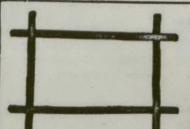
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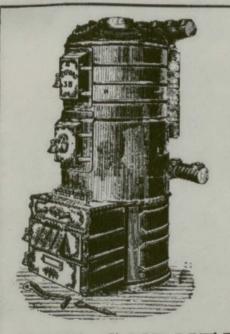
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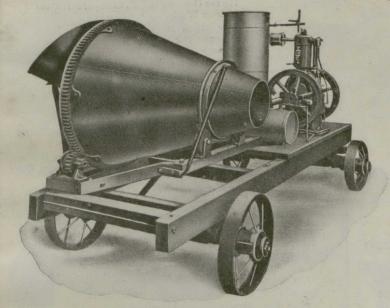
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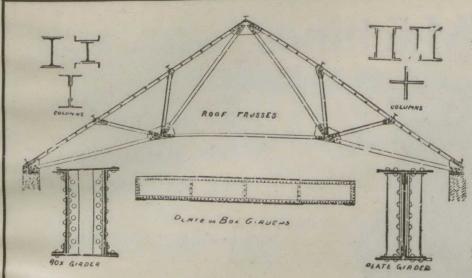
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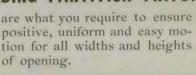
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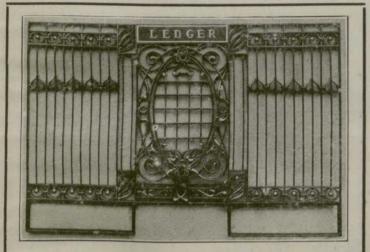
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A Journal of Constructive and Decorative Art

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Toronto

MARCH, 1908

Montreal

THE advent of spring is near. Soon nature shall arise jubilant with song, and beauty adorn every Then we shall see the revival of the building trade after the long rest of winter. The decisive tap of the bricklayer's trowel may then be heard, while at intervals he may be seen laying his plumb-line to the face of the wall to see that every brick is properly adjusted and level. This process may be termed the "material" adjustment. But there is also a preparatory stage which we may call the "business adjustment" which must have his most serious and careful attention, otherwise the whole fabric of "the contract" may suffer disaster. During the long months of winter the architect has been preparing the plans and making out the specification, and now the contractor has them in his possession to figure out the cost. But how has this to be done? There is no schedule of quantities prepared wherewith to facilitate his method of pricing accurately the cost, or give him a basis of satisfaction that he is in any way near the mark. This is a deplorable state of affairs, for he knows that, however carefully he may go over his plans in detail making his calculations, his other competitors may figure out their estimates in a haphazard manner, and be considerably under his amount in the lump sum offer. This to him is a waste of time and energy, and precludes him from getting many jobs that he could have done satisfactorily at his price, at the same time having a reasonable margin of profit. In such circumstances he is either to reduce his offer below that of the lowest competitor, or lose the job. If he adopts the former method, then he may be strongly tempted to give inferior material and workmanship, and ruin his reputation, whereas if he

submits to the latter, he may be a "poor," but "honest" man. To obviate this state of matters among contractors, it seems absolutely essential that an uniform system of measurement be adopted, upon which basis schedules of quantities may be drawn out, and submitted to each contractor to figure upon. This is now being keenly felt by members of the building trades, and is being "voiced" in the building journals. Such a system, applicable to every trade and competent to meet every requirement, has been introduced quite recently into Canada, and it lies within the power of all the Builders' Exchanges throughout the Dominion to adopt the rules connected therewith, and put them into active operation, if they are desirous of having an account and safe method of estimating.

The advantages of this system may be reverted to more particularly at some other time, but we would indicate that accuracy of detail, facility and saving of time in pricing, and the satisfaction that each contractor is working upon the same basis, are some of its prominent characteristics. The prospects for the building trades this season are bright. With the loosening of the firm, cold hands of winter upon the sinews of nature will come the genial flow of "money circulation" from the banks, and general business and commercial prosperity. There is a vast field for development in the building trade in the large cities and towns of our older provinces, whereas in the growing cities and towns of our Western provinces there are railway and other facilities arising that shall operate in no small measure in promoting our national prosperity.

t is a common saying that "Competition is the life of trade," but frequently it turns out the "death" of trade to some unfortunate speculative builders. There is legitimate and illegitimate competition, and this, we find in all branches of industry and commerce. The former is conducive to a nation's well-being and prosperity, the latter productive of its decay and ultimate dissolution. In connection with the building trades competition is generally controlled by the process of "tendering." This can be legitimately carried out when each contractor has an uniform basis of quantities to operate upon, and carefully and accurately computes each item according to the current rates. But when "guess-work" is resorted to, then we could not class such a method as "legitimate," because it may be either prejudicial to the interests of the contractor or owner. The system of "legitimate tendering" by a basis of accurate quantities would be beneficial to both parties, and prevent much unnecessary litigation. When a schedule of quantities is supplied, the method of pricing is simplified by calculating the cost of the material, the amount of labor expended in its manipulation, and in building or fixing it. These can all be included in the price per superficial foot or yard, lineal foot or yard, or cubic contents specified. When these prices are calculated correctly and extended into the cash column, and added up, then we have the compilation of a "legitimate tender" which may be relied upon. The result will be that very little disparity will be shown in the amounts of the priced tenders, that should give satisfaction to both owner and contractor.

But competition is not confined to builders and contractors. Architects also come in for a fair share of competition, and it has been frequently discussed whether it is beneficial or not to the advancement of the profession of architecture in the highest sense and whether some means may not be adopted whereby to keep it within proper channels to produce the best results. This is a very comprehensive subject, of which we could here only touch the fringe. Architectural competition when run on right lines is not only justifiable but commendable. In other cases it is detrimental to the interests of all concerned. It may be noted here, however, that it is chiefly large and special buildings of a public character where architectural competition is called into requisition. When the professional architect has experience in the class of building proposed to be erected, he generally runs the best chance of being on the list of those invited to compete. But the qualifications required in any high class structural arrangement, or artistic design, are frequently so difficult to obtain within a limited territory that it is essential to request several architects of repute from various centres to compete in producing plans and designs that shall meet all the requirements of the case. It appears that in order to attain the acme of accomplishment in any very elaborate and extensive public building, two or three "specialists" should be employed. It is sometimes advocated that a special architect should be employed for the internal structural arrangements of the plans, and another "special" architect to carry out the "design" adopted and the decorative arrangements of the building. Again, in special "engineering" work required, frequently the services of a competent engineer are called into operation, so that the best skill in such construction may be obtained. There are several rules which might be formulated in connection with architectural competitions, but we would here state those recommended by a committee of the American Institute of Architects:

- (a) Limited to a certain number of invited architects.
 - (b) Open to all architects.
- (c) Mixed; certain architects being invited, but other architects being at liberty to take part.

Architectural competitions have the advantage of opening up avenues of opportunity to the young aspiring architect of ability, whereby his genius may be discovered, and so establish a place for him in the ranks of the "select." When a young architect has experience

in any particular class of work, it is fortunate for him that he has such an opportunity of displaying his ability. And it is only by recruiting the best from the ranks of our younger members that the status of the architectural profession can be maintained.

UCH discussion has been indulged in of late in architectural circles, and in the journals connected with the profession, on the subject of registration. Whatever may be the minor qualifications of the applicant for membership into any Institute of Architects, the most important should be that of education and experience in his profession. The facilities afforded our young students in architecture are not altogether what might be desired, yet they are quite adequate for the initial stages of their career, and by the institution of travelling scholarships the artistic temperament may be fostered and developed that shall be productive of much good work and leave its impress on the architecture of our large cities and towns throughout the Dominion. It seems a wise principle that the rules for admission to any body of architects should by no means be upon "hard and fast lines." Examinations are not always the criterion of a man's artistic genius, although they may be of his scientific and practical knowledge. Coming into close and vital touch with the student or professional architect who is desirous of membership, and knowing by actual experience his workmanship and ability, would tend more to promote the status of an Institute than all the rules of examination which might be formulated. It is a good idea to have a national Institute, such as now constituted in the Institute of Architects of Canada, whereby everything pertaining to the advancement of architecture in its scientific, practical and artistic relationships may be discussed. There is no doubt that the fact of being a member will carry weight of some importance in the selection of an architect for any special undertaking. Yet it must be conceded that outside the pale of membership there may be professional services acquired that would meet the requirements of those concerned. It doubtless will be considered an honor to become a member of the Institute by every aspiring young architectural student, and should be an incentive to his ambition, urging him to persevere in his studies, and be diligent and careful in every stage of his architectural career. The true basis upon which every Institute or body of architects should be constituted is by means of co-operation to extend the usefulness and promote the interests of all that pertain to the development and excellence of the profession. A feeling of heartfelt sympathy would then exist between those who are not members and those who have the privilege of membership. And this kindred feeling would be productive of much good, and bind all the members of the profession in pursuing the one grand object, viz., the attainment of the highest excellence in architectural achievement as evinced in the buildings erected throughout the provinces of our vast Dominion.

