any address 7/6 post free. Note: 1/- will be allowed on this account if paid in advance.

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

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

Advertising Rates will be sent on application. The value of "Progress" as an advertising medium is rapidly becoming recognized by advertisers. Circulation considered it is the cheapest advertising medium of its kind in the Dominion.

To Our Advertisers—All copy for advertising matter must be in our hands by the 1st 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.

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

Publisher's Announcements

Our 38th Competition

We offer a prize of £1 1 0 (one guinea) for the design adjudged to the best for

The Front of a Block of Offices

There are to be two shops on the ground floor, with an adequate entrance to the vestibule of the offices over, of which there are to be two floors, making a three-storey building in all.

The width available is 50 feet, and there are three-storey buildings on each side A hanging verandah is to run along the entire front. The "style" of architecture is to be Classic, as it is intended that this competition is to be an exercise in the use of "Orders" and other Classic details. The materials to be all stone. There is no stipulation as to the cost, but it is assumed that the building is to be erected in the best part of a city, by some well-to-do Company or Firm. Beside the front elevation, a plan of the front wall at each floor to be given, also a section from top to bottom. As far as possible any vertical lines to be brought right down to the ground and not to be stopped anyhow by the shop girder. The design of the verandah to be specially considered. The scale to be $\frac{1}{8}$" to a foot, with $\frac{1}{2}$" detail of some portion.

Drawings to be inked in; the shadows correctly projected; and coloured. Any notes are to be printed on the drawings; no seperate specification needed. 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 **Progress**, 8 Farish Street, Wellington, and marked clearly, "Thirty-eighth Prize Competition" on outside with a covering letter giving competitor's name, and address of employer. Designs to be sent in by January 5th.

Our 39th Competition

We offer a prize of £1 1 0 and a second prize of 10/6 to the two design adjudged to be the best for a

Small Summer Residence in Brick

To cost £1500 complete.

SITE: The site, as sketch, adjoins a cliff overlooking the sea. The main view is to the North.

DRAWINGS REQUIRED: 2 plans, 4 elevations, 1 section to $\frac{1}{4}$ inch scale. The ground floor plan to show lay-out of garden adjoining the house. Drawings to be finished in pencil and wash, and to be on one sheet of paper.

ACCOMODATION: Ground Floor—Vestibule or outer hall, inner hall with small study and a diningroom leading off, servery, kitchen, and offices, with maids' bedroom (two beds) and small bathroom off. The laundry to come under main room. Allow for a loggia in convenient position to diningroom for outdoor meals.

1st Floor—3 bedrooms, small dressingroom off principal bedroom, 1 bathroom, linen room, and sleeping porch, (2 sleeping porches preferable).

(Continued on page 482).

Vol. XI. No. 3. Monthly REGISTERED AS A NEWSPAPER

N.Z. BUILDING

PROGRESS

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

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

Official Organ of the Institute of Local Government Engineers of N.Z.

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

PRICE 6d. per Copy; 7s. 6d. per annum post free. (Note: 1s. Discount allowed if paid in advance).

WELLINGTON, AUCKLAND, CHRISTCHURCH, AND DUNEDIN, NEW ZEALAND, NOVEMBER, 1915

Contents for November

Editorial Comment

When to Build

A few months ago, after carefully surveying the position, we came to the conclusion that the waiting-game of many would-be investors in bricks and mortar was a losing game. It seemed to us that the materials which we are obliged to import would be dearer and scarcer than ever for some time after the war, therefore a go-ahead policy was best. Our judgment is borne out by a writer in "The Town Planning Review" who gives the same advice to English property owners as we offer to New Zealanders. "Certain classes of material such as timber" he says, "may be cheaper after the war owing to the increase of supplies and the possible reduction of freights. Most timber importers, however do not anticipate that this will occur for some considerable time after hostilities are terminated. Other materials now selling below cost—*e.g.*, slates—will increase in cost, and the generally present level of prices will be maintained. The following considerations seem to support this conclusion. In the first place, the quantity of building work suspended not in the United Kingdom, but also on the Continent, cannot be posponed indefinitely. When the war is over and the normal course of trade is resumed there can be no doubt that manufacturers and others will endeavour to mature their plans for new factories, warehouse, offices, shops, etc. as these buildings are essential for the successful extention of their businesses. It is certain that in this country alone many million pounds' worth of building work is being held up, and the bulk of this must go forward. The demand for material thus set up throughout Europe will be immense, and it seems scarcely possible that in the face of such a demand any great immediate reduction in price is possible, especially as it will be some time before a sufficient number of men can be released from the various armies to cope with the demand. We have also to bear in mind the huge super-demand that will arise when re-building operations are commenced in Belgium, France, Poland, and possibly in other countries devastated by the war. The needs of this nation will be immense, and as the trade in building materials is more or less international there can be no doubt that the competition for materials thus set up must raise the price

against British buyers It must not be forgotton also that there will arise a great need for additional freightage, and the demand for materials for ship construction must help to tighten the market and so inflate prices."

Industrial Self-Help The spirit of self-help is growing amongst us. A year ago, nobody would have admitted the possibility of turning out a practical machine gun in a New Zealand workshop, yet under the stress of national need the work has been done, and Petone railway shops are credited with ability to complete a similar weapon every week. We are naturally not publicly advised of everything our manufacturers are doing to meet the heavy requirements of the Defence Department, but a time will come when, without reserve, members of the National Cabinet will be able to give such testimony regarding the resourcefulness of Dominion manufacturers as will elevate secondary industries into a brighter plane than they have hitherto reached in a country thriving primarily upon the produce of the land. We are sorry the war came before our extraordinary fine resources in the way of hydro-electric power have been extensively harnessed, but enough has already been done to warrant useful service in this direction. The surplus electric power at Horohoro, in the North Island, and Lake Coleridge in the South Island, might be turned to account in the manufacture of certain essential elements in high explosives. Cheap and plentiful electricity is a leading factor, and we may yet see our own supplies turned to account. The admirable spirit of self-help has been so well displayed in connection with weapons and war equipment that we look with confidence to similar enterprise in meeting the awkward situation due to a restriction of many of our leading imported lines. If Parapara iron was now being marketed, instead of standing as the basis of a pigeon-holed project, there would be more satisfaction in the knowledge of our great resources in that respect. As the position is at present, the mountains of rich iron ore within a short distance of the Dominion's capital city, are, for purposes of utility, as remote as the South Pole.

Public Works Loan When conversions of maturing loans are taken into account, the Government's two million public works issue was subscribed to the extent of double its total. The subscriptions amounted to £3,374,745, and conversions account for the rest. The latter process goes on till the end of this month, and the response from the local investing public may still further heighten the fine result of the self-reliant policy adopted in regard to public works expenditure. As the Government's borrowing authority does not exceed two millions sterling, all the subscriptions cannot be allotted. The presumption is that the surplus will go promptly into the local loan market—we hope so, at any rate, because the country is being run at high pressure on its producing side, and in connection with many secondary industries, and money can be well placed in these directions. Many big investment concerns adopted a policy of go-slow, until the State's requirements were gauged. Now that the Finance Minister has no troubles about making ends meet for at least twelve months, we confidently look forward to an easing of financial conditions being reflected in increased building activity.

The Nobel Prizes T. A. Edison the prolific American genius, and Nikola Tesla, the Servian whose electrical discoveries have been epoch-making, share the Nobel prize for physics this year. The Nobel Foundation is based on the bequest of Dr. Alfred B. Nobel, the Swedish inventor who discovered dynamite. Part of his great fortune, a sum of £1,961,000 is set aside to provide five prizes annually of £8,160 each, awarded (1) for the most important discoveries or improvements in physics, (2) chemistry, (3) physiology or medicine, (4) for the most distinguished work of an idealistic tendency in the field of literature, and (5) for the best effort towards fraternity of nations and the promotion of peace by either a person or a society. It is out of the question to place the last award this year, but in reviewing prior awards from 1901, the date of the first, it is significant to note that while English, French, Belgian, Austrian, American, Swedish, and Dutch names figure in the list, not a solitary German was deemed worthy of the honour. It is doubtful if the world has ever seen inventive genius so diversified as that of Edison's. Automatic telegraph systems—the quadruplex system has been of incalculable importance in cheapening the cost and quickening the work of telegraphing—the phonograph—a brilliantly original idea—dynamo electric machines, incandescent electric lamps, electric traction have all been associated with Edison's quickening genius. As the outstanding example of perseverence in search of solutions of the world's practical problems, Edison is well ahead of any living man. He is a notable proof of the truth of the maxim: "Genius is an infinite capacity for taking pains."

Dominion Homes It is quite evident from the welcome given by press and public to our special issue containing plans of artistic dwellings that New Zealanders are thoroughly tired of the monotonous box-shaped fretwork ornamented type of house formerly the pride of suburbandom. Architects of course, have been persistent foes of the conventional type, but it has taken a long while to convince the builder and small investor that pretty houses are not necessarily inconvenient and expensive. Time was when any departure from the timber-mill catalogue in the matter of ornament was courting trouble and a big bill, but the public taste in architecture is happily disposed to reject highly elaborate fretwork and turnery in favour of broad effects which are inherent in the house design, and not "stuck on." The next development we hope to see is a more general use of brick and concrete in domestic architecture. Most builders are now quite familiar with the special problems associated with these materials, and if a thoroughly suitable design is prepared with a view to their use, the cost will run close enough to wood to make the use of concrete or brick worth while. The best test is a balance-sheet spread over a decade, or better still, the whole life of a wooden house. What with lessened depreciation, the saving in paint, and fire insurance, and an improvement in appearance as it weathers, the concrete house gets heavy credit in such a contrast.

