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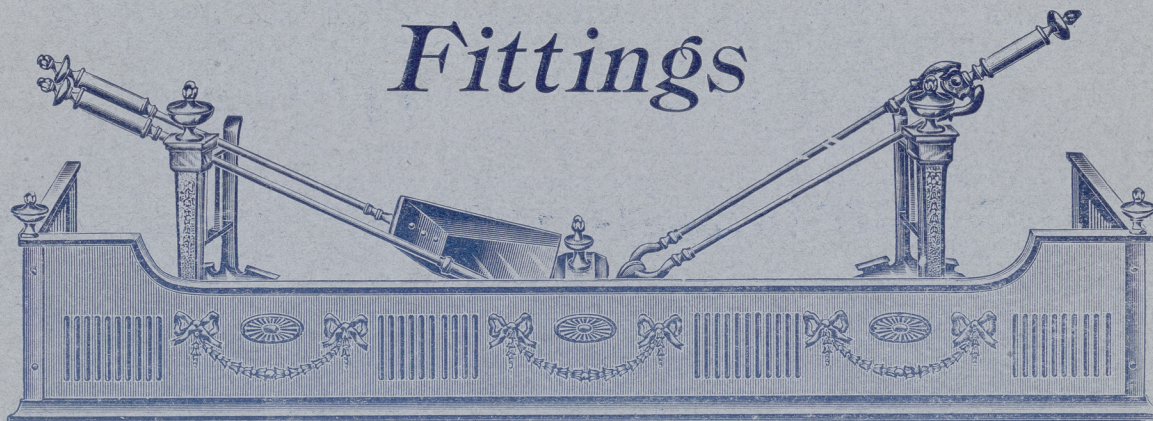
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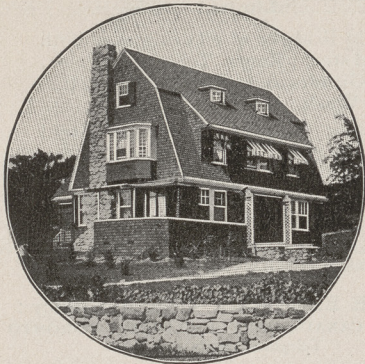
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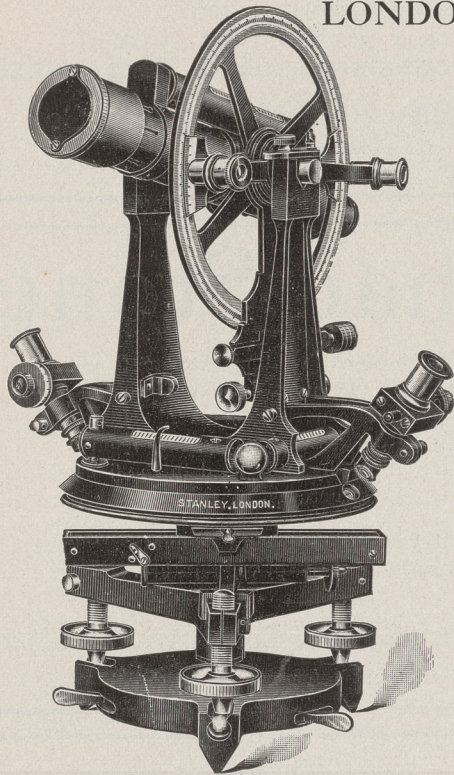
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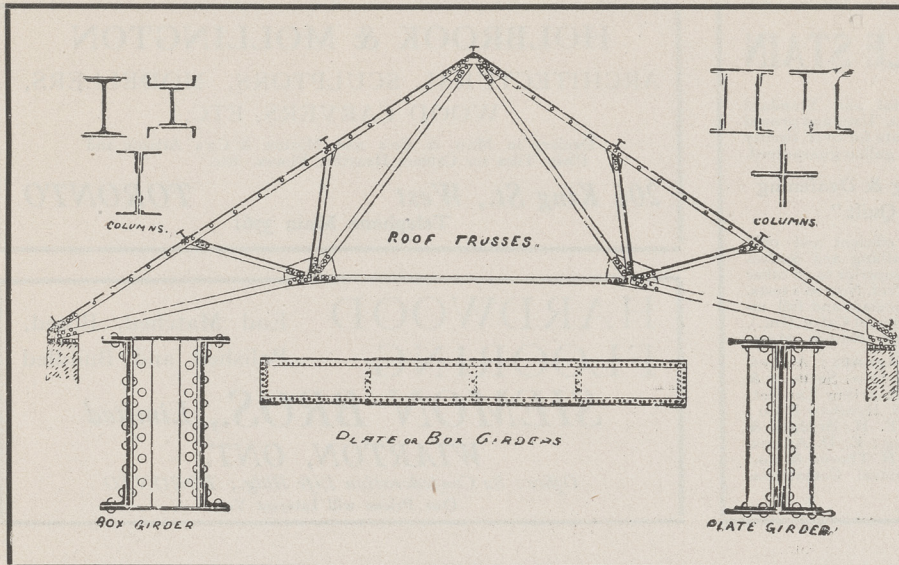
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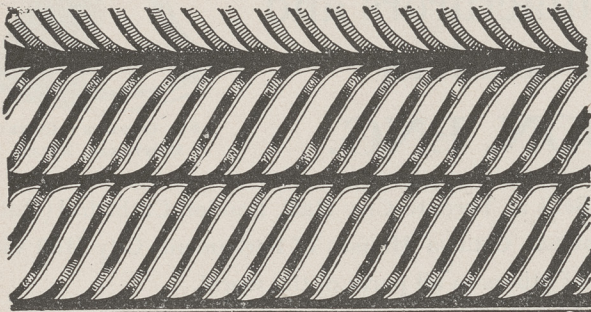
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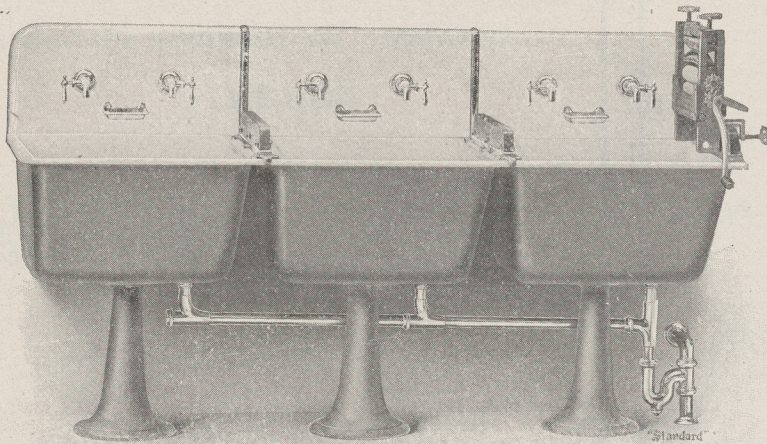
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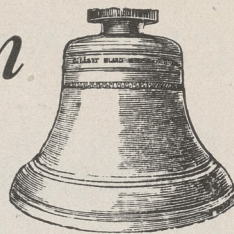


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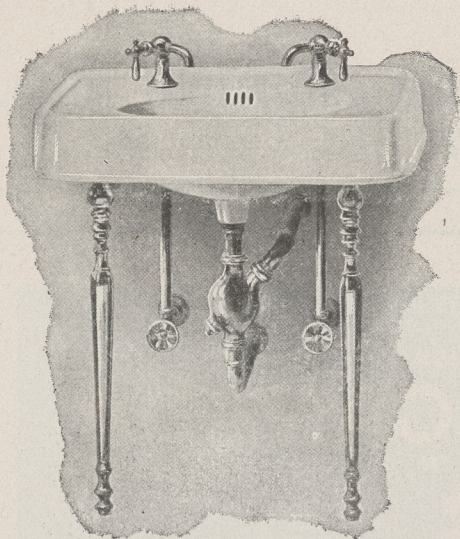
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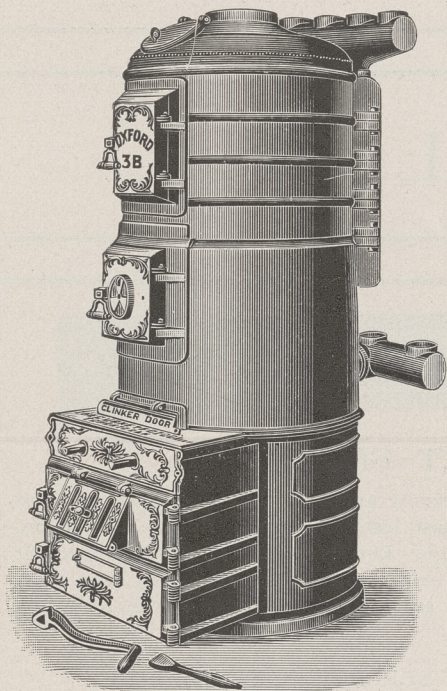
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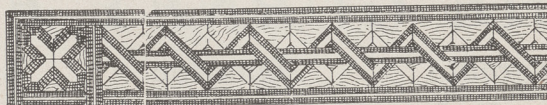
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DECEMBER, 1907

Montreal

AT the annual convention of the American Institute of Architects, held in Chicago last month, there was presented by a committee appointed for that purpose a report on architects' registration. To the Canadian profession there is much in this report deserving attention, by reason of the lively interest manifested in the proposed establishment of an "Institute of Architects of Canada." The examination and registration of architects has already become law in three States of the Union, Illinois, New Jersey and California. In the first named State the license law has been in force more than ten years, having sprung into being in a rather peculiar fashion. For years a license law had been contemplated and discussed by architects, without any attempt being made to press for legislation until the occurrence of a very serious building accident, due to the incompetence of a young architect, gave a common incentive to both architects and builders to provide for the public safety. A large and well organized trade union of mechanics appealed to the local chapter of the American Institute of Architects for co-operation in the formulation of a scheme for licensing architects. The suggestion came in the first instance from those who stood to suffer from architectural incompetency and was backed by employers of mechanics and real estate dealers, with the result that the legislation went through with comparatively little opposition—a far different state of affairs from that which rules in Canada to-day.

The present Canadian agitation for legislation "to ensure the public safety" has arisen—not with the people who, we are given to understand, are to be immediately benefited—but with some architects who, in their magnanimity, are prepared to make professional sacrifices,

forsooth, for the preservation of the suffering public. Not so. It is significant that the public in the present instance are serenely indifferent to the attempts being made on their behalf by the architects of this country. They have asked for no legislation of this character and apparently fail to see the value of it.