LEGISLATIVE BUILDINGS, EDMONTON, ALBERTA*



Main Elevation.

In submitting cuts of the Alberta Parliament Buildings, now under construction in the city of Edmonton, a reference to the site selected might not be amiss.

The building will be situated on the hill previously occupied by the Hudson Bay Company's chief factor's residence, and overlooking the plateau on which the Hudson Bay Company's old fort buildings still stand, some thirty odd feet below. It is bounded on the north by Saskatchewan avenue, and the centre line of the building is directly on the centre line of Eighth street. The grounds consist of about twenty-seven acres, and occupy that portion of the Hudson Bay Company's Reserve known as the "Old Fort Site," which consists of a rounded hill and plateau standing well out into the North Saskatchewan valley, and commanding a magnificent view of the valley up and down stream east and west. The location is nearly central in the city of Edmonton in an easterly and westerly direction, and being situate upon the hill overlooking the river, commands a position nearly central between Edmonton and Strathcona in a northerly and southerly direction. In these respects and from a scenic standpoint commanding view and point of present and future convenience, the site could not be well excelled.

GENERAL DESCRIPTION.

This building is being built in the form of a "T," having the main facade parallel to, and 200 feet south of, Saskatchewan avenue, and the main entrance directly opposite the centre line of Eighth street. The building

*Plans prepared by A. M. Jeffers, architect to Alberta Legislature, and John Chalmers, structural engineer, under the supervision of Wm. Fingland, structural engineer and architect of Winnipeg. Final revision made by Professor Percy E. Nobbs, McGill University, Montreal.

is designed on strictly classical lines, following the lines of the Corinthian order.

DIMENSIONS.

The main entrance or centre pavilion is 83 feet wide, flanked on east and west sides with administrative wings,



Section of North and South Axis through Centre of Dome.

each wing being 130 feet long, exclusive of entrance steps, which extend away from the ends a distance of 42 feet each.

The main entrance pavilion, including entrance steps, extends north from the main facade a distance of 75 feet, from which point the building measures on its north and south axis two hundred and ninety-feet.

The building is 58 feet high from the ground line to the top of main cornice, and from the cornice line to the base of lantern on the dome is 88 feet. In general the building occupies a plot of ground 427 feet by 290 feet, and from the ground to top of dome is 178 feet.

CONSTRUCTION.

The building is of strictly fireproof construction, having broad concrete footings and foundation walls up to the ground line. Above ground the exterior walls are faced with stone masonry, backed with brickwork, and furred on the inside faces with hollow porous terra cotta blocks for the purpose of providing air spaces to prevent dampness and to make a solid background for plastering work. The interior is of steel construction, consisting of steel columns supported on concrete footings and steel floor beams and roof trusses. All of this steel work will be fireproofed, using concrete, bricks, or terra cotta, as is best suited for the work.

The steel work is a unit in itself, and is not dependent on interior partitions for support.

The walls of the rotunda and vaults are built of firstclass brick masonry. All other interior walls are built of hollow porous terra cotta blocks and so designed that at any time any partition or set of partitions on any floor may be removed without interfering with the construction of the building, and with a minimum interference with the business operation of any department.

The floors will be of reinforced steel concrete construction on protected steel beams, having marble and tile floor finishes.

EXTERNAL APPEARANCE.

The building in its general appearance will give one a feeling that it is a substantially built masonry structure, free from ostentatious carvings, and yet with its massive entrance columns and pavilions of the administrative and legislative wings breaking the plain wall surfaces, and the low dome, which surmounts the whole, will make one feel that a conscientious effort has been made to produce a simple pleasing structure, and yet one that is in keeping with a large monumental public building of this character.

At first glance one would think there were but four storeys to this building, but in reality there is a sub-basement, and an attic storey in addition to those disclosed at a glance at the front or north elevation. The sub-basement is below ground, as its name naturally implies, and the attic storey is on the roof above the cornice behind the balustrade.

INTERNAL APPEARANCE.

The general offices in the administrative wings will be plainly finished in plaster, and in keeping with dignified business methods. The main entrance rotunda dome, and all public and private rooms in the legislative wing will be finished in marble and decorative plaster, and decorative oil or water color paintings.

USES OF BUILDING.

All floors of the administrative wing buildings will in general be used for departmental business and will be

wholly apart in their uses from those of the legislative wing, which will be mainly at the disposal of the legislative body. The museum in the basement, and the library and cafe on the first floor will be placed in the legislative wing.

ADMINISTRATIVE WINGS.

The administrative wings have their ends facing east on Seventh street and west towards Ninth street. They will be approached by neatly laid out paths and carriage drives. Two entrances are provided at each end of the wing buildings, one for the basement entrance at the ground level, and the other up a flight of stone steps, which are forty-five feet wide at their start, and gradually close to a width of thirty feet. After passing through the broad entrance and vestibule of the wing buildings, we enter a central corridor flanked on one side with service elevator, and on the other side with service stairs, both of which are enclosed in separate fireproof walls continuous for the full height of building. Continuing along the corridor we pass the general offices of the departments, coming finally to the corridor surrounding the rotunda.

ENTRANCE.

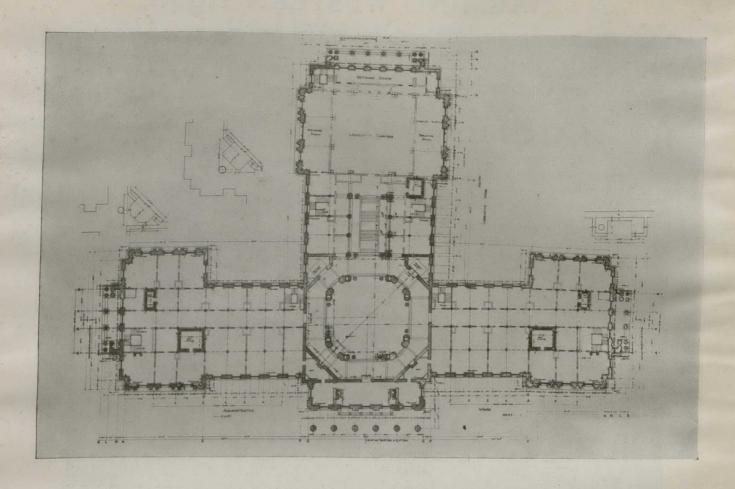
As we approach the buildings, via Eighth street, we cross a masonry viaduct, which will span Saskatchewan avenue, which street is below the ground line of the building at its crossing of Eighth street. After crossing the viaduct we come to a choice of two entrances, one of which is a basement entrance under the masonry steps or by going up the steps, which are flanked on either side with massive buttresses, which have a clear opening of 60 feet between them, ornamented with moulded cap stones, and surmounted with four bronze lamps. Upon reaching the top of the main entrance steps, we pass between six Corinthian columns, each column being four feet in diameter and 40 feet in height; crossing the entrance porch we come to the main entrance, which consists of three large circular top masonry openings, in which are placed ornamental bronze doors. Continuing on our way, we pass through a spacious vestibule, and come to the corridor surrounding the rotunda.

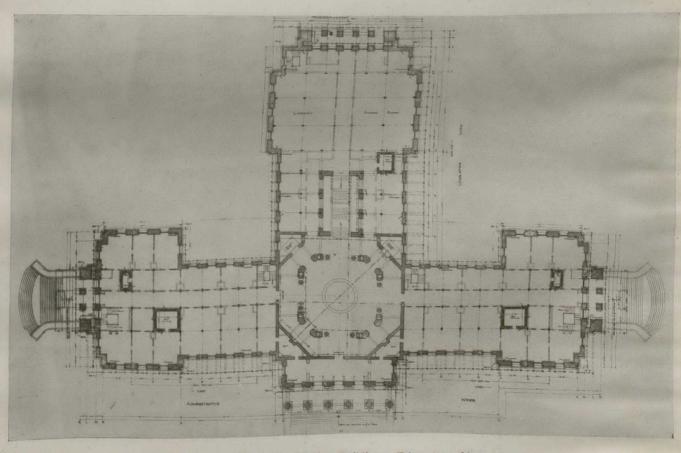
ROTUNDA.

The corridor surrounding the rotunda is from ten to twelve feet wide. In the two angles nearest the main entrance there will be niches for statuary, and the other two angles will contain public elevator, which run from the basement to the attic floor. This corridor will have pilastered walls, and beamed ceilings in decorative plaster and marble.

The rotunda is 46 feet square, with a circular well at the centre, for the purpose of lighting the basement storey, having octagonal corners, and extending upwards from the first floor to the third floor, where a gradual spring out is made from the octagon with circular pendentives, until a complete circle is arrived at, and this circle is carried up with circular top windows

(concluded on page a6)





Floor Plans, Legislative Buildings, Edmonton, Alta.