The Architect—His Training and Knowledge

In his address to the members of the Canterbury Branch of the New Zealand Institute of Architects, the retiring Branch President, Mr. S. Hurst Seager, F.R.I.B.A., dealt with subjects affecting the architectural profession in a highly interesting manner. We reproduce the whole address.

The year now closing has been a very momentous one for our Institute. The work of the Architects' Registration Board appointed under the New Zealand Institute of Architects Act of 1913, has been completed It cannot be claimed that their work has given complete satisfaction—it could scarcely be expected that it would. For while many have been registered whom some of our fellow architects think should not have been, there are many more who wished to be registered whom the Board for various reasons had to refuse. There are others again who were refused by the Board who will be admitted by our Council. Whatever differences of opinion there may be on this question among members of this Branch, they will I trust not be allowed to interfere with the harmonious working together for the common good. All who are now registered will I am sure receive a warm welcome to our meetings, and many new members will I trust, take a very active part in our proceedings.

Institute Shirkers

There are unfortunately many members on our roll who have not once attended a meeting or taken any part whatever in the work of the Institute. This should not be. It should be realised that the work done by the Institute is done for the benefit of the whole profession and for the advancement of our art. It is not pleasing to reflect that while all are deriving benefit by the profession being placed on a proper footing, it is left for the few willing workers to bear the expense and burden of the task. Several of the members of this Branch have given their time both to the work in connection with the general affairs of the Institute, and to the educational work of our Branch. To these gentlemen our best thanks are due, but it should be regarded as a duty by all members to attend our meetings, take part in our discussions, and associate themselves with the work which has to be done.

The Regulations

From the geographical limitations under which we labour in New Zealand the greater part of the work has to be done in one centre. That centre is Wellington, and on the shoulders of the Wellington members of the Council therefore falls the greatest burden. How great the burden has been during the past year can be seen by the monument to their industry, care and thought—the Regulations—a copy of which has reached you all. It is true all the members of the Council in all centres have taken a share of it, but it is small in proportion to the amount of time expended on our behalf by our President, Mr. Chatfield, our able Secretary, Mr. Beauchamp-Platts and the willing helpers—members of the Council in Wellington to whom all suggestions had to be forwarded, and by whom the suggestions had to be collected, considered and reconsidered, and may be embodied in the completed work before you. This is the one foundation on which each one of us can help to rear the complete edifice. Systems and regulations however "fit and wise" are of no value unless we are all prepared to act under them in letter and in spirit, and it is only by the willing co-operation of us all that an "esprit-de-corps" may be created which shall raise and maintain the profession of architecture in its rightful place among the other learned professions in Science and Art.

Our Educational Ideals

The most important factor in the progress of our art is the education of our students and our younger members. We are all students, or we should be, for the complexity of problems embraced within the term architecture can never be fully solved even by the most studious—the most experienced. But for those who have not yet taken on themselves the responsibilities of professional practice we have organised a Students' Association, self-governed but associated with and assisted by many of our senior members under whose direction most gratifying results have been already achieved as the report stated and drawings on the walls of this room some of which have appeared in "Progress," very clearly show. The primary objects of our Association are "To afford facilities for the study of Civil Architecture," and "To advance the Profession." The latter object in our case is included in the first, for the only way in which the profession, as a whole, can be advanced is by the advancement of the individual towards a more perfect knowledge of his art, through earnest study of its principles, and their application to the services of man.

Our aim is to set before ourselves an ideal standard of architectural knowledge and professional honour and to assist each other to advance towards it by every means in our power. We, as members of this Association, do not set ourselves the task of maintaining that standard in the battle of professional practice. That is our work as members of the New Zealand Institute of Architects. The functions of the two bodies are quite distinct. It is the duty of those of us who practise our profession here to let our voices be heard in protest against any breach of professional etiquette or wrongful practice tending to lower our professional standard. But this is a duty outside the scope of our work as members of this Association. On meeting here we shall leave behind us the trials and cares which beset us in the practice of our arduous and responsible profession, and devote ourselves solely to the consideration of questions of educational value.

Our object is education in its true sense, the evolving, developing and cultivating of the various faculties necessary for professional excellence; those of us who have had more instruction or greater experience assisting those who are yet in the early stages of their architectural course. It is by a perfectly voluntary system of mutual help that our work is to be carried on, not by a set course of instruction. Thus it will be seen that our functions as members of the Association are distinct from those of a school or college. At these, definite information is given by the teacher or lecturer of which the student is expected to remember as much as possible and he who remembers the greater amount, as shown by the examination which follows, is accredited with being the most brilliant scholar. It is the aim of our Institute not only to provide and foster by monetary assistance or otherwise places of instruction, but we as members of the Students' Association, provide also a connecting link between the places of instruction where the knowledge is taken in, and the arena of active work where the knowledge acquired has to be made use of—to be given out.

Application of Knowledge

Between the power of acquiring knowledge and the power to make use of it, there is a very wide gulf, and the aptitude to apply the academic knowledge to the business of life is unfortunately not always held by those who have run a brilliant school or college course. It is found that the problems set them in the work of life are not to be solved by the answers they have prepared, and for want of the necessary special training many a clever youth has had to battle in the rank and file of his profession, who would, had he been properly equipped have been able to take a commanding position, to the advantage of both himself and his fellows.

For architecture this special training is obtained in England and the colonies by a system of pupilage. For the enthusiastic and talented student this method may answer well enough, but all are not endowed with sufficient energy and ability to enable them to succeed. No system of education is complete which is suitable only for the most clever of those who work under it. A perfect system is one that will efficiently provide the youth of ordinary intelligence and power of work with the minimum of knowledge and skill to make use of it that his calling will demand.

It has long been recognised that the system of pupilage—even when supplemented by attendance at a college course on architecture—is not sufficient to effect this and I trust that ere long our Institute will be successful in persuading one or other of our university colleges to establish a Chair in Architecture as has already been done for Engineering, Law, Medicine and Commerce. But this as I have said is not alone sufficient hence the formation of the Architectural Association in London and the gathering of its past students (of whom we have three in this room) and others, to endeavour to carry forward in this our adopted home the work it has so successfully accomplished. Let us consider as briefly as possible what that standard is—what meaning the word Architect should convey. As you know, in its original Greek sense it meant the "chief workman," and in those olden times when the architect or chief workman was surrounded by a band of highly-skilled helpers, all working in a style which was to them as a living language, his individual responsibilities were not as great as at the present day, when he is wholly responsible for every detail of work in all the branches of art and science comprised within a complicated modern structure.

The Architect of To-Day

Our architect of to-day must first and foremost be a man of perfect integrity and unimpeachable honour, generous-minded, and strictly just in all his dealings; his relations between client and contractor demand no less. He must be an artist—that is to say, his inventive faculty must be strongly developed; he must have the power to create fresh forms and combinations; to grasp clearly in his mind the general idea and all the details, both external and internal of any work he may be called upon to design. He must be able to arrange all the necessary accommodation in the most convenient way, and construct every part and every detail in accordance with the principles of science which govern them. All this to satisfy the demands of the utilities of the art comprised within the useful art of building. But architecture is both a useful and fine art. For in addition to providing for our bodily needs and the actual necessities of our existence, it takes rank beside the fine or beautiful arts of Sculpture, Painting, Music and Poetry, which minister to our higher being, appeal to our perception of what is beautiful, true and noble; give play to our imaginative faculties and raise us on a wave of pure emotion to higher and nobler thought and aspirations. At the present time it is but seldom that architects are called upon to create works of more than utilitarian interest. "In the crash of innovation and race for wealth," the poetry of our art is all but lost, and to find it we have to turn to those glorious works erected in the by-gone ages which still adorn the centres of ancient civilisation. A work need not be of great magnitude to be beautiful and true, and herein lies our hope, but if it is to create pleasurable emotions in any degree it must, without in any way affecting its utility, be based upon true principles of art. It must have an appearance of solidity, appropriateness, of harmony and proportion of masses; it must give pleasure by the disposition and contrast of light and shade, by variety of lines and purity of form in the contour or surfaces; by harmonious colouring and judicious ornamentation of the constructive features—then it becomes a work of fine art, and the one who created it an artist. For he has displayed thought and skill to satisfy the sense of beauty and thus given pleasure to others whilst satisfying his own material needs.

The Architect an Artist

It was necessary I should thus clearly define what I mean when I say an architect must be an artist. For our brother artists, the painters, having appropriated the word to indicate their calling—presumably that they may not be mistaken for house painters—an erroneous idea very generally prevails even among writers on the subject as to the true meaning of

the term. All who worthily practice the art in accordance with the principles of that art are artists —be they architects, sculptors, painters, musicans, writers or other art workers. In proof that they are generally not so regarded, the late Mr. Boehm, related that a lady once said to him, in a tone of great disappointment, "Mr. Boehm, I hear you are a sculptor, I thought you were an artist." I should not dwell upon this point to-night were it not for the fact that owing to the misuse of the word the great majority of people learn to consider that Art is drawing and painting, and that if they wish to be artistic it is these and these only which need engage their attention, and this false idea is fostered by so-called Art Galleries, being essentially picture galleries, Art Societies being Societies of Painters, and Art Schools principally places where one can learn to draw and paint. It is necessary to boldly lay claim to our right to earn for ourselves the title of artists by worthily and honourably practising the art of architecture as I have described it, and protest strongly against it being thought necessary, as an English writer lately affirmed, that we should attain at least some skill in the sister arts of sculpture or painting before that honourable position is allowed us.

