

PAGES

MISSING

The Canadian Architect and Builder

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EDITOR.

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ILLUSTRATIONS ON SHEETS.

House for Mr. Robert Wightman, B. A., Toronto; Messrs. Gordon and Helliwell, Architects, Toronto.
Cottage in Windermere, B. C., Professor Percy Nobbs, A. R. I. B. A. Architect, Montreal.
Oak Bay Hotel, Victoria, B. C.; Mr. F. M. Rattenbury, Architect, Victoria.
Canadian Pacific Railway Office; Victoria, B. C.; Mr. F. M. Rattenbury, Architect, Victoria.
Scenes in Venice, from Photographs by Mr. J. P. Hodgins, Toronto.

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The Illumination of a Warehouse.

The valuable article on this subject in our August number by Mr. Ernest C. White, M. E., engineer of illumination, Aikins Building, Winnipeg, was by a printer's error attributed to Ernest C. Smith. We take the earliest opportunity of correcting this error as prominently as possible. The series of articles on the subject of illumination will be continued.

The Canadian Pavilion at Milan.

A cut of the Canadian Pavilion at the Milan Exposition, published in the Toronto Globe recently, is an admirable exposition of the agriculturality of Canada. It suggests that in the 'granary of the Empire' there is no time to waste upon art. If the Dominion Government would only build a first class barn, or a saw mill in all its purity of line, there would be something in it; but this pavilioned barn, with a saw mill roof, is neither one thing nor the other. Among the buildings representing those other effete but cultured nations, it is to be feared, the Dominion building will appear rather like the ass in Aesop, who thought the way to get the same attention from his mistress as she gave her lap-dog was to frisk about her and bray and try to get on her lap. The ass ran against a stick. What we may run against one cannot say; but if the object of having a building is to create a pleasing impression in order to draw attention to our wares, this hay-seed architecture is not the thing to do it. The Globe, with unflinching patriotism, declares that, "as usual at all the international expositions the Canadian Pavilion

will be the feature at Milan also." Perhaps the Globe is ironical and has a private interpretation for the word feature; reminding one of a short conversation between two friends, on the subject of a third who had at last got married—to worth rather than beauty. "I am glad," said the first friend, "that the old boy has got an object for his affection."—"Yes," replied the other, "and, between you and me, he *has* got an object."

A Building with Colour.

The idea of using glazed tiles or brick, to overcome the soot of London, is not new. It has been advocated for some years and practised, in spots and panels, now and then. But Mr. Halsey Ricardo, who received the society of Arts silver medal, about four years ago, for a paper on "The Architect's use of Enamelled Tiles", has put his ideas into practice by facing the walls of a whole house—a large unattached mansion in the Addison Road—with glazed brick coloured green and blue, dressed with a matt-glazed terra cotta of a light colour. The mass of the wall appears to be green; the blue is used in smaller quantities, for spandrels, etc. The roof is of glazed Spanish tiles of a bright green. Here is a building worth a visit from anyone going to London. We are sufficiently afflicted with smoke here to know that beauty of material must be counted out as a permanent feature of our design. Here is a material which will stay right if it is right. That is the question that makes us want to hear from some one who has seen the example. For practical reasons the glazed sur-

face is desirable; and it need not have all the shininess which we are accustomed to associate with glazed tiles. A street of highly coloured buildings might be a very nice thing. One would like to see the idea taken up and carried out thoroughly in some other town.

**Every Man should have
a Trade.**

Apropos of the question of Trade Schools, it is worth noting that there has recently been a correspondence going on in the *Times* about the unemployed who make their annual demonstration in London. The idea is beginning to dawn upon those who interest themselves in the question that the trouble is not so much want of work as want of fitness for it; that the unemployed are the unemployable; and that they have become so by being made wage-carvers as boys without having learned a trade. The "little places" they fill provide only a little wage which soon becomes too small. "They want more, fail to get it, are replaced by other small boys, and seek more remunerative employment elsewhere. Being wholly unskilled, they find it very difficult to get employment, lounge about for a year or two as unemployed, and by-and-by in very many cases—as a result, of course, of environment—drift into the steadily growing ranks of the unemployable." This is no doubt a true account of the life of most of the unemployed. The waste and misery of it might all be prevented if it was the custom for every boy to learn a trade as part of his schooling. In England the customary committee of eminent gentlemen (with "valuable support" they say from the labour leaders) has been considering the question and will, before Parliament meets, submit a report offering suggestions "designed to encourage the spread of handicraft and widely extend the facilities for technical training." In this country, where our eminent gentlemen are all seeking further eminence in the stock market, we must pin our faith on the efforts of the Education departments to establish trade schools.

Mr. Leake's Report.

Owing to the necessity of a re-organization of the Technical High School in Toronto, a committee of the Board of Education was appointed to visit certain towns and cities in the Eastern States to make investigation into the question of the most suitable buildings and other matters connected with Technical Education. A report drawn up by Mr. Albert H. Leake, Inspector of Technical Education, gives an account of the information gathered by the committee, and by himself in a week's further tour after the committee had completed its work.

They visited schools in Springfield, Boston, Cambridge, New York, Brooklyn, Philadelphia and Williamston. The description of the work done accords with the statement in the report that "the tendency in the United States seems to be more and more in the direction of definite trade teaching." We find throughout the report curriculums comprising such subjects as drawing, carpentry, joinery, wood carving and turning, pattern making, forging of iron and steel, and machinists work with hand and machine tools. In combination with the manual work there is academic work which includes English, history, physics, mathematics, and in some cases French, German and Spanish. The summary of this part of its

curriculum by the Central Manual Training School of Philadelphia gives the heads under which such training may be classified in the resulting mental culture. It defines its training as: "1. Practical English—the language of clear and forcible expression. 2. Practical Government—the basis of good citizenship," (whatever this may mean; it sounds like history and catechism). "3. Practical mathematics—for business, construction, engineering; Practical Science—the active working knowledge of the facts and forces of nature." The remainder of the course summarized as "Practical Hand Culture" is shown in the report by illustrations from photographs of young men engaged at the carpenter's bench and in building and plastering actual brick walls under the direction of tutors. If the difficulties thrown in the way of proper apprenticeship are forcing this kind of results upon young men it looks as if the present state of affairs is but a 'cloudy porch opening on the sun'. This schoolwork is an apprenticeship worth having and it is recognized by the employers of labour. The Pennsylvania Railway Company takes one third of the product of the Williamson School of Mechanical Trades. But the pupils in that school are apprentices. They are bound for a period of three years. The school takes them at the age of sixteen or seventeen and feeds and clothes them for the period of their apprenticeship. Something of this kind must be done. The drifting in and out in attendance which has been a difficulty at the Toronto Technical School will not produce anything worth having. As the report says, 'the problem of trade instruction seems to be to get the boys at the proper age and to keep them long enough.' There is no difficulty about it at the Williamson School; they are only able to accept one applicant in five. There should be no difficulty about it anywhere if the school is doing a recognized work. And it is only reasonable of the community should undertake to fulfil the conditions necessary to make the training genuine.

The expense of a good school is considerable. The school at Springfield, which is especially spoken of as a model for Toronto, covers 30,000 square feet of ground, cost \$350,000, including land and equipment, and the running expenses last year were \$29,257. This is for a town about a quarter the size of Toronto; but the report states that one third of the total amount received from taxation is spent for educational purposes. It is apparently not being spent in vain in the case of this Technical School. There is an attendance of 500 boys and a daily percentage of 84.4. Tuition is free but attendance is not. Four years of varied practice in the use of hand and machine tools is required from every student who enters. The certificates granted by the school have, the report states, a recognized value in the community; and an opinion is quoted that in no part of the school system does a dollar go so far as here.

It is difficult to set limits to the value of a dollar invested in training the hands, (and minds), of the young men upon whom we are dependent in the end for the excellence of our manufactured productions. It is equally difficult to say, on the other hand, how far the process of degeneration in the work of the building trades will go, if some power does not intervene to train young men to good work and to give them a liking for it.

THE TORONTO EXHIBITION.

The Toronto Exhibition does certainly look now like a permanent affair—permanent because useful. In a way one knows that there is much manufacturing going on in this part of the country, but we are accustomed to think modestly of ourselves, and to regard our manufactures as “growing”. A visit to the Toronto Fair now is enough to convince us that some of them have grown.

The extent and the quality of the manufactures has visible improved of late years and in the new Process Building one can see the making of some well-known articles in actual progress. The neatness of the manner of work in every case adds much to the impression of excellence in the manufacture; and the interest of the exhibition itself is greatly enhanced by these moving pictures.

The live stock is always beautiful. In fact the substantial character of the exhibition is such that, with nothing but live stock and manufactured articles, complete and in process of production, the Fair would still be attractive. The present writer had great difficulty in tearing himself away from these things to attend to his proper business, which was amusement and the study of art.

The last was of a diffused character embracing every thing from Jules Breton's “Communicants” to the lights and shades of the avenues at night, and including the brown skins and sleek anatomy of the Igorrotes, the gentle savages from the Phillipine Islands.

There was some correspondence in the newspapers about the want of clothing of these people. One wonders if the writers saw them and if they really thought them indecent, and if so what their minds are like. They were naked enough, with only a breech-clout of dimensions no greater than was absolutely necessary; but to see one of these gentlemen leaning gracefully against the railing of their arena, clothed only in a grape-brown skin, and talking to a group of ladies with all the freedom from concern about his personal appearance which a man of the world enjoys who has confidence in his tailor, was a lesson, (the show was said to be educative), in the respectability of the body. Even in our own country where clothes are normal, (normal unfortunately, one would be inclined to say in the summer), there are occasions where we uncover, for reasons sufficient and not concerned with display for its own sake, and find ourselves at home with the situation at once. The motive is everything, and the amount of display of the body by men and women—though there was no question in this case about the women, whose dress was much properer than the fashion—is to be measured by the motive and not by inches. Not long ago, in one of our own cities, they got a bishop into the box to testify as to the impropriety of certain theatrical posters, (which this article is in no way intended to support), and the bishop, with no more *savoir faire* than a curate, permitted himself to be led, (by the opposing counsel of course,) into fixing by measurement the limits of decency; only to be confronted at once with admired pictures by the old masters in which there were no limits at all. The intention is everything. The body itself is respectable; the only question is how it came to be displayed. For this reason—being

a question of motive—it is a question very difficult to judge of with certainty; but, in the case of primitive savages, well-meaning people who write to the papers, and well-meaning missonionaries and missionaries' wives, who insist upon clothes, seem to be rather creating the feeling of indecency than preventing it.