An architects' license law must necessarily be enacted under the police powers of the provincial legislatures, whereby the acts of incompetent persons are regulated, and obviously should be enacted only on the demand of those who require such protection, but for this the Canadian public, for the present at least, is not clamoring.

A PART from the fact that the Illinois law came into existence at the popular instigation, there is little in the Act itself to be emulated or even admired by the Canadian profession. It was passed on the suggestion of a labor union, and naturally ran to the utilitarian rather than to the æsthetic extreme. Among the architects who have passed the Illinois examination are many with little or no artistic attainments, but skilled in construction, sanitation and the various other requirements of the law. This is only natural. A licensing act can turn out competent building inspectors, but can not guarantee architects. It is impossible to conceive of legislation which can successfully establish the artistic qualifications of architects except in a general way. Most of our architects are already either pretty competent building inspectors themselves or are associated with those who are. For that phase of the question legislation is not required, and for the æsthetic side of an architect's training legislation such as the Illinois license law makes no provision and is, therefore, unnecessary in Canada. The Institute of Architects of Canada has a wider field of endeavor in the enforcement of professional ethics, in the raising of educational standards and consequently in the establishment of a higher ideal of practice.

THE publicity which has of late been given the architectural profession in the public press because of their demand for what is termed improper legislation is, to say the least, unfortunate. As a body, architects have generally held aloof from anything that might, rightly or wrongly, be interpreted as selfish legislation. In the present instance a construction has been placed upon their agitation for the licensing of architects which is not by any means flattering. To quote from an editorial which appeared recently in the Toronto "Globe": "The title (The Canadian Institute of Architects) should imply that the proposed institute is to be established for the purpose of giving intending architects theoretical instruction and practical training; but nothing of the sort is intended. The aim of the proposed legislation is the protection of the profession in Canada. In plain English this means that the privilege of practising as an architect and using that title shall be limited to those who become members of the proposed associa-

tion, which is to masquerade under the misleading title of Institute."

Such an arraignment is rather severe, but backed by some show of justice, in view of the fact that the details of the scheme appear to have been decided upon with undue haste and without regard for the probable effect upon the public mind. Among the strongest opposers of the project are architects themselves and now, as in the past, the old adage holds good—"If a kingdom be divided against itself that kingdom cannot stand." The close corporation aspect is non-essential and distasteful. On the incorporation scheme, in its other aspects, the profession is pretty well agreed, and on these attention should be concentrated.

THE question of charges for architectural service also received attention before the late conference of the American Institute of Architects. With the general rise that has taken place of late in professional remunerations there naturally arises the feeling that there should be an upward tendency in the remuneration of architects. It has been more than once suggested as advisable for the profession to establish a range of charges based upon the value of the work rather than continue the practice of charging a straight percentage. It is a common theory of laymen that the percentage method results in the architect making the cost as large as possible for the sake of a fat fee. Though the suspicion is unjust, it would simplify matters perhaps if the architect claimed the same fee for the work, even though the price did fluctuate a few hundred dollars either way.

The American Institute of Architects recognized the fact that the value of an architect's services varies with his experience and ability, the locality in which he works and the character of the work upon which he is engaged, and consequently did not see the advisability of establishing a fixed rate of compensation that would be binding upon its members. However, it was conceded that for full professional services, adequately rendered, an architect should receive a compensation approximating to the following schedule of charges, while leaving to the judgment of individual members or chapters any variation therefrom: "The architect's professional charge to consist of the necessary preliminary conferences and studies, working drawings, specifications, large scale and full-sized detail drawings, and in the general direction and supervision of the work for which the minimum charge, based upon the actual cost of the work, shall be: On the first \$10,000 of cost, or less, 10 per cent; on the second \$10,000 of cost, or less, 7 per cent.; on the next \$30,000 of cost, or less, 6 per cent.; on any balance of cost, 5 per cent.

"When an operation is conducted under more than one contract, a special fee is charged in addition to the above schedule. For landscape architecture, furniture, monuments, decorative and cabinet work and alterations to existing buildings, the minimum charge is 10 per cent. In many instances this is not remunerative, and

it is usual and proper to charge a separate fee in excess thereof."

While this schedule can merely have suggestive value for the Canadian profession, it must be conceded that the time is ripe for concerted action regarding charges for architectural service in Toronto and kindred large cities. On small houses the usual fee of 5 per cent. is inadequate, and yet in only a few cases have architects ventured on the 7 1-2 per cent. charge. It is merely a matter of time, however, before this matter will call for legislation.

A POSSIBLE loss of from one to two billion dollars as the result of a conflagration breaking out in the skyscraper district of Lower New York, is considered possible by George W. Rabb, president of the New York Board of Fire Underwriters. It is an open secret that insurance companies dread the outbreak of fire in certain parts of New York City, and in the opinion of some American architects this fear is not wholly unjustified. To quote the words of one of them:

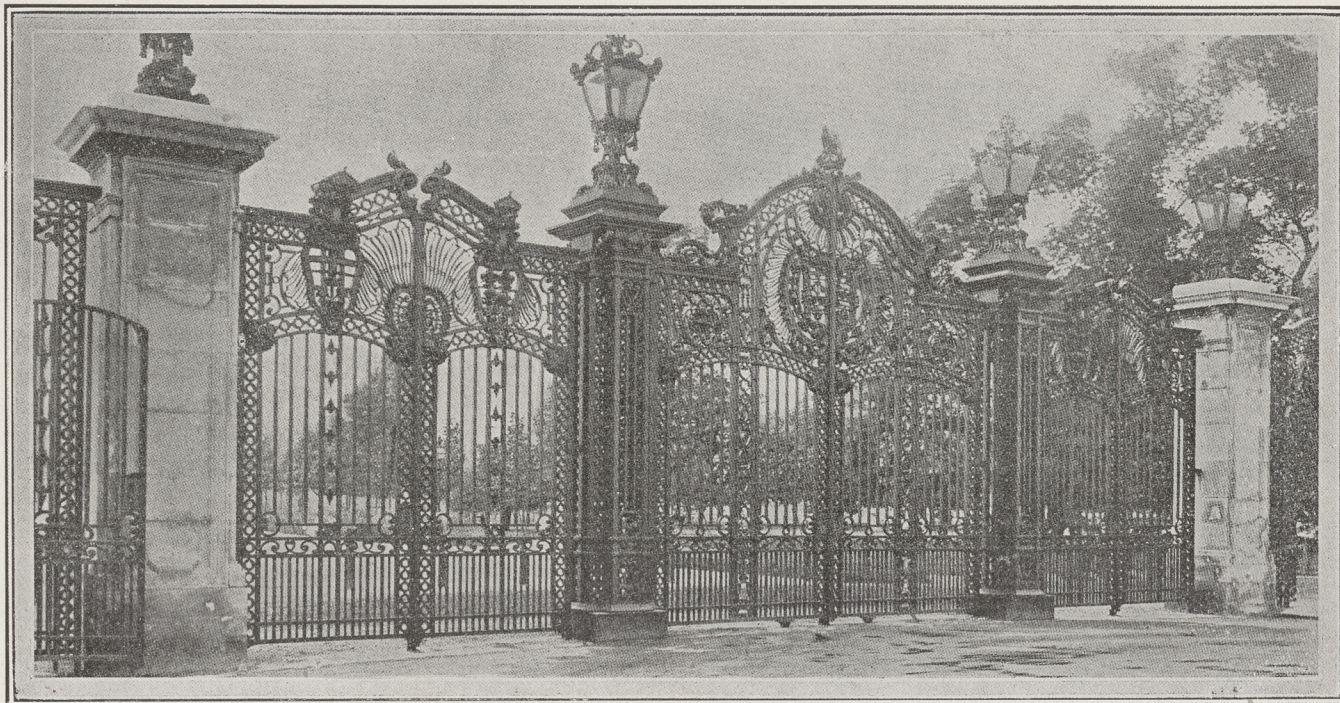
"In many of our so-called fireproof tall buildings we find double wooden floors, laid on wooden sleepers, and wooden doors, wooden door-backs, wooden door-casings, and wooden trim throughout. Some of these tall buildings, because of their immense size, have over fifty per cent. more wood in them than the old non-fireproof buildings."

This view is also taken by Architect Flagg, the designer of the Singer Building, who recently thus expressed himself on this question: "It is the floors and trim that burn, and the so-called fireproof wood. I think the law ought to make high-building construction such that the building can never burn. The Singer Building is the highest in the world, but there is not enough wood in it to make a leadpencil. It can never catch fire from within. The only thing to do is to make the whole section down-town in the region of skyscrapers really and truly fireproof. Tear out the wooden floors in the imitation fireproof high buildings and replace them with cement floors and replace the wooden trim with metal. The danger from the burning of the furniture is infinitesimal compared with that of the wood that goes into a building, but why not make fireproof furniture for our skyscrapers out of papier-mache or some other non-conducting material? Very handsome furniture can be made without an atom of wood in it. If wood and wood furniture were eliminated, the reasons for a great conflagration in the skyscrapers would vanish into thin air."

While making outside walls fireproof architects have in too many instances allowed interior construction of combustible material. It may be true that there is exaggeration of the ills that skyscraper construction might induce, but it is none the less true that the more discussion there is of tall building methods the stricter will be the observance of the laws of fireproofing and the nearer the approach to structural perfection.

THE QUEEN VICTORIA MEMORIAL, LONDON

SIR ASTON WEBB, R. A., Architect.



The wrought iron gates which form Canada's contribution to the Queen Victoria Memorial in front of Buckingham Palace, London, and which were placed in position some time since, have now been practically completed. The gilding, which has taken some time, has added much to the beauty of the design, and the appearance of the whole work is now most artistic.

The memorial, it will be remarked, embraces an elaborate scheme of decorative architecture in the open space in front of the King's London residence. This design consists of a semi-circular terrace of stone, relieved at the point at which it is intersected by roadways by pillars, upon which the names of the Dominions and Colonies of the Empire are inscribed, according to their share of the gift. In the centre of the space thus obtained a statue of the late Queen, by Mr. T. Brock, R.A., will be erected. Another part of the memorial has been the continuation of the Mall from the Duke of York's steps to Charing Cross, immediately opposite the Canadian Government offices—which will open up a magnificent thoroughfare from the Strand direct to the Palace—and the cutting of a road through the Green Park from the Mall to Piccadilly. It is at this latter outlet at which the Canadian gates have been placed. The space in the memorial that is not occupied by masonry is laid out with grass plots and flower beds.