We can advance our art but slowly unless the public help us by learning to recognise that architecture is a branch of art which, though subject to the same broad principles which govern all art productions is distinct from other branches of art in as much as it works under different conditions, adopts special methods and processes, is capable of expressing individual feeling which must be understood before the full influence of the work can be felt. A work of architecture can be a work of fine art though quite devoid of either sculpture or painting, but by itself it can carry no definite thought or idea—it can only create emotions as does music, and if our buildings are to speak to the people of to-day and in the ages to come, there must be a close union between our art and the phonetic or speaking arts of sculpture and painting, and the artists in each branch must understand each other's aims in order that they may work harmoniously together to produce the highest poetic expression of which the plastic arts are capable.

Though an architect as such, need not have sufficient skill with the pencil or brush to enable him to rank as a painter, he, nevertheless, must have sufficient power of draughtmanship to enable him to adequately express his ideas in order that they may be readily understood and faithfully carried out. He must be able to draw accurately and with precision any form as it appears to him, and be able to give a correct geometrical representation of it, so that every part of it can be measured, and the measurement transferred to the materials in which he wishes to build. It must be remembered that the aim of architecture is so to build that the work may be useful and beautiful, and that architectural drawings are simply a means to that end. Often, far too often, the drawings themselves are made the aim and end, and but little thought is bestowed upon the building represented. It is not realised how the various parts will compose, from the different points of view, what effect of light and shade the building will have; what the value of the various mouldings and projections; but all are too often considered simply as parts in the composition of a pretty picture on paper. This is not architecture, and with this our Association will, I trust, have nothing to do. The making of careful sketches of existing works, the designing and representing by means of accurate geometrical drawings, thoroughly useful and —as far as may be—beautiful buildings, and the drawing of perfectly truthful representations of them from accessible points of view will be encouraged as absolutely essential to our art.

In addition to being an artist, the architect is more fully than any other the servant of science. So many are the branches he must know something of, that it is necessary to steer between gaining that little knowledge—which is said to be a dangerous thing—and the spending of valuable time in accumulating that which is necessary to a thorough and comprehensive grasp of the subject.

The Surrounding Sciences

Those of us who aim at giving effect to the Biblical precept, "Whatsoever thy hand findeth to do, do with all thy might," would be, perhaps, but ill-content to only dabble in anything which is likely to help us in our work; but in our case architecture is the thing found to do, and we must consider all our studies in relation to our aim to be, as far as possible, perfect architects, and by this aim our bents and fancies must be kept in check. The fascination surrounding many of the sciences so great that there is an ever-present temptation to devote too much attention to them; they then become a hindance rather than a help towards the goal which we wish to reach. I hold the belief that a little knowledge is not dangerous if you recognise the fact that it is a little. We are then always interested in gaining more as opportunity occurs. The sciences an architect should know something of in addition to the school subjects are:—

Geology, that he may know the nature of various strata upon which he will have to erect his buildings, and the different kind of rocks with which he may have to construct them.

Inorganic Chemistry, without which he must remain ignorant of many important phenomena which largely affect the healthiness and stability of his works.

Sound, which provides him with guiding principles in arranging for the acoustic properties of rooms.

Heat, without which it is impossible to arrange a perfect system of ventilation, warming and cooling.

Hydrostatics, as necessary in designing any system of hot-water heating, water supply and drainage.

Mechanical and Graphical Statics, which enable him to tell the nature of the strains the different parts of a building have to bear, and the mode of calculating them.

Of all these an architect should know sufficient to enable him to intelligently read, and thoroughly understand any text-book on the subject, so that by reference to them, he may be able to solve any problem likely to occur in practice. This is a minimum which,

if his bent be towards the science of his profession, he will undoubtedly far exceed. But is should never be exceeded to the detriment of the artistic studies necessary to his perfect education.

Equally important is it that our ideal architect should have a thorough knowledge of all the useful arts and crafts which come under his direction. He must not only know the principles but must have a fairly complete knowledge of the methods by which these principles are applied. It is a matter of dispute how far it is necessary for an architect to gain practical skill in the crafts; my own opinion is, that if he is to be worthy of his position as chief workman, he must of necessity have at least sufficient practical skill to enable him to direct every operation the artisan has to undertake.

If our art is to advance from the eclecticism of to-day towards an artistic expression of our life and thought, there must be not only sympathy between all artists and scientists but also a closer union, as there was in olden times, between the architects who create the works and the artisans who execute them. The hand-workers must do more thinking and the brain-workers gain more practical knowledge, so that there may be a broad platform of common ground on which they can meet while diligently cultivating their special functions. The artisan should be able to respect the architect for his knowledge of their craft, for his greater knowledge of theory and principles, and his power to apply them in original works; while the architect should be able to respect the artisan for his greater technical skill, his intelligent interest and honest endeavours to carry out his work as faithfully and artistically as possible.

However long an architect may live and study, he must still remain ill-informed upon many important points occurring in the work of a skilful artisan. He should therefore always be a student willing to receive knowledge from that source, and remember that among those whom he directs there may often be some imbued with a strong individuality and power of artistic expression which should be respected and encouraged.

Our Association has and will, I hope, always extend a cordial welcome to any skilled in the useful arts who may wish to attend our monthly meetings, and be pleased if they at any time can help us by throwing more light upon the practical branches of study that we shall at times discuss.

War Service

All the educational facilities must be maintained even in these stirring war times when the call to arms is the call to which all who are able to serve should respond. Most of us are far beyond the age for active military service, but the call has been answered by seven of the members of the Canterbury Branch and its associated students. Mr. F. Harris and Mr. Anderson very early enlisted and are both unfortunately invalided home as a result of the strenuous work of training. We hope they will be thoroughly restored. A promising student, Mr. G. Cheekley, and Mr. H. St. A. Murray an associate, are now in training at Trentham while Mr. G. Lucas another of our associate members, is now at the front and Mr. L. D. Bestall who has taken a leading place among our students has enrolled for ambulance work, while to-night it is our privilege to bid goodbye to Mr. A. D. Reese who leaves for Trentham on Wednesday. Mr. Reese comes of a fine hardy stock who did good work here in the old pioneer days. Although his father and uncle were not called upon to fight they were of the stamp which makes most excellent resourceful soldiers. It is recorded of them and their companions that they carried their rowing boat over the hill from Christchurch to Lyttelton won their race and carried it victoriously back again. That is pluck and endurance for you; pluck and endurance which we know is inherited by their descendants. It is my pleasing duty to present to Mr. Reese on behalf of this Branch of the Institute of New Zealand Architects, a pocket camera as an earnest token of their appreciation of his merits and in hope that when his task and that of other members is fulfilled, he and they will return safely to us and help in the peaceful task of upholding the honour of the Institute as earnestly as they will we know, uphold the honour of New Zealand among those forces which are now desperately striving in order that the peace of the world may be assured.