There was nothing to offend anyone in the pictures exhibited in the Art Gallery and there was always a crowd there, apparently enjoying themselves. The remarks made were not in the recognized terminology of art criticism. “That tree is awful natural”, or “isn't that water pretty”, was briefer criticism than Ruskin's, but in line with his advice to (in general terms) find our way toward the culture of art by the admiration of what we like. There was a chance for every taste in the rather motley assemblage of loan pictures. The Frenchmen headed the show. Jules Breton's “Communicants”, familiar to everyone from the engraving, was not, as sometimes happens, disappointing in the original, but rather the other way. Its delicate colouring was an addition, as was also the size which enabled one to get into the picture and fall in with the charming sentiment of the scene. This seemed to be the favourite picture. There was always a crowd in front of it. Greater technical excellence was doubtless to be found in Benjamin Constant's “Herodiade”—a portrait of Herodias' daughter that might have been painted from the original tiger. The soft suppleness of her figure would be a study for the painters, and a moralist could find the whole Roman Empire in her face; but right thinking agriculturalists and the writer did not enjoy her long, but, moved by the noble wrath that makes a London gallery hiss the villain when he is called before the curtain, turned away to the contemplation of the excellent George Herbert in his garden, portrayed with comparative feebleness by an English R. A., (William Dyce), but full of a peaceful poetry. A Leader landscape, in fine almost finicking oil, met with a good share of approval; a Constable—so rough as to suggest that it was one of those full size studies, which he seems to have often made, and not the final result—met with no approval at all. A brief look and “I don't like that” expressed a popular feeling which the critic, paying the perfunctory tribute of study to the work of a recognized master, could not but acknowledge was natural. Gustave Doré's imagination was displayed in a landscape which, as usual, gave one the idea but nothing else. Clarkson Stanfield on the other hand represented the fine old-fashioned school of composition, full of minor beauties, all carefully noted from nature and presenting truth; but the whole a little fabricated and suggestive of the studio. Another old-fashioned artist, Mulready, was represented by two pictures, well known to us by the engravings, which turned out to be small canvases very delicately worked. The *genre* interest of “Going to the Fair” and “Choosing the Wedding Gown”, meets but moderate response now-a-days, and it is to be feared the small scale and delicate workmanship are not in our line either. But Mulready's work is of a mild kind. Sir John Gilbert, whose figures it was observed “stand out” well, was much more popular. If it is figures one one wants R. Caton Woodville is the boy. I stood long before his pictures, steeped in the contempt of a gentleman of culture who said that

they were only "illustrations." The same remark was made about W. L. Wyllie's picture "The Passing of a Great Queen," representing the royal yacht passing through the fleet with the body of Queen Victoria. What is an illustration? Michelangelo's "Last Judgement" is not an illustration, partly because it has not happened yet and partly because when it does happen it will not be like that. Not a very positive recommendation for the work so far. What remains is the interest of the artist's conception—a matter of literary and historical interest chiefly, and usually a bore—and the beauty, (or kindred qualities), of the theme. This latter point is where the illustrator is apt to be hampered; but in Woodville's battle scenes the theme is heroic and is to be found in many a gallery, treated by the masters of art. The War-office did not try to make our soldiers the same colour as the ground in the interest of art; but kakhi in the mass is not amiss, and there is always blood to brighten it up.

The grounds are still the unsolved question of the Fair. They are not exactly chaotic. Indeed at night, when subdued light marks off the part where the pigs are asleep from the brilliant main avenues where people are amusing themselves and looking at things, the general disposition of the grounds is seen to be right enough but there is a great want of arrangement at the amusement and manufactures end. Every visit to the art gallery is an exploratory expedition. The management is understood to be alive to the necessity of a plan; but there is all the difference in the world between a respectable plan, such as might be made by the management itself assisted by the civic officials, and such a plan as an accomplished architect would conceive. A coherent plan will be a tough job now, with so many conditioning circumstances already established; but these very conditions would be the making of the plan, saving it from a too obvious formality and giving it the individuality which is so precious in any thing connected with the beauty of cities. The key to the plan is given by the avenues of grown trees, which are a feature now to valuable to be neglected; and the appearance of the main avenue, as it is, suggests an appropriate character for the whole design. The portals of the Process Building seen under the trees are exactly what we ought to expect for permanent buildings in a fair of this kind. The roofs of fair buildings are rather in excessive proportion to the walls; we do not want to see too much of them. Let them be masked by trees, and the wall and entrances only appear conspicuously. One would not advocate too much similarity in the building plans; but the E shaped front of the Process Building is conspicuously right, giving not only a satisfactory arrangement of alleys within but an exterior distinctly picturesque in a substantial way. The reëntering walls make quiet grassy courts where the plain brick walls in different planes have architectural value; and the three portals advanced to the avenue, with shady courts on each side, form an admirable composition, seen under the trees of the avenue. The columned porch of the central entrance with simple rusticated brick arched openings for the wings, balancing one another on each side of it, gives just the right quantity of architectural effect for the purpose. Particularly as seen at night, the effect of these entrances is excel-

lent. Fair composition is essentially scenic and there cannot be a greater mistake than to suppose that the buildings must be extravagantly ornate either in general form or in detail. Two thirds of the design is the natural dignity of trees grass and water and *outré* or gimcrack buildings are quite out of keeping. Simple lines and plain material are far the best; and the management and the architect deserve approval for the character of the white brick buildings that have been erected recently.

Any notice of the Fair ought not to conclude without a lamentation of the permission given to vendors of eatables and drinkables, or anything else, to shout notices of their wares. They do not make a dollar more by it. People can see their stands perfectly, and if hungry or thirsty will buy. And for other people, or even the hungry and thirsty, to be annoyed at every turn by these raucous voices, magnified sometimes by a megaphone, inviting to hot sandwiches, ice cold drinks &c., is a serious drawback to the agreeableness of the Fair. There is plenty of noise of other kinds to make the place cheerful; these vulgar outcries only degrade it.

MATERIAL MARKS FOR BLUE PRINTS.

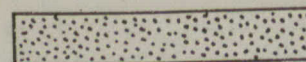
The practice of hatching the sections of a tracing, so as to represent the material and save coloring the blue prints, makes a great saving of labour. It is surprising that it did not come in at once with the adoption of the blue print. But, there were not so many blue prints made at first as now, since their reduplication is found to so greatly facilitate progress and accuracy. It remains now to establish a standard of



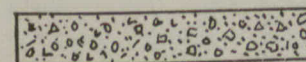
BRICK



WOOD



STONE



CONCRETE

marks, so that the blue prints of all offices will represent material in the same way.

Here is an illustration of the marks used in a prominent office in Toronto for the more evident materials. It would be a convenience if the table were extended so as to include other materials used in building and also such adjuncts as radiators, gas and electric light outlets &c. If any architectural body will devise a full table, we shall be glad to publish it.

In the Canada Gazette of August 18th the incorporation of the Dominion Portland Cement Company, Limited, is announced. The promoters are Messrs. Henry Domville, John H. Redpath, Harry E. Borradaile, Henry N. Chauvin, all of Montreal, and Charles Duclos, Westmount, Que. The capital of the company is \$1,000,000 and Montreal the chief place of business.

A movement is on foot at Strathcona, Alta., to float a company for the purpose of developing a large stone quarry which has been found on the farm of Mr. James Mundy in the Calmar settlement. Mr. Carstairs, of Strathcona, is organizing the company. Competent experts affirm the deposits found to be of a very superior quality of building stone. The stratum is from five to ten feet thick and a very fine, hard blue stone.

OUR ILLUSTRATIONS.

PROPOSED COTTAGE FOR DR. ADAM, AT WINDERMERE, B. C.
 PROFESSOR PERCY E. NOBBS, A. R. I. B. ARCHITECT;
 MONTREAL.

The summer house with plenty of bedrooms and simple living quarters is a sort of thing much required in this country. When placed, as is usual, upon the water, so that the morning bath is taken out of doors, there is no occasion for anything but the structure, and this is built only for shelter, not for warmth. But there is a certain amount of indoors life. A wood fire on a chilly evening is one of the pleasures of the summer cottage. There is nearly always a good deal of hospitality exercised and the owner of a good summer house is identified with it, in the minds of his friends, almost more than with his less individual abode in town. The summer house in fact, for most of us, is the nearest thing we have to a family seat, which is the only thing that can be properly called a home. It is worth while therefore to spend a little more thought and care upon it than is usually done; so as to give it some distinctiveness and beauty. The invitation to design, though the materials are simple, requires some power of design to make a proper response, for it is not school architecture and the details are nothing to depend upon. It is a matter of form with in very close limitations.

Now, if we examine Professor Nobb's cottage from this point of view, we see how much has been made of it without any exaggeration. The bedrooms are numerous, and the central living room, about 17 feet by 34, and two storeys high, makes a sufficient space for the general indoors life, with a small study off it for the host's private life or for the studios to find a place of retirement. The service department touches the room at one corner. There is plenty of character here and one can imagine what a help to the pleasure of our agreeable summer life such a country house would be.

In some respects it is not so well suited to our less moderate summer in the east than to the rather English climate of British Columbia. We should require the kitchen to extend in a wing, cut off from the house by an open passage or verandah; and the large verandah on the south would require a covering. The two storey hall gives a fine opportunity to do this without darkening the hall, as an abundance of light would still come in from above. There would be some reduction of the upper window space if a verandah roof were inserted; but it would probably be a flat deck-roof, making a balcony on top reached from the gallery, and the windows could be kept large, with very handsome effect, by carrying them up into the roof, with dormer tops, and eaves projecting well so as to keep out the vertical rays of the summer sun on the south. Venetian shutters in addition could be easily managed from the balcony.

OAK BAY HOTEL, VICTORIA, B. C., C. P. R. OFFICES,
 VICTORIA, B. C., M. F. M. RATTENBURY, ARCHITECT; VICTORIA.

There is a certain distinctness of type about British Columbia building that suggests the influence of the English architects who have settled there, and the English type of the climate. The conjunction of tower and gable in the Oak Bay Hotel is one of the privileges in composition which flourish in English work

but are denied to us who have to look out for snow. The large gabled window in the C. P. R. Offices building is also reminiscent of England; and it is it, more than any thing else, that gives a sort of transitional character to the whole building. Its scale belongs to the many gabled type of building which is not our type. With our need for simple roofs, and simple, well-separated gables, we cannot very well have, as they do in England, a large building with a small scale. Our scale grows naturally with the building.

RESIDENCE FOR MR. ROBERT WIGHTMAN B. A., CORNER OF
 POPLAR PLAINS ROAD & BALMORAL STREET, TORONTO.

MESSRS GORDON & HELLIWELL, ARCHITECTS,
 TORONTO.

Here is a house of definite character. If the anti-thesis of the classical is the romantic, this is romantic design. An upper storey for the most part wooden, combined with the roof in such a manner that there is no particular place where the vertical ought to come, separates the upper floors from the ground floor so that the upper floor may have different dimensions from the lower and there is no particular boundary line for the lower floor; it may break out into any bay or projection that a pliable roof, with three pitches visible, can be stretched to cover.

The freedom in plan, however, extends no further than to the small irregularities that give variety of shape to individual rooms. The "lay-out" is strictly according to the rules of correct aspect for the living and service rooms, viz:—dining room, south and east; drawing room, south and west; kitchen, north and east; and study, anywhere that is left. Inside of these four walls of correct aspect, variety is welcome.

SCENES IN VENICE; FROM PHOTOGRAPHS BY MR. J. P.
 HODGINS, TORONTO.

The CORTILE SAN GREGORIO, formerly the cloister of an Abbey, is of the Gothic period, contemporaneous with the Ducal Palace. It will be observed that the upper storey rests on wooden beams, with templates cut in a manner suggestive of the east, with which her commerce brought Venice so much into communication. The columns are of marble, with capitals of great beauty. The little cloister is one of the most charming spots in Venice.

The view of the CHURCH OF THE SALUTE is taken from the canal of the Giudecca, in the rear, and is interesting from the combination with the trees of the garden behind—a rarity in Venice. It is not, however, as good a view of the church, in itself, as that which one usually sees, from the grand canal in front. The views from the grand canal show with more certainty the alignment of the domes, one behind the other, and that the dome behind is smaller than that in front.

The Toronto Builders' Exchange have removed from the quarters which they occupied in the Yonge Street Arcade, and are temporarily located in the Sons of England building, corner of Berti and Richmond streets.

There are old abandoned quarries which it no longer pays to work for building or rubble stone that would yield a handsome profit if a crusher were installed and the product sold to the worker in concrete. In all large cities the demand for this crushed stone is ever on the increase. In many places there is a positive dearth of sand or other material for concrete work and slag and ashes have been utilized. This, however, is not nearly so satisfactory as crushed stone and is usually used only as a last resort. Sand is getting higher in price as it becomes scarcer. The cost of hauling from great distances places the crushed stone on an equal footing.

DESIGNS FOR STABLE.

By VICTOR W. HORWOOD, Architect, Winnipeg.

