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Vol. XX.—No. 10.

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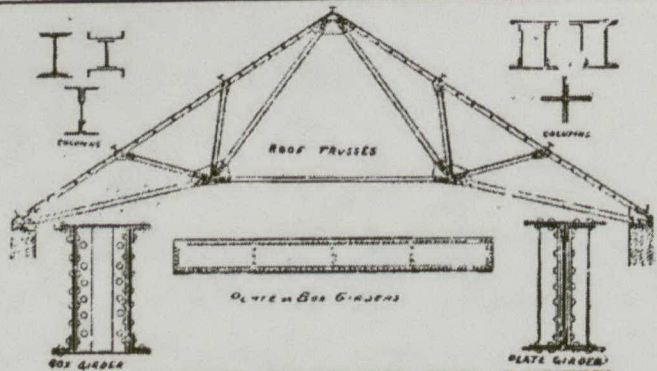
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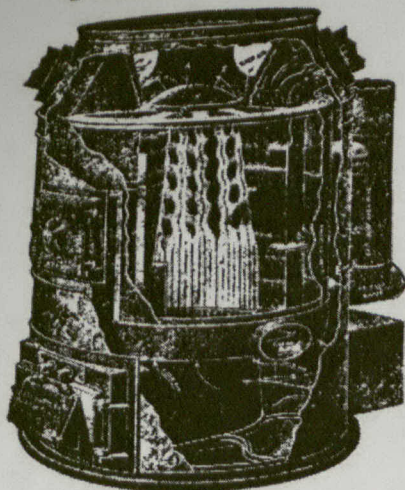
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INDEX TO ADVERTISEMENTS

**Architects.**  
 Ontario Directory... III  
 Quebec Directory... III

**Architectural Sculptors.**  
 Adamson & Wicks. III  
 Holbrook & Mollington... I

**Architectural Iron Work.**  
 Canada Foundry Co. XII  
 Dominion Bridge Co. I

**Bells**  
 Gillett & Johnston II

**Bridges**  
 Canadian Bridge Co. XI  
 Dominion Bridge Co. I

**Builders' Supplies**  
 Luxfer Prism Co. XIV  
 Montreal Directory. XVI  
 Morrison, T. A. XVI  
 Ontario Lins Assoc. XII  
 Rhodes, Curry & Co. XV  
 Toronto Directory. XVI

**Building Stone Dealers.**  
 Amherst Red Stone Quarry Co. XIV  
 Hodge Marble Co. VI  
 Brodie & Co., Jas. IV  
 Eadie & Douglas Co. XII  
 Hood & Son. IV  
 Horse Shoe Quarry. IV  
 Myers, Oakley. IV  
 Niagara Quarry Co. IV  
 Phillipsburg Railway & Quarry Co. XV  
 Roman Stone Co. IV

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 Beamsville Brick & Terra Cotta Co. IV  
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 Harttraut Cement Co., Wm. J. IX

**Cement Brick Machine**  
 London Concrete Machinery Co. VII

**Concrete Construction**  
 Trussed Concrete Steel Co. XI

**Cresote Stains**  
 Cabot, Samuel. I

**Drafting**  
 Montreal Drafting Co. II

**Drawing and Measuring Instruments**  
 Stanley. XV  
 King's Equipment Co. II

**Elevators**  
 Malloch & Co., W. IV  
 Otis-Penson Elevator Co. I  
 Paris Elevator Co. I  
 Turnbull & Kusel C. VII

**Engravers.**  
 Alexander engraving Co. III

**Folding Partitions.**  
 Spranger, O. T. XVI

**Grilles and Mullings**  
 Dennis Wire & Iron Co. VIII

**Granite**  
 McInlosh-Gillett Co. IV

**Hardwood Flooring.**  
 Knight Bros. Co. III  
 Nieman Bros. III

**Heating.**  
 Gurney Foundry Co. V  
 Sheldon Limited. XII  
 Smart Mfg. Co., Jas. II  
 Clappam & Son. VII

**Interior Decoration**  
 Elliott & Son Co. VIII  
 Toronto Decorating Co. VIII

**Lins.**  
 Oyster Lins Assoc. XII

**Wall Chutes.**  
 The Cutler Mfg. Co. IV

**Mantels, Grates, and Tiles.**  
 Holbrook & Mollington I

**Mortar Colors and Shingle Stains.**  
 Cabot, Samuel. I  
 J. Langmuir & Co. XI

**Office Furniture**  
 Canadian Office & School Furniture Co. XV

**Ornamental Iron Work.**  
 Canada Foundry Co. XII  
 Canadian Ornamental Iron Co. IV  
 Dennis Wire & Iron Co. VII

**Ornamental Plaster Decorators**  
 Hynes, W. J. III

**Painters.**  
 Montreal Directory. XVI  
 Toronto Directory. XVI

**Prisms.**  
 Hobbs Mfg. Co. XV  
 Luxfer Prism Co. VII  
 Toronto Plate Glass Co. VIII

**Paints & Varnishes**  
 Canada Paint Co. VII

**Parquet Floors**  
 Elliott & Son Co. VIII

**Plate Glass**  
 Consolidated Plate Glass Co. II  
 Toronto Plate Glass Importing Co. VIII

**Plumbers**  
 Montreal Directory. XVI  
 Toronto Directory. XVI

**Roofers**  
 Duthie & Son, G. XVI  
 Douglas Bros. XVI  
 Forbes Roofing Co. XVI  
 Nicholson & C. XVI  
 Rennie & Son, R. XVI  
 Ormsby & Co., A. B. I  
 Ringham, George. XVI  
 Williams & Co., H. XVI

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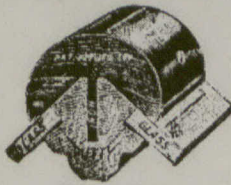
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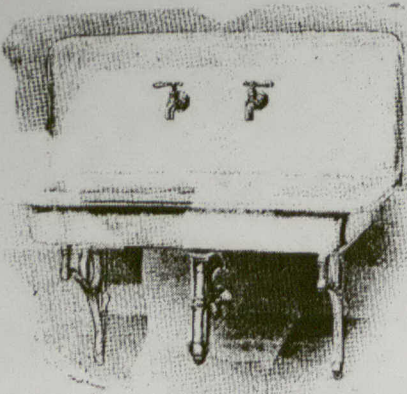
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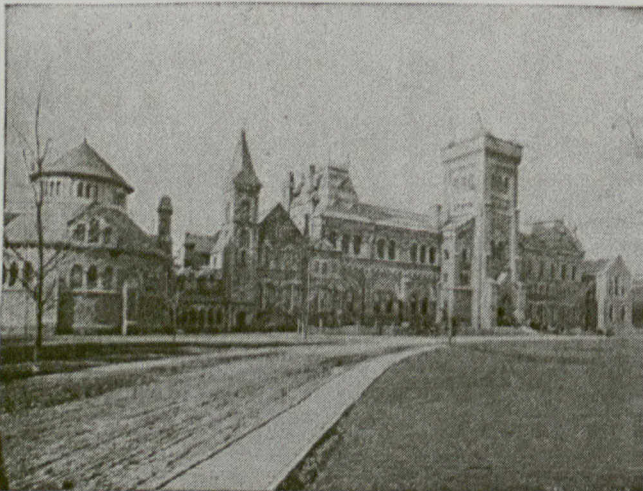


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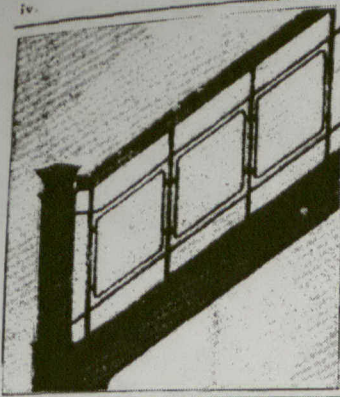
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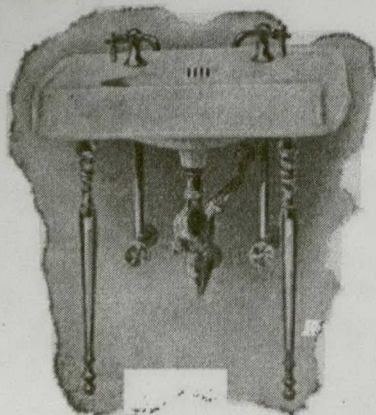
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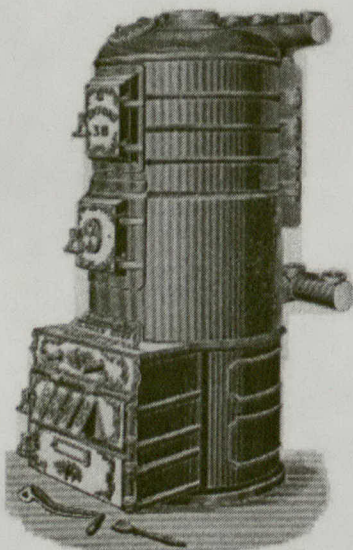
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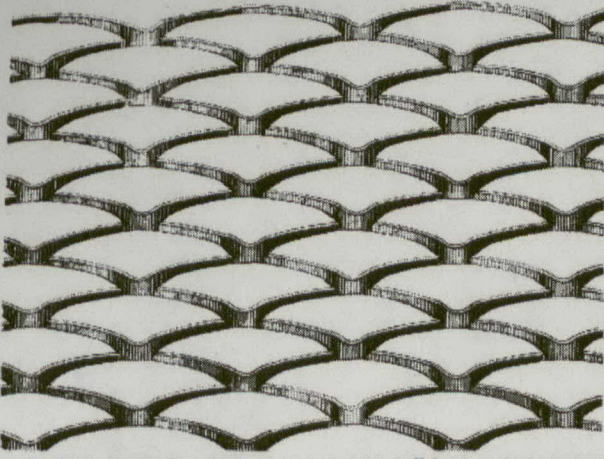
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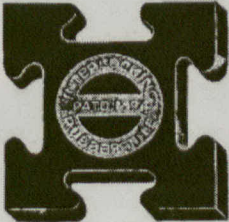
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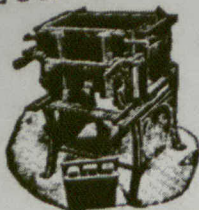
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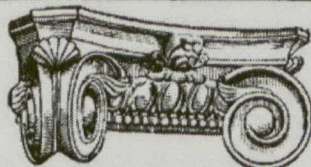
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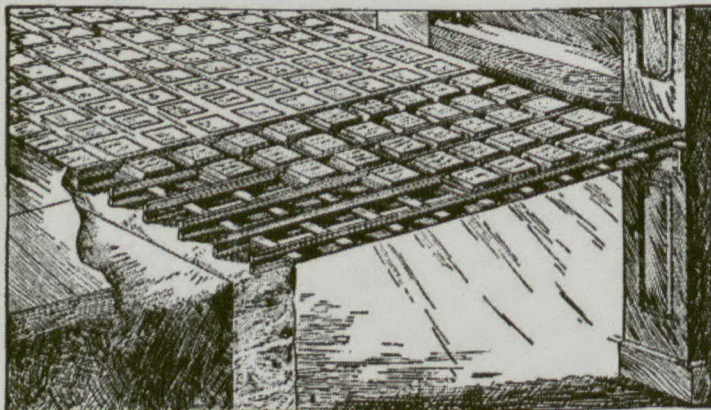
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## ILLUSTRATIONS.

OCTOBER, 1907.

PLANS BY MESSRS DARLING AND PEARSON, TORONTO, AWARDED SECOND PRIZE IN THE DOMINION GOVERNMENT COMPETITION FOR THE PROPOSED DEPARTMENTAL AND JUSTICE BUILDINGS, OTTAWA.

## CONTENTS

Editorial - - - - -	193-194	An Architectural Course for Toronto University - - - - -	212-213
An Attractive Bungalow - - - - -	195	Work of P. Q. A. A. - - - - -	214
Real Estate Men Oppose Building Inspector - - - - -	195	Kew Beach Sewage System - - - - -	215-216
Retaining the Sides of a Large Excavation - - - - -	196	Expanded Metal - - - - -	217
German Industrial Palace - - - - -	197	Cement Construction Details - - - - -	218
Architectural Ambition - - - - -	197	Danger of Rusty Iron in Concrete - - - - -	219
A Semi-Detached Concrete Dwelling House - - - - -	198-199	Employers' Combination not Illegal - - - - -	ix.-x.
The Late Richard Dinnis - - - - -	200	Book Review - - - - -	x.
Montreal Notes - - - - -	200	Electrical Delivery of Mail in Apartment Houses - - - - -	xi.
The Ottawa Competition - - - - -	201	Lignine Carvings - - - - -	xi.
The Late A. C. Barrett - - - - -	202	London Buildings Stereotyped - - - - -	xii.
Objectionable Phases of Registration - - - - -	202	Brick Tests in Vancouver, B. C. - - - - -	xiii.
Our Illustrations - - - - -	203	Pacific Coast Woods for Porch Columns - - - - -	xiii.
ILLUSTRATIONS - - - - -	204-209	Peace Palace Architect - - - - -	xiv.
The Competitive Designs at Ottawa - - - - -	210-211		

### The Architectural Annual.

Work is in progress on "The Architectural Annual," the official organ of the Architectural League of America, and prospects point to this year's issue being an unusually attractive number. Mr. J. P. Hynes, president of the League, is looking after Canada's contribution to the volume and is sparing no effort to make it not the least attractive department of the publication. The cost of the volume, \$2 for non-members and \$1 for members of the League, is insignificant compared with the value of the work from a purely utilitarian point of view, as articles of considerable worth will be contributed by a number of the most prominent architects in America, while there will be more than one hundred reproductions of selected examples of hitherto unpublished work throughout the continent. The proceeds from the sale of the volume go to maintain a foreign traveling scholarship.

Heretofore Canada's part in the architectural life of the continent has been small. With Mr. Hynes' elevation to the important position of President of the Architectural League of America, however, promise is given of a greater recognition of Canadian architectural talent and incidentally, it is hoped, there will also be imparted to the more youthful members of the craft in this country some incentive to compete for a few of the desirable opportunities for architectural education in the American universities.

### Structural Responsibility.

The investigation into the collapse of the Quebec Bridge, following closely upon the demolition of the Reid Building in London, has turned public attention toward the evident possibilities of deplorable accidents resulting from carelessness or inaccuracy on the part of designers or architects. In the case of the London disaster the lack of a city building inspector and the non-existence of a building by-law were responsible, not only for the death and injury of a number of innocent victims, but have also given excuse for a very pardonable mistrust regard-

ing the efficacy of public control over the undertaking by architects of hazardous methods of construction or alteration. The presence of a competent building inspector, it may well be presumed, will invariably act as a preventive in the adoption of questionable structural methods or in the exercise of undue haste.

The fact that an inspector was in charge of the Quebec bridge and failed to prevent the disaster may be taken as evidence that the existence of a building inspector is not by any means the summum bonum in structural work. The extent of the power with which we endow our building inspectors and their competency to exercise that power are the vital points. Moreover, it has transpired during the subsequent investigation into the cause of the Quebec bridge disaster that what may ultimately prove to be the direct cause of the collapse was detected by the inspector and warning to that effect given in ample time to have prevented the loss of life and possibly also the destruction of the bridge.

The fact remains, however, that there was a serious miscalculation made by the designers of the structure, an error which a board of arbiters, existing for the purpose of passing judgment upon just such important undertakings as the Quebec bridge, would have recognized and corrected. Moreover, it has since become a matter of speculation as to whether or not a duplication of such a disaster might not be possible in the case of a large building. It seems reasonable to suppose that a young and comparatively inexperienced architect, licensed though he may be, and pronounced competent so far as an examining body of architects have been able to estimate his reliability, may still be unworthy of being entrusted with the erection of an important building. The time has come in the history of this country when there should be in existence a final board of arbiters, to whose competent criticism should be submitted plans for all important undertakings and whose approval of those plans should be secured before the actual structure is allowed to go under way. By that means the possibility of unfortunate accidents would be greatly lessened and the onus of responsibility distributed.

**The Height of Buildings.**

In connection with the modification of the Grand Trunk Railway's plans for a new central station at Ottawa from a twelve to a ten storey edifice, it is understood that the change was made at the request of Sir Wilfrid Laurier. There is little doubt that the Premier takes an active interest in the question of high buildings for the Dominion capital and will, it is stated, shortly make representations to the City Council with a view to having a limit placed on the height of buildings. The Premier's objection apparently rests not only upon the belief that skyscrapers mar the artistic appearance of a city, but that he has also taken into consideration the danger of fire.

Regarding this latter ground for objection to high buildings, the remark of Mr. Geo. W. Babb, president of the New York Board of Fire Underwriters, to the effect that "it is merely a matter of time until the sky-scraper district of New York will be destroyed by fire," has caused widespread comment. A diametrically opposite view is taken of the question by Mr. F. W. Fitzpatrick, of New York, executive officer of the International Building Inspectors' Society, and a recognized authority on fireproof construction, who, commenting on Mr. Rabb's utterance, stated that "while such a thing is not beyond the realm of possibility, it is highly improbable under present conditions and could, at slight expense, be made an utter impossibility. The skyscraper district of New York cannot be compared to anything there was at Baltimore or in San Francisco. In both conflagrations the tall buildings suffered by reason of the vast amount of poor buildings there was all about them. Fire found but comparatively little to burn within them and in a great many cases, though damaged themselves, they served as a bulwark, a protection to adjacent and more combustible buildings. In Baltimore, as a matter of fact, as soon as the fire reached the skyscraper district, small as it was, it burnt itself out in them and they actually saved the city beyond them, stopping the fire much as a dyke does the inrush of the flood tide.

"In New York the down-town district is immeasurably better built than is that of any other city. There are more tall buildings, and these, serving almost exclusively as offices, contain the minimum of combustible material. Their tall steel frames, protected and enclosed with imperishable brick and hollow tile fireproofing, give a fire in the contents of the building nothing of a structural nature to feed upon and destroy."

It seems highly probable that the skyscraper problem will ere long call for specific treatment in Canadian cities. Toronto has been face to face with the problem more than once, and the public press has already voiced the ideas of at least a portion of the public in deploring an apparent tendency to make the vicinity of King and Yonge streets a duplicate of New York's skyscraper area. Winnipeg a couple of months ago was constrained to refuse a permit for a building of unusual height, while Ottawa is at the present struggling with its building by-laws, in which regulations governing the height of buildings will probably play no inconsiderable part.

**The Labor Party.**

At a meeting of the London Trades and Labor Council, held in that city on October 2, it was decided to suspend the meeting of the Council as such and continue as a local branch of the Canadian Labor Party. Enrollment in the new organization, it is said, can be made only with the distinct understanding that whoever is a member of any other political party must sever his connection with that party before being eligible for membership in that of Labor. Moreover, the doors of this latter are open to all, union or non-union, provided the applicant agrees to subscribe to the platform adopted—that of the Trades and Labor Congress of Canada—and stand for independent political action.

