

VOL. 7. NO. 5

MAY, 1914

\$3.00 per Year  
35c per Copy

# CONSTRUCTION

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



VANCOUVER, B.C.

• OFFICE OF PUBLICATION •  
• TORONTO •  
• BRANCH OFFICES •  
MONTREAL . . . WINNIPEG  
NEW YORK

## OUR FIRE DOOR FIXTURES

Are tagged and labelled by Fire Underwriters.

### Labelled Goods

Lowest Insurance Rates

MANUFACTURERS OF  
SLIDING DOOR HANGERS  
PAILOR WAREHOUSE BARN

ROUND STEEL TRACK

with  
ADJUSTABLE SUPPORTS

**ALLITH MFG. COMPANY, LIMITED**  
HAMILTON, ONTARIO.

## Dundas Stone

FOR

Concrete, Road Metal  
and Flux

## Canada Crushed Stone Corporation

LIMITED

DUNDAS - - ONTARIO

## Porous Terra-Cotta Fireproofing

and

Hollow Tile Flooring

## Robert Bennett

CONTRACTOR  
TORONTO

Builders' Exchange. Phone Main 710  
Residence Phone Beach 4.

## Don't "Burn up Money"

It's Too Hard to Get

THE ESTY AUTOMATIC FIRE  
SPRINKLER reduces insurance  
rates 50% to 80% and protects  
your business as well. Write for  
information at once to

### VOGEL CO. OF CANADA, LTD.

620-622 St. Paul Street,  
MONTREAL, P.Q.

You can't afford to be without it if you are  
to continue in business.

## Laundry Machinery

Complete Plants for all purposes  
Write Us, Stating Requirements

THE

## Toronto Laundry Machine Co., Limited

TORONTO, - CANADA

Agencies at

Montreal, Winnipeg, Vancouver

## "TIME TELLS"

Use the trap that has stood the  
test and proven its worth by years  
of continuous service.

### Dunham Vacuum Heating Systems

Safeguard the mutual interests of  
yourself and client. Write for in-  
formation.

### C. A. DUNHAM CO., Limited

Factory and Main Office:  
TORONTO.

Branches:  
Halifax, Montreal, Winnipeg,  
Calgary, Vancouver.

## Dry Pressed Brick

"Canadian" on every Brick

We make a high-grade dry  
Pressed Brick of a rich red  
color, they give an unusually  
elegant appearance to a building,  
made of the purest shale in the  
world. Made in and named "Can-  
adian." Popular among architects  
and contractors.

Correspondence Solicited. Let us  
send you a sample. Railway  
shipping facilities of the best.

Canadian Pressed Brick Company  
Limited.

PHONE 423 and 2457.

Head Office, Room 36 Federal Life Building.  
HAMILTON, - - Ontario

## The Question is "How About Glass?"

WE CAN SUPPLY YOU WITH

PLATE, SHEET, FANCY,  
LEADED and ART GLASS  
Bevelled and Plain Mirrors

Quality the Best.  
Shipments Prompt.

### Consolidated Plate Glass Co.

Montreal TORONTO Winnipeg

## Concrete Reinforcement & Design

For all Classes and Types of Structures

Reinforcing Steel of all forms  
cut to length. Supplied in any  
quantity.

Designs and Estimates

for reinforced Concrete work  
of every type.

### W. H. WARDWELL, M.E., C.E.

New Birks Building - MONTREAL

## Maple Leaf Paints and Varnishes Specified

In your finishing and decorating  
plans insure perfect covering, per-  
manency of color, unexcelled dura-  
bility, and thorough preservation.

Conserve your property value and  
lessen future decorative upkeep by  
using

Maple Leaf Exterior Paint,  
for outside and inside painting.

Maple Leaf Flat Wall Colors,  
for interior wall and ceiling decora-  
tion.

Elastilite,  
has the good qualities of both in-  
side and outside varnish for finish-  
ing.

### The Imperial Varnish & Color Co., Limited

6-24 MORSE STREET  
Winnipeg TORONTO Vancouver

## Bank, Office, Hotel and Store

## FIXTURES

Veneered Doors and Hardwood  
Trim for Residences.

ARCHITECTS' PLANS SOLICITED

We have the most up-to-date  
methods of kiln drying on the  
continent.

### The Burton & Baldwin Mfg. Co., Ltd.

HAMILTON, - - ONTARIO

## H.N. DANCY & SON LIMITED

### Masonry Contractors

Main 4355 112 Mall Bldg.

SOME OF OUR WORK:

Toronto General Hospital, College St.  
New Knox College, University Campus.  
Lumsden Building, Adelaide and Yonge.  
O'Keefe Brewery (Office Bldg.) 17 Gould  
St.

Wycliffe College, Hoskin Ave.  
Residence—J. W. Flavelle, Queen's Park.  
Residence—R. J. Christie, Queen's Park  
and St. Albans St.  
Residence—Hon. W. T. White, 39 Queen's  
Park.

Generally speaking, waterproof  
G may mean almost anything—  
In connection with

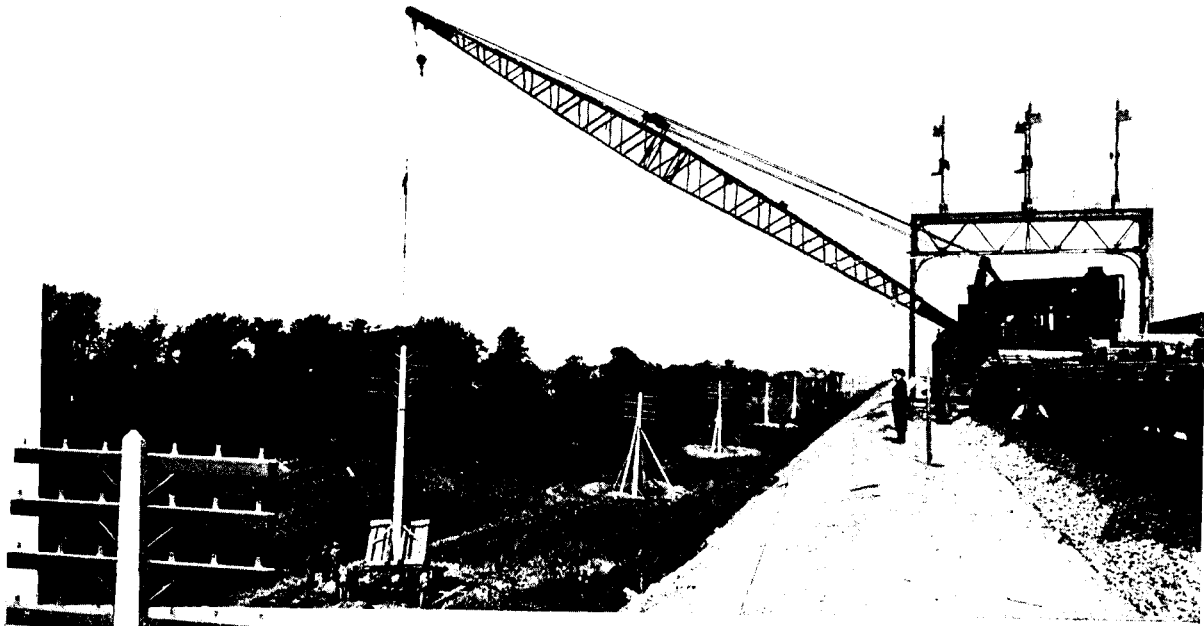
## NEPONSET

WATERPROOF BUILDING PAPER  
it means scientifically, positively  
and permanently  
**WATERPROOF**

Bird & Son, Est. 1795, Hamilton, Ontario; Montreal, Winnipeg, Vancouver, St. John.  
(F. W. Bird & Son) U. S. Plant, East Walpole, Mass.

MAKERS OF NEPONSET BUILDING PAPERS, SOUND DEADENING FELT, WATERPROOFING FELT,  
ROOFINGS AND WALL BOARD.





*Concrete poles along the Pennsylvania Railroad across the Hackensack Meadows, New Jersey.*

## Concrete Poles Withstand Terrific February Blizzard

One of the most striking examples of the stability and durability of poles carrying telegraph and service wires, is that contained in the performance of the Pennsylvania Railroad's line of Concrete poles across the Hackensack Meadows during the February blizzard.

These poles are badly exposed from all sides, but they stood up under the great weight of snow and ice and resisted a wind velocity of 80 miles an hour. Municipalities and Corporations wishing to

### Minimize "Service Breaks"

in telegraph, telephone and service lines should investigate the possibilities of concrete poles. They not only gain strength with age, but they do not rot or rust. No other type of pole will keep better alignment. They are not prohibitive in first cost and, considered as a long-time investment, are exceedingly economical.

The cost of "broken service" and the repairs necessary after one violent storm would equip an entire line with Concrete poles which, in turn, would serve to prevent a great many future "breaks in service."