Sir Aston Webb, R.A., who designed Canada's gift, thus describes it: "The gates were made by the Bromsgrove Guild, Bromsgrove, Worcestershire, the work being done entirely in England. On the centre gates the complete arms of Canada are designed. On the gates on either side the arms of Ontario, Quebec, Nova Scotia and New

Brunswick appear; on the pedestrian gates those of Manitoba and Prince Edward Island. The outer stone piers will carry two large symbolical groups, by Mr. Henry Pegram, A.R.A., which will shortly be fixed in position."

THE TORONTO ARCHITECTURAL CLUB.

At the annual meeting of the Toronto Architectural Eighteen Club, held on the 3rd inst., it was decided to omit the word "Eighteen" from the title by which the club has been hitherto known. Henceforth the organization will be known as the "Toronto Architectural Club." The election of officers resulted as follows: President, Eden Smith; vice-president, C. D. Lennox; secretary-treasurer, W. Ford Howland; committee, C. H. Acton Bond and J. P. Hynes.

Discussion regarding the proposed incorporation of the Institute of Architects of Canada led to the following resolution being unanimously carried:

Whereas the question of "registration" of architects has been brought up by the press, and as it is a matter with which the newly formed Institute of Architects of Canada and the Ontario Association of Architects are attempting to deal, the club wishes to put itself on record as follows: That the Toronto Architectural Club is not opposed to a proper form of "registration" of architects, based on education and under direct Government control, but is opposed to the form or forms of "registration" put forth by the Institute of Architects of Canada and the Ontario Association of Architects, which would mean giving the control of the profession over into the hands of certain privileged bodies of the profession.

DECORATIVE QUALITIES OF TILING.

By C. J. Fox, Ph.D.

The ornamental qualities of tiling, as a floor or pavement covering or as a wall facing, on both the interior and exterior of buildings, has been discussed frequently in architectural and building papers and in periodicals



Ornamental Tiling in German Bathroom.

devoted to home decoration; yet few attempts have been made to analyze and explain the several mechanical and chemical processes as well as the artistic principles involved in the transformation of ordinary clay into one of the most effective materials used in decorative art in its application to building operations.

The two great means by which the artist executes his conceptions are form and color, the one represented by sculpture and the other by painting. They are often combined in architecture in numerous building operations, yet there is no material in which these two great factors in decoration are united in a more felicitous and durable manner than in the baked clay tile. The adding of color to sculpture has never been successful; the adding of form to painting has, for obvious reasons, never been even attempted. Some of the world's most famous architectural monuments have been created without the employment of color effects, and it is possible to conceive of building operations in which the architectural effects are supplied solely by the application of pigments to a form which as far as decoration is concerned, is an absolutely indifferent quantity. Yet in faience or pottery

it would be difficult to tell which is the more important of the two elements of beauty, form or color. Tile as a flat surface cannot have form in the strict acceptance of the term; but the shape of the tile resembles it to a certain extent, and it enters as an important factor into the ornamental features of the tiled surface.

There are of course some examples of pottery ware in which the color element is entirely lacking, except in the various shades and tints of the same color, due to the characteristic action of the flame of the potter's kiln; and there are some other specimens in which the color effects are the sole factors; yet as a general rule the artistic value of all pottery and faience is due to the combination of symmetrical form and harmonious color. This is likewise true to a great extent of ornamental tile work. It does not apply to the individual tile, but to the floor or wall decoration of which the single tile or clay tesserae of the mosaic work is merely an integral part of the whole, which must be judged and criticized as such.

Clay is the only hard and durable plastic material to which both permanent form and color can be given. The powerful steel dies in which the damp clay dust is pressed before it is placed in the potter's kiln can be made in almost any shape. The ordinary commercial shapes include a large number of geometric patterns, in various sizes which, when assembled in the different floor and wall designs, offer the decorator great possibilities, even where in the use of one color, he relies for decorative effect upon a skilful manipulation of the joints, and the



Tiled Porch Floor.

slight variations in shades and tints of the individual pieces.

In tile work, as in mosaic, the jointing is not only a legitimate but an essential factor in its ornamental qualities; and to attempt to conceal or eliminate it betrays on the part of the tile setter an utter ignorance of the historic individuality of his material. As tiling in this country ceases to be regarded as a mere floor and wall covering, used chiefly for its permanent and sanitary

properties and is looked upon as a work of art, the subject of the joints becomes a question of decorative skill. It is always used to outline the different elements of the design, and in mosaic work to proclaim frankly the character of the execution and the materials used in it. The niceties of mechanical perfection which are desirable in wall or floor work that is seen from a distance of only several feet, or in perspective, should give way to a broad and bold treatment when the tile or ceramic mosaic is used on the exterior of buildings, where the design is seen from a far greater distance and in which the proportions of the design must harmonize with the other architectural features of the building.

Clay occurs in numerous varieties, each of which when subjected to the fire of the kiln is baked in a different color. These natural colors in which the material occurs are, however, only a small part of the variety in which the finished product can be manufactured by the addition of metallic oxides, with which it is possible to supply almost any color, shade or tint. One of the characteristics of tiling is that its color, produced by the flames of the kiln, is a most uncertain quality. The potter is never able to tell exactly in what shade or tint his finished product will emerge from the fire. Clay that is in every respect identical and individual, pieces of which are placed side by side in the kiln, will come forth in great variations, even in the same individual piece. The plain white tile, for instance, are divided into a large number of shades, which have to be sorted at the factory in order to give that unnatural uniformity of color which is demanded by the American public, who are as yet unfamiliar with the fine qualities of tiling.

The great variety in the color of tile is one of the most important factors in its decorative possibilities, as it gives the designer or architect a choice of color resembling that of the painter's palette. With these opportunities, however, are also serious responsibilities. The possible abuses of artistic merit extend to a positive clashing of color effects, so evident as to produce a disagreeable physical sensation upon the eye, even of those absolutely ignorant of the cause. A faulty color scheme executed in tiling is all the more serious, as the tile floor or wall is supposed to last for generations, and it is not possible to change its color by the superficial application of pigments. Many of the examples of early tile work in this country, where the tile setter seemed to imagine that decoration consisted merely in the juxtaposition of different colors worked out in geometrical design, without any thought of harmony, were so lacking in taste as to reflect discredit on the material itself; while as a matter of fact the blame rested with the designer or workman, who was not equal to the possibilities, or was ignorant of the dangers of his material.

In addition to the principles of color harmony there are certain other guides which should be followed in the use of colored tile, either glazed or unglazed. In bathrooms, hospitals, drugstores, dairies, and other places where a sanitary floor and wall covering is the prime object, it is well for the white tile to predominate. The

glaring monotony of an all white surface, however, should in most cases be relieved by at least a touch of color in the form of borders, friezes or panels. By a skilful use of these designs it is possible to correct the frequent faulty appearance of a room due to its lack of proportion in being too long, too narrow, too high or too low. The same is true of designs on a tile or ceramic mosaic porch. For practical reasons the porch has to be built rather narrow, and this narrowness is emphasized by the long cracks between the boards of a wooden floor. By the use of tile, or ceramic mosaic, however, the floor can be broken up into sections or supplied with a border that will correct this faulty appearance. In reception halls, smoking rooms, restaurants or other places of recreation or refreshment the colors should suggest warmth and good cheer. In fact in every place the character of the tile decoration should be made to harmonize with its surroundings, and architect or decorator should always bear in mind the fact that the work he is executing in baked clay or mosaic is of a permanent character and will not be altered during his lifetime.

Another feature of color work in tile that is of great importance is the fact that the tile colors never fade, and that they are uninjured by the smoke, dirt and other extraneous substances contained in the atmosphere of our crowded cities. Water, or even acids will not stain or otherwise injure clay tile. In fact the most delicate mosaic picture done in ceramics can be quite safely rinsed off with a hose. In exterior work in cities where there is much smoke or dust in the atmosphere, especially on shop facades located in the basements of buildings, the use of colored tile is about the only effective method of adding to the exterior of the building a color scheme which is not injured by exposure to the atmosphere. Every shower of rain washes the tile surface as clean as if it were a piece of china.

ARTIFICIAL AGEING OF CONCRETE.

Various attempts have been made to reduce the time which must elapse between the casting of concrete and the period when it acquires a workable compressive strength. The effects of a steam bath following on the casting have been tried. The primary set is by this means hastened, but the ultimate crushing strength does not attain the maximum reached by concrete allowed to "age" naturally under ordinary water-sprinkling treatment. Messrs. R. J. Wig and H. F. Harlik, of the Lewis Institute, Chicago, have presented to that body the results of experiments conducted with a view to discovering whether the ultimate compressive strength could not be increased by a further short treatment following on the steam bath. They tried water baths and water-sprinkling processes lasting for different periods of time, and their findings show that both had the desired effect, the water bath being perhaps more satisfactory. It was, however, necessary to continue the treatment for periods exceeding twenty-four hours to bring the ultimate strength up to that of naturally aged concrete.

HINTS ON CONCRETE CONSTRUCTION.

In view of the extent to which concrete is at present being employed in connection with all forms of building construction, the following suggestions to architects by E. P. Goodrich, consulting engineer of New York City, were published in a recent issue of "The Concrete Review."

Concrete has a unique and proper field. It cannot and should not be forced to compete with steel, timber or masonry under all conditions. Do not think it necessary or try to make concrete imitate other materials, either as to finish or as to structural design.

The value of concrete in the construction of warehouses and factory buildings of moderate height is unquestioned. Where fire prevention is important it finds its greatest usefulness.

Where bold or simple exterior treatment is appropriate, concrete can be employed to advantage.

As regards styles of architecture and surface finish, use the mission style of architecture or other simple massive type, rather than the elaborate classic orders.

Don't try to imitate brick or stone by devices of centering. Let the architectural details show that the material is concrete and let it stand for itself.

Secure contrasts by means of shadows, by using deep reveals at apertures and heavy (but not heavily overhanging) cornices and belt courses.

Simple balconies with strong supports may be exceedingly effective if relieved with ornamental iron railings or awnings of appropriate design. If iron is used it must be galvanized or constantly painted. Don't try to exact numerous sharp projecting edges or mouldings. Instead, design them with sweeping curves and beads.