It will be remembered that on Good Friday last 600 representatives of labor gathered in Toronto, and with much eclat launched into the ocean of Canadian politics a new craft manned solely by labor. Since that time little has been publicly said upon the subject, but the action of the London Trades and Labor Council is proof that the movement is still afoot, with prospects of presently assuming greater proportions.

There enters into the whole question of labor and capital in Canada, now more than ever before, the influence of that remote European element, strongly imbued with revolutionary ideas, which is flowing in a constant stream across the continent and settling like the sediment of a sluggish river at all points of its course. The treatment of the Oriental races in Vancouver, we are assured, was not the work of organized labor but of a hoodlum element, which must eventually afford as difficult a problem for trades unionism to solve as for the employer of labor. This hoodlum element, we can well understand, is swollen by the untutored peasant of Europe, who is incapable of understanding the principles and responsibilities of democratic citizenship. For his elevation legislative enactment can be of but little use. Moreover, the inflexibility of a party, all of whose members are forced to subscribe with machine-like conformity to the principles laid down by its chiefs and to abandon at the outset all claim to originality in matters political, gives some idea of the lack of magnanimity which may characterize the future conduct of the Labor organization.

**The Ottawa Public Buildings.**

There were on exhibition from October 15 to 21 in the galleries of the Ontario Society of Artists, Toronto, twenty-one of the twenty-nine sets of drawings submitted in the Ottawa competition for the Departmental and Justice Buildings. The exhibition, held under the auspices of the Ontario Association of Architects, attracted considerable attention from local members of the craft. A review of these drawings leaves little room for doubt that Canadian architects have shown themselves quite capable of grappling with even such a large proposition as the erection of Government buildings. As the competition was chiefly one of suggestion, it has been advised that the best thing for the Government to do now is to call a second competition of finished plans and specifications from among those whose designs were awarded prizes or who were mentioned in the judges' report (Nos. 24, 12, 19, 30, 4 and 7), and to the winner of this latter competition award the whole contract.

**AN ATTRACTIVE BUNGALOW.**

The accompanying photograph of an attractive little bungalow, designed by Mr. J. W. H. Watts, R.C.A., of Ottawa, and built by Mr. Robert McGiffin, Aylmer, Quebec, is a style of house that presents several features attractive to prospective builders. The exterior

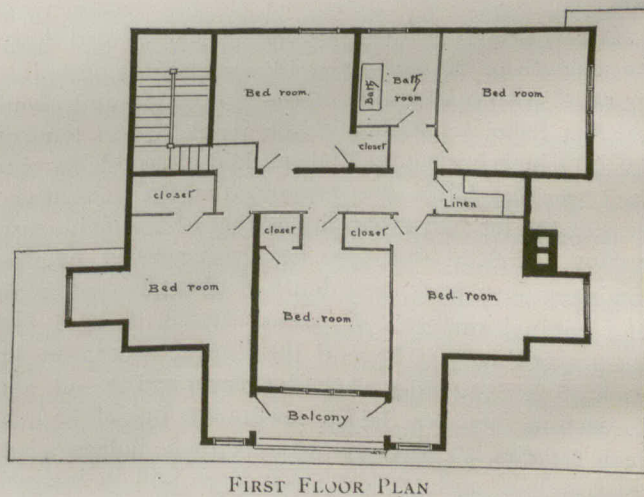
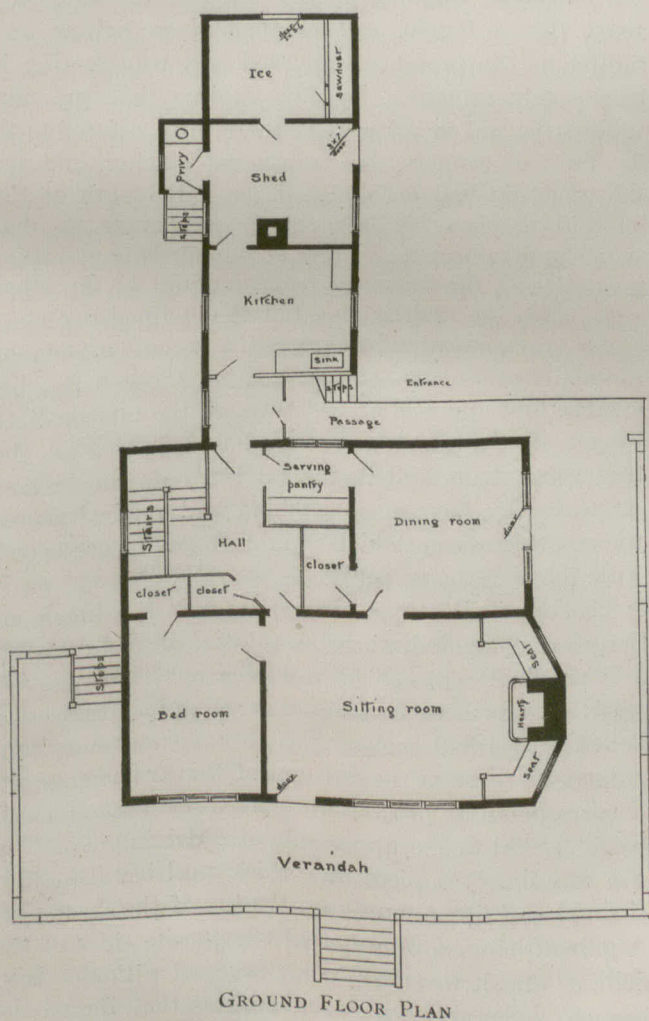
adjoining, and a roomy closet. From the hall, which opens off the sitting room, a platform stair leads to the first floor, where there are five bedrooms and bath. To supply this latter, and also the kitchen, water is pumped from the lake to a tank.

The kitchen is of one storey only and opens from



is constructed with the ordinary baloon frame and clap-boarded. The wide sweep of verandah is particularly attractive in a summer home, while the

main hall. Access can also be had to the kitchen from the end of the verandah. To the rear are also woodshed and ice house.



closed-in balcony affords a delightful and shady retreat. The interior is done in clear pine and spruce, natural finish and varnished.

The sitting room is commodious and provided with an open fireplace and window seats. On the ground floor are also the dining room, with serving pantry

**REAL ESTATE MEN OPPOSE BUILDING INSPECTOR.**

At a meeting of the London Real Estate Owners' Association, held recently in that city, the following resolution regarding the appointment of a building inspector was unanimously passed: "That in the opinion of this association, the appointment of a special building inspector would be quite unnecessary, as the three or four buildings per annum that it would be necessary to inspect could be done from the engineer's office."

The only buildings that this year would have required the services of a building inspector, it is urged, were the Reid Building, which is being erected in place of the structure that collapsed last July, and the new premises of Smallman & Ingram. The association thought the city engineer was in a position to do all the inspecting necessary, although up to the time of the Reid disaster he had little or no authority owing to there being no by-law empowering him to interfere in building operations.

## RETAINING THE SIDES OF A LARGE EXCAVATION

The new six storey steel frame wholesale meat market building for Swift & Company, at 153rd street and Brook avenue, New York, with its vaults under the 20 foot sidewalk on two sides, occupies a 65 x 135 foot area which has been excavated to a depth of about 21 feet through 10 feet of loose fill above a deep stratum of fine sand and quicksand, with abundance of ground water at a distance of about 12 feet below the surface. The site was originally the bed of a considerable stream, which has not yet wholly disappeared, making it necessary to deal not only with ordinary ground water, but with a considerable subterranean flow. This condition, together with the treacherous and irregular character of the soil, made the excavation difficult and necessitated careful provision for the exclusion of as much water as possible from the pit and for the safe support of the earth on the outside. The sheeting was therefore designed not only to resist a heavy earth pressure, but to act also as a core wall or dam to intercept the flow of underground water. The soil was so wet and soft that the bottom of the pit offered very little resistance to vertical or horizontal pressure and would not afford a reaction for ordinary spur braces, so that a special system was designed to resist the external pressure on the sheeting.

A row of pits about 6 feet square was sheeted down to a depth of 20 feet at equidistant points on a line parallel with a long side of the excavation and about 20 feet from it. A double line about 70 feet long of 12 x 12 inch horizontal timbers, laid close side by side and breaking joints, was supported on the cribs at one end of the lot just above the bottom of the main excavation, which at this time had been carried, by preliminary open work, to a depth of about 12 feet below the original surface. A narrow trench about 4 feet deep was dug just beyond the line of excavation on each of the long sides of the lot, from end to end, and in each of them was laid a continuous line of 12 x 12 inch rangers. Transverse 10 x 12 inch timbers about 20 feet long and 12 feet apart were laid in inclined position on one side of the intermediate horizontal girder and their ends were abutted and wedged against its vertical face and that of the outside ranger timber. Similar 12 x 12 inch inclined struts 45 feet long were laid in the same planes on the opposite side of the intermediate girder and wedged against the corresponding ranger. The long struts were made in two pieces, spliced with butt joints and with a scab, and all of them were connected at both ends to the horizontal timbers by top and bottom scab pieces. Shallow trenches were dug to receive them where necessary and care was taken to locate them so as to clear the steel columns and piers in the framework of the building.

On one side of the lot where the excavation reached a maximum of 21 1-2 feet depth, 3 x 10 inch tongue and groove sheeting 24 feet long was started on the outside of the ranger, and on the opposite side, where the excavation had a maximum depth of 14 feet, 2 x 10 inch tongue and groove piles 14 feet long were started simultaneously with them. As the piles were driven, excavation was carried on, care being taken to keep the bottom of the pit generally 2 or 3 feet

above the lower ends of the piles, thus reducing the tendency of the quicksand in the bottom to rise. After the excavation was deep enough to develop considerable external pressure on the sheeting and bring the inclined braces to a solid bearing against the intermediate girders, one end of the latter was braced against the transverse ranger laid across the lot on the line of excavation and the opposite end near the centre of the lot was temporarily secured by rakers, with their lower ends bearing against distributing timbers like grillages or dead men buried in the soil. Sheet piles were driven across the outside face of the end ranger and the excavation carried on inside of them; the external pressure they received was largely transmitted to the intermediate horizontal girder, where part of it was absorbed by the end raker and the remainder was absorbed by friction with the struts or was directly transferred to the side sheeting by a pair of special struts in the planes of the regular transverse struts, which were inclined about 80 degrees from the direction of the main girder so that their vertex pointed toward the line of transverse sheeting. The ends of these struts were scabbed to the centre and side rangers like the regular transverse struts, and as any displacement in the centre ranger tended to force them into a transverse line, they acted like a toggle, setting themselves tighter and tighter as the pressure increased and transferring it to the side rangers. By this device the pressure against the end sheeting was successfully resisted until the lines of rangers, the transverse bracing, and the side sheeting had been placed the full length of the lot and the intermediate ranger was made to abut against the transverse ranger at the opposite end, thus transmitting the pressure from one end to the other and dispensing with the need of the inclined rakers.

As the excavation progressed a second system of rangers was set against the sheeting about 6 feet below the first and was braced through the intermediate ranger in the same way. Undue deflection in the transverse struts and in the intermediate ranger was prevented by the use of cribbing and vertical shores wherever necessary, which were changed to correspond with the increasing depth.

The sheet piles were driven by a No. 4 Ingersoll-Sergeant steam drill with the rotating device removed and the drill replaced by a square steel bar. A flat steel bar was bent to form a rectangular frame and bolted to the drill enclosing the lower end. A rectangular hole through the flat end of this frame engaged a corresponding projection formed by a steel anvil block riveted to the upper side of a driving cap. The cap was simply a piece of a thick steel bar bent to a U-shape and fitted snugly on the top of the sheet pile. A pair of handles were bolted to opposite sides of the drill, so that it was easily kept engaged with the driving cap while striking it rapid blows that forced the pile down about 1 inch per minute when the point was 4 or 5 feet below the surface. An expenditure of \$15 transformed the machine from a rock drill to a hammer which did very satisfactory service on this work and has been adopted by the contractors for similar work in other places. It is thought, however, that the efficiency of the hammer would be promoted

by increasing its weight 50 or 100 pounds, as may perhaps be done by adding castings to the framework. As it required four men to carry the hammer comfortably, it proved too heavy to hold, unaided, while in operation, and was therefore suspended by a rope from overhead supports.

At first a pair of shear legs about 15 feet high were set up on the edge of the excavation and served as towers for an old 5-8 inch derrick guy which was utilized for a sort of improvised cableway. The cable was rove through a snatch block, which, being reversed, served as a trolley for carrying the hammer over the sheet piles. While driving the sheet piles on the sides of the excavation, vertical posts were in some cases substituted for the shear legs to carry the cableway, and in other cases the cable way was replaced by a horizontal 2 x 12 inch plank 10 feet long set edge-ways at a clear height of about 12 feet above the tops of the piles. This plank was supported at each end by a vertical post, seated on the top of the pile and having side pieces nailed to it to form jaws engaging the tops of the piles, so they could easily be slipped along from pile to pile. They were knee braced by inclined struts spiked to the verticals and to the transverse horizontal struts.

The steam hammer was not in this case provided with a rolling support, but was merely suspended from a sling passed around the horizontal beam. In all cases the hammer was raised and lowered by a four-part hand tackle and required a vertical clearance of about 9 feet for effective operation. The hammer was operated by two men on top guiding it with the handles and a third man below to adjust the pile cap.

The sheeting and bracing was accomplished in five weeks by an average force of 18 men. All of the excavation was done with pick and shovel, and the spoil was removed in wagons driven out of the pit on an incline at one end. After the sheeting was driven the water in the excavation was kept down by two pulsometers.—“The Engineering Record.”

#### GERMAN INDUSTRIAL PALACE.

While the building industry in the fashionable residential quarters of the western parts of Berlin has lately gone through a period of the most intense activity, there have arisen in the east of that city a number of buildings adapted to its commercial and industrial character. At the crossing of the river Spree and the elevated railway, and in the immediate neighborhood of the metropolitan railway, five mammoth constructions, constituting what is called the “Industrie-Palast,” Warschauer Brücke, have been recently completed.

This huge complex of buildings really deserves the name of “Palace,” the outside appearance of the facades, 20 meters in length, sub-divided into five sections of the most impressive architectural effects, being extremely imposing, with its weighty granite square stones, its sandstone surfaces and red tile constructions below and above the four main storeys and the gray slate roof. The right wing terminates in a massive tower.

An especially interesting feature of this construction is that any requirements of the trade and industry have been accounted for to a far greater extent than with any building previously erected in the Ger-

man metropolis. While these headquarters of industry are readily accessible from the metropolitan and elevated railways, as well as from a multitude of electric tramways, and while the adjoining Spree harbor affords a ready means of transporting all kinds of goods to and from the building, a railway tunnel with a special track directly connecting to the state railways has been arranged below the transversal wings of the building. This track, which is the only one of its kind in Berlin, allows each occupant of the house to immediately dispatch his produce from the platform arranged in the neighborhood of the tunnel, cranes being used in this connection from the upper storeys of the building.

Huge doorways are leading to large courtyards. All the rooms are well aerated and profusely lighted by high and broad windows. In order to guard against the spreading of fire, there have been arranged between the tunnel and the cellar some fireproof doors and gates which constitute an intermediary neutral compartment, while wrought iron blinds will shut off the various parts of the building. Special care has been bestowed on the arrangement of smoke discharges in the roof of all the vestibules. Fire extinguishing hydrants have further been fitted in each vestibule, as well as on the courtyards and in the tunnel.

A novel feature is the arrangement of two basement storeys above one another. A similar arrangement had so far been forbidden by German police regulations on account of the risk of fire involved. As, however, each basement in the present case is provided with special issues over broad staircases and through corridors, the police agreed to authorize the scheme. In order to provide for cases of fire, the more important iron parts had to be surrounded with cement, protecting the iron against incandescence and against cracking on coming into contact with water. While being exceedingly useful from the point of view of fire protection, this feature greatly adds to the pleasing appearance of the whole building, which strongly contrasts with the cold and monotonous character of many American office buildings; its subdivision into five sections is another means of avoiding monotony.

The building covers an area of 8,040 square meters, of which 5,730 square meters are actually occupied by constructions.

In spite of the extremely difficult conditions of the ground, this building was erected within the relatively short space of seven months.—Dr. Alfred Gradenwitz, in “Fireproof Magazine.”

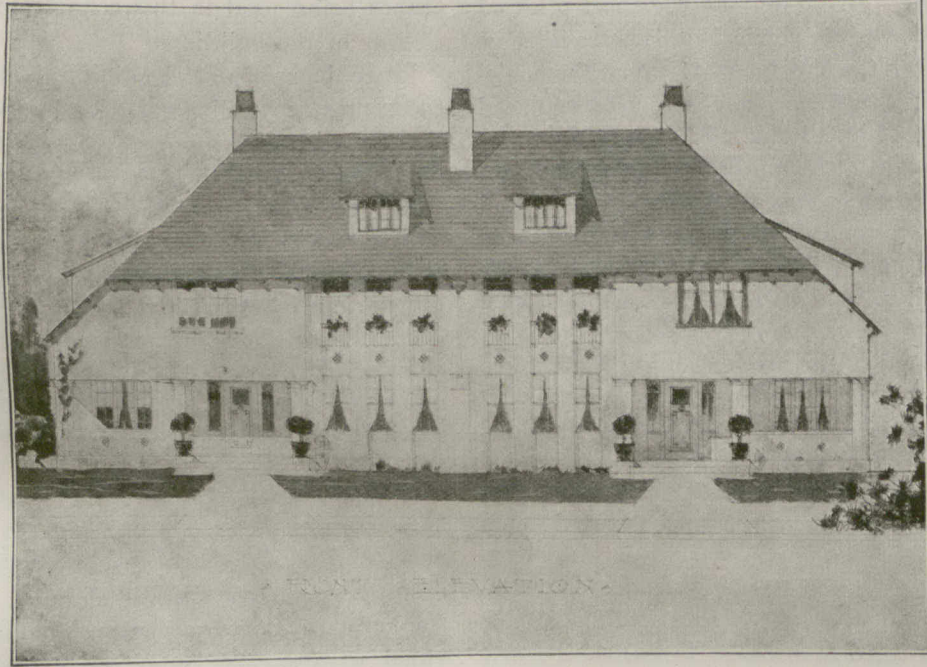
#### ARCHITECTURAL AMBITION.

The buildings of the old world were more ambitious than our own. No such theatre has ever been built in the modern world as the Coliseum, with its diameter of 615 feet, its height of 164 feet, and its seats for 100,000 people. No wall has ever been built to equal the great wall of China, which runs 30 feet high and 24 feet thick for 1,200 miles; and the pyramids remain the wonder of the world in the twentieth century as in the first. Ancient Egypt had twelve palaces, each with 3,000 rooms; and the walls of Ninevah ran for 100 miles 100 feet high, and wide enough for three chariots to drive abreast along the top. Who builds so well and on so magnificent a scale to-day?