Full information about Concrete poles will be sent free to those interested, upon request to

Information Bureau

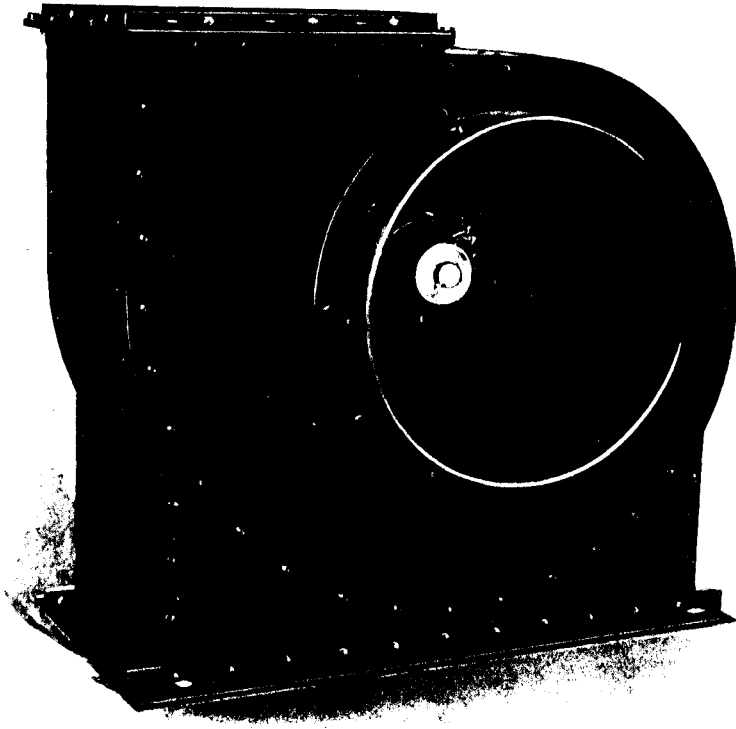
**Canada Cement Company**  
Limited

868 Herald Building, Montreal





# WONDERFUL SUCCESS in Heating and Ventilation



The "KEITH FAN" after thorough tests has been adopted by the British Admiralty, German Navy, Italian Navy, United States Navy, Singer Building in New York, also a great many of the leading Factories and Institutions in Canada.

Built and constructed under the latest and most approved plan, this Fan now holds the premier position, having superior features and principles of design over all others.

*We are the Sole Owners of the "Canadian Patent Rights."*

## **SHELDONS LIMITED**

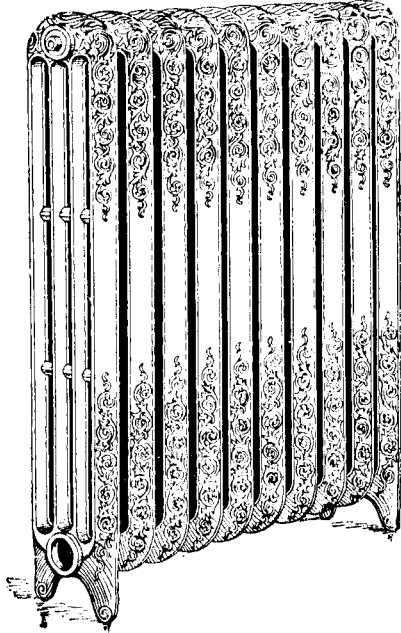
**GALT - - - ONTARIO**

**Toronto Office: 609 Kent Building.**

**AGENTS:**

ROSS & GREIG, 412 St. James St., Montreal Que.      WALKER'S, Ltd., 259 Stanley St., Winnipeg Man.  
ROBERT HAMILTON & CO., Ltd., Bank of Ottawa Building, Vancouver B.C.  
GORMAN, CLANCEY & GRINDLEY, Ltd. Calgary and Edmonton Alta.

## Satisfaction in Specifying the "Sovereign" Hot Water Boilers and Radiators

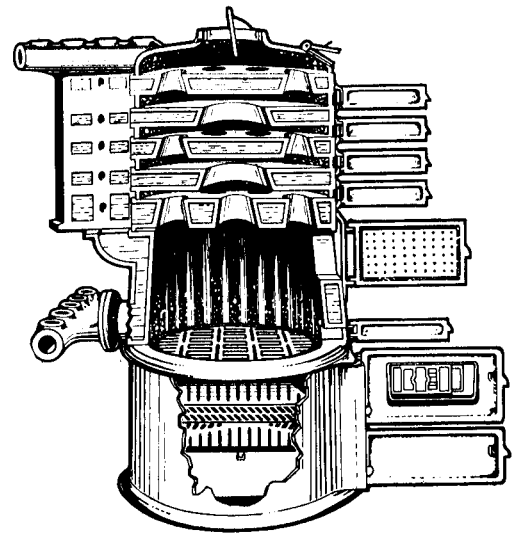


The Architect who specifies "Sovereign" Hot Water Boilers and Radiators is recommending to his patrons a Firm that has long been associated with the making of the most efficient and improved heating apparatus in Canada.

The principals of the Taylor-Forbes Company introduced into Canada the present design of Radiator and the "Sovereign" Radiator, as made to-day, is an improvement on the original improved design—having large interior space with free channels and screw nipple connections. Every assembled Radiator is subjected to a test of tremendous hydraulic pressure before it leaves the factory.

It was the Taylor-Forbes Company that introduced with the "Sovereign" Hot Water Boiler the *larger first section* which is now universally admitted to have very materially increased the heating capacity of the upright or round design of hot water boiler.

Any Architect making inquiries from his patrons who have installed the Taylor-Forbes equipment will find that their satisfaction is complete. We take a very hearty interest in every "Sovereign" installed and are more interested than either the customer or the Architect in seeing that perfect satisfaction is the lot of the householder who has installed "Sovereign" Boiler and Radiators.



**"Sovereign"  
Radiators**

**TAYLOR-FORBES COMPANY  
LIMITED**

**"Canadian"  
Steam Boilers**

Head Office and Foundries - Guelph, Ontario

TORONTO—1088 King St. West  
VANCOUVER—1070 Homer St.  
QUEBEC—Mechanics Supply Company  
CALGARY—P. D. McLaren, Ltd., 622 Ninth Ave.

MONTREAL—246 Craig St. West.  
ST. JOHN, N.B.—W. H. Campbell, 16 Water St.  
WINNIPEG—Vulcan Iron Works, Limited.  
HAMILTON, ONT.—W. W. Taylor, 17 Stanley Ave.

# In Your Concrete Specifications

To secure a perfect and permanent waterproofing effect, just specify

## MEDUSA **The original dry white powder Waterproofing**

Whether it be a damp basement, a huge waterfront elevator, or any other concrete structure, Medusa will make it absolutely and permanently waterproof.

The proportion of actual waterproofing substance in Medusa is unusually large.

It contains fully 25 per cent. of

combined fatty acids. It is therefore absolutely insoluble. Water is unable to affect it, even after many years of contact.

The most eminent Architects and Engineers now insist on its use.

We would be glad to send any further par-

ticulars or proofs desired.



"Wilson" Rolling Steel Shutters.

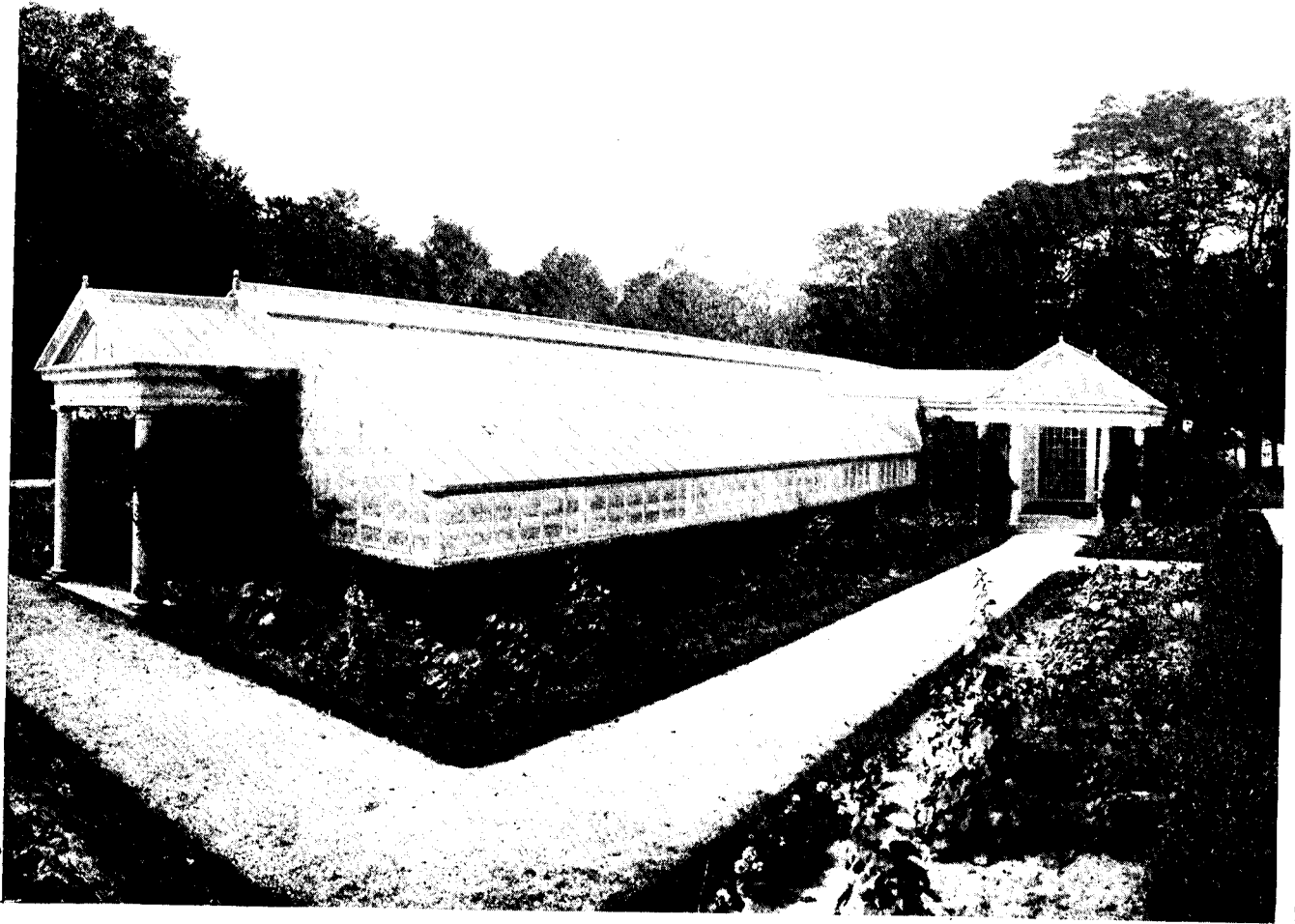
## "Wilson" Rolling Steel Doors and Shutters

Even under intense heat, they will not warp or twist, and though red hot, still serve as a perfect barrier to the flames.