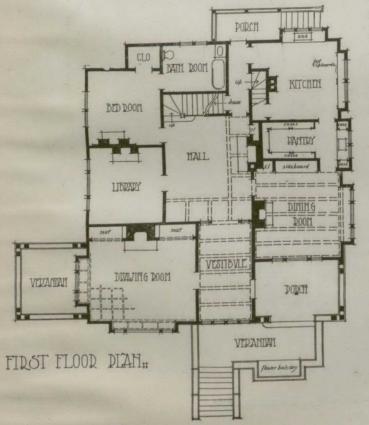
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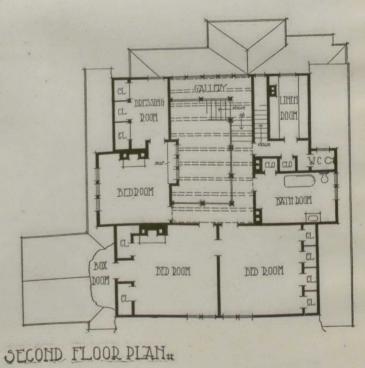
S. MACLURE, Architect, Victoria, B. C.



Residence of Mr. Alexis Martin, Victoria, B. C.

An unusually interesting example of a house that is built of local materials and is absolutely suited to its environment, but which yet shows decided evidences of the tastes and traditions of another country, is a dwelling in Victoria, Vancouver, which was designed by Mr. S. Maclure, an architect of Victoria, and is owned by Mr. Alexis Martin. The house looks toward the south across the Straits of Juan de Fuca, which are about twenty miles broad, to the Olympian Mountains in the State of Washington — an outlook sufficiently imposing to demand a breadth and dignity of style greater than





that of dwellings situated in a country where the natural features are on a lesser scale.

The house is built of wood covered with cedar shingles that were left to weather naturally. The foundation is of field stone, and the building is provided with a large basement, floored with cement and containing a workshop with an open fireplace, a wine room, store room, laundry, Chinaman's room and bathroom, and a furnace and coal room.

The first floor is so planned that the rooms are grouped around a large central hall, which runs to the top of the second storey. The vestibule is entered from a porch, which is recessed from the veranda. at the front of the house and has an opening, almost opposite the entrance

ing extends only to the height of the first storey, the upper portion being in plaster, which is divided into panels with broad stiles of the same wood. The ceiling is beamed and a particularly interesting structural feature is seen in the staircase and the gallery to which it leads and which encloses three sides of the hall. There is a large chimney-piece of brick, with an ample fire-place in which are Craftsman andirons. The furniture is made of oak, with leather cushions, and consists chiefly of large comfortable settees and ample arm chairs. The Irish rugs are in green and brown with a Shamrock border. Part of the furniture is Craftsman and the rest was designed by Mr. M. H. Baillie Scott and made by Mr. John P. White, of Bedford, England.



In the large Central Hall there is a brick fireplace, and above on three sides a gallery leading to bedrooms. All the wood-work is of Douglas Fir stained brown.

door, into the drawing room. This large room occupies the corner of the building, and opens upon a square veranda which serves in summer for an outdoor living room. The entire end of the vestibule is lighted by a row of windows that look out upon the veranda, and the dining room windows look out in like manner upon the entrance porch. Both drawing room and dining room have deep recessed windows, and the same device used in the kitchen and the pantry adds much to the space and convenience in both these rooms.

The vestibule and large central hall are paneled and beamed with Douglas fir, stained brown with what the architect calls a water stain. The high walls of the hall are made doubly interesting by the fact that this panelThe drawing room, in which purely English taste is shown, has the familiar plastered walls and white enameled woodwork, with furniture of polished mahogany, upholstered in green tapestry. The rugs, cushions and lighting fixtures were made to harmonize, the prevailing colors being green and mauve. All these furnishings were designed by Mr. Baillie Scott and made by Mr. White, and the delicate color scheme and distinctly English style forms a pleasant contrast to the rich toned woods and plain, massive furnishings of the other rooms.

The dining room is paneled with unstained cedar, and is very interesting in its construction. The wall paneling extends to the height of the frieze, which is of plain



The Drawing Room is furnished in English style, a pleasant contrast to the more massive Craftsman furnishings used elsewhere.



The Dining Room is paneled with unstained Cedar; a charming structural feature is the built-in effect.

wood that shows a beautiful grain; the ceiling is heavily beamed, and the chimney-piece is of wood with tiling around the fireplace. One especially charming structural feature is the buffet, which is built for the room and is excellent in design and proportion. The general color scheme of this room is red; the furniture is of oak, upholstered in red morocco and decorated with an inlay of red poppies. The two large rugs are in tones of red and green with a black line at either end. The Irish rugs are also of red, one with a shamrock border and one with a maple leaf border. These were hand-woven in Ireland by the Misses Hamilton, and are good examples of the soft coloring that is given by vegetable dyes.

The bedroom down-stairs is a Craftsman room, with furniture made of silver gray maple. The study is done in brown with Craftsman chairs of fumed oak, upholstered in hard leather showing the same tones, and studded with dull brass nails. The whole of one side of this room is fitted with book shelves built to the height of five feet. The rug, which is in brown and green, was designed and executed by Messrs. Baillie Scott and White, and the pongee curtains are lined with brown silk, giving the last touch to an unusually rich and mellow color scheme.

The second storey is divided into three large bedrooms, each one with ample closet room, and the one at the side opening into a good-sized dressing room. On the opposite side of the central hall are the bathroom and linen room, and the stairs leading down to the kitchen.

The house has an air of home comfort and restfulness, which comes only from the carrying out of a carefully considered and well-balanced scheme that includes planning, furnishing and decorating. The blending of English taste with that which is characteristic of the architecture of own own Pacific coast has an effect of quiet sumptuousness, combined with straightforward utility, that gives one the impression of a house that is to be lived in for generations and will remain as it is—a home for the children's children of its present owners.

Sketching Club of the P. Q. A. A.

The chief event in the social life of the Sketching Club of the P. Q. A. A. took place on Wednesday evening, February 12, at the King's Hall Cafe, when over twenty-five members dined. Although the dinner took place later this year than last it proved to be quite as successful and enjoyable to all present. Mr. David Brown, as president of the P. Q. A. A., and Mr. W. S. Maxwell, as a strong supporter of the club, were the guests. Professor Nobbs of McGill College was also present and gave a most interesting address to the members. A large and varied program was carried through by the "club talent," including Messrs. Wadsworth, Work, Hargreaves, Smith, Noel and Prof. Nobbs.

On Wednesday evening, February 19, Dr. Starkey, of McGill, gave an interesting lecture in the club rooms on "Ventilation" before a large turnout.

The last Wednesday of the month was taken up by a lecture by Mr. W. S. Maxwell on the "Grand Palais et Le Petit Palais." The popularity of the subject brought out an attendance of thirty-one members. Mr. Maxwell fully illustrated his talk by a large number of plans and lantern slides. These buildings, two of the permanent features of the last Paris Exposition, proved to be highly worthy of the time spent on them, representing as they do all that is living in the French schools of to-day. The plans submitted by the various competitors proved of great interest, and were made thoroughly clear by Mr. Maxwell, who confined himself rather more to explanation and description than to criticism.

Montreal Real Estate.

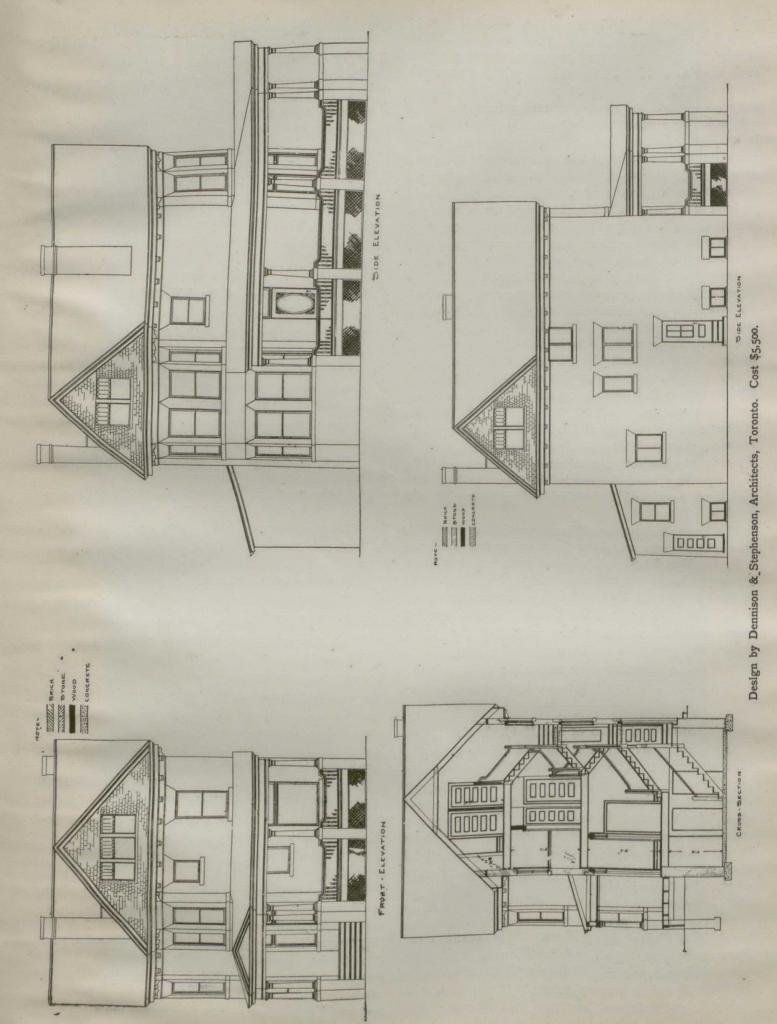
At the present moment real estate dealers in and around the city are most optimistic in discussing the state of the market. They find that inquiries for residence property are more frequent than they were a short time ago and sales are now taking place rapidly. The sale of the Alliance Building on St. James street has proved the event of the season thus far in realty circles. The transaction was earried through by Cradock Simpson and created quite a flutter down-town during the last week of February.