## A Semi-Detached Concrete Dwelling House

Over two hundred plans, representing as many different types of concrete dwelling houses, were received by the Association of American Portland Cement Manufacturers in response to their competition, held a few months ago. The conditions of the competition stipulated that the designs were to be of two classes, single or detached and twin or semi-detached. In both cases the use of cement and concrete was desired

The first prize of \$200 for a semi-detached two and one-half storey house, of seven or eight rooms, to cost not more than \$4,500, was awarded Eugene Ward, jr., of 11 E. 24th street, New York. The judges' report on this plan was as follows: "This design is excellent and individual in both plan and elevation, particularly in elevation. The wall surfaces lend themselves readily to monolithic construction, although



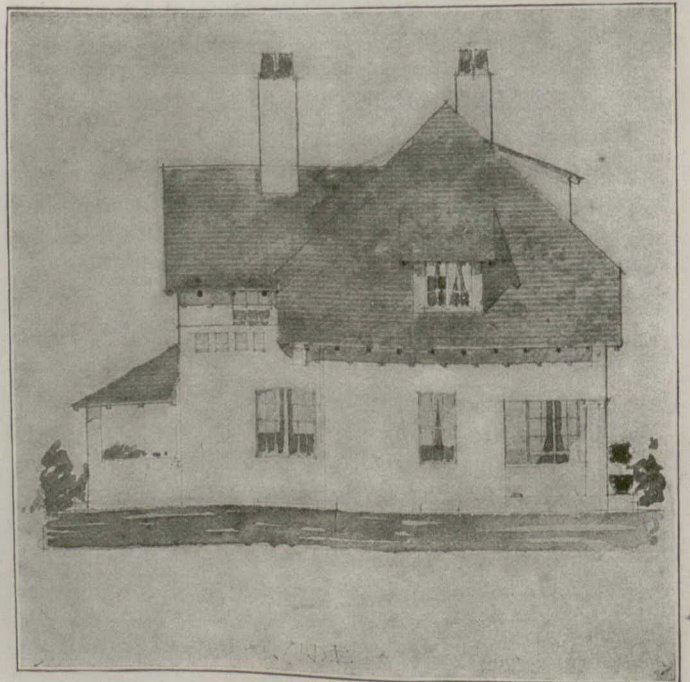
MAIN ELEVATION.

wherever practicable: "Walls must be constructed of hollow concrete blocks of plain, paneled or bush-hammered face but not rock-face; or they may be of monolithic construction. If hollow blocks are used interior plastering will be applied directly to the blocks; if monolithic construction, wall furring will be required. Wood floor joists and roof timbers may be used; roof coverings may be of cement, tiles, slate or shingles. Concrete block partitions, at least for the lower storey, are preferred. Chimneys are to be of concrete block or brick; the use of cement for posts, cornices, porch railings and other details of simple design is suggested.

"A prime requisite of domestic architecture, whether palace or modest dwellings, is that it should possess beauty, charm and appropriateness. The exterior finish of concrete walls has rarely been handled in a way to produce artistic results. The fault does not lie with the material, as it lends itself to a great variety of textures and colors."

The award of the competition was based on excellence in artistic quality, convenience of floor arrangements and economy of construction. Separate premiums were given for houses of one or one and one-half storeys in height (three or four rooms), cost not to exceed \$2,000; houses of two storeys (five or six rooms), cost not to exceed \$3,000, and houses of two or two and one-half storeys in height (seven or eight rooms), cost not to exceed \$4,500. In the case of the semi-detached dwellings the sum stipulated is to be understood as meaning one-half of the total cost of the pair.

plastering on concrete is open to criticism where exposed to the weather. The drawings are well drawn and rendered."



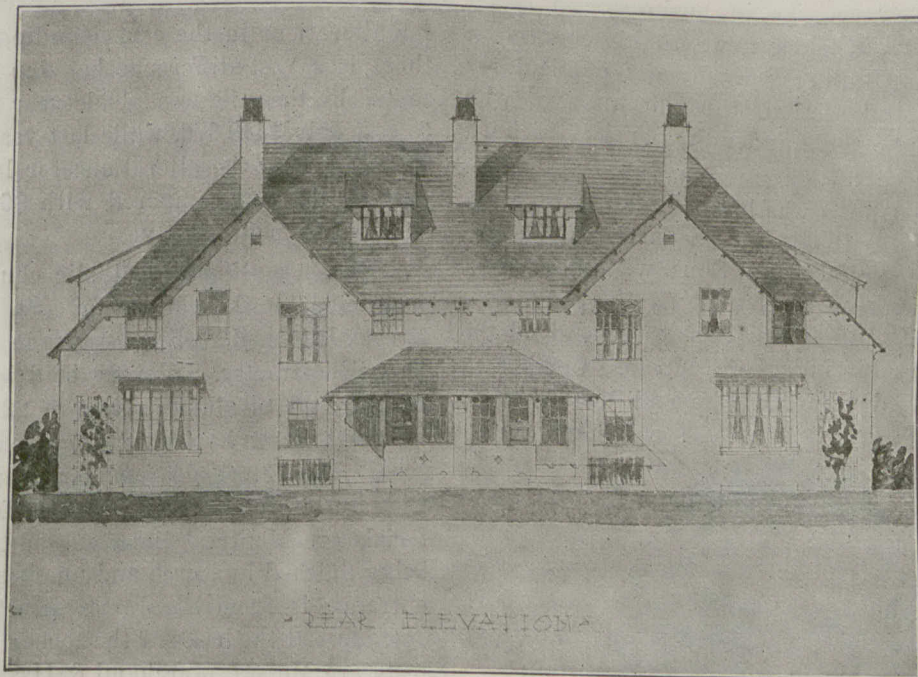
SIDE ELEVATION.

The following description accompanied the plans:—Outer walls and porch posts to be of monolithic concrete construction. Cellar and porch posts to be of concrete. Outer walls to be 8 inches thick, cemented on the outside and furred with wood

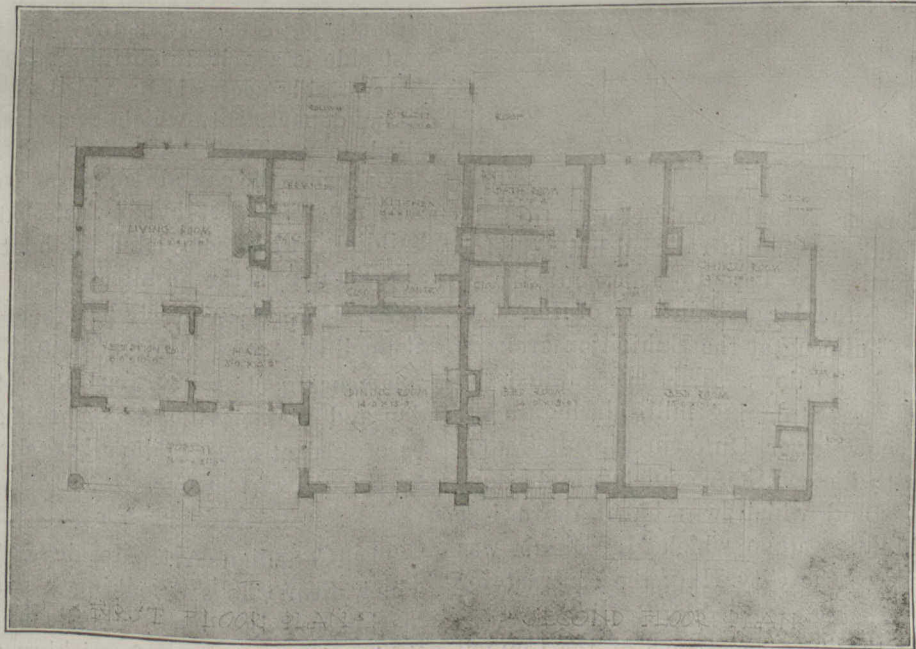


furring strips and plastered on wood lath on the inside. Outside walls to have roughcast finish, stained. Chimneys to be lined with flue tile. Cellar under whole house.

places of selected hard burned brick. Roofs shingled with red asbestos cement shingles. Balcony at second storey front bedroom to be of 1-16 inch flat steel riveted and painted black.



REAR ELEVATION.



FIRST AND SECOND FLOOR PLANS.

All piers in basement, partitions on first floor, and main bearing partitions on upper floors to be of hollow cement blocks, plastered.

Floor joists 2 inches by 10 inches O. C. Rafters, 2 inches by 6 inches.

Minor partitions to be 2 inch by 4 inch studs, lathed and plastered.

All floors double with hard pine upper floors. Trim to be cypress stained. Sash of white pine, painted. All glass D. S. A. Hardware of good grade. Fire-

ESTIMATE.	
Excavation .....	\$ 150.00
Concrete and cement work .....	4,050.00
Carpentry .....	2,000.00
Trim .....	1,800.00
Painting, etc.....	350.00
Hardware .....	250.00
Tin work .....	125.00
Wiring, etc.....	250.00

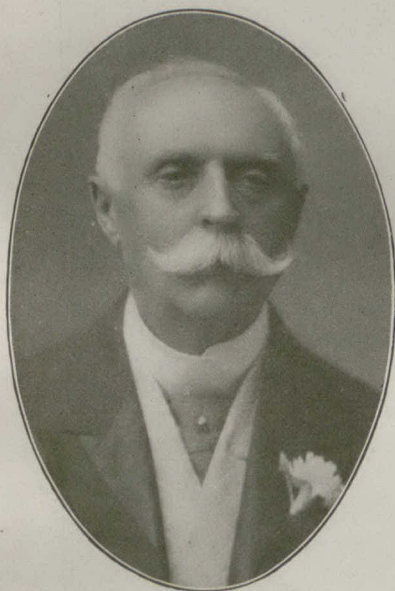
\$8,985.00

Cubic contents—35,000 cubic feet.

## THE LATE RICHARD DINNIS.

In the person of Mr. Richard Dinnis, whose death occurred on October 14 last at his late residence, 132 University avenue, there passed away one of the oldest and best known contractors of Toronto. Although for the past four years Mr. Dinnis had been unable to exercise his former activity in business and social circles, he had, nevertheless, kept up his connection with the Toronto Builders' Exchange, particularly with the carpenters' section, through his son, who conducted the old business under the name of Richard Dinnis & Son, Limited.

The late Mr. Dinnis was born in Falmouth, England, September 18, 1834. At an early age he was apprenticed to Messrs. Olver & Sons, well-known contractors in the west of England. At the same time he studied architecture, receiving at the end of the usual seven years his indenture papers. Coming to Canada he engaged with Mr. Pim and Messrs. Wor-



THE LATE RICHARD DINNIS.

thington Bros., former Toronto contractors. In 1865 he went to Ohio and engaged in railroad building for two years. Returning to Toronto he executed contracts for many of the large buildings of the city. The original large building at the Exhibition grounds was built by him in 90 days. This necessitated the erection of a temporary planing mill, glazing shops, etc., on what is now lower Dufferin street. Later, in conjunction with his son, he completed in 45 days the large grand stand which was burnt down last fall. The last building upon which Mr. Dinnis was actively engaged was the City Hall, the contract for the carpenter work being executed by R. Dinnis & Son. The excellence of the interior fittings of the Council chamber and of the court rooms testify to the fine class of work always turned out by the late contractor.

Mr. Dinnis was formerly a lieutenant in the Sixth Royals, a Past Master of Rehoboam Lodge A. F. & A. M., and a Past District Deputy of the Grand Lodge. The funeral took place on October 17, attended by many members of the Builders' Exchange.

The value of the building operations in Ottawa will be equal to that of last year, although the number of such is smaller. The high prices of labor and material are said to be responsible for this condition.

## MONTREAL NOTES.

The tightness of the money market has had a marked effect on building operations in the city during the month of September. No very great work was undertaken, and although 448 permits were issued during the month for new buildings, and 34 for alterations, as compared with 166 for new buildings and 41 for alterations in the corresponding month last year, there is a vast difference between the values represented by these figures. This year the new work was to cost only \$449,676, while last year it was valued at \$725,565; also the alterations for last month totalled only \$44,957, as compared with \$66,745 for the corresponding month last year.

A fine new Roman Catholic church has just been completed on the corner of St. James and Vinet streets. It is modern Renaissance in style, of a strongly French character, and very bold in detail. It has a frontage on St. James street of 92 feet and 172 feet on Vinet street, having seating capacity for 1,700 persons. The interior is one large auditorium, 80 feet wide by 160 feet in length and 80 feet high. The materials are Montreal limestone and steel, the interior being finished in stucco and quartered oak. The main entrance is from St. James street, with two minor entrances at the bases of the corner towers. The architects are Messrs. Marchand & Haskell.

The new fire station on Berthelet street is nearing completion, and, in spite of many delays, will be one of the finest and most costly in the city. The building is entirely fireproof, three stories high, with a frontage of 72 feet and a depth of 100 feet. On the ground floor the carriage house occupies the centre, with stables in the rear for sixteen horses. On the west side is a private entrance to the station, and on the east side access is provided to the offices and fire alarm department, which occupies the whole of the third floor. The middle floor will contain the men's dormitories, the captain's and officers' rooms, a recreation room, 32 feet by 22 feet, bathrooms, etc. The building will be completed in about two months' time. Mr. Dunlop is the architect.

The Hon. W. A. Weir has forwarded \$1,500 to the Council of Arts and Manufacture for the purpose of commencing classes at Lachute, St. Johns, Huntingdon and Victoriaville, and schools at these points will be opened at once. Other branches are to be opened by the end of October.

The Canadian Art, Mosaic & Tile Company are a new firm who are making a specialty of floors in marble and in Roman Mosaic and Venetian granolithic. They also are furnishing tiles for floors and wainscoting. The offices of the firm are in the Jânes Building, 75 Yonge street, Toronto.

A street improvement has been ordered in Berlin which would cause American taxpayers some consternation. It is proposed to widen the narrowest part of Friederichstrasse 20 feet and replace the present houses and shops by an array of palaces, galleries and hotels, making the street one of the grand thoroughfares of the world. It is announced that four German banks and one British bank will finance the project, which is expected to cost \$37,500,000.

## THE OTTAWA COMPETITION.

By "AN ARCHITECT."

The announcement, in an Ottawa paper that none of the designs for the Departmental and Justice Buildings are wholly satisfactory to the Government is made with such apparent assurance that it would look as though there is some truth in the rumor. The statement that the Government will hold a new competition outside of Canada is scarcely credible without a direct announcement to that effect.

Among the reasons advanced, in the paper referred to, for a fresh competition, are, first, that one of the prize winners had not conformed to the conditions by failing to provide a waiting room specified in the Supreme Court building; second, that there are departures from the Gothic style in the designs with the substitution of "polyglot" designs; third, that the arrangement of stairways, elevators and rooms is not satisfactory; fourth, that all but Gothic designs are barred; fifth, that Classic is the type most suitable for Judiciary buildings, and sixth, that the extensive duplication of the Gothic type in our public buildings tended to sacrifice the attraction of variety.

The article goes on to give the Government credit for allowing Canadian architects this opportunity to demonstrate their ability, and then proceeds to apologize for the architects of this "young country," who have not had "that opportunity in the designing of extensive buildings that naturally comes to those in the older countries."

The writer of the article and other critics apparently do not know or are ignoring the fact that these designs are not by any means a finality. The competition was frankly announced as one of suggestion and the Government, unwisely we think, did not promise to give the execution of the work to any of the prize winners. Doubtless more competitors would have entered the lists, and those competing might have given greater study to their designs if they had had some assurance that the winner would be employed to carry out his designs. Moreover, the references to the faults of the prize designs appear to us to be superficial and lacking the definiteness which should accompany a fair and intelligent criticism.

The judges, presuming they gave their task the requisite study, must have spent many days in the examination of the designs, they must have weighed every point of excellence, and exposed every defect, and so analyzed and tabulated the results as to enable them to reach a methodical and scientific decision and to place the various designs in a true and relative position. This being so, it is obvious that the judgment of the assessors should have infinitely more weight than that of those who at best have given the various designs very much less study, and that study probably quite devoid of method or tabulation. It may be freely granted that a room here or there may be lacking or that certain parts may not be so happily related to other parts as to meet the views of those who are to occupy the buildings. It is rare, however, to find any preliminary design free of faults, and especially when the architect has not had the opportunity of consulting the various interests involved.

But when an architect submits a design in competi-

tion, which practically covers all the requirements called for, it is a comparatively easy thing for him, after coming into close touch with the officers of the various departments, to so amend and revise his plans as to meet their practical requirements.

If the critic in his statement that the "departures from the Gothic style" and the substitution of "polyglot" designs indicates his belief that the Victorian Gothic of the present buildings with their sharp-pointed narrow openings, their multitudinous pinnacles, and their many towers of wood and sheet metal, is the only type of Gothic architecture permissible, we are sorry for his lack of judgment.

To our mind the best of the designs have steered clear of the most conspicuous defects of the present buildings. The Gothic of the first prize is of a free type lending itself to spacious openings and good lighting, while the roofs are much more suitable for the climate than the semi-mansards of the present structures, which might well be termed "polyglot." How does the critic know that "all but Gothic designs were barred"? He apparently takes this for granted because no Classic design obtained a place among the prize winners. The judges doubtless gave full value and consideration to all points in the designs whether Gothic or Classic in style, and we would be surprised to find that they had ignored a Classic design of greater intrinsic merit than any of the prize designs which happen to be in the Gothic style, even if their individual leanings were in favor of the latter style.

The critic infers that because the Classic is the more usual style adopted for judiciary buildings, that style should have been adopted. Some of the finest law courts are of Gothic design, and there is no reason whatever, from either a practical or aesthetic standpoint, why the highest courts in our land should not follow such precedents. The suggestion that lack of variety will result from the adoption of Gothic designs is an absurd one, and reveals the weakness of a critic who does not understand his subject. He might as well argue that an oratorio should have some rag-time music thrown in to break up the monotony and give variety. There is no type of architecture which permits greater variety and, at the same time, harmony than the Gothic, as any student of architecture will acknowledge. It will be remembered that all the Federal Buildings at Washington are of one type of design, the Classic, and yet there is no lack of variety. It therefore seems to the writer that, as Washington has adopted Classic as the type of Federal Buildings, resulting in a harmony that gives unity and interest to the architecture of the Capitol, so Canada could happily adopt Gothic as the type of all Federal Buildings at Ottawa.

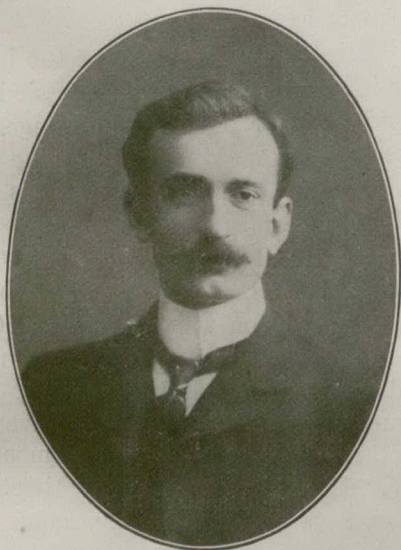
Judging from the character of the design selected for first prize, its authors are quite capable of designing buildings which will be a credit to the nation and to the profession. They should be taken into the confidence of the Government and of the heads of all the departments interested. They should have the opportunity of explaining their designs, and their work should be criticized by those interested in a frank and sympathetic spirit. After this they should be com-

missioned to re-study their designs, eliminating objectionable features and adding others necessary for the satisfactory conduct of the business of the various departments. If this is done it will be the best encouragement which could be offered Canadian architects, and give a confidence of fair treatment which will induce the architects of Canada to throw themselves with enthusiasm into future Government competitions.

