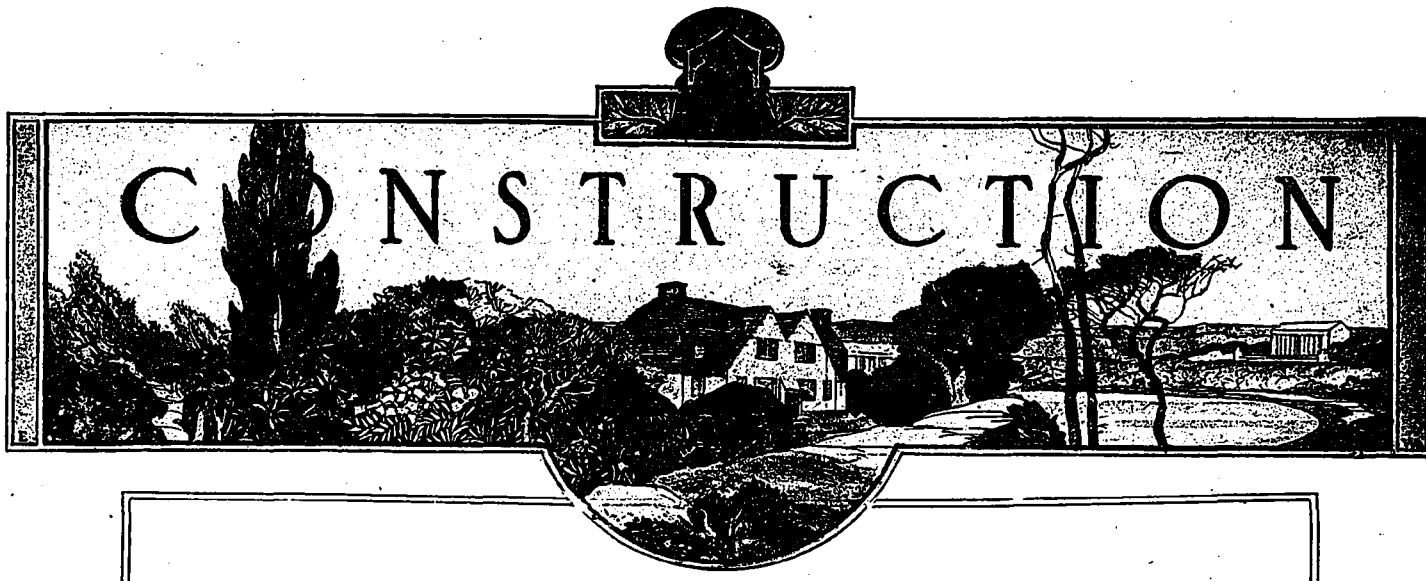
Pages Missing



February, 1920 Volume XIII., No. 2

CONTENTS

LEAVES FROM AN ARCHITECT'S SKETCH BOOK 37
By Charles Dolphin.

ARCHITECTURE IN TORONTO: A RESUME 44
By A. Frank Wickson.

RECENT CONCRETE BUILDINGS 47
Factory of Crane Limited, Montreal, 47; Williams and Wilson Building, Montreal, 49; Carswell Building, Toronto, 53.

NEW CANADIAN NATIONAL TERMINAL, VANCOUVER 55

WHAT IS REGIONAL PLANNING? 60
By Thomas Adams, Town Planning Adviser to the Commission of Conservation.

THE OTTAWA BUILDING INDUSTRIES CONFERENCE 61

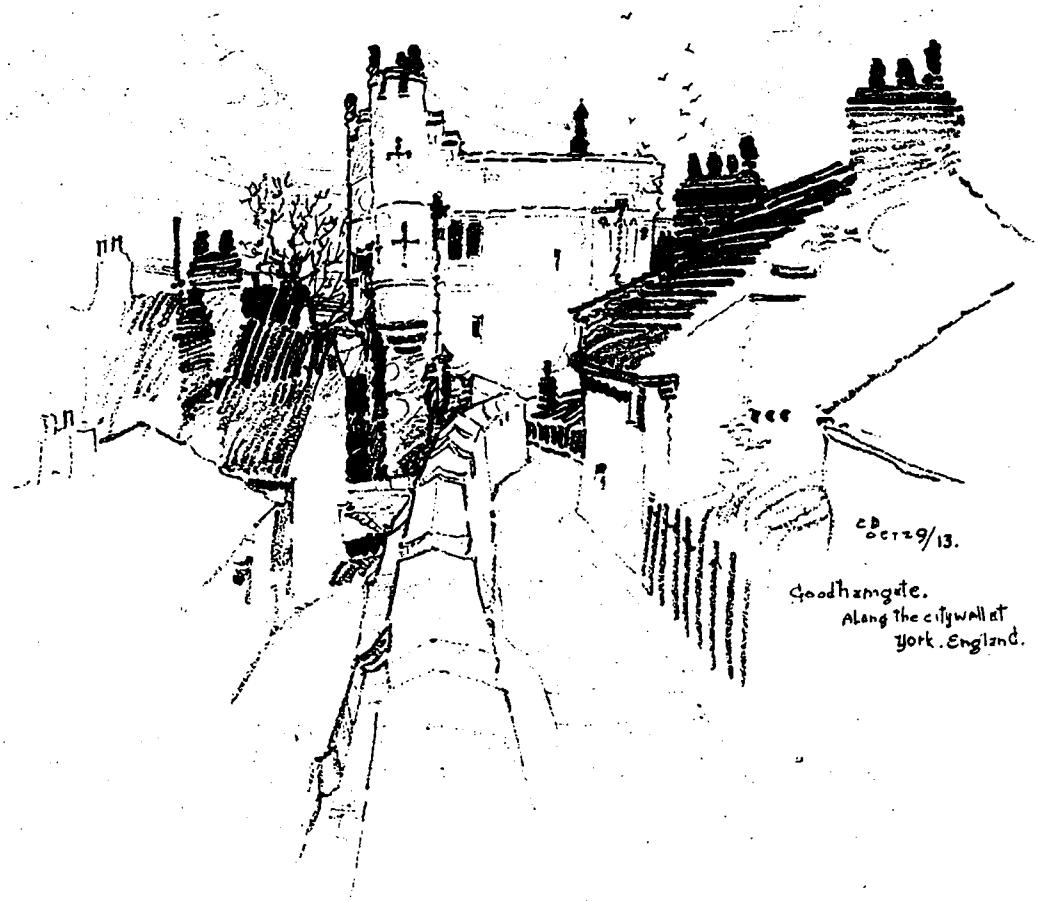
EDITORIAL 67
Ontario Association of Architects' Active Policy—Canadian Architect and Canadian Materials

BOOK REVIEW 69

Frontispiece

SKETCHES OF QUAINT BITS OF YORK, ENGLAND 36

H. GAGNIER, Limited, Publishers
GRAPHIC ARTS BLDG., TORONTO, CANADA
BRANCH OFFICES
MONTREAL NEW YORK



QUAINT BITS OF YORK, ENGLAND.

UPPER SKETCH: ST. WILLIAMS COLLEGE. LOWER SKETCH: GOODHAMGATE, ALONG CITY WALL.
DRAWINGS BY CHARLES DOLPHIN, ARCHITECT.

IN FRONT OF PETERBOROUGH CATHEDRAL.

Leaves From An Architect's Sketch Book

By Charles Dolphin.

The reproductions presented with this article which was written by Mr. Dolphin at the solicitation of "Construction," are made from the author's own sketches, and with the exception of the Peterborough sketch are the exact size of the original drawings. In a subsequent issue, Mr. Dolphin has consented to present a number of pencil impressions of some of Old World work of France and Italy together with an outline of his itinerary and certain historical notations of value to students.—Editor.

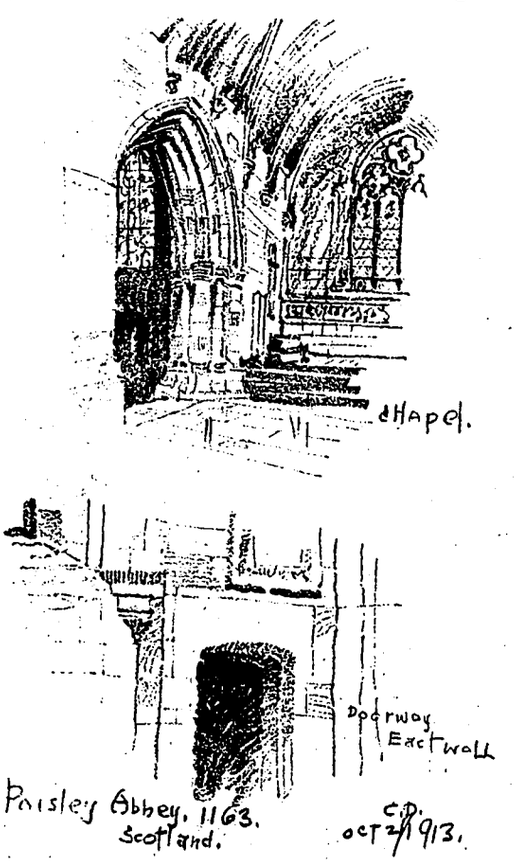
THIS article is written, not with the object of portraying from an historical point of view, the various architectural works of the Old World, as seen by the author, but rather as the setting for impressions and benefits obtained by personal observation of famous monuments of art in Europe.

It is my opinion that all architects and draftsmen should make it a life ambition to make at their earliest opportunity, a trip abroad, for without wishing to enter into any controversial arguments as to the value or otherwise, of such a trip, it is my belief that an architect or draftsman's viewpoint will naturally be broadened by a personal examination of various subjects of which he can have gained but more or less theoretical impression by the study of text books, etc.

Secondly, it is my ardent hope that this article may be of help and guidance to all those who may read it, and who are contemplating a similar trip.

After having decided to take the step in 1913, my greatest concern at the moment was to determine what would be my itinerary and its probable cost, and my advice is to fix the amount you have to spend, then do the most you can with it. Of course there is bound to be a minimum amount under which such a trip may be taken. My own total cost was approximately $1,500 and covered a period of about ten months, during which I visited a considerable number of the most important points of interest in eight different countries.

Guide books and maps should be studied and in conjunction with choosing the important points that you wish to reach, fix your main line of travel throughout. Baedecker's Guide



PAISLEY ABBEY, SCOTLAND.

Books were, before the war, the very best references, and are, I should think, still available.

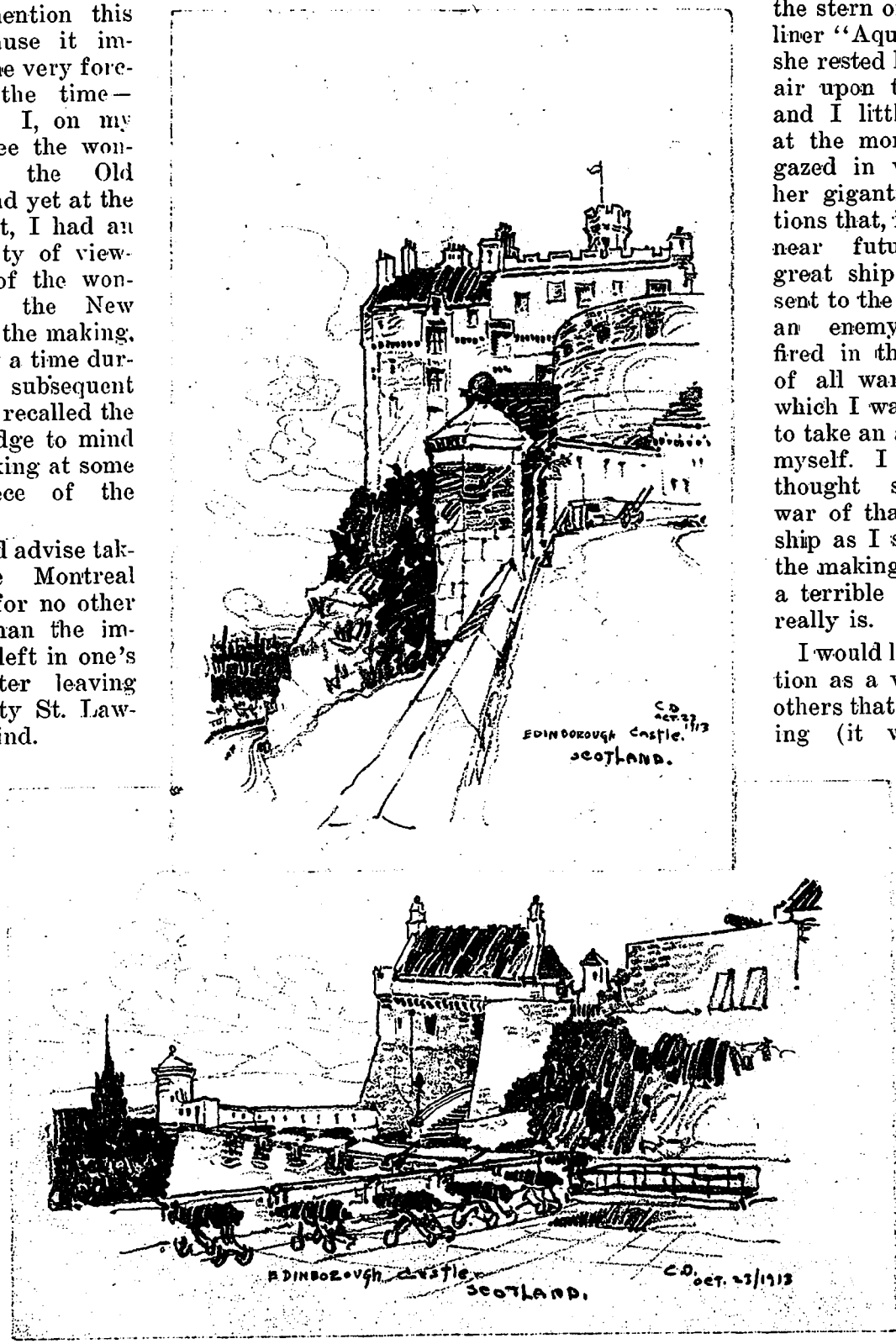
Sailing from Montreal, I had an opportunity of seeing the famous Quebec Bridge, then in course of erection, and I mention this fact because it impressed me very forcibly at the time—here was I, on my way to see the wonders of the Old World, and yet at the very start, I had an opportunity of viewing one of the wonders of the New World in the making, and many a time during my subsequent travels, I recalled the great bridge to mind when looking at some masterpiece of the ancients.

I should advise taking the Montreal route if for no other reason than the impression left in one's mind after leaving the mighty St. Lawrence behind.

race fo armaments prior to the Great War that was coming really meant, and I was to receive more than one warning of it before I returned to Canada.

We passed close by the stern of the giant liner "Aquitania" as she rested high in the air upon the stocks, and I little thought at the moment as I gazed in wonder at her gigantic proportions that, in the very near future, that great ship would be sent to the bottom by an enemy torpedo, fired in the greatest of all wars, and in which I was destined to take an active part myself. I have often thought since the war of that splendid ship as I saw her in the making and what a terrible waste war really is.

I would like to mention as a warning to others that upon landing (it was dark)



EDINBOROUGH CASTLE FROM TWO VIEWPOINTS.

As Glasgow was our port of disembarkation, I was very much impressed by the miles and miles of shipyards along the Clyde, and I understood, I think, a little more fully what the

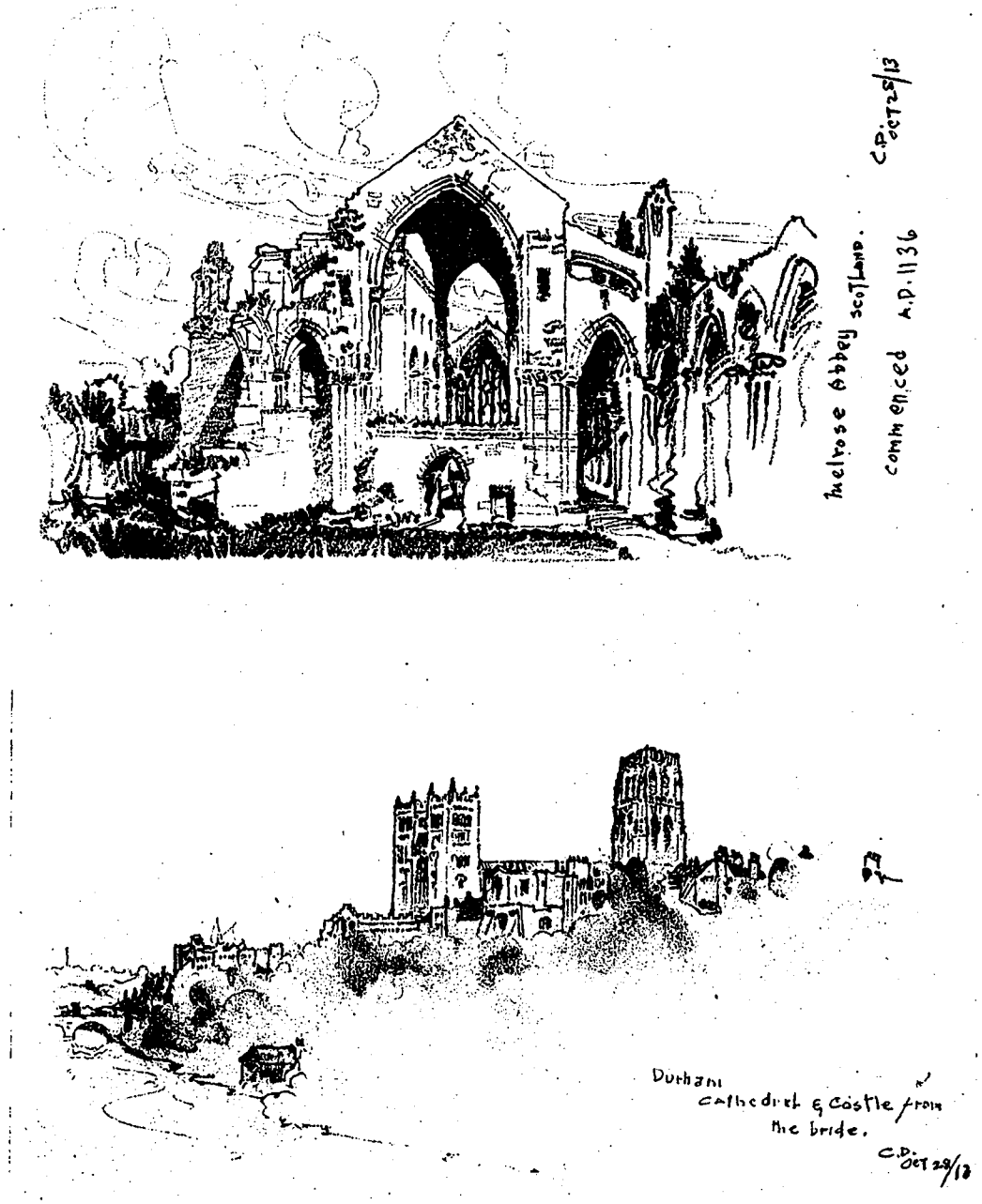
that although the Midland Hotel to which we were bound is not a great distance from the docks, our cabby must have lost his way, for it took us nearly an hour to get there. Of course,

it cost us more in fare, but as the cabby was a Scotchman and consequently honest, we did not criticize, but rather thought like Mark Twain, in his "Innocents Abroad," "I was a stranger and he took me in."