In designing horizontal moldings, do not employ level top surfaces for projections. Remember that the concrete must flow on a slight down grade to reach all points, and that air is readily pocketed unless surfaces are so sloped that it is easily driven out. Thus, horizontal surfaces should almost never be employed in moldings. Proper bevels also assist in easy removal of forms.

Very effective and easily constructed ornamentation can be secured in the form of intaglio work. Greek frets are easily worked out on the forms and are often very effective.

Relief work can be applied in stucco or cement mortar if proper metal bonds are provided and the original surface is carefully prepared to secure a good bond. Obviously, such work should preferably not be very heavy, although with proper care very heavy masses can be satisfactorily employed. The best method of securing intricate details is to have the ornament cast separately and fastened in place in specially provided slots or set as the work proceeds. In either case ample reinforcement, both in the cast ornament and for securing same in the work, should be employed.

On the other extreme, do not expect to be able to obtain large expanses of plain wall or long lines of pilasters or cornices without slight wavings, if built in mass concrete. Such work can be secured, if necessary,

but it is costly, requiring extra heavy forms and excessive care during the deposit of concrete. Break up such areas and long lines by proper devices. Neither expect to secure such large areas or long lines without some cracks. Such defects can be obviated almost entirely by good workmanship and use of sufficient and properly disposed reinforcements, but it is also wise so to design as to provide artificial joints along which cracking will take place, if at all, and where it will be entirely concealed.

If the practically uniform gray color of cement is objectionable, its tone may be modified by applications to the surface, by artificial treatment of the surface, or by introducing coloring substances among the concrete ingredients.

Except for the crudest work, all concrete surfaces should be treated. The ordinary paints, especially of the cold water variety, are not satisfactory. Even cement grout, unless carefully applied, will prove deficient. One or two special preparations, however, have proved of value.

Stucco can be employed where special finish is required. Key joints should be formed in the body concrete and heavy reinforcement installed where stucco is more than an inch in thickness.

Wire lath of every variety, even when carefully coated with preservatives or galvanized, has shown itself liable to disintegration when used as a frame for stucco cornices, etc.

Coloring matter can be introduced into the stucco if desired, but most coloring substances are bleached by the cement and are of short life.

Colored brick, tile, or terra cotta, if of heavy design and considerable thickness, can be embedded in the concrete work as it is carried on, if the concrete is rather dry in texture and if care is exercised in the proper placing of the ornamental blocks. In such work, joints must be formed and maintained uniform by the use of proper wooden wedges and strips.

Tile can be employed if it is first glued to perforated forms with common billposters' paste. When concrete is properly set, deluging the forms with water will dissolve the paste so as to allow the removal of the moulds. Copper tacks can be used to secure tile to centering, and no discoloration from rust will take place after the removal of the forms.

The impress that is left by the forms can be removed from old concrete best by mechanical treatment of the surface. Fine picking, chiseling or hammering, either by hand or by pneumatic tools, will produce differing effects according to circumstances. Sand blasting has also been successfully employed.

TO POLISH MARBLE.

Prepare a mixture of 10 parts by weight of pure beeswax or white wax, 2 parts of Japanese burnishing fluid (Japanese Gold) and 88 parts of spirits of turpentine. This mixture is rubbed on the surface to be polished by means of a flannel rag and produces a high polish.

THE OTTAWA GOVERNMENT BUILDING COMPETITION

Designs Submitted by JAMES FOULIS, Architect, Ottawa.

The designs of Mr. James Foulis, of Ottawa, awarded tenth place in the Ottawa Government Building Competition, are in the English Renaissance style of architecture, of which the author displays an intimate knowledge. Lack of time prevented Mr. Foulis from preparing a perspective view, but it is hoped that from the accompanying reproductions the profession may gather an adequate idea of the plans submitted. In his report to the Judging Committee Mr. Foulis says:

In accordance with clause 5 set forth in the conditions, which states that any style of architecture may be submitted, the author respectfully begs to suggest that a simple treatment of Classic Renaissance be used.

In his opinion the use of a style differing from the present buildings need not necessarily be inharmonious, and the position of the sites further warrants this assertion—the comparatively low-lying nature of Major's Hill Park being in his opinion better suited to a Classic treatment. The nature of the buildings themselves and the uses to which they will be put are also strong points in favor of the more severe style, the dignity and solemnity which is essential in such a building as contains the Courts of Justice, and the more conventional office purposes of the Departmental Buildings, being more suitably rendered in Classic than in any phase of Gothic.

It is also the author's opinion that in any city in which the public buildings follow one particular style of architecture, the beauty and individuality of any one building is apt to be overlooked in the similarity of the whole.

These arguments are not intended as a criticism of the suitability of the beautiful buildings on Parliament Hill, nor as an outcry against the use of Gothic for public buildings, but only as a reason for adopting an entirely different style and a suggestion of what might be done to produce a more artistic ensemble and add to the beauties and attractions of the city.

THE DEPARTMENTAL BUILDINGS.

PLAN.—Only one plan has been shown, it being thought sufficiently typical of the whole.

This plan may be described as that of a continuous corridor, with office space on the outer sides, and having cross corridors running east and west, affording easy and direct communication between the departments, and giving access to the rooms facing the two central quadrangles and to the various toilet rooms.

SYSTEM OF ARRANGEMENT.—The style of single office and corridor with direct light to both is not so economical in building as the double office with central corridor, but it is eminently more satisfactory and unquestionably the best system.

TOILETS.—Particular attention is directed to the arrangement of these latter. It will be noted that the men's toilets are entirely separated from those of the

opposite sex, and are not overlooked by any offices, but obtain ample light and ventilation from areas which also afford direct light and ventilation to the corridors and staircases.

STAIRCASES.—Staircases for general business purposes have been provided at the four corners of the building, with an entrance to each; also a central staircase entering from Sussex street. In each case these would be of stone and built round solid walls with central elevator shafts.

GRAND STAIRCASE.—A grand staircase has been provided entering from the Park side. No elevators have been shown in connection with this staircase, as it is presumed it will be used for ceremonial purposes and not for everyday traffic.

QUADRANGLES AND AREAS.—The two large quadrangles have been arranged to admit of some architectural treatment and will afford ample light to the offices overlooking them. Entrance to these may be had through stone vaulted archways from the Sussex street side. All other areas would be built in white enameled brick.

BASEMENT AND LUNCH ROOM.—The basement would be given over to storage and heating apparatus. The author also suggests that a large luncheon department with kitchen and all necessary offices be provided on this floor—facing Sussex street—for the convenience of the civil servants and benefit of those visiting on business purposes, and capable of providing and serving say 1,000 lunches a day. This is one of the feature of the new war offices in London, England, and is a very necessary and much appreciated essential.

ARCHITECTURAL TREATMENT.—In treating this building it has been the author's endeavor to preserve a dignified appearance without attempting to give any special character other than what belongs to a building of national offices on a palatial scale. Special attention has been given to light and ventilation, and everything necessary for the comfort and convenience of those whose privilege it may be to work within its walls.

A plaster treatment of the Ionic order has been used in subservience to the more massive columnar treatment of the Justice Building. It will be noted that the lines of the order have been carried through at the same level in both buildings in order to preserve the general lines and prevent the greater length and height of the Departmental Building from overbalancing the shorter but more sturdy proportions of the Justice Building.

JUSTICE BUILDING.

Three plans for this building are given, namely, ground, first and second floors. No basement is shown, but this would be given over entirely to storage and heating. In connection with this latter it may be stated that no flues have been indicated on any of the

plans, but would be arranged at suitable points to suit the apparatus.

No fireplaces have been shown on any of the floors, but could be had if considered necessary in the principal rooms where the partition walls are carried up to the roof.

There would be three entrances to the basement from Sussex street, and entrance to the two courtyards might be arranged from the same side, but has not been shown on the elevation.

GROUND FLOOR PLAN.—This floor would be occupied by the Department of Justice and has been divided into suitable offices which would accommodate the minister, his deputy, the secretary of the department, the law clerk and their respective staffs, etc. Attention is directed to the four large committee rooms which have been provided on this floor immediately under the court rooms. These would be paneled in oak and have ribbed plaster ceilings.

ENTRANCES.—The general office entrances have been arranged on the two sides entering from the park, as it has been thought advisable to isolate them from the main grand entrance. When the main staircase is used for everyday business purposes it loses to some extent its architectural impressiveness, and it is befitting in such a building that the grand staircase should be palatial in appearance and reserved for state occasions—separate business entrances being provided.

GRAND STAIRCASE.—The grand staircase is approached from the entrance hall and would be enriched with Canadian marbles, the domical ceiling being treated with modeled plaster work. Ascending to the first floor, the principal landing is reached, from which an adequate view of the dome would be obtained. This landing would be enriched with marble work of similar design to the ground floor, with the addition of a marble colonnade. Above this colonnade rise the four main arches on which the drum of the dome is developed. Staircases are provided at either side of the dome, giving access to the whispering gallery, the windows of which would be filled with stained glass. Access to the upper apartments would be had by means of circular staircases.

PRINCIPAL FLOOR.—The first or principal floor contains the Supreme and Exchequer Courts, with their various offices, and the library for the several branches.

COURT ROOM.—These would be paneled in wainscot oak to a height of 12 feet, and finished above in plaster with modeled caps, and supporting a segmental roof of simple paneled treatment.

LIBRARY.—The library occupies a central position easy of access to all the branches. It has two detached and enclosed staircases to the gallery. A store room in connection with the library has been arranged on the ground floor, with connecting staircase. A room for the librarian could be had on either side with direct light from the courtyards. This is not indicated on plan.

The treatment consists of a colonnade of the Corinthian order, supporting an elliptic vaulted roof, paneled as indicated on the section. The roof lights would be

finished on the inside with leaded glass. The columns would be of Keen's cement with marble bases and modeled plaster caps, and the gallery would be treated in oak with bronze railing.

JUDGES' ROOMS.—The judges' rooms have been arranged along one corridor to avoid confusion with the other branches of their respective courts. Each has a separate toilet room.

OFFICES GENERALLY.—The offices are arranged conveniently along a continuous corridor, with direct light and ventilation, and with suitable toilet rooms and staircases. These latter have been kept entirely separate from the elevators.

RAILWAY COMMISSION.—This department would occupy the second floor. The superficial deficiency of store room accommodation on this floor could be made up in the basement, and it is also suggested that one of the large rooms in the tower might be used for storage purposes, or preferably as a record room. Access may be had from this floor to the gallery of the library.