The architects of Canada were greatly pleased when the Government decided to inaugurate a competition of designs for the Departmental and Justice Buildings, open to Canadian architects, with the implication that the former policy of having all Government work designed by the officials of the Public Works Department would be modified. If the new policy is to be continued, and other Government works thrown open to competitive designs, its success will in a large measure depend on the action of the Government in connection with the designs for the Ottawa buildings.

### THE LATE A. C. BARRETT.

To an unusually large circle of friends the news of the death of Arthur Clarence Barrett, architect, will come as a great shock. He had not been feeling well for some months and early last September he left Regina, where he had been living, for his old home in Port Dover, Ont. Typhoid fever had developed, and after a hard fight for life, which his strong physique enabled him to make, he had to give



THE LATE A. C. BARRETT.

up the struggle and breathed his last on the 12th of October.

Born in Port Dover on the 7th of May, 1869, the son of T. B. Barrett, Esq., he was educated in the Port Dover High School. In 1887 he entered the office of D. B. Dick, Esq., architect, of Toronto. After the expiration of his apprenticeship in that office he was for several years in New York, in the office of Bruce Price. He also spent some time in Chicago and Montreal, after which he opened an office in Hamilton, Ont., remaining there about a year. About eight years ago he moved to Toronto, where he practised his profession until a year ago last May, when, having an ardent desire to try his fortune in the West, he moved to Regina and soon established a good practice in that city. While in Toronto he was a member

of the Toronto Architectural Eighteen Club and took an active interest in its proceedings.

Mr. Barrett possessed a delightfully droll humor and a ready wit that was always good-natured. His many friends will long bear him in kind remembrance as a gentleman of high character and attractive personality and as an architect who truly loved his profession.

### OBJECTIONABLE PHASES OF REGISTRATION ACT.

Exception to certain phases of the proposed act of registration of Canadian architects is taken by Mr. J. C. B. Horwood, of Toronto, in the following communication:

To the Editor CANADIAN ARCHITECT AND BUILDER.

Dear Sir,—When reading in your September issue an account of the proceedings of "The First-Congress of Canadian Architects," I was pleased to note there was one protest raised against "protecting" the title of "architect." I quite agree with Mr. Eden Smith that the proposition, if carried out, would ultimately have a detrimental effect upon the architectural profession in Canada. In addition to this I am fully convinced the proposition is fundamentally wrong and therefore should not for a moment be entertained. Every architect, worthy of the name, knows that given a wrong motive in design no amount of "working" up or elaboration will produce a desirable result. This idea of the architects' is, in my opinion, actually no wiser a proceeding than should the Royal Canadian Academy of Artists set about endeavoring to have a law passed to prevent any house decorator calling himself an artist.

Do not, Mr. Editor, imagine I am opposed to a Canadian architects' organization. I am not. I think we stand in absolute need of one (as witness the designs of the profession in the late competition for the Ottawa buildings), but the pity is that having established an organization—a good thing in itself—we proceed at once to make an exceedingly bad use of it by seeking such legislation.

The old threadbare argument that it is desirable to do this for the safety of the public is really no better argument than to contend that a student of engineering at the end of his preliminary education, which included several years' office experience, should have a certificate given him by some incorporated engineering society which, in effect, said he was "qualified" to design a "Quebec bridge." But we all know the public do not urge methods such as these to guard their safety. These are the methods usually adopted by certain groups of individuals seeking private benefits from the Government.

One reason why the proposition is fundamentally wrong is that, if the safety of the public in any community is a matter to be looked after, and it undoubtedly is, the law in relation to the erection of buildings should provide, not that the man be examined, but rather that each and all designs for his proposed buildings should be examined and passed upon by competent Government inspectors of buildings before being allowed to proceed with their construction. The Government should insist on this just as they insist on looking after the safety of the community in another department by means of the police force or the

militia. The Government should not shirk its responsibility in this regard and the architectural profession should not desire powers which rightly do not belong to it, and which therefore must ultimately prevent it from attaining its highest ideals.

What would be thought of a Government who, desirous of maintaining a high standard of morality in the community, should think the way to accomplish it would be to delegate its powers and that of its police force to a "moral order league" or to the prohibitionists?

Yours truly,

J. C. B. HORWOOD.

### OUR ILLUSTRATIONS.

The designs on our illustration pages this month are those of Messrs. Darling & Pearson, of Toronto, awarded second prize in the competition for the proposed Ottawa Departmental and Justice Buildings. The architects' description as submitted to the judges in the contest is as follows:

"We have endeavored in the accompanying design to adhere to the conditions of the competition as set forth in the pamphlet.

"The buildings are located as far southeast as possible, so as to take advantage, first, of the level ground of Majors' Hill Park, and second, the uninterrupted view of the entire buildings from the drive in front of the main building on Parliament Hill.

"The bridge which spans the ravine at a right angle to the Rideau Canal is placed so that the eastern entrance is on an axis with the main tower of the Departmental Building, while the western entrance to the bridge centres with the driveway in front of the Parliament Buildings. To overcome the difference in level between Parliament Hill and the new site, and to dispense with carrying the roadbed on a raking line (which we thought would look very unsightly) it is carried across the ravine at the general level of Major's Hill Park, while the western end of the bridge terminates with a tower in which is placed a wide staircase and elevator for the convenience of foot passengers. The vehicular traffic crossing the bridge ascends to the higher level by the two roadways on each side of the tower, winding up on the brow of the ravine to the higher level.

"Whilst the Departmental and Justice Buildings have been kept separate and distinct, the area required for the Departmental Building being so much greater than that required for the Justice Building, we thought a better arrangement and balance in the grouping of the buildings could be achieved by planning them practically as three buildings with connecting wings, the Justice Building being kept entirely separate from the Departmental Building. They could, however, be connected by a covered passageway if so desired.

"Before determining the style of architecture in which to design the building we took into consideration the price per cubic foot as set forth in clause 1 of the conditions and decided that, as the buildings are to be fireproof, there was practically very little margin for elaboration of the exterior, while it would be useless to design them in the same style of the early

Victoria period of Gothic in which the existing Parliament Buildings are carried out. The style chosen is a modern treatment of later English Gothic which, whilst being distinctive in itself, will harmonize with the existing buildings. This style, we believe, besides being more economical, is better adapted from a utilitarian point of view to the requirements of the various buildings.

#### DEPARTMENTAL BUILDING.

"This building is planned along the lines of a modern office building. The entrances, staircases and elevators are placed so as to allow of the separate working of the various departments. We have endeavored so far as is consistent with a Gothic style to plan the offices on a unit basis, so that the partitions between the various rooms can be taken down and re-arranged to meet the needs of the departments.

#### JUSTICE BUILDING.

"The various offices in this building are lighted from the exterior; the corridors only are lighted from the two central courtyards. The Supreme Court, Exchequer Court and Railway Commission are placed on the ground, first and second floors respectively, while the Department of Justice with all the office staff is located on the third and fourth floors.

"The Court rooms run up two storeys in height and are well lighted from the sides. The judges' bench in each case is at the south end of the court room, to which access is obtained from the judges' corridor, the same being disconnected from the other public corridors. All the judges' rooms are en suite in the south wing, and private entrances, staircases, elevators and lavatories are provided entirely separate from the public. The main public entrance to this block is in the west end of the building facing Majors' Hill Park, and three other public staircases with suitable elevator accommodation are provided.

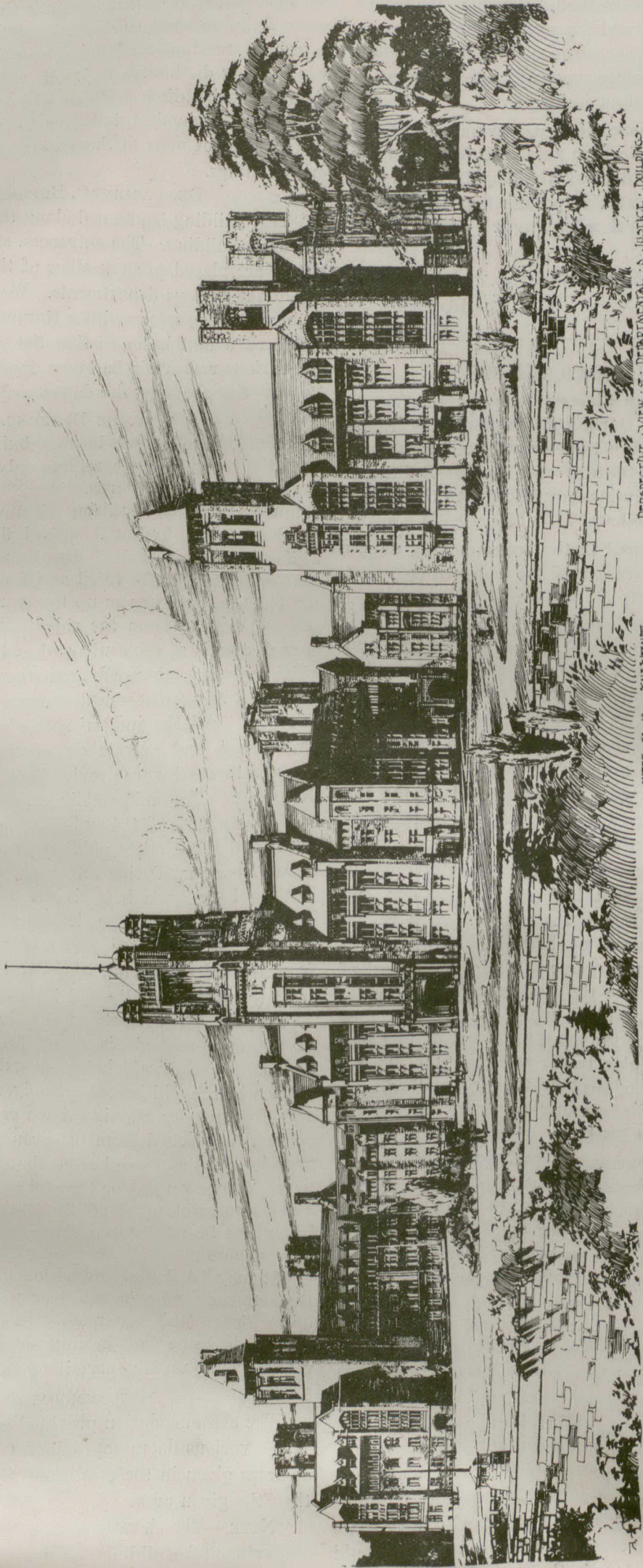
"The Library is housed in a separate wing, disconnected from the Justice Building proper by a firewall. It is lighted by large mullioned windows from the sides and end, while we have endeavored to treat it both externally and internally so as to define its purpose. The book-stacks are arranged at each side of the wide central aisle, and between the columns and the external walls below the galleries is left ample space which could be comfortably arranged for readers. The gallery running down each side and across one end is reached from the ground floor of the Library by a staircase and from the corridor of the first floor. Large vaults for the storage of valuable books and manuscripts open off the library. The basement below can be used for packing, bookbinding or storage purposes.

"It may be deemed advisable to place the Justice Department on the ground floor and the courts on the upper floors (this can readily be done, as each floor area is the same and the number and location of elevators would readily permit of this).

#### ACCOMMODATION.

"The accommodation provided in the two buildings on the various floors approximates closely to the table of areas given in the conditions, in no case being less than the given area.

"NOTE.—The elevations show the main tower of the Departmental Building one storey lower than the perspective drawing."



PERSPECTIVE VIEW OF DEPARTMENTAL & JUSTICE BUILDINGS.  
 POINT OF VIEW FROM EAST DOCK & PARLIAMENT HILL.

SHEET NO. 10. SCALE 1/8" = 1'-0"

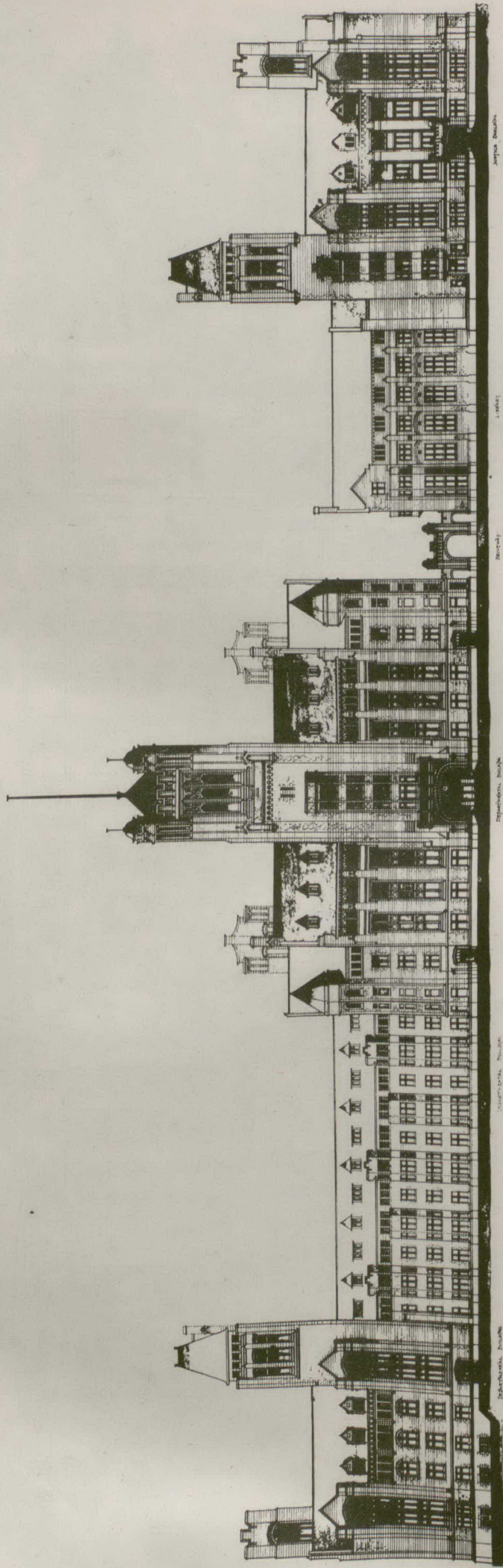
PROPOSED DEPARTMENTAL AND JUSTICE BUILDINGS, OTTAWA—MESSRS DARLING & PEARSON, TORONTO, ARCHITECTS.



JULIEN H. PEARSON ARCHT.  
PERSPECTIVE VIEW OF COURT HOUSE JUSTICE BUILDING.

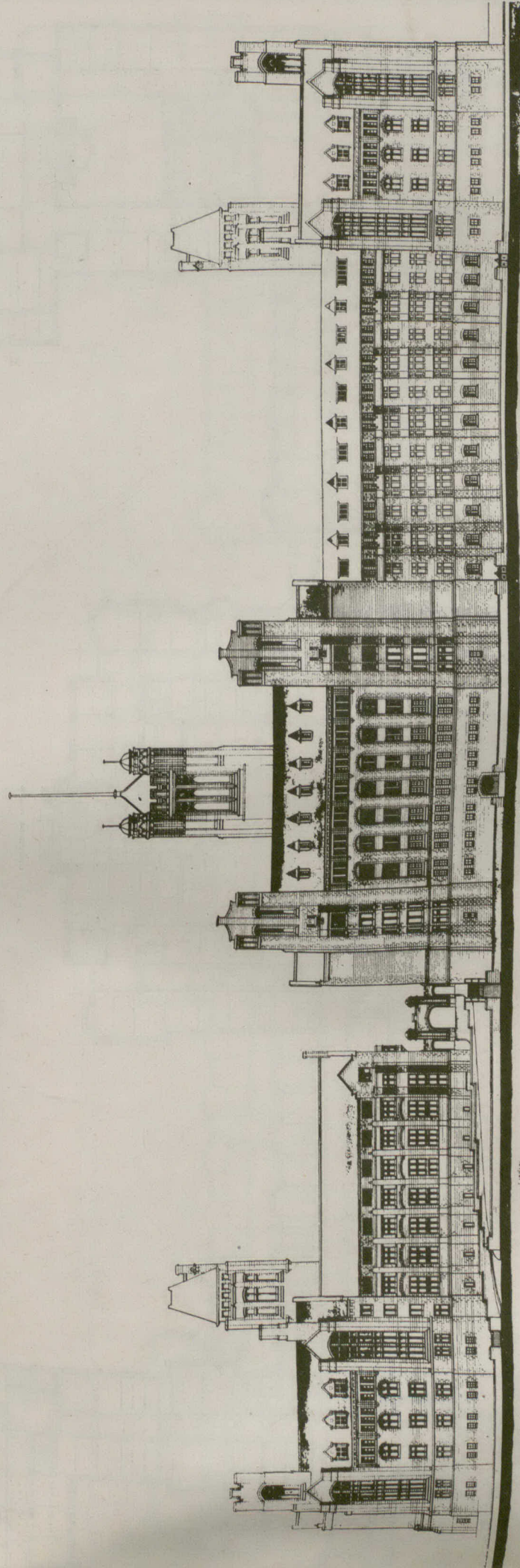
PROPOSED DEPARTMENTAL AND JUSTICE BUILDINGS, OTTAWA—MESSRS DARLING & PEARSON, ARCHITECTS, TORONTO.

COMPETITIVE DESIGN FOR THE PROPOSED NEW  
 DEPARTMENTAL AND JUSTICE BUILDINGS  
 FOR THE DOMINION OF CANADA, OTTAWA, ONTARIO.



MAIN FRONT ELEVATION OF  
 DEPARTMENTAL AND JUSTICE BUILDINGS.