Glasgow, though more of a manufacturing town and the centre of great shipbuilding plants, has a number of places interesting to an

see the Abbey should be taken—for besides the Abbey, the ride is interesting in that it will give one a first impression of the countryside.

I had forgotten to mention that during the first part of my travels I was accompanied by a fellow draftsman, Mr. H. A. Dawson of Montreal, and want to say that if possible would advise travelling with a friend, for if one is as



UPPER SKETCH: MELROSE ABBEY. LOWER SKETCH: DURHAM CATHEDRAL AND CASTLE.

architect. The cathedral, though not as large as most, is very fine, having an excellent chapel and crypt, well worth the time of a sketch or two. The art school should be visited, if possible, as it is of the best, and its principal is only too glad to go over the establishment with an interested visitor.

From Glasgow a tramway trip to Paisley to

fortunate as I was in having such an excellent companion, the trip will be all the more enjoyable.

Leaving Paisley, we took the morning express to Edinburgh, and should like to say that wherever possible, day travelling should be the rule, as it is not only cheaper, but affords an opportunity of seeing the country en route. By

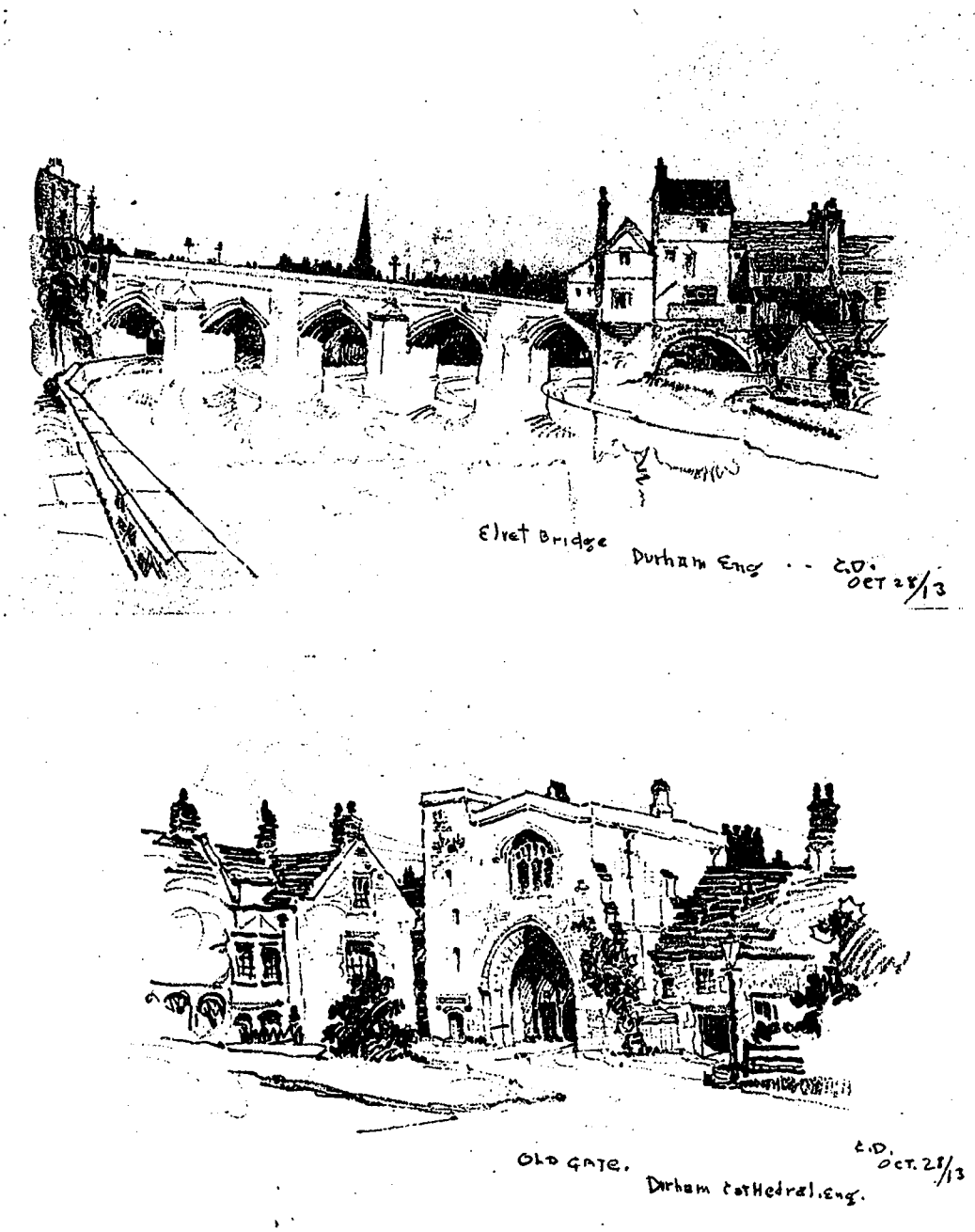
this means I saw a great many interesting things that would have been impossible by night travel.

Edinburgh impressed us very much, its very fine Princes street, with its excellent shops on one side and the wonderful park and gardens on the other, while looming above all in solemn dignity, the famous castle, which seemed to me to resemble some giant guard brooding over the city below. In the distance can be seen the mountain on the summit of which King Arthur sat, and since known as Arthur's Seat.

A climb up to the top of Scott's monument will give a wonderful view down Princes street, and a day or two could be spent sketching around the castle—that is, if you are not taken for a defunct German spy—all spies in Europe were German before the war, and it will be interesting to know who will get the odious name now. It is better to ask permission to sketch near any military establishments—it saves a lot of temper and time.

Holyrood Palace should also be visited, and in passing I should mention that we enjoyed the wonderful drilling on the parade ground of the Castle, by the Kiltie garrison, not architectural, but well worth seeing, some of their splendidly executed drill movements are very amusing.

There is also a great cannon, much embossed, at the castle and pointing out over the city. It was one of many captured from the Russians



UPPER SKETCH: ELVET BRIDGE, DURHAM ENGLAND. LOWER VIEW: OLD GATE, DURHAM CATHEDRAL.

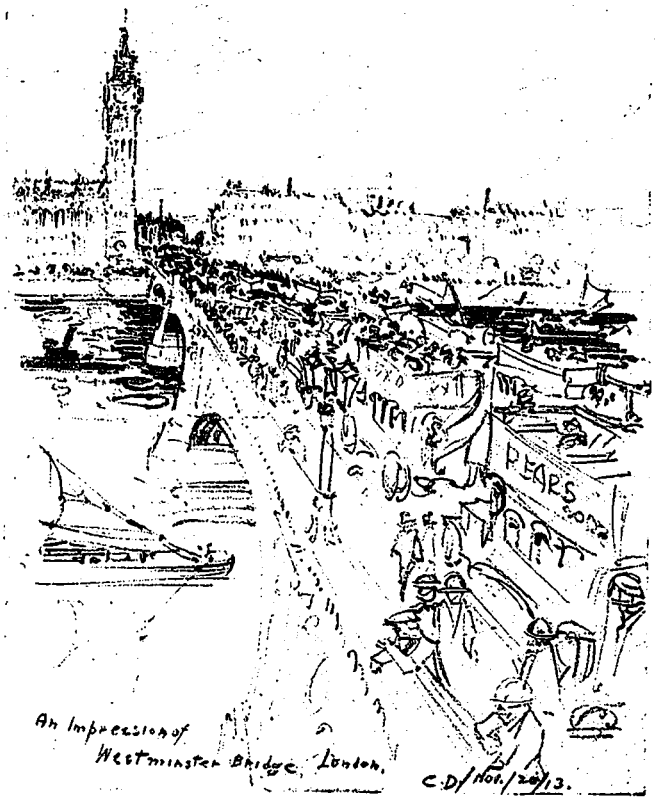
at ahe Seige of Sebastopol in the Crimean war.

We then took a day's trip to the Firth of Forth to see the great Forth Bridge, and after arriving there and seeing the bridge from one end and the river bank, we bought a ticket across to the other side—this was well worth the time, for the bridge is without doubt one of the wonders of the world.

There are two main spans (of tubular steel), each one slightly less than the main span of the Quebec Bridge, and a great impression of the gigantic proportions of the bridge is gained by comparing it with the battleships generally at anchor under or near it.

Returning to Edinburgh, we then took a train to Melrose to see the ruins of the beautiful Abbey there, and here we found one of the most beautiful little places in all the British Isles. The Abbey itself is of the best, and although in complete ruins with only the walls standing, it is so well cared for, with its grassy lawns among the stones, that we fell in love with the place immediately. The tracery of the chapel window is very fine and worthy of a sketch.

From Melrose we went to Dryborough Abbey and Stirling Castle, but with the exception of the very beautiful countryside round about and its associations with the history of Sir Walter Scott, it has little architectural attraction.



WESTMINSTER BRIDGE, LONDON.

We subsequently proceeded from Melrose to Newcastle, where it was necessary to change cars for Durham, and its great cathedral. On our way we passed a portion of the ancient Roman wall, built across England by the Romans as a barrier against the tribes of the north, somewhat similar in purpose to the one built by the Chinese for fifteen hundred miles across the northern half of China.

Arriving at Durham, we experienced our first impression of a distinctly English Cathedral town. Its restful air of quietude and dignity never left me all the time I was within sight of the magnificent Cathedral. I liked the Cathedral better than all others, perhaps partly because it was the first really large one that I saw, but the different periods of history as represented in its actual design struck me as much more impressive, some of its construction dating from early Norman times. Also the splendid way in which the Cathedral looms up above the trees, with its wonderful tower, as seen from across the river, is hardly surpassed.

There is great material for sketches and studies all about the church and town—one of many interesting things is the old stone bridge over the river with the houses perched on one end.

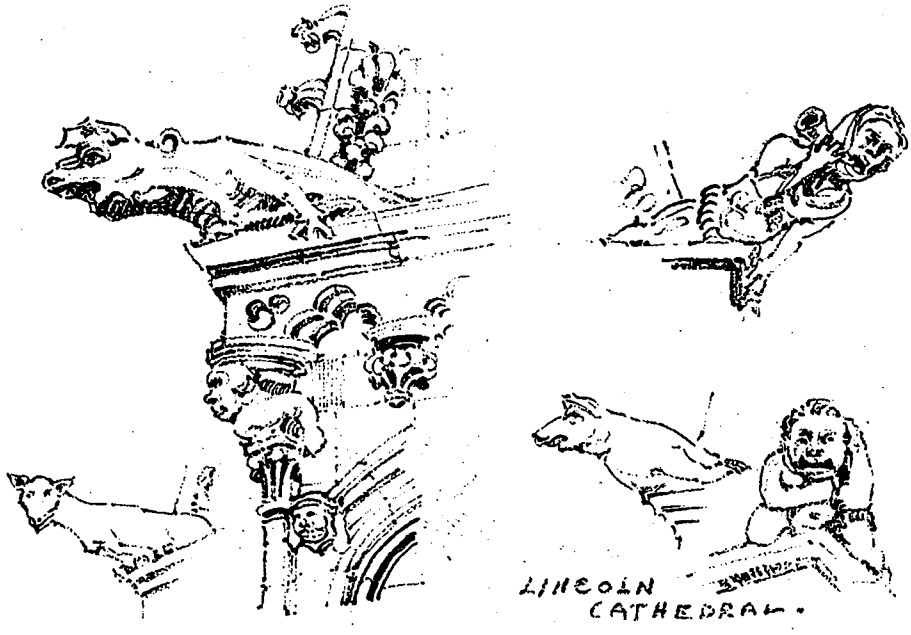
The gate leading to the courtyard of the Bishop's palace should be seen. As for the Cathedral itself, it deserves a complete description, of which time and space will not allow.

I might here sound a warning to the traveller to remember into which pocket he puts his small gold coins and the one in which he places his small change, for I very considerately tipped the waiter at one tavern (the Royal Arms, I think it was) with a nice new sovereign, same being similar to a six pence in size. I never discovered it until my arrival at our next port of call, and when I wrote back to an over-obliging, sharp-looking student, who, when we were in Durham, persisted in wanting to show us the town, and explained the case to him, he wrote back and said he had seen the waiter as requested, and that my little coin now rested in a safe place where he would keep it for me until such time as opportunity afforded his returning it to me. Needless to say he has it yet—again I was tempted to quote Mark Twain.

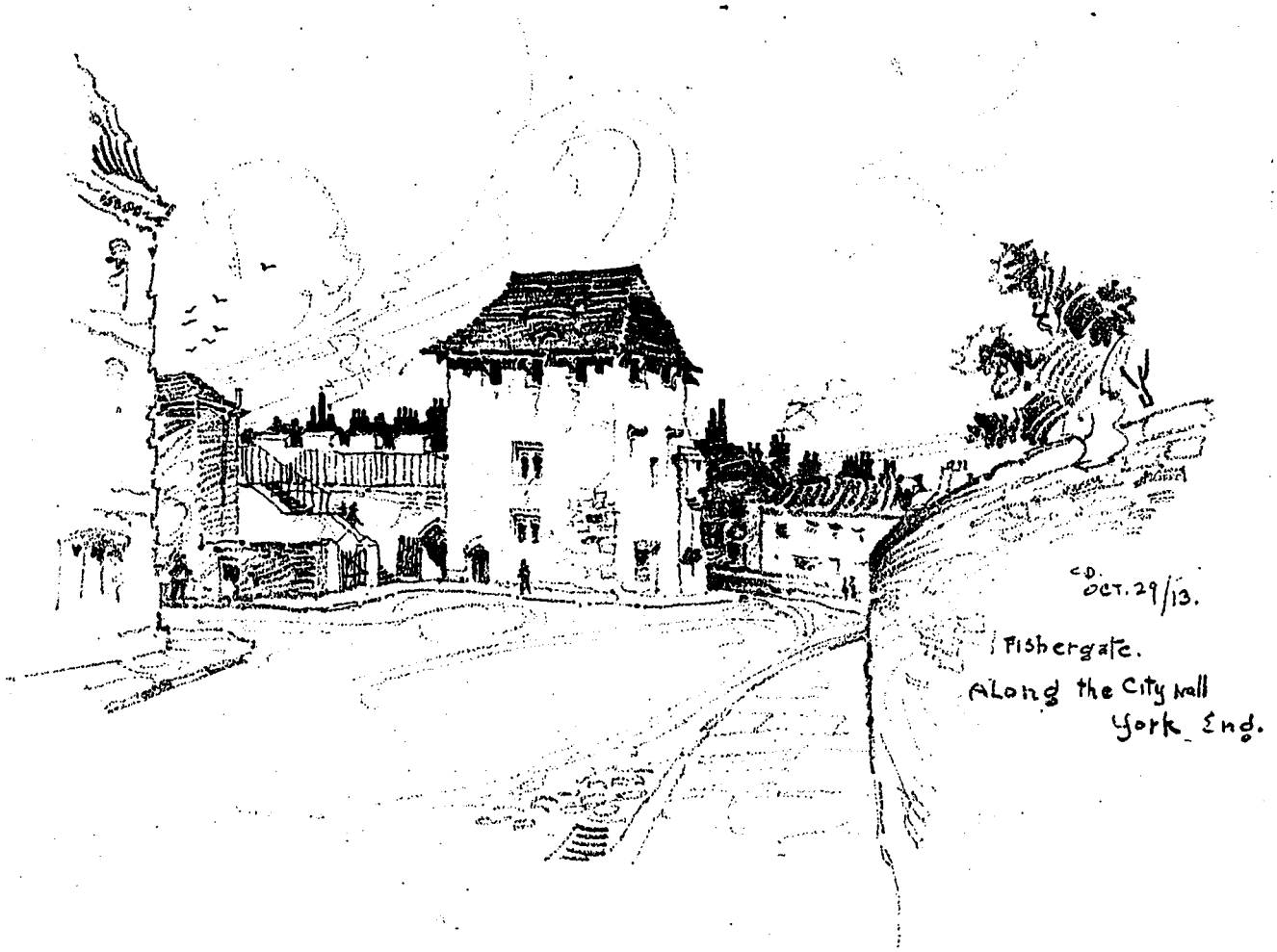
From Durham we then went to Peterboro where we spent a very interesting day in and around the Cathedral, a description of which is hardly necessary, sufficient to say that it is well worth a sketch or two—especially the old gate and Bishop's Palace in front of the Cathedral.

OLD HOUSES, HIGHPETERGATE, YORK, ENGLAND.

Leaving Peterboro I experienced another shock as regards money matters—a railway porter at the station to whom I had given threepence as a tip for putting my luggage into my compartment, handed me back a penny with the remark that I had given him too much, as twopence was the usual tip, and he did not want to spoil the tipping game. After the train started and I had regained consciousness, my faith in humanity was again restored.



GARGOYLES, LINCOLN CATHEDRAL.



FISHERGATE, ALONG THE CITY WALL, YORK, ENGLAND.

We arrived at York, the city of walls and spent a couple of days sketching around the Cathedral, and the ancient ramparts, the gates of which are very wonderful and well worth a special study. Old half-timbered houses on Highpetergate Street are worthy of a good sketch and should be seen.

We experienced our first difficulty with the English system of afternoon tea in York. The house at which we put up had tea at four and if you were not there you got no evening meal. It was very annoying, and the old lady who kept the place was highly insulted because we said we would buy our tea outside at our own convenience.

The Cathedral, of course, is very fine and I had the pleasure of making quite a number of sketches of it.

MR. CHARLES DOLPHIN, ARCHITECT
Whose sketches appear in this article

From here we then went to Lincoln to see the great Cathedral there, but although it is of very great size and beauty, it did not please me quite as much as those that I had already seen. Its facade had too much of an over-done appearance in my estimation, although, of course, very wonderful for all that. I made a great number of studies of the gargoyles, finials and bosses, on the exterior, of which there were a great number.

From Lincoln we then proceeded to London—the Mecca of most travellers.

London being the vast place that it is, space does not allow of a minute description of it, and for

this reason I am constrained to refer the possible reader and traveller to the guide books. Endless personal experiences will overtake one in his rambles about London, and it would be the subject of a volume itself to chronicle these in an article of this nature, but it would, I think, be opportune before proceeding to describe events and scenes upon the continent which I have agreed to deal with in a subsequent issue, to mention a few places that it would be very much worth the while of an architect or draftsman to see, namely, Westminster Cathedral, St. Paul's Cathedral, the Tower of London, British Museum with its priceless relics and curios, Kensington Galleries, Windsor Castle, Hampton Court, and a trip to Oxford if possible. These few and an endless number of other wonderful places of interest will occupy all the time that one can spare in London.

Architecture in Toronto: A Resume

By A. Frank Wickson.

(Reprinted from "The Lamps," the year book of the Arts and Letters Club, Toronto.)