Fresh air, sunlight, freedom from changes in temperature and good drainage are maxims which should be kept well in mind during the construction of every stable. The subject of this sketch is a barn, with facilities for storing farm produce, as well as housing the live stock, and the plan is capable of being enlarged or reduced without destroying its symmetry. If possible the site should be on high ground with a southern incline, and the box stalls in particular should be constructed so that one door opens to the south, while

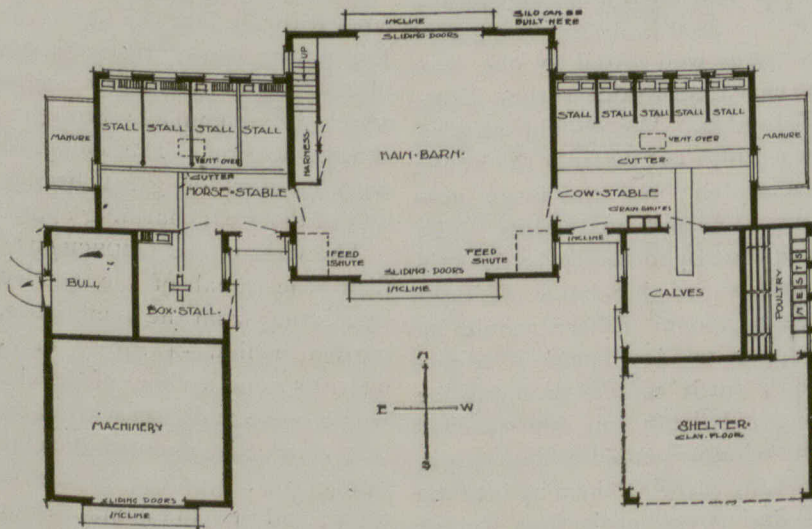
with half-inch perforations, set flush with the floor. The gutters themselves should have a quarter-inch fall to their outlets. The concrete floor should be protected by means of strong wooden slats or gratings made in three feet by six feet sections, set perfectly level on top and bevelled on the bottom to accommodate the slope of the concrete floor. The best floor for the box stalls is clay, which although not durable is healthy, easily removed and requires no drainage; thorough ventilation is obtained by means of three feet by three feet windows over each stalls, placed seven feet six above the horses' heads, with ventilator shaft



another opens to the stable proper. The horse stalls are to be not less than 9ft. 6in. wide to centres of partitions, and are arranged so that the horses face the outer wall. The boxes should never be less than 10ft. by 10ft

The main floor of barn can be used for sheltering loads in stormy weather and for all general cleaning and working purposes. This floor also has the hay shutes leading from it. The floors and walls of the stables should be double-boarded with two thicknesses of paper to prevent the penetration of dust and cold. The harness racks are constructed under the stairs

fitted with louvre frames; the gutter outlet should be carried in the most direct manner possible outside of stable to cess-pool; the carriage wash drain may be connected with the surface drain as there is no organic matter carried down it, the closet should be the dry earth kind if no sewer connection is possible; the posts in the stalls must be six to seven inches thick, finished with a ball on the top; these posts will be set six feet six inches above the floor with the ends dipped in tar and imbedded to a depth of two feet six; down the centre of each will be worked a channel for receiving the partition boards. The posts for the box

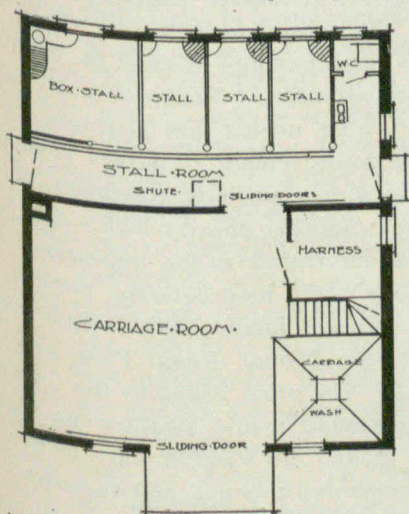


which are strongly built of two-inch planks. The foundations of the stable should be carried down below the influence of frost, and if no concrete floor is to be used the earth should be levelled and a perfectly tight floor laid. The most satisfactory floor for a barn is found to be as follows: An excavation is made to depth of two feet which is filled in to depth of sixteen inches with broken stone. Over this is laid five inches of concrete and finished on the surface with cement. The face of the this floor must be crowned and sloped to the gutter, and the covers of these gutters should be made of cast iron six inches broad

stalls will be finished plain and carried seven feet six above the floor; the partitions in these stalls require to be strongly built of two-inch planks, tongued and grooved, No. 1 lumber being used in all cases; it is essential to keep the partition planks one inch clear of the floor and the tops of the partitions must be protected by the usual stall guards. It is evident that no projections or mouldings can be tolerated where loose animals are stalled. The box stalls should be wainscoted on the inside, flush with the walls and the doors should never be less than four feet for the passage of a horse; the stall windows will be

hinged at the top, made to open outwards. All hardware must be wrought iron with a black flat finish; the guards must be wrought iron also (cast iron should never be use), the bars to be three inches, apart, three-eighths thick, two feet two inches high, with a slope to twelve inches, top and bottom rail composed of quarter-inch by two inch iron; the mangers should be constructed of the non-wasting type, with the frame extending across the stall; the front of the manger may be built of planks; bridle brackets should be set about three feet six inches above the floor not closer than two feet eight; and harness racks seven feet four, not closer than two feet apart. In the cow stable the stalls will be built entirely of wood four feet eleven in height with 8 feet 6 inches space for a cow from head of stall to gutter, having a width of three feet six; the floor will have a two-inch fall to the gutter; the animals may be secured by means of chains or stanchions, but if stanchions are used a little difference in length of stall must be made. These stalls are ventilated by windows so as to cause cross currents up the ventilation shaft. The calving stable is convenient to the main stable and has access to a sheltered yard; the cows will stand facing the north, and a root cellar may be excavated beneath the main barn floor, or a silo may be built according to the location on the plan. It will be necessary that all grain bins should be lined with zinc; the sheltered yard faces the south and has a covered shelter with poultry house opening into it the walls of which are to be double-sheathed, double-papered and as tightly built as possible. The machinery barn has a plank floor with large sliding doors, and the entrance to the large barn must be at least fourteen feet wide and twelve feet high.

The plan of the separate stable could easily be adapted to city or country requirements, but in our



limited space it is impossible to give all details, but we think we have enumerated the chief points. A great difficulty in planning stab'es, suitable to meet the conditions of such a rigorous climate, is the overcoming of the sweating of the walls, especially in brick or stone stables. This of course can be overcome to a great extent by using hollow walls and giving careful attention to the ventilation.

The Milton pressed Brick Company have been granted supplementary letters patent giving them permission to increase their capital stock to \$250,000. This will enable them to largely increase their plant, which is already the pressed brick concern in Canada.

COMPARATIVE PERMANENCE OF BUILDING STONES.

In the Tenth Census, issued by the United States Government, the following table is given of the "life" of the various kinds of American building stones, by the term "life" being understood the number of years that the stones have been found to last without discolouration or disintegration to the extent of necessitating repairs:—

	Life in Years.
Coarse Brownstone.....	5 to 15
Fine laminated Brownstone.....	20 to 50
Compact Brownstone.....	100 to 200
Bluestone (sandstone) untried, probably centuries.....	—
Nova Scotia Sandstone, untried.....	—
Ohio Sandstone (best silicious variety), perhaps from one to many centuries.....	—
Coarse Fossiliferous Limestone.....	20 to 40
Fine Oolitic (French) Limestone.....	30 to 40
Marble, coarse, Dolomitic.....	40
Marble, fine, Dolomitic.....	60 to 80
Marble, fine.....	50 to 100
Granite.....	75 to 200
Gneiss, fifty years to many centuries...	—

—The Building News.

METALLIC FURNITURE.

"Incombustible furnishings have a well-defined place in the scheme for producing a really fireproof building, and without them such a structure will never be entirely attained. The correct use of metallic furniture is postulated on a clearly defined theory, and that is—a properly prepared place in which to use it. In short, utilized to its fullest extent, it is employed less as a protection against fire than as a means of preventing fire. 'No starting point for fire' was the basic conception of its use, and that is the idea underlying its widest employment to-day. Metallic fittings should not be so used as to be exposed to hazards that properly should be met by structural conditions. The product is distinctly fire-resisting rather than fireproof, a fact that should be kept clearly in mind in planning for its employment. That it does possess the quality of individual protection to a large degree is abundantly witnessed by the re-



peated instances of security afforded by it under severe tests. Its true function, however, as stated, is the complete elimination of interior fire hazards. Speaking broadly, its possibilities in this direction have as yet been little appreciated, notwithstanding the constantly increasing demand for it. As a whole, architects have made but little study of the problem of reducing interior fire hazards."

There are practically no limitations on metallic furniture and fittings for public buildings, office buildings, banks, private offices, etc. Furniture of every variety and interior fittings are produced in sheet metal from architects' designs. Metallic furniture will stand hard usage, requires no repairs, is attractive and it resists fire.—Insurance Engineering.

P. Q. A. A. SKETCHING CLUB.

The visit of the 18th August was to the little town of Ste. Geneviève on the Rivière des Prairies. This being a village of some antiquity, there exists in the



vicinity a number of old, interesting stone houses some of which have interesting gate posts and other accessories. The church which is dated 1854 is of good architecture and interesting both outside and in. We



give a view of the interior and also a view of a picturesque house which is unfortunately falling to ruin.

Messrs. Johnson, Calderon & Lines, architects Edmonton Alta., have dissolved partnership and Messrs. Johnson and Lines will in future carry on the business in the old offices in the Lee block.

MONTREAL NOTES.

As the season advances the appearance of business in building operations increases. On many streets huge piles of brick and of stone, accumulated in readiness to place whenever the concrete foundations are ready to receive them, block up one third of the roadway and dispense with the necessity of wooden hoardings. The number of permits for new buildings naturally begins to slacken. Some of the more important recently issued are as follows :

Extensions to Olier school, Roy street, for the Catholic School Commissioners, consisting of the addition of two new wings at a cost of \$67,000.

Extension to Messrs. H. Morgan's property on Beaver Hall Hill, estimated to cost \$55,000.

Church of the Messiah, (Unitarian), Sherbrooke street, Ed. & W. S. Maxwell, architects, to cost \$60,000.

Property 83, Amherst street, for W. Clark, \$28,000.

Additions to National and Chemical Drug Company's premises, St. Gabriel street, to cost \$18,300

The following monthly record of building permits clearly shows how busy things are this season

January.....	65,975
February.....	158,481
March.....	262,215
April.....	873,440
May.....	855,580
June.....	\$ 2,343,597
July.....	950,135
August to 23rd.....	273,800

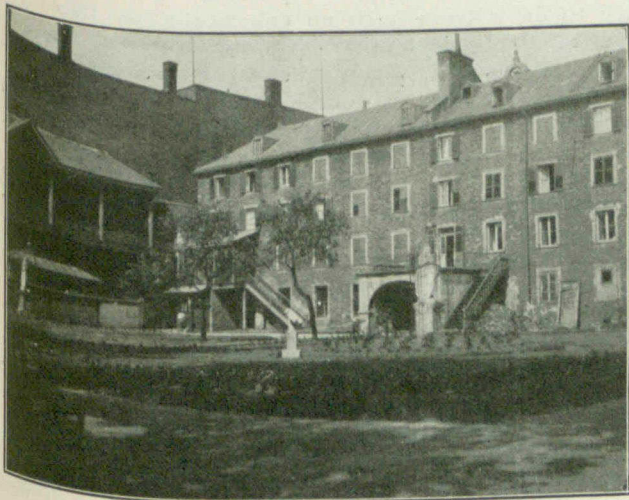
Total..... 5,782,323

Permits for alterations amounted to \$728,162, making a grand total of \$6,510,485. The total for the whole of 1905 was \$5,590,698.

In connection with this it is to be hoped that the increased municipal revenue said to amount to \$300,000 which results from the increased value of real estate, will be applied to the improvement of the city. The state of the streets and pavings it must be admitted call most loudly for attention. While so much building is going on it is also urgent that attention should be directed to the improvement of street communications and to the more spacious treatment of streets themselves. Another object which would have the sympathy of all interested in the appearance and well being of the city is the long deferred purchase of the balance of St. Helen's Island, which would make it second only to the Mount Royal Park as a city recreation ground. The price asked by the Crown is \$200,000, which of course would swallow up a large proportion of the looked for surplus, but the ground is not likely to become any cheaper, and its desirability admits of no doubt. This park is the more important because the facilities, which might even be largely extended, for swimming. The city itself it not too well provided with swimming baths and the opportunities afforded by the island in this way are amongst the natural advantages of the city which for the sake of the health and vigour of the people it would be criminal not to make the most of. Another application comes from the Superintendent of Parks who points out that there is no regular supervision of the public monuments of the city and that in consequence some of these are in danger of lapsing into disrepair, that notably of Sir John Macdonald in Dominion Square is said to be in danger of falling.