To assist Architects and Engineers in making suitable preparation for the installation of Steel Doors and Shutters in various types of buildings, we will be pleased to send detail sheets and specifications.

# Stinson-Reeb Builders' Supply Company, Ltd.

9th Floor, Read Bldg., Montreal, Que.



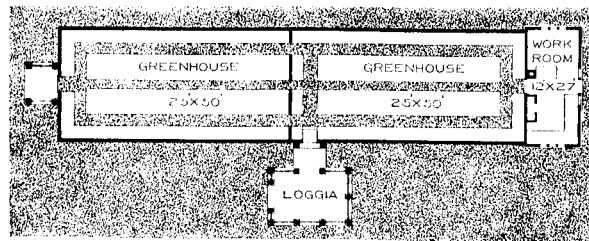
## USE AND ABUSE OF GREENHOUSE ARCHITECTURE

**T**WO extremes of greenhouse architectural treatment seem persistently to persist.

One, in order to secure all possible light for the plants, reduces all relief and ornamentation to a simplicity verging on baldness. The other, ignoring the primary intention of a greenhouse—that of an indoor garden—loads the glass structure down with such an excess of architectural features that the shade they cast makes the house impractical for the best growing results.

Somewhere between the two points is the desideratum. More and more we find that the combining of the architect's skill in design with our knowledge of greenhouse requirements, works out advantageously for the client.

In short, co-operation is the thing. This being so, we hope you will incline to call us in when you have a greenhouse or conservatory proposition in hand. You will find us hearty co-workers and exceedingly good people to do business with.



**Lord & Burnham Co. Limited of Canada**

**GREENHOUSE DESIGNERS and BUILDERS**

**12 Queen Street East, Toronto**

New York - Boston - Philadelphia - Chicago - Rochester - Cleveland



## Royal Drinking Fountain

**T**HE day of the old drinking cup has passed. Dominion and City Health Authorities demand the installation of Sanitary Drinking Fountains in all Schools, Offices, Factories and Warehouses.

The Push-Button Fountain shown can be furnished in a multiplicity of forms to suit every need and position in the building.

Above we illustrate the ideal type of sanitary drinking fountain—

### The Royal Sanitary Drinking Fountain

which, while it can be installed on any fixture in a building, is also equally efficient as a separate fixture.

Its seven great features are:—

1. It is heavy and durable.
2. It is simple and practical.
3. It is as near "fool proof" as is possible.
4. It is easy of operation, closing with the pressure and cannot get out of order.
5. It will stand the most severe tests of office, factory, public street and school use.
6. It has been approved by medical health officers.
7. Can be made to attach to any sink or lavatory, or to be self-contained and drain without separate bowl.

# The James Robertson Co., Limited

207-219 SPADINA AVE.

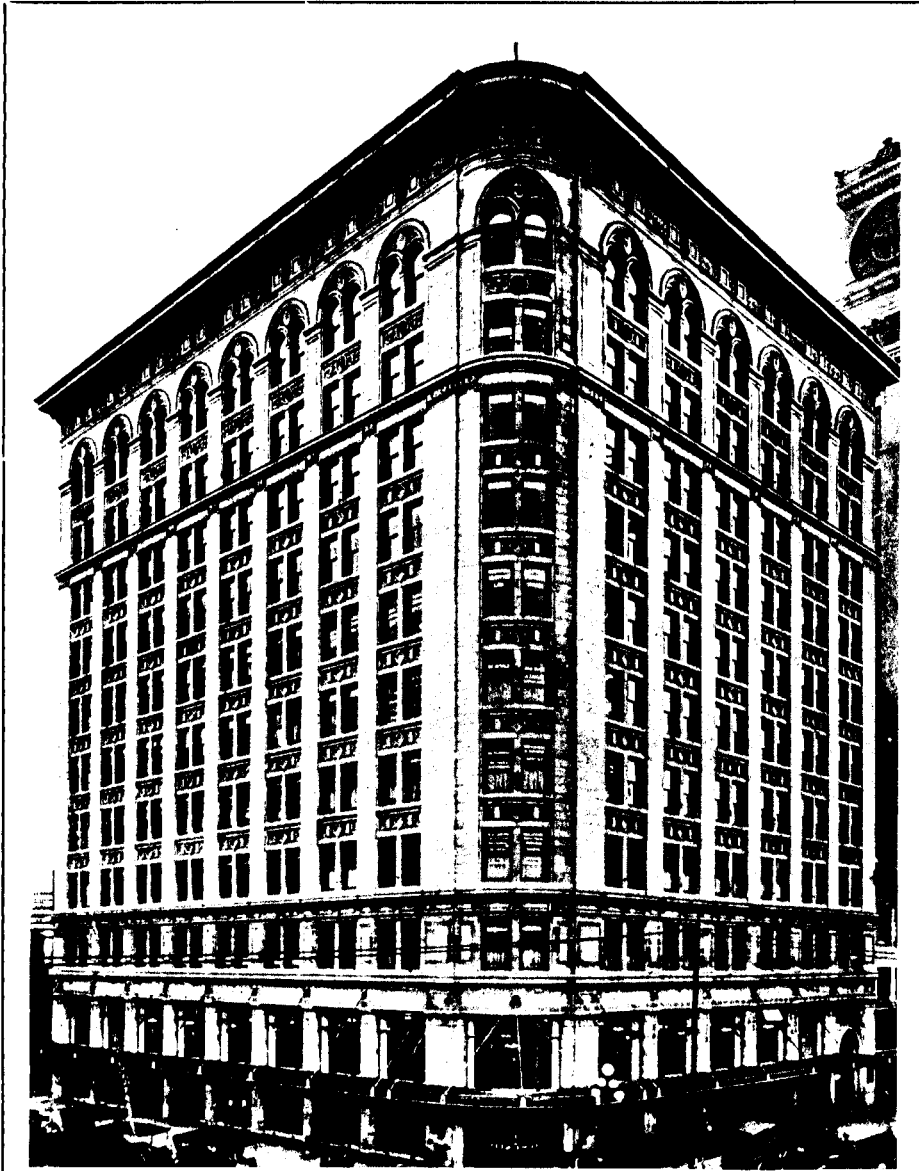
Wholesale dealers in  
**PLUMBING, STEAMFITTING, LEAD  
AND MILL SUPPLIES**

MONTREAL  
Que.

TORONTO  
Ont.

ST. JOHN  
N. B.

WINNIPEG  
Man.



The Birks Building, Vancouver, B.C. Pedlar's "Perfect" Expanded Metal Lath used throughout this building.

## Modern Building Construction

calls for fire-proof materials, and safety is assured and a superior permanent job obtained, by installing

### PEDLAR'S "PERFECT" Expanded Metal Lath

Made in our own factory, in two sizes, 24 in. and 13½ in., both 97 in. long.

A small mesh, which forms a superior bonding surface, by allowing mortar to imbed on both sides.

## Clinton Electrically Welded Fabric

### An Ideal Concrete Re-inforcement

is remarkable for its flexibility and can easily be adapted to any requirement. All joints electrically welded.

Installed throughout the Court House at Vancouver.

We manufacture every description of Sheet Metal Products.

Get our prices on Pedlar's Perfect CornerBead, Truss Fabric (for stucco), Wall Ties and Plugs, Metal Lath Corner and Cove, Ventilators, Eavestrough and Pipe, Studs and Furring.

Write for Sheet Metal Reference Book No. 22C.

## The Pedlar People Limited

Established 1861.

Head Office and Works - OSHAWA, Ont.

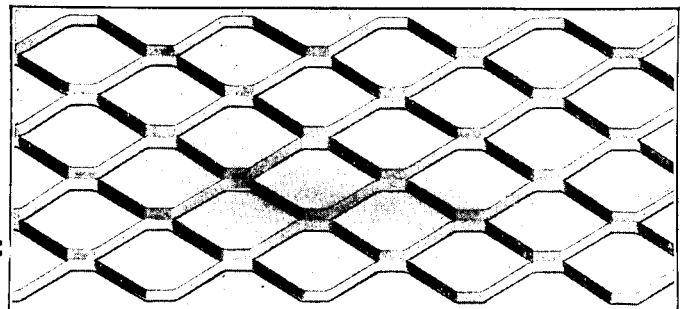
Branches,

Montreal—Toronto—Winnipeg

London—Chatham—Ottawa—Quebec

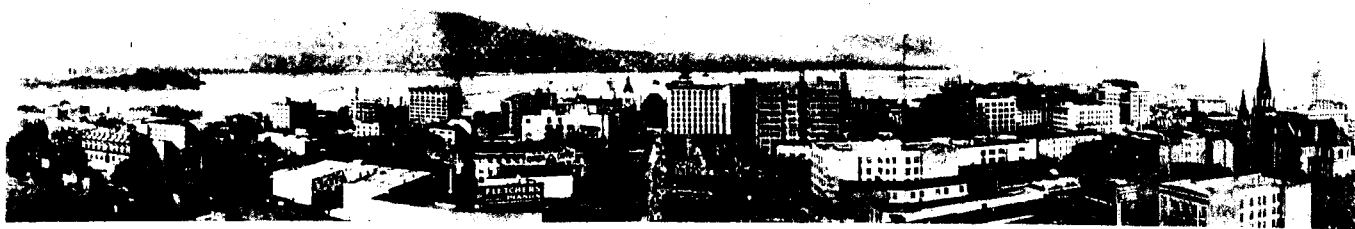
St. John—Sydney—Halifax—Calgary—Vancouver.

12-D.



Pedlar's "Perfect" Expanded Metal Lath.