Our 37th Competition

A Summer Cottage

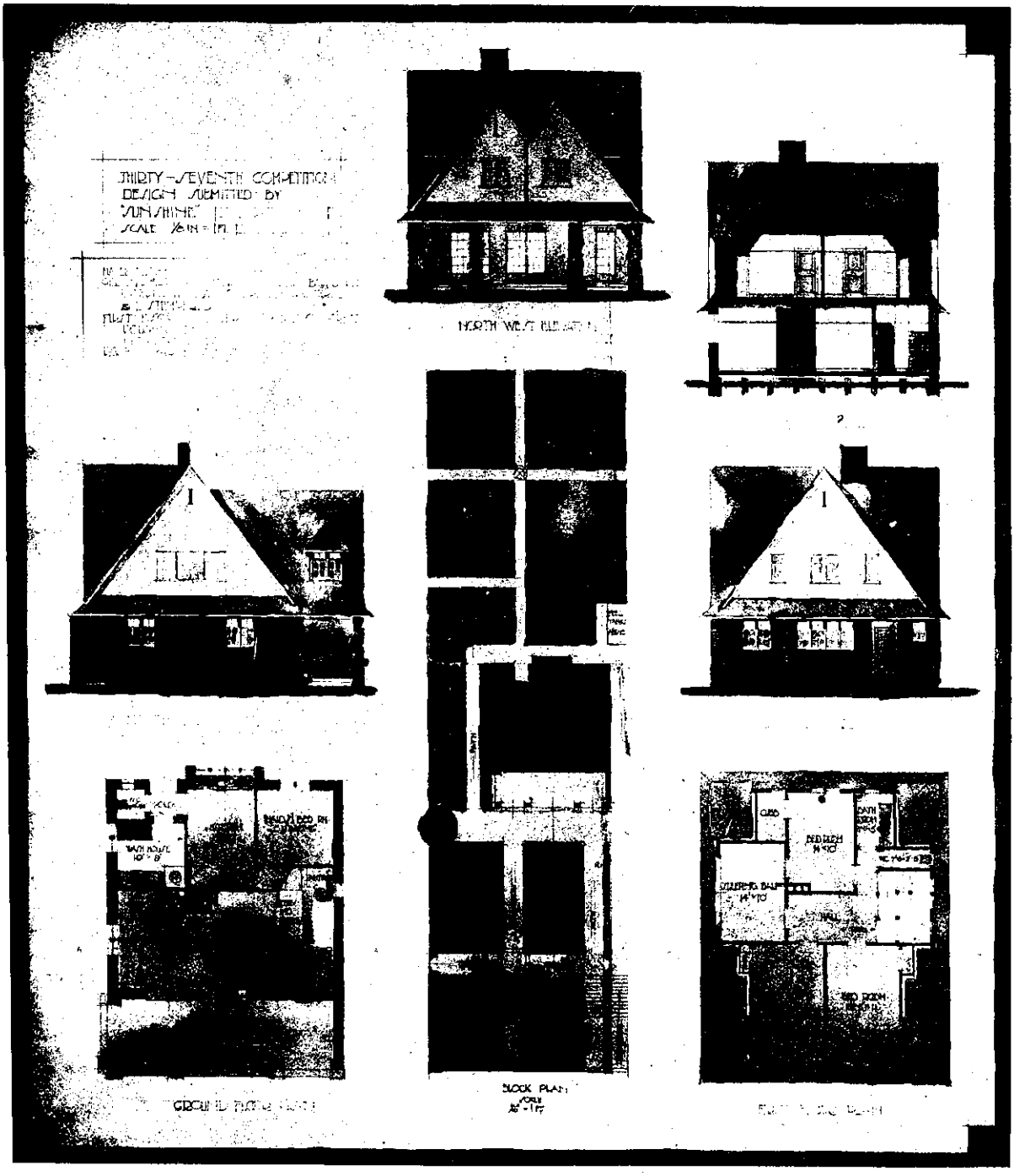
Won by E. C. Smith ("Sunshine") with Mr. H. Clinton Savage, Auckland

Nine designs were submitted in this competition, viz:—"Opus," by H. E. Goodwin, with Mr. T. H. Battle, Architect, Wanganui; "Pebble," by A. M. Ballantyne, Public Works Department, Wellington; "Clarence," by W. M. Lawry, with Messrs Hurst-Seager, F.R.I.B.A., and McLeod of Christchurch; "Ripple," by A. Ball, with Messrs Paynter and Hamilton, Christchurch; "Kiwi," by M. Ballantyne, with Mr. J. Charlesworth, Wellington; "Sunshine," by E. C. Smith, with Mr. H. Clinton Savage, Auckland; "Max," by Horace L. Massey, with Mr. R. K. Binney, Auckland; "Weary Willie," by William Potter, Auckland; "Domicile," by Tomy Spinks, with Wade and Wade, Auckland.

Mr. W. Gray Young of Wellington who kindly set this subject, reports as follows:—Nine designs were submitted in this competition and it is very pleasing to see the high standard of draughtsmanship and design attained by at least half the competitors. My object in setting this competition was to give some scope to the competitors' ingenuity in using the materials at hand, and most of the designs show that the authors realized this. When the cost is made one of the conditions of a competition it should be kept well in view, and one's artistic ideas should always be subservient to it. In this case the best design has lost first place through setting it aside.

"Sunshine": The rooms have been studied to obtain the maximum amount of sunlight and are all well placed. The living room faces in the right direction and has a wide verandah in front of it. "Sun-

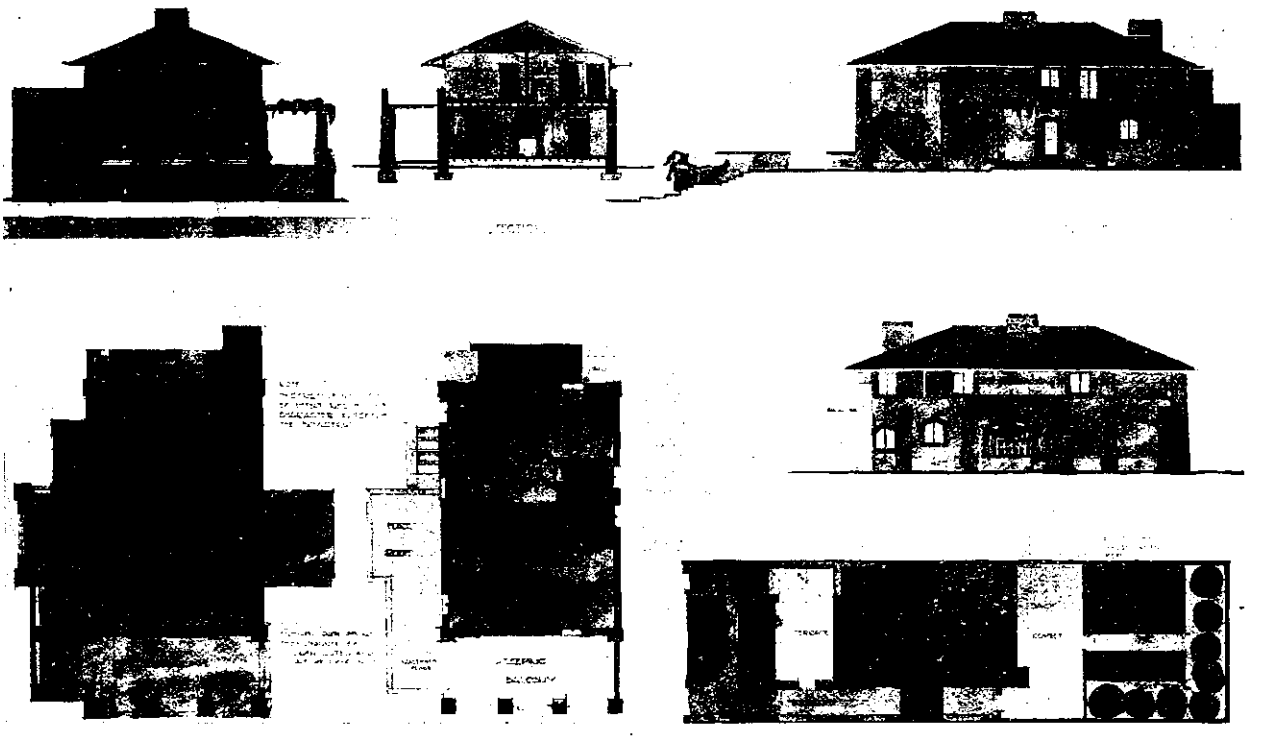
shine" has provided a large cupboard to the back bedroom and I suppose this is intended for the linen cupboard. It would have been much better if the it. The linen then is always "aired." For a house of this size a fireplace in a bedroom should have been provided. The elevations are quiet and restrained



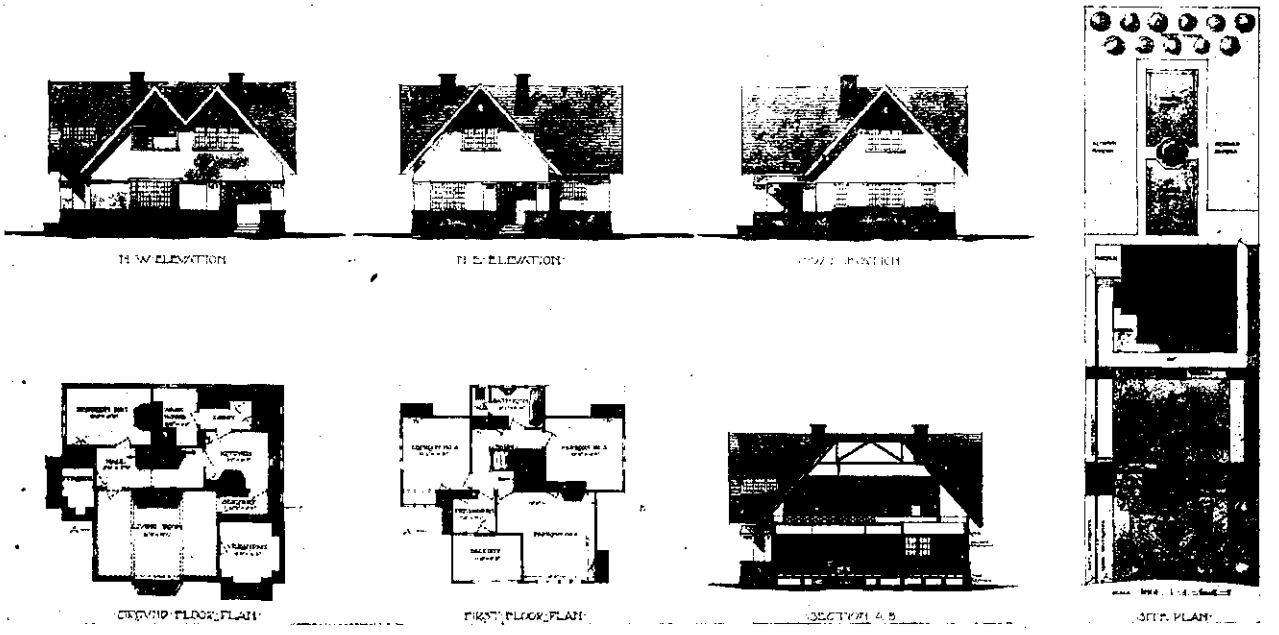
WINNING DESIGN IN 37TH STUDENTS' COMPETITION FOR A SUMMER COTTAGE, BY E. C. SMITH ("SUNSHINE,") WITH MR. H. CLINTON SAVAGE, AUCKLAND

space on the landing near the sleeping balcony had been reduced by half, and the linen press put in front of the kitchen chimney which is the ideal position for and would look most effective. The grounds are well thought out, especially the position near the wood. The draughtsmanship is very good.