A very regrettable thing is happening in regard to a

certain class of buildings in the city. One of the most flagrant instances is the older building of the Seminary of St. Sulpice in Notre Dame street. This until recently presented to the public a face of time worn but substantial and honest rubble work. It has now been cemented over with a particularly dirty ochrish colour, on which scrawly black false joint lines straggle about till what was delightful to the eye before is now gross and abominable. The wall enclosing the court-yard towards the street has received a wash of some very black and dirty stuff. We give a view of the rear of this building which is little known to the public, as it



looks out on the private garden of the Seminary, which still preserves much of its old world charm. The street front of the Seminary is no longer worth a snap shot from an artistic point of view. This is not the only building which has been suffering disfigurement, there are a number of buildings about the town—properties of the Roman Catholic Church which have been painting their faces in a most meretricious way, a circumstance the more to be regretted as in many instances they are, (though not to the same degree), buildings in themselves of an excellent quality. The Roman Catholic Churches have had the self respect and dignity—to put it no higher—to erect a majority of their buildings, for worship and other purposes, with wholesome simplicity, and yet with the worthiness of appearance which stone even when it is of plainest rubble can better than all other materials express. The church of St. James and the church of Notre Dame des Lourdes, both near the corner of St. Denis street and St. Catherine street, do not perhaps rank high as architecture amongst such buildings, but at least they are of stone. The black and white paint—both of the filthiest tone—with which they have lately been smeared gives them the air of a clumsy imitation of cheap-jack buildings in an amusement park. May the saints send better counsels.

It was announced some time ago, we know not with what prospect of immediate accomplishment, that a generous citizen had made a donation for the purpose of erecting a concert hall in the city. The object is a highly desirable one, and since the demolition of the Windsor Hall it is indeed a crying necessity which cannot be too soon met. For the coming season, however, it seems as if the old Victoria skating rink, now to be transformed into a concert hall, is to be our only hope.

Some interest attaches to the new buildings of the

American Tobacco Company, now being erected in the western part of St. Anthony street by the Dominion Construction & Engineering Company. This is, we believe, the first application in Montreal, on a large and thorough going scale, of the principle of reinforced concrete construction. The external walls are of concrete reinforced with round bars about two inches from each face and at about two feet centres. The columns consist of four vertical steel angles held in relation by wire, the whole filled and cased with concrete. The beams are of round bar and concrete—lower bars straight and upper bars with upturning ends as in the Hennebique system. The floors of reinforced concrete are laid upon centerings, each centering being specially made and finished with a planed surface to receive the concrete. Indeed all the centerings, casings, etc., are of planed board previously prepared with a solution to prevent adhesion. All angles are rounded off and the junction of beam and column made with 45° filling or bracket. Whilst bricklayers' and masons' labor is dispensed with, a very considerable quantity of timbering, and consequently of carpenters' labour is employed. One advantage of reinforced concrete work being in the relative lightness or thinness of walls, it will be interesting to know what demands such walls in the winter climate of Montreal make upon the heating appliances.

WINDOW CLEANING IS EXPENSIVE.

The following was clipped from the columns of one of the large dailies :

“The cost of having house or apartment windows of ordinary size cleaned by professional cleaners is about 10 cents a window. So a man living, say, in an apartment having ten windows, would pay \$1 for having his windows cleaned; if he had them cleaned twice a month \$2, and if once a week, \$4 a month; not a matter of very serious moment.

But when it comes to big buildings with many windows, the window cleaning question may easily be a very different proposition. The most recently opened of the city's great modern hotels has about 3500 windows. Obviously if it costs 10 cents each to have these windows cleaned the cost of a single cleaning of them would be \$350.

If they were cleaned twice a month at that cost the expense would be \$700 a month, or \$8,400 a year; and to clean them once a week at 10 cents a window would cost annually \$18,200.

As a matter of fact the expense is much less than that; but still the actual cost of the work, done partly by contract and partly by the hotel's own labor, amounts to a sum that many a man would be glad to have for a salary, or to have added to his annual income.

The cleaning of the windows of this great hotel from the ground floor up to and including the parlor floor is done by contract by a window cleaning concern. On the twenty floors above the parlor, the window cleaning is done by men employed on the several floors, a man on each looking after the windows on that floor.

For its part of the work the window cleaning concern sends eight men, and the number of men employed by the hotel that work on the windows on the higher floors is twenty. Thus it takes a considerable part of the time of 28 men to keep the windows of the big hotel in order; and the annual cost of the work of this one simple item of window cleaning is here about \$6,500.—Building Management.

The new building for the Canadian Bank of Commerce at Halifax, N. S., will be of granite from the vicinity of Terrence Bay. Altogether 1,200 tons will be required.

A STATUTORY QUALIFICATION FOR ARCHITECTS.*

By JOHN S. ARCHIBALD, MONTREAL.

The question of the advisability, or not, of demanding a statutory qualification for Architects has been engaging the attention of the profession for some time. Much has been said and written on the subject, on all sides and from all points of view, but I venture to think that the basic principles underlying the argument have often been misunderstood and the point of view cramped and ill-taken.

We grant it is a delicate subject for the profession to agitate, motives can be so misrepresented and arguments appear biased and prejudiced but, for want of disinterested advocates, we needs must take up the cudgels in our own behalf, fortified with the conviction that we are not fighting the battle of the "select few" but the wider field of humanity and public interest. Opposition is even met with in our own ranks, from men and influences compelling respect even if they be against us; whilst laymen look upon it as another species of "tradesunionism" and "incorporated tyranny". It should be needless to point out that the principles underlying the formation of "tradesunions" are wholly different from those which actuate us. The former is purely a movement to regulate the compensation and earning powers of the individual amongst a limited number of persons, whilst the latter is a movement to raise the standard of professional practice and to safeguard public interests without limitation (other than that set by competence) to the number who wish to practice the profession of Architecture. Tradesunionism is a combination for offensive and defensive purposes, of the weaker against the stronger; statutory qualification for Architects is a voluntary movement of the stronger (represented by the profession) in the interests of the weaker (represented by the public, who are often also entirely ignorant of the responsibilities inherent to the practice of our profession).

Generally speaking, there are two sides to architecture, viz: the aesthetic and the utilitarian, the former appeals to the senses, whilst the latter is the practical, the application of theory to the requirements of mankind. The former may, or may not, have a good or bad influence on humanity, this being dependent upon whether we are prepared to admit that without beauty we cannot have goodness, and ugliness usually leads to depravity; but as regards the latter (utilitarian) especially in its constructional aspect there can be no division of opinion as to the necessity for the most careful examination before being permitted to design and erect structures. The object of an architect's labour is to prepare, generally speaking, for habitation by humanity; human life has, under civilizing influences at any rate, always been looked upon as valuable, beyond price and compensation. It is recognized in the practice of medicine, all countries demanding a most rigorous examination before one is allowed to administer to the corporal ills of mankind. It is recognized in the practice of law, where even the civil life of man must be guarded by specially trained individuals. Why should it not be recognized in the practice of architecture where requirements are demanded combining Science Chemistry and Law, all individually and collectively of the greatest importance and fraught with serious consequences to the public.

It has been said that a statutory qualification is only necessary in countries where the standing of the profession is not as high as it ought to be. We would infer from such an argument that as soon as it was decided that the professional standing had reached a certain height, the statutory qualification would be withdrawn; and on the the other hand it would be fair to assume that the elevation attained by the profession under such circumstances, in the public estimation, was due to that very statutory qualifica-

tion. If the statutory qualification was the means of elevating the profession, why remove it? Will the profession remain stationary after such a procedure or will it not naturally enter on a retrograde movement. The argument is illogical.

To me it is a surprise that the question has not been taken up by the governments of the respective countries long ere this. We are hedged about by legislative enactments which, at their root, must have emanated from the conviction that the practice of architecture was a responsible one calling for particular training and study. In the Province of Quebec we work under the Napoleonic Code which attaches to an architect the responsibility of the stability of his buildings for ten years after completion. The only inference to draw from such an enactment is, that the practice of the profession is of such a nature that the individual cannot throw off all responsibility the moment a contract is complete, but that he must have exercised such caution that a building in all its inherent and constructional parts must be perfect for at least a period of ten years after completion else the responsibility devolves upon the shoulders of the architect. Of course a certain and individual responsibility pertains also to the contractor but such side issue does not affect the general argument. Architects are compelled to erect buildings under the direct superintendence and dictates of law; the logical sequence would be that the law would make provision that all who enter on the practice of the profession would be found fully competent to carry out the spirit and dictates of such enactments.

How can such an end be attained? Obviously the only answer is, by a system of examinations. True, this is not always the most satisfactory method, but for want of a better we needs must adopt it. We grant that the mere passing of an examination does not ensure a competent practitioner, but at least, for want of a better method, it obviates the fear that he may be altogether incapable. It is certainly far ahead of present conditions which are almost universal to-day, where any irresponsible individual may clothe himself with the title "Architect" and no one has the right to say "yea" or "nay".

The public require to be protected. At present they are indifferent. How are they to know whether an architect is qualified or competent to be entrusted with the erection of buildings. As a rule "time" is the judge but ere "time" has passed his verdict the trouble has been done, structural weakness becomes apparent, or, what is sometimes even worse, another abortion is raised, before the eyes of an unsuspecting public, to wield its baneful influence, unwittingly it may be, over the moral temperament of its unhappy beholders. A man should not be permitted to endanger lives and property neither should he be permitted to offend the higher senses of mankind.

I have already said that competence can only be ascertained by a system of examinations, such examinations must be all-embracing and wielded by powers beyond the faintest tinge of suspicion, and removed, in the public eye, from all question of self-interest.

There are at present several architectural societies working under private or legislative enactments where entrance can only be obtained after passing a series of examinations. Such examinations are, as a rule, conducted by professional practitioners, men, who, in the public eye, are particularly interested in the number entitled to all the benefits of such associateship. Now I do not want to be misunderstood in this connection. I am not impugning the motives underlying the formation of such an examining board, neither am I questioning the motives influencing such examiners, far from it. Those of us who belong to such associations know that the question of the number presenting themselves for examination has no influence whatever on the minds of the examiners or associations when it comes to the question of how many they shall pass;

*A paper read at the Seventh International Congress of Architects.

but in this connection we must take our view point from that of the public, from those outside who are apt to misconstrue an undesirable necessity into an intentional stumbling block.

I use the word "undesirable" advisedly.

If "Statutory qualification" is to become a fact we must not forget that it can only be obtained by proving to the general public that we are not acting from selfish motives, that we do not desire to bar the profession to all, irrespective of ability, that we are not endeavoring to form another "close corporation" but that we are actuated simply by our interest in the public good and by the desire to elevate not merely the profession but the moral temperament of the community. Therefore, to enlist public opinion on our behalf, the power to admit to the practice of the profession must be put in the hands of men, who, even to the eye of the professionally illiterate, shall be above the cry of self-interest. Such a board must be composed of men eminent in their respective spheres and who are not engaged in the actual practice of the profession, and their appointment must come from authority outside the ranks of the profession. They should be appointed by the government that grants the necessary legislation. Only by such means may we expect to get any measure of legislative enactment looking toward statutory qualification.

Such examinations would of course cover the whole ground of architectural practice. The advisability of a thorough examination on the constructional or utilitarian side of the profession can hardly be denied. An architect erects not things of beauty only, to be admired in the abstract. His genesis is utility. Utility leads to construction. His works must not endanger the lives of the public and he must exhibit a certain knowledge of scientific and physical laws. Vitruvius elaborates on this point and what he wrote then is just as applicable and indeed is more so, to-day. He points out the complexity of the professional requirements of those days; how much greater is it to-day. All cities require the obtaining of "permits" previous to building, these are required in order that certain hygienic, constructional, and scientific regulations be complied with. The inference is that a certain standard of plan and construction is desired and made compulsory by the powers that be. The logical sequence of such action would be to set a standard of qualification for all who design buildings. A standard is made compulsory for the building, why should a standard not be made compulsory for the designer.