# TURNBULL ELEVATORS



View of Vancouver

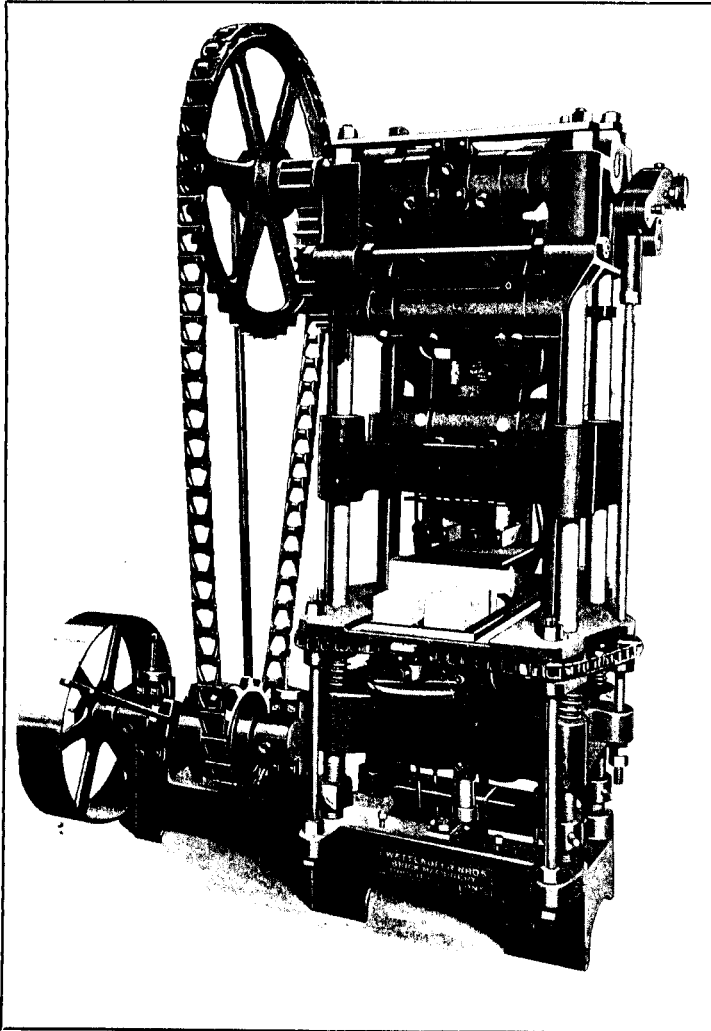
"Nearly twice as many Turnbull Freight Elevators were installed last year in Vancouver as any other make."

This is the report of our B. C. representatives Geo. E. Brennan & Co.

Do you need any better proof that Turnbull Elevators are the best value for your money.

**The Turnbull Elevator Mfg. Co.**  
Toronto, Ont.

Represented by—A. R. Williams Machinery Co., St. John, N.B.; General Supply Co., Ottawa; Walkers, Ltd., Winnipeg; Northwestern Electric Co., Regina; Cunningham Electric Co., Calgary; Geo. E. Brennan & Co., Vancouver.



## Save Half the Cost and have better Bricks

ON MOST JOBS, we believe, the brick amounts to about half of the total material used.

Is a saving of half the cost of the brick used in your construction work worth considering?

That is what you can do by making your own supply with the

# New Wettlaufer Brick Press

It will also give you perfect cement bricks in place of clay, though clay may be used if desired.

**With this machine, Contractors and Construction firms can keep their estimates and prices low enough to get the business, and still make a substantial profit.**

Send for particulars of this press and see if it cannot save money in your business.

*Have us send you our Catalogue on Hoists, Pumps, Stone Crushers, and Tile, Block and Brick Machines.*

**WETTLAUFER BROS.,** Head Office & Showrooms: **178 Spadina Ave., TORONTO**

#### BRANCHES:

CANADIAN BRITISH ENG. CO., 324 Smith St., Winnipeg, Man. WETTLAUFER BROS., 316 Lagauchetiere St., Montreal, Que.  
A. R. WILLIAMS' MACHINERY CO., 15 Dock St., St. John, N.B. R. F. MANCILL, 41 Codigan Block, Calgary, Alta.  
J. L. LACHANCE CO., 263 St. Paul St., Quebec, Que. A. E. HODGERT, Regina, Sask.  
MAYSMITH & LOWE, 1057 Mears St., Victoria, B. C. HALLMAN MACHINERY CO., Vancouver, B. C.

FACTORIES---Mitchell, Ont.; Buffalo, N.Y.; Detroit, Mich.



# “Standard Sanitary”

## PLUMBING FIXTURES



“Standard Sanitary” Bathroom of Queen Victoria of Spain.

**T**HE above cut was made from a photograph of the fixtures actually installed in the Royal Palace of La Magdalena, Santander, Spain, the summer residence of their Majesties, the King and Queen of Spain.

A similar bathroom was also installed for the King and eighteen other complete “Standard Sanitary” Bathrooms for the other members of the household.

This is an extremely practical and beautiful interior and combines with beauty and refinement every modern sanitary idea.

The fixtures are set into the tiling, thus offering no place for dust or moisture to collect, and reducing cleaning labor to a minimum.

The Foot, Sitz and Shower Baths make an unusually complete and artistic bathroom at a cost that is very reasonable considering the quality of fixtures shown.

“Standard Sanitary” plumbing fixtures can be obtained from all leading plumbers, and are carried by jobbers and sales agents throughout the Dominion.

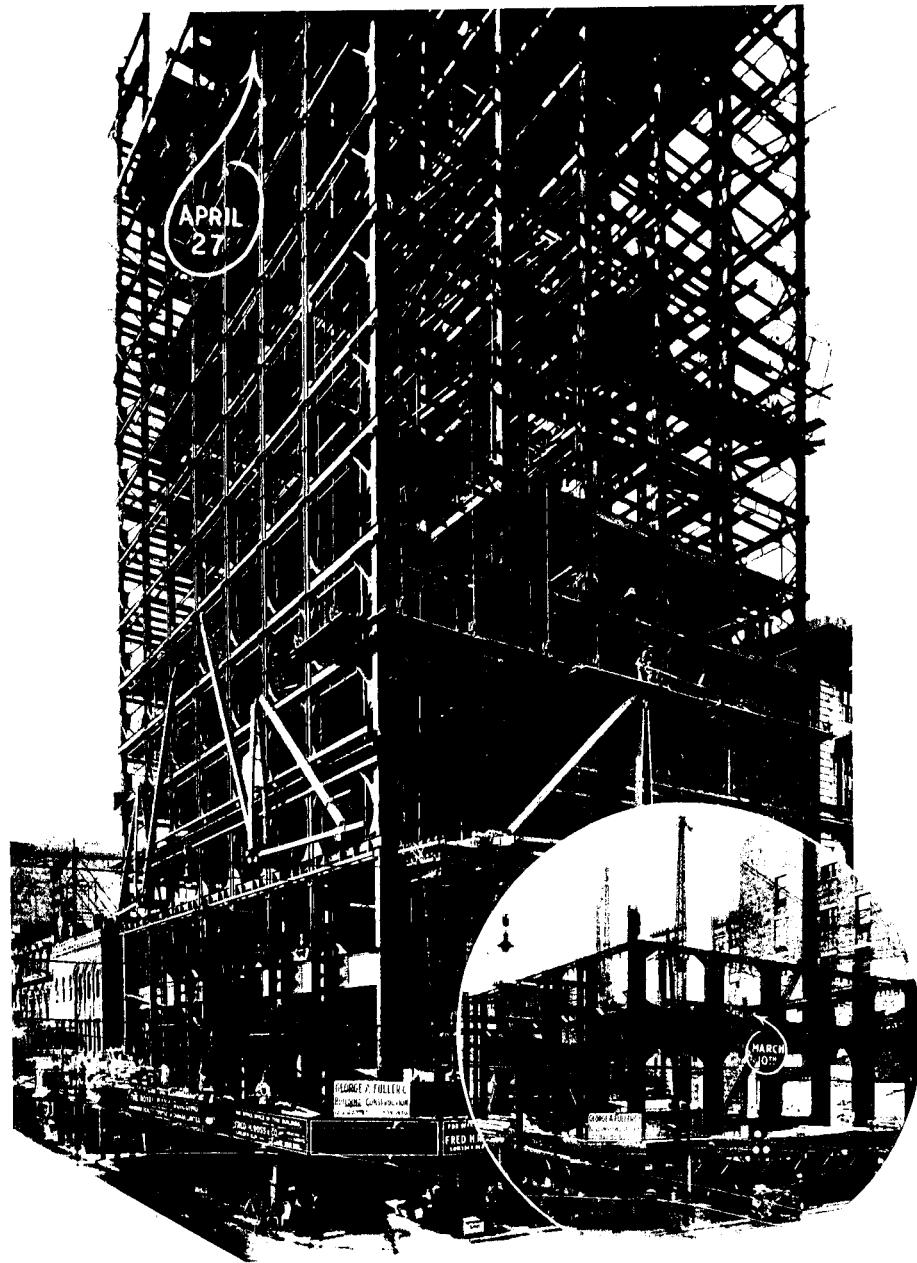
### Standard Sanitary Mfg. Co.

LIMITED

General Offices and Factory : Royce and Lansdowne Aves., Toronto, Ontario

TORONTO STORE  
55-59 Richmond Street East

HAMILTON STORE  
20-28 Jackson Street West



## A New Record in Canadian Building Operations

New 20 Storey  
ROYAL BANK BUILDING.  
Ross & Macdonald, Architects.  
Geo. A. Fuller Co., Contractors.

THE progress views shown above indicate convincingly the rapidity with which the structural work on the new Royal Bank Building has advanced. The small view in the lower right hand corner shows where the building stood on March 10th; the larger illustration indicates the progress up to April 27th.