HAS Toronto regained its architectural morality? The question implies something once possessed and subsequently lost, and in this case the implication is well founded. There is ample proof that this city was, at a now distant date, quite aesthetically moral and equal evidence that for a protracted period it suffered from an epidemic of artistic idiocy and immorality quite as malevolent as a physical plague, for the results, except in the case of actual death from disease, were much more permanent.

Many of the buildings which would have proved the first part of this assertion have been destroyed, but there still remain a few which have always been admired as examples of good design. Conspicuous among these are the following, viz.:

Public Buildings.—St. Lawrence Hall, King St.; Old Post Office, Toronto St.; Osgoode Hall, Queen St.; Merchants' Bank, Wellington St.; Old County Court House, Adelaide St., the Court Room of which is our present Club Room.

Churches.—St. James' Cathedral; St. Michael's Cathedral; the original St. Paul's on Bloor St.; St. Stephen's, corner College and Bellevue; Cemetery Chapel.

Houses.—King and Bay Sts. (now Sterling Bank); Duke St., corner of George (without the mansard); Church and Gould (some of its charm has been lost by reason of alterations); a row on Victoria at the corner of Gould.

These and many others were varied in designs, some being Renaissance in style and some Tudor, but all well proportioned and of good composition.

After the decease of the architects who controlled the design of the important buildings of the period above referred to came the revolution. A new generation which knew not Joseph arose and they—they struck up the band and the orgy began. The spirit of the Romanesque, so wonderful while used by the great wizard, Richardson, once escaped from his control became an unstemmed plague spreading its bacilli all over this continent, and Toronto fell a victim. Everyone was imbued with the idea that a new style had practically been founded for this part of the world, and so flourished Romanesque, new Greek, old Aztec, and any other old or new thing which the imagination could possibly conceive of, all sheltering under the wing of the "new style." Each building was designed in the prevailing fashion and degenerating from its prototype, became itself, in turn another prototype. The attack was on the godly and the ungodly alike, for sacred and secular suffered in unison.

Poor old Salamanca Cathedral, if set down amongst some of Toronto's Romanesque, would have experienced the same sense of humiliation as a highly respected plutocrat amidst a bunch of seedy and debauched relatives. All sense of scale was lost and buildings looked as if they had been built of dry sponge and then soaked with water. Ordinary features became burlesque, enormous arches crushing down poor little dwarfed columns, centre piers supporting arches, circular towers resting on top of square and square over round. "Basketwork" brickwork broke out like measles, and in the poorer districts "brick fronted" houses covered the landscape like the locust.

Some years ago, however, a piece of architectural surgery commonly known as the Chicago Fair, relieved the pressure on the brain, the frenzy and the fever gradually subsided, and the moral idiocy began to disappear.

Has it entirely disappeared in Toronto? Well, it is tending that way, and it is with pleasure that one can instance numerous proofs of this. Among the admirable and scholarly public and commercial buildings there are the new Registry Office, the many banks in the heart of the business section and the C.P.R. station at North Toronto. Of factory buildings refer-

ence may be made to the MacLean Publishing Co.'s building on Centre Ave., having one face towards University Ave., which is now, unfortunately, partly obscured by another building, to the Christie Brown factory, King and George Sts.; to the Methodist Publishing Co.'s building on Queen St. West; to the Copp, Clark Co.'s building, Wellington and Portland, and the Wilson Lytle factory on Duke St. Only too many factory buildings are utterly devoid of design and in that respect we fall much behind some other cities.

In the scholastic field mention may be made of Hart House, Burwash Hall, the Technical School on Lippincott St., the University Schools, Bloor St., Knox College, and the new Trinity College which is not yet erected but drawings of which have been published.

St. Paul's on Bloor St., Knox on Spadina Ave., and Timothy Eaton Memorial are examples of the latest churches, though there are many here and there in the city, possibly less ornate but having good proportions, lines and details. St. John's near College and Lansdowne is of simple but effective design in brick and well illustrates its type.

In house architecture Toronto has no need to be ashamed of its doings, because for years past there has constantly been a sprinkling of good domestic work done. Such buildings as Sir Joseph Flavelle's in Queen's Park, E. R. Wood's in Queen's Park, Sir Wm. Gage's residence, Davenport Rd., Dr. Ross' house, 109 Warren Rd., Sir John C. Eaton's on Davenport Rd., Ralph Connable's on Lyndhurst Ave., and Mr. Blackwell's house on Dunvegan Rd., are worthy of being mentioned though perhaps it is rather invidious to mention any when so many might be spoken of. A somewhat smaller house of an attractive character is Col. MacLean's, Wells Hill, a simple, well-proportioned plaster house, and one of a type of which there are several good examples.

In the more thickly populated portions of the city there are many streets being built up with detached houses similar to each other in character, of questionable design and differing sufficiently to result in being neither a satisfactory separate unit nor a part of a whole. If silhouetted, the skyline of one of these streets would make a good suggestion for a piece of jazz music of the jazziest kind. At present one of the fashionable features in these houses is to have enormous battered piers supporting a simple roof, piers that look as if they would carry an end of the Quebec bridge.

How one longs to see a street built up with the small house attached, forming simple but well composed groups. The housing and town planning projects are our hope for the future of the small house, and when some of these projects now started become realities it may be that a new era will have set in, not only for the smallest type of house but even for those average cost buildings above referred to, with the angular Atlases holding up imaginary worlds.

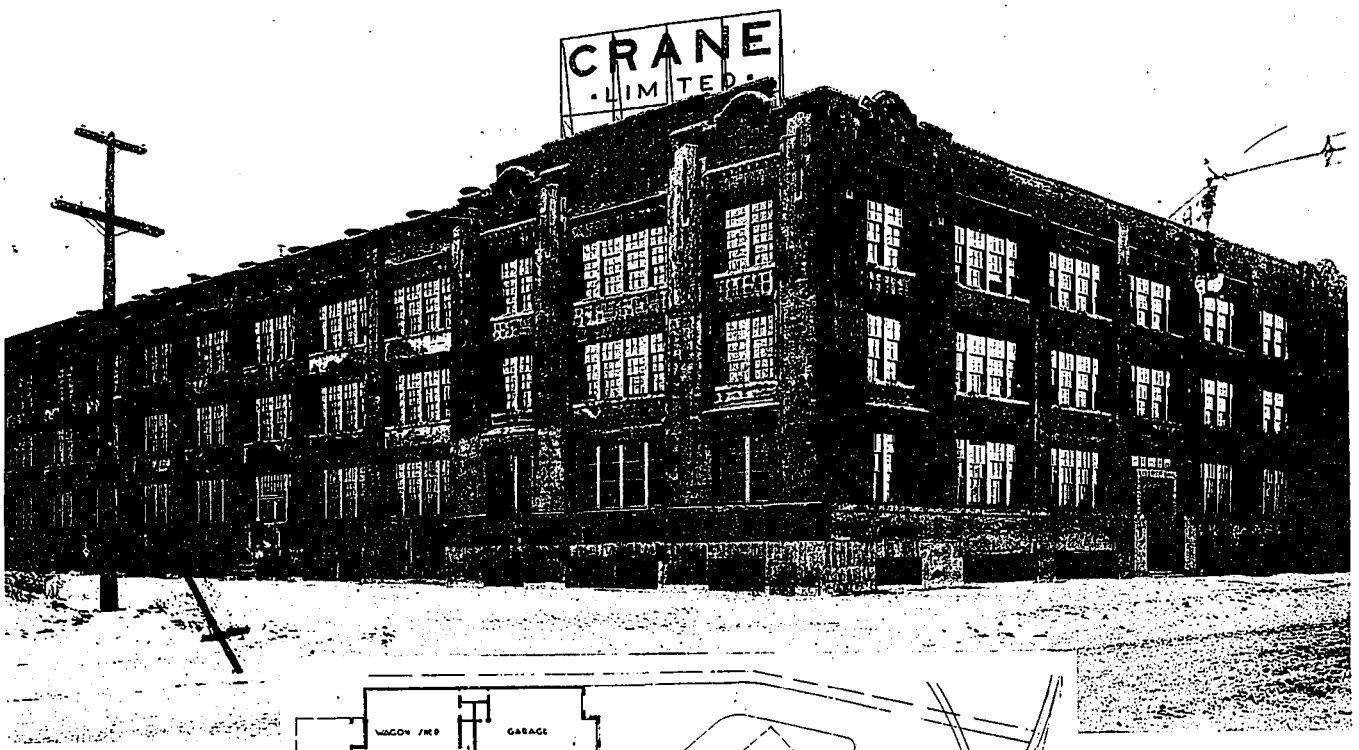
In the case of the larger houses we may expect to see many of the Georgian type or the simple plaster house with numerous French windows, giving a general feeling of comfortable homeliness, a type that, it is to be hoped, the public will appreciate and enjoy.

Looking for Another Pompeii

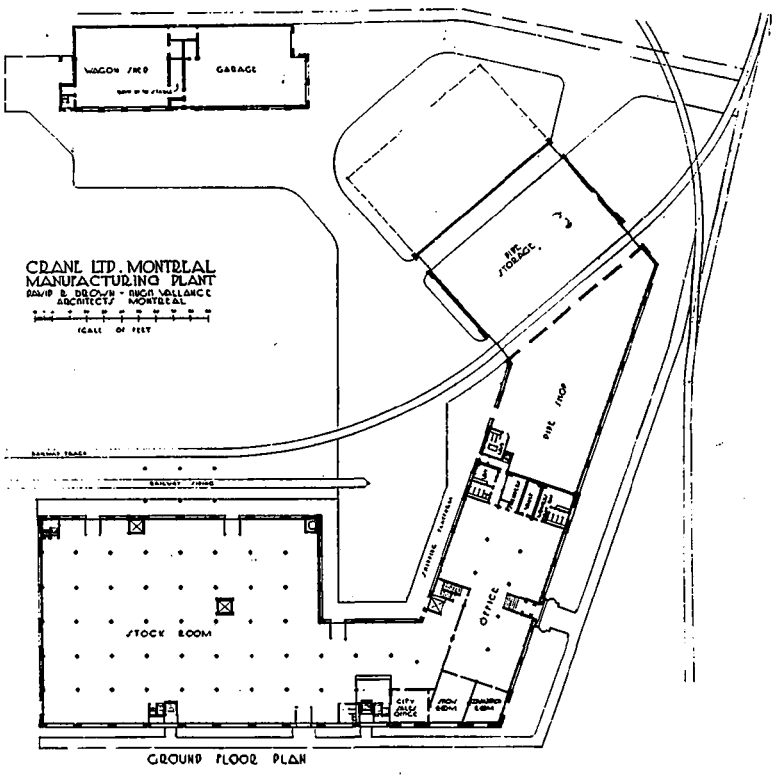
During the war archeological excavations were continued at the Italian colony of Syrenaibca on the north African coast, and now comes the news that what has been found already promises the uncovering of another ancient city as important as Pompeii. Once the spot was a Greek colony, with the civilization of Greece transplanted to the soil of Africa. The work has been carried on during the war under the supervision of Prof. Lucio Mariani, director of the archeological service of the ministry of the colonies, and the prediction is now made that the newly discovered city will eventually prove actually richer than Pompeii in its evidence of a past civilization. Here have been found already statues of the Graces, a Hermes, an Eros, an Alexander the Great and, most impressive of all, the Aphrodite of Cyrene, which is said by certain connoisseurs to be a fair rival in beauty to the Venus of Milo and the Venus of Cnidus. The discoveries have extended over a good many years. It may be added, however, as an illustration of the modified joys of archeology, and the introduction of a new mystery into the history of art, that the Aphrodite of Cyrene lacks both head and arms. The world may wonder what she looked like as well as what she was supposed to be doing.

Toronto Engineers Report Good Year

The Engineers' Club of Toronto has just closed the 20th and most successful year in its history, and the directors have decided, owing to the limit of accommodation in the present quarters being almost reached, to double the amount of the entrance fee. The following officers were elected for 1920: President, Melville P. White; 1st vice-president, Tracy D. LeMay; 2nd vice-president, J. B. Carswell; 3rd vice-president, W. R. McRae; directors, J. R. W. Ambrose, A. B. Cooper, E. G. Hewson, Charles H. Heys, Arthur H. Hull, J. H. McKnight, L. V. Rorke, J. R. W. Wainwright, Walter F. Wright, Major E. W. Wright, T. S. Young. Mr. R. B. Wolsey continues in the capacity of secretary-treasurer.

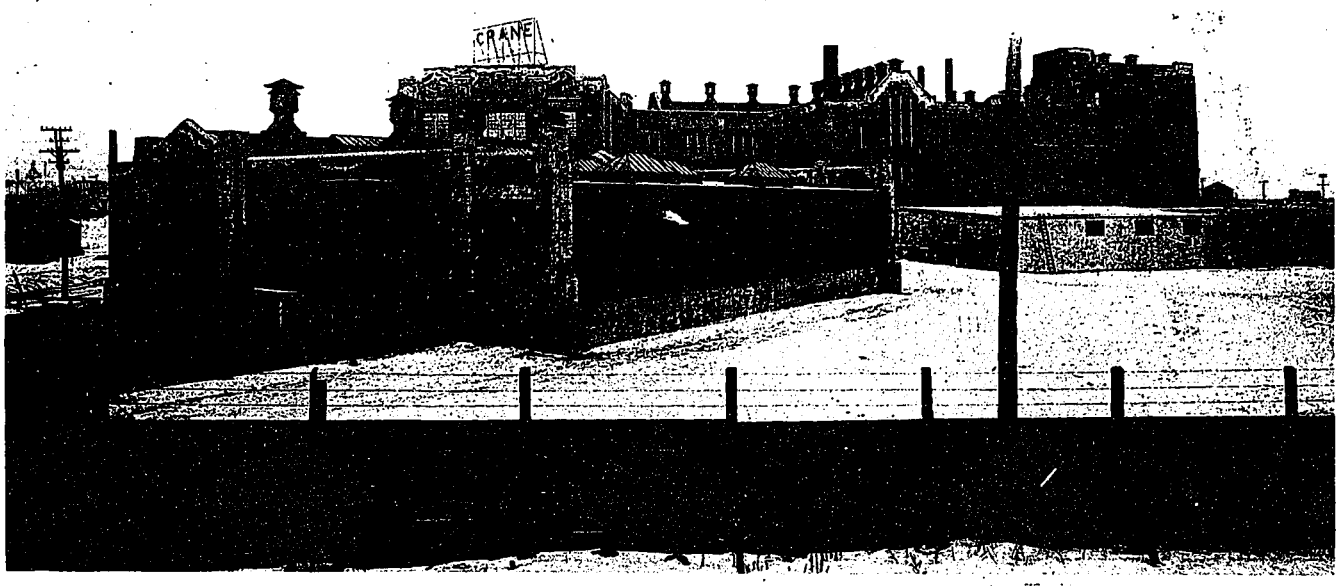


FACTORY OF CRANE LIMITED, MONTREAL.



BROWN & VALLANCE, ARCHITECTS.

GENERAL VIEW OF PLANT.

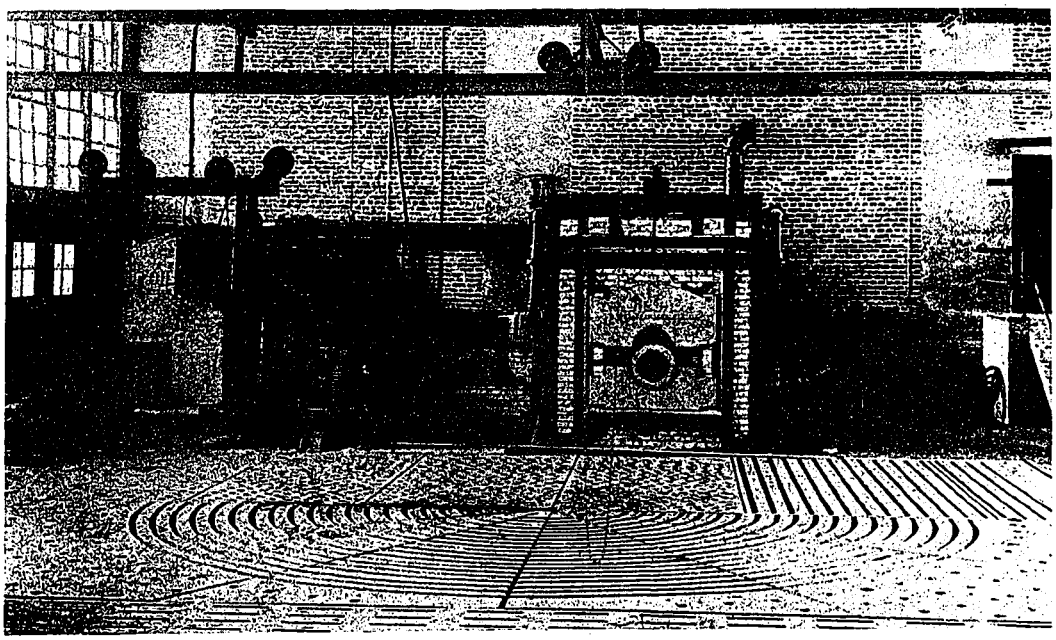


REAR VIEW: FACTORY OF CRANE LIMITED, MONTREAL.

Recent Concrete Buildings

THREE recent examples of the use of concrete in factory and warehouse construction are illustrated in the accompanying views, the exteriors of which in two cases show the use of the material as an integral part of the external scheme, while the third is a concrete structure with a modernly designed stone front. The interest in the three structures in question lies in the individuality of the designs as well as in the offices of two of the buildings which denote an architectural consideration which it is to be hoped will become further manifest in commercial and industrial work.

The Crane Company's factory, the largest of the three, occupies a site 420 by 360 feet, and is "U" shape in plan, a considerable portion of the site being reserved for yard space and shipping facilities. The type of construction employed is flat slab reinforced concrete, designed according to the four-way system. The supporting columns are octagonal in shape and the floor panels 20 by 20 ft., the ground floor slab being 12 in. thick and designed to carry a live load of 500 lbs., and the upper floors which are 9 in. thick to carry a live load of 225 lbs. It is at once a building which denotes its purpose and the stability of the structure. The heavy pilasters which indicate the position of the col-



PIPE BENDING DEPARTMENT.

FIRST FLOOR OFFICES, FACTORY OF CRANE LIMITED, MONTREAL.

umns form well spaced divisions in the exterior walls and have permitted of a symmetrical treatment. The effect is further enhanced by double and triple mullion three sash windows and brick panels and parapets, which altogether make the building noteworthy as an example of modern factory design.