"Max": This is undoubtedly the best scheme submitted but it could not be built for anything like £1,100. "Max" certainly understood the summer cottage plan and the only fault I have to find with it is that the bedroom windows are too small. The arrangement of the kitchen, scullery, pantry, etc., are excellent. Another good point in this design is the wide folding doors to the living room. Working



DESIGN PLACED 2ND IN OUR 37TH COMPETITION, BY HORACE L. MASSEY ("MAX"), WITH MR. R. K. BINNEY, AUCKLAND



DESIGN PLACED 3RD IN OUR 37TH COMPETITION BY W. M. LAWRY, WITH MESSRS. HURST SEAGER, F.R.I.B.A., AND MCLEOD, CHRISTCHURCH

a bathing shed into the basement is quite a good scheme. The elevations are bold and give good character to the design but why did "Max" spoil it by the water tanks? Surely they are anything but a thing of beauty? Why not have a tank in the roof supplied by a race placed in the stream at the side of the site? The garden plan is simple and would look well. The drawings are the most artistic of those submitted, and the impressionistic colouring is very effective.

"Clarence": The planning of the kitchen is not happy. There are too many doors near the range. The back lobby would be much better open to the air with the wash-house, w.c. and fuel opening off it. There is not enough verandah provided for a seaside cottage. The elevations show a good idea of design and the draughtsmanship is neat and clean.

"Pebble": The ground plan is good but the bedrooms opening off the sleeping balcony would not obtain enough sunlight. The elevations are spoilt by the broken-backed roof. The drawings are well executed. The garden plan is poor compared with the preceding designs.

"Weary Willie": The living room is placed the wrong way and should have had the length to the front. The fireplace end of the room would be very dark. The exterior design is fair but the garden plan is well conceived. The draughtmanship is good although it is spoiled by the muddy colouring.

"Ripple" has not taken advantage of the materials at his disposal and has designed a wood house with concrete foundations. The plans are good but there is not enough verandah and balcony accommodation.

"Kiwi": The plans and elevations are fairly good but do not show much originality. The drawings would have looked better if the lettering was smaller.

"Domicile" is too much like a town house, and advantage has not been taken fully of the materials. The colouring is much too heavy.

"Opus" is a builder's design and plan is very commonplace. "Opus" would do well to study the design and draughtsmanship of the work illustrated in some of the professional magazines.

W. GRAY YOUNG.

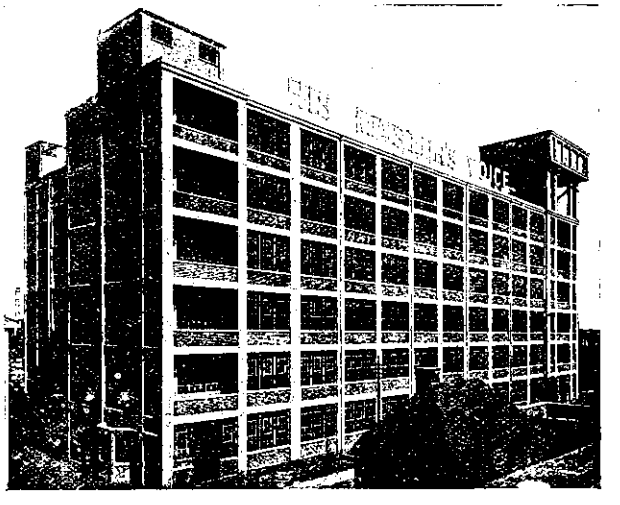
Competition for Art Gallery

The Borough Council of Wanganui are calling for Competitive Designs for an Art Gallery proposed to be erected under the Sarjeant Trust. They have appointed Mr. S. Hurst Seager, F.R.I.B.A., F.N.Z.I.A. as Assessor. The conditions can be seen at the office of this paper, and copies may be obtained from the Town Clerk, Wanganui.

Re-Inforced Concrete

**The Kahn Trussed Concrete Steel System—
A Chat with the N.Z. Engineer—
Some Educative Points.**

When the Trussed Concrete Steel Company of London and Manchester determined to send out to New Zealand a highly skilled constructional engineer to forward its interests, valuable service was done to the prospective building-owners of the Dominion. Every kind of building material requires long study to get best results, and reinforced concrete certainly calls for skilled attention. Our architects and engineers are not behindhand in their knowledge of developments, but they will welcome the advice of a specialist such as Mr. Arthur E. Evans, who is the engineering representative in New Zealand of the Trussed Concrete Steel Company for whom Messrs John Chambers and Son are New Zealand agents.



MODEL FACTORY BUILT AT HAYES, MIDDLESEX, ENG., ON THE KAHN TRUSSED CONCRETE STEEL SYSTEM

After a trip through the South Island, Mr. Evans has established his central office in Equitable Building, Lambton Quay, Wellington, where one can find a technical library most of us will envy. His first impressions of the country, from the view-point of a concrete expert, were worth having, and the "Progress" interviewer found that he believes a lot of educative work has to be done in the Dominion in connection with the use of reinforced concrete building material.

"I was glad to come across so many Southern architects who were keen about the use of reinforced concrete" said the engineer. "They are looking for good opportunities of using it where its economy and efficiency can be well demonstrated. The building public require to be educated a good deal, however, in the use and advantages of concrete. 'Progress,' I note, has consistently reminded its readers of the advantages, and I would like to follow up the good work by stressing the need for paying more atten-

tion to scientific proportioning of the concrete mixture. It is thus possible to get higher stresses out of the material with very little increase in cost and superintendence. Our practice in England was never to do a job without ascertaining the percentage of "voids" in the material. If you get a stone or gravel aggregate, say threequarters down to a quarter, there is a certain percentage of voids which you fill up with sand. If you do not accurately ascertain the percentage, you either overload the mixture with sand, or you put in too little both courses tending to reduce the density and consequently the strength of the resulting concrete. Then, in turn, there are voids in the sand, which you fill with cement, an excess of which increases the strength but not in proportion to the increase in cost. The percentage of voids in the materal must be accurately determined if a proper mixture, strong and economical, is to be secured.

The prospects of concrete as a New Zealand building material? I can safely say 'excellent' to that question! Timaru I found to be an ideal district, and there is good shingle right through the Canterbury Plain. Steel in New Zealand costs more than in England, of course, and cement—though it is made here in an efficient way—bears a price which astonishes me, but in a heavy item like centering, the New Zealand constructor has an advantage in cheap timber for that class of work which to some extent sets off the disadvantages I have noted. Roughly speaking, reinforced concrete can be done about twenty per cent. cheaper in England than in New Zealand. Fortunately, from my viewpoint as a specialist in concrete, final materials are in a similar position, and I look forward with confidence to submitting estimates of construction on the Kahn system in competition with the ordinary materials."

Nowadays, when we are all so nervous about unfamiliar names, it is just as well to explain that the company which utilizes the Kahn system was incorporated in March, 1907, and its affairs are under the administration of a directorate consisting of Mr. Frank May (Chairman), Mr. M. Kahn (Managing Director), Mr. E. C. Hannen, and Mr. Benjamin Hannen. No German or Austrian capital whatever, and no person of German or Austrian nationality, is connected with or in any way interested in this Company. Twenty-seven "Kahn System" men are at the present time on active service with His Majesty's Forces in the European War, one being a Captain in the Canadian Field Artillery, another a Lieutenant in the Canadian Engineers, and a third on the Staff; while twenty-four are serving as non-commissioned officers and privates.

One of the interesting things in Mr. Evans' office, in addition to the library already mentioned with a feeling of envy, is a specimen of Roman concrete so hard that it will scratch glass. "Will our concrete of to-day ever reach that stage of perfection?" mused the "Progress" interviewer as he tried the glass-cutting experiment.

"We won't know until it has lasted as long as this bit of old Roman pavement" replied Mr. Evans. "A pity the Romans did not leave us some test sheets!"

Mr. Davidge's Australasian Impressions

Rectangular Plans and Town Belt

The Chairman of the Executive of the Garden Cities and Town Planning Association, Mr. W. R. Davidge, is contributing to the Journal of the Royal Institute of British Architects his impressions of Australian and New Zealand towns. The comments published so far relate to Australian cities, but they have so direct an application to New Zealand conditions that we must quote some of the points. Mr. Davidge is of opinion that the three main principles governing colonial town planning in the past have been: First, that the land should be expeditiously surveyed; second that the town plan should be even more expeditiously designed; and third, that the plots should be most expeditiously pegged out and disposed of.

Town belts, which Wellington and Christchurch enjoy, are noted approvingly. Mr. Davidge reminds us that in 1834 Parliament passed an Act establishing the colony of South Australia under a board of eight Commissioners, and in 1836 the first eight vessels arrived with immigrants. Colonel William Light was appointed Surveyor-General for the province of South Australia, with full power from the Commissioners to establish the city in such position as he thought best. There were many difficulties in fixing the location of a new township in a broad, flat country some miles from the sea, and Colonel Light had much opposition to encounter; but eventually Light selected the site of the new city and prepared the plan.