In less than seven weeks, the steel work was carried up from the second to the eighteenth storey, and the *porous terra cotta fireproofing* completed up to the eighth floor level.

The matter of prompt delivery was, as always in such buildings, an important consideration in selecting materials. Aside from quality—which must always be the prime

---

---

consideration—it was important that the porous terra cotta be supplied in quantities as and when required. At a busy intersection such as King and Yonge, the lack of street space makes it impossible to deposit any great quantity of material at a time, so that the material had to be furnished and passed through a mere opening in the hoarding, just when needed to proceed with and not retard the work.

To fulfil such an unusually difficult requirement demands something more than ordinary plant capacity—something surer than limited and uncertain methods of getting the goods to the place where they are to go. It is an order that can only be met by an extensive manufactory, with modern equipment and up-to-date facilities for delivery.

## That is why **DON VALLEY** **POROUS TERRA COTTA** was selected

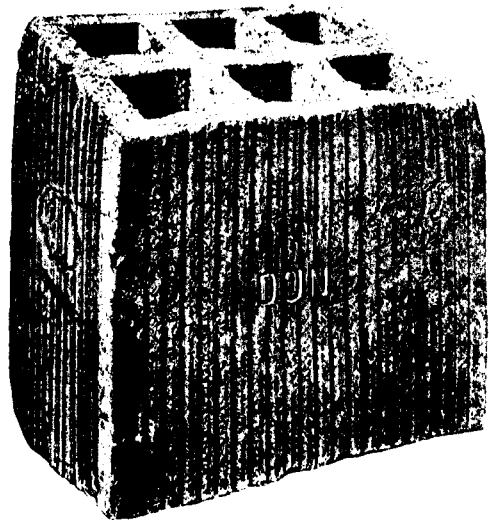
Every architect and contractor knows, in an undertaking of this kind, that everything must be considered to develop the maximum speed, and co-ordinately arrange the various trades to dove-tail with clocklike precision.

The steel work on this building has been fabricated with a rapidity which establishes a new Canadian record. Moreover, a record has been established in the construction of the Porous Terra Cotta Fireproof arches or floors, so important to the rapid furtherance of the work, in that it provides working space that would be otherwise lacking for the trades that are to follow.

Our plant is the largest and most improved plant in Canada or the States. Throughout our entire production there has always been a uniform superiority and dependable character. Coupled with this high quality is "Don Valley Service"—a service which enables us to get the materials on the ground as needed, absolutely ensuring no interruption as far as deliveries are concerned.

In addition to the 400,000 sq. ft. of Porous Terra Cotta, three million Don Valley bricks are used in this building.

We refer you to any prominent architect or large contractor to bear out our claims.



## **DON VALLEY BRICK WORKS**

**Head Office : 36 Toronto Street, Toronto**

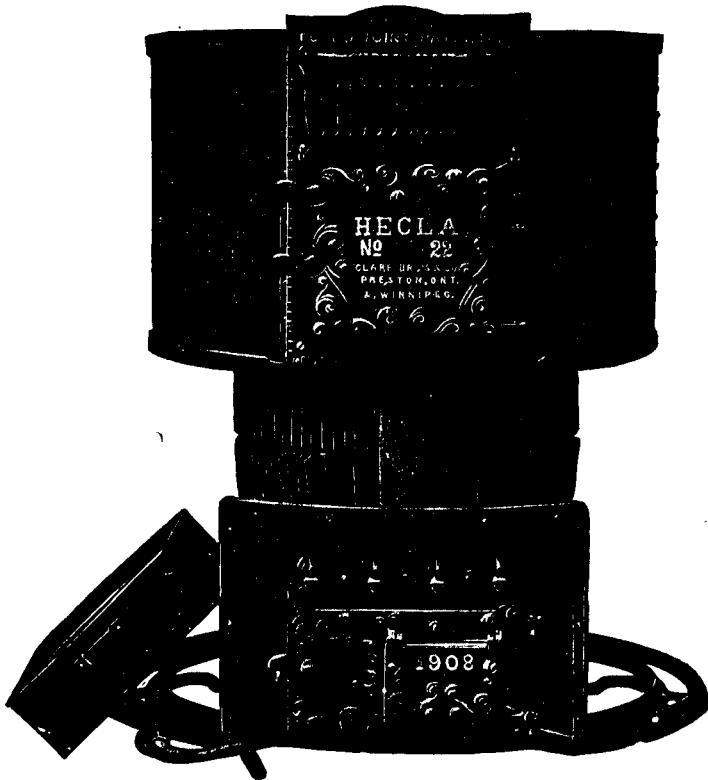
**Montreal Agent—David McGill, 83 Bleury Street, Montreal, Quebec**

---

---

# "HECLA" WARM AIR FURNACE

## FOR COAL OR WOOD




---

The requisite for a successful Warm-Air Heating System is a good furnace; one that will not only supply an abundant quantity of pure warm air; but will, in addition, be economical in the consumption of fuel, easy to operate, safe from dust and smoke, and that will give the greatest length of service. Some cheap furnaces fulfil one or more of these conditions, but the furnace you want must fulfil all. That is what the HECLA does.

---

### "HECLA" FEATURES

- Automatic Gas Damper prevents gas puffs.
- Gravity Catch locks door every time you shut it.
- Double Feed Door for convenience when burning wood.
- Damper Regulator enables you to operate the dampers without going to the basement.
- Dust Flue carries all the dust up the chimney.
- Water Pan in the best position for effective service.
- Large Ash Pan with handle.
- Double Tin and Asbestos Lined Case to prevent the loss of heat in the cellar.

**STEEL RIBBED FIRE POTS**  
**INDIVIDUAL GRATE BARS**

**PATENT FUSED JOINTS**  
**CAST IRON COMBUSTION CHAMBER**

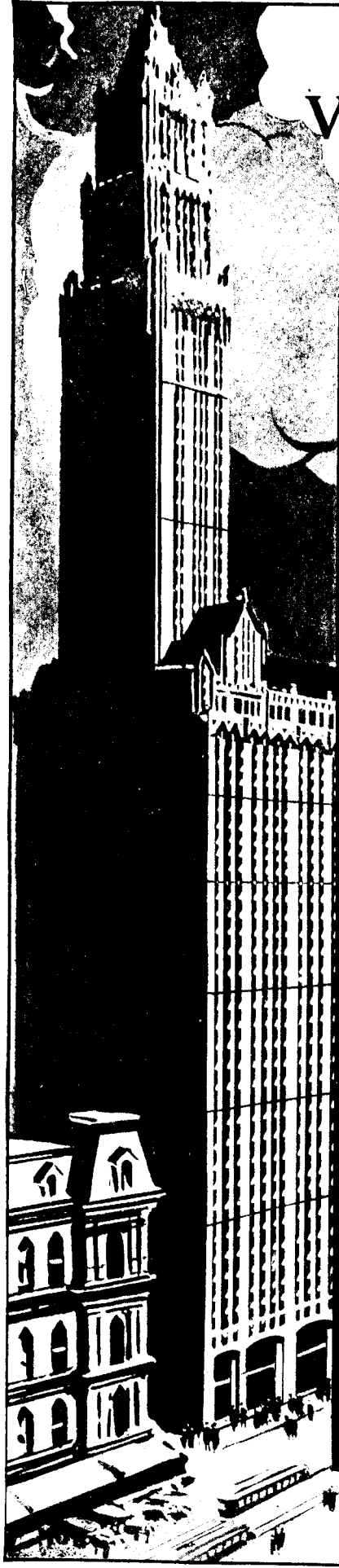
---

# Clare Bros. & Co., Limited

## PRESTON, ONTARIO

VANCOUVER

WINNIPEG



Veining this great structure  
are forty-three miles of

# BYERS

GENUINE  
WROUGHT IRON  
FULL WEIGHT GUARANTEED

# PIPE

**I**N the minds of the men who conceived the ultimate efficiency of such structures as the Woolworth, the L. C. Smith and the Mallers Buildings, and the superb conveniences of the Biltmore Hotel, there was but one kind of pipe whose standards were in keeping with those of the great structures they planned.

This was Byers Genuine Wrought Iron Pipe, which was specified in the buildings named, and in countless others erected during the past fifty years, whose builders sought the highest type of pipe service attainable.

Every architect is familiar with the sturdy quality, the great length of life and the absolute reliability of Byers Pipe, and every architect, when unhampered by restrictions of first cost or other influences over which his professional recommendations cannot prevail, specifies Byers Pipe.

Every building manager whose experience embraces the maintenance of installations of Byers and other pipe, will give fervent testimony to Byers superiority, and can speak feelingly of the frequency with which inferior piping has to be removed and replaced with Byers.

Fifty years ago this year, the Byers enterprise began. And today, after half a century of growth, Byers Pipe reflects the same high ideals of quality and is made by the same careful, hand-controlled methods, that made it so widely known and used by the older generation of architects.