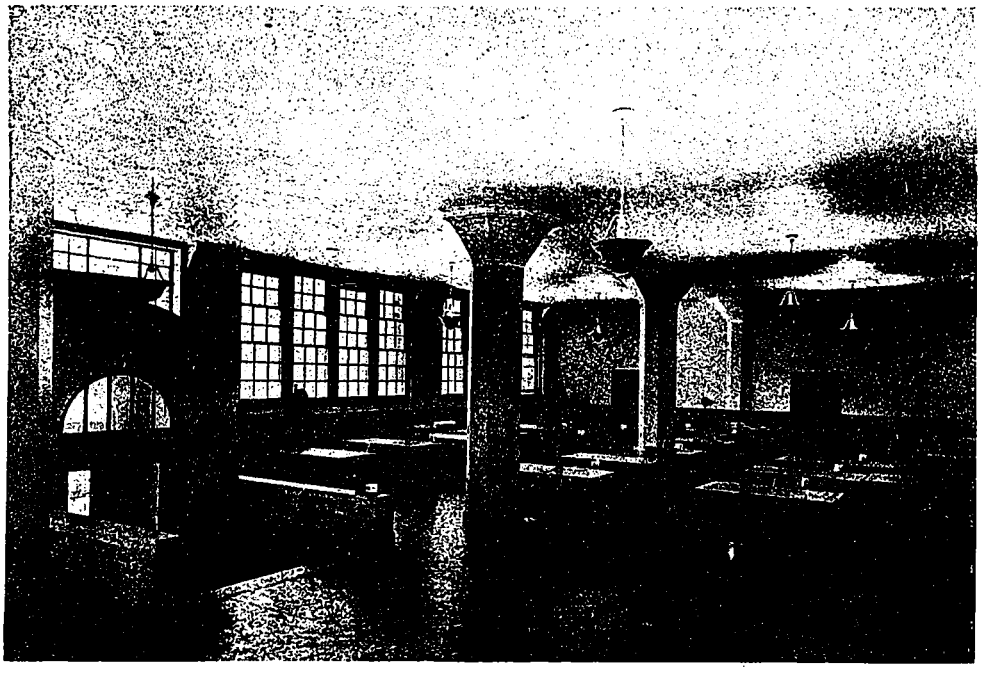
The interior of the office portion of the building is also deserving of note, the scheme being simple and impressive and presenting an orderly arrangement suggestive of efficient business methods. The main entrance itself is carried out in cut stone and leads to a vestibule finished with marble walls and steps which give access to the office or main floor level. The accommodation of this floor is shown in the accompanying plan. From the office a corridor leads into the pipe bending shop and thence to the pipe storage. On the other side the ground floor consists of a stock room for fittings. A platform at the rear for both teams and cars, extending the full length of the building, facilitates the delivery and shipment of goods; and special provision has been made for the unloading of coal, which is brought in on cars and dumped over iron hatchways into the coal bunkers.

The second floor is occupied by the milling and finishing rooms, carpenter and pattern shop and storage for plumbers' supplies, while the top floor is devoted to the cast iron and brass foundries and brass finishing department.

The building is excellently lighted throughout, the system of fenestration being so considered as to provide a maximum degree of natural light in every part of the interior and is further assisted when occasion demands by a carefully planned electrical installation which is so installed as to produce an even diffusion of light in both offices and industrial departments.

WILLIAMS AND WILSON BUILDING.

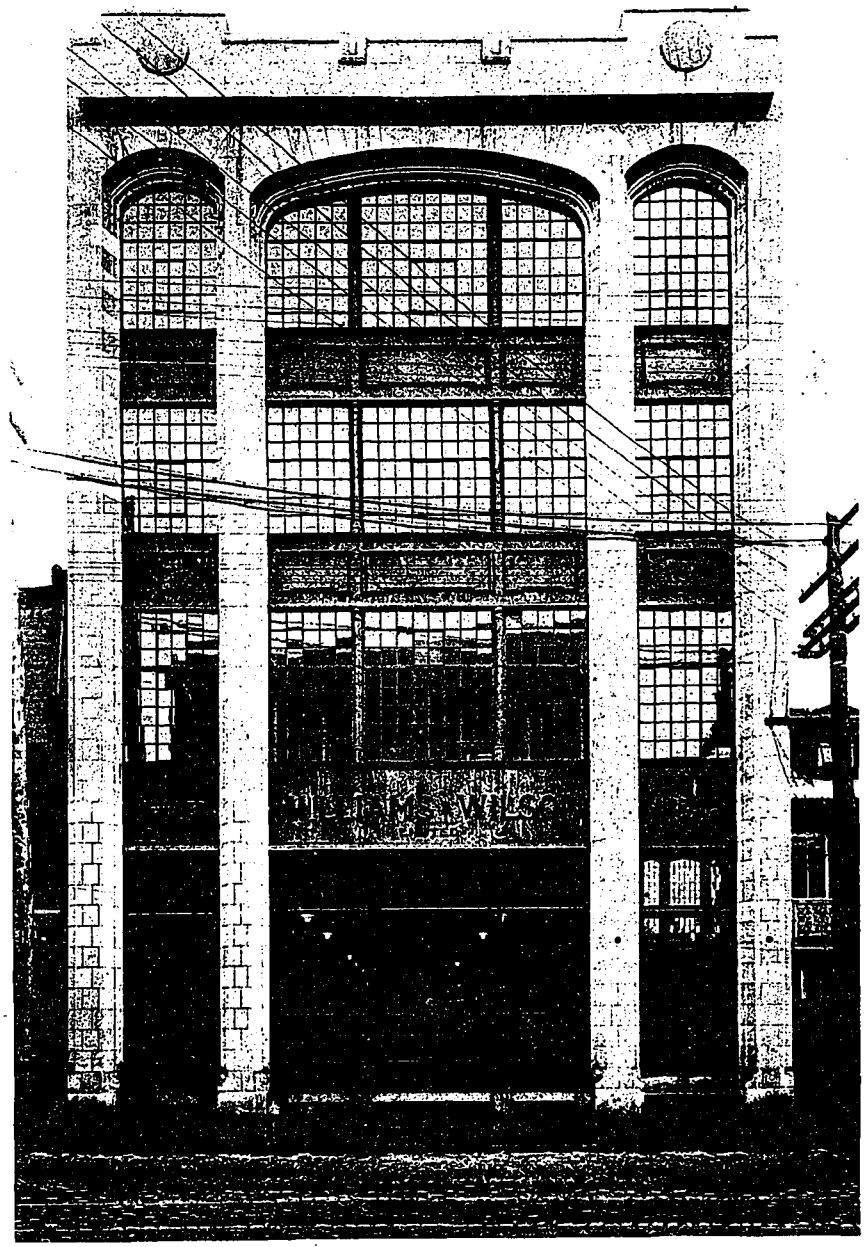
The introduction of outside light into the interior was also an important factor in the design of the Williams & Wilson building, Montreal, which is also illustrated. This is evidenced by the vertical emphasis of the design of the principal elevation. By the treatment adopted a result has been arrived at which gives the front a maximum glass area, and this is further supplemented by the unbroken expanse of windows along the entire length of the upper stories. While constructively of a type which is eminently suitable to the purpose for which it is intended,



GROUND FLOOR OFFICES, FACTORY OF CRANE LIMITED, MONTREAL.

viz., that of stock and sales rooms for machinery and machinery supplies, it is more the architectural scheme of the interior rather than the physical character of the structure itself which makes it especially worthy of attention. This is particularly to be observed in the general and executive offices which are shown in the two photographic views presented. In these offices the woodwork, including trim counters and dado, is of selected white maple, the floors laid in squares of Tennessee marble, and the lighting fixtures of special design. The design and workmanship of the woodwork and bronze fittings, which were executed by the Bromsgrove Guild, are of a very high order, and reflect this firm's craftsmanship ability. A feature is the bronze metal sash forming the partitions dividing the offices and which permits of a view from one room to another. The furniture and office equipment have also been selected to be in character with the scheme, and even such minor details as the floor inserts which does away with unsightly telephone connections have been carefully considered, making it in every way a handsome office suite.

Owing to the purpose of the building the floors are designed for heavy loading, the ground floor being figured for a live load of 300 lbs., and varying from this to 100 lbs. for the office floor, and 250 lbs. for the two upper floors As difficulties were encountered due to a sandy soil and ground water, the wall footings were designed on the cantilever principle, of heavy reinforced concrete, the basement floor being 12 inches thick to prevent uplift, and treated together with the walls with a waterproofed mixture.



WILLIAMS & WILSON BUILDING, MONTREAL. T. PRINGLE & SON, ARCHITECTS.

The building has a frontage of 44 feet and runs through a distance of 188 feet to Montfort street at the rear. The construction throughout is of reinforced concrete, enclosed with brick curtain walls on all sides except the front. The Inspector street facade, which is the principal elevation, is carried out in limestone, bonded to the concrete, and divided into three bays. Between the piers the entire front consists of cast iron panels and glass, the centre bay being of sufficient width to provide a 25 ft. display window at the ground floor level. The ground floor is 4 feet above Inspector street, and the display window is supported by a concrete beam at the street level. Oak is used for the entrance doors and marble is employed for both the vestibule walls and the steps.

The Montfort Street elevation is laid up with red brick with the concrete beams exposed. On this side the lower portion consists of a shipping area recessing 35 ft. into the building to a platform which is three feet above the ground level. This allows for the trucking of goods directly onto the motors and lorries, and avoids any obstruction of street traffic.

The third floor of the building is used for stock purposes and is laid up in cement treated with an integral hardener and finished with a two-coat cement dressing. The top floor is equipped as a machine and woodworking shop, the shafting hangers being carried by inserts set in the concrete beams. The building is equip-

GENERAL OFFICES, WILLIAMS & WILSON BUILDING, MONTREAL.

ped with an outside fire escape and all windows throughout are of the steel sash and wired glass type, the interior stairs being of steel with slate treads and protected by steel and wired glass enclosures.

CARSWELL BUILDING.

This factory is located in Toronto on the south side of Adelaide street just west of York street, and has a frontage of fifty-one feet and a depth of ninety feet.

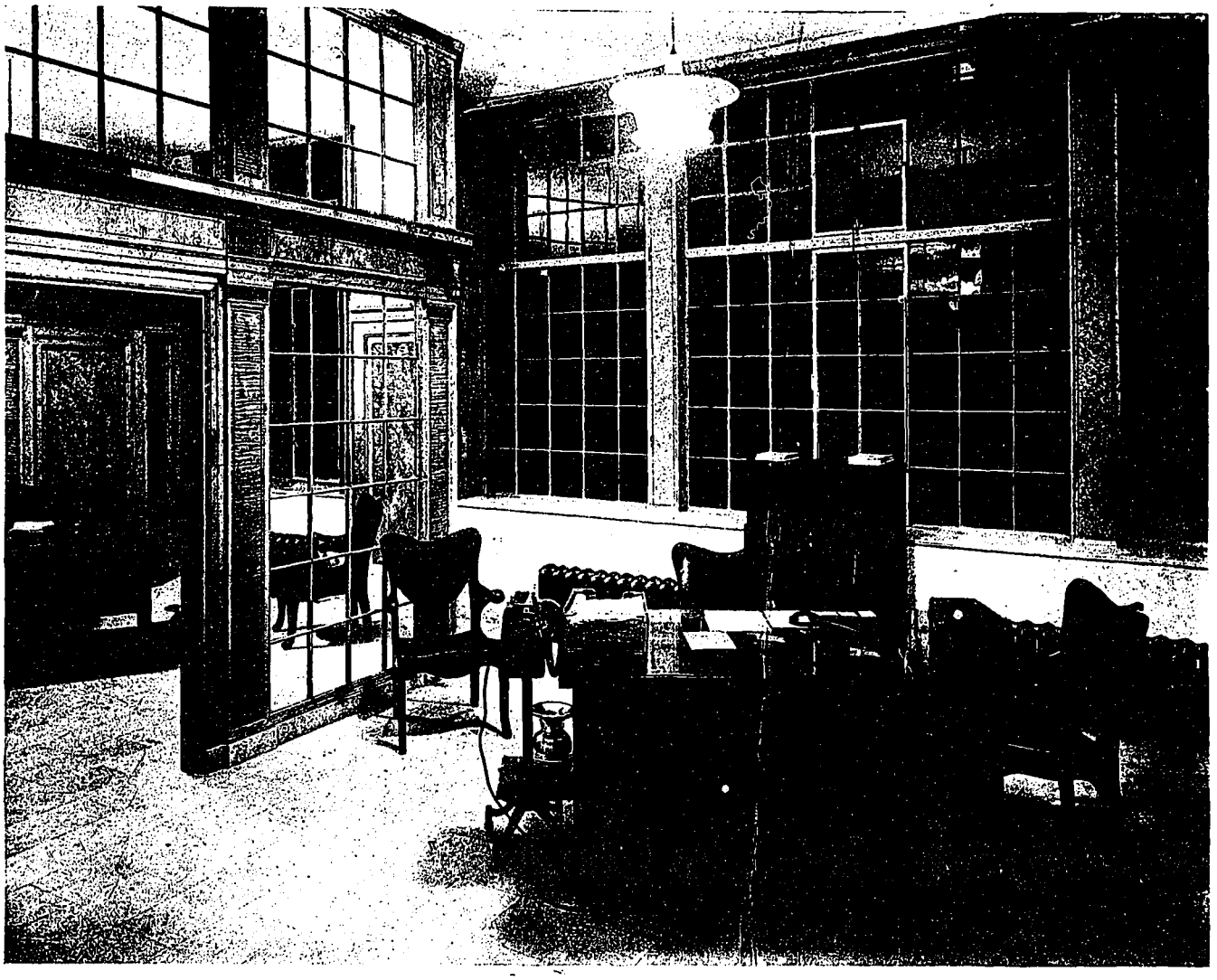
The building is five stories high with a heating cellar in addition and is constructed of reinforced concrete and brick curtain walls. The roof is built with a hollow space to form a protection from heat and cold.

The factory has been designed on the factory daylight saving plan, and by the fullest use of steel sash at the front and rear a condition approximating daylight has been created inside.

The various floors are served by an automatic push button control passenger elevator near the front and a freight hoist in the rear. It was erected at a cost of about seventy thousand dollars.

Color in Decoration

Mr. H. K. Prosser recently delivered an interesting address before the Incorporated Institute of British Decorators on the subject of "Discord and Harmony of Color in Decoration." To procure harmony, he said, the proportion of color was one of the chief matters to be considered, and in this connection the size and aspect of the room to be decorated must be considered. Color, like everything else, was, he said, a matter of vibration. By far the easiest way to produce harmony was by the use of tones of one color, but decoration by this means became monotonous. Many rooms treated in blue and green were condemned on account of their being cold and dull. If red, orange, and yellow were used the result was too warm. The only course possible to secure harmonious results was the use of blue, green, and yellow. It would be most difficult to produce a scheme of decoration where the whole range of colors were used. One discordant color often spoilt a room, but if another discordant color were put near the effect was broken, and the whole would



EXECUTIVE OFFICES, WILLIAMS & WILSON BUILDING, MONTREAL.

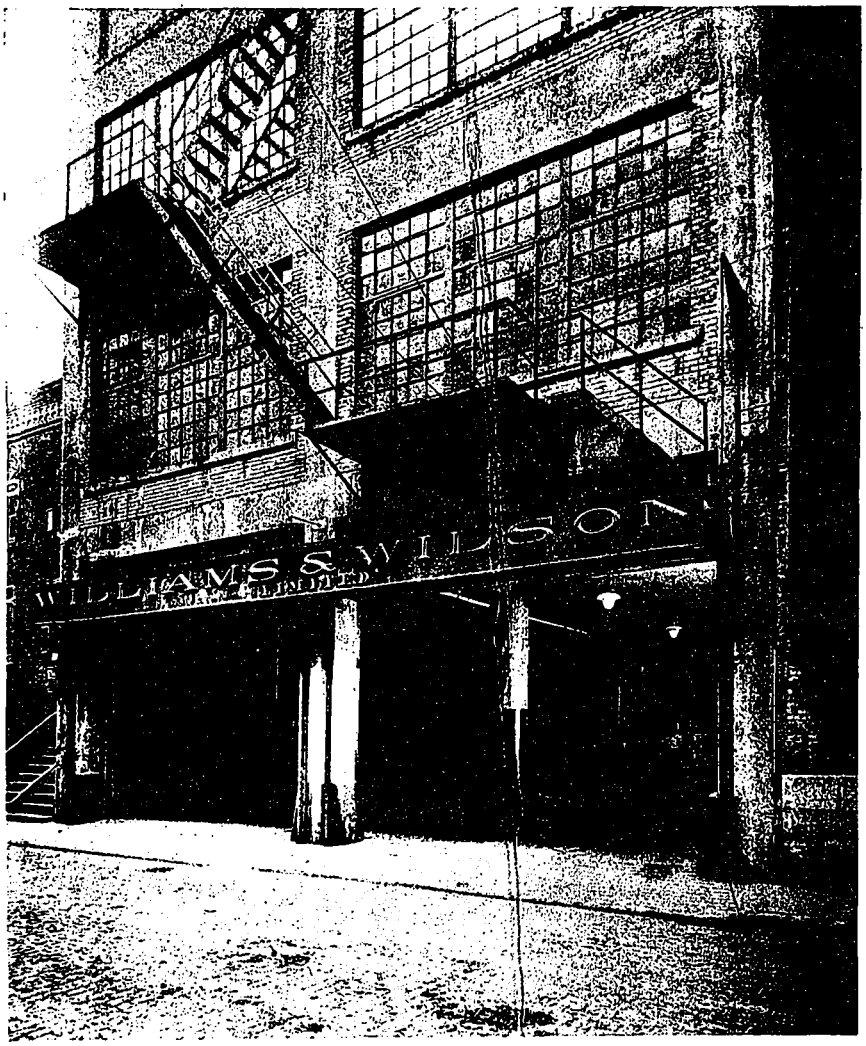
make for harmony. All rooms should be worked out in logical color schemes, and he thought that consideration should be given to the color decoration of offices and workshops in order that the employees should be kept physically fit and that the greatest amount of work should be produced with the least possible fatigue. Yellow produced on the mind the effect of sunlight, blue the vibration of the firmament, and green the early spring. Little knowledge was a dangerous thing in the case of color, and the quantities used in rooms were seldom logically proportioned. This could be done either by scientific or theoretical methods, but it was impossible to prove certain points by science. The Chinese were brilliant colorists. Their colors in themselves were discords, but they produced harmony by the use of different shades or tones of one color. Few people could visualize color, and there was no road to true harmony except through the laws of science, based on the laws of vibration. If color harmonies were worked out by scientific instruments, more harmonious results would be arrived at. Each color in the spectrum had its own purpose. Red was the warmest, and changed less in the light or dark than any other. Orange and yellow were warm; green could be either warm or cold; blue was cold. The decorator had much to contend with in decorating a room in which the owner desired to have all his own pictures and accessories. Black could be used and would produce harmony, but few people would allow this. To arrive at harmony, the colors must be standardized, and everybody must use the same. The laws of color must be understood by all who used them. Harmony could only be arrived at by the use of instruments which recorded the color, rate and length of vibrations.

In the discussion which ensued, the value of the use of instruments in the determination of a color scheme was strongly criticized, and it was pointed out that this would reduce the art of the decorator to merely ordering a stereotyped scheme from a catalogue.—"The Builder."