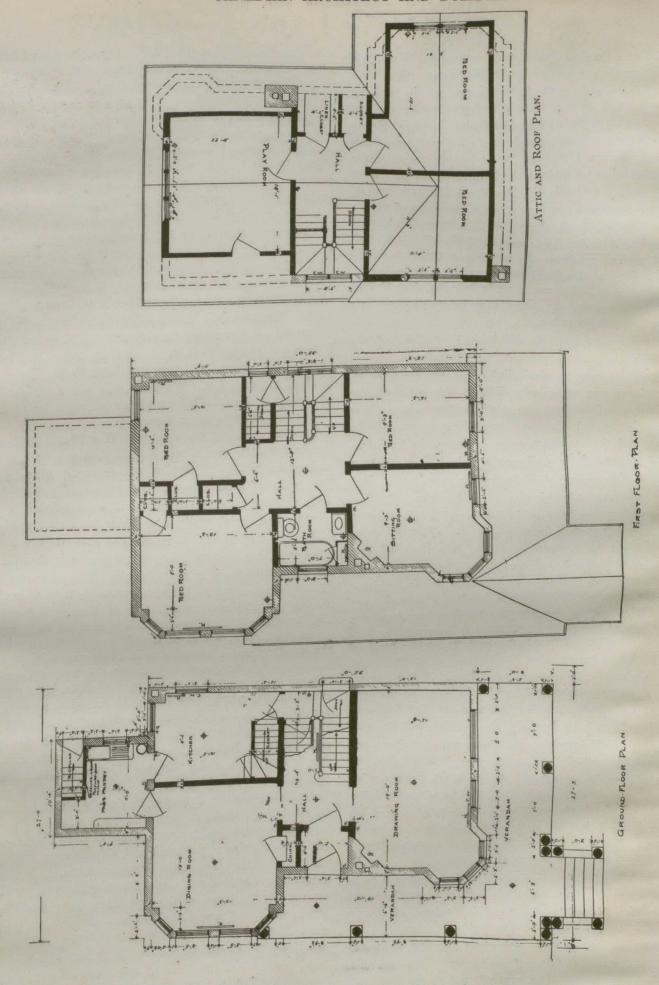
The advent of several new firms to the city shows that the "boom" is not ended yet. However, sales thus far, although numerous, have not been of extraordinary interest, with the single exception of the large one indicated

At a meeting of the directors of the Park Realty Company, Limited, Montreal, Mr. J. M. Greenshields, K.C., and Mr. R. T. Hopper were added to the directorate, which is now composed of Messrs. Robert Bickerdike, M.P., president, George Ball, ex-M.P., vice-president, and Sydney P. Howard, Frederick Abraham, G. A. Forbes, J. N. Roche and A. George Blair. Mr. John Findlay was appointed manager and secretary-treasurer of the company. He is also selling agent for the company's property, which consists of over 3,000 lots, and will be known as the "Park Avenue Extension."

Among the most recently established firms is the "Montreal Real Estate Market," organized by Mr. Henry Frigon, for buving and selling real estate, making a specialty of acting as selling agent for sub-divisions, although general lines of real estate will not be neglected.

In Westmount properties the market holds good and residences and attractive pieces of property in the town are being rapidly picked up. The movement to have Westmount incorporated as a city has attracted attention to the place and is sure to enhance the value of property if it is carried through successfully. Few places around Montreal have so many fine opportunities as a residential place as this progressive town.





Design by Dennison & Stephenson, Architect, Toronto. Cost \$5,500.

A Model Public Library.

Sir Caspar Purdon Clarke recently charged New York with having few or no satisfactory buildings. What the city had, he said, were pieces of scenery instead of buildings-that is, they were structures having elaborate facades of stone, and backs of plain bricks. Front and back bore no correspondence to each other. Such a criticism can not be brought against the new public library building. The structural unity of its design is, according to a writer in the New York Tribune, one of the distinguishing features of the building conceived by Messrs. Carrere & Hastings. It has been 'developed with jealous thought of the use to which it is to be put. and as you emerge from the interior you reflect chiefly upon its fitness, upon the way in which everything in it has seemed to fall harmoniously into its place." This fact in its most obvious aspect may be seen in the rear facade. Says the writer:

"The masonry beneath the arched windows of the main reading room is pierced by twenty-six narrow strip-like openings to admit light into the stack room. The problem was excessively difficult, for it meant the breaking up of an immense wall surface where there were no horizontal divisions demanding structural definition, and the architects were between the two dangers of making their wall commonplace and dead or teasing it with meaningless decorative expedients. But they remembered the beauty of such close columnar effects as exist, for instance, in the Temple of Jupiter at Baalbec, and, using again that restraint to which other parts of their building owe so much, they gave the outside of the stack room wall an extraordinarily fresh and light character, a character as of really living architec-In contrast to the other facades, this one may strike the uninitiated as a rather bare and perfunctory affair; but let the observer who wants to grasp the true strength of this building look carefully at the back of it, and, remembering that he is looking at the stack room and the reading room, ask himself if those rooms are not vividly proclaimed to him in just the arrangement of wall and windows that he sees. Let him consider, too, how these features, the cornice and the roof above them, hold together with the corner pavilions, and how the latter satisfy his eve, bearing just the right relation to the walls they flank. It is odd that after going through this process and noting incidentally the effectiveness of the little reading room balconies and the carved frieze below them he will conclude that this is not the ordinary neglected 'back' of a building, but a beautiful piece of architectural design."

In this rear facade the classical style is reduced to its simplest terms. More emphasis is laid upon the north and south walls, while the point is "raised, of course, to an even higher power." The writer continues:

"The strength of these principal facades resides in the simple, clear, and thoroughly monumental articulation of their parts. The central motive on the Fifth avenue side, the triple arched portico, has a just degree of projection, and the pillared section on either side, with its windows, is so designed as to line and mass that, while sufficiently subordinated to the portico aforesaid it is also sufficiently emphasized for its own sake. So, likewise, the corners have their proper accents, but do not unduly assert themselves. The relation of the length of the building to its height is admirably fixed. It might be called a long, low edifice, but the attics, looming up above the outer roof line, provide the needed corrective. Outside the library, as within it, a grave dignity rules, ornament being sparsely used and the little of it that is introduced being handled with severe taste."

The main entrance, on Fifth avenue, is "precisely in the key of an institution of learning." Inside one notes that "the architects have avoided the note of excessive spaciousness which would befit only some great exposition building or a place of public entertainment." "The vaulted entrance hall, from which the staircases rise on either side, is a work of massive simplicity, and it may be noted in passing that the stone piers, arches, and roof of this part of the building all illustrate the sincerest kind of construction. We have here not a scheme of steel with a thin facing of richer material, but a remarkable piece of pure masonry."

But the building when completed will contain three hundred rooms, vaults, and halls. It will have a total floor space of 375,000 square feet, or nearly nine acres. The room of most interest to the general public—the main reading room—is described in these words:

"The bare brick walls, now rising to a roof webbed with steel, are hardly more austere than they will be when they are sheathed, but to relieve their simplicity the room will have a magnificently decorated ceiling. The architects have had, too, a fortunate inspiration in the matter of the administrative machinery indispensable to this room. They have designed, to be thrown across its centre, a sort of double screen, within which the reading room attaches will perform their duties. Large enough to break and accent the long horizontal lines of the room, but not so large as to disturb the grand effect of the whole, this screen is one of the cleverest touches which Messrs. Carrere & Hastings have put to their credit. To have been clever, to have made one episode after another in their broad design fairly charming, is one of their chief merits. Experience has shown that it is an easy thing for an architect to make a public building dull and heavy, or, in the effort to avoid those defects, to be restless and even vulgar. In our new library the golden mean seems to have been reached. The interior is animated and airy, though it is also majestic. There are certain minor features, like the screen mentioned above, the series of pillars in the central exhibition room on the first floor, the pillared vestibule on the Forty-second street side, and the stairease, likewise in that part of the building, which are especially to be signaled out for the quality of grace that is in them. Yet in the long run, analysis comes back to the bold structural unity of the design."