COURT ROOM.—The court room would be paneled in wainscot oak to a height of six feet, with plaster ceiling having a wood cornice and ribs.

ARCHITECTURAL TREATMENT.—A heavy columnar treatment has been used throughout in order to produce a massive and dignified appearance in keeping with the purposes for which the building is intended. On the Park elevation, a facade of double attached columns has been adopted in order to emphasize the court rooms. The sculptured pediment over the front entrance represents a central figure of Justice, supported by other figures symbolical of the various industries. Those over the corner pavilions are intended to represent Peace and War, Truth and Justice, Fame and Victory, etc. The crowning feature of the building is the great peristylar dome over the grand entrance. It reaches a height of 170 feet above Major's Hill Park, terminating with a stone lantern over the copper dome.

STONE.—It is suggested that buff sandstone from New Brunswick quarries be used throughout in both buildings, and also in the upper part of the bridge, grey granite being used up to the spring of the arches.

MONUMENTAL BRIDGE.

The bridge is simple in design. The two pavilions have been introduced to relieve the severity of its lines. An attempt has been made to keep the arches as symmetrical as the existing conditions of the site will permit, at the same time keeping the height of the bridge about the same level as the present street bridge, so as not to shut out the view over the river from that point. The conditions call only for a foot-bridge, but if a carriage-way were desired, this might be had by forming a road along the face of the hill, south of the bridge and joining the present roadway at the southeast angle of the east block, thus providing direct communication between the existing and the new buildings without having to make use of the public street. Possibly the extra convenience obtained would more than compensate for the extra expense incurred in forming this roadway.

ACTIVITY AMONG BUILDERS' EXCHANGES

TORONTO EXCHANGE OPENS.

An era of advancement in the progress of the Builders' Exchange of Toronto was marked by the recent formal opening of the new Exchange offices at the corner of Richmond and Berti streets. About 100 members and guests were present, representing all branches of the building trade. The new Exchange quarters are located in the Sons of England Temple, where they occupy the entire ground floor of the new building, recently erected under the supervision of Messrs. Chadwick & Beckett, architects, Toronto. The accompany-

ing photograph shows the general assembly room, together with the various offices occupied by the different sections. It is the aim of the Toronto Builders' Exchange to increase its membership and to endeavor to advance in every legitimate way the interests of the building trade. The records of the Exchange extend backward over a period of forty years. It first existed as the "General Building Society," the membership in 1867 being about fifty. Among those of the old "Society" still living are William H. Booth, Robert Carroll, Joseph Gearing, Edward Galley, William Forbes, and John Dill.

The "stipulations" under which the builders of the old "Society" took their contracts may well cause pre-



New Quarters of Toronto Builders' Exchange.

ing photogravure shows the general assembly room, together with the various offices occupied by the different sections.

At the opening, which was held on December 9, several bright and interesting speeches were made after the introductory address by the president, Mr. Thomas Self. Messrs. W. J. Bolus and Stewart Hughes, the president and secretary respectively of the Master Painters' Association, made interesting speeches, showing the good results to be attained by united effort. The speeches were interspersed with songs, rendered by members of the Exchange, and humorous character sketches by Mr. Eddie Piggott.

sent-day contractors to doubt whether they have progressed since those "way-back" times. A few of these "stipulations" may be here enumerated:

1. Detail drawings to be furnished by the architect at the time of tendering.
2. Contractors to attend at the required time, and be present at the opening of tenders.
3. The owner of the property to execute the contract in duplicate, and sign plans and specifications at the same time as the contractor, and one duplicate original so executed to be delivered to the contractor.
4. All alterations or additions to contract to be only proceeded with on the written order of architect or proprietor.

(Continued on page 28.)

THOMAS OGILVIE & SONS' NEW WAREHOUSE.

BURKE & HORWOOD, Toronto, Architects.

The new warehouse of Messrs. Thomas Ogilvie & sons, woollen manufacturers, at the corner of Bay and Wellington streets, Toronto, is a seven-story fireproof building erected under the direction of the architects Messrs. Burke and Horwood.

The building is 118 feet long by 60 feet wide, and 104 feet in height. The basement and first floor will be occupied by Messrs. Ogilvie & Sons themselves, but the upper portion of the building will be let for flats and offices. The second, third, fourth, fifth and sixth



Ogilvie Building, Corner Bay and Wellington Streets, Toronto.
Burke & Horwood, Architects.

floors will be let as flats, with a floor space each of approximately 6,000 square feet, while the top, or seventh, floor will be divided into offices with a floor space of 700 to 800 feet square each. Few business quarters in Toronto will be able to show as much good light and space as the new building will, as there are 14 windows on each floor, with an average width of nine and a half feet. The ceilings are all lofty, the main floor being 16 feet high. The spacious pillared entrance fronts on Bay street will be distinctly ornamental in marble and mosaic.

"Expanded metal" has been used in making the building fireproof, the new structure reflecting great credit

on the superiority of this popular method of fireproof construction. The walls are exceptionally heavy, and are faced with red pressed brick, trimmed with grey stone. All the windows are of wired glass in metal frames. The stairways and elevators are all enclosed in fireproof partitions.

CLASS IN DESIGN, ONTARIO ASSOCIATION OF ARCHITECTS.

In order to foster and stimulate an interest in design, the president of the Ontario Association of Architects has offered a traveling studentship of the value of \$50, open for competition to all students who are at present serving their articles in offices of members of the Association. At least three students must engage in the competition, the conditions of which are as follows:

The subject will be a private garage in connection with a gentleman's residence. Accommodation is required for two automobiles, a chauffeur's bedroom and a small room for garden tools and roller. The style of architecture and the material to be used are at the option of the competitor. Preliminary sketches are required, which may be submitted in a rough state, but in sufficient detail to permit of intelligent criticism.

These sketches will be received and criticized by the judges at the rooms of the Association on the evening of Monday, January 27, at 8 p.m., when all the competitors are requested to be present to take advantage of the criticisms of the various designs. If a competitor is unable to be present his design may be submitted, and the substance of the criticism will be given to him either orally or in writing. Out of town competitors will have the criticisms of their designs sent in writing.

The completed designs will be received six weeks later, the competitors being again present to hear the criticisms of these. The judges will afterwards meet at their convenience to further study the designs and make an award.

The completed designs are to be drawn to a scale of one-eighth inch to the foot and may be rendered in any manner, but preferably suitable for reproduction. A perspective sketch is required in both preliminary and final studies. Competitors may accompany their final studies by a typewritten description of special points in the design.

The successful competitor will be required, within six months of the award, to spend at least five days in one of the following cities: Boston, New York, Philadelphia or Washington, \$40 being advanced for his expenses.

He will be expected, within two weeks of his return, to forward to the judges, through the registrar of the Association, a typewritten critical report or description of some particular work of architecture which he has visited, when the balance of the prize money will be paid over to him. If he so desires he may submit free-hand sketches of his observations with explanatory notes.

Competitors are required to notify the registrar of their intention to compete not later than the 31st day of December, 1907.

WORKING PLAN FOR A COTTAGE ROOF

By W. C. A. STEVENSON.

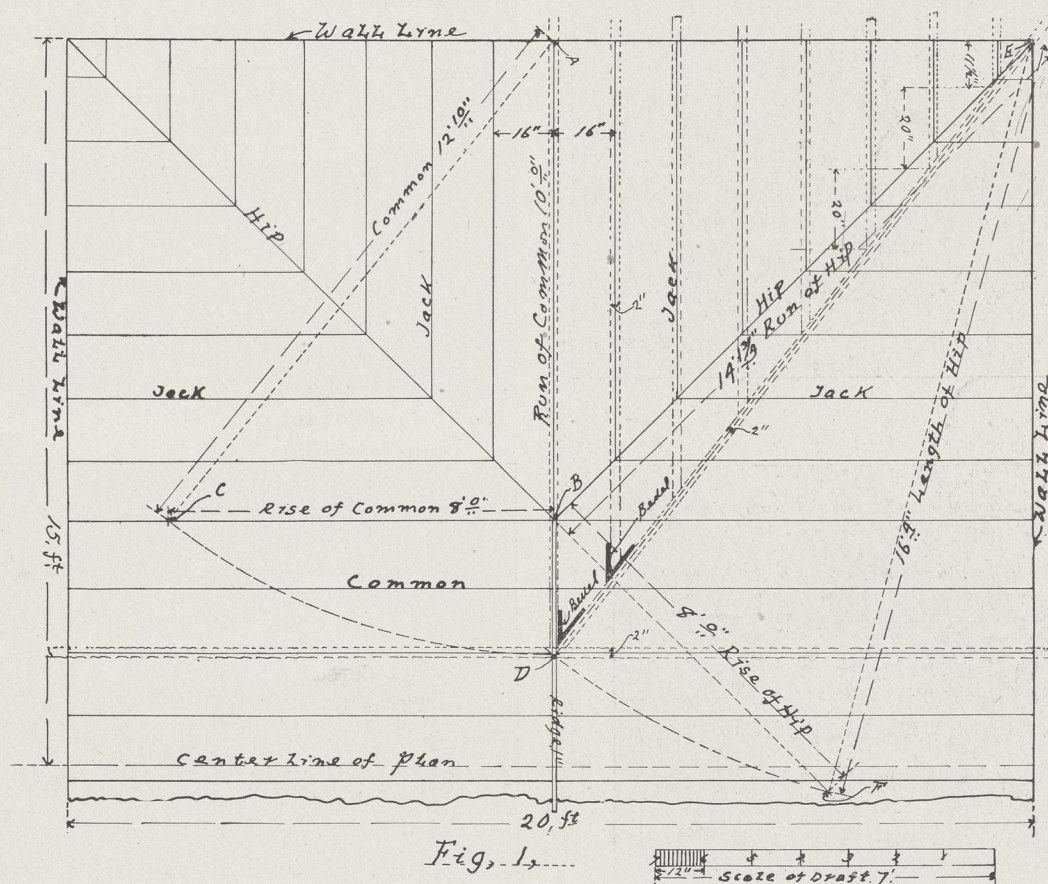
We produce herewith the half plan of a cottage roof from which all cuts can be taken. The outside measurement of the walls is 20 feet by 30 feet long (only half the length being shown).

The full lines show the plan of rafters, indicating the position they assume. The jack rafters are spaced at 16 inches on centres from the common rafters. We have shown this roof to have an 8-foot rise, 2 feet less than half pitch.