Zoning and Architectural Practice

Zoning makes many appeals, both to owners and non-owners of real estate. As it is an insurance against depreciation of values caused

by a change in the character of new buildings constructed, or by change in the character of occupancies, the appeal is selfish but perfectly legitimate. This reasoning, says the "American Architect," applies to every locality because a nuisance can depreciate a mercantile or manufacturing property as well as a residential one. A competent zoning plan also prevents certain developments that are not reasonably sure of success, such as those often promoted and exploited by real estate speculators. Zoning further provides protected and decent residential sections for workers, with adequate transportation to their places of employment, recreation and shopping. Such a zoning plan is just and equitable to all classes of citizens.



SHIPPING AREA, WILLIAMS & WILSON BUILDING, MONTREAL.

Zoning appeals to non-realty owners by satisfying their sense of orderliness and fitness. These citizens have every right to protection from nuisances, and to life and work in an attractive, healthy and well ordered community. The necessity for zoning as a surety against future loss and for social community welfare is generally recognized by all thinking persons.

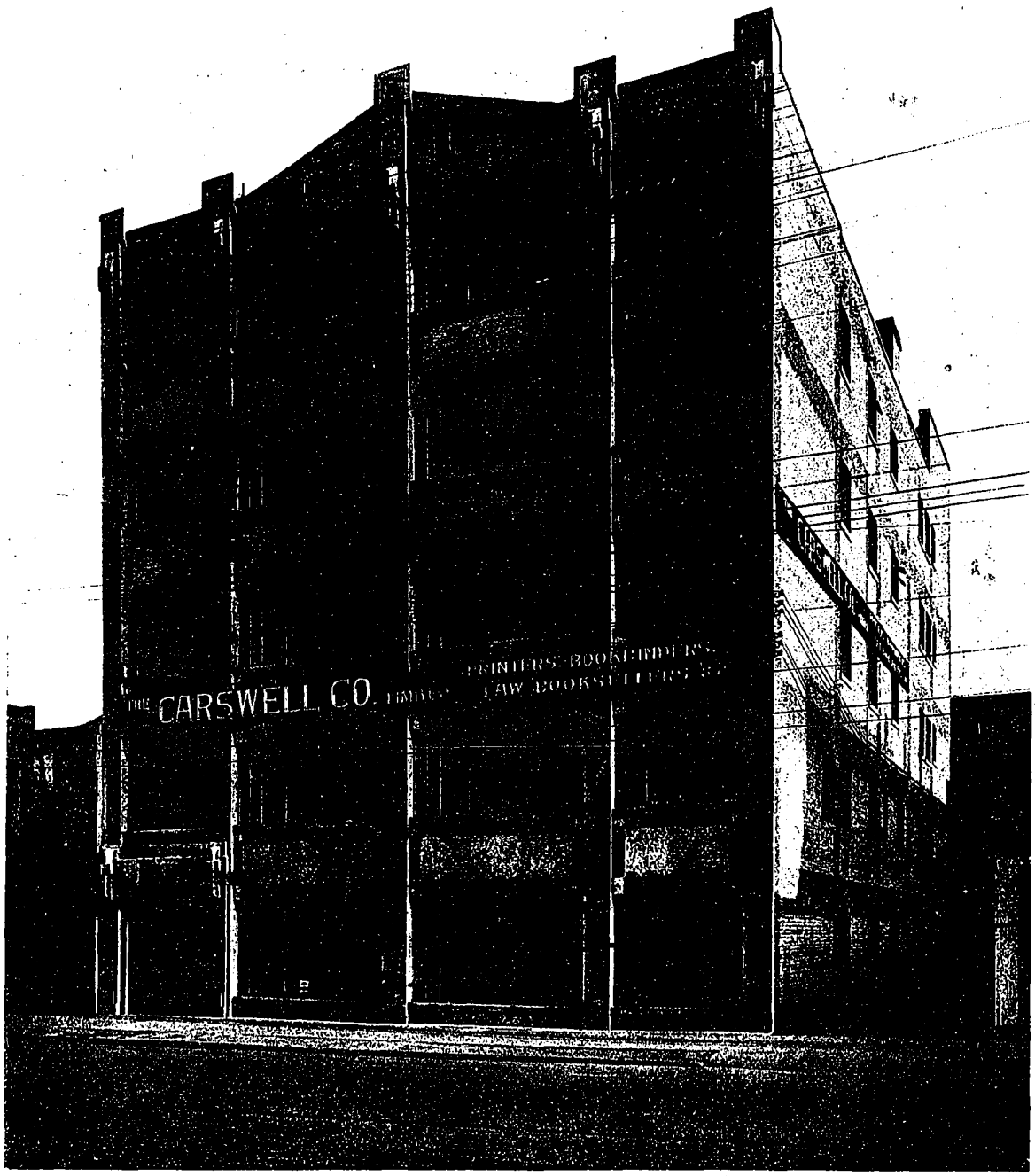
Zoning is the paramount necessity of urban American communities. Notable progress is being made along these lines in all parts of the country. Illinois has recently passed an enactment enabling its cities to undertake this work. In Chicago plans are under way for the creation of a zoning ordinance which will be of tremendous importance to its citizens. Several large cities, notably New York and St. Louis, have such laws. The fundamental requirements of zoning laws are not generally understood and those with actual experience in such work are few in number. For this reason the personnel of committees or commissions created for the formation of zoning laws, is of supreme importance. All of the major interests, both material and social, should be competently represented.

The physical elements of a city consist of buildings, streets, parks and public utilities such as sewers, water supply, lighting and transportation facilities. Of these improvements buildings out-value all of the others together by a very large percentage. These tremendous values, represented by buildings, are the handiwork of architects and are only possible of construction because of their abilities and efforts. Therefore the value of the architect to the community is apparent.

The practice of architecture requires a technical training unexcelled by any other profession. Its scope is necessarily broad and diversified in order to satisfy the demands of modern building construction. No other constructive human activity controls such great investment values.

The work of the architect is essentially that of measuring requirements and so planning as to satisfy them, a truly constructive effort.

The preparation of a zoning law requires a survey of the existing conditions, a vision of their future growth, a measurement and valuation of the component elements and a plan whereby the rights and equities of all may be conserved—all essentially the work of an architect. The work of the architect includes the housing of every human activity and as the building has a marked influence on the physical, mental, moral and spiritual condition of the population, he has an appreciation and understanding of those things which should control the formation of a zoning law.

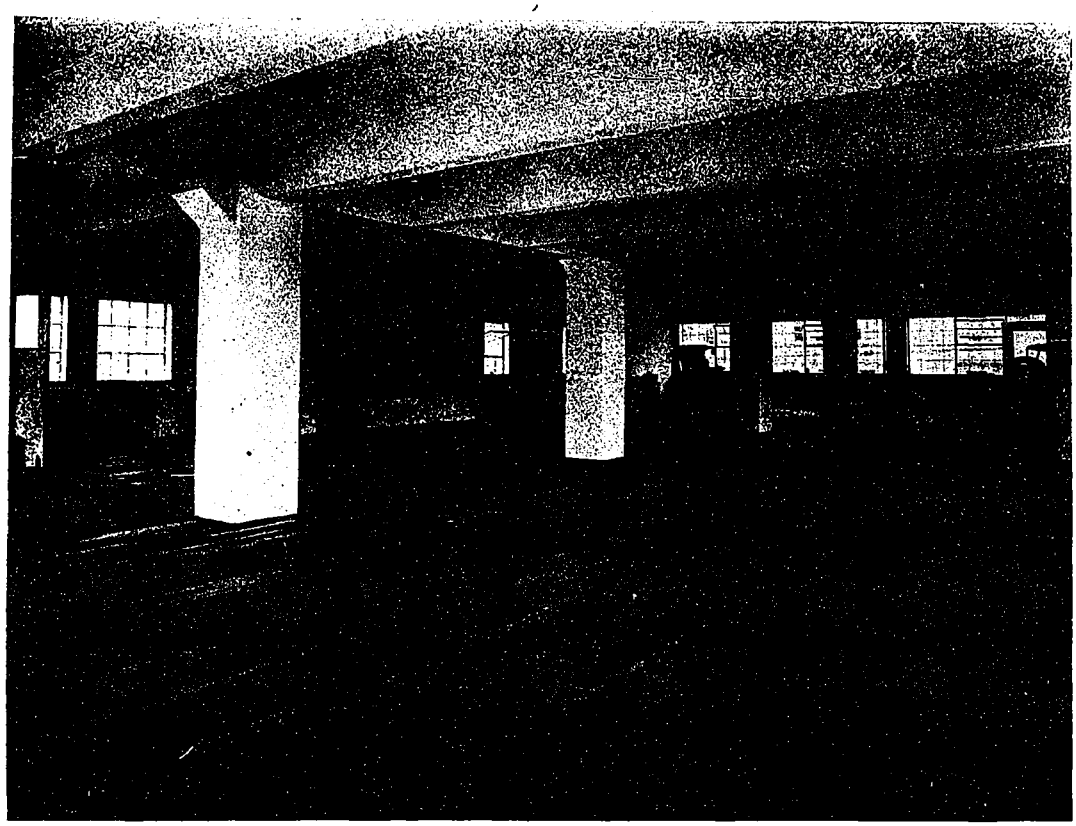


CARSWELL BUILDING, TORONTO. C. H. ACTON BOND, ARCHITECT.

The ability to carry a precinct or ward in an election must not be the criterion that governs the make-up of a zoning commission but rather the ability to render an adequate service to the community. It is possible in many walks of life men can be found well qualified for this work, but in none are there any persons more proficient than in the architectural profession.

The Fall of a Chimney

The Vigo chimney, at Northampton, England, for nearly fifty years the most prominent county landmark, 250 feet above the surrounding landscape, is reported to have disappeared in a crash of falling bricks and a cloud of dust, by the "Building News" of London. It took two years to build and about two seconds to demolish. Three men were killed during its construction, but its destruction was happily attended by no unforeseen incident. The chimney was dated 1871, and is said to have contained two million bricks and to have weighed about 2,000 tons. The work of felling was entrusted to Mr. Joe Ingram, a son of the well-known "Parachute Joe," who occupied two days in preparing the base of the chimney before "blowing" it with two pounds of gelignite.

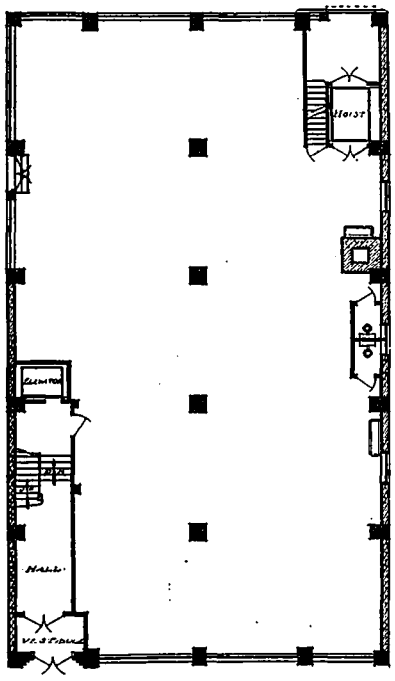


INTERIOR VIEW, CARSWELL BUILDING, TORONTO.

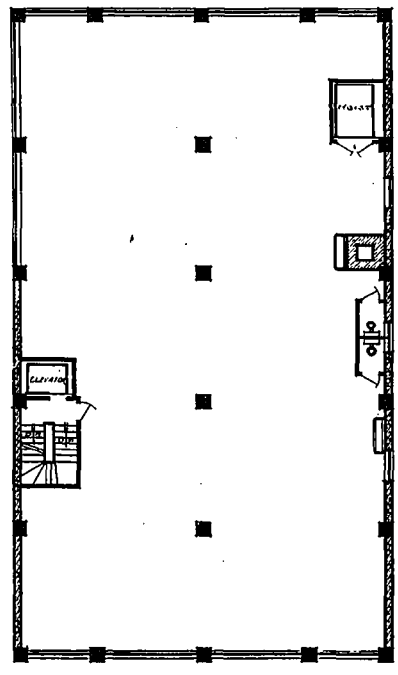
For a moment after the shot was fired nothing happened. Then the chimney swayed slightly and suddenly it fell, not sideways, as had been expected, but straight down as if the earth had opened up to receive it. It simply collapsed on its base, "sat down," as someone said, and all was over. The bricks, which lie in a huge pile, are good, and said to be worth at least £1,000, and there are sufficient to build a large number of cottages.

Antiseptic Damp-proof Ceilings and Walls

The woodwork of stables, abattoirs, laundries, etc., a contemporary states, can be protected against humidity and decay by plates made from paper pulp impregnated with asphalt and provided with sharp dove-tailed grooves to retain mortar. They are attached with 1½ in. long galvanized nails to lathes fixed under the ceiling joists. Four-and-a-half in. wide boards are used where plates join, a strip of asphalted board being placed underneath the joint. A ⅜ in. thick layer of mortar is applied in two coats, care being taken to thoroughly fill the dove-tailed grovoes. Where much vapor is formed, as in laundries and distilleries, the plates should be rendered with cement mortar, but for stables, kitchens, and dwelling houses the first coat may consist of lime mixed with cement, and the second of lime-mortar. Ceilings protected with these dove-tailed plates are fairly fireproof, and transmission of sound is considerably less than with ordinary material.



GROUND FLOOR PLAN.



TYPICAL FLOOR PLAN.

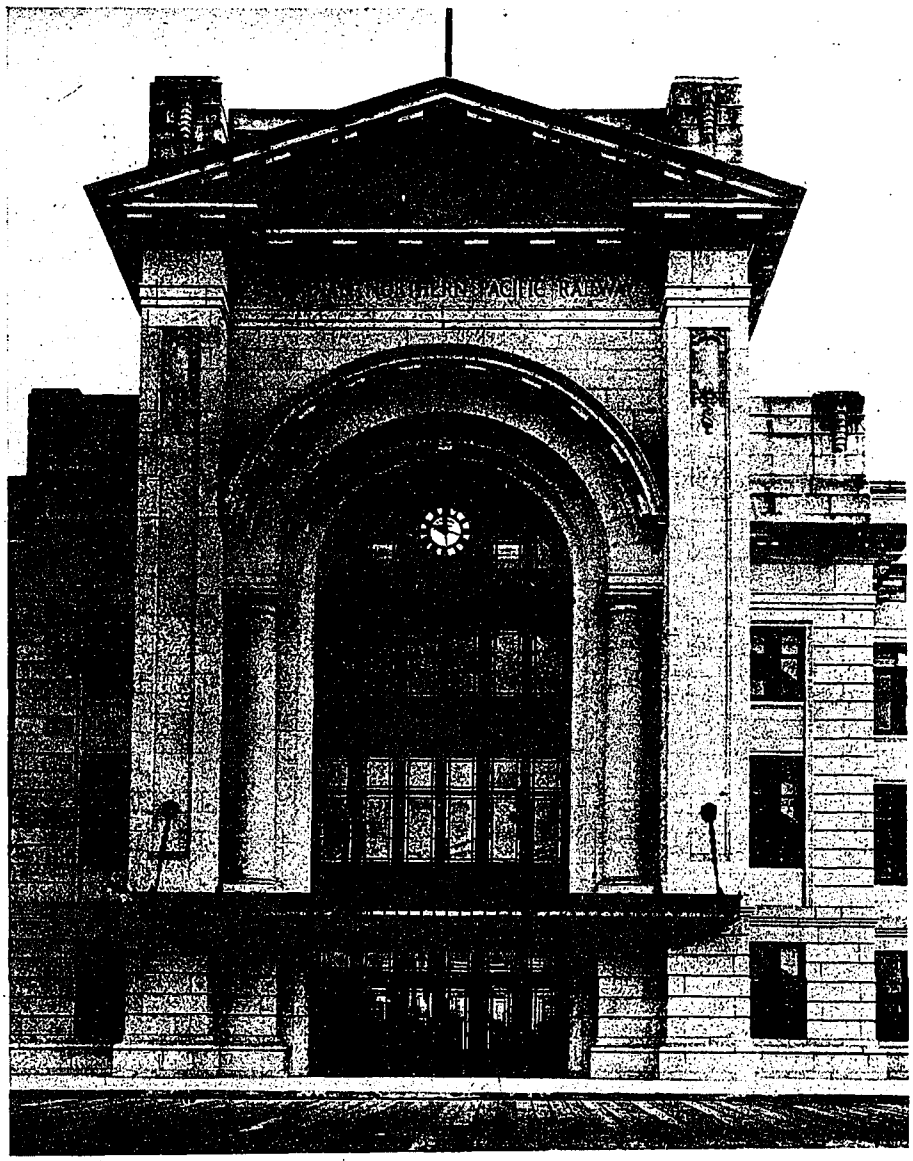
New Canadian National Terminal, Vancouver

THE City of Vancouver was originally laid out on a peninsula, two thousand feet in width at the narrowest part and widening out to an average width of about six thousand feet. On the north, and fronting the city, is the harbor known as Burrard Inlet, very narrow at the entrance and about two miles wide within the harbor. On the south the peninsula is bounded by an estuary known as "False Creek." This ran inland from English Bay, for a distance of over three miles, and had an average width of half a mile. One mile from the eastern or inland end, this estuary narrowed up to about 750 feet and then widened out to a basin of about 3,200 feet in width, which was merely a tidal flat, fed by several creeks at low tide, and entirely submerged at high tide.