All countries deem it necessary and advisable to hedge architects around with a large amount of legal responsibility, such responsibility usually being more exacting in countries where the standard of the profession is high. In fact investigation will prove that the higher the standard of the profession in a country, the greater the responsibility attached by law to the profession. This is as it should be, for it recognizes the importance of the subject and, by inference, points to the necessity of some qualifications being set. This is recognized from earliest times. In the earliest known code, that of the Babylonian, compiled by Hammurabi 2250 B.C., provision is made for due compensation to be paid by the architect to the owner in the event of any disaster happening to the building during construction or after it is completed (see edicts Nos. 228-233 inclusive). All our present laws on the subject are built more or less on the edicts of Hammurabi and the only inference we can draw is that, the erection of a building has been considered at all times as an occupation of importance which should only be exercised by properly qualified individuals.

With respect to the aesthetic side of the professional practice, we meet with a more difficult proposition. We are told it is almost impossible to make a standard for design. We are told it is a question of appro-

priateness, that there is great room for difference of opinion, that it is purely a matter of "taste", and that "good taste" is simply a question of fashion. Such arguments are mere nonsense.

There is a basis of design which no one should be permitted to evade.

A building badly designed architecturally may not be a physical danger to the public, but who can say what its effect may be on the moral temperament. We are all influenced, to a greater or less extent, by our environment. True, some surmount all circumstances and influences of environment, but the majority are swayed by its all prevailing presence. If, in such an environment, beauty is absent and ugliness predominant, depravity and a low moral condition will usually be found amongst the people. On the other hand beauty is always accompanied by refinement, a higher state of civilization and, as a rule, a higher moral condition amongst the people. It is therefore incumbent upon our legislators to recognize such influences. It is a truism that the social condition of a country is reflected in its architecture. This is borne out by history, past and present; and whilst the architecture is merely a reflection of the social life of the people, it is fair to suppose that good architecture, typical of the beautiful, would have an elevating influence on the people and reflect back those beneficent rays of goodness and truth.

Such influences have been recognized from time immemorial. Plato calls the "beautiful" the "child of the good", and argues that it should not be weighed by any other standard than the good. In his "Republic" he goes into the argument more fully, and holds therein that state superintendence should be extended over sculpture and building so that they may be prohibited from exhibiting all forms of vice, intemperance, meanness and ugliness. He argues further that those who cannot design accordingly should be prevented from practicing this art "lest the taste of our citizens be corrupted." He would not have them grow up among images of moral deformity "as in some noxious pasture and then feed upon harmful herbs, until they silently gather a festering mass of corruption in their own souls. Let our artists, rather be those who are gifted to discern the true nature of the beautiful and the graceful, then will our youth dwell in a land of health and fair sights and sounds and receive the good in everything; and beauty, the effulgence of fair works shall flow into the eye and ear like a health-giving breeze from a purer region and irresistibly draw the soul from earliest years into likeness and sympathy with the beauty of reason".

A sense or perception of the beautiful is to be found within the soul of every human being. In a few it is overpowering, enthusiastic, striving at all times for opportunities of action, in some it is handicapped and fettered with influences, overcome occasionally but sometimes made subservient to them. In a great many it is lying dormant, almost dead, but yet with that spark of life which only requires the gentle breeze and encouragement to break into flames of activity. It should be our pleasure to encourage it, at all times, to influence our community with its leaven of goodness and it should be the duty of the state to recognize such influences and to grant a statutory qualification to prevent influences other than that of the good to be over her people.

A beneficent providence has set us down in a world where beauty reigns supreme. We see it in the grass, in the tender bud, in the full blown flower; we see it in earth and sky; it is above us; it is at our feet; "the Universe is its temple". Man only is the disturbing element. He is permitted to create and thrust before the gaze of his fellow men creations of ugliness and untruth and we stand aside, not lifting a finger to prevent it. Is it neglect or indifference, or both? The work of a painter may not inspire us with healthy moral sentiments; it may be typical of ugliness and

souring to the soul but, whereas, it is viewed by a very limited number of people, its baneful influence is restricted and confined to a few. On the other hand, the work of an architect is thrust before all whether they desire it or not; it is there to stay as long as the stone and mortar endure. Is it not therefore incumbent upon the state to foster all influences that make toward beauty, and to restrict the practice of the art to those who prove themselves capable of teaching the lesson of "sweetness and light".

The standard should not be difficult to set. The basic principles underlying good design are well known. If the principles are sound, the application should be comparatively easy.

So far so good, as regards the question from the theoretical standpoint; and I trust I shall not be considered too illusionary or utopian. And now a few words from the practical side of the question, based on actual experience.

The Province of Quebec Association of Architects, to which I have the honor to belong, is the pioneer (on the Western side of the Atlantic at any rate) of statutory qualification for Architects. During the year 1890 several architects in the Province banded themselves together and formed the P.Q.A.A., and on the 30th. December of the same year, an act of Incorporation was granted them by the Lieutenant Governor in Council. According to the preamble of the Act, incorporation was granted as it was "deemed expedient for the better protection of the public interests in the erection of public and private buildings in the Province of Quebec, and in order to enable persons requiring professional aid in architecture, to distinguish between qualified and unqualified architects, and to ensure a standard of efficiency in the persons practising the profession of architecture in the Province, and for the furtherance and advancement of the art of architecture".

The passing of this Act merely gave the right to those who belonged to the Association to designate themselves as "Registered architects". There still remained a large number practising the profession outside the ranks of the Association.

In 1898 the Act was amended compelling all who were practising, or intended practising, to become members of the Association. The amendment reads: "No person can take or make use of the name or title of *architect*, either singly or in connection with any other word, name, title or designation, giving it to be understood that he is an architect, under this Act, unless he is registered under this Act as a member of the said association".

In the preamble above quoted, the whole argument in favor of a statutory qualification is concisely set forth, and it says much for the Legislators of the Province of Quebec that they thereby recognize the importance of the question. The enactment was granted because, *first*, it is deemed expedient for the better protection of public interests, *second*, to ensure that any persons requiring the services of an architect shall be given duly qualified professional advice, *thirdly*, to ensure a standard of efficiency in the persons practising the profession, and *lastly*, for the advancement of the art of architecture in our community. The Association is given power to pass by-laws in accordance with the Act, for admission to the study and practice of the profession.

A system of examinations has therefore been inaugurated, consisting of preliminary and final; the former being for those who intend entering upon the study of architecture as students, and the latter for final registration, giving the right to practice. The examinations are held twice a year and the final covers all phases of practical and theoretical architecture.

It will be noticed that the protection and qualification provided for in this Act is merely in the right to designate oneself as an "architect," and therein lies the strength, or weakness, of our case. Much has been said on both sides. It has been argued that the

"practice" of the profession should be the basis of such enactments and not the name. The difficulty in connection with this is obvious. It would prohibit the designing and erecting of any construction by any individual even for his sole use; it would be difficult to discriminate between a building which might, with safety, be designed by even a layman, and one calling for professional assistance; and, as even an individual may administer drugs to himself on his own initiative without laying himself open to prosecution at law, it is evident that the law will always recognize the right of an individual to design a structure for himself, under certain limitations. On the other hand, by giving to the public and profession the qualifications based on the *name* of the profession, a broader view is taken of the subject, and the ground, as far as the public is concerned is equally well covered.

From our limited experience, so far, it seems to be working out well. Eight years is a short time whereon to base any definite conclusions; but, even in that short space of time, evidence is not wanting to prove that the aims of the profession are being gradually realized and the public interest conserved and fostered.

In conducting our examinations, the point I endeavored to make in the beginning of this paper with respect to the formation of the board of examiners has, consciously or unconsciously been influencing its composition, for, as a rule, two out of the Board of five are men of professional standing outside the ranks of our Association.

Of course all laws require power of enforcement and this is no exception. Any infraction of the law is met by a heavy fine for each and every conviction; and, although some difficulty was encountered at first, by a recent amendment to the charter on this point the necessary machinery is now at hand to compel obedience.

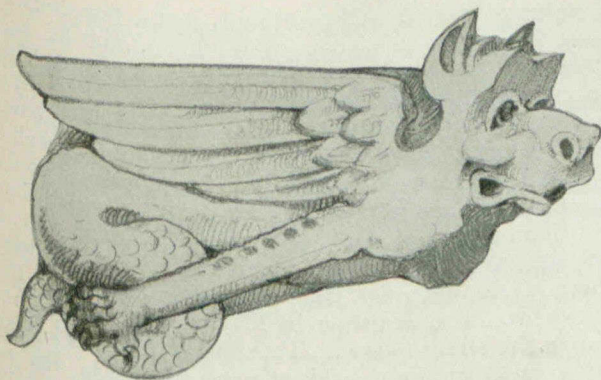
It has been exercised on very few occasions and only when all other means failed. We recognize that, as members of a liberal profession, prosecutions should only be resorted to as a last resource.

In spite of what has been said to the contrary, we do not endeavour to keep our Association wholly as a "close corporation." We welcome to our ranks confrères from other countries whose professional standing has been gained either as a result of their work or as members of recognized sister Associations. Our charter particularly stipulates that "The Council may also admit to membership all members of Associations of Architects in the sister provinces, also members of the Royal Institute of British Architects and of foreign Associations of Architects of equal standing, on their presenting their credentials." We are proud to count in our ranks Architects of eminence from countries other than our own and more especially our cousins across the line. Architecture must not be bound in by any artificial boundaries. Architecture belongs to no particular country; it is universal and all Associateship must be based on such a conception. We raise no barrier against competence. We act from a sincere desire to perform our duty in the public interests; to protect the good name of the profession against incompetency; to set up a standard which we faint would hope will eventually reflect itself in improved conditions of environment; and to advance our art in our province. If, by setting up a statutory qualification, such desires may be attained we seek for no further justification.

NOTES.

A Bishop employed an architect in the designing and erection of a fine house. When the house was completed the Bishop was well pleased with it, but when the architect's bill was presented to him he was not so well pleased.

The brick manufacturing plant of Curtis Brothers at Peterborough, Ont., has doubled its output during the past three years. There are now three kilns in connection with the plant having a total capacity of 40,000 bricks daily. There is also a fine tile making plant which turns out about 300,000 tiles every



CANADIAN ARCHITECT AND BUILDER COMPETITIONS.

It is proposed to have three competitions for students and draughtsmen, as described below, with prizes for each competition, and the conditions that the CANADIAN ARCHITECT AND BUILDER may reproduce for the benefit of its subscribers the designs of the prize-winners in each competition.

The intention is to offer suggestions of good design for the use of builders and others in the country, who erect buildings without consulting an architect.

Each drawing to be accompanied by a brief description of the material intended to be used.

Both drawings and description are to be signed with a *nom de plume*, and the same *nom de plume* is to be written on a sealed envelope which contains the competitor's name and address.

The drawings must be made in line for reproduction, and arranged within a rectangular border with sides in the proportion of 7 to 10. If drawn large, the lettering should be large in proportion, so as to be legible when the drawing is reduced to the size of the reproduction, which will be 7 inches by 10 inches. The scale must be drawn, not merely noted.

COMPETITION I. Drawings to be delivered at the office of the CANADIAN ARCHITECT AND BUILDER, Confederation Life Building, Toronto, on or before the 1st of December next.

This competition will repeat the theme of a small house in a country town. The cost to be between \$2,000 and \$3,000, exclusive of land. The lot will be supposed to be 50 feet wide by 150 feet deep, on a residential street in which the houses are set back 30 feet from the line of the lot upon the street. The house may be supposed to face any of the cardinal points of the compass; but must be planned to suit the particular aspect selected, and will be judged according to the manner in which this prime requisite of house-planning is treated.

There will be two sheets of drawings required in this competition. One will contain the plans and elevations and the other will contain certain details.

The drawings required are: plans of the ground and first floor, elevations of three sides, and a perspective in which the fourth side will be shown.

The ground floor plan must show the laying out of the grounds, as much as space will permit, and must have drawn upon it a diagram showing the points of the compass.