ELEVATION OF  
DEPARTMENTAL AND JUSTICE BUILDINGS  
TO SUSSEX ST.  
Facing East

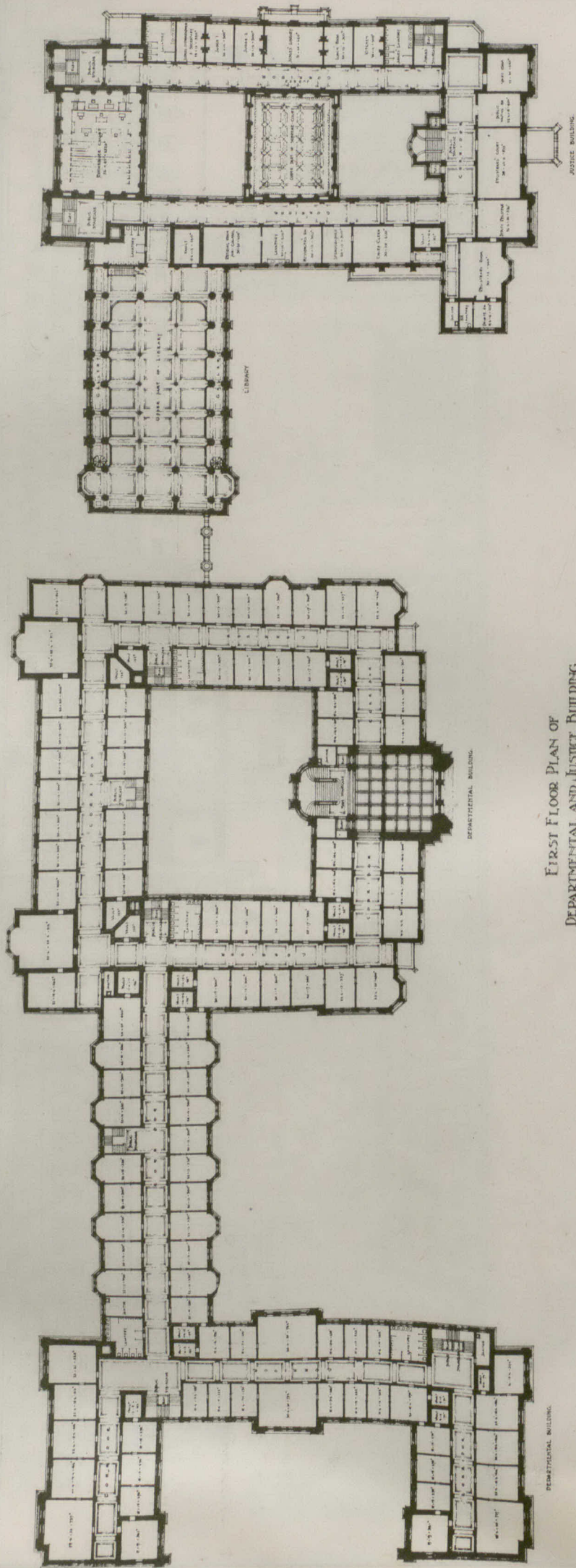
BRUNNEN, N. P. 1913

FRANCOIS, B. 1913

DEPARTMENTAL, SUSSEX

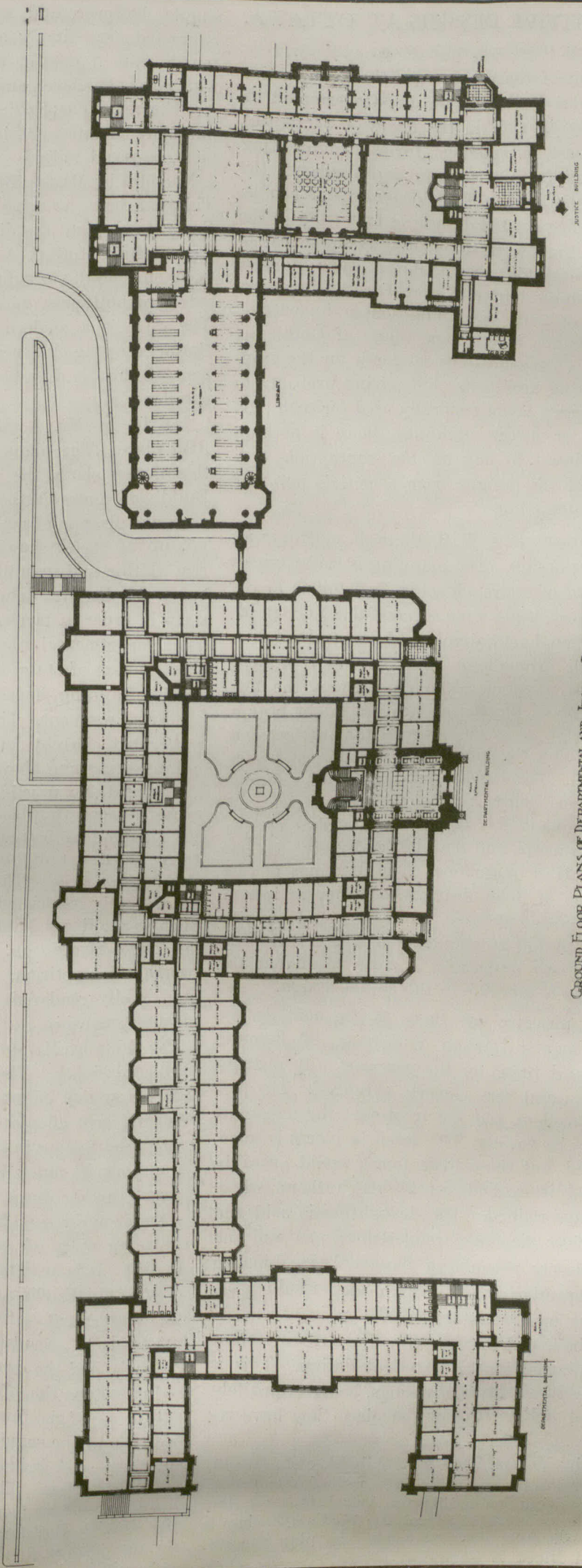
LIBRARY

COMPETITIVE DESIGN FOR THE PROPOSED NEW  
 DEPARTMENTAL AND JUSTICE BUILDINGS  
 FOR THE DOMINION OF CANADA, OREGON, OREGON.



FIRST FLOOR PLAN OF  
 DEPARTMENTAL AND JUSTICE BUILDING

COMPETITIVE DESIGN FOR THE PROPOSED NEW  
DEPARTMENTAL AND JUSTICE BUILDINGS  
FOR THE PROVINCE OF CANADA, ONTARIO.



GROUND FLOOR PLANS OF DEPARTMENTAL AND JUSTICE BUILDINGS

## THE COMPETITIVE DESIGNS AT OTTAWA.

By M. J. McLAUGHLIN, C.E., Ottawa.

The exhibition of the designs for the new Justice and Departmental Buildings for the Government of Canada, recently on view in the Railway Committee Room in the House of Commons, forms an interesting collection of architectural studies and furnishes the observant outsider with a fair idea of what can be done by the members of the designing fraternity in the Dominion. Of the twenty-nine designs submitted in competition, twenty-five are exhibited, some of these showing a very high degree of excellence, while others give evidence of little discrimination or knowledge. Most of the designs affect some phase of Gothic, as recommended in the conditions set forth for the guidance of competing architects; but, owing probably to the fact that Gothic is not generally used for such purposes as office or justice buildings, there is nothing startlingly brilliant in any of the conceptions. A short resume of the designs from a critic's point of view may be interesting.

No. 24, by Messrs. E. & W. S. Maxwell, of Montreal, is the first prize design. The planning is well studied, the arrangement of stairs, elevators and toilets in the Department Block being very successful. This building has been treated very simply and a restrained feeling is noticeable throughout. The buttress treatment is original and pleasing, although perhaps the terminating turrets of the central feature might bear a little more study. It is very evident that the authors have kept in mind the purposes for which the building is intended. The Justice Building forms a charming composition, being pleasing in perspective and very cleverly planned. However, it strikes one as somewhat overdrawn and does not easily give the impression of a Hall of Justice. The drawings in this set are models of good draughtsmanship, as indeed are all the winning designs, and one would have to go far indeed to find greater excellence in this respect. In fact it is very noticeable in some cases that the drawing is much superior to the actual design.

It is with pleasure one turns to the next design, No. 12, by Messrs. Darling & Pearson, of Toronto, awarded second prize by the assessors. It is truly Gothic in plan and very cleverly arranged. The perspective is excellent and the treatment throughout is interesting in its variety. The detail in places is somewhat too bold, but these little faults would probably be eliminated if carried out by the authors, whose work is always refined. The draughting is bold and the perspectives elegantly rendered in pen and ink in a style closely resembling those of a well-known Scottish perspective artist. This design would probably give the most satisfaction of any in execution, and it is to be hoped that the Government will follow the lines indicated in this excellent design. This is one of the prettiest sets of drawings, being exquisitely rendered and well worthy of the place they have received.

No. 19 is by Messrs. Saxe & Archibald, of Montreal, and takes third place. This is a remarkable set of drawings, showing decided Beaux Arts influences. The rendering is very effective and the bird's eye view is a particularly fine piece of work. In plan the Departmental Block is somewhat unstudied—the working out of the staircases being questionable. It is

simple, however, and very compact. The elevation is treated very simply and would perhaps be monotonous were it not for the dominating central tower which is very clever and has a tendency toward the Art Nouveau. The Justice Building is similar in effect but more monumental in character. The hall treatment is grand indeed.

No. 30 is by Messrs. Brown & Vallance, of Montreal. This has been awarded fourth prize. It is a well thought out plan, the disposition of the buildings being carefully studied. A symmetrical arrangement has been effected by dividing the Departmental section into two buildings, with a central Justice Building. The style is a modern adaptation of perpendicular Gothic, showing evidence of continental influence. The general office is dignified, but the detail is somewhat overdone.

No. 18, by Mr. A. H. Chapman, of Toronto, gets fifth place. The plans are the redeeming feature of this design, both the Department and the Justice Buildings being well thought out. The elevators, however, are disappointing, the detail being poor and the mix-up of styles showing a lack of appreciation of true Gothic and inability to interpret it intelligently.

No. 22, by Mr. John M. Lyle, of Toronto, comes sixth in order of merit, and is a fine set of drawings. The Departmental plan is somewhat unstudied, the arrangement of stairs and elevators being poor. The Justice Building, however, is good and very economical in arrangement. The treatment is Tudor, although rather too churchy in appearance, the detail being uninteresting and showing lack of feeling.

The next, No. 8, is by Mr. Albert Ewart, of Ottawa, awarded seventh place. The simplicity of plan is the outstanding feature of this design. The architectural treatment, however, is uninteresting, being of the factory type. The author's knowledge of detail is evidently restricted to local examples of Gothic, such as the Royal Mint and the Victoria Museum, now in course of erection, and which are not particularly worthy of repetition. The bird's eye view is striking and boldly rendered and is a good example of draughtsmanship.

No. 15 is by Mr. John McLaren of Vancouver, and is placed eighth. The plans are ingeniously laid out, but the system adopted is bad, giving poor light and showing lack of adaptation to the climate. There is some good feeling in the elevations, but there are quite a number of much better schemes which have been placed further down the list.

No. 6, by Messrs. Sproat & Rolph, of Toronto, is a charming piece of composition, of great beauty and dignity. It is mediaeval in character and reminds one of some old English abbey. The pen and ink rendering is excellent—after the style of Cram's work—but tends to accentuate an ecclesiastical appearance. Probably had the drawings been rendered in light ink and monotone the effect would have been less churchy. This is one of the few designs that has any pure Gothic feeling and the same character has been given to both buildings and bridge, the latter being particularly quaint in effect. The planning of the Departmental Building suffers from the number of areas used, but the Justice Building is excellently arranged. It is strange that so fine a piece of design has been given only ninth place, as it is well worthy of more honorable mention.

The next set is No. 28, by Mr. James Foulis, Ottawa, awarded tenth place. The author has evidently had strong ideas on the suitability of the style he has adopted, which is English Renaissance. The Justice Building is a very dignified composition, nicely rendered and showing good knowledge of detail. The Departmental Block is also pleasing and suitable for office purposes. It shows evidence of study from a recent example in London, England, by Sir Aston Webb, but is sufficiently original in treatment to escape being termed a mere copy. The bridge is also in keeping with the rest of the design.

No. 25 is by Messrs. Hutchison & Wood, of Montreal, being assigned eleventh place. This is rather an extravagant design, showing a great disposition to run to towers. The plans are expensive in arrangement and the lighting in places is rather good. The Departmental Building is the more pleasing, but has somewhat of the city hall treatment. The tower of the Justice Building is unhappy, but, on the whole, it evidences good Gothic character. This is another elaborate set of drawings with fine perspective views in a distinctly English style of draughting.

No. 13, by Mr. Geo. W. Gouinlock, of Toronto (twelfth place), is somewhat disappointing, the elongated tower of Campanile proportions being rather out of place. The perspective with this set is a somewhat gloomy piece of rendering. The printing of the titles, however, is good.

In No. 7, by Mr. Perrault, of Montreal, there appears a strained effort to cover both the sites available with buildings—why, it is difficult to imagine. There is also an undue multiplicity of towers which, with the five Departmental and three Justice Buildings, shows that the author must have taken the word "group" to literally mean two or more buildings. This design was awarded thirteenth place.

No. 5 is by Messrs. Finlay & Spence, of Montreal, and takes fourteenth place. The authors have allotted three buildings to the Justice Department, the layout of the site being very good. The treatment in elevation is simple and shows good Gothic feeling in places, but the plans all suffer from an extravagant arrangement of hall space. Fifteenth place has also been awarded Messrs. Finlay & Spence for a second set of designs, No. 4. These are after the style of Bruce Price, and savor of the Place Viger, Montreal, and the Chateau Frontenac, Quebec. The plan is rambling, as befits the style, but the scheme is extravagant. The general effect is very picturesque, with a charming sky line, this latter being enhanced by the delightful rendering which characterizes this firm's designs.

No. 27 is by Messrs. Melville & McKean, of Moncton, N.B. No name is attached, probably through modesty on the authors' part. It is somewhat indirect in plan, though character is shown in places. The drawings are not improved by the timid rendering.

Mr. J. B. McCrae, of Ottawa, has been given nineteenth place. The plans are straightforward and rather well arranged, but the idea of a vault in each room, which is the outstanding feature, is rather far-fetched, especially in the Departmental Building. The elevations are a monotonous repetition of the existing buildings on Parliament Hill, to carry out which would be highly unfortunate. Beautiful as these

buildings may be, there are better phases of Gothic and better treatments, while it would be even better to adopt an entirely different style than to copy what is already overdone. A little variety in architecture is better than endless repetition.

No. 16, by Messrs. Horwood & Taylor, of Ottawa, has been placed twenty-first. It is uninteresting and rather too commercial a conception. The authors have evidently an exaggerated idea of the amount of hustle there is in a government office, as in the Departmental Building they have provided no less than eighteen elevators and six staircases. This is certainly luxurious.

It is a pity from a critic's standpoint that any limitation of style was suggested, as no artist would say that similarity is essential to harmony. This will readily be acknowledged on an examination of the winning designs, none of which has anything in common with the existing buildings. Also, if reference were made to any modern Justice Building that has been erected in America, Britain or Europe, it would be difficult to find any example that has been rendered in any other style but classic, this being without doubt the only medium through which the necessary impressions and grandeur essential to courts of law can be interpreted.

Taken altogether, the exhibit is good and shows that Canada has within her borders many good architects who are capable of carrying out such a great scheme with character and individuality. It is to be hoped that the Government will show discretion in the ultimate carrying out of the work and that some satisfactory scheme will be arrived at whereby the successful architects will be assured that their work will not be ruined by poor interpretation. It might be suggested that a Board of Advisors be selected, composed of authors of the winning designs, who would be consulted from time to time on the preparation of the working drawings and on matters of detail. When buildings of a national character are erected it is only right that the people should be assured that they have the approval of those most capable of criticism. It is also to be hoped that the exhibition will help to raise the status of the profession and open the eyes of the general public to the work of the architects of Canada and incite in them an intelligent interest in the execution of their public buildings.

It is expected that a greater number than the 216 who forwarded plans for The Hague Palace of Peace will have competed. London has supplied at least fifty competitors.

A prize of 200 guineas goes to the winner, who will, of course, be entrusted with the task of carrying out his design. The remuneration of the architect responsible for the construction of the hall will be 4 1-2 per cent. on the total cost, or very nearly £40,000.

Mr. John M. Lyle has been appointed by the Architectural Eighteen Club of Toronto as correspondent of that organization to communicate with the American Institute of Architects, who are endeavoring to bring into closer relations the many architectural associations scattered over the American continent.

## AN ARCHITECTURAL COURSE FOR TORONTO UNIVERSITY

It may not be generally understood by Ontario architects that an effort is being made by a number of interested members of the craft, assisted by some artists and citizens of the city of Toronto, to have established at the Provincial University a Faculty of Fine Art. Heretofore the instruction afforded the student of architecture at Toronto has been far from satisfactory, and yet the need for a revision of the present curriculum apparently has been recognized slowly. At the time of the recent investigation into the status of the University by the Royal Commission a committee of the Architectural Eighteen Club of Toronto, composed of Messrs. W. Ford Howland, A. H. Chapman, and J. P. Hynes, was authorized to make a study of architectural conditions in various American universities and report thereon. The work of this committee has been embodied in the "Report of the Royal Commission on the University of Toronto," a copy of which has just come to hand. This report is as follows:

To the University of Toronto Commission:

"Sirs,—When we appeared before you we brought to your attention the need, first, of a special course in Architecture, and, secondly, of a comprehensive plan for grouping of the University buildings.

"Our position rests upon the broad ground that Architecture is one of the great educational and refining influences in life; it is therefore entitled to a place in the curriculum of the University and also to consideration when the buildings of the University are being designed and given their place in the University property.

"First. 'A special course in Architecture.' This is required, as there are now within reach of the University a considerable number of Architectural students, who having started in offices, are unable to leave them, and give four years to University work; indeed for some time to come, students in Architecture will find their way into offices before awakening to the value of an academic course of study.

"In Toronto Architecture has not been studied hitherto as an art but rather as a science. This is very forcibly illustrated by the University of Toronto Calendar for 1905-6, page 239. In contrast we quote the following from Columbia College Calendar:

"'The University thus recognizes that Architecture is primarily a fine art, although requiring for its practice a considerable amount of scientific training.' Page 9, Bulletin, June 3rd, 1905.

"Columbia, Pennsylvania, Cornell, Harvard and other Universities have special courses in Architecture for students who have spent some time in architect's offices. The University of Toronto might inaugurate such a course, so arranged that students could attend lectures early in the morning and late in the afternoon, as do those now attending Osgoode Hall.

"These universities have ateliers or studios; we cannot too strongly recommend the establishment of a studio at the University of Toronto. The studios at the universities mentioned are in a measure independent of the university course in Architecture, they are generally in charge of a practising architect, who sets

problems that the students study under his criticism and guidance.

"In the course proposed here a student should have a Junior Matriculation in Mathematics, should have spent two years in an architect's office, and should be eighteen years of age. He should attend early morning and late afternoon lectures on subjects which are best taught in this way, and in the evening he should work in the studio.

"In Toronto to-day there are more than 65 students in Architecture, whose only opportunity for study is afforded by the mathematical classes conducted by the Joint Committee of the Ontario Association of Architects and the Toronto Architectural Eighteen Club. In the offices they simply do the routine work, which might be called the craft of Architecture, while the Art of Architecture is left to the mercy of chance. The result of this state of affairs is deplorable, and can be rectified by the course we suggest.

"Second. 'A comprehensive plan for the grouping of the University buildings.' Since Architecture is admittedly an educational and refining influence, the University is the place above all places where the greatest effort should be made to maintain a high standard of it.

"European universities have never failed to recognize this truth, and Oxford has given the inspiration to the men who have recently erected the buildings of high Architectural merit at Pennsylvania and Princeton.

"The University of Toronto is extremely fortunate in having as its original building a recognized achievement in Architecture. Unfortunately this model has not been followed.