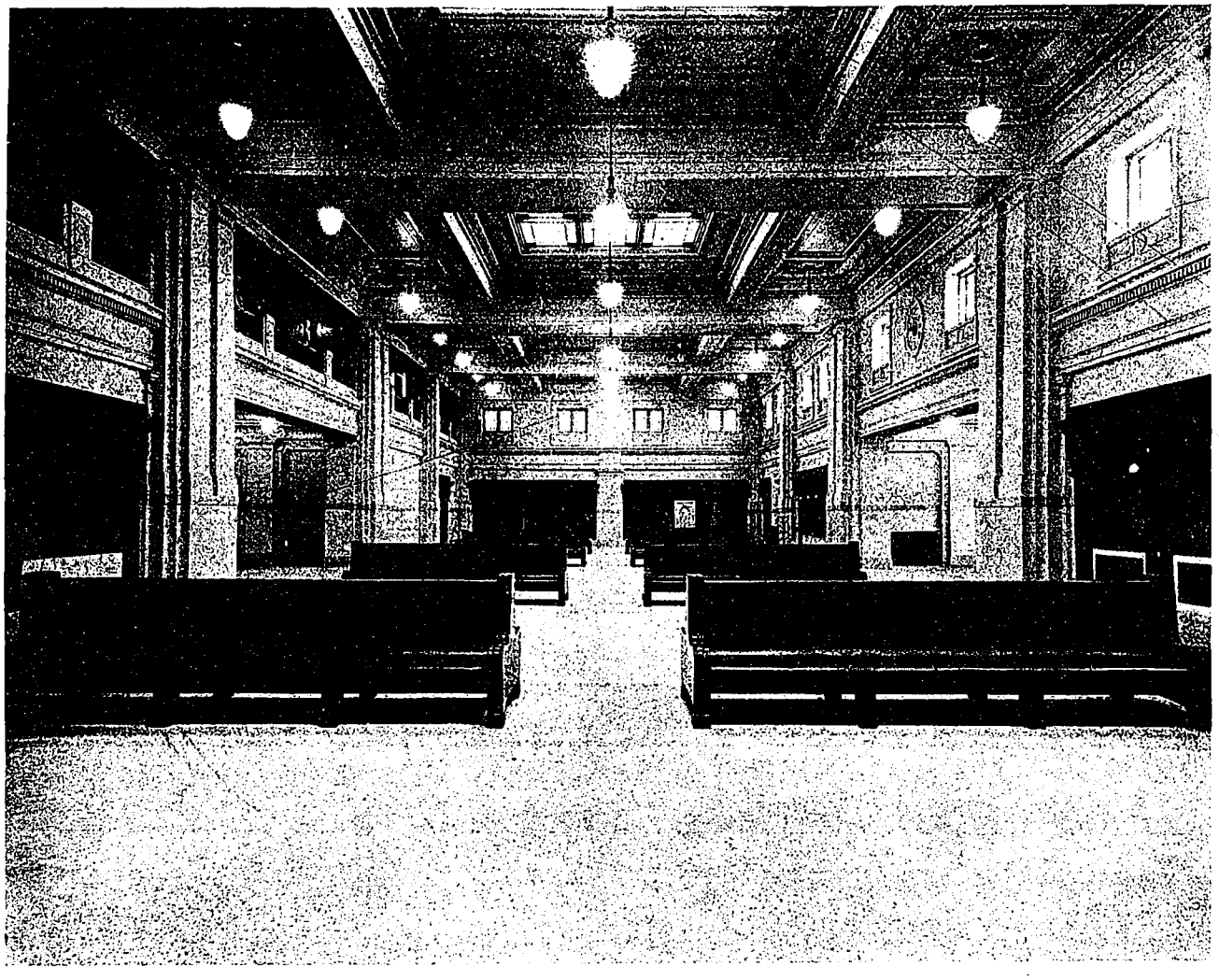
Across this narrows, there was a pile bridge on what is now known as Main street, and over this bridge the stage coach from New Westminster used to roll, after bumping over the twelve miles of "corduroy" road which lay between the two towns. At that stage of Vancouver's development, False Creek was only used as a "booming ground" for the sawmills, and as a swimming hole for schoolboys.

As the city expanded, the peninsula became too small and the growth extended eastwards to the mainland, and southward across False Creek, along the Westminster road to Fairview and to the residential districts of Shaughnessy Heights, Kitsilano, and Point Gray, leaving the old tidal flats of False Creek in approximately the geographical centre of the city.

The Canadian Pacific Railway had entered the city along the harbor front, and naturally controlled all dockage and warehouse sites along the water front, in addition to which they had



DETAIL OF ENTRANCE, NEW CANADIAN NATIONAL RAILWAY STATION, VANCOUVER, B.C.
PRATT AND ROSS, ARCHITECTS.



GENERAL WAITING ROOM, NEW CANADIAN NATIONAL RAILWAY STATION, VANCOUVER, B.C.

constructed a spur line across the narrow part of the peninsula and along the north shore of False Creek. New industries were seeking sites on which to locate, and the Dominion Government undertook the dredging and reclamation of False Creek, from English Bay to the Main street bridge.

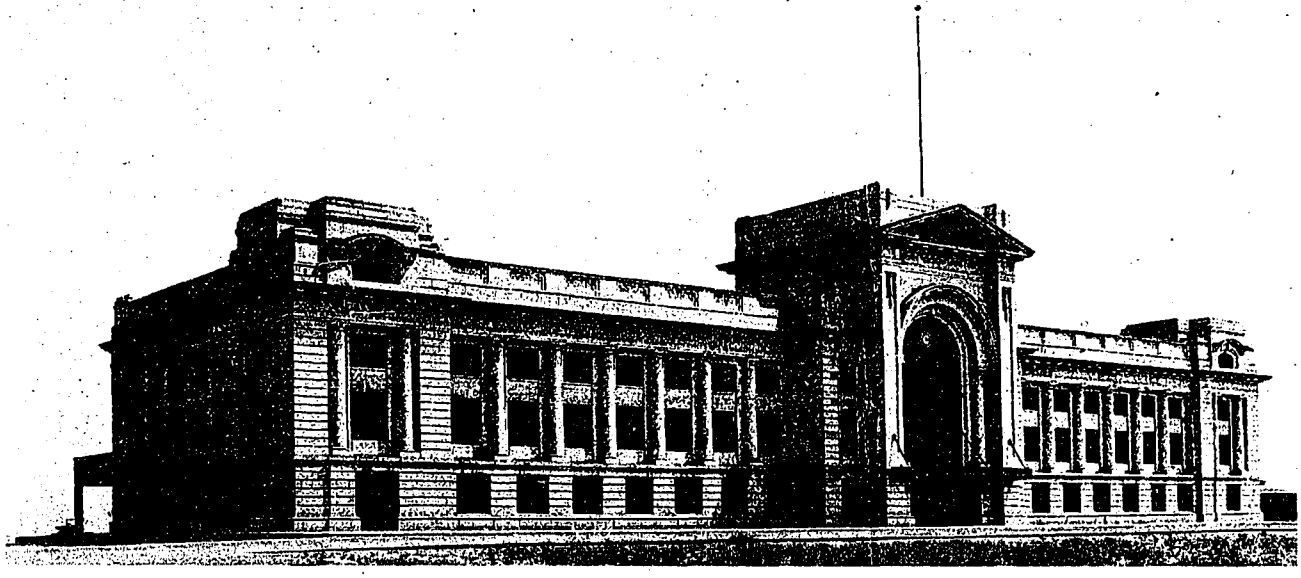
About this time the Canadian Northern Pacific Railway (since incorporated in the Canadian National Railway) was seeking an outlet to tide water, and in 1913 an agreement was entered into whereby they secured a portion of the tidal flats lying east of Main street. The Northern Pacific and Great Northern had previously secured a U-shaped area around the edge of these flats on False Creek, leaving an area 1,600 feet wide and 4,500 feet long comprising 162 acres. The City of Vancouver transferred to the C.N.R. under agreement 127 acres, reserving the balance for streets and park sites.

In addition to filling the area for its own and the city's use, the railroad was required to extend the fill 150 feet west of Main street to a sea wall, which it was also required to construct. This feature of the project entailed an expenditure of $750,000 for the release of riparian rights. The agreement between the city and the Canadian Northern was founded on a plan of the Vancouver Harbor Commission, contemplating the future construction of a public railroad connecting the two railway terminals with a public dock, to be located on the Kitsilano Indian Reservation. The filling of the submerged land involved over 5,000,000 cubic yards of material. A large sewer has also been constructed to drain the terminal property and intercept city sewers which hitherto drained into the basin. The sea wall west of Main street is finished, and the station and outbound freight house, 800 feet long, have been completed.

The material for making the 15-foot fill, was obtained from the dredging operations in False Creek, and was deposited on the site by hydraulic fill, after being pumped through some two miles of steel pipe line.

Plans for the freight shed and freight offices were completed in September, 1916, and contract awarded in October, 1916; and the freight sheds turned over for use in March, 1918. The contract for the station was awarded in July, 1916, and work actually commenced on January 2nd, 1917.

In the meantime the railway company had



NEW CANADIAN NATIONAL RAILWAY STATION, VANCOUVER, B.C. PRATT AND ROSS, ARCHITECTS.

built a temporary loose rock dam, across False Creek under the Main street bridge, having been delayed in the construction of the sea wall, by legal proceedings with reference to riparian rights. They also constructed the big trunk sewer and tide gates, carried up the hydraulic fill, and laid construction tracks to the freight sheds.

Investigations and borings were carried out in connection with the foundations for station, and a suitable hard pan was encountered at a depth of about 40 feet. This was overlaid by boulder clay, gravel, sand, and about 25 feet of black "muck" consisting largely of decayed vegetable matter and light silt. In order to give lateral support to the foundation piles, it was decided to compact the silt by bringing the hydraulic fill at the station, and for an area of 100 feet all around it, up to an elevation well above high tide. The weight of this fill displaced a large portion of the silt, and penetrated the balance in layers at an inclination of about 15 degrees from the horizontal, thoroughly compacting it. As the hydraulic fill was composed of fine gravel, this furnished an excellent support for the piles. The piles were then driven and the fill excavated for the foundation piers and walls, pile "cut off" being below the elevation of mean low tide.

Concrete columns were carried up from the pile capping to basement floor level, and the basement floor designed as a flat slab, reinforced to allow for possible further settlement of the soil underneath, and also reinforced on top of slab, to provide against hydrostatic pressure from water in the soil. A five-ply felt and asphalt waterproofing course was laid on this slab, carried through the exterior walls, and up the outside of the foundation walls to finished grade. Over this waterproofing a 3-inch wearing floor of concrete was laid. This has proved highly satisfactory, and no seepage has developed, although subsequently when the fill was being completed, there was a hydraulic head of 20 feet against the floor of the boiler room.

The freight terminal occupies the centre of

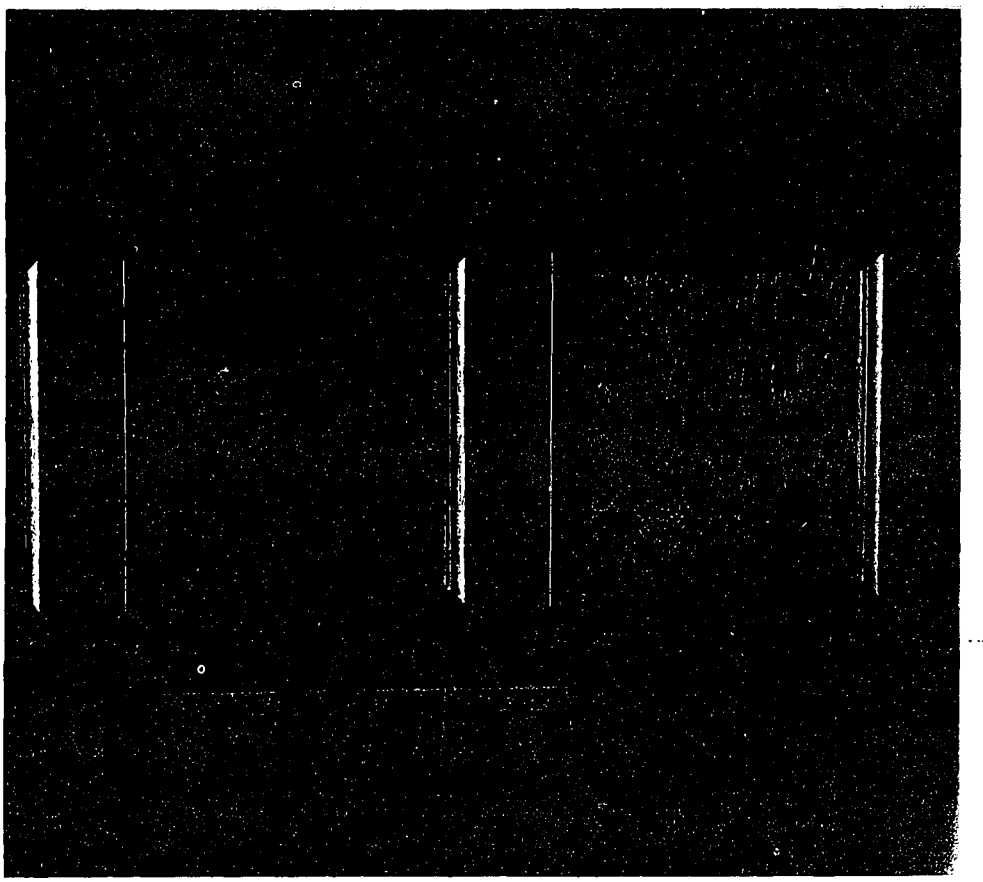
TRAIN SHED, NEW CANADIAN NATIONAL RAILWAY STATION, VANCOUVER, B.C.

the terminal area with a team yard in the southern portion. The freight house layout consists of an office building 100 feet by 50 feet and two freight warehouses—an inbound freight house 50 feet wide and an outbound freight house 40 feet wide—with provision for an ultimate length of 1,600 feet for each house. The freight houses are to be served by six house tracks, arranged in groups of three with a transfer platform in the centre.

A section of the outbound freight house, 40 feet by 800 feet, has been completed. This has a steel frame with steel roof trusses supporting wooden purlins which carry a 2-inch plank roof finished with tar and gravel roofing. The floors are of heavy timber construction. Along the track side of the building, the doors are continuous, but on the team side, they occur only in each alternate 16-feet bay. Along the entire length of the building above the door head, continuous glazed transom lights are provided, while the wall portions consist of ⅞-inch sheathing on both sides of the studding, covered on the outside with corrugated iron. Three 13-inch brick fire walls divide the house into four compartments. A cold storage room is located at the east end of the building, a customs office near the centre, and accommodation for the clerks and truckers at the west-end of the building.

CONCOURSE AND TRAIN SHEDS.

The concourse, at the rear of, and adjoining, the station building, is 337 feet long, and 40 feet 8 inches wide, the floor being of reinforced concrete slab construction, carried on piles. The roof which is about 19 feet 6 inches above the concourse floor, covers an area 307 feet x 40 feet 8 inches, and is supported by the rear wall of the station, and columns at outside edge of concourse, respectively, a slight fall towards the columns having been given, to take care of surface water, which is carried to drains, through the downspouts at columns. These columns are carried on pile foundations, placed at intervals of 46 feet 1¼ inches along the concourse, and



WALL PANELS SHOWING USE OF B.C. FUR IN NEW CANADIAN NATIONAL RAILWAY STATION, VANCOUVER, B.C.

are of reinforced concrete construction, as is also the concourse roof slab. Natural light to the concourse is obtained by a roof light 21 feet by 21 feet, placed in each bay, between the column centre lines. A ventilator is placed in each of these roof lights.

The two wooden platforms of train shed included in the initial installation are 16 feet wide and 900 feet long. They are carried on piles, and are placed at 45 feet centres, with two sets of rails between them. Between these two sets of rails are placed the columns supporting the beams carrying the roof slab over the train platforms.

At a height of 19 feet and directly over the

train platforms is a slab 20 feet wide and 900 long, forming the roof covering for the platforms, the remainder, viz., above the rails, being left entirely open, with the exception of the cross beams, which, supported by the columns, are 30 feet apart. This construction permits the escape of steam and smoke from the locomotives.

A complete system of electric lighting has been installed on both concourse and platforms, controlled from the concourse, with separate switches to the different portions of the concourse and platforms, allowing of the illumination of portions as may be required. A telephone system has also been installed, with outlets at various points along the platform, for the convenience of railway officials. Steam, water and air feeders have been carried the full length of the platforms, for the replenishment of cars, while standing on the platform tracks.

STATION.

The station has a frontage of 321 feet by 105 feet in depth to the concourse, and is three storeys high above grade. Reinforced concrete and tile construction was used throughout, and as far as possible, construction material of local origin was used.

The design is an example of modern classical architecture, embodying a free use of the Doric order. The central feature is a large arched doorway, adequately expressing the spirit of the building as a "gateway" to the city.

In developing the design, the need for ample light in the offices had to be kept in view, and the results are such that all office spaces and corridors are well lighted. The main waiting room, in addition to clerestory windows on three sides, is lighted by three large ceiling lights with lanterns above.

The main archway is 21 feet in width and 52 feet in height to the centre of the arch. It contains the entrance doors, above which is an ornamental iron window three storeys in height. The arch is surmounted by a pediment having a projection of five feet. The massiveness of this pediment may be appreciated when it is stated that the keystone of this arch weighs 30 tons.

On each side of this main feature the facade consists of seven bays divided by six Doric columns 3 feet 1½ inches in diameter by 40 feet 8 inches high; while at each front corner there is a secondary feature, having two columns of the same order introduced. The treatment is repeated at the ends of the building. A marquise of ornamental iron with wire glass panels, overhangs the front entrance, as well as one at the baggage and express doors at either end.

Six entrance doors give access to the vestibule which is separated by a second set of doors from a lobby 28 feet by 40 feet. This lobby opens into the general waiting room, and on the right hand side of the lobby are located the elevator, hall and stairway to the upper floors.

The general waiting room is 48 feet by 150 feet and 28 feet in height. At the right hand corner of the lobby, as you enter, is the information bureau, and beyond that, in order, are the Y.W.C.A., barber shop, men's waiting room and toilets. To the left of the lobby are the women's waiting room, 30 feet by 54 feet, with retiring room and toilet room, and beyond that in the north-west corner of the building the dining room and lunch counter.

The north end is occupied by the baggage room, and along the east, or track side of the waiting room, are arranged the ticket offices, the lobby leading to the concourse through ten doors, the first aid room, news and drugs stand, and parcel checking room. The ticket offices have five booths with ornamental iron grilles.

The baggage room is 44 feet by 82 feet, and has a mastic floor. The baggage checking counter, baggage transfer office and the customs office, are available for the public off the waiting room, and provision is also made for hand baggage room and bonded warehouse.

The south end of the station is occupied by the Express Company, their office being entered from the south-west corner of the building, while the Government mail room is located in the south-east corner, adjoining the concourse.

In the basement are the boiler room, locker rooms, toilets and baths for the help; kitchen and store rooms for the dining room; machinery room, dining and sleeping car supply rooms, record vaults, and general storage.

The upper floors are used for executive and general offices in connection with the railway service, and janitor's quarters are located in the tower over the main entrance archway.

All floors in public spaces, toilets, and corridors, are of terrazzo; the toilet walls have a tile dado seven feet high.

In the lobbies and general waiting room, Missisquoi marble base is carried to a height of six feet, with Caen stone cement finish above. Ornamental pilasters, beams, and cornice of a simple classical design are used. The stairs to first floor have marble treads and risers, with oak handrail on ornamental iron balustrades. Above the first floor, stair treads and risers are of terazzo. All stairways are formed of reinforced concrete.

The elevator enclosures are fireproof, and have ornamental iron grilles with polished plate wired glass. The doors and trim, other than marble, on the ground floor, are of quarter-cut oak, while in the upper floors B.C. fir is used entirely. The floors of all offices are of concrete, with battleship linoleum cemented to the

(*Concluded on page* 66.)

What Is Regional Planning?

By Thomas Adams.

A resolution passed at the last American City Planning Conference drew attention to the importance of regional planning, and to the fact that data had been collected by numerous government departments which could be used in connection with the study of regional planning, and appointed three members to study and report "upon practicable means and methods of instituting regional planning activity either through existing or new agencies."

What is meant by "regional planning" as distinguished from "city planning"? Sociologists use the term for large geographical areas which correspond to states or counties. It is obvious that such a term as "region" may be made applicable to widely varied kinds of area. In determining what a region should be for purposes of planning, we should have in mind the limited area which it is practical for any man or group of men to properly plan in one operation. Moreover, we should have in view what is the dominating feature which makes the said area appropriate as a unit for planning. It is the industries of a district which should influence the determination of regions for purposes of planning. An arbitrary city boundary is not a satisfactory planning unit unless it be in the case of a city that is practically stationary in development.