The sheet of details must show the porch, main eaves and gable, (if there is a gable), drawn to a scale large enough to show the construction, and giving sectional details to a still larger scale.

The prizes for this competition will be: First prize, \$20; second \$15; third, \$5; fourth, a year's subscription to the CANADIAN ARCHITECT AND BUILDER.

COMPETITION II. Drawings to be delivered at the office of the CANADIAN ARCHITECT AND BUILDER on or before the 1st. of January, 1907.

The subject is a farmhouse. There will be one sheet of drawings, similar to that required for competition 1; that is to say a sheet containing, within a 7 x 10 border, ground and first floor plans, three elevations, and a perspective showing the fourth side; but, in this case, as the cellar of a farmhouse is used for storage, there must be also a plan of the cellar; drawn on a separate piece of paper, so that it may be reproduced separately for insertion in the text.

There is no definite cost fixed; but there must be a limit. Houses quoted in the *Farmers' Advocate*, (which, as well as other farming journals, is recommended for consultation), range in cost from \$1,600 to \$4,500. A house of the former price was 31 ft.

by 37 ft. The \$4,500 house is a well built frame house, on a stone foundation, and measures 26 ft. by 54 ft. in the main part with an 18 ft. x 36 ft. wing, the greater part of which is shed. This is an unusually good house with brick cellar walls, open fireplaces in the living rooms, bathroom with water supply, and in all respects well appointed. This scale of excellence seems to be above the ordinary, while that of the \$1,600 house is hardly sufficient for what is now recommended. It will probably be safe to rate the cost of such a house as is now wanted at about \$2.00 per square foot on the ground. Competitors may plan for any size between the limits of \$2,000 and \$4,000. We want houses of different sizes: and the plans will be judged not according to size but according to merit within the size adopted. It must be remembered, however, as regards size, that compactness is a great gain where there are no household servants; and an unnecessary scale of accommodation, for dignity rather than comfort, is no merit in a design for an ordinary Canadian farmhouse. The first intention should be to save steps; not by squeezing to such an extent that the inconvenience of huddle takes the place of the inconvenience of oversize; but by a compactness of arrangement that will make the service department—dining room, kitchen, pantry, summer kitchen and woodshed—touch upon one another without intervening passages to traverse and keep clean, and, in general, throughout the house, will serve comfort by giving, as far as possible, exactly the space required for comfort—not less, but certainly no more. Waste spaces that require defence indicate the need for further study of the plan.

So far there is not much difference between a farmhouse and another dwelling, except that the kitchen must be a room of good size. But there are some special points to be considered.

The modern farm house is equipped with the appliances for water drainage. A septic tank with sul soil discharge can be built for a \$100 or so, and is to be assumed as the method of drainage; so that the house will be equipped with the conveniences of an ordinary bathroom. But water supply varies, and it will be best to consider that the only dependence is upon rain water from the roof. For this reason there is usually a cistern room in the cellar with a tank from which water is drawn by a pump in the kitchen. To get water in the bathroom there may be either a bathroom cistern filled by a force pump, or the roof water may be led first to the bathroom cistern and overflow to the tank in the cellar. In either case one would think there is advantage in a ground floor bathroom. There is no particular reason why the bathroom should be on the bedroom floor. The morning bath is not in vogue in farm houses. After the day's work is over, and in the leisure of the evening is a much more serviceable time for this ceremony. A bathroom adjacent to the kitchen will make the supply of both hot and cold water easier. It might open off a back vestibule, which will be needed so that the men can take off their dirty boots before coming into the house. To have washing arrangements here also will be a good thing. It is not, however, intended to dictate the plan in this respect.

Besides the tank room the cellar will require subdivisions for a furnace and fuel, for vegetables, for fruit, and for milk. There ought to be a special entry to the cellar for this produce, and it might conveniently be the woodshed, (which in combination with the summer kitchen usually makes a one-storey wing in the rear). If, as is usual, the wood shed is beyond the summer kitchen and the depth of the summer kitchen has to be passed to reach the cellar, the situation invites to the convenience of an inclined plane.

These suggestions are not intended to give a complete account of the requirements of a farm house, but rather to suggest that the subject requires some study. This is best done, for those who are not in touch with farming life, by looking through a volume or two of a good Agricultural journal.

As to design, simplicity is of course necessary. The house will be more economical to build, to keep and to use, if it is simple in form. But there is no occasion to despair of its appearance on this account. A small building, on such a spacious site as a farm, ought not to have its mass much cut up. There is sure to be, in the summer kitchen, a minor mass that will take care of composition in the rear. The entrance front will have its necessary appendage in the way of porch, verandah &c.; and, an isolated building is always the better for having the entrance marked by something in the upper part of the building which expresses its position.

The prizes for this competition will be:—First prize, \$15.00;

second, \$5.00; third, a year's subscription to the CANADIAN ARCHITECT AND BUILDER.

COMPETITION III. To be delivered at the office of the CANADIAN ARCHITECT AND BUILDER on or before the 1st of February, 1907.

The subject is a shop front for a shop such as is usually occupied by a grocer, druggist, hardware merchant, &c.

The building will have light on front and back only. It will have a frontage of 25 feet, in which must be included a separate entrance for a dwelling above the shop. The floor plans of the dwelling must be given on a separate sheet of paper, so as to be reproduced separately on a small scale, for insertion in the text. What is required on the drawing sheet is only—an elevation of the whole front, to a scale of 8 ft. to an inch; a plan through the shop window to a scale of 4 ft. to an inch; and details of the shop window to a scale of 1 ft. to $\frac{3}{4}$ in. The whole to be arranged within a border with sides having the proportions of 7 to 10.

The prizes for this competition are:—First prize \$15.00; second, \$5.00; third, a year's subscription to the CANADIAN ARCHITECT AND BUILDER.

UTILIZATION OF ROOF SPACE.

Land is getting so scarce in New York that it has become necessary to use the roofs of houses for amusement purposes, as was done in the Oriental countries. From the windows of my room at the Hotel Gotham, says a recent visitor to New York, I could see two tennis courts on the roofs of houses in the neighborhood. Wire nettings twenty-five or thirty feet high have been erected and are firmly held by iron rods. The roofs are covered with gravel and fine sand several inches thick and the inclosure is just large enough for an ordinary court. Basket-ball courts are laid out on the roofs of several houses in the same way, and I suppose that sooner or later we will hear of football and baseball games on the tops of the skyscrapers.

"I'd like to make a contract for all the roofs on this private house block," said a speculator in real estate in New York city. "There are upward of twenty or thirty thousand square feet of roofs here that present waste space. But the owners don't seem to realize its value, and they won't rent it to those who know it worth."

There was a quiet shake of the head, which may have indicated anything from despair to shrewd speculation. Then in reply to a query, he added:

"What would I do with it? Why, convert it into an open air sanitarium in winter, and run it as a roof garden or children's playground in summer. Or if the owners objected to such uses I'd make a big greenhouse up here and rent it out to some gardener who knew how to raise hothouse fruits and vegetables in mid-winter. In the summer I'd cover it over with canvas to protect it from the sun, and you could get some of the finest flowers of the year right up here. Oh, there are plenty of uses to which it can be put. Why, only last week I was talking to an architect who said he was spending more time now over the study of the 'extra story' problem than anything else. The 'extra story' is what they call it, and it is the coming big thing in architecture and building. It's going to add a few million square feet of floor space to our city where sick people can live and breathe in the pure air and sunshine.

"Do you know how many square feet of roof space are devoted to winter sanitarium purposes in New York today? Well, as near as I can figure it out, there's upward of 200,000 square feet already in use for this purpose. The New York Foundling Hospital has nearly six thousand, the Presbyterian Hospital a couple of thousand, and Bellevue and all the other hospitals and public institutions have open-air wards on their roofs for patients suffering from pneumonia and pulmonary diseases.

"But it's not the public hospitals that are alone in this field. Private sanitariums are opening up. Doctors and companies are converting the roofs into open air wards. They are getting roofs cheap, to. What is

the value of a roof? Oh, nothing, just a few dollars a week, says some unsuspecting landlord, and he signs a lease for five or ten years at a nominal rental. There are certain reservations about nuisances in the lease, and that is all. Then the sanitarium company covers the roof with a wooden floor, runs a six foot wall on the cold north and west sides and supplies a roof of canvas which can be rolled up or down at will. Some partition off part of the roof with glass. You get all the sun and fresh air that visits the city in winter. There is less fog, mist, dust and ashes up there than elsewhere. It is healthier by fifty per cent on the roof than in the street below. Those who need the sun and not so much cold air, bask and loll around in the sun parlors on the roof, and they recover nearly as rapidly as if they went South. Your modern doctor doesn't ship the consumptive to some sanitarium now as soon as the disease is discovered. He tells him to go up on his roof and spend the nights sleeping out in the open air and his days in resting or walking in the sunshine. Why, there's a big population now in New York taking the consumptive cure in the open air on the roofs. They're doing better than half of those who have exiled themselves from the city and relatives.

"The children are being considered by the designers of the new architecture. A number of the modern apartment houses have roof playgrounds for children. They have toboggan slides in winter for them, and sand heaps to play in in summer. There is an open-air gymnasium on other roofs. A number of public men are advocating the building of all public schools and similar institutions with model roof gardens and playgrounds. They are bound to come soon, and the sooner the better for the health of the future generation.

"Talk about people's palaces, and the lack of space for them in the crowded districts! Why, the space is waiting for the builders free of cost. The roofs of the East Side houses—tenements, apartment houses, stores, schools and other buildings—could be converted into the grandest people's palace of which man ever dreamed. You could have glass-enclosed conservatories, outdoor gymnasiums, ball grounds, gardens in summer, sun parlors and reading rooms in winter. The people who now live without sun and pure air could then get all they wanted. Our architecture is all wrong when it does not make the roof of a city house or public building of service. They are ahead of us in this respect in Europe. Roof gardens, open-air gymnasiums and playgrounds are common in the cities of Northern Europe, and buildings are nearly all equipped with some sort of roof space for pleasure or profit.

"But there is even another point I want to mention. Some wise prophet predicted years ago that within another century all of our winter fruits and vegetables would be raised under glass, and that greenhouses and hothouses would spring up like mushrooms near great cities. He failed to see that they would spring up right in the heart of the city. But they are multiplying rapidly. With a wall on the north and northwest sides of the roof to keep out the cold winter weather, a hothouse or conservatory with a southerly exposure can be made to produce winter tomatoes, strawberries, lettuce and other vegetables. I have seen a number of experiments in this line. The glass-covered roof was heated with steam pipes connecting with the heating plant of the house. The boxes and pots of plants received more sun up there than they would in the country. The cost of raising them is no more than in the country, and better prices could be realized for them when plucked fresh for the table within an hour of the time they were needed.

"A good many of the roofs of our cities are used today for various other purposes. A number of pigeon lofts are located on them, and I understand the owners do quite a thriving business in raising squabs for the market. There are more than a score of chicken yards on New York roofs, filled mostly with fancy poultry, and as many dog kennels where sick dogs are kept in the sun and fresh air for clients. Down in the tene-

ments the roofs are used more generally than elsewhere. They are the recreation places for many from sunny Italy or France, and not a few vendors of fruits and nuts ripen their green produce on the roofs in summer and fall.

"A number of owners of private houses in the aristocratic sections of the city have converted their roofs into winter and summer playgrounds for their children, and a good many of the older ones find time to go up there and have a snowball fight with the youngsters. They would never think of doing it in the street, but up on the roof it is quite a different matter. So you see, altogether the roofs of our cities are undergoing a great change, and from their final evolution we will secure great gains for city dwellers. I may be roof-crazy, but I would advise a young man to invest in roof leases rather than in ground leases. They are cheaper, and they have a potential value that may mean a fortune ten years from now to the lucky owner of the leases."