"The Hon. Mr. Edward Blake, when Chancellor of the University, in his address at the opening of the so-called course in Architecture, referred to the original building as an inspiring example, and to the School of Science building as 'an example of what not to do.'

"It is not sufficient that each building in connection with the University should be in itself a creditable Architectural structure, but that it should also harmonize completely with its fellow-buildings; moreover, the same economy should be shown in the arrangement of all the buildings on the University property as is shown in the design of each.

"The importance of prompt action in the systematic arrangement of the University grounds cannot be too strongly emphasized at the present moment, since the proposed residences may be placed so as to cause greater difficulty in carrying out a comprehensive scheme.

"It is essential to the University in preparing its members for well-ordered and beautiful lives to show order and beauty in its external appearance."

As will be seen, the committee have laid down the premises that Architecture is not a science, as its position under the Toronto Faculty of Applied Science would suggest, but an art, training for which should not be solely in structural engineering but rather in the humanities. With this end in view the committee are of the opinion that students in Architecture should

receive their training in University College and not in the School of Practical Science, and should train for an arts rather than a science degree. The history and growth of Architecture, it is claimed, can be studied best by following it through a three or four years' course in Classics, Moderns and History. True, considerable modification of these courses would have to be made to adapt them more particularly to a course in Fine Art. The reading in Classics, for instance, would necessarily be such as to treat of the bearing that Greek scholarship had on Architecture and Art leading to a knowledge on the part of the student of the later Italian and Gothic arts. That such a course, carefully planned and treated by a competent staff of lecturers would be of inestimable value to students of the Fine Arts must be readily admitted. Moreover, there might reasonably be expected to result therefrom in process of time a Canadian Architecture possessing so far as is possible distinctly national traits. At least critics could not then cavil at the efforts of our best craftsmen and declare them lacking in a comprehension of what are considered the rudiments of the great Schools of Art.

A glance at the work done by the great American universities in the Department of Architecture shows that in some instances recognition of the attitude taken by the committee of the Architectural Eighteen Club has already been made and a suitable course prepared. To quote from the Calendar of Harvard:

"It has been recognized that Architecture is essentially a fine art, the practice of which must be based on a thorough knowledge of construction. Great stress has therefore been laid on continued practice in design and drawing and thorough instruction in the history and principles of the fine art of Architecture and the arts allied with it. Such knowledge as can be better and more rapidly acquired by actual office experience will only be touched upon in a general way in order to leave more time for subjects which can be adequately taught only in Architectural schools.

"The curriculum is so arranged that professional studies begin in the first year and are continued through four years. In the first year the History of Ancient Architecture and the study of the Elements of Architectural Form are taken up in such a way as to give the student a familiarity with classic form which shall serve as a basis for the subsequent practice in Original Design which continues through the following three years. The aim is to give students such a knowledge of the history of Architecture and of the growth and meaning of Architectural forms as may enable them to use precedent not blindly, but intelligently and with some freedom. The History of Architecture (with practice and drawing in its various forms) is continued through the second year and completed in the third. Courses are included in the general history and principles of the fine arts which enable the student to understand the relation of Architecture to the other arts and the relation of art of different periods to their social and political life. Without this knowledge the architect is not likely to use the forms of his art in an intelligent and scholarly manner."

In addition to the work as outlined above, which leads to the degree of B.S., Harvard provides courses

for those who wish to take the degree of B.A. in addition to the degree of B.S. Such students after having obtained their B.A. degree may obtain the degree of B.S. after at least two years' further study in the Lawrence Scientific School, which school is under the joint control of the Faculties of Arts and Science.

Facilities are also given at Harvard for graduate work in Architecture, including both advanced work in design and construction, and special study of particular periods of Architectural history. Graduates of other Architectural schools or experienced draughtsmen who give evidence of their fitness to profit by them will be also admitted to these advanced courses.

The University of Pennsylvania, too, bases its curriculum upon the assumption that "Architecture is primarily a fine art." To quote the Calendar, "the study of Design is therefore emphasized, the student being required to give to it and to its preparatory and accessory subjects an important portion of his time throughout the course."

A two years' special course is also provided for Architectural draughtsmen of experience. Such students pursue a definite course of study, arranged to permit the completion, in two years, of much of the advanced technical work of the four-year course.

Cornell divides its Architectural course into four main parts: First, Construction, both theoretical and practical; second, Expression, or the technical representation of architectural or decorative ideas on paper; third, Composition, which includes the science of convenient and effective planning and the art of architectural and decorative design; fourth, that broad field which the literature of architecture covers and in which are included the History of Architecture and many interesting and important questions which arise in connection with the practice of Architecture, and which often belong to the allied professions, such as engineering and law. As in Pennsylvania, a two year course in Architecture is also open to special students at Cornell.

Inspired by the manifest desire of the Ontario Legislature to improve in every possible way the status of Toronto University, and assured, moreover, of the favorable consideration of improvements at the hands of the new president, those who have taken this matter in hand may reasonably expect to see ere long a progressive Faculty of Fine Arts added to the admirable professional corps now lecturing at the University in Queen's Park.

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The new chair of Architecture at the Montreal Polytechnic School has been inaugurated and candidates for admission to study were required to present themselves for examination on October 15. The head of the department is Mr. Doumie, a noted French architect and professor. Mr. Doumie will be assisted by Messrs. E. Dyonnet, J. O. Marchand and J. Haynes.

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Out of sixty architects practicing in Johannesburg at the beginning of this year, at least thirty have left the Golden City to try their fortune elsewhere owing to the effect of the prevailing depression in the building trade.

### WORK OF P. Q. A. A.

The Year Book of the Province of Quebec Association of Architects has just been issued, and is full of useful and interesting reading. The publication is growing rapidly, while the addition of several papers which were read before the Association during last session make it of more than passing interest. The work of the various committees is given in detail and shows that the Association is quite an active body. Moreover, such activity is sure to make an impression on the rising architects in the Province. Professor Nobbs' paper on "The Architectural Revivals of the XIV. Century in England," read before the Ontario Association and the Sketching Club of the P. Q. A. A., is given verbatim, as is also a paper on "A Statuary Qualification for Architects," by Mr. J. S. Archibald, architect, read at the seventh International Congress of Architects, held in London, Eng. This latter is certainly worthy of examination. Mr. Edward Maxwell's paper on "Parks and Parkways" is an important contribution and will be appreciated by all who know Montreal and its surroundings, as will also be a note on "Diagonal Streets," by Mr. J. R. Gardiner. There are unfortunately no drawings of "old works" published, as was the case last year, nevertheless, a series of photographs effectually keeps up the interest in "Old Work."

The publication also contains a list of the educational facilities for architectural study in Montreal, a very desirable piece of information, by the way. The list includes McGill College and University, which provides a complete four years' course in Architectural subjects and confers the degree of Bachelor of Architecture, in addition to B.Sc. in Architectural Engineering. The lecture hours in the third and fourth years are, as far as possible, from 9 to 10 in the morning, an arrangement which enables partial students working in offices to avail themselves of the instruction. Such lectures will be found invaluable to students of the R. I. B. A. and P. Q. A. A. The work is under the charge of Professor Nobbs, A.R.I.B.A., and Mr. Cecil S. Burgess, A.R.I.B.A.

The "Ecole Polytechnique," which is affiliated with Laval University, awards diplomas in Engineering, the course including Mathematics, Drawing, Theory of Structure and other subjects required in architectural practice. Monsieur Doumic, of Paris, is now in charge of the architectural students and better results than ever are looked for.

The Council of Arts and Manufactures also conducts classes at Monument National, St. Lawrence Market, at 183 Congregation street, Point St. Charles and at the Angus Shops, St. Germain street. These classes are held in the evenings.

The Montreal Y. M. C. A. conducts a class in Architectural Drawing and Building Construction, the elements of ordinary building practice being systematically studied. Such information is certainly of great service and it is hoped that it will be found in future Year Books.

Good work has been done by the Association in trying to obtain the passage of a by-law through the City Council, regulating the erection of buildings on certain commercial and residential streets. Should this by-law become law the Association think it will un-

doubtedly be in the interests of the city and will also simplify the work of those trying to ascertain the regulations governing the erection of buildings, as at present there is no system or method. The president, in his capacity of Building Inspector, has been trying to get the by-law passed and it is hoped that the incoming Council will do all in their power to help him. It is also recommended that something be done in regard to the regulation of electric work with compulsory inspection and possibly the granting of a license for electric contractors.

Although advertised for some time past, only one candidate, Mr. H. R. Dowswell, has presented himself for the University scholarship. Mr. Dowswell, having fulfilled the requirements laid down by the Association, has been awarded the scholarship and is now studying at McGill University.

The City Improvement Committee met ten times during the year as well as frequently on other occasions for special interviews and deputations. The committee took active part in the controversy as to Mountain Look Out, in which connection it acted in line with the Park and Playgrounds Association, with the satisfactory result that the amenities of the Mountain have been properly respected in the terrace and shelter scheme, which was designed by Messrs. E. & W. S. Waxwell and superintended by Messrs. Marchand & Haskell. It may be some time yet, however, before this committee carries enough weight in public estimation to secure support in its larger schemes. Nevertheless, a satisfactory start has been made.

The report of the P. Q. A. A. Sketching Club shows that that organization fully justifies its existence and that much good work has been done since its organization. The membership too is constantly increasing. The various excursions, lectures and competitions have certainly been beneficial to the younger men of the craft in Montreal, as well as filled a great want in the architectural life outside the office. The program for the ensuing winters' work is now in preparation.

The main features of the proposed plan for municipal improvements in Montreal, by the committee appointed by the P. Q. A. A., may be summed up under the following heads:

- (1) A main driveway, connecting the chief parks and squares, and also a river parkway.
- (2) Diagonal streets, connecting the centre of the business section with the east and west.
- (3) Expropriation of certain lots facing Pine avenue and Cedar avenue, to form part of Mount Royal Park.
- (4) A civic centre between the river and the City Hall.

Each of these main features should be considered separately and their details should be gone into very carefully before adoption. However, the committee considers that the main ideas upon which its plan is worked out are correct.

Every possible assistance is also given in the Year Book to intending students of the P. Q. A. A. a feature which is sure to interest and be appreciated by all such in the city and throughout the Province. It is a pity, however, that the Year Book has not a greater circulation, but as it is yet only in its infancy as an official publication, the future promises well.

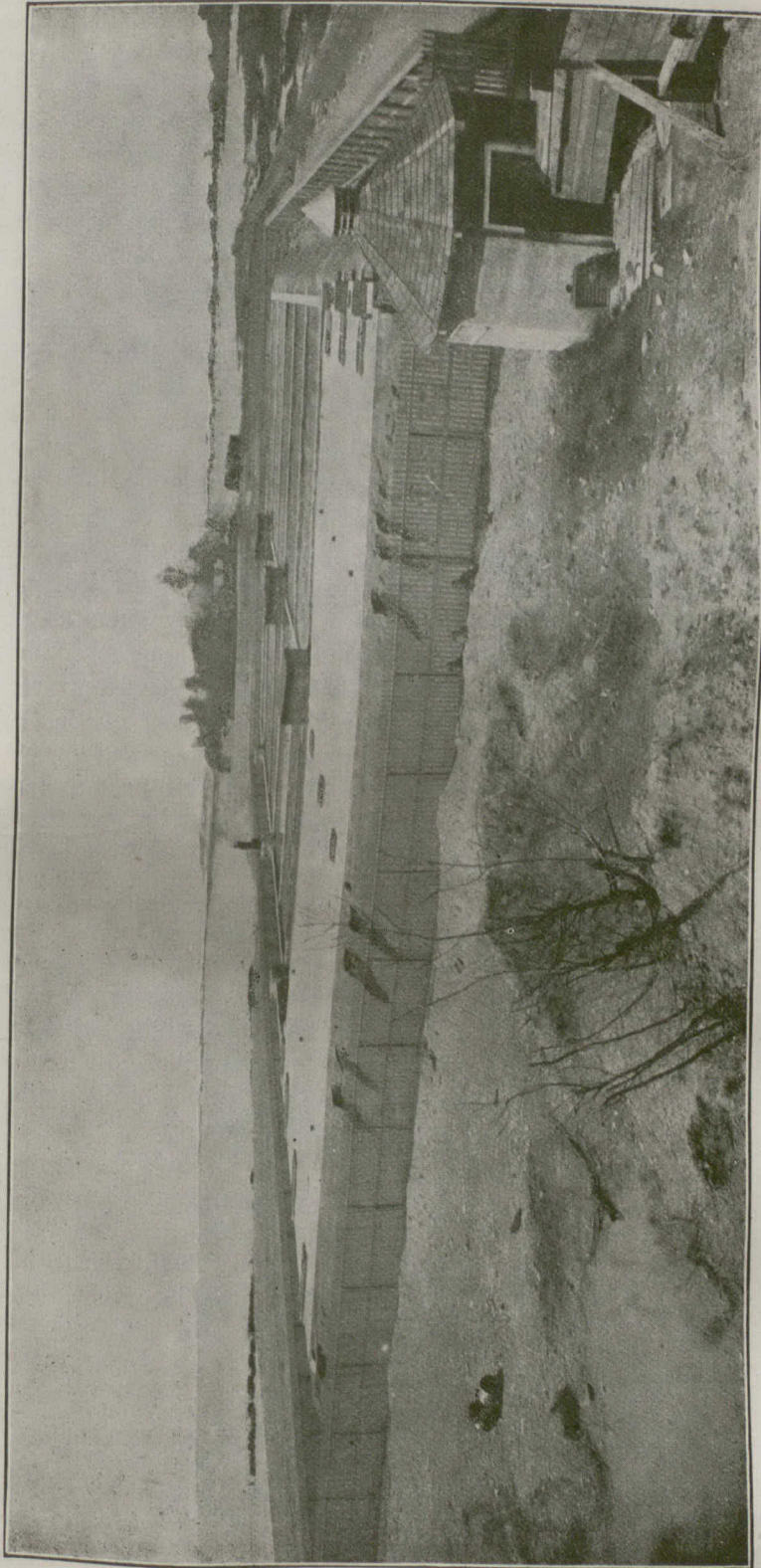


## KEW BEACH SEWAGE SYSTEM, TORONTO

By W. HOLLINGSWORTH, Engineer-in Charge.

That portion of the City of Toronto known as Kew Beach is situated at the eastern limit on the shore of Lake Ontario and is a residential district. The usual plan is to turn the crude sewage direct into the lake, but, owing to the conditions differing from those in

level, and is constructed of 16 inch and 10 inch cast iron socket pipes. All sewers from the north discharge into this sewer, and at a point midway between the outfall and the summit is constructed pumping station No. 1, which raises the sewage from



SEPTIC FARM, FOOT OF WOODBINE AVE., TORONTO.

the other part of the city, it was necessary to adopt the system of sewers and purification works as described. The drainage area of this district is 185 acres, containing a population of approximately 10,000 in the summer months.

## SEWERS.

The main sewer is laid along the lake front at a depth varying from 2 feet to 9 feet below the lake

the low level sewers from the east and north into the high level sewer which gravitates to No. 2 pumping station, where the sewage is raised into the disposal works. These pumping stations are constructed of concrete and are circular in plan with a partition wall in the centre and have a reservoir space of 3,200 gallons, each containing a duplicate set of pumps and motors, No. 1 consisting of 2-5 h.p. alter-

nating vertical motors and 2-4 inch submerged centrifugal pumps and No. 2 consisting of 2-7½ h.p. alternating vertical motors and 2-4 inch submerged centrifugal pumps. Motors and pumps are automatically controlled by the rise and fall of the sewage in the reservoir.

The shafts of the pumps are connected direct on to the armatures of the motors without any bevel gearing, thus practically eliminating all noise while operating.

#### SEWAGE DISPOSAL WORKS.

The disposal works consist of three septic tanks and twelve bacteria beds, constructed from plans designed by the Cameron Septic Tank Company, and operated by the gear patented by them.

The works are erected on the shore of the lake about 200 feet from the water's edge, and are supported by 10 inch piles driven 16 feet into the hard clay and surrounded by tongued and grooved sheet piling driven 14 feet.

The construction of these works is of concrete in the proportion of seven of broken stone and sand to one of cement.

The three septic tanks are each 100 feet by 14 feet by 7 feet 3 inches deep at the low end with a total capacity of 183,750 gallons. They are covered with a 3 in. concrete roof, made in the proportions of four and one-half of broken stone and sand to one of cement and reinforced with 3 inch mesh, 10 gauge expanded metal. At 6 feet 6 inches centres are 9 inches by 6 inches concrete beams supporting the roof reinforced with 3-4 inch Johnson's corrugated steel bars. An inlet channel feeds the three tanks at the high end, each one of which can be operated independently from this channel.

The distribution of sewage into the tanks takes place through 1-8 inch pipe thence through 4-12 inch openings, 3 feet above the bottom of the tank, which accomplishes a maximum flow of sewage with a minimum amount of disturbance. At the low end of the tanks 1 3-4 inch outlet pipes are built into the wall, 2 feet 7 inches below the water line, connecting with the cleansing chamber and outlet channel. From here the main effluent carrier is built into the wall of the bacteria beds in line with the outlet channel of the septic tanks and runs the whole length to the end of the beds and has three branches at regular intervals, each feeding one set of four beds.

There are twelve bacteria beds, three sets of four each having a combined area of 1,860 square yards. Each bed is 50 feet by 28 feet by 4 feet 6 inches deep and is filled 4 ft. deep with furnace slag varying in size from 1-4 inch to 1-2 inches. On the floor is laid fourteen lines of 3 inch weeping tile collectors, discharging into a 9 inch main collector; and 6 inches below the surface of the slag are six lines of 6 inch weeping tile distributors fed by a 9 inch main distributor. All discharge pipes terminate in one common chamber from which a 15 inch main filtrate carrier is laid down to the lake, the last 30 feet being supported on piles.

#### OPERATION.

The sewage is raised to a height of 22.5 feet at pumping station No. 2 into the inlet channel, which is 12 inches by 12 inches below water line and extending to a point beyond the inlet to septic tank No. 3. From this inlet channel the sewage is admitted into each

tank required to be operated through the submerged openings. The solid matter contained in the sewage on entering the tank is broken up, some descending to the bottom, the rest floating to the surface according to the specific gravity. The floating matter undergoing decomposition forms a scum on the top of the sewage on the tank. During winter this scum attains a thickness of 2 or 3 inches and forms a rough layer of considerable toughness, the surface of which becomes covered with a variety of fungoid growths. During the summer months, however, this reduces to about half the thickness. Light and air being excluded from the tanks the anaerobic bacteria originally present in the sewage increase to an enormous extent and attack all organic substance, the more complex of which are converted into simplex compounds by their action, the ultimate result of the decomposition being the production of ammonia, carbonic acid gas, considerable quantities of hydrogen and methane. These two, being highly inflammable, have in one or two cases been used for illuminating the works.