A French writer says that in general acceptance what we mean by "regionalism" is the development of industries and commerce of a region. When we add the word "planning" to "regional" we imply that the industrial region is not too large to at least plan a skeleton of the main lines of development, such as arterial highways, main transportation systems, etc. I think the groups of regions to have in mind are:

(1) An industrial area having problems and conditions in common and comprising incorporated areas, or parts of incorporated areas, adjacent to one another;

(2) An agricultural region round a market town or village, where the problems of town and country are so intermingled as to require treatment in one comprehensive scheme;

(3) A mining region, consisting of a series of villages in a large coal bearing or other area where the industry dominates the whole development;

(4) A metropolitan region where a large city has thrown out a number of satellite towns or suburban districts or has overgrown its boundaries.

These are some instances of the kind of region which should be studied and planned in skeleton before we prepare city planning schemes for the administrative areas within the region.

The order in which planning should be done would be:

(a) Regional survey of social, industrial, and other conditions;

(b) A regional plan, showing tentative proposals for main highways, extensions of highways, general position of districts for industry and residence giving some indication of height and use of buildings, etc.;

(c) A definite city or town plan, going into detailed development subject to general conformity with the regional plan.

Where necessary, the city plan might be preceded by a further survey to be called the "civic survey" as supplementary to the regional survey, but dealing only with the incorporated area.

The objective should be to adapt the area to the planning rather than to attempt to adapt a plan to an unintelligible boundary of an incorporated area. By these means we shall simply be adopting the British and German idea that we should plan the environments of a city at the same time that we attempt to deal with the improvement of the existing city. The German plans deal with town extension rather than with town reconstruction. The British plans deal primarily with areas unbuilt upon. American city planning and zoning schemes have been too much confined to areas already developed and should broaden out to deal both with developed areas and with undeveloped areas including those that grow out from one common centre and are likely to undergo development in the future. Modern transportation and methods of power distribution are forcing us to adopt new geographical areas for planning. The industrial region, whether it be the metropolitan area or manufacturing district, or mining district, or an agricultural area with a central focal point, afford the best scope for preparing a regional scheme.

The suggestion is that this regional scheme should merely be a tentative one as the basis for the civic plans to be prepared for each administrative unit within the region. It is also the proper area for carrying on research and surveys of conditions. Joint action by the councils of incorporated areas within an industrial region, in preparing the regional survey and tentative plan should be taken as a preliminary step in city planning.

The Building Industries Conference

THE conference of the Association of Canadian Building and Construction Industries at Ottawa, February 2, 3 and 4, was altogether a representative meeting having an important bearing on the interests of the industry. It succeeded in bringing representative contractors, builders and supply men together from various parts of Canada for a frank discussion of the objects of the association and the consideration of certain changes to the constitution and by-laws leading to the establishing of the association on a permanent organized and workable basis.

The meeting dealt with various questions affecting the industry—business relations, labor, standardization, unit prices, and straight contract and cost plus work, and as to how certain conditions which arise could best be met.

During the conference those in attendance had the opportunity of listening to a very ably presented address by the Hon. Mr. Rowell, President of the Privy Council, on the recent Washington Conference in reference to the eight-hour day.

Another speaker was Senator Robertson, Minister of Labor, who referred to what the Government has done in co-operation with the provinces, in establishing employment offices throughout the country which had provided positions for 226,000 men and women, including a very large number of returned soldiers. He felt that an association such as the Canadian Building and Construction Industries, if permanently organized, could be made a beneficial factor in establishing relations between employers and labor.

President's Address

In his address President Anglin reviewed the accomplishments of the association since its formation at the first conference which was held in Ottawa about fifteen months back. In the meantime a general secretary had been appointed, and a meeting of the National Council held at Toronto with good results. Considerable had also been accomplished in the organizing of contractors' bodies throughout the country. The association had been recognized as the representative body in the industry by the Federal Government. Six of its members sat at the National Industrial Conference at Ottawa last fall and worthily upheld the interests of the industry the association represented. Besides this other activities have been carried on both in committee and through personal efforts.

Proceeding Mr. Anglin stated that the conference should represent the spontaneous expression of the opinions and experience of those who had gathered together, and not be conducted along the set lines of the first conference. The chief objects, as he conceived them, for having any Canadian association whatsoever were (1) to reduce the difficulties that surround those engaged in the industry—contractors, supply men, and all; (2) to improve the practices current among them; (3) to fix standards which could be fairly and uniformly applied throughout the country; (4) to facilitate the movement and employment of labor, and, finally, (5) if possible, to work out some sort of a plan which would help in the production of building materials, and bring it up to the great need which exists at the present time.

Business, Mr. Anglin said, outside of the industry, has in the past treated contractors more or less as a joke, and finance, as represented by the banks, has put us almost at the bottom of the ladder. The successful contractors ultimately failed unless they retired at an opportune time, and it was up to the contractors themselves to so improve conditions that this sort of thing would not continue.

"In the first place it should be the duty of all engaged in the industry to help the honest, straightforward and legitimate contractor and material man, and to make it difficult for the unsound firm lacking either in experience or strong financial conditions to engage in the business. Make the industry, if possible, one that will be entered into by worthy men and worthy men alone. Certainly we cannot accomplish this end by the usual underhand and so-called cut-throat practices in the past; certainly not by the free-for-all, or every-man-for-himself, disorganized industry, which has prevailed hitherto.

"To attain the end desired it is necessary to increase efficiency, to lower costs and, if possible, to establish for our industry regular and steady earnings. After all, we must always look to that end if we are to be successful. We can no longer localize our organizations. The operations of all the larger general contractors, trade contractors, supply houses and building material manufacturing concerns cover many cities and towns, several provinces and, in some instances, the whole Dominion. Provincialism, therefore, is not the basis for our organization, as I see it. . . . . If organization has any value to the broadminded business man, it must be Dominion-wide, it must be centralized and efficient, and it must be properly founded and sufficiently financed.

Asking if it was worth while to endeavor to accomplish this, and as to what would be the real benefits and unseen advantages of such an organization, Mr. Anglin maintained that in the first place "the fraternity that one has with his

competitor is worth the price in itself; in fact, nothing has given me more satisfaction or pleasure than the acquaintanceship of men who are engaged in the same line of business or the opportunity to discuss the problems, difficulties and troubles and to compare results with those whose calling is the same as my own.

"This fraternity leads to a second advantage, and that is co-operation of effort. There must be co-operation where there is the proper kind of fraternity. Co-operation in itself will lead by the comparison of experience and notes, to increased efficiency in methods of doing business, and increased efficiency in methods will certainly lead in the direction of stabilizing our industry—stabilizing our own particular business and stabilizing the business of those we come in contact with. As a result of that we will be in a position to render the service which the country really demands that we should render. . . . .

"Are we prepared and are our confreres at home prepared and willing to back us if we organize this association on a sound basis? We should bear in mind that this construction industry, no matter what part of it we are engaged in, is, after all, our chosen life-work, and demands the very best we can put into it. If we do that Canada may ultimately receive our help and support.

"Now, with respect to action. It is all very well to think high ideals and all the rest of it, but they are not worth as much as they should be unless we get down to definite action. We have obtained our charter, but we need to put the finishing touches on the constitution. We must determine the classification and kinds of membership, and we must also determine the relations between the various existing national bodies and between the local bodies in the various parts of Canada and our federal body. There are quite a number of national bodies already in existence, such as the heating and the domestic sanitary engineers, the National Clay Products Association, and others. Shall we organize, and if we decide to organize, shall we organize as a number of associations leading up into one large federation."

Mr. Anglin then went more fully into the question of organization, the best method of financing the association, and as whether the association should maintain a permanent office and secretary, dealing incidentally with the subject of standard wages and as to how long trade agreements with labor should run. Reference was also made to the possibility of establishing a central bureau in Ottawa, or elsewhere, with a view to facilitating the movement of labor in co-operation with the machinery already set up by the Department of Labor, and whether in view of the present shortage of labor it would be possible to obtain co-operation through the Immigration and Labor Departments in supplying the needs of various districts. He further asked as to what extent the association was prepared to devise or work out a sound and attractive apprenticeship or scheme for technical training, and the attitude of the conference towards international unions and other labor organizations, as to whether it considered the industrial council the best method of determining agreements, and if the principle should be extended.

Regarding the discussion going on throughout the country about low production, Mr. Anglin felt that if something was started the other way which would have less of the element of criticism to it, it would have a beneficial effect.

There was also a need in all localities for some counter demand on labor. Labor always had their demands well formulated, and it was necessary for employers to work out some standard of service, setting forth what is expected of labor in return.

As regards materials, the greatest need was for better arrangements for the supply of materials. This did not refer, Mr. Anglin said, so much to raw material, as to manufactured products. The association should have a wholesome regard for its membership, and for those who stand high in the industry and are ready to support one another internally. Special trade discounts within the organization were the association's rights, and in return the suppliers of materials who support the association should be given better consideration.

There was also the question of the relation between the trade contractor, the architect and the engineer. The trade contractor who quoted the same price to the architect and the engineer as he did to the general contractor, was hastening his own doom. There should be some fair and equitable standard of procedure which would give the trade and sub-contractor a square deal.

Mr. Anglin concluded his address by advocating a more constructive policy of propaganda in order to better conditions and to remove the difficulties ahead. Canada, he said, as far as the building industry was concerned was fully a decade behind in organization, and that there was urgent need for a Dominion-wide association such as the attempt was being made to bring into existence.

Labor and the Industries

Following Mr. Anglin's remarks the vice-president, Mr. Fred Armstrong of Toronto, addressed the meeting, stating that with Mr. Anglin, he had the honor of attending the Industrial Conference at Ottawa, and was struck with the fact that the construction industries were far behind in formulating plans to counteract

the fact of labor propaganda and organization. "Labor," he said, "had spread its operations to every part of Canada and had divided the country into zones with regulations which apply to every section, from the Atlantic to the Pacific." He felt that if the conference were to do anything effective, that might help the building industry, it was necessary to include in its program something which would protect the interests of those the association represents.

Progress of the Construction Industries in the United States

A prominent visitor at the conference was Mr. J. C. Frazee, secretary of the National Federation of Building Industries of the United States, who gave a most interesting and illuminating address, based on the experiences and accomplishments of the organization which he represented.

Mr. Frazee explained that in Canada, the United States, France and Great Britain and Germany, there had been a spontaneous movement towards organization of the construction industries as a whole about the same time. Consequently no one country could take credit for having conceived the idea of amalgamating all these industries. The greatest promise of the success of the venture lie in the fact that in at least five countries the conception appealed to the hard-headed business men of these countries simultaneously.

After defining the word "construction," which he said took in architectural and engineering projects and everything relating to them, including every type of building erected, railroads, bridges, viaducts, dams, irrigation systems, etc., the speaker declared that it was significant that the construction industry produces capital wealth as distinguishable from consumable wealth. The construction industry in the United States produced normally $3,000,000,000 annually in permanent, taxable wealth that is not consumed as is coal, food, clothing and innumerable other products classified under consumable wealth. In any country it was the largest industry, producing more wealth and having more widely disseminated activities, than any other industry with the exception of agriculture. Connected with it were the producers and refiners of raw materials, the mines and quarries, the manufacturers who converted the raw materials into the finished products, the wholesale and retail distributors, the general and sub-contractors, the architect, the engineer, and last but not least, the financier. Besides this, its ramifications extended to the wages paid to its vast armies of employees, and which had an economic bearing which is felt and reflected in all other lines of business.

CO-OPERATION VS. COMPETITION.

Referring to the change which is taking place, Mr. Frazee went on to say that "there was a time some years ago when the individual business man believed in standing absolutely alone. He was in competition with other men in his line of activity and was somewhat opposed to the thought of forming business associations where he would deal with his competitors in a co-operative rather than a competitive way. Then some one coined the happy phrase, 'Competition is war—and war is Hell,' and I think that had a good deal to do with the establishment of organizations in the United States. Such organizations are not for price fixing purposes, in opposition to Federal laws, but for the furtherance of the interests of the industry along perfectly legitimate lines. At any rate in the past ten or fifteen years there has been a marked change in the sentiment of the individual business man, and he has become persuaded in the main that it is a better policy to co-operate through business organizations than that he and his competitor should try to cut each other's throats. In that way there has grown up in the United States a very large business organization in the construction industry—some hundreds of associations having to do with special construction activities. . . . The result is that there are national associations, regional and state associations and local associations, to the number of some hundreds, all of which are dealing with one or another phase of the construction industry.

"There has been up to the present time, and there still remains to some extent, the same type of competition between associations that there was between individuals. Specifically, the cement interests and the brick interests feel they are most serious competitors, and the triangle is completed by the lumber interests. Thus there is a condition at the present time where the feeling which formerly existed between individuals now exists between the associations, and the next logical step is to obtain a co-operation between all of these through a central organization."

This idea of central organization, Mr. Frazee continued, appealed with tremendous force at the end of the war to the thinking element in the five countries mentioned. He then went on to outline the attempt made by the United States Government through the War Industries Board to deal with all construction industries, of the subsequent request which it was necessary to make to the Chamber of Commerce, due to the complexity of the situation to organize the entire industry into one body, how this brought the National Federation of Construction Industries into existence, and of the decision which was made following the armistice to re-organize along permanent lines.

The objects of the U.S. Federation, which is

to co-ordinate the various divisions of the industry, were set forth by Mr. Frazee as follows:

To promote closer co-operative relations between producers, manufacturers, distributors, contractors, architects, engineers, realtors, financiers and other construction interests; to develop and preserve satisfactory conditions in the relationship of the combined industry to the general public, including the Government, labor and consumers; to serve as an exchange between and common meeting-place for associations representing special construction interests. In cases where a special construction interest is primarily concerned, to support the initiative of the representative association in all matters considered by the Federation to be within the proper scope of its activities; in cases of common interest to the construction industry in general, to take the initiative in investigation, policy, propaganda, legislation, and in such other ways as will benefit the industry; also to provide a united organization which will mobilize the entire strength and experience of the industry.

In the United States the country is being divided into twelve Federation districts, each of which will elect one member to the Board of Directors which will, in addition, comprise thirteen members elected at large. There is also an Advisory Board at present comprising 147 members, to which any national association belonging to the Federation is entitled to appoint two members. Representation is also granted on the Board to a member of each Federation district and to regional association members, each of which can appoint one member at large and as many district members as the activities of an association extends into, and to local associations confining their activities to one city, who may elect one district member to the Board. This Advisory Board has the power to elect such other members as may be deemed advisable, not necessarily confining themselves to the construction industry. Its function is to take into consideration and to analyze any matter on which the Board of Directors wishes to take action, giving it the attention of its full membership, and subsequently its findings are laid before the entire membership of the association through the mail.

Mr. Frazee advised the construction industry of Canada to get the assistance of the big men of the country, whether they were connected wtih it or not. The effect of the industry was so great upon industry in general that any good business man was glad to help. He also referred to the intention of the U.S. Federation to organize a staff council of paid men of the various associations connected with it, with the object of avoiding conflict in seeking legislation, such as occurs when one industry petitioned Congress for one thing, while another industry sought something totally different.

BENEFITS OF ORGANIZATION.

As regards the advantages of organizing the industry as a whole, this was evident in the benefits brought about in the United States in a comparatively short time, largely, if not entirely, through the efforts or representations of the Federation in that country in the way of large road building programmes, involving on the part of the Federal Government alone an expenditure of $500,000,000, the "Own your own home" campaign, the "Build now" campaign which has given a big stimulus to the industry. The Federation had also rendered important assistance to the financial situation when loans were difficult to obtain prior to floating of the Liberty Loan, through representations to the Secretary of the Treasury, who issued instructions to bankers to accommodate legitimate construction undertakings. Besides this, it has conducted an educational campaign regarding permanency in price level and the improbability of building costs declining, brought about a reversal of decision in the railroad administration, effected the settlement of wage and labor disputes, and has been instrumental in having a bill introduced for the relief of contractors whose contracts were cancelled by the Government at the end of the war.

While little had been accomplished up to the present in the way of standardization, Mr. Frazee said that the Federation had a comprehensive progamme going into the standardization of the industry in its engineering, commercial, legislative and business aspects. From the standpoint of materials this standardization would seek to have more work done in the shop and less at the site, and thereby increase output and reduce costs. The speaker summarized his address by stating that the organization of business along proper lines was not a menace to Government, nor to labor or anybody. There were always some short-sighted individuals who would do the wrong thing with respect to labor or prices, but if there was a strong organization with the best brains behind it—and remembering that only a small percentage of business men were rascals—conditions were going to be better than worse, because the tendency of the few would be curbed by the organization. To effect such organization representing the construction industries as a whole, it was necessary to realize that two things were essential—money and service. First it was necessary to have money in order to have an organization, and secondly it was necessary for members willing to serve on committees, and it was also necessary to see that the committees were run so that they did not go to seed.

Committee Reports

REPORT ON CONSTITUTION AND BY-LAWS.

A report was submitted by the Committee on Constitution and By-laws recommending that the membership be divided into two classes, "Individual" and "Collective," and that fees for each class be fixed at $25.00 per annum. The term "Individual" was defined as any individual firm or corporation engaged in any branch of the construction industry, and the term "Collective" as any group of individuals firms or corporations engaged in any of the building industries, either local, provincial or national, such as builders exchanges, trade associations, etc. A "Plural" membership is also provided giving any individual or collective member the privilege of obtaining multiple memberships. It was recommended that existing organizations, and all new organizations formed, resolve themselves into branches of the association under the regulations laid down for collective members, so that the country may ultimately become organized into local groups which would in turn form provincial groups and these in turn elect an equal number of official representatives, who, combined, one province with the other, would form the national council consisting of the executive of the association and three councillors from each province.

REPORT ON BUSINESS RELATIONS.

A report on business relations was also submitted and adopted, making the following recommendations:

"That a standing committee be formed to take up the whole subject of Business Relations:—(1) between the general contractor, architects and owners; (2) between the general contractor, sub-trades and supply houses; (3) between the sub-trades, supply houses, architects and owners."

It is also recommended that the committee get in touch with all branches and exchanges throughout Canada with a view to obtaining an expression of opinion, and that a subsequent report be prepared and submitted to the National Council of the Association for whatever action may be deemed necessary for improving business relations.

The report further suggests as a matter of guidance to the committee that the following be considered:

"(1) That all members of this association, whether through branches or directly, shall bind themselves to deal as far as possible only with the association.

"(2) That some system be worked out whereby the general contractor shall be protected in return for his undertaking to deal only with the association.

"(3) That the uniform contracts, which it is hoped, will become universal when they are drawn up, shall include a contract form between the sub-contractor, the supply house and the general contractor now in use in Winnipeg, to specially protect the sub-contractor and supply houses as to their payments being made promptly."

REPORT ON STANDARD PRACTICE.

Forms of tenders and bids, unit prices, standard forms of contract, penalties and bonuses, and straight contract and cost-plus work were dealt with in a report presented by the Committee on Standard Practice, setting forth the following recommendations:

"(a) That no sub-division of tenders or unit prices be given to architects or engineers before the contract is closed, or before written assurance has been received that a contract will be entered into.