The line A B is the run of common rafter, i.e., 10 feet. Measure at right angles to A B a distance of 8 feet to C, this being the rise before stated. Connect A and

rise on the other will give the figures required. Also by measuring across the angle from the two figures you can get the exact length of the rafter to a twelfth scale.

Now revolve the line E F, the hip line and A C, the common line, around to the point D, where it will be seen that they meet on the centre of the ridge line. Then draw the dotted lines 1 inch on each side of A D and E D, thus showing the common and hip as they come together. When these are elevated to the height of 8 feet the point D will be directly above point B, and by extending the jacks on the hip E D we get their exact level. To get the bevels for these side cuts the bevel



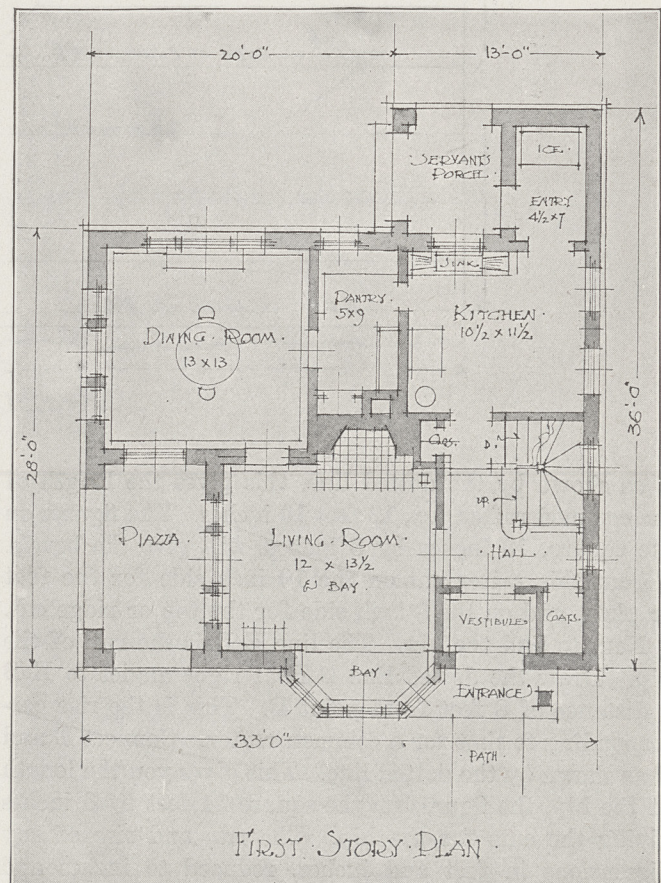
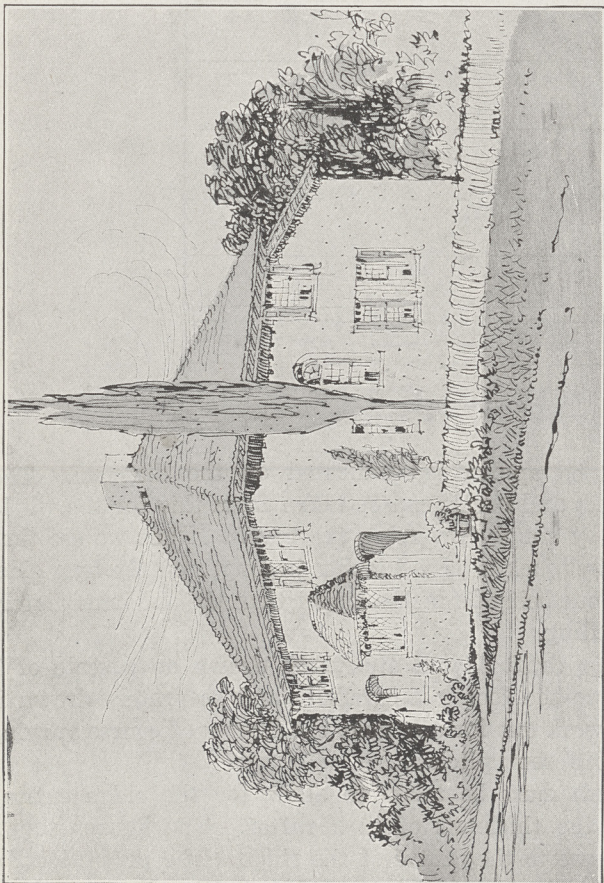
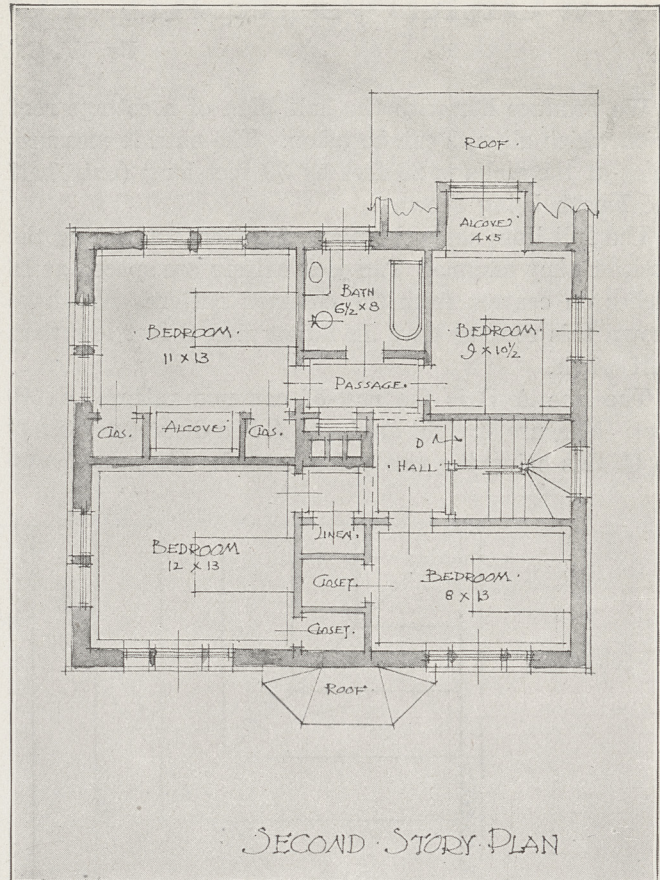
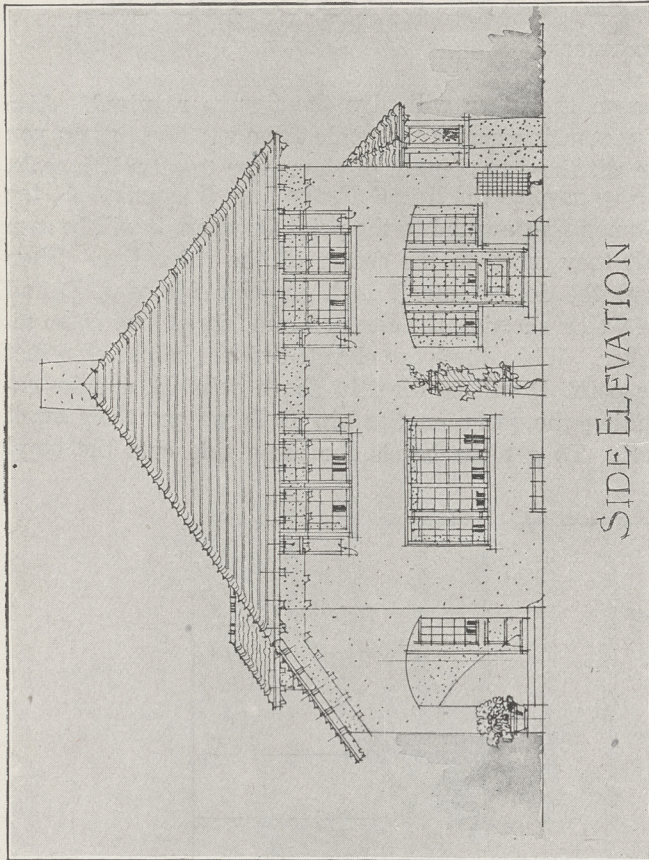
C as shown by the dotted line, this gives the length of the common rafter, i.e., 12 feet 10 inches. The figures on the square, 10 inches by 8 inches, will give the bevels. To cut this rafter cut on the 10 inch side for the foot or plate, and on the 8 inch side for the top or ridge cut.

Next to find the hip. The line E B is the run of the hip. Draw the dotted line B F at right angles to E B a distance of 8 feet from point B. This is the rise corresponding to that for a common rafter. Connect E and F as shown by the dotted line. This gives you the length of the hip, the figures on the square 14 feet by 8 inches giving the cuts for the hip. The run and rise of any dimensions in feet and inches, reduced to inches and twelfths of inches, may be taken on the square, the run from the angle of the square on the one blade and the

must be applied as indicated on the diagram. The lengths and bevels can be taken from this for the whole roof by simply reversing the bevels. Thus we see that the first jack is 11 1-2 inches in length on the long side, each one being 20 inches longer than the one immediately preceding.

This draft should always be drawn on a scale of 1 inch to the foot. If carefully and accurately drawn it will work out for any rule, the figures of course varying for different pitches.

Care must be taken to allow for the ridge cutting half the thickness of each rafter. The figures shown here are to the centre of the ridge. The projection for the cornice must also be added, as the diagram shows measurement to the wall line only.



Plans for a Semi-Detached Two-and-a-Half-Storey Concrete Dwelling House—Cost \$4,500.

A CONCRETE DWELLING HOUSE.

Recently we showed the first prize designs for a semi-detached two and one-half storey house of seven or eight rooms, cost not to exceed \$4,500, submitted in the competition held some months ago by the Association of American Portland Cement Manufacturers. This month we produce the designs of Cornell Appleton, Newton Centre, Mass., who was awarded the first prize of \$200 in the same contest for a single dwelling of similar height, not to exceed \$4,500 in cost. The description accompanying the designs is as follows:

Monolith concrete walls. Surface fine picked. 4 inch x 8 inch x 16 inch hollow block partitions in first storey. Chimneys.—Concrete blocks with skim coat above roof. Roof.—Variegated red slate laid in irregular courses.

ESTIMATE.

Excavating and concrete	\$2,050.00
Lumber	430.00
Mill work	350.00
Carpenter work	600.00
Stairs	175.00
Hardware	150.00
Slating	200.00
Plastering	300.00
Painting and staining	100.00

\$4,355.00

A monolith wall with air space could be used for a sum slightly in excess of the above figure.