The great room for the storage of books gives some

THE ARCHITECTURAL INSTITUTE OF CANADA

The Miscellaneous Private Bills Committee of the House of Commons have considered the bill to incorporate the Institute of Architects of Canada and in an amended form the bill will in all likelihood pass its third reading without opposition. The corporate name will be the "Architectural Institute of Canada." The Institute was represented at the meeting of the Private Bills Committee by Messrs. Edmund Burke of Toronto, J. W. H. Watts of Ottawa and Alcide Chausse of Montreal. Following clause 1, in which the petitioners are enumerated, the Act now reads as follows:

2. The head office of the Institute shall be in the city of Ottawa, or in such other place as is from time to time determined by a vote of two-thirds of the members of the Institute.

- 3. The objects of the Institute shall be to facilitate the acquirement and interchange of professional knowledge among its members, and more particularly to promote the acquisition of that species of knowledge which has special reference to the profession of architecture, and further to encourage investigation in connection with all branches and departments of knowledge connected with that profession, and to promote the practice of architecture for the following purposes:—
 - (a) To hold examinations;
 - (b) To grant certificates of efficiency to its members;
 - (c) To establish classes of membership; and
- (d) To determine the rights, privileges, terms and conditions of the said classes.
- 4. The Institute shall be composed of all members in good standing of existing provincial incorporated societies and associations who shall apply for membership in the Institute within one year after the passing of this Act, and of any other persons of whose qualifications and fitness the council of the Institute approves; and all members of the Institute shall pay the admission and subscription fees provided for by the by-laws of the Institute.
- (2) The council may also admit to membership any member in good standing of any Canadian, British or foreign association of architects, upon such member presenting his credentials, and paying the admission and subscription fees provided for by the by-laws of the Institute.
- 5. No member of the Institute shall be a building contractor or manufacturer, or a dealer in building materials or supplies, nor be in partnership with any building contractor or manufacturer or dealer in building materials or supplies.
- 6. The Institute may make regulations and by-laws for its direction and management, and also such rules as are deemed necessary for the maintenance of the honor and dignity of the profession of architecture.
- (2) The Institute may, by by-law, make regulations governing the admission and examination of candidates for membership in the Institute.
- 7. The first twenty persons named in section 1 of this Act shall be the first council of the Institute.

- (2) A meeting of the council shall be held within six months after the passing of this Act, for organization, the making of by-laws, the election of officers and the transaction of any other business that may arise.
- (3) The first general meeting of the Institute shall be held during the year one thousand nine hundred and eight, in the city of Ottawa, at such time and upon such notice as the council decides, for the election of officers and members of the council, the adoption of by-laws and the transaction of the business of the Institute.
- (4) Subsequent general meetings shall be held as the by-laws of the Institute provide, but not less than once in each year, at the place decided on at a previous general meeting, and at such time and upon such notice as the council decides.
- 8. The council shall appoint a board of examiners of not less than seven persons, resident in Canada, to examine candidates for admission to membership in the Institute.
- (2) Two members of the board shall be qualified and competent to examine all candidates in French or in English, at the option of the candidate.
- (3) Three members of the board shall constitute a quorum.
- (4) The board shall meet semi-annually, at the time and place decided upon by the council.
- 9. The Institute may acquire and hold such real property as is necessary to carry out its objects; provided that the total value of such property held at any time for the actual use of the Institute shall not exceed two hundred thousand dollars.
- 10. The Institute may affiliate with any society or association of architects having objects similar to those of the Institute.
- 11. If any person ceases, for any cause, to be a member of the Institute he shall not have any interest in or claim against the funds or property of the Institute.
- 12. The Institute may establish branches, which shall be known as "Chapters of the Institute of Architects of Canada."
- 13. Nothing in this Act shall be deemed to encroach upon the rights and privileges conferred upon any association of architects having a charter from the legislature of any province of Canada.

Cleaning Paper on Ceilings.

While there are some preparations for cleaning wall paper on the market, they are not always readily obtainable in every locality. The simplest way to clean wall or ceiling paper is to make a bag of coarse flannel, in which tie or sew up two quarts of wheat bran, rubbing the same over the paper briskly, all in one direction, taking care not to miss a single spot. Before beginning to rub, however, the walls or ceiling must be carefully dusted.

Montreal Business Blocks.

The accompanying illustration shows one of the recent additions to Montreal's business blocks. The building was erected by Messrs. Mark Fisher & Sons, and occupies the southwest corner of Craig street west and Vic-



Mark Fisher & Sons' Office Building, Montreal.

Alphonse Piche, Architect.

toria square, one of the best down-town sites. It is 130 feet high, this being the maximum height for the city, and is fireproof throughout, being also provided with a water curtain and sprinklers, and in all respects fulfills the requirements of the Board of Fire Underwriters. The base is entirely of granite, the upper storeys being of Cleveland stone. The two entrances face Victoria Square and the vestibules and stairways are finished in a fine marble, the floors also being of marble mosaic. Two fast passenger elevators are provided as well as a fast freight elevator. The building is heated by steam throughout, electric light and gas being used for illuminating purposes.

Mr. Alphonse Piche, 214 St. James street, is the architect.

The new building of the Dominion Guarantee Company, Limited, is situated at the corner of St. James street and St. Michael's lane, and forms a handsome addition to the city's architecture. The building is in light sandstone, the windows being arranged so as to give the maximum of light.

The front part of the basement is occupied by messengers and safe deposit vaults. The ground floor is divided into a board room, manager's office and a large general office, while the first floor is let for offices. On the top floor are the other various offices of the company, operating room, men's sitting room, etc.

The main entrance is on St. James street and leads to a handsome entrance hall, finished in marble and mosaic. The whole interior is finished in oak and is thoroughly fireproof in construction, having concrete floors and terra cotta partitions. In all its departments this is one of the best equipped structures of its kind in



Dominion Guarantee Company's New Building, Montreal.

Ross & MacFarlane, Architects.

North America, and is the outcome of a careful study of this class of building on the part of Messrs Ross & MacFarlane, of Montreal, who were the architects.

The Board of Management of Knox College have decided to call for competing plans for the new building they contemplate erecting in this city. It is understood that the competition will be confined to architects practising in Canada.

THE PAINTING OF THE HOME

By T. ROBERT WIEGER.

Just as many a charming picture is detracted from by its inartistic frame, or a beautiful room is robbed of its elegance by inconsistent furnishings, just so easily is the effect of a good house lost in the use of incorrect or unsuitable colors. The harmony in color of all the materials used should be constantly considered, so that the finished work will not disclose discord of any one or a number of colors with another.

It is hardly within the scope of this article to suggest definite color schemes, but merely to advise the careful consideration of this subject for both the exterior and interior work, combinations of the various shades in the primary paint pigments, such as white, black, red, brown, yellow, green and blue are most pleasing, when properly handled. The successful mixing of one color with another, to obtain a certain shade, requires not only the practised hand of an expert, but the discerning eye of the artist. Particularly is this true in the selection of yellow, blues, greens and reds and more so in the uses of greens with blues. The use of too much color, or too many different colors, is the common fault and error of the amateur. It is seldom that the use of more than three colors proves pleasing for exterior house painting Such simple combinations as a canary yellow body with white trimmings and an indiana-red or moss-green roof, or a brownish-red body with white trimmings and a moss-green or black roof are always attractive. are only a few simpler colors, mentioned merely to give the idea of harmony in the use of various colors.

If the exterior of the house be designed in any particular style of architecture, it is always best and safest, in determining the color scheme, to adhere to tradition rather than risk originality and mar the final effect. For example, a Colonial house may have a yellow, red or grey body, with white trimmings and a green or red The same or a similar color for the body and roof should never be used, as this gives a heavy and The roof should always have the monotonous effect. denser color, to properly crown the effect, and lend sky line to the design. The use of the same color for the body and trimmings is also objectionable, as much of the best detail is so lost, resulting in a lifeless picture, illustrated by an entirely white or grav house with a black roof. In any case, black should be used sparingly, as its effect is nearly always cheerless. Noticeably in good Colonial work, the heavier colors, such as black, brown or blue are seldom used.

On the other hand, and we might say in opposition to the above, a Gothic. Swiss or Mission design excludes all of the lighter colors and appears at its best in the use of the heavier colors, such as green, black, brown and dork red.

The interior colors for the woodwork are much a matter of personal taste. Here too, however, harmony in the color scheme with the style of the woodwork and the design of the furniture, hangings, rugs and decorations

should be carefully weighed. In most rooms, with the exception, perhaps of the den, smoking or billiard room, too much color should be avoided. Rooms which are much inhabited, like the living room or library, should always be treated in quiet tones, preferably the darker, hardwood colors, such as mahogany and golden oak or the mission, weathered or fumed finishes. A natural finish of such woods as oak, birch or pine is hardly suitable for any of the rooms in the house, except in the kitchen and pantry, as these color effects are cold and cheerless and it is difficult to obtain suitable colors in the decorations, which will blend well. The dainty parlor, the reception room and the bed rooms in moderate cost homes are always most artistic, if painted in delicate colors, perferably white or white enamelled. Light blues and green are very effective. The best wallpapers appropriate for the chambers are in the lighter colors and, with white or light woodwork, result in sunny and cheerful rooms—the two prime essentials for the sleeping apartments. In more expensive residence work, hardwoods, such as birds-eye maple, curly birch and sycamore, finished natural, are often used in these rooms and make a delightful and handsome appearance.