"(b) That architects and engineers be notified that general contractors will not submit bulk competitive tenders where the said architect or engineer is at the same time taking bids on his work by trades.

"(c) That the practice of giving certified cheques with bids, both on private and public work, be strongly discouraged, and it is suggested that in view of the large deposits which have to be made by bonding companies with the Provincial and Dominion Government, that bid bonds be substituted.

"It is recommended that a committee be immediately formed consisting of three responsible archiects appointed by the Royal Architectural Institute of Canada, and three members of this Association, and that legal advice be obtained by the architects on the one hand, and this Association on the other, to co-operate in drawing up a standard form of contract and general conditions which can be used throughout the Dominion.

"Further, that a standard form of sub-contract be prepared, which form should bind the sub-contractor to the same conditions of contract as the general contractor, and assure the sub-contractor of the same privileges and conditions as accrue to the general contractor.

"Inasmuch as architects and engineers invariably reserve the right to dismiss any contractor for incompetency, it is recommended that penalty and bonus clauses should be eliminated entirely from construction contracts.

"It is recommended that lump sum contracts be strongly discouraged until existing conditions become more normal, and that the 'cost plus a percentage' or 'cost plus a fixed or sliding fee' form of contract be advocated as the only fair and reasonable basis, from the viewpoint both of contractor and owner, and that a resolution to this effect be immediately forwarded to the Dominion and Provincial Governments, and municipal bodies, and to all architectural and engineering bodies interested."

This report was finally adopted with an amendment to enlarge the representation on the Committee of Standard Forms of Contract to include two members of the Engineering Institute of Canada, the committee to consist of two engineers, two architects and four contractors, instead of three architects and three contractors as originally proposed.

The conference also approved of the resolution adopted by the Ottawa branch requesting the prompt opening of all public tenders and the awarding of the contract thereafter as soon as possible, and that the cheques of unsuccessful tenders should be returned within a week's time or otherwise bear 6 per cent. interest.

REPORT OF LABOR COMMITTEE.

The report of the Labor Committee was pre-

faced by an explanation to the effect that the problems arising out of the consideration of the relations between the employers and the employees were too numerous and comprehensive to be covered even superficially in the limited time at the committee's disposal, and resulted in the adoption of the following recommendations:

"(1) Admitting as we do the right of labor to organize, we submit that this Association should urge that all labor organizations become incorporated in Canada, or otherwise be made responsible so that all contracts entered into between organized labor on the one hand, and individual or corporate employes or incorporated associations of employers on the other hand, shall be made binding upon each of the contracting parties.

"(2) That legislation be sought making compulsory the reference to a Board of Conciliation of all disputes which cannot be settled by the parties directly interested therein, before the employer be permitted to close down his business or the employees be permitted to call a strike.

"(3) That this Association adopt a policy of having such agreements as are entered into with the labor organizations expire on the 31st day of March, and that a clause be inserted in all such agreements requiring that any new agreements or modifications of existing agreements be executed at least three months prior to the date on which they become effective. Further, that the period covered by such agreements should be determined by the local bodies until the present abnormal conditions be over.

"(4) That this Association take up with the Dominion and Provincial Governments and the reputable labor organizations of Canada the matter of apprenticeship and trade tests along the following lines: (a) The institution of an apprenticeship system in the various trades whereby the apprentice would obtain a practical training under the supervision of practical employers, and at the same time a technical training of an examining board consisting of an employer, a labor representative and a Government representative, to examine the apprentice as to his mastery of his trade before giving him th rank of journeyman. (c) The conclusion of an arrangement whereby the Union would not admit new members to their organization until the qualifications of such new members had been passed on by the examining board mentioned above.

"(5) That when recommendation No. 4, as above, shall have been carried out successfully, this Association will make every effort to have the unions grade and classify their men using the machinery there set up to determine such grading or classification to the end that the incentive of its logical reward should be placed before the mechanics to encourage their increased efficiency.

"(6) That a standing committee or a paid official be designated by this Association to get action on these items as rapidly as possible, to the end that some of the objects here laid down may be reported to our next meeting as having been attained.

"That the matter of immigration of desirable mechanics be left with the incoming executive, to whom this committee is prepared to present a confidential report."

A motion was also carried by the conference supporting the principle that the Government should grant some measure of redress to contractors who sustained losses on federal work, owing to war conditions.

During the conference the general contractors held a meeting and decided to form the Canadian General Contractors Association, J. B. Carswell, Toronto, being elected president. The association was limited to firms who are organized and equipped and in a position to assume full responsibility for the erection of an entire building.

Mr. J. P. Anglin, Montreal, was again the choice of the conference for the presidency of the association. Others elected to the executive were: 1st vice-president, J. B. Carswell, Toronto; 2nd vice-president, James Mackie, Winnipeg; Secretary, James Phinnemore, Toronto; treasurer, G. A. Crain, Ottawa.

New Canadian National Terminal, Vancouver

(*Continued from page* 59.)

concrete. The corridors have terazzo floors with coved terazzo base and base blocks. The office partitions are of two types; the corridor partitions and partitions dividing one department from another, are of standard tile and plaster construction. The partitions dividing offices within a department area are designed of B.C. fir and Morocco glass, built in units, so that they may be removed and re-erected without damage to floors or ceilings. This permits of alterations being carried out with a minimum of cost, time and annoyance.

An electric clock system throughout the building is controlled by a master clock in the janitor's apartments. There are two clocks with five-foot dial, one in arch over front entrance, and another in the general waiting room; and ten secondary clocks located in positions convenient for the public and the operating staff.

KITCHEN EQUIPMENT.

The lunch room is 30 feet by 67 feet with dining tables and lunch counter. The lunch counter is equipped with tea and coffee urns, milk refrigerator, display cases, etc. Behind the lunch room is the servery, with refrigerators, steam table, gas stove, roll warmer, plate warmer, and china cabinets.

The kitchen in the basement is connected with the servery by means of a stairway and two motor-driven dumb waiters. The refrigerator room has separate compartments for fish, meat, fruit and vegetables. The bakeshop is complete with oven, and is partitioned off from the kitchen. Kitchen equipment includes vegetable peeler and sink, pot sink, steam stock kettles and vegetable cookers, range, broilers, "Niagara" dishwashing machine, work tables, etc.

The total cost of the station building, with equipment, concourse and train shed, will exceed $1,000,000. The cost of the freight shed was $137,000.

Architects Molesworth, West & Secord, Toronto, have moved their offices from the Kent Building to 43 Victoria Street.

CONSTRUCTION

A · JOURNAL · FOR · THE · ARCHITECTURAL ENGINEERING · AND · CONTRACTING INTERESTS · OF · CANADA

H. GAGNIER, LIMITED, PUBLISHERS

Corner Richmond and Sheppard Streets.

TORONTO - - - - CANADA

M. B. TOUTLOFF, Editor

BRANCH OFFICES:

MONTREAL—171 St. James Street,
E. R. Milling, Representative.

WINNIPEG—336 Qu'Appelle Street,
F. C. Pickwell, Representative.

NEW YORK—505 Fifth Avenue.
H. M. Bradley, Representative.

CORRESPONDENCE.—All correspondence should be addressed to "CONSTRUCTION." Corner Richmond and Sheppard Streets, Toronto, Canada.

SUBSCRIPTIONS.—Canada and Great Britain, $3.00 per annum. United States, the Continent and all Postal Union countries, $4.00 per annum, in advance. Single copies, 50c.

ADVERTISEMENTS.—Changes of, or new advertisements must reach the Head Office not later than the twentieth of the month preceding publication to ensure insertion. Mailing date is on the tenth of each month. Advertising rates on application.

CONTRIBUTIONS.—The Editor will be glad to consider contributions dealing with matters of general interest to the readers of this Journal. When payment is desired, this fact should be stated. We are always glad to receive the loan of photographs and plans of interesting Canadian work. The originals will be carefully preserved and returned.

Entered as Second Class Matter in the Post Office at Toronto, Canada.

WESTON WRIGLEY, Business Manager
FRED. T. HOLLIDAY, Advertising Representative

Vol. XIII Toronto, Feb., 1920 No. 2

Ontario Architect's Association Pursuing Active Policy

It must be said that since the convention last fall, the Ontario Association of Architects has been pursuing an active policy in reference to the affairs and interests which it represents. One of the signs of new life in the association is the fact that fees can no longer remain unpaid for several years before a member is dropped. This decision was reached at a recent meeting of the Council. While there was some excuse for arrears during the period of the war when things were more or less disorganized, it is now felt that any further postponement of dues is entirely unwarranted, and that in order to retain membership standing those who have been neglecting their annual payments will from now on be expected to remit promptly.

Another matter which the Council has before it is the report of the committee embodying recommendations on which an increase in architectural fees will likely be adopted, the proposed new schedule being so drafted as to be simple in form and eliminate all superfluous wording.

Moreover, attention is being given to a number of matters of public interest. As recently pointed out in the daily press, steps are being taken by the association to interest the Rotary Club and the Kiwanis Club and the local branch of the Manufacturers' Association in the suggestion recently made that the present was an opportune time for the development of the Toronto Exhibition Grounds to be taken up. It is pointed out in this connection that the public service committee of the Board of Trade have endorsed the suggestion that a well studied plan for the growth of the grounds and buildings be prepared before the new Live Stock Arena is finally located.

Altogether the association seems to have an active executive at its head, and a continuation of the present policy is bound to lead to definite results.

Canadian Architects and Canadian Materials

A letter recently sent out by President Herbert E. Moore of the Ontario Association of Architects, is timely and quite explains itself. It does not touch upon a new condition, but rather on the old one that within the last few years has become seriously aggravated and which with the existing adverse rate of exchange presents a somewhat new economic phase. The letter reads as follows:

To the Members of the
Ontario Association of Architects:

During the war there was considerable comment and discussion amongst architects concerning the use of imported materials and the employing of professional talent from the United States, in the erection of some of our principal buildings. Since that time, a great deal has happened to further accentuate conditions, namely:

1. Rate of currency exchange with the United States, which shows at the present time something like 12 per cent. against our money.

2. Various warnings by our educational authorities, urging the utilization of Canadian brains as well as Canadian material resources.

3. The effort of the Association of Canadian Building and Construction Industries for the use of Canadian goods, showing that the business interests are alive on this question.

Time and again architects are asked, "What are you doing in this matter?" and so far as one can see, very little has been attempted by way of sympatthetic effort. In some cases, individual efforts have been passively looked upon as an outburst of some crank, who either has an axe to grind or has some mistaken idea as to the possibilities of business in its relation to patriotism.

It would seem that this question has reached a vital point; one where we, as architects, should state our position, and I would therefore ask you for your views, with any suggestions you might have concerning the advisability of placing our association on record before the Government and the public, and an answer to the question, "What are we doing in our practice to help Canadian resources?"

Trusting to have the benefit of your views at your earliest convenience.

HERBERT E. MOORE,
President.

It is indeed somewhat of an anomaly when one considers that in Toronto at the present time there are several theatres in course of erection in which the matter of design and expenditure is entirely in the control of architects who are non-residents of Canada. Further that non-Canadian architects have been given the commission for planning the large addition to the King Edward Hotel; that in Petrolia, Ont., plans have been imported from across the line for the erection of large industrial buildings; that one of the largest departmental stores of Canada which recently made use of the advertising slogan "Buy Made-in-Canada Products" almost exclusively employs American architects. These are merely incidental to the many instances which could be mentioned of work carried out in Canada regarding which Canadian architects have been given no consideration whatever.

In view of what has frequently been said in these columns on this subject, Mr. Moore's letter requires little comment here. It relates to a matter which should receive the closest attention, both in and out of the profession, and it is to be hoped that it will lead to a full expression of opinion, so that united action can be taken with other interests in making representations to the Government.

The resume of Mr. A. Frank Wickson on the Architecture of Toronto, which is published elsewhere in this issue by permission of the editors of "The Lamps," the year book of the Toronto Arts and Letters Club, is not only interesting in itself but suggests a series of monographs dealing with the architecture of Canada's principal cities. These monographs could be prepared by local architectural bodies or someone belonging to them, and would not only be invaluable in pointing out noteworthy examples of both old and new work, but would serve as a short guide to students and visitors who might desire to personally acquaint themselves with the best which our architecture has to offer. A series of articles of the kind, we believe, would eventually result in rather a complete record dealing with Canada's architectural progress and development.

New Process in Sculpture

A process for producing bas-reliefs by photography is the fruit of the invention of an Italian scientist.

The basis of the invention is the property possessed by a film of chromium gelatin of swelling in proportion to the intensity of the light falling upon it. The swelling is greater with a low than with a high intensity, so that the light passing through a photographic negative produces upon a chromium gelatin plate a positive in distinct relief.

The transparency of an ordinary negative, however, is not truly proportional to the relief of the original model, but by an ingenious automatic device involving double exposure this difficulty is avoided and a negative is obtained having its lights and shades correctly graded to produce the effect of relief.

Toronto School Building Program

The Property Committee of the Toronto Board of Education has passed estimates for the completion of the 1919 building programme and for carrying out this year's building programme without any paring. All the additional accommodation provided was deemed to be absolutely necessary in view of the present overcrowding in many sections. The sum of $976,500 is needed to complete unfinished building work, while $2,767,720 is asked for the erection of new schools during the present year. It was also decided to set aside $100,000 for the purchase of a site for a new school in the Rosedale district. An additional item in the estimates is one for $20,000 to provide wash basins, liquid soap and tissue towels in each school for the use of pupils.

CONTRACTORS and SUB-CONTRACTORS

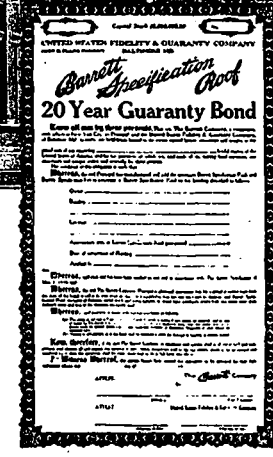
CARSWELL BUILDING.

General Contractors, Yolles & Rotenburg.
Concrete Work, Witchall & Son.
Reinforcing Steel, Trussed Concrete Steel Co.
Steel Sash, Trussed Concrete Steel Co.
Heating, C. A. Dunham, Limited.
Elevator and Hoist, Turnbull Elevator Co.

CRANE COMPANY'S FACTORY, MONTREAL.

General Contractors, Anglin-Norcross, Limited.
Ornamental Iron, John Watson & Son, Limited.
Metal, Metal Shingle & Siding Co.
Millwork, P. Tremblay & Co.
Cut Stone, The Quinlan Cut Stone Co.
Roofing and Sheet Metal, Douglas Bros.
Waterproofing, H. H. Symmes & Co.
Painting & Glazing, Alex. Craig, Limited.
Plumbing and Heating, The Garth Company.
Elevators, Otis Fensom.
Structural Steel, Dominion Bridge Co.
Reinforcing, Trussed Concrete Steel Co.
Hardware, James Walker Hardware Co.
Electrical Equipment, Canadian Comstock Co.

Barrett Specification Roof, guaranteed for 20 years, on the Technical School, Quebec, City, Quc. Architects: Taugnay & Lchon, Quebec City, Quc. General Contractors: Jinchereau & Lamonde, Quebec City, Quc. Roofing Contractor: Eugene Falardeau, Quebec City, Quc.



This is the bond that guarantees your roof for 20 years.

A *permanent* roof for a permanent building—

THE type of roof to be used on a job like this cannot be decided on the basis of individual preference. Nor can experimenting be tolerated. For the investment is too large and the consequences of a mistake are too serious. When architects and engineers face a roofing job like this, they have to get right down to *proved facts and figures.* They have to be absolutely *sure* on four points.

First. That from start to finish they will get just the kind of a roof they specify, with no chance for "skimping" or substituting inferior materials.
Second. That the manufacturer of the roofing materials is thoroughly reliable, and has had long and successful experience in the roofing business.
Third. That the roof will positively be trouble-proof and free from maintenance expense for a long period of years.
Fourth. That it shall be the most economical roof possible to obtain, not as to first cost, but what is of greater importance, as to *cost per year of service.*

Because a Barrett Specification Roof meets *all* of these requirements better than any other type of roof, it was selected to cover this splendid building.

To-day the *standard* covering for permanent buildings is a Barrett Specification Roof. It takes the base rate of insurance. It costs less per year of service than any other type of permanent roof. It is guaranteed for 20 years.

The 20-Year Guaranty

A 20-YEAR Surety Bond is now offered on all Barrett Specification Roofs of fifty squares and over in all cities of 25,000 population and more, *and in smaller places where our Inspection Service is available.*

This Surety Bond exempts the owner from all expense for repairs or upkeep on his roof for *20 years.* It is issued by a well-known Fidelity and Guaranty Company.

Our only requirements are that The Barrett Specification dated May 1, 1916, shall be strictly followed and that the roofing contractor shall be approved by us and his work subject to our inspection.

Thus, in spite of the fact that we do not build roofs ourselves, we are put in a position where we can actually *guaranty* the delivery of the long years of service which Barrett roofs are capable of giving.

Copies of the Barrett Specification with roofing diagrams sent free on request.

MONTREAL TORONTO
WINNIPEG VANCOUVER

The Barrett Company LIMITED

ST. JOHN, N.B. HALIFAX, N.S.
SYDNEY, N.S.

A CALIFORNIA KITCHEN CABINET.

This shows about all the built-in features of the California kitchen with exception of a concealed, drop ironing board, and a pastry and bread board, which slides in and out like a drawer. Notice the "coolers" or air cool cupboard, which is found in practically every California kitchen, even to the more pretentious culinary departments. The shelves in this cupboard are of a heavy wire screen and the draft keeps the food sufficiently cool that many do without a refrigerator. The reason for this is that no matter how warm the days are the decreased temperature at night is enough to cool things off.

Book Reviews

"Useful Data." Published by Corrugated Bar Co., Inc., Buffalo. 224 pages, size 5⅛ x 8 in., leather bound. Price $2.50.

This book is primarily a handbook for reinforced concrete designers, containing in handy and accessible graphs and tables most of the valuable information which designing engineers accumulate on blue printed sheets.

It will be found of great service in estimating and checking as well as design, for the editors have provided the tabulated results which assist in rapid calculations.

As a hand book it will be of great service, comparable to that of the steel hand book to the structural engineer. There are graphs and tables from which can be obtained any of the variables of concrete formulae; tables of safe loads for rectangular beams, T beams, hollow tile floors and flat slabs for medium and hard grade steel; tables of safe loads of square and round columns, together with numerous other numerical tables of constant use.

Though this is not a text book of concrete designs, yet enough of practical formulae is derived to make the user of the book familiar with the standard notations as used in the straight line equations.

There are twenty-two pages given to consideration of special cases of moments, shears and deflections, which will be found very valuable. Also, it gives an explanation of the flat slab system, and accompanies the information with tables that will simplify designing.

This book will be found to be a very welcome addition to concrete literature.