*Send for a copy of the Byers book—"The Control of Quality in Every Process." Every architect should know the facts it contains.*

**A·M·BYERS COMPANY**  
ESTABLISHED 1864  
**PITTSBURGH, P. A.**

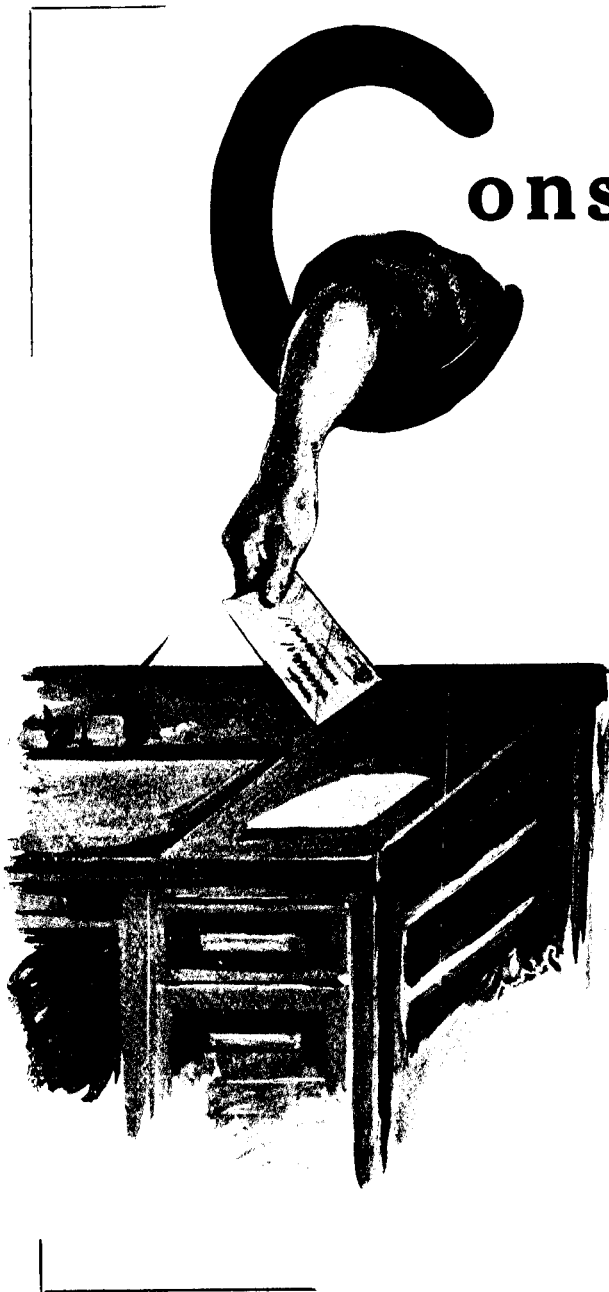
DISTRICT AGENTS AT

New York City	Buffalo	Milwaukee	Los Angeles
Boston	Cleveland	Toledo	Portland, Ore.
Philadelphia	Detroit	Denver	Dunkirk
Chicago	Cincinnati	San Francisco	

*Write for the name of the Byers Dealer in your district. He can supply you immediately.*

*Look for the Byers mark on every length and coupling.*





# **Construction's** **Daily Report** **Service**

Reliable Building and Engineering news for the exclusive use of Advertisers in "Construction". A daily Report regarding all activities in the building trades. For full particulars address "Construction," corner Richmond and Sheppard Streets, Toronto, Canada



## Concrete Floors Like New After Years of Hard Service

Concrete floors that stand the wear and tear of heavy trucking without any apparent effect -  
 Concrete floors that don't grind and crumble away - that never need painting or patching -  
 Concrete floors that safeguard product and machinery from gritty concrete dust -  
 Concrete floors, in short, that wear *well* and wear *long* - that are far better than any ordinary concrete floors because they are not *porous*.  
 You can have such concrete floors if you specify Master Builders Method.



### What Is Master Builders Method?

Master Builders Method is a scientific means of preventing porosity in concrete floors by the use of Master Builders Concrete Hardner, a finely-divided, chemically-treated and extremely hard material that is mixed right into the topping of the floor with the sand and cement. This material is harder and more resistant to abrasion than either sand or cement. It therefore produces a surface capable of withstanding many times more wear and tear than an ordinary concrete floor. Master Builders Concrete Hardner has been proved right not only in theory, but in practice, under every possible condition. Master Builders Method is patented in the United States, Canada and foreign countries. Millions of square feet of better concrete floors have been laid by Master Builders Method. The best industrial names are on our list of customers.



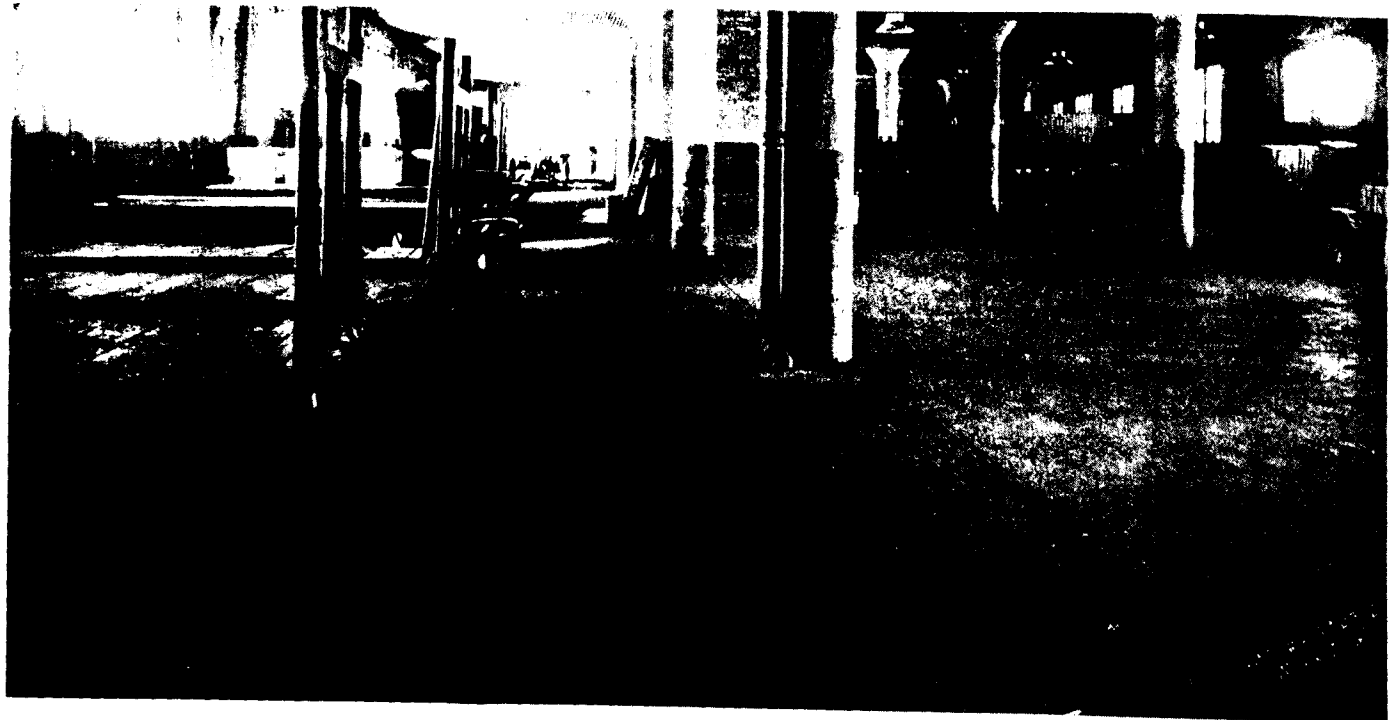
This bag and this trade-mark are your guaranty of genuine Master Builders Concrete Hardner, which, when used by Master Builders Method, makes wearproof, dust-proof and waterproof concrete floors.

**The Master Builders Co.**  
 Main Office and Works, Cleveland, Ohio  
 New York Chicago Philadelphia Detroit  
 St. Louis Dallas Buffalo Indianapolis  
 Minneapolis Toronto Montreal London, W.C.  
 Boston Pittsburgh Baltimore San Francisco  
 Winnipeg Amsterdam Sydney  
 Christiania, Norway

### What Are the Advantages of Master Builders Method?

The life of a concrete floor is fixed in the laying. Once down it is down for good. Master Builders Method takes the risks and hazards out of the job. It is the assurance of a wearproof, dustproof and water proof concrete floor. With Master Builders Method you can get better results from a floor topping three-quarters of an inch thick than from ordinary concrete three inches thick. You save the difference in weight and materials. A Master Builders Method Concrete Floor means service, sanitation and satisfaction. It means a concrete floor that is economical - an *investment* that pays dividends in better production without interruption for repair, better appearance, easier handling of merchandise, and immeasurably longer life. Get the complete facts and figures on Master Builders Method before you lay another concrete floor.

Dominion Express Company, Winnipeg. Concrete Floors Laid by Master Builders Method.



*Master Builders Method*



The above are a few of the buildings in Vancouver which we have recently supplied with vault doors.

*The following are some of the Vancouver Buildings, which we have also equipped:*

Birks,	Hutchison,
Rogers,	National Finance,
Court House,	Flack,
Post Office,	Bower,
Metropolitan,	Williams,
Pacific,	Bank of Commerce,
Canada Life,	Royal Bank,
Bank of Ottawa,	Bank of Montreal,
Yorkshire,	Bank of British North America,
Standard Trust and Industrial,	Credit Foncier,
Merchants Bank, Carrall St.,	Standard Bank,
Molsons Bank, Main Street,	Vancouver Block,
	London Building.