—*Building Management.*

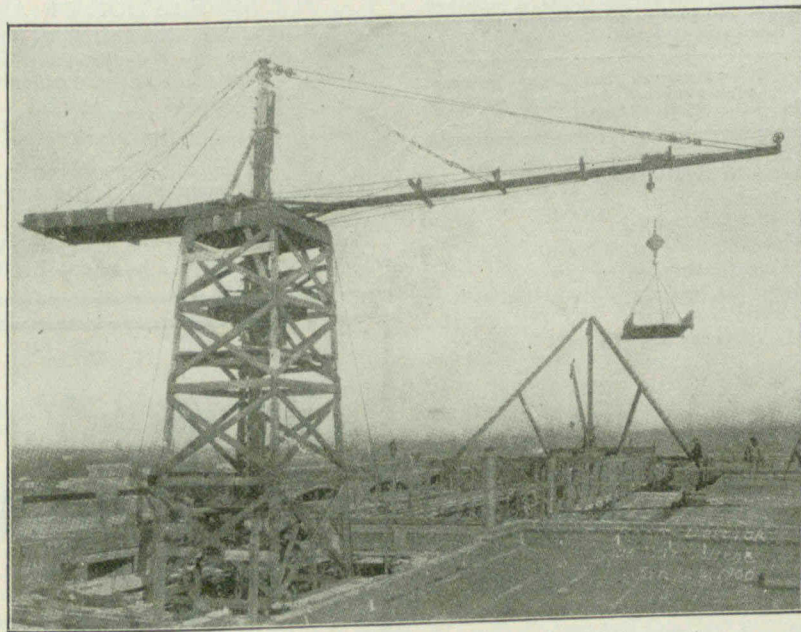
BUILDING ON THE PERCENTAGE BASIS.

Investors in real estate, architects and many building contractors are coming to realize that the most economical and satisfactory method of erecting buildings of any size is on the percentage basis instead of on the

the lump-sum basis of work is practically eliminated, and a builder is free from all temptation to "skimp" certain parts of the work to compensate him for unlooked-for inroads into his profits encountered in other parts of the work. With him all contracts are on the same basis, all can be treated impartially and the best interests of every contract can be served. This is particularly the case where the contractor makes a specialty of work on the percentage basis and declines all lump-sum contracts. The advantages to the builder of working on the percentage basis are indeed so many that many of the large builders, both here and in other cities, prefer operations of this character, though they are not prepared to refuse to work on the lump-sum basis if the owner so, desires it, as is often the case.

It is necessary, however, that the builder should use the proper speed in construction, otherwise the building may cost the owner much more in the end than he could have it erected for a lump-sum bid.

Many builders, however, complain that investors do not, as a general rule, look with favor on the percentage system of work. They desire to be relieved of all risks, evidently taking the view that the risks properly belong to the contractor, and for this reason they prefer to accept a lump-sum bid, which may seem to them to be high, rather than assume risks which their know-



A REVOLVING TOWER DERRICK FOR ERECTING BUILDINGS.

basis of a lump-sum bid—that is the builder engages to erect the building or make whatever alterations are desired for the actual cost of the work plus a percentage as compensation for himself. Several of the large office buildings in Philadelphia have been built on this plan, and the indications are that it will not be long till it completely supersedes the old method of lump-sum bidding.

There are many advantages both to the owner and builder in this method of building. Though the owner may not know exactly what the building is going to cost him the expenditure of his money is always within his own control and easy of verification at any time. He receives from the builder an itemized account of the cost of material, labor, etc., and he is relieved of the danger of "extras". The work can be carried on so as to best suit his own interests, rather than those of the contractors, and any changes which may suggest themselves during the course of erection can be made without unnecessary expense.

Contractors, on the other hand, are always assured of a decent profit on their work. They are not harassed by unexpected rises in the price of material or by penalties for delay occasioned by strikes or other causes often totally beyond their control.

In other words, the element of risk inseparable from

ledge or experience cannot help them to avoid.

The spectacle of contractors being forced into bankruptcy through contracts from which they had hoped to realize large profits, which occasionally presents itself, is not, it is true, calculated to reassure investors in real estate as to the wisdom of assuming most of the risks of building; yet failures of this kind occur so rarely as to have very little effect on the growing sentiment in favor of cost plus a fixed charge for all kinds of building work.—Quoted from the *Philadelphia North American*.

The incorporation of J. Vansickler and Company, Limited, is announced in the Ontario Gazette, the object of the company being to carry on the business of builders, contractors and roofers. Toronto is to be the headquarters of the company. The capitalization is \$40,000. Messrs. George H. Kemmis, Toronto Junction, and Gideon Grant, Toronto, are among the provisional directors.

A syndicate of Victoria business men has been formed for the purpose of shipping building stone and other materials to San Francisco. The syndicate controls recently discovered marble quarries on Nootka Sound, sandstone quarries on some of the islands of the Gulf of Georgia, a large lime plant, and some deposits of brick clay. Thus a very wide range can be covered by the project, which is likely to be carried out on a very large scale.

CANADIAN ARCHITECT AND BUILDER

Monthly Journal of Modern Construction Methods.

(With a Weekly Interim Edition—The C. H. MORTIMER CONTRACT RECORD)

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Prices for advertisements will be sent promptly on application. Orders for advertisement should reach the office of publication not later than the 15th, and change of advertisements not later than the 15th day of the month.

EDITOR'S ANNOUNCEMENTS.

Contributions of value to the persons in whose interest this journal is published are cordially invited. Subscribers are also requested to forward newspaper clippings of a nature items of interest from their respective localities.

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This Scholarship which provides for tuition free of cost in the complete course for the Bachelor of Architecture Degree at McGill University has been awarded by the Association to Mr. H. Roydon Downsweb.

NOTES.

The building permits in Toronto up to September 15th amount to \$9,120,681.

We ascribe beauty to that which has no superfluous parts, which exactly answers its end.—EMERSON.

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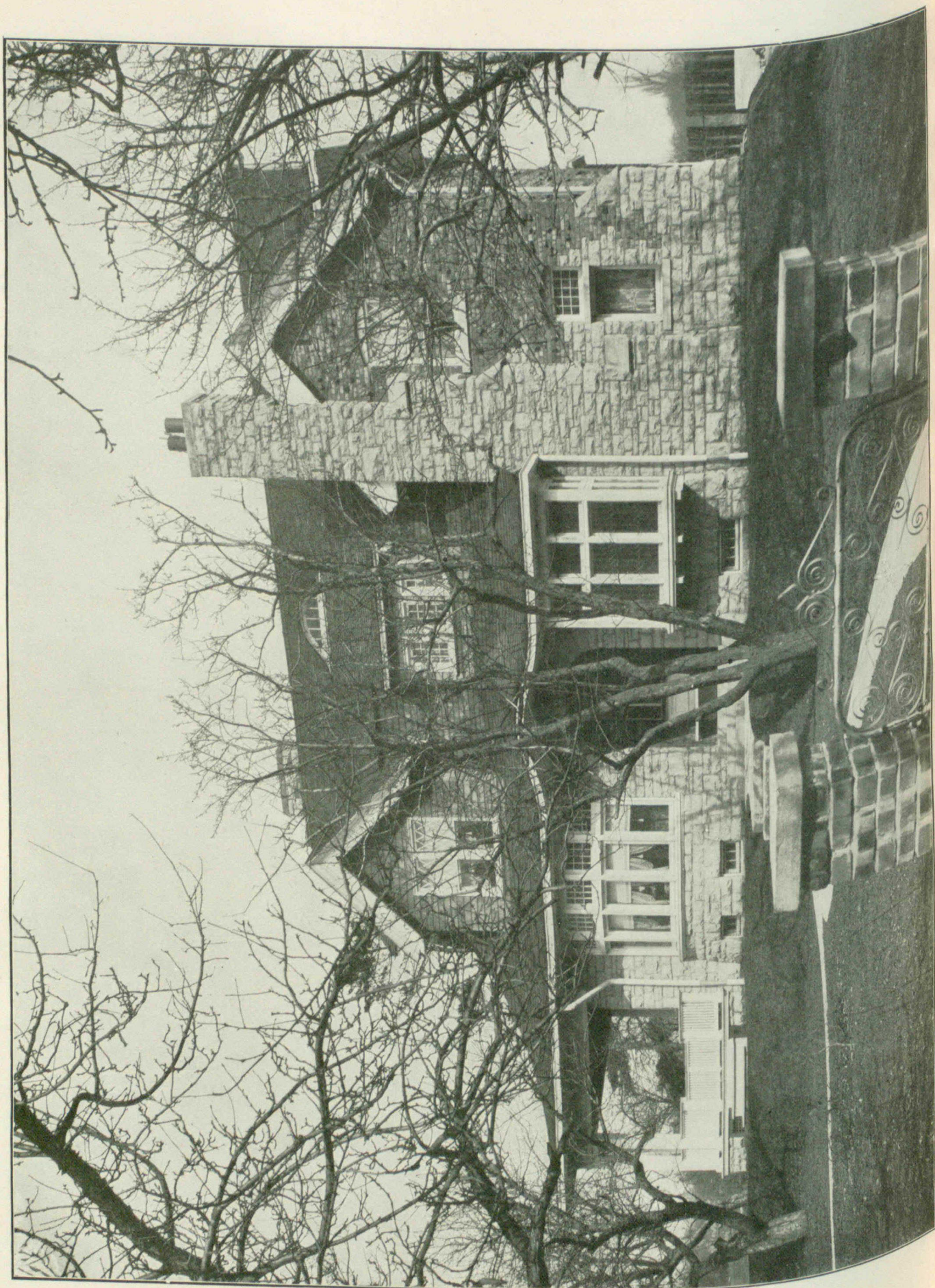
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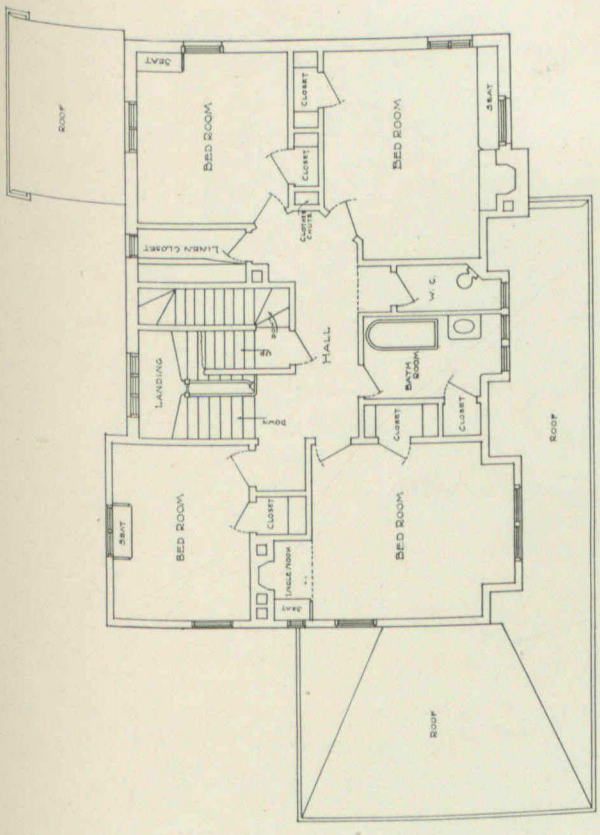
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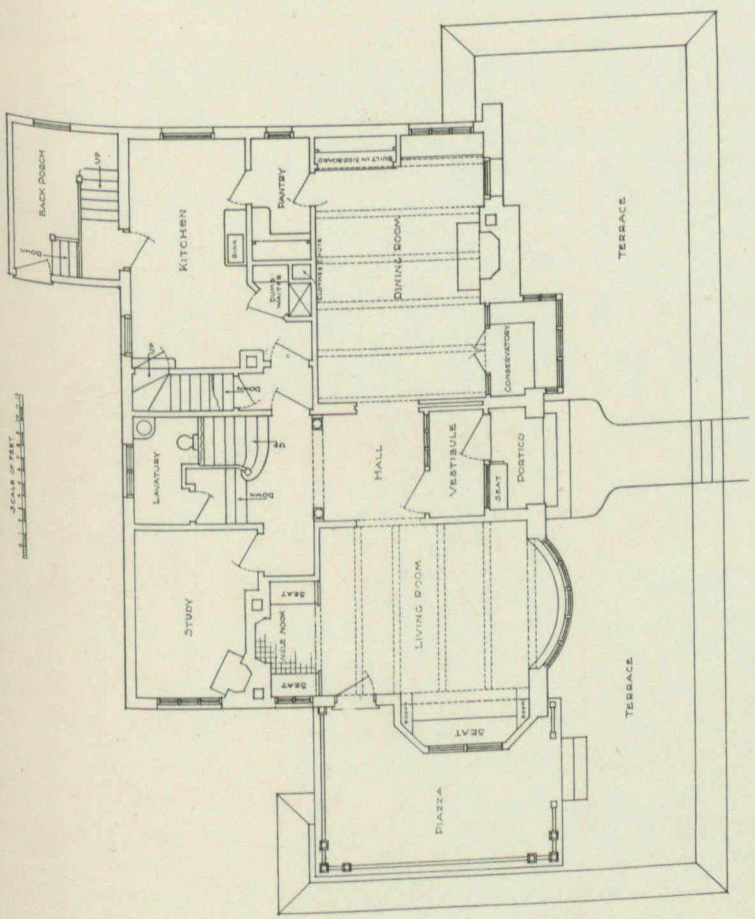
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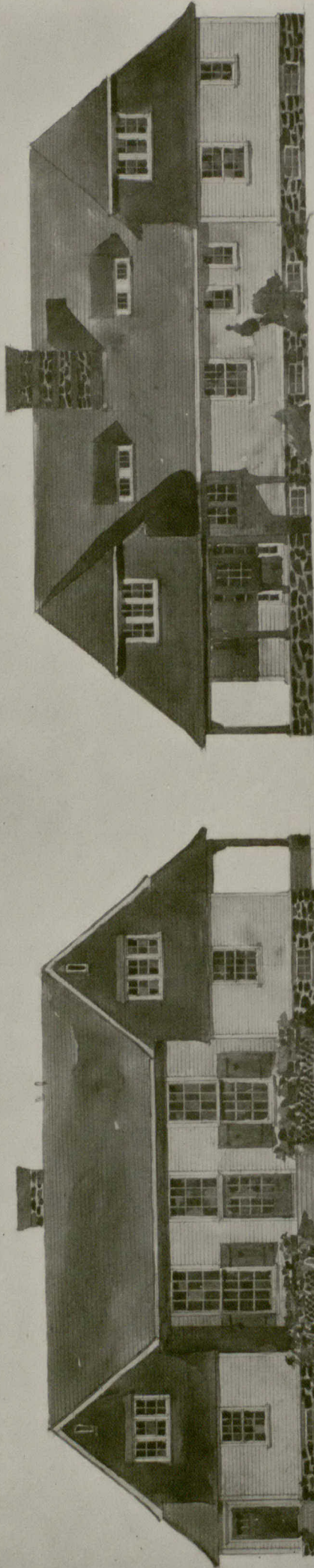
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SCALE OF FEET