The outstanding feature of the Adelaide plan is, of course, the belt of park lands surrounding the city. Whether this feature was due to Colonel Light or to Wakefield, it is difficult to say, but, adds the writer in view of the fact that many of the cities laid out by the New Zealand Land Co. were provided with this open "town belt," it is probably due to Wakefield. A note on Light's first plan, however, states: "The dark green round the town I proposed to the Resident Commissioner to be reserved as park grounds." The regular rectangular plan of the city itself, as prepared by Colonel Light, was largely due to the fact that some hundreds of colonists were clamouring for sites, and it was necessary to survey and set them out without delay. Probably a canvas town was erected immediately.

Rectangular Plans

Mr. Davidge declares that the failure of the rectangular plan is very strongly marked wherever it occurs in towns built on undulating or hilly country. In some of the suburbs of Brisbane, for instance, the road grades are almost as much as 1 in 3. This sort of road planning savours more of the estate agent than of the engineer, and the architect has hardly even been thought of. Commanding sites, eminently suitable for an important public building, are ruled over in straight lines and long straight rows of corrugated iron roofs struggling over hill and valley testify to the need of a more scientific as well as a more artistic mode of town development.

Many of the smaller towns of Australia on the rectangular block plan are admirable in the way in which they have been laid out. Albury and Bathurst in New South Wales, Ballarat in Victoria, and others are especially noteworthy in the foresight which the town authorities have shown in the acquirement of open spaces and tree planting. For a town of limited size there are very few objections and many conveniences in the rectangular plan, and one can well understand how this plan arose in practically every case where a township had to be established in a limited time. Many of the early settlements were planned within a rectangle a mile square, or in some cases a mile wide and slightly greater length.

From the traffic point of view the practical objections to the rectangular block system, in addition to the extra distance traversed, is that, in the absence of any definite main road, all roads are alike, and motor or other fast traffic has to take serious risks at every corner. Modern Melbourne has many fine buildings, but its plan remains that laid down by its founders seventy years ago, modified only by part of its plan being tilted into north and south lines for the convenience of the land surveyor. Additional radial routes will undoubtedly be needed in the near future, if the traffic is to be properly distributed and the present system of slow, jog-trot cable trams will inevitably give place to swifter means of progression in all directions.

NORTH AND SOUTH LAY-OUT

The earlier practice of laying out the main streets as far as possible at right angles to the general direction of the river or harbour on which the settlement was formed gives way almost everywhere in the later plans of development in favour of the easily set out north and south meridians. It has been urged that this north and south arrangement of streets gives the maximum of sunlight to each street, but this is open to considerable argument, and it is evident that the east and west street should on this theory be made considerably wider.

There are, however, in the smaller towns of Australia several notable exceptions to this rule, in which the general axis line of the town is as nearly as possible inclined to 45 degrees, that is on a line from south-west to north-east, and such an arrangement undoubtedly gives a more equable distribution of sunlight and shade.

N.Z. Institute of Architects

Canterbury Branch

The Canterbury Branch of the N.Z.I.A. during the past twelve months held six meetings.

The membership according to the annual report, now stands at eleven Fellows and twenty-three Associates, exclusive of Timaru and Westland, where there are four Fellows and seven Associates. The ninth Annual Conference of the Institute was held in the Chamber of Commerce Hall on November 26th and 27th of last year. Delegates from the various centres were present and this Branch was represented by Messrs. S. Hurst Seager, President, C. J. Mountfort, Vice-President, W. A. P. Clarkson and G. A. J. Hart, Councillors.

An event of interest, to members of the Branch, was the opening of the Meeting Room in the A.M.P. Buildings and the formation of a Students' Association. The room has been furnished and supplied with current building magazines and it is hoped that visiting members and students will avail themselves of the opportunity to make whatever use of the room they desire.

The thanks of the Branch are due to Messrs. S. Hurst Seager, W. A. P. Clarkson, G. Penlington, W. F. Robinson, A. D. Reese and G. A. J. Hart for donations of framed photographs, drawings, books, magazines and blackboard. Further donations have been promised and it is anticipated that in the near future the nucleus of a good architectural reference library will be established. During the year monthly meetings have been inaugurated with a view of promoting discussion and suggesting improvements for the betterment of the profession. The Students' Association has held monthly competitions among its members and the standard of work has already shown a decided improvement.

The balance sheet shows that £74 1s. 11d. was brought forward from the previous year, making with subscriptions for 1915 (£18 18s.) and other items a total of £101 9s. 2d. On the expenditure side appear £3 3s. donation to School of Art, £37 4s. 7d. spent upon the entertainment of visitors during the Conference, the credit balance at the bank being £44 2s. 2d.

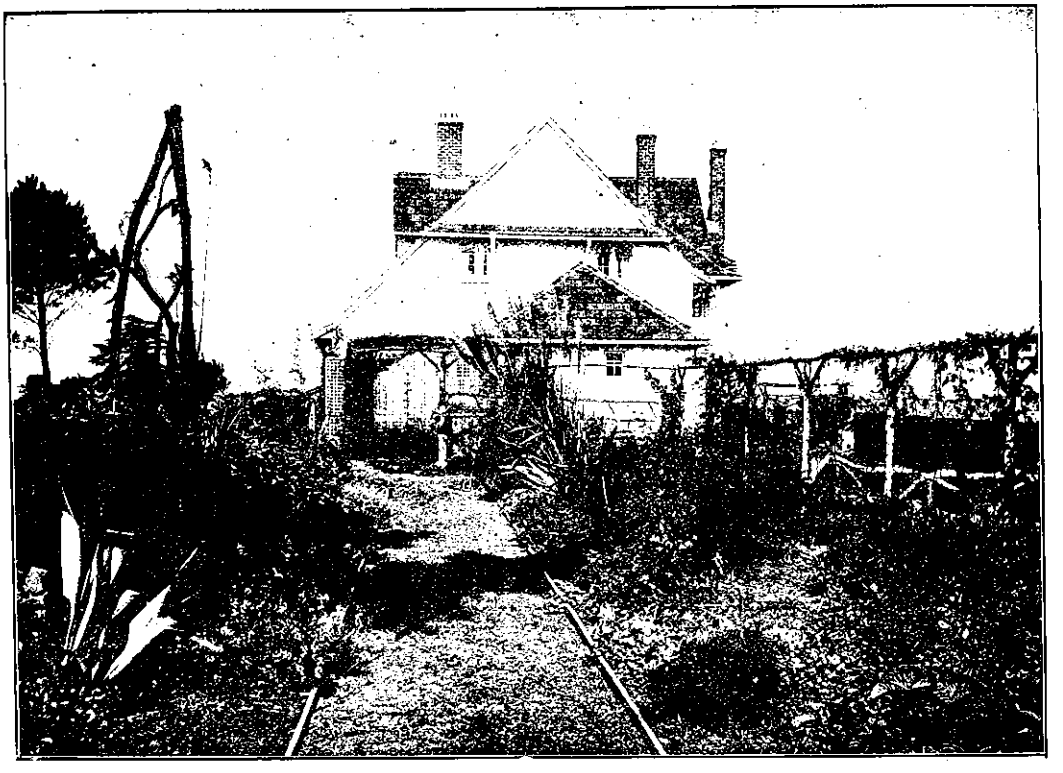
Christchurch Architectural Students' Association

The annual report of the Committee of the Christchurch Architectural Students' Association for the Session ending October 30th 1915 states that at a meeting of students' held on February 27th 1915, it was decided to form an Association for the advancement of the study and interests of Architecture; the subscription for members being 5/- per annum and for hon. mmebers 2/6 per annum.

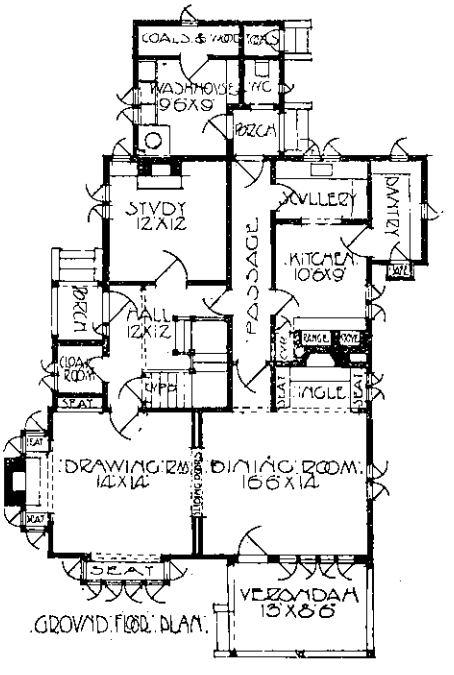
OFFICERS.—The following were elected to the Committee:—Messrs G. Checkley, Hon.-Secretary; L. D. Bestall, Librarian; H. Helmore; A. Postgate; Hon. Secretary for Design, Mr. R. S. D. Harman. At present the Association consists of eleven members and eight hon.-members.