---

**Taylor's Vault Doors are properly constructed—they have the quality and therefore efficiency—that's why they have been selected.**

**Established Nearly Sixty Years**

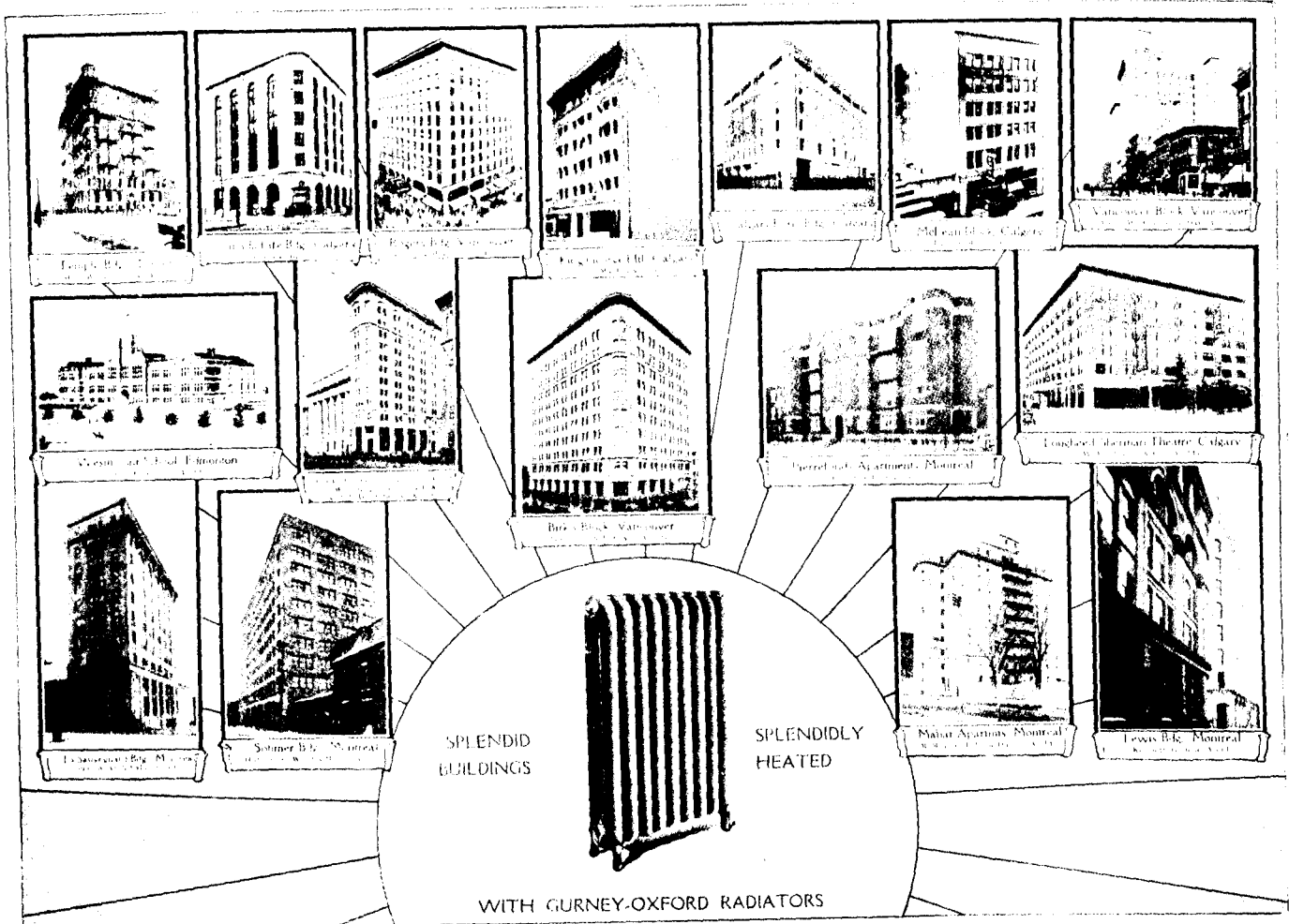
---

**Branches:**  
**MONTREAL**  
**WINNIPEG**  
**VANCOUVER**

**J. & J. Taylor, Limited**  
**Toronto Safe Works: TORONTO, Canada**



# Some Buildings of the New Generation Equipped with Gurney-Oxford Radiators



This is a representative group of Canadian buildings of the new generation.

These buildings are splendidly designed inside and out.

They would be a credit to any country in the world.

No detail of *proved worth* in construction and equipment has been neglected to make them safe and satisfactory.

All these buildings are equipped with Gurney-Oxford Radiators.

We were the first firm in Canada to make radiators and are now the largest.

Gurney-Oxford Radiators have won by sheer merit the confidence of the Canadian Architect.

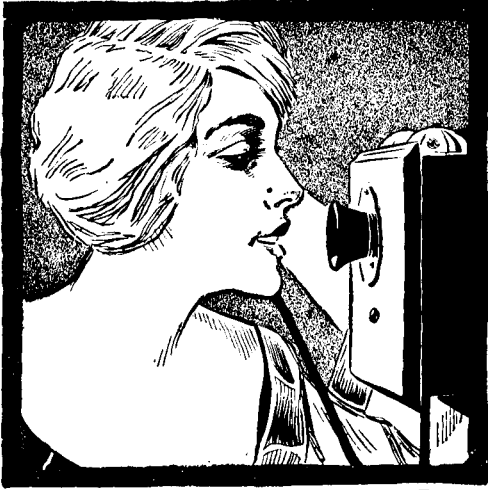
They have proved themselves well made, well designed, and highly efficient.

It is because the architect has perfect confidence in them that he specifies them in important work.

## THE GURNEY FOUNDRY CO., Limited

TORONTO, CANADA

Montreal, Winnipeg, Calgary, Hamilton, Edmonton, Vancouver, Lethbridge



## *Northern Electric Inter-phones*

—SAVE TIME—SAVE STEPS—

# In Modern Homes Industrial Plants and Offices

Simple two-station sets for small dwellings,  
stores and shops—elaborate private systems  
for hotels and large industrial plants.

The Specialist at our nearest house will be  
glad to co-operate with you on any work in  
hand. A post card will bring him to your  
office.

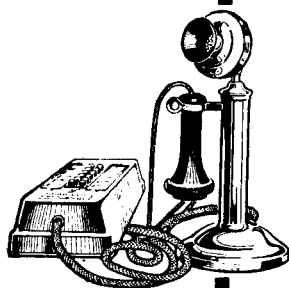
*Northern Electric Company*  
LIMITED

**Makers of the Nation's Telephones**

Montreal,  
Halifax,  
Toronto,

Winnipeg,  
Regina,  
Calgary,

Edmonton,  
Vancouver,  
Victoria.



A FEW REPRESENTATIVE BUILDINGS IN VANCOUVER



Equipped  
with

# OTIS-FENSOM ELEVATORS

1—ROGERS BLOCK

2—COURT HOUSE

3—YORKSHIRE BUILDING

4—VANCOUVER BLOCK

5—VANCOUVER HOTEL

6—BIRKS BLOCK

THE OTIS-FENSOM ELEVATOR CO., LIMITED, 50 BAY ST., TORONTO

# SUN-TEX

BY FROST  
NOR FIRE  
NOR FLOOD  
- NOR EVEN TIME  
ARE WELL BURNED  
CLAYS DESTROYED

THE SUN BRICK CO. LIMITED.  
TRADERS BANK BUILDING, TORONTO.



COLONIAL ENTRANCE TO GARDNER-WHITE-PINGREE HOUSE, SALEM, MASS.

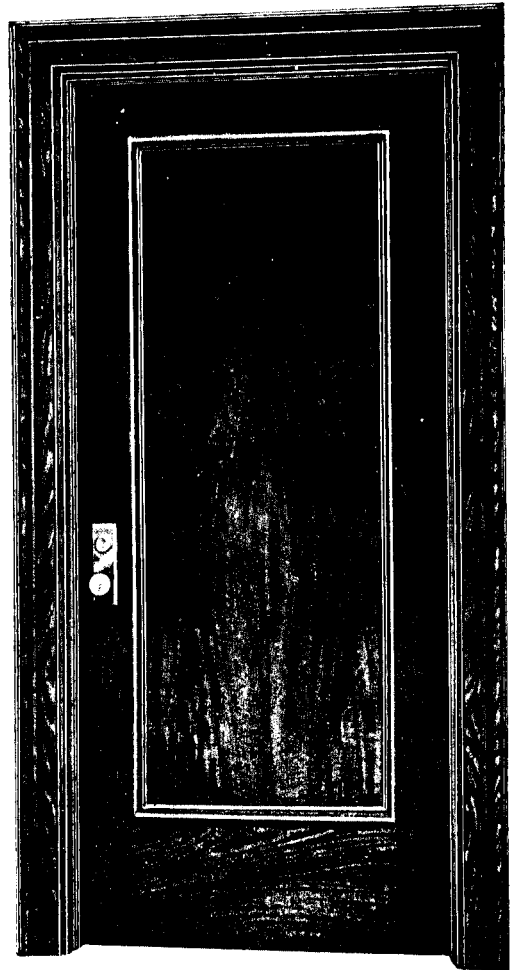
# "CROWN" All-Steel Doors

Our patent All-Steel Doors are made of 16 gauge steel, with interlocking joints, electrical welded, making a very strong and absolutely fire-proof door.

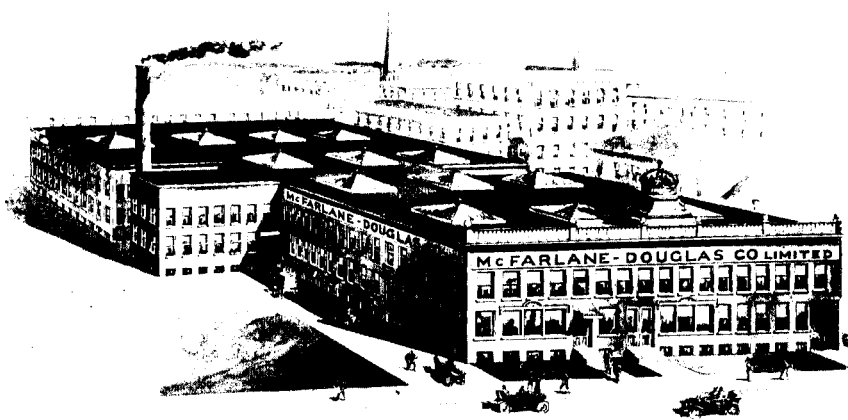
The joints are so constructed that they securely interlock one with the other. The top and bottom edges are made the full width of the door in one piece. The mouldings are formed so as to interlock with both edges of the styles and rails, and provided with a 5-16 inch groove,  $\frac{3}{4}$  inch deep, for the reception of panels or glass.

Reinforcing plates are provided where necessary to receive the hardware.