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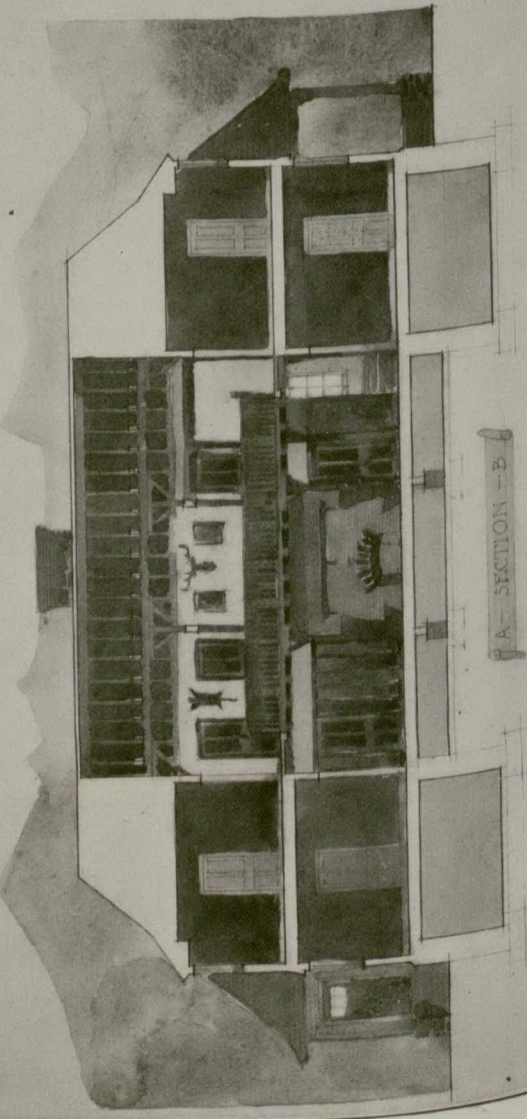
PROPOSED COTTAGE FOR DEADAMI
AT WINDERMERE B.C.



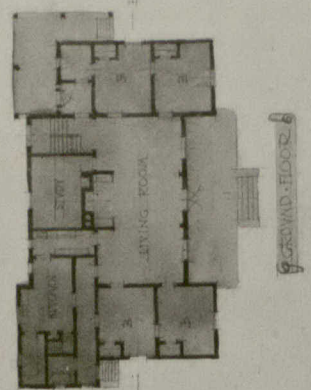
9 SOUTH ELEVATION

10 NORTH ELEVATION

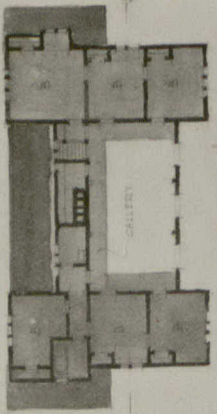
FT. 0 5 10 20 30 40



11 A SECTION - B



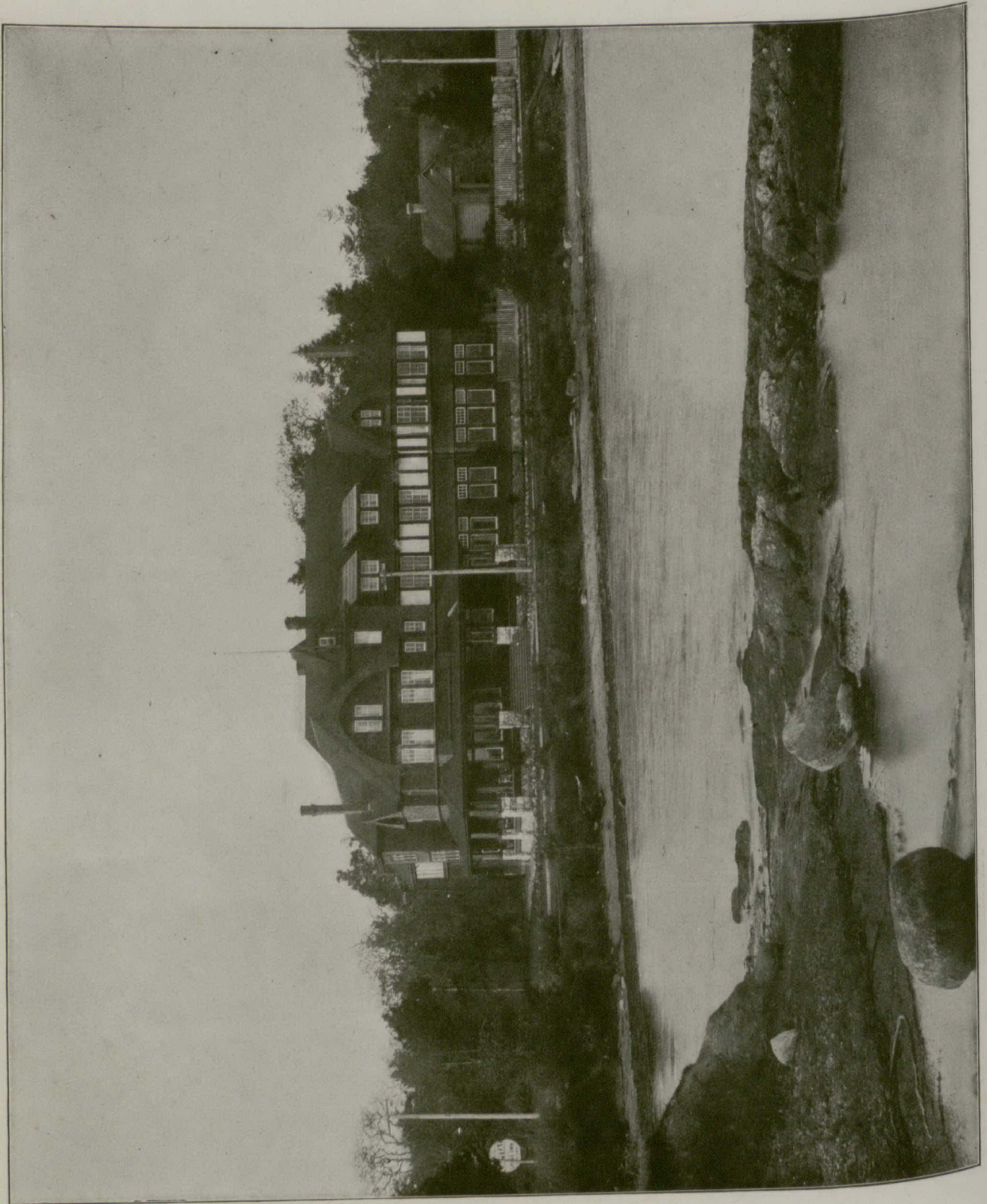
12 GROUND FLOOR



13 BEDROOM FLOOR

FT. 0 10 20 30 40 50

*Prof. E. Nobbs
Architect
100 Bellvue Place
Montreal 2, Feb. '06*



OAK BAY HOTEL, VICTORIA, B.C.
MR. F. M. RATTENBURY, ARCHITECT, VICTORIA.

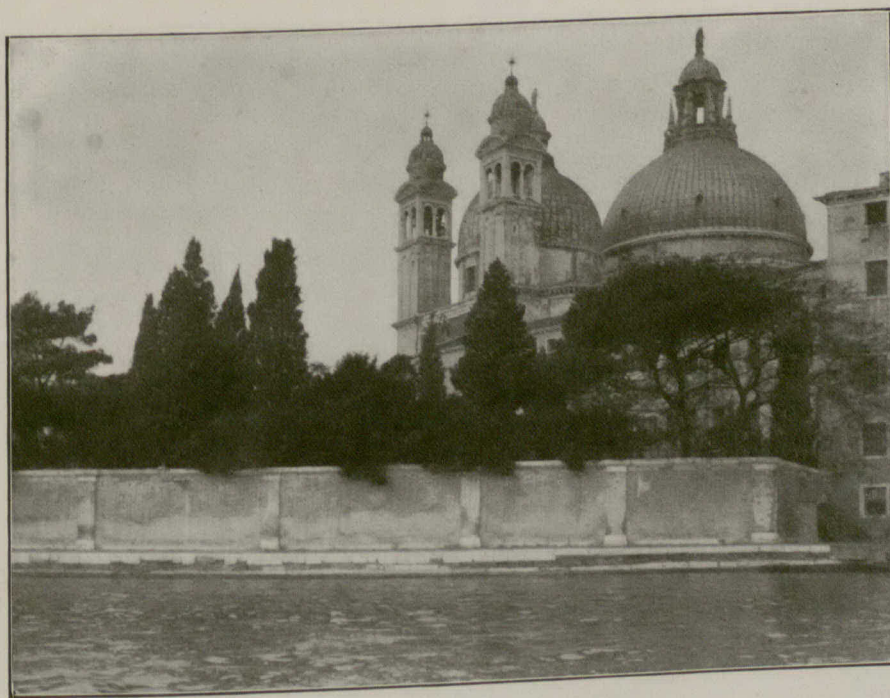


THE CANADIAN PACIFIC RAILWAY OFFICES, VICTORIA, B. C.

MR. F. M. RATNBURY, ARCHITECT, VICTORIA.



CORTILE DI SAN GREGONIO, VENICE.



SANTA MARIA DELLA SALUTE.
VIEW FROM THE GIUDECCA.

FROM PHOTOGRAPHS BY MR. J. P. HODGINS, TORONTO.

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