Cubic contents—37,052 cubic feet.

MONTREAL NOTES.

The annual expenditure in building operations in Montreal has more than doubled in the past five years—a clear indication of the city's growth, while in several ways the closing year will establish a record. While most architectural firms have been busy, there has been an enormous amount of work done by contractors in and around the city, examples of which are to be seen everywhere, apart from the large new banks, business premises, churches, etc.

One notable feature of the season's work has been the number of large banking premises, nearly all classic in style, and each endeavoring apparently to outclass its predecessor in the height of its columns and in architectural grandeur. Indeed, one is almost forced to the conclusion that some adaption of Greek or Roman architecture has come to be accepted as the summum bonum of bank buildings. Whether or not this is a fact, it is unfortunate that some of the largest buildings should be crowded into narrow streets, with no approach whatever, thereby losing effect and unity.

The development of Victoria Square as a business centre is becoming more apparent year by year, and from a somewhat dingy section it is gradually, by the addition of some fine warehouses and business blocks of no mean architectural pretensions, assuming undoubted importance; and if more attention were given to the lay-out of the square it would soon become one of the most interesting in the city, as its width and length offer untold opportunities in the way of architectural design.

In the residential sections there has been a large amount of work done, while a marked development in taste is to be noted in the number of really artistic houses to be seen, particularly in the upper and western portions of the city and Westmount. The number of apartment houses that have been erected has been one of the features of the year's work. Some of the best residential districts have been invaded by these huge structures, with not always the best results, but it now looks as if the apartment house is going to be a permanent feature in the city's architecture.

The extensive addition to the Windsor Hotel by a New York architect is rapidly nearing completion, and it is rumored that the city is to have a new hotel on St. James street. Although nothing definite has been settled, Messrs. Carsley have been approached by an American syndicate for the sale of their property, while it is well known that this firm are moving uptown in a little over a year.

Some restoration work has been done at Christ Church Cathedral, under the supervision of Professor Nobbs, A.R.I.B.A. The interior has also been decorated under his charge, with distinct success, thereby adding much interest to the building.

The Church of the Messiah, on Sherbrooke, Messrs. Edward & W. S. Maxwell, architects, is now complete, and marks a distinct advance in Montreal's church architecture. It is purely modern Gothic in style, and the most has been made under circumstances of an awkward site.

The First Baptist Church is progressing rapidly, but will not be ready for occupation till next year. Messrs. Mitchell & Crighton are the architects.

The new school at Westmount has now been roofed and, judging from present appearances, will be one of the handsomest and best proportioned schools in this locality. It is entirely fireproof in construction and in style is a modern adaptation of Elizabethan architecture. Messrs. Ross & MacFarlane are the architects. Their building for the Bank of Toronto on St. Catherine and Guy streets is also making rapid progress and promises well.

The large number of factories at present in the finishing stages in and around the city is remarkable. Not for some time have there been so many really first-class ones built. This is a class of work, it is a pleasure to note, to which more attention is being given every year by architects, while at the same time it gives great scope for original treatment.

ASBESTOS SHINGLES.

Shingles are now made under a patented process from asbestos fiber and Portland cement. Owing to the enormous pressure under which shingles are manufactured, it is said that they absorb, when fresh, only about 5 per cent. of their weight of water; and when exposed to the atmosphere for a year or two that hydration and subsequent crystallization convert them into impermeable roof coverings.

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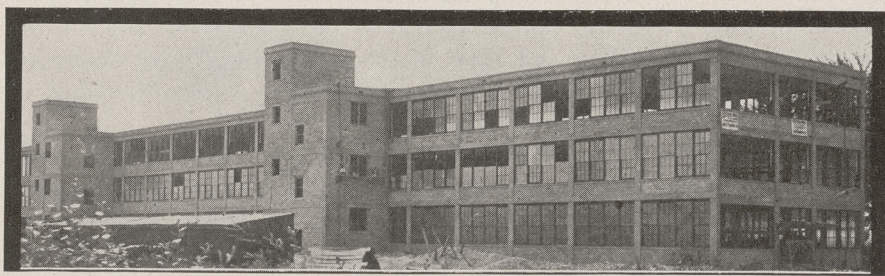
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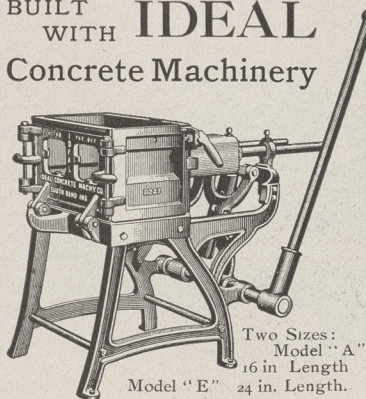
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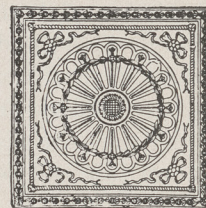
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ACTIVITY AMONG BUILDERS' EXCHANGES.

(Concluded from page 21.)

Special attention is called to stipulation No. 2, in view of the fact that some architects are said to have a method of securing tenders that is loose and unfair to the contractor. The latter claims that bids are invited from the various trades, and a definite time limit set for their closing, but that it afterwards leaks out that tenders are again asked for from others who had not competed in the first instance. Contractors say that architects who follow this system can not blame any builders who may decline to again tender under such conditions.

Two years ago, as a result of a meeting between the Toronto Association of Architects and the Builders' Exchange, it was decided to adopt a standard form of contract, viz., the "Revised Contract." This decision is of much value, as builders are now aware of what they undertake, and they are also assured that the terms of the contract are fair and equitable to all parties.

The secretary, Mr. J. L. Phillips, will be pleased to confer with any firms who are not as yet connected with the Exchange and to give any desired information.

ANNUAL BANQUET AT MONTREAL.

At the Place Viger Hotel, Montreal, on the evening of December 13, the Builders' Exchange of that city held its tenth annual banquet. The affair was an unqualified success. In the chair was Mr. James Simpson, past president of the Exchange, and on his right were the Hon. R. Dandurand, Speaker of the Senate; Mr. L. A. Rivet, M.P., Ald. De Serres, acting Mayor; Mr. C. H. Catelli, president of the Chambre de Commerce; Mr. A. O. Brossard, provincial architect, while on his left were the Hon. W. A. Weir, the Hon. J. D. Rolland, president of the Canadian Manufacturers' Association; Messrs. A. Chausse, Jos. Thibeault, and J. H. Lauer, secretary of the Builders' Exchange. The vice-chairmen were Messrs. J. H. Hutchison, N. T. Gagnon, a past president, while the reception committee consisted of Messrs. J. N. Arcand, John Gray, W. R. J. Hughes, Chris. Sonne and W. E. Ramsay.

The menu card was in the form of an elaborately worded legal document, duly signed and sealed, skillfully concealing in a maze of verbiage the good things to which a full quota of guests did ample justice.

The loyal toast having been accorded due honor, Mr. W. E. Ramsay proposed the toast of "Our Country, the Dominion," and in so doing suggested that they should show the Government some appreciation of the passing of the Lemieux Bill, expressing a hope that it would soon be extended to the building trades. The bill was a great success, and it had received the approval of both parties.

The Hon. W. A. Weir expressed the belief that before long they would see compulsory arbitration, not only in public utilities, but in every walk of life dealing with industrial energies. Men had, of course, every right to combine, but to his mind there was one fatal principle in trades unionism, and that was that all workmen, whether skilled or not, must be paid the same wage;

a man who is inferior at his trade must receive the same as the skilled workman. It was a fatal defect, and one which he believed the workers themselves would eventually remedy.

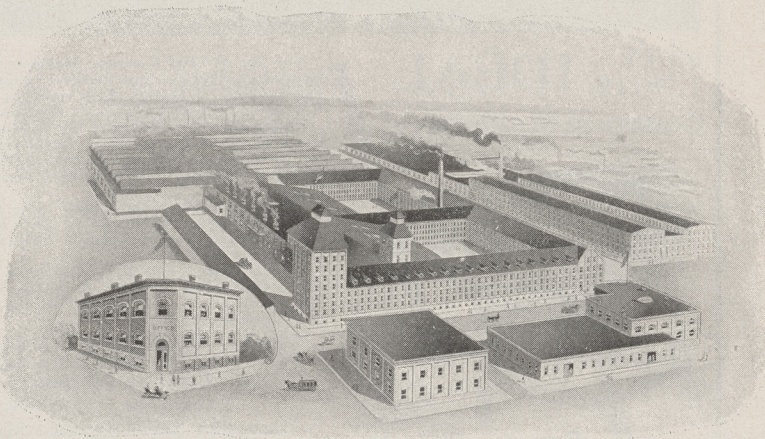
"Education," declared Mr. Weir, "is the solution of this problem. Ignorance is the refuge of the thoughtless. We must have a thorough system of education before Canada can take her place among the great industrial factors of the world."

The other speakers during the evening were: Hon. J. D. Roland, Alderman De Serres and Messrs. L. A. Rivet, N. T. Gagnon, J. W. Hughes, C. H. Catelli, W. T. Castle, Geo. A. Ross, Alcide Chausse and R. P. Lemay.

GROWING DEMAND FOR WIRE GOODS.

Great improvement has been made of late in the buildings and plant of the B. Greening Wire Company, Hamilton, so that the former now occupy portions of three separate blocks.

Besides the manufacture of wire, this company make all kinds of wire cloth, from the heaviest varieties used for locomotive stacks and refuse burners for saw mills



B. Greening Wire Company's Plant, Hamilton, Ont.

to the fine wire cloth used for flour mills, office window blinds, mining purposes, car ventilators, etc. They also make steel wire chains of all descriptions and for all purposes.

For all these goods the demand has recently become so great that it was found necessary to open an eastern office at 422-4 St. Paul street, Montreal, of which Mr. J. H. Hanson is in charge.

MANITOBA ASSOCIATION OF ARCHITECTS.

The annual meeting and banquet of the Manitoba Association of Architects was held at the Royal Alexandra Hotel, Winnipeg, November 15 last, with President S. Frank Peters presiding. Speeches and general good fellowship made the evening a thoroughly enjoyable one. The election of officers for the ensuing year resulted in the following appointments: President, S. Hooper; first vice-president, J. Greenfield; second vice-president, J. Chisholm; treasurer and secretary, L. T. Bristow and W. Percy Over, respectively (re-elected); directors, J. D. Atcheson, Wm. Fingland, S. F. Peters, V. W. Horwood and H. Matthews.