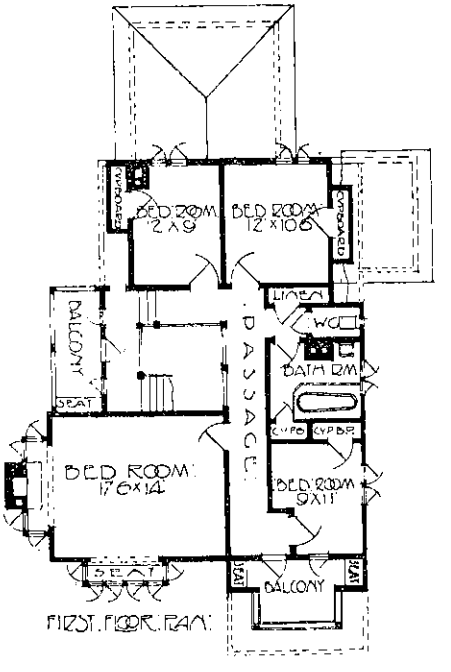
It was decided to hold meetings on the fourth Saturday in each month in the room kindly handed over by the local branch of the New Zealand Institute of Architects, the Session lasing from February to October in each year. At these meetings addresses have been given by architects and gentlemen interested in the profession. Monthly competitions have also been held, consisting of small design subjects, these being set and afterwards criticised by the visiting architect. At the second meeting of the Association Mr. R. Herdman Smith F.S.A.M., Director of the Christchurch School of Art, gave an interesting lecture on pencil sketching for Architects, which was very much appreciated by all present.

A £1500 House



HOUSE BUILT AT BAYSWATER, AUCKLAND.





This house is built on a 9in. brick base. Outer frames oregon, lathed and coated with one inch of roughcast, lime-washed white. Roofed with Marseilles tiles. Principal rooms panelled with oregon. Kitchen and scullery matched lined, and all bedrooms papered.

Architect: Mr. Gerald E. Jones, Lic. R.I.B.A. Auckland.

Reproduced from "Dominion Homes". Price 1/1, post free.

During the year seven Design Subjects were set by the following gentlemen:—Messrs G. A. J. Hart, "Summer House"; W. V. Wilson, "Garden Bridge"; M. K. Macleod, "Lych Gate"; W. F. Robinson, "Motor House"; A. D. Reese, "Boat House"; G. Penlington, "Carriage Gates"; W. A. P. Clarkson, "Alterations to Cottage." A fine response has been made to all these competitions by the members, and the adjudicators have expressed pleasure at the quality of the work and the progress made. Aesthetic design, neat draughtmanship, and sound construction have been the point which the assessors have laid great stress upon.

Shortly after the Session commenced Mr. H. G. Helmore was appointed A.D.C. to His Excellency the Governor and consequently had to resign his position. Mr. G. W. Haines was elected to the committee in his place. During September Mr. G. Checkley left for the front, and during his absence Mr. W. M. Lawry has been appointed Hon. Secretary. The Librarian wishes to take this opportunity to thank Messrs. S. Hurst Seager, R. Herdman Smith, and A. D. Reese for contributions to the library, also Mr. W. F. Robinson for a magazine. The committee gratefully acknowledge the support and interest shown by several members of the Institute, who have done much to make the meetings successful and instructive.

Architects' Institute and the Student

Criticism Answered—Who Founded the Students' Association?

Sir:—In your issue of September on page 417, under your article on the Auckland Architectural Students' Association, you state—"We have always considered that the New Zealand Institute of Architects ought to have classes and other means of helping the architectural students here but we have never heard of any sustained effort being made by that body for benefitting the budding architects. Indeed we are forced to the conclusion that the Institute exists for the benefit of architects rather than architecture," and you continue with some further erroneous and unjust diatribes.

Surely sir, you could praise, and justly praise the good work done by the Auckland Students without making it an opportunity for abuse of the Institute. No good purpose is thus served. You should have known that the Institute has devoted very considerable time and thought to the question of architectural education. The education of students is in fact regarded by all as the most important work to be done. It is in the forefront of our constitution. The first clause reads "(a) To make provision for the training, education, examination, and registration of persons practising or intending to practice the profession of architecture in New Zealand."

This object can be best accomplished by encouraging the formation of Students' Associations as in Auckland. You write as if you thought the members of our Institute had nothing to do with the Students' Association, yet in the photo you publish there are three of our members to whose guidance and to those of others the success achieved is unquestionably due. I do not know the constitution of the Auckland Association, but I presume it is based on the parent association the Architectural Association of London; at any rate I know, and you should have known, that the Christchurch Association follows those lines and that the senior members of our Institute here are responsible for the formation of the Christchurch Architectural Students' Association and give much time to the work of the classes and to the encouragement and support of the complete course of architectural training given at the Canterbury College School of Art. The Institute as such, is not a teaching body (as is the R.I.B.A.) and it has laid down fully on pages 11 and 12 of our regulations the courses students are expected to follow, and the examinations which must be passed to qualify for membership. You will find but a very small proportion of the members of our Institute who do not take a keen interest in the education of our students, and enquiries will enable you to discover that a large number are giving their services fully and freely to that end.

I am, etc.,
S. HURST SEAGER.

Christchurch, October 22nd.

[Nothing was further from our thoughts than to abuse the Institute, but at the same time our contributor considered himself justified in making the statement to which Mr. Seager takes exception. He had evidently forgotten for the moment that there was a Students' Association in Christchurch, but the fact that there is a Students' Association in Auckland and one in Christchurch does not affect the contention, inasmuch as these Associations are not promoted by the Institute. We believe we are right in saying that the gentleman who was chiefly responsible for the formation of the Auckland Association was not, at the time, a member of the Institute. Since then every architect has been forced to become identified with the Institute and in our opinion, it would be as reasonable to give credit to the Institute in connection with the series of competitions which this journal has promoted, as to claim that these Students' Associations were conceived and formed under the auspices of the Institute. It is true that a few architects, as individuals, take an interest in the students, but so far, at any rate as the Auckland Association is concerned, the institute had nothing whatever to do with them. No doubt "the education of the students is in the forefront of the Institute's Constitution," and that provision is made—in the constitution—"for the training, education, examination, and registration" of students and architects. It is only right that such provision should be made, especially for the training and education of the students, but, in spite of all that Mr. Seager says, we are still of the opinion that no sustained effort has been made by the Institute for the benefit of the students. The Institute has been in existence for many years! The Students' Association we never heard of till the Auckland one was formed only recently! "Progress" will always be glad to support any movement for the benefit of the students, and its criticism on the present occason was made with this end in view.]

Concrete Telegraph Poles

Timber as a Competitor—New Zealand's Experience—Concrete Scores in Durability and Maintenance.

The use of concrete for telegraph poles is a well established engineering practice, and the New Zealand Post and Telegraph Department has adopted the material for some of its lines. We recently made inquiries of the Department to ascertain the results of its experience. It is using a patented method of manufacture, and we are therefore unable to go into that aspect. However, some notes on the use of concrete in the Department's work have been placed at our disposal, from which it seems that there are four important advantages of reinforced concrete poles. First there is the question of durability, their freedom from rot at the ground line, which is one of the principal defects in wooden poles. Their non-inflammability is important in bush and scrub countries such as New Zealand, where wooden poles are liable to destruction by fire. The telegraphic communication between the North Island and most places in the South Island was almost suspended for two days not long ago in consequence of damage done to the telegraph lines in the neighbourhood of Kaikoura by a bush fire. No doubt concrete poles would have stood the test, and even if the wires had been smashed by falling branches, the reconstruction work would have been materially lessened.

Concrete poles, in the Department's opinion, give an increasing factor of safety within certain limits, whereas wood has a decreasing factor due to deterioration during useful life. Low maintenance cost is also an advantage. Concrete poles do not require the same strutting and reinforcing, etc., as age increases, due to deterioration at ground line, etc.

On the other hand, there are disadvantages associated with the material which, in a timber-growing country like New Zealand, will delay the complete adoption of concrete for telegraph poles. The weight of concrete poles increases handling and erection charges. They are less flexible than lighter poles for use in developing districts. Wood, being lighter and handling charges consequently lower, may be replaced by taller or stouter poles when desirable, without incurring such heavy costs. The breaking weight of concrete poles is less than that of hardwoods, etc., of similar dimensions.

CONCRETE POLES ON THE LOWER HUTT-MASTERTON TELEGRAPH LINE

SUBSCRIPTION ORDER

191

MANAGER:
Messrs HARRY H. TOMBS LTD.,
8, Farish Street,
WELLINGTON.

DEAR SIR,

Kindly add my name to your list of subscribers to "Progress," for which I enclose postal notes amounting to 6/6, covering subscription for twelve months.

Yours faithfully,

Name...

Address ...

New Zealand and Australian timbers have a greatly increased life over those used for poles in America and the United Kingdom, hence their general abandonment in favour of concrete is unlikely while the supply continues.

The principal direction for improvement in concrete poles is in the matter of dead weight, by the use of hollow core construction while retaining transverse strength. "The Electrical World" in discussing the relative advantages of concrete over wood for telegraph poles, comes to the conclusion that when ultimate costs are considered, the concrete pole, with its greater strength and lower maintenance cost as

BENDING TEST OF CONCRETE POLES

Thirty-feet pole. Load 1,200 lbs. at 25 feet from ground. Deflection 23 inches.

compared with either wood or steel, appears to be the logical successor of the wooden pole. An essential feature intimately connected with the use of concrete poles is that they should be designed as carefully and even more conservatively than steel poles would be. Concrete poles have been built, which after a short time in service developed unsightly cracks, and which under tests proved to have considerably less strength than wooden poles of the same size. The knowledge which a series of tests would give us to show how closely the behaviour of concrete poles agreed with their theoretical behaviour would be of extreme value, for the strength depends not only upon the materials, but also upon the care with which they are placed in position. In this connection it is of interest to know that one of the American Eastern railroad companies is now conducting a series of tests on concrete poles of various types and designs, with the idea of replacing some of the wooden telegraph poles along its right-of-way with concrete.