The mineral detritus, together with the insoluble residue from the sewage solids, accumulate slowly in the tank, and are removed without draining off the liquid contents of the tank by a line of 6 inch cleaning pipes laid from each tank with four 3 in. openings at the lowest end of the tank, each controlled by a separate valve. These valves are used not more than once every twelve months to prevent any great accumulation of this insoluble matter in the tank.

The effluent, now free from solids in suspension, through the action of the anaerobic bacteria, flows through the submerged outlets and through the effluent chamber, this process arresting any solid matter which may find its way through the outlet pipes in time of excessive flow and thence into the outlet channel.

The semi-clarified sewage now flows along the main effluent carrier and on to the automatic distributing gear from which it is distributed to each bed in turn through its admission valve. The discharge valve will be closed meanwhile so that the interstices of the filtering material will be filled with the tank effluent. The effluent remains in the contact bed for a period of about two hours, according to the rate of flow, during which the impurities present in solution are oxidized by the bacteria attached to the surface of the filtering medium. The discharge valve will then open, when the filtered effluent escapes, drawing down after it a supply of air into every crevice of the contact bed. The latter will then drain and aerate whilst the remaining contact beds of the set are filling, after which it will again be filled in turn. This method of working renders the contact beds self-cleansing, so that they retain their purifying power unimpaired.

The alternate filling and emptying of the contact beds is effected automatically by means of the alternating gear in the following manner: As soon as bed No. 1 is filled, a small quantity of filtered effluent overflows from its discharge well into a float chamber, lifting the float and at the same time opening the admission valve and closing the discharge valve of bed No. 2. When bed No. 2 is filled this operation is repeated, the flow of tank effluent diverted into bed No. 3 and the discharge valve of bed No. 1 being opened and its contents allowed to discharge.

The bacterial action which takes place in these

filters is directly opposite to that which takes place in the septic tank. In this case the aerobic bacterial perform the necessary work, the presence of oxygen being absolutely essential for their life and operation.

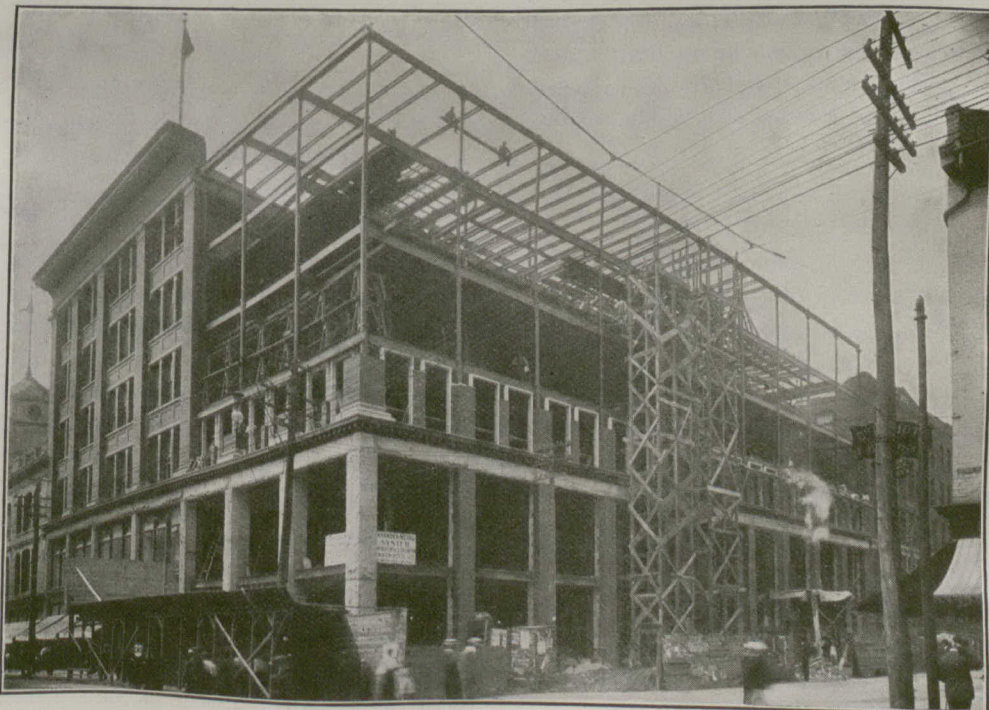
This action consists of the oxidation of the ammonia formed in the tank. This is converted into nitric acid, which at once combines with the gases present to form nitrates. This completes the process of purification, the resulting effluent being perfectly clear and free from suspended matter.

guards and railings, in which field it still has a considerable demand, it is at this time known more especially among the building fraternity for its value in structural operations.

Partition construction of "expanded metal" and mortar is of two general types, hollow and solid partitions. The same material is also used to reinforce concrete floors and roofs. In the case of buildings, sheathed with rough boarding, cement plaster and expanded metal are combined to form an exterior fire-



THE ROYAL ALEXANDRA THEATRE, TORONTO.  
JOHN M. LYLE, ARCHITECT.



THE T. EATON COMPANY'S NEW BUILDING, TORONTO.

### EXPANDED METAL.

For eighteen years now "Expanded Metal" has held a high place in the estimation of Canadian builders, and that it still maintains this position is amply evidenced by the fact that several of the most important buildings erected recently in Toronto have been constructed upon its principles. Although originally designed and perfected with a view to a special use as a mesh for the manufacture of fences,

proof coating. Outside walls are constructed of cement plaster of expanded metal lath and iron studs. As a furring on outside masonry walls this method has also been extensively used; likewise for column fireproofing. The two buildings shown herewith, that of the T. Eaton Company, corner Albert and Yonge streets, Toronto, and Toronto's new theatre, the Royal Alexandra, have been fireproofed throughout by this method.

# CEMENT AND CONCRETE

[NOTE --Contributions suitable for publication in this Department are invited from subscribers and readers]

## CEMENT CONSTRUCTION DETAILS.

By J. P. HICKS  
(In Cement World)

In the accompanying drawings Figs. 1 and 2 represent a face or front view and a sectional view of a fine cornice for square houses of concrete block construction. By square houses we do not mean that the house must necessarily be square, but designed more

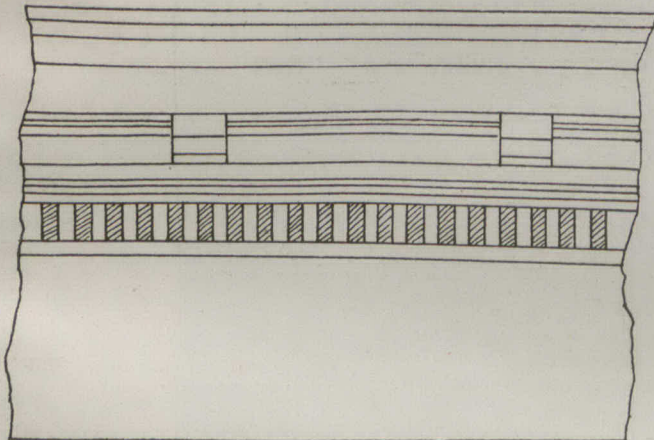


Fig. 1

especially for a hip roof, and the sizes most common are 24 x 28, 24 x 30, 26 x 30, 28 x 32. These are the dimensions of many of the houses being built at the present time, and these are sizes that divide up to advantage in laying out the rooms and make the best

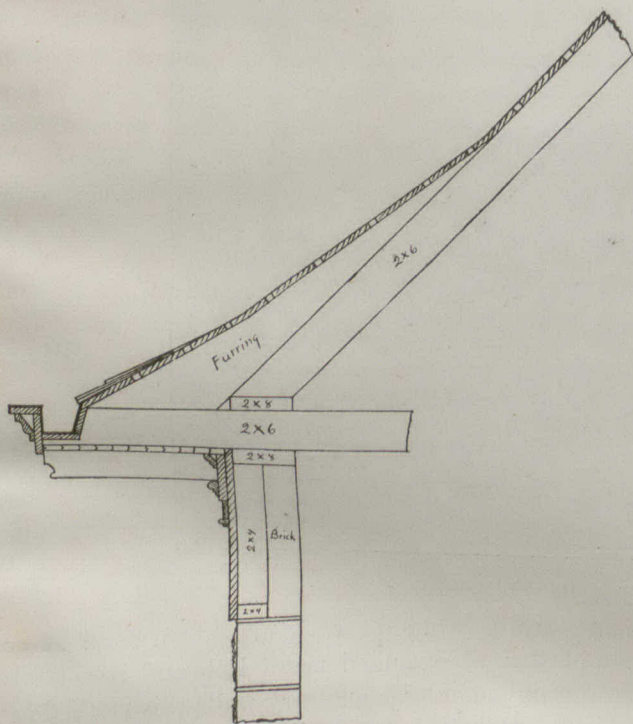


Fig. 2

house for the money invested that it is possible to obtain.

This cornice is designed for a full two storey house, and a special feature of it is the wide plancier and

deep moulded frieze with dental work. Corbel brackets are regularly spaced under the plancier, with a bed mould cut in between the corbels. The upper portion of the frieze is double and wide enough to receive a band mould under the corbels. Under this is placed the row of dentals which should be about 1 1-4 by 5-8 inches thick, by about 3 or 3 1-2 inches long, and evenly spaced when nailed. The dental work is sometimes worked out at the mill, in which case it is made of a 7-8 inch board about 3 1-2 inches wide, and in lengths of 12 to 16 feet, and is dadoed to represent the dentals. This is much the easier and quicker to put in place, and just as good and perhaps better, as there is not such a large number of small pieces to be nailed on. A small nosing or band mould under the dentals completes the dental work.

To secure the cornice a 2 x 4 is laid flat on top of the last course of stone and 2 x 4 cut in upright, spaced to receive two bricks, and built up to the height

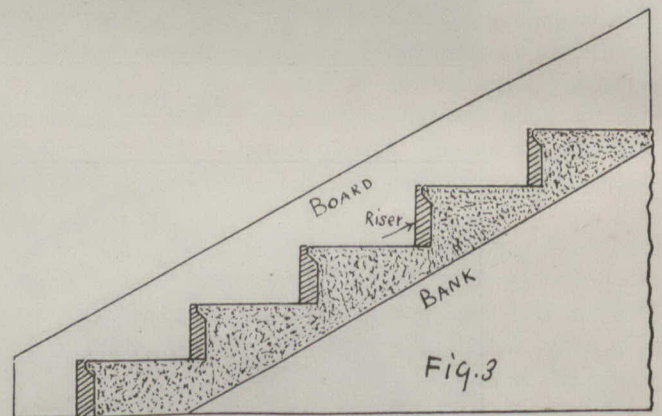


Fig. 3

required and capped with a 2 x 8 plate to receive the ceiling joists, which extend out to support the cornice. The plancier can be made of 5-8 ceiling, as shown. The corbels, which are placed about 18 to 20 inches on centres, add very much to the appearance of this cornice.

Fig. 3 represents a form of making cement steps. Take a board or plank and saw it out with the rise and run for the stringer. Two will be required, one for each side. They have to be used in the form like a stair, bottom side up. Next dress out risers and nail them in place. In getting out the risers the top of them can be worked out, as shown, to form a projection on the step. This projection should not be over 1 inch, and should not slope down on the under side to give it strength. Steps made in this way look much better than just the plain square step. The bank should be sloped off, as shown in the sketch, and the form put in its proper position and leveled up so that the steps will not be in a twist, and the form should also be set so that the steps will when finished incline forward from 1-8 to 1-4 inch, so that they will drain off water when finished. In mixing up the cement for

the steps the cement and sand should be mixed dry first, without any water. Mix thoroughly until the mass is of a uniform color. If broken stone is used in the mixture as an aggregate and this mixture is used to form the body of the steps and the finish put on with a richer mixture, the proportions should be as follows:

First mixture for body of steps 1:3:6, that is 1 part cement, 3 parts coarse sand, and 6 parts of fine broken stone. Mix sand and cement first, then add the stone and water and mix thoroughly again. Good concrete and cement work depends on good mixing. If two mixtures are used do not fill the moulds with the coarse mixture, but leave at least 3-4 inch for the finish and leave all of the projection of the step for the richer and finish coat. Both coats should, however, be put in within a few minutes of each other, so that it will all unite in one solid mass. The finish for the steps should be 1:1 1-2; that is, one part of cement and one and one-half parts sand, thoroughly mixed, and put in place, well worked down with the trowel, and particularly around the step projection, or it will not fill the mould. The mixture should not be used too wet, so that it is sloppy, but like a good stiff mortar, and it should be thoroughly pressed in the mould by troweling. The finish coat should be troweled on the top two or three times at intervals, allowing the mixture to harden to some extent before the final troweling. After the cement has hardened somewhat the top edges of the steps can be rounded slightly with a trowel, or step edger, this being much better than to leave a square, sharp corner on the top face of the step.

After the steps have hardened sufficiently to stay in place, it is well to remove the form, as then any defects, such as the complete filling out of the mould, can be patched and filled in without showing when the job is complete. There are apt to be a few such places, and if the mould is removed these places can be readily filled and smoothed to make the job a complete one. Under ordinary conditions the form can be removed in two hours and the steps finished.

If it is desired to make the steps complete with one mixture, a good job can be had with a 1:2 mixture, that is, one part cement and two parts sand. Then to economize on the cement and sand fill in the body part of the steps with broken brick, bedded down in the cement mortar. A large number of bats can be used in this way, just so that room is left for sufficient thickness on the top and the face which should be about one inch. This will make a good job, if the work is done with ordinary care and discretion.

Cement steps are handsome and cheaper in the end for everybody. No great amount of skill is required to put in cement steps against a bank, to a porch or an outside cellar way, and when put in right it is a lasting job, one not afflicted with rot as are wooden steps in such places. If a mechanic wants to do the work for himself the first cost will hardly be more than wood and the cement steps are for the best. Use plenty of the best Portland cement and have it thoroughly mixed. It does not pay to do a poor job of cement work. Make it good and you will have no regret.

Now a word about cement stone. Some machines make rock face stone, with the rock face starting so

close to the edge of the stone that there is not room to get the edge of a level on them to plumb up by. We think this is a mistake and that there should be at least 1-2 inch flat square surface on every stone before the rock starts. This would facilitate laying the stone true and plumbing to a line. Nothing can be plumbed with a level on a rock face. We have seen rock face stone with the face right to the very edge of the stone, thus making it very difficult to keep the wall plumb.

### DANGER OF RUSTY IRON IN CONCRETE.

By W. H. BROWN, YORK, ENGLAND.

Many writers on reinforced concrete assert that there is no danger in using iron with a slight coating of rust; others emphasize the fact and cite experimental data to prove that a coating of rust is a distinct advantage, inasmuch as the chemical action between the concrete and rusty iron forms a coating of silicate of iron which not only protects it from rust, but also removes any little rust that may be on the iron when placed in the concrete. The presumable advantage is the greater adhesion of the two materials in consequence of the roughened surface of the reinforcement.

A vital point, which will in time make itself painfully apparent, is here entirely lost sight of. Suppose rusty bars (and they usually are rusty) are used in the construction of a beam and are properly seated in the stirrups at, say, twenty points along its length, each stirrup being from 1 inch to 2 inches in width, how is it possible for the above mentioned chemical action to take place?

Obviously, if the bars are properly seated in the stirrups, as they should be to be effective, the cement cannot reach the bar, and consequently no protecting coating of silicate of iron can be formed at these points, as is proved by the following experiment:

In May, 1906, being engaged in the construction of a large reinforced concrete factory, and designing others, I had reason to doubt the advisability of using iron even partially rusted. I therefore had inserted in a block of concrete a bar of iron covered with a slight coating of rust, firmly seated in a stirrup which was entirely free from rust, and its mill face undamaged and unscratched. Recently I have had the block broken up, and find at the point of contact between bar and stirrup that not only has the bar continued to rust, but the stirrup has commenced to rust also. It is obvious that in a few years the stirrup at least will be eaten through, with only one result.

### FIRE-PROOF CEMENT.

A mixture of one part Portland cement, two parts of sand and five parts hard-burned furnace cinders, made into a mortar, will stand heat better than any ordinary cement or mortar.

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EMPLOYERS' COMBINATION NOT  
ILLEGAL.

A very interesting decision regarding trade combinations among employers was recently given in Montreal by Mr. Justice Saint-Pierre in the case of *Lefebvre versus Knott*. On June 10, 1905, the Association of Master Plasterers of Montreal were notified by the journeymen plasterers who belonged to "The Journeymen Plasterers' Union," that after the 3rd day of the following month they would no longer consent to work for the then universally accepted price of thirty-three and one-third cents per hour, but that they would insist upon their wages being advanced to forty cents per hour for a nine hour day. The master plasterers, many of whom had signed contracts to be executed during the opening season, based upon the scale of wages generally accepted at that time, and for whom a general strike at three weeks' notice would mean serious losses, if not utter ruin, felt that their only alternative was to make use of their rights under the Builders' Exchange as an incorporation, and on June 22, an agreement was accordingly entered into at a special meeting, and signed by all the members present, to the following effect:

"Whereas, it is essential that the master plasterers in Montreal and vicinity, hereinafter called the subscribers, unite to protect their material interests, now, therefore, those present witnesses, the commercial firms and individual employers whose signatures are hereto attached, have mutually agreed and hereby severally and reciprocally bind and oblige themselves as follows:

"1. In the event of a strike being declared by 'The Plasterers' Union of Montreal,' said union shall not be recognized in any manner whatsoever on and after the 3rd day of July, 1905.

"2. In the event of a strike being declared by said 'union' against any of the subscribers to this agreement, all the subscribers shall immediately lock out all members of the said 'union,' then in their employ, and cease employing same.

"3. ....

"4. Subscribers shall retain the right to negotiate individually with any journeyman plasterer, whether a member of the 'union' or not, and arrange such scale of wages as he may see fit, not to exceed the present rate of 33 1-3 cents.

"5. ....

"6. The subscribers and each of them severally bind themselves to pay into a fund, as liquidated damages, for the violation of any clause in the present agreement, the sum of \$500. As an admission of said liability and to secure the prompt payment of said damages, each of the said subscribers shall give a note bearing date not later than the 10th of July, 1905. This note shall be executed in favor of J. Lefebvre, John McLean and Joseph Chamberland, as 'trustees' for the Master Plasterers' Association; and shall be deposited with the secretary of said board.

"7. The provisions of clauses 5 and 6 hereof shall apply to such subscribers only as have union shops.

"8. The subscribers agree that their liability in damages under clause 6 hereof and for the amount therein stated, shall immediately arise in the event of a decision of the subscribers to the effect that the present agreement has been violated. . .

"9. ....

"10. The clauses of this agreement relating to damages are hereby specially declared to be of the essence of this contract, without which the same would not have been made and binding upon all subscribers for the space of one year from the date thereof."

Among the members of the Master Plasterers' Association who signed this agreement were Knott & Gardner, the defendants in the present case. A few days later, in furtherance of the object mentioned in the above agreement, and as a sanction to it, the same gentlemen gave to the three trustees named in the

above deed of agreement the five hundred dollar note which, under the terms of the coalition, they had bound themselves to sign and hand over to the three trustees. As had been expected, in the month of July the impending strike was finally announced to have begun, and the evidence shows that it was continued for a period covering several months.