The Allis-Chalmers Plant. 300,000 Square Feet of Barrett Specification Roofs.

FOR ALL PERMANENT BUILDINGS

IT is significant that Barrett Specification Roofs are almost invariably adopted for buildings with large roof areas, such as factories, railroad buildings, etc., where the cost and durability of materials must be carefully considered.

An example of this is the well-known Allis-Chalmers plant, illustrated herewith. All the recently erected buildings carry Barrett Specification Roofs, amounting in all to about 300,000 square feet.

A Barrett Specification Roof in a typical instance (King Phillip Mill, Fall River) was recently renewed after thirty years of service.

Its original cost was less than any style of metal roofing would have been. Tin or sheet iron would have required continual painting, and even then would have been liable to rust and corrode, causing loss by leaks. A ready roofing, with its

narrow laps and exposed nailing, would have been entirely unadapted for use on a building of this type, where the roof is of moderate pitch.

The cost per square foot per year of service in the case of Barrett Specification Roofs is remarkably low; First, because the original cost is always moderate, and second, because the maintenance cost, as a rule, is nothing, as such roofs require no painting or protection of any kind. In the case of the King Phillip Mill, for instance, the total cost was only about one-fifth of a cent per square foot per year.

Low cost and satisfactory service have made Barrett Specification Roofs more largely used than any other kind.

The Barrett Specifications in pocket edition form will be mailed free on request to anyone interested.

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THE CLAYWORKERS' ANNUAL CONVENTION.

The sixth annual convention of the manufacturers of Canadian clay products was held in Ottawa at Goldsmith's Hall, November 19 to 21, last.

President John B. Miller, of Toronto, in his annual address, alluded to the curtailed profits of the manufacturers, owing to the increased cost of materials and labor and this, despite the fact that from one end of Canada to the other the brickyards had more orders than they could possibly meet.

Mr. Miller referred to the impression that cement would displace brick. He firmly believed that a well burned clay product for construction purposes, either as regards rapidity of construction, safety, or on sanitary grounds was unsurpassed. The reason, he continued, that was given for the agitation against brick was that it cost too much to place this brick in the walls after being delivered. With other materials unskilled foreign labor could be used while the claim was made that the skilled labor is controlled by trade unions whose members work only as they like and when they like, and demanded the highest wages. "Are an honorable class of skilled mechanics, who build structures of material that defy the ravages of the elements and time itself, are these good citizens to be supplanted by those who have no aspirations to ever become citizens, and are our public buildings and homes to take the appearance of plastered or roughcast tenements simply because a common mind has not been found between those who buy our product and those who make them take the form of buildings?" he asked.

An interesting paper on "Tile Drainage and its Needs" was given by Mr. J. H. Grisdale, of the agricultural department of Ottawa. The speaker had had considerable experience in drainage and favored perfectly round tile in preference to tile with a flat side. He urged the manufacturers to produce 2 1-2 inch tile manufacturing. One half of the land of Canada would do better if it were drained. From 10 to 20 p. c. of the land of this country has to be drained. He outlined how necessary it was to urge on this business and gave several reasons in favor of tile drain. He favored tile being made of finer grain so that they can be broken at any point necessary. "Once we can get the farmer to understand how much benefit is to be derived from tile draining, said he, the demand for tile will be enormous."

The growth of ceramic art was sketched by Mr. Gregory, who gave an outline of the history of pottery in the early ages, with special reference to Egyptian, Greek and Roman pottery.

President W. S. Odell, of the Ottawa association, read a paper prepared by Secretary W. J. Craig, on "Local Organization." He described the conditions in Ottawa where all the brick is supplied to a stock company, known as the Ottawa Supply Company, who in turn sell it to contractors. The profits are divided according to the productive capacities of the respective plants.

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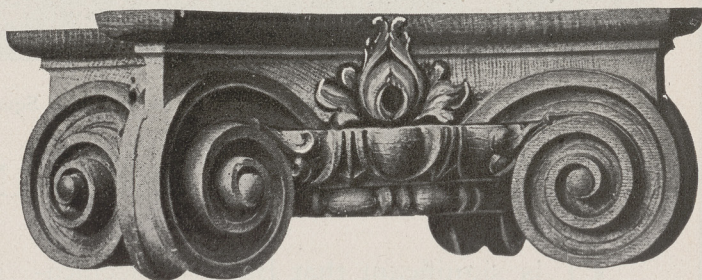
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A feature of the new St. Jerome College building, Berlin, Ont., is the metal cornice, six feet high, manufactured and erected by the Metal Shingle & Siding Company, who are manufacturers of "Acorn Quality" roofing.

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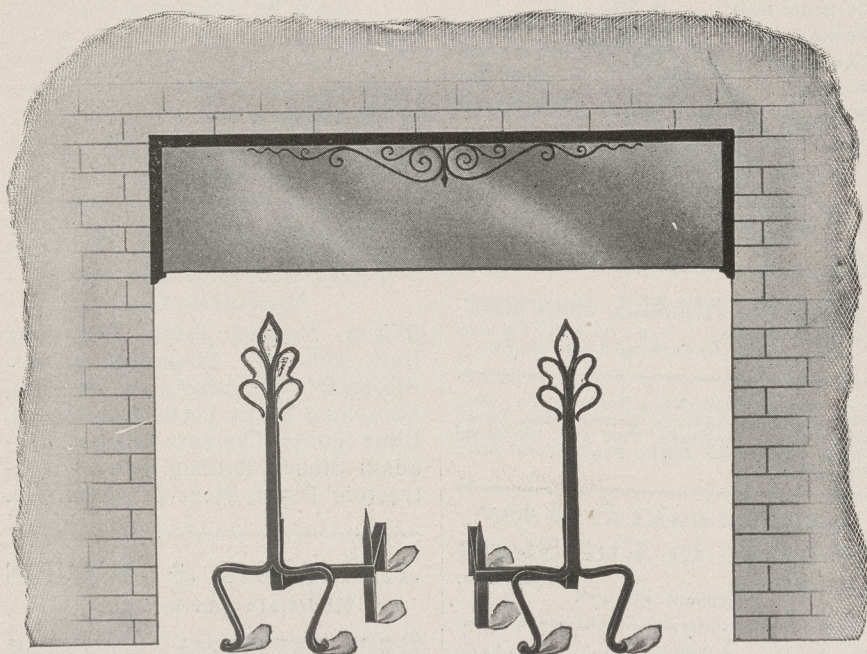
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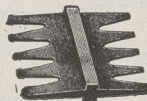
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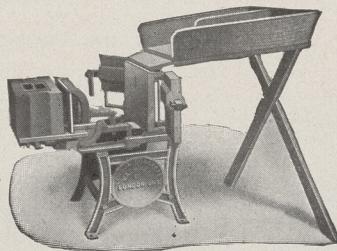
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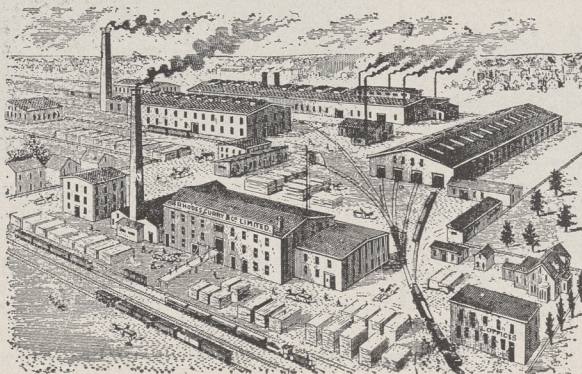
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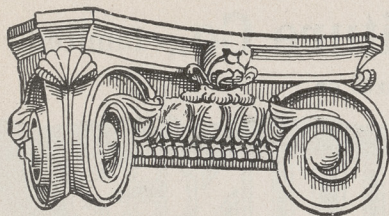
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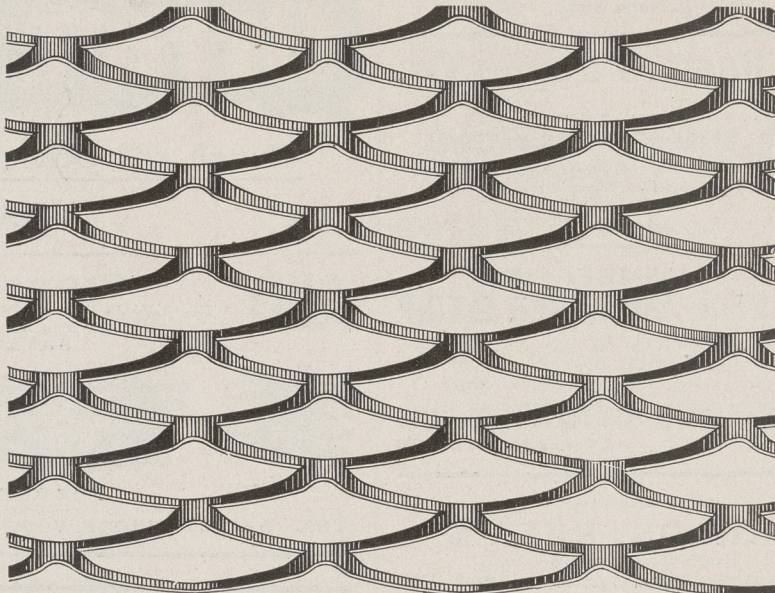


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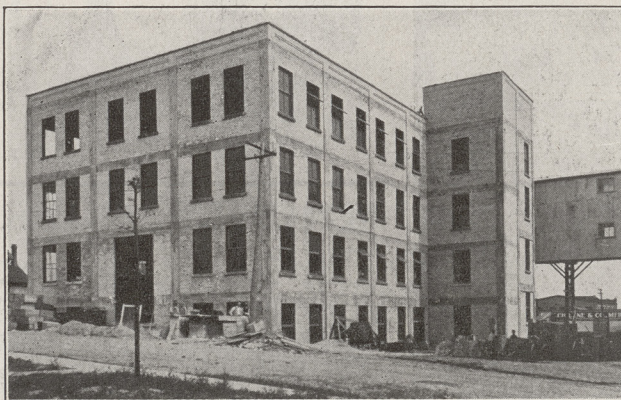
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