The relative merits of building poles at the site as compared with constructing them in a well-equipped central plant will depend, of course, upon conditions varying with each location and upon the number required. When the poles are built at the site there is a choice between constructing them flat on the ground or vertically in place. In a hollow pole, in which the reinforcing rods with their accompanying bands or rings take up a large proportion of the comparatively thin concrete shell, the difficulty in pouring concrete into the top of the vertical form, without causing objectionable voids and a possible separation of the stone from the cement, becomes considerable. It is a question whether even the use of very fine stone and a very wet mixture will reduce this difficulty sufficiently to warrant making hollow poles vertically.

The New Zealand Post and Telegraph Department has chosen a very suitable district for its principal experiment with concrete poles. They are manufactured near Lower Hutt, alongside the Hutt River, from which an ample supply of good shingle and sand is available. The poles are being used on the reconstruction of the telegraph line through Hutt Valley to Masterton. One of our illustrations shows a part of the completed line, at Lower Hutt, and the other a bending test of the class of concrete pole used in its construction.

"The Navy"

The official journal of the Navy League is particularly interesting during these stirring times when members of great organisation must thrill with pride at the results of its persistent efforts to keep the British Navy in a position of clear supremacy. This involved much hard work and agitation in peace time; now nobody differs from the enthusiastic Navy Leaguers, and their numbers should increase as a guarantee that a sound far-seeing policy should always be applied to that great arm of our Empire's defence. "The Navy" in its recent numbers, gives vivid glimpses of the fleet's great work, and the splendid spirit of the men who, without the stimulous of cheering crowds, have kept faithful watch over our safety. We commend "The Navy" to everyone who likes heartening and useful reading, and the Navy League to every thoughful imperialist in New Zealand.

Loss of Power

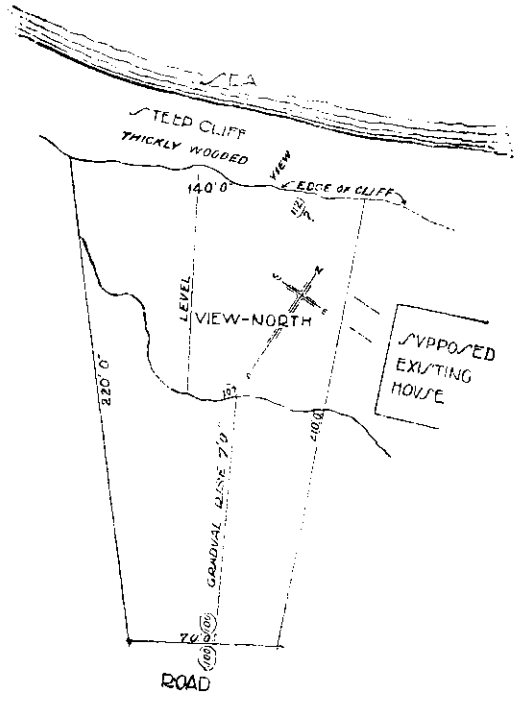
A word to the wise. If your engine appears to have lost power, do not assume that it is necessarily due to that piece of mechanism itself but jack up the back wheels, and see whether the brakes are binding at all. The result, perhaps, will be surprising.

Our 39th Competition—*continued from p. 463*

NOTE: The planning is to be as simple and as convenient as possible, suitable for a summer residence, taking into consideration that the house will be closed up for six months in the year.

MATERIALS: Red brick, rough cast and weatherboarding may be worked into the design. Roof to be tiled.

Mr. R. K. Binney, Architect of Auckland, has kindly set this subject.



Designs must be sent in, finished as above, under a nom-de-plume, addressed to **Progress,** 8 Farish Street Wellington, and marked clearly, "Thirty-ninth Prize Competition" on outside with a covering letter giving competitor's name, and address of employer. Designs to be sent in by December 14th.

To Architects

The Sarjeant Art Gallery, Wanganui, New Zealand

Competitive designs are required for the above building. Conditions can be seen at the office of this paper and obtained from—

G. MURCH,
Town Clerk.

Wanganui, N.Z.

Dominion of (Arms) New Zealand

WAR CENSUS

By proclamation issued under the National Registration Act, 1915, **Every Male** resident of New Zealand between the ages of 17 and 60, is required to register **not later than Tuesday, 9th November, 1915.** Schedules for registration are obtainable at all Post Offices throughout the Dominion. For the convenience of the Public the Offices of Registrars of Births, Deaths and Marriages in the four chief centres will be open continuously (Sundays excepted) from 9 a.m. to 9 p.m. during the registration period (26th October to 9th November, 1915) for the purpose of affording assistance in the filling up of the schedules to any persons desiring it. It has also been arranged that Postal Officers at Post Offices throughout the Dominion, during ordinary office hours, will also on application help any persons desirous of assistance in filling up the schedules. The obligation to register is a personal one. The fact that a form has not been addressed to or received by any person does not absolve him from responsibility to register. Any person liable to register who refuses, fails, or neglects to do so will be prosecuted.

(By order),
MALCOLM FRASER,
Government Statistician.

Wellington,
21st October, 1915.

Public Notice

The Proprietors (Vandervell & Midgley) of Letters Patent of New Zealand No. 30588 for an invention relating to variable speed self-regulating dynamo electric machines, are desirous of disposing of the said Letters Patent or of granting licenses thereunder, in order that the invention may be carried out in New Zealand.

For particulars address—

BALDWIN & RAYWARD,
Patent Attorneys,
Wellington, Auckland, Christchurch or Dunedin.

Public Notice

The Proprietor (A. J. A. Ottesen) of Letters Patent of New Zealand No. 32352 for an invention relating to a method of freezing or refrigerating easily damaged food commodities, is desirous of disposing of the said Letters Patent or of granting licenses thereunder, in order that the invention may be carried out in New Zealand.

For particulars address—

BALDWIN & RAYWARD,
Patent Attorneys,
Wellington, Auckland, Christchurch or Dunedin

PROFESSIONAL DIRECTORY

John T. Mair, *A.R.I.B.A.,*
and Certificate in Architecture, University of Pennsylvania, U.S.A.
Architect
16 Stock Exchange
Wellington
And Structural Engineer

P. H. Graham, *F.N.Z.I.A.,*
Architect
Lowe Street,
Gisborne

Tel. 1547 Wellington *Tel. 4304 Auckland*

Hoggard & Prouse & W. H. Gummer, *A.R.I.B.A.*
Architects
Hunter Street, *Safe Deposit Buildings*
Wellington *Auckland*

'Phone 132 *Private 'Phone 787*

E. A. Williams, *A.N.Z.I.A. (Registered)*
Architect
Tennyson Street,
Napier

Telephone 3193

Robb and Page
Architects
Royal Exchange Buildings,
115, Custom House Quay,
Wellington.

P.O. Box 6 *Telephone 610*

Leopold J. Atkinson
Architect
Hallenstein's Buildings
Wanganui

Central Telephone 1857 *Onehunga Telephone 54*

A. McColl
Timber Merchant, Onehunga, Auckland

All varieties of the standard and secondary native timbers in stock.

Telephone 288

T. H. Battle,
Architect
33 Victoria Avenue
(next Post Office), Wanganui

Tonga Bay Granite supplied in any quantity
Prices on application

J. and A. Wilson, Limited
Builders and Contractors
6 Buckle Street,
Wellington

Telephone 1390

C. Tilleard Natusch & Sons,
Architects and Civil Engineers
Wellington (Ballance St.)
Palmerston North
Napier and Hastings

PROFESSIONAL DIRECTORY

Telephone 4026

John Routly,
Architect

Swanson Street,
Auckland

Telephone 1797

John Currie,
F.N.Z.I.A.,
Architect

Queen Street,
Auckland

J. Park,
F.N.Z.I.A.,
Architect

Queen Street,
Onehunga, Auckland

Telephone 1849

John M. Walker,
F.N.Z.I.A.,
Architect and Building Surveyor

His Majesty's Arcade,
Auckland

England Bros.,
Architects

Somerset Buildings
156 Hereford Street *Telephone 644*
Christchurch *P.O. Box 467*

J. Ball,
A.N.Z.I.A.
Architect

Havelock North
Hawke's Bay

Telephone 3534

Leslie D. Coombs,
A.R.I.B.A.,
Architect

Corner of Octagon & Stuart St.,
Dunedin

Telephone 510

David E. Hutton,
N.B.A.
Architect

Studio,
Vivian Street,
New Plymouth

E. W. Walden
Architect

Dowling Street,
Dunedin

Telephone No. 4

Arthur R. Dawson,
A.N.Z.I.A.,
Architect

70 Esk Street,
Invercargill.

Printed by the Proprietors, HARRY H. TOMBS, LTD., at their Registered Printing Works, 8 Farish Street, Wellington, November, 1915.