The woodwork for the bath room is always best if painted white or is white enamelled, as modern plumbing fixtures are nearly always so finished.

The following suggestions for the manner of painting or finishing the home, will insure good and durable work.

Tin or other metal work, such as roofs, gutters, down-spouts or flashing, should always receive a heavy first coat of red mineral paint to prevent rust, corrosion and the pealing of the paint, and two or three good coats of lead and oil paint, colored as desired. If the finish coat is to be white, it requires three coats of paint to cover well, and if a darker color is desired, two coats will be sufficient. White mineral is sometimes used instead of the red, but is not considered so good a preservative. The insides of all gutters and flashing, whether of tin or galvanized iron, should always have at least one heavy coat of the red mineral.

All paints, to get good lasting results, should always be mixed with pure white lead as the base, boiled linseed oil and well ground color pigments. It is seldom that ready mixed paints are durable or unadulterated.

Wood work which is wholly or partially buried in the ground, such as fence posts or floor sleepers, should always be coated with hot tar or creosote. This closes the pores of the wood and prevents shrinkage, and dry or wet rot.

Before any new hardwood is painted, it should be smoothly sandpapered and well cleaned. All cracks and nail holes should be filled with putty or a thick white lead paste and all knots well coated over with shellac to prevent the pitch or rosin working through the paint. To insure good painted work, woodwork should first re-

ceive a thin priming coat, composed mostly of oil and at least two additional coats of lead and oil paint, colored as desired. Two coat work is not sufficiently protecting to the wood and does not cover thoroughly or give an even color tone. Boiled linseed oil will result in a glossy finish. Where a flat or dull finish is desired, turpentine should be used in the last coat instead of the oil.

To get practically perfect work, the wood should be painted with a thin lead and oil or creosote coat on the back, before it is put on. This will keep out all moisture heat or cold and prevent shrinking, warping or cracking.

Good enamelling of woodwork is seldom done in less than four coats. The first two coats should be of lead and oil and the last two of glossy or flat enamel, white or colored as desired. When dry, each successive coat, except the last, should be smoothly sandpapered. In fine work, from five to eight coats are employed, usually half the number being lead and oil coats and the balance enamel coats, the latter being smoothly and evenly rubbed down with pumic stone and oil to the desired lustre.

The staining, varnishing and finishing of hardwoods require greater care and more skilful workmanship and experience than painting, and should not be attempted by anyone not proficient in such work.

Such woods as oak, ash, chestnut, mahogany, primavera, walnut and butternut, are open grained woods and require filling before any of the finishing is done. Paste or liquid fillers are both used, the paste being the better, and are usually colored to tone in with the desired effect. Such woods as cherry, sycamore, maple, birch gumwood, redwood, cypress, poplar, hemlock and pine being close grained, require no filling.

In addition to the filling, all woods which are to be varnished should receive a first coat of pure gum shellac. If a darker finish than the natural color is desired, a coat of stain must be applied before the shellac. Oil, water and acid stains are obtainable, but for general purposes, the oil stain is most satisfactory. If a natural finish is desired, white shellac should be used. In colored finishes this may be replaced by orange shellac, it being somewhat cheaper. The shellac should be smoothly sandpapered before any varnish is applied.

The kitchen and pantry and wherever a good and inexpensive natural finish is wanted, two finishing coats of colorless or white varnish are applied in addition to the shellae, merely sandpapering smoothly between coats. For durability, such as is called for in the kitchen, pantry or bath room, it is always best to leave the last coat unrubbed, with the full gloss. Where an inexpensive flat or dull finish is desired, varnish mixed with turpentine or Flattine is customarily used for the last coat.

For better class of work in the principal living rooms or chambers, three or more coats of varnish should be used and the work should be smoothly rubbed after each coat with pumice stone and oil to the desired lustre. A very popular finish for hardwood is termed an egg-shell

finish, it being neither too bright and glossy or dull and flat.

For good exterior varnished work, in addition to the oil stain and shellac, at least two heavy coats of outside or spar varnish should be used, sandpapering but lightly between coats and leaving the last coat with the full gloss. Although a bright gloss is considered by some an objection for outside work, the action of the elements will soon reduce the sheen.

The finishing of floors is perhaps the most difficult of all, and the best method will always remain a problem.

A fair finish for ordinary floors is two or more coats of boiled linseed oil, applied hot and brushed on. The first coat should be flowed on thick and allowed to dry and absorb thoroughly before the succeeding coats are put on. In floors receiving hard usage, as in the case in the kitchen, pantry and bathroom, where no varnish has been used, it is a good and economical policy to go over the floors once every month, with a good coat of boiled linsed oil, applied with a soft cloth or flannel.

A better and moderate cost floor finish, is to apply one or two coats of hot boiled linseed oil and one or two coats of floor or rubber varnish.

For hardwood floors the waxed finish is perhaps the most effective. The floors should first receive a good coat of hot boiled linseed oil, which is to be allowed to dry thoroughly. Pulverized beeswax is then lightly strewn over the surface and thoroughly rubbed in. The polishing is usually done with a long handled weighted brush. To keep waxed floors in good repair, it is necessary to use fresh wax and polish the same about once every month. When waxed floors become too thickly coated and dirty looking, they must be scraped off and refinished.

Floors may be finished natural or stained and sandpapered or rubbed the same as is mentioned for the woodwork, if a better class of work is desired.

Porch and veranda floors should always have the tongue and groves coated with thick white lead while they are being laid and should receive two or more coats of lead and oil paint.

Another question over which the owner and architect often disagree, is the finish of the roof and other shingle work. There is no doubt but what two or more coats of lead and oil paint furnish the most durable and moisture proof coating, but here especially is the glossy finish most objectionable. Creosote shingle stains give a flat color tone and, being of a thin mixture, do not fill or destroy the artistic texture of the shingles. These stains are so much cheaper than oil paints, that the owner can afford to paint the roof oftener and be assured of the best effect. These stains are also used for shingled walls, gables and dormers.

Where the natural color of the shingles is to be retained, they are usually finished with two or more coats of boiled linseed oil, well brushed on. Each coat should be allowed to dry thoroughly before the next one is put

on. The most durable finish for this work is obtained by dipping the ends of the shingles, which are exposed to the weather, in oil or creosote, depending upon the kind of work used, before the shingles are put into the building.

Painted brick walls are best when finished with oil paints. The walls should be well brushed and washed and all cracks or mortar joints filled up before painting. A heavy first coat of yellow ochre and oil should first be applied, followed by two or more coats of lead and oil paint. The brick lining, in imitation of the mortar joints, is seldom done nowadays, and is inartistic at best, the flat wall surfaces being more pleasing in color effect. In cheap work and for light courts and the like, cold water paints are much used.

Old painted brick or woodwork should be well scorehed and scraped, removing all loose or dried particles of the old paint, before the new painting is done.

Handsome color effect on brick work can also be secured by the use of acid stains, which are made in many colors.

Plastered walls which are to be painted should also be first well cleaned and all holes or cracks filled. They should receive one thin coat of lead and oil paint, one coat of glue size and two more coats of lead and oil paint. In the better class of work, the last coat is sometimes mixed with turpentine, put on rather thick and finished with a stippling brush, made for the purpose. This process will tone down the bright sheen and makes a very presentable wall for any room.

The bathroom or kitchen sometimes has a last coat of glossy enamel paint, which makes it possible to wash the work easily and keep it bright and clean.—"The Southern Architect."

Framing for Sliding Doors.

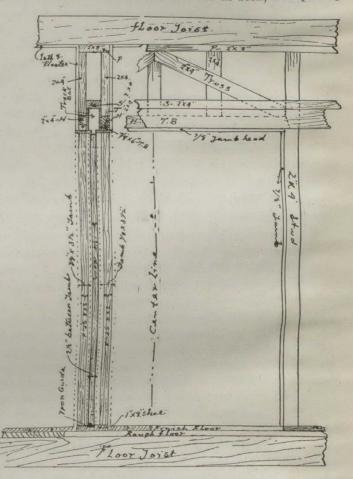
Sliding doors and hangers are often condemned when they do not work perfectly, when the real fault lies in the manner in which they have been put up. Great care must be taken to avoid all settlement in the floors below, and the work throughout must be made plumb, level, and in line. All the studding and other timber must be of best quality, and perfectly straight, as the trouble is usually caused by the track getting out of level and line, by the floors settling or some of the timbers warping and twisting out of place after the doors have been hung. There are a number of different makes of door hangers, any one of which will give good satisfaction if properly put up according to the manufacturers' directions which usually come with them.

I am showing herewith a sketch which shows the section view and a portion of the side view of the framing timbers for a sliding door. A Slight difference may require to be made for different hangers, but in the main this is the proper method. Each different piece is indicated on the sketch, so that it will be easily understood.

Note how the track box is formed, by a 7-8 inch board,

T, B, nailed on each side, and the 2 inch by 4 inch spreader, S, on top (these are to extend as far as the doors slide back, to prevent any dirt such as plaster, etc., from working into the track and hangers). The 2 inch by 4 inch, S, also forms a tie member for the truss over the opening, the studding being well spiked into it from both sides. The inside of the studding should be boarded on the inside down to the floor, back as far as the doors slide, with cheap 1-2 inch boards, to also prevent any dirt, etc., from working under the doors.