About the middle of September, Knott & Gardner broke their engagement and yielded to the strikers' demands by paying their men forty cents an hour. The result of this action on their part proved highly detrimental to the other master plasterers. The strikers, encouraged by their defection, made up their minds to prolong the struggle, and by their doing so increased, in a large proportion, the losses of the other master plasterers, who remained faithful to their pledge. On being informed of the action taken by Knott & Gardner, the Association decided that these gentlemen should be made to pay the penalty of \$500 agreed upon, and, on the 28th of September, 1905, the present action, based upon the promissory notes signed by them, was taken out in the name of the three trustees, and served upon them.

The defendants alleged:

(1) That they never received any consideration for the note in question, and that said note was given under circumstances which rendered the whole transaction illegal, null and void, inasmuch as the coalition or combination formed by the master plasterers was unlawful.

(2) That it is alleged and provided in the agreement, which formed the basis of the present action, that in the event of a strike being declared by the journeymen plasterers' union, of Montreal, all members of said union should immediately be locked out of places of business of the said master plasterers, and that the said subscribers should cease employing any such members.

(3) That it was also provided in said agreement that the parties thereto should have the right to negotiate with journeymen plasterers individually, whether members of such union or not, and arrange a scale of wages for employment, but that said scale of wages should not in any case exceed the sum of 33 1-3 cents per hour.

(4) That the terms of said agreement in general and, more particularly the clauses above recited, are forbidden and prohibited by law as illegal and immoral, in restraint of the freedom of contracts and of trade generally.

(5) That the present action is brought for the purpose of recovering a penalty alleged to be due by the defendants in virtue of their having, as alleged, paid wages in excess of the amount stipulated, to wit, in excess of 33 1-3 cents per hour, and for no other cause.

(6) That it does not appear from the plaintiff's declaration that the persons seeking to recover the said penalty or any persons or association represented by them have suffered any damage or that they are entitled to invoke any other legal and sufficient cause or action herein arising from failure or default of the defendants in any manner whatsoever.

(7) That by their present action the plaintiffs seek to have the courts enforce and sanction an agreement which is, in effect, an illegal conspiracy to repress and restrain the free exercise of contract and the right to procure such services and pay such wages as a legal freedom of contract would allow.

(8) That the said agreement and, particularly the specific clauses herein referred to, are unjust and oppressive, and constitute an attempt to create a trust or combine prohibited by law.

As will be noticed by the various allegations contained in the pleadings, the main question to be looked into was whether the proceedings resorted to by the master plasterers constituted a combination in restraint of the freedom of trade and, for that reason, would be prohibited by law.

Formerly the fact of forming a combination for the

purpose of raising the price of labor was held to be a conspiracy, punishable by law; but times have changed, notions more humane and more in accord with real justice have prevailed, and now in all civilized countries, the world over, workmen are permitted to unite together for their mutual protection, and legislation has intervened to sanction such rights.

"A conspiracy in restraint of trade," says section 516 of our Criminal Code (496 of new code), "is an agreement between two or more persons to do or procure to be done any unlawful act in restraint of trade."

Section 517 (496 of new code):—"The purposes of a trade union are not, by reason merely that they are in restraint of trade unlawful, within the meaning of the next preceding section."

Section 518:—"No prosecution shall be maintainable against any person for conspiracy in refusing to work with or for any employer or workman, or for doing any act, or causing any act to be done, for the purpose of a trade combination, unless such act is an offence punishable by statute."

Then comes section 520, which contains the enumeration of such combinations as are in restraint of trade and as such prohibited by law, which said section ends with the following special reservation:—"Nothing in this section shall be construed to apply to combinations of workmen or employes for their own reasonable protection as such workmen or employes."

Justice Saint-Pierre's deductions from the above bearing on the present case were as follows:

"It being shown that the journeymen plasterers were doing nothing but that which they had a right to do in joining together for the purpose of obtaining an increase of wages, the most rigid logic ought, in my opinion, to bring us to the conclusion that if the action of the employes was lawful in making such a demand, that of the employers was equally lawful when it is shown that all they did was simply to club together in order more effectually to oppose it.

"I might add that it is incorrect to state that a general boycott was decided upon by the master plasterers against the journeymen who were members of the union. I find, on the contrary, that under the agreement each individual member of the association was free to employ any one of them at the recognized wages of 33 1-3 cents per hour. I have no hesitation, therefore, in deciding this first question in favor of the master plasterers. The next question struck me at first as being more difficult in its solution than that just disposed of. Could the master plasterers lawfully bind themselves by means of the penal clause which was to be the sanction of their mutual agreement?

"In France opinions are divided on this point. The difficulty in the way of accepting such penal clauses as a means of binding the contracting parties together has its origin in the very nature of the contract itself. The penal clause being only incidental and subordinate to the coalition or combination must necessarily fail and disappear, if it so happens that, at a given moment, the main contract is itself dissolved. Now it is of the very essence of contracts of this sort that any one who joins in it may withdraw from it at any time, and thereby put an end to the main contract so far as he is concerned by the mere expression of

his will. What becomes then of the penal clause, which is but an incident of the main contract? Can it subsist after the main contract, of which it formed part, has ceased to exist?

"I find, however, that the objection pointed out by the French jurists is not in the way of a proper solution of the question as I now have before me. The defendants, as a matter of fact, never withdrew from the coalition. They never notified their co-subscribers that they had changed their mind. They never claimed back their five hundred dollar note. Without giving notice to any one, without a word of warning they simply yielded to the strikers' demand. Under those circumstances it is clear that they thereby rendered themselves liable and that they submitted to the obligation of paying the penalty which was to be the price of their defection. This note of \$500 was given to represent liquidated damages. The evidence shows that the damages suffered by the members of the Master Plasterers' Association as a consequence of defendants' defection were far in excess of the amount now claimed from them. The inscription-in-law and the plea to the merits are, therefore, dismissed, and judgment will go for the plaintiffs for the sum of \$500, with interest and costs, as prayed for in the declaration."

#### BOOK REVIEW.

The Stone and Brick Masons' Edition of "The Building Mechanics' Ready Reference" Series has just come to hand. The author is H. G. Riehey, Superintendent of Construction United States Public Buildings. Mr. Riehey has attempted to give to the brick and stone mason a book that can be consulted as a work of reference for everyday use. Tables of various kinds for reference and for quick computation are among the most satisfactory features of the volume. All problems have been illustrated with cuts so that the author's ideas can be readily understood. An attempt has also been made to avoid as far as possible introducing the reader to long and laborious methods. The Building Mechanics' Ready Reference Guide, Stone and Brick Masons' Edition, by H. G. Riehey, Superintendent of Construction United States Public Buildings; 16 mo., vx., 251 pages, 232 figures; Morocco, \$1.50 net. Publishers, John Wiley & Sons, New York.

The October number of "Deutsche Kunst und Dekoration" has reached us and is a striking model of the engraver's art. Exquisite reproductions of examples of sculpture, painting and architecture are followed by no less interesting examples of the work of M.S. illuminators. The paper and printing are of the best, and the entire make-up is a striking contribution to current architectural literature.

Marble is now being used in architecture in a broader and more dignified manner than was generally done thirty years ago. The nearer we keep to working as the Romans did, with as few colors as possible, the healthier will be the effect obtained. Young men should make notes of marble color combination they see, not only of old work, but of new, if only to know what to avoid.



**ELECTRICAL DELIVERY OF MAIL IN APARTMENT HOUSES.**

A feature of some of the latest apartment houses in course of erection in the Borough of Manhattan, New York, is an electrical device for the automatic delivery of mail to occupants, which has recently been approved by the Postmaster-General. The device consists of a straight up and down well, about 18 inches square, running the height of the house and containing an elevating and lowering apparatus which takes up and down a steel tray with metal boxes. The apparatus works automatically and perpetually, making no mistakes and submitting tenants to no delays. Entering the vestibule, the postman leaves the mail in an automatic carrier, to which he carries the key. Having placed it in the proper box—there is one for each apartment—he simply closes the door, which starts into action the electric machinery. This carries the various boxes into which the mail matter has been placed up the well. The power required is slight, not greater than that necessary to operate an electric fan.

By a simple contrivance the boxes are dropped off from the carrier at the apartments where they belong, and at the same time overturned, so that the mail falls out in the locked receptacle inside the apartment.

The automatic carrier keeps on going up until it reaches the top, when it descends again, picking up the boxes as it comes down.

**LIGNINE CARVINGS.**

For years imitations of hand carved wood ornaments have been made from whiting, glue and ingredients, all more or less unsatisfactory. The inventors of "Lignine Carvings," however, are convinced that they have at last discovered a highly satisfactory substitute for wood carving. By this method a model is first designed by a master workman, no expense being spared to have as perfect an example of the wood sculptor's art as it is possible to obtain. From this model the Lignine carvings are produced, with all the perfection of form of the original. The process results in an imitation that is true to the original, shows full depth of grain, discloses the chisel marks, and even shows the flakes more clearly and distinctly.

In some of the European art galleries the dust is removed from the paintings and statuary by means of an air pump, a jet of air being thrown with great force against the article which needs dusting.

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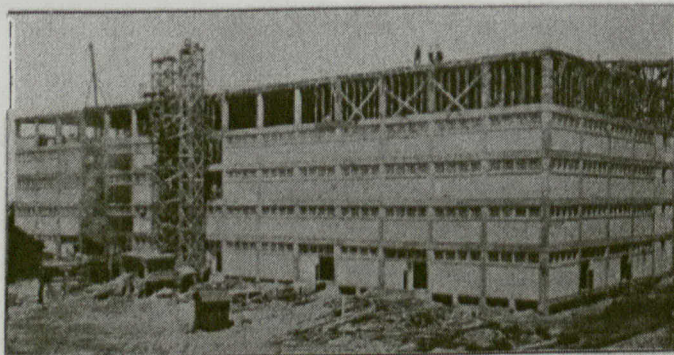
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A colonial visitor to England writes in the "Builder" his impressions of England and London from a builder's point of view. He notes that the most remarkable feature in the vast growth of little two-story houses in the last twenty-five years is the uniformity of their plan or arrangement.

In continental centres which are developing suburbs there is a certain individuality in the small houses. Speculative houses built by the dozen are very exceptional on the continent. But in England a house built to suit the taste of an individual is so rare as to pass unnoticed among the tens of thousands of villas and cottages erected by speculative builders. He continues:

"As London is approached on the southern side the remarkable character of the modern English mode of living in suburban cottages is apparent. London seems to a foreigner like some monstrous overgrown village or collection of villages with interminable rows of little two-story cottages, interspersed with fields, commons and parks.

All that constituted a town or city in the old times and in the olden sense has, of course, long since been swallowed up in this gigantic labyrinth, and the country thus transmogrified is inhabited by people who, to judge by the singularly stereotyped appearance of their houses, are content with its remarkable stereotyping of their domestic arrangements."

Many of the leading architects of the world have sent in their designs for the London County Council's new hall, which is expected to cost nearly £850,000.

**BRICK TESTS IN VANCOUVER, B. C.**

As a result of some tests made last month by Building Inspector S. N. Jarrett, of Vancouver, the following strengths were established. The tests (in tons) were all made on the flat side of the brick.

Sand lime brick, dimensions 2 3-8 inches by 4 inches by 8 1-4 inches, six tests:—

1. Crack developed under 18 tons; brick crushed under 38 tons.
2. Crack developed under 18 tons; brick crushed under 28 tons.
3. Crack developed under 23 tons; brick crushed under 39 tons.
4. Crack developed under 38 tons; brick crushed under 38 tons.
5. Crack developed under 28 tons; brick crushed under 33 tons.
6. Crack developed under 23 tons; brick crushed under 28 tons.

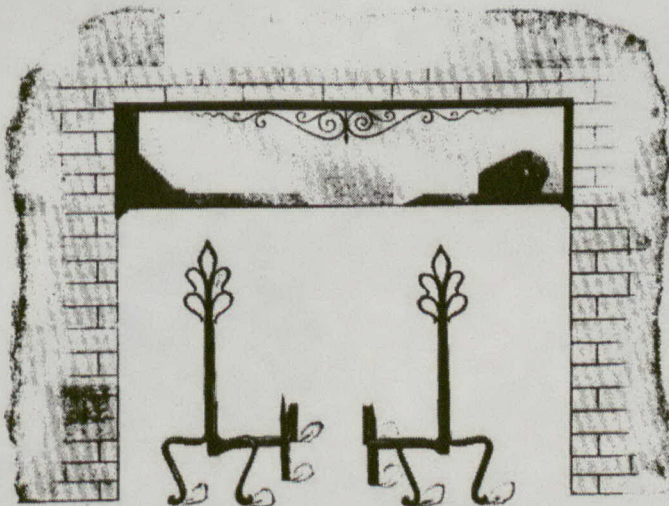
Concrete pressed brick, dimensions, 2 3-8 inches by 4 inches by 8 1-4 inches, three tests:—

1. Crack developed under 10 tons; brick crushed under 10 tons.
2. Crack developed under 13 tons; brick crushed under 13 tons.
3. Crack developed under 8 tons; brick crushed under 8 tons.

Red brick, dimensions 2 3-8 inches by 4 inches by 8 1-4 inches, two tests:—

1. Crack developed under 23 tons; brick crushed under 36 tons.
2. Crack developed under 24 tons; brick crushed under 33 tons.

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**PACIFIC COAST WOODS FOR PORCH COLUMNS.**

The following paper on "Pacific Coast Woods for Porch Columns" was read before the Pacific Coast Lumber Manufacturers' Association at the semi-annual meeting held at Tacoma, July 26-27, by August Von Boecklin, of the Washington Manufacturing Company, of Tacoma:

It is apparent the Eastern manufacturers have not been alive to their opportunities, and have confined their operation to very limited areas, whereas their Western competitors and Eastern distributing houses have not been so slow in perceiving it was possible to develop extensive business in porch columns made of Western woods, notably those produced in the so-called North Pacific coast region. Regardless of the conditions existing in the thickly populated sections of the country, which may or may not be responsible for what has transpired, the fact remains that every large Eastern jobber now carries stocks of porch columns made of Washington woods. Opinions differ as to which is the most desirable, some concerns insisting on obtaining nothing but cedar columns, others recommending spruce; but the great majority are now educated to the use of fir porch columns, having doubtless discovered the virtues of our leading wood in the way of durability, superiority in grade, quality, strength, economy in the matter of prices, and—last but not least—the enormous resources upon which to draw for supply.

Actual service is rapidly demonstrating the fact that few woods are so well adapted to porch columns as our Washington fir, and we are to be congratulated that this is the case, on account of the enormous quantity of Douglas fir available.

Being exposed more than any other part of the structure to the atmospheric changes, it is essential that the porch columns be made of material which will withstand the elements, and at the same time be sufficiently hard to withstand abuse; the wood of which the columns are to be made must necessarily possess the commercial advantages which have been touched upon in the foregoing paragraphs, and must be of such a character as to enable the manufacturer to shape it with ordinary cutting tools and deliver to the consumer in the finished state fit to receive paint and retain a smooth surface; once in the hands of the consumer it is highly essential that the wood resist to a reasonable extent the process of disintegration which occurs so rapidly in Eastern woods, particularly popular. This is sketching briefly the fir column as it is

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presented to the buyer to-day, embodying every one of the foregoing qualifications and offering to the trade an article which is bound to give better satisfaction as a result than any other.

Cedar and spruce are being used extensively, but do not possess all of the advantages of fir, which are so necessary to the successful marketing of the product. The greatest advantage, however, which these goods possess over fir is the fact that they are free from pitch, but unfortunately for them they cannot be purchased for as low prices as fir, which after all is the great factor with distributors. It has been shown that none of our woods resist the actions of time as does our red cedar, nor will any of them take a finer finish than spruce, or work more readily under a cutting tool.

Our hemlock has thus far not been a factor in porch columns, but is bound to become recognized as even superior to fir in the so-called solid columns, possessing, at the present time at least, the principal advantages of fir, and in addition to this, being free from pitch, and a trifle lighter when dry.

It is not well known to the trade as many manufacturers are shipping hemlock columns with the fir, but that is hardly doing the former justice, for the wood ought to be recognized as well adapted to this class of work. Methods at present employed in the manufacture of these goods are receiving the attention of producers who are realizing that our woods yield to a surprising extent to treatment, the opportunities in this direction being unlimited. Every one of the woods mentioned possesses peculiarities as to

grain and fibre which have caused manufacturers some very disastrous experiences, but that it is possible to produce them in such a manner that they will remain in a marketable state has been demonstrated beyond question. However, there are still features which will be greatly improved in the near future, for it takes times to prepare processes and equipment, all of which must be specially adapted to each one of the individual woods in this line of work.

All of our woods are remarkably free from defects which exist in every Eastern competitor's, notably the matter of blue sap and knots, but as the trade becomes more familiar with the facts in the case Washington columns will correspondingly become more popular.—"The Timberman."

**PEACE PALACE ARCHITECT.**

M. Cordonnier of Lille, the famous architectural constructor, has been elected to superintend the erection of the great peace palace at The Hague. The work will be under the general supervision of a committee of five, of whom three will be trustees of the Carnegie fund.

Twenty-one architects, from almost every country in the world, including several Americans, among whom was Stanford White, competed for the prize of \$5,200 offered by the trustees for the best design. No less than 3,038 designs were submitted, and the first prize was awarded to M. Condonnier for a plan in the style of the chateaux of Northern France.

M. Condonnier, who is 52 years of age, designed the Pasteur statue of Paris, the Hotel de Ville at Dunkirk and, over 170 competitors, won the first prize in the international contest for the Stock Exchange at Amsterdam, for which Stanford White also submitted designs.

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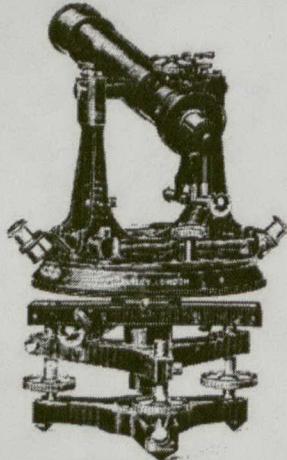
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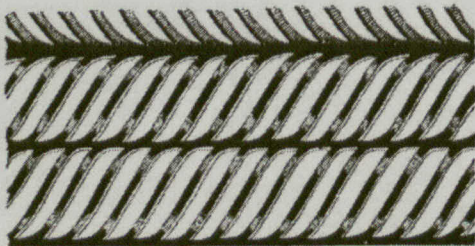
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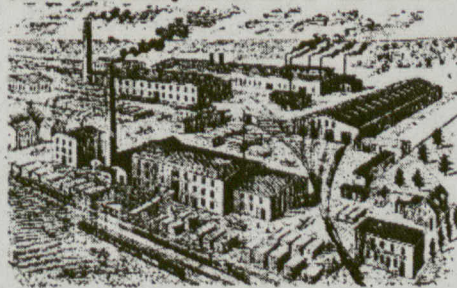
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