In putting up this work the side to which the track is to be screwed is put up first, the header, H, being put from the floor just 1 inch higher than the door, and perfectly level. Then frame the truss as seen, and put up



the track board, T, B, straight and true with the bottom of the header, H. The track is then screwed on to it, so that when the hanger is put on, and the plate fastened to the door, it will be just the 1 inch below the header, the 1 inch allowing for the jamb head. The 2 inch by 4 inch, S, can now be put up to the side already up, and the other side built on the floor and raised up bodily, the head jambs being placed as closely together as the hangers will allow. The side jambs are held 2 1-2 inches apart, so that the doors will have plenty of play, stops being set to the doors after they are all hung, to make the finish.

Note the guide iron at the floor. This works into a groove in the door and is furnished with the set of hangers.

Practical Pointers on Cement Construction.

In the erection of concrete structures, especially in estimating on such edifices, it is very important that the builder or contractor should possess a practical knowledge of the basic formulae or principles that underlie this class of work. Although the use of concrete, for a wide range of purposes, has of late made rapid progress, the number of those who have undertaken it, some on quite a considerable scale, with no more than rudimentary knowledge of its character, is comparatively large, and it is for their benefit that we propose to present, omitting all complicated formulae and tables, some fundamental facts that they can use to good account and tests that can be easily conducted, in short time, without scientific knowledge and with the simplest apparatus.

In the appearance, stability and success of the work the quality of the cement is the first consideration, and although in most cases the character, quantity and quality of the materials is all stipulated in the architect's specifications, even these details are in many instances left to the contractor's intelligence and integrity, and a practical knowledge of their properties and the proportions in which they should be rightly used, with the aid of a few simple tests, will be his best insurance against failure.

The "pat" test is probably at once the easiest and furnishes the most reliable and easily comprehended results. For this is required a fair average sample of the cement to be tested, a few pieces of common window glass, 4 by 4 inches, a piece of plate glass, 12 by 8 inches, and half an inch thick, a pair of rubber gloves, a pair of scales, a small trowel and some water.

In sampling the cement, take from each package an equal quantity and thoroughly mix it together. Place a portion of the dry cement on the plate glass in the form of a mound, and with the small trowel make a depression in the centre. Weigh or measure a quantity of water, which has been found by trial to give the proper consistency and pour it into the depression, allowing it to soak into the cement and then, with the trowel, turn the material on the edges into the water. As soon as the water is absorbed, the paste is kneaded for 1 1-2 minutes with the hand protected with the rubber glove.

Make a portion of the plastic mass into a ball and press it on to one of the pieces of glass, so as to form a circular pat, about 3 inches in diameter and half an inch thick at the centre, tapering to a thin edge. For twenty-four hours, to prevent the parts from drying too quickly, they must be kept under a cloth, moistened and suspended above the pats, with the ends immersed in water, to keep it wet. While mixing, the temperature of the air and of the water for mixing and storage should be kept as nearly as possible at 21 degrees C. (70 degrees F.). At the expiration of 24 hours, one pat should be placed in water and one in air of ordinary temperature (60 degrees to 70 degrees F.) both being kept under these influences for 28 days and observed

from time to time, a third being placed in a loosely closed vessel over boiling water, where the steam can reach it, and kept there, the water boiling for five hours. Expansion cracks, which denote an unsound cement and usually appear after the cement has set and within the stipulated period of 28 days, are easily distinguishable from shrinkage cracks, which ordinarily appear during setting. Where plainly evident expansion or radial cracks appear in the cement, or any of the parts shows a tendency to curl or crumble, it should be subjected to rigorous test in a properly equipped laboratory before acceptance.

The pat exposed to the air test should not discolor.

The test of fineness is one of the indications of quality. Two ounces of dry Portland or natural cement, free from lumps, sifted through a sieve about 6 to 8 inches in diameter, of 100 meshes to the linear inch, should not leave more than half an ounce on the sieve. Where it is desired to make a choice between two cements, otherwise very much alike, use a 200 mesh sieve after the 100 mesh size, and select the cement having least residue.

The setting test is one easily carried out and in some operations may be quite important. For some work, a cement that sets too quickly is often a source of trouble, while a cement that consumes an unnecessarily long time in setting often delays the removal of the forms and the loading of the structure in the continuance of the work.

A simple test for the setting properties of cement was formerly pressure of the thumb; the work cannot be regarded as safely set until it will support such a pressure without indentation.

The Vicat needle is used extensively in testing the setting qualities of cement and succeeded the Gillmore needle used for United States government tests. The Gillmore needles consisted of two wires, one one-twelfth of an inch, the other one-twenty-fourth of an inch in diameter. The initial set of "neat" cement is determined by the time required for the pat to support, without indentation, the larger needle, loaded to a quarter of a pound. The "final" set is the time in which the pat will support the smaller needle, loaded to a pound, without visible indentation.

The test of cement as to quality, of weight, is no longer regarded as qualitative and has been abandoned for other and more decisive tests of a scientific character, involving the use of expensive apparatus.—Shoppell's.

Plaster Casts Made Cleanable.

Plaster casts may be prepared so that they can be washed off when dirty by allowing them to remain for 10 to 12 hours in a bath of raw linseed oil, heated to 70 to 90 degrees. They must then be dried. Plaster casts may be hardened by immersing them for half an hour in a solution of 1 part, by weight, of alum, free trom iron, and 6 parts of water. The objects when removed acquire a fine coating of alum crystals, which can be removed with a damp cloth.

The Design and Construction of Buildings. By W. M. Brown, C.E.

There are some buildings which attract attention more than others. This will depend, of course, upon the bent of the mind of the observer, and the characteristic features of the style of architecture that present themselves to view. But in general it will be found that either design or the construction of the building. or it may be the harmonious combination of both these elements, are the chief points of attraction in exciting admiration for any architectural structure. It may be noted here that design is the primary element in the planning and erection of all kinds of buildings, and that it is either simple or complex, according to the requirements for which the special structure is being erected, and in harmony with the style of architecture adopted. The first point then to consider in design is the very important one, viz., can the elaborate and ornamental details of the several parts of the style adopted be consistently and thoroughly carried out and at the same time in no way impair the method of construction as regards strength and durability? The consideration of this point should engage the attention of the architect at the initial stage of his deliberations in the designing of a building. For it is essential that the fundamental elements of strength and durability must take the precedence and be maintained, whether or not the ornamental details be carried out in their entirety. No building, however grand or beautiful it may appear to the artistic eye, can give unalloyed pleasure to the mind of the architect, when he has ascertained that there is a law or defect in the foundation or in some important part of the structural arrangements. So in the general body of architecture there should be the soundness of material that gives it a degree of permanence, as well as that elegance of design which should be manifest in the exterior and interior details, and which is as the soul that gives animation to the complete structure. But if in the construction there be any arrangement that seriously affects the strength and durability of the building, then all the graceful features embodied therein may soon become a disastrous ruin.

This brings us to the first principle to be observed in the consideration of design, viz., that whatever prevents or impairs the strength and durability of a structure, however necessary it may seem to be to its elegant appearance, must be discarded and give place to what possesses the element of permanence. But we have stated that design is either simple or complex in character. What we mean by the former term is, that the arrangements of all the details are carried through in a regular form and thoroughly consistent with the style of architecture, whereas the latter is more elaborate in form and possibly may introduce other details that are not necessarily in harmony with the style adopted. Whatever may detract from the beauty of an edifice should be avoided, if posible, even although it be at the

sacrifice of some of the details that may have to be omitted, but which would not materially affect either the design or construction of the building. And again, proportion in design must be carefully and faithfully attended to in every minute detail, in order to produce the acme of accomplishment.

For this reason, there are several very important points to be considered, such as the style of architecture that is most suitable for the building about to be erected, the dimensions of the walls, and the internal arrangements, all of which call for the ingenuity of the architect, in producing a plan that will prove elegant and consistent in design and advantageous for the necessary requirements. Design is the expression of beauty, harmany and grace in any work of art, and whatever of this character is introduced in the execution of a building may have a refined influence upon the mind, and yet not detract from any utilitarian object that may be desired. Although the architect holds the important position of carrying through every detail under his supervision, yet he is dependent in no small degree upon the services of the sculptor and painter for their advice and co-operation in the accomplishment of high class and great work. From the sculptor he may receive suggestions that would be valuable in the introduction of gracefully-sculpturer figures, or the carving of details gracefully-sculptured figures, or the carving of details gards the harmony of colors in the decorations. Each, being a master in his own sphere, can give the benefit of his experience, while it is from their harmonious collaboration and united efforts that an edifice may be erected which will be consistent in design and at the same time will exercise an ennobling and refining influence upon the mind, and be a triumph of architectural achievement.

Again, although that design necessarily embraces the element of construction in its development and accomplishment, yet construction may be considered as the body of the structure upon which is wrought out all the graceful and beautiful details of artistic design. But in the consideration of the construction of a building the first essential elements should be those of strength and durability, as well as the adaptability of the materials to the varied requirements, and thereafter the ornamentation that may be legitimately adopted in carrying out the style.

The construction of a building is in a large measure dependent upon the purpose for which it is being erected, and these are so varied that one case may differ from another in several respects, although it may be of the same class. We see this exemplified in the case of ecclesiastical buildings. Several religious bodies or sects have styles and particular points which they recognize as absolutely essential in the erection of their churches or chapels. The architect, therefore, must recognize these customs in the framing of his plans and general designs. But in the construction there are certain principles which must necessarily be carried out if a building of

safety and permanence is to be erected. The first of these is the soundness of material. All material utilized must be of the best description for the purpose intended, and free of any flaw or defect in its composition. Again, it must be properly built into its respective place, and thoroughly secured.

Much has to be considered in the building of material into the general construction of the work, as much depends upon the kind of material utilized. It may be the necessary size of timber required to support a superincumbent weight; again, it may be the arrangement of the structural iron or steel work in the construction of heavy engineering or manufacturing work. In the construction of buildings may be also included the sanitary and hygienic arrangements, which are of vital importance to the health of the community. The erection of sewage pipes from the house, and the internal arrangements of the plumbers' work, have an important bearing upon the general construction of the building. And it is impossible in this limited article to enumerate the several contingent subjects which would have to be considered in a thorough study of building construction, and the full development of artistic design. Yet when the strength and durability of materials are attended to, and the proper methods of construction are adopted, that give safety and permanence, along with elegance of design in the style selected, then a building will be produced that not only may be serviceable for the necessary requirements, but also excellent in many architectural features.

Legislative Buildings, Edmonton, Alberta.

(Continued from page 10)

and ornamental pilasters and cornices to the eliptical beamed and paneled ceilings of the dome.

There are openings all around the rotunda at every floor level, having square or circular tops as best suits the design; these openings are finished with ornamental marble columns and balustrades. The pendentives which spring from the octagon corners are paneled, and the circular friezes immediately over will have an oil or water color painting of a suitable design, representing scenes historical or typical of the province.

The general finish of the rotunda and its corridor will be in marble and ornamental and decorative plaster work.

GRAND STAIRCASE HALL.

When we leave the rotunda, and approach the legislative wing, we have a choice of passing on either side of the grand staircase to the library or restaurant. Going up the grand staircase, and arriving at the top or second floor we face the legislative chamber, with its ornamental entrance and bronze doors.

The sides of the grand staircase hall have ornamental columns finished with a moulded cornice, and above the cornice springs a barrel vaulted ceiling, which is beamed and paneled, and has an ornamental glass skylight. The two long sides and one end of the ceiling will have

lunettes, which will be decorated with pictorial paintings. Around the grand staircase hall will be corridors finished on open sides with ornamental balustrades and pedestals for statuary, and on wall sides with decorative panels and pilasters.

The general finish of the grand staircase hall will be in keeping with that of the rotunda.

LEGISLATIVE CHAMBER.

The legislative chamber is a room 56 feet square, and extends in height through the second and third stories. In its design it follows the dignified lines of the Ionic order, there being two detached columns on each of the four sides, and angle pilasters at the corners.

These columns are brought together with a moulded cornice continuous around the four sides of the chamber. Above the cornice will be a large barrel vault, having paneled beams and ceilings and ornamental glass skylight and in the north and south ends will be large elliptical lunettes, which will have grand historical pictures painted on them. The sides of the chamber will have solid partitions separating the speaker's room, members' and general retiring rooms from the chamber. The speaker's and members' rooms will have fireplaces and all toilet accessories and conveniences.

Over the rooms surrounding the legislative chamber on the third floor will be the various galleries given over to the use of the public, members' and speaker's friends and the press. In addition to the press gallery, there will be a room given over to the use of the members of the press, directly connected with the press gallery, for the purpose of making up their reports.

UTILITIES.

Every floor of the administrative wings will have one service elevator, two service staircases, three vaults and lavatories.

The rotunda will have two public elevators, access being gained to them through arched openings on the basement and first floors and by way of the corridor around the rotunda on all floors above the first floor.

Beside the grand staircase in the legislative wing, there will be service stairs to the basement, private stairs for the members of parliament, and stairs to the galleries for the public; one vault, and private labatories.

The building will be heated and ventilated by modern system of steam hot water and warm air, that has proven successful in other buildings of this character and uses that this building will be put to. All parts of the building will be cleaned by pneumatic or vacuum process.

The plumbing will be of the very best, and will have fixtures for hot as well as cold water.

The heating, ventilating and pneumatic plants will be installed in the sub-basement story, but the main steam and electric plant will be in a separate power station, situate to avoid smoke and gas nuisance.

Access from the power station to the building will be by a tunnel connecting with the sub-basement of the building. This tunnel will also be used for transmission purposes for main steam and vacuum pipes and electrical wires.



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Building in Montreal.

The building situation in Montreal at present is by no means as satisfactory as it might be. It is perhaps a little early in the year to make any definite statement. yet as to the work expected, but the months of January and February show a decided decrease in the number of permits issued. During the first month twenty-seven permits were made out by the city inspector, and in the second the number increased to forty-four, representing values of \$55,650 and \$72,590 respectively. In both cases there is a decrease compared with the corresponding periods of last year. However, as far as the architectural men are concerned there is now a notable change in the situation, and a fair year is hoped for if all the projects on hand materialize.

There are fewer men out of work than there were during the severest part of the winter, but there is still plenty of available help.

Rumors are afloat that there is ilkely to be a reduction in wages among the building trades shortly, and this is augmented by talk of a strike, a most unfortunate occurrence at this time of the year. Bricklayers now receive 50 cents an hour for a nine-hour day, but if the master bricklayers' intentions hold good there will be a reduction to 45 or even 30 cents an hour, the wage depending on the ability of the workman. Employers expect a strike, it is said, and are prepared to meet it, but the union men have nothing definite to say in the mean-

It is at present denied that the carpenters will participate in a strike. It is to be hoped, however, that the strike trouble will disappear, at least for the city's own welfare, especially when a reduction in the work to be executed is expected.

Thomas A. Edison and "Mr. Punch."

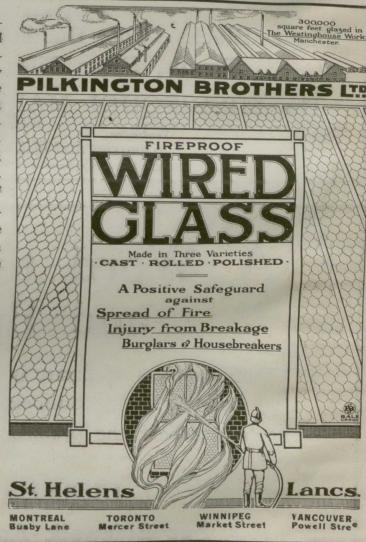
The London "Punch," Great Britain's acknowledged master of the revels, takes a jocular view of Mr. Edison's plan to pour concrete houses while the prospective tenant waits in front with his household goods, ready to move in as soon as the cement stops running. Punch" savs:

"Mr. Edison's announcement, while paralyzing the building trades, has stimulated activity in other quar-

"The more extravagant party in the London County Council talk of laying liquid-cement mains in suburban London. It would be a great boon, they argue, to the

ratepayer to be able to turn on the cement, just as nowadays he turns on the water for the garden hose. If unexpected guests come, for whom there is no room in the house, if a fowl-house or dog kennel should be required, if the householder has ambitions towards a billiard room, if a porch or conservatory, or even a summer house, should need to be built, if the roof begins to leak in a storm, or (as in some cases it has done) become restless, if the garden wall must be raised to keep next-door from staring—in fifty different emergencies a ratepayer would find an ever-ready supply of liquid cement most useful. All he would have to do would be to send down to the local ironmonger for the moulds, stick them up, and then leave the tap running into them, with perhaps the youngest boy to keep an eye on it.

"We would like to suggest that the cement tap ought



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to be colored red, so that it be not confused with the water tap. Cement, however liquid, is not a good thing to water the garden with or to boil the potatoes in."

To Paper a Kalsomined Room.

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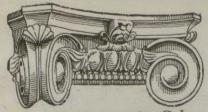
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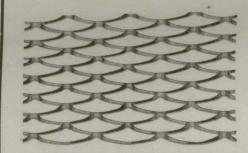
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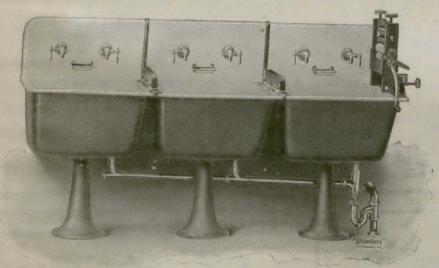
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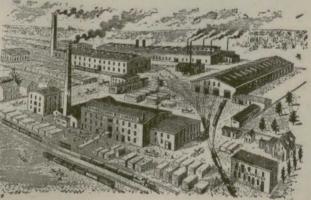
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