Our Doors are finished by skilful artists in metallic finishes, or grained to imitate Oak, Mahogany, Circassian Walnut, or any finish to match the surrounding wood work. The finish is all hand work, and is baked by a process of our own in specially made ovens which insures its durability.



"CROWN" All-Steel Door, Mahogany Finish.



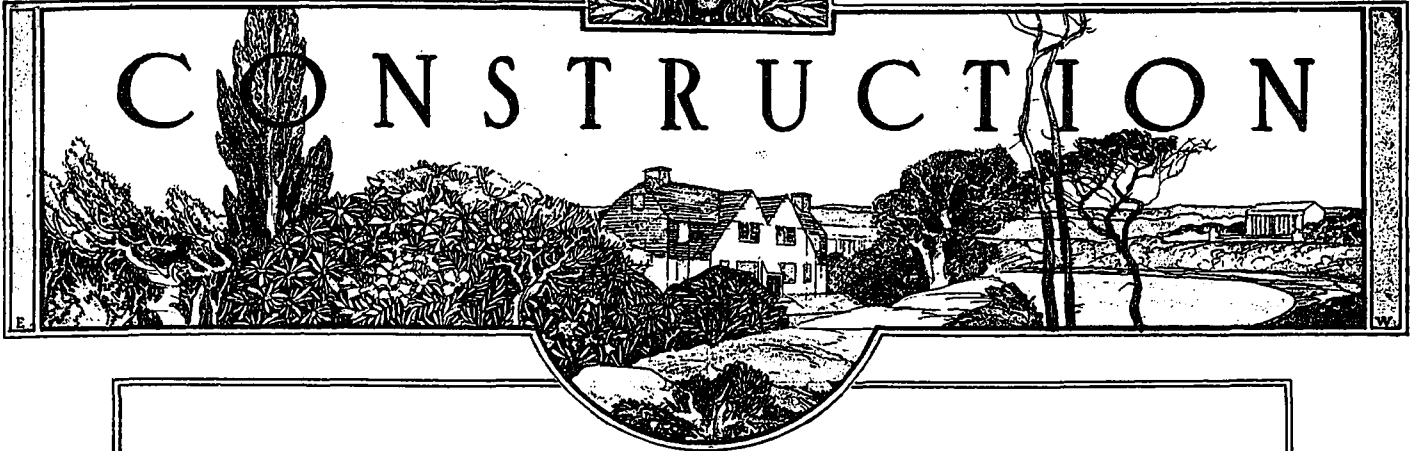
We make our Steel Doors with any number of panels desired and to suit any location or use. When grained you cannot tell them from the best finished wood work.

**Our Copper Bronze and Kalamein Doors and Windows** are of the highest class of workmanship. We invite Architects to write and give us a chance to show what we can do in this line.

**McFarlane-Douglas Co., Limited**  
OTTAWA, ONT.



# CONSTRUCTION



May, 1914

Vol. 7., No. 5

## CONTENTS

EDITORIAL .....	167
Development of Vancouver Architecturally—The Potency of Canadian Clubs in the Social and Political Life of our Country—Sixth National Conference on City-Planning to be held in Toronto.	
VANCOUVER, B.C. ....	171
NEW MASONIC TEMPLE, TORONTO, COMPETITION .....	181
TORONTO UNION STATION .....	199
HART HOUSE, TORONTO .....	203
ENGINEERING BOOKS .....	206
CURRENT TOPICS .....	208

## Full Page Illustrations

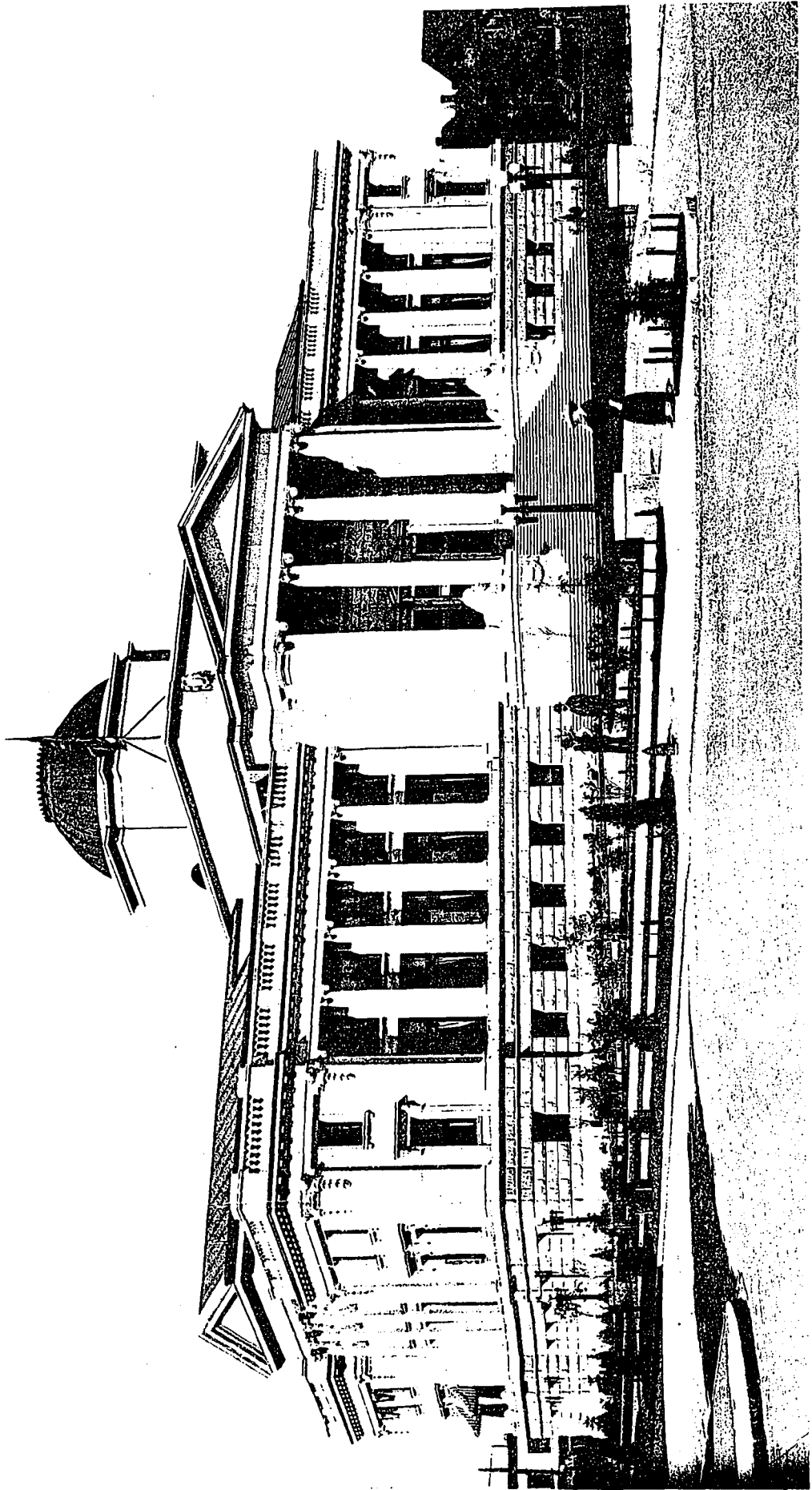
COURT HOUSE, VANCOUVER .....	Frontispiece
VANCOUVER BLOCK, VANCOUVER .....	169
TWO SMALL HOUSES .....	207

H. GAGNIER, Limited, Publishers

GRAPHIC ARTS BLDG., TORONTO, CANADA

BRANCH OFFICES:

MONTREAL      WINNIPEG      CHICAGO      NEW YORK



COURT HOUSE, VANCOUVER, B.C.  
F. M. RATTENBURY, ARCHITECT.





*Development of Vancouver in connection with the amount of building already done, the present agitation for civic planning and the future outlook.*

THIS ISSUE treats of Vancouver in respect to her recent development in building. It has far surpassed the prophetic vision of her most ardent citizens and in a generation has changed from a primeval forest to one of the largest and most industrious cities in the West. While the present growth appears to be stunted somewhat in comparison with the phenomenal record of 1912, still the character of the work augurs well for the future. Instead of so many office structures and apartments the more recent buildings consist of theatres, civic and club edifices, hotels and railway improvements—all of which are indicative of a progressive spirit along the lines of permanent advancement. The esthetic taste of the people are revealed along with their practical nature. There is an earnest desire upon the part of the citizens to have the city beautiful and an equal ambition among the artists to make it so. Not only do the buildings express this in their harmonious designs but the recent agitation in regard to a civic centre shows a marked tendency in this direction. The contour of the surrounding mountains, the water, in fact every feature of the city and surrounding country make it possible for Vancouver to become one of the most artistic and best planned creations in the world. And such a condition should rapidly become a reality. When all railroad facilities are completed she will be pre-eminent in this respect on the Pacific Coast and will, at the completion of the Panama Canal, furnish the most direct route to the Orient for all Canada. She will be the terminal port for the distribution of Dominion products to the Far East as well as to the various provinces of all materials coming from the Asiatic world. Furthermore, the industries of mining, lumbering, agriculture, and fishing are only in an embryonic state. With the development of her natural products and the completion of her new university, large docks and warehouses, sewerage and water supply schemes, Vancouver bids well to become the most prominent factor in the artistic and commercial life of the Pacific Coast.

*The potency of Canadian Clubs in the social and political life of our country—A means of securing the execution of stable projects.*

"CANADIAN CLUBS must be made the melting pots of Canada," said Lieut.-Col. Thompson, at the recent annual meeting of the Canadian Club held in Ottawa. Were this suggestion carried into execution, there would be eliminated from our midst considerable corruption which is always detrimental to a sane and steady growth. Clubs of this nature should be established in every city and town in Canada, having as their basic principle the eradication of every act which would prove a blot upon the country's honor. In this connection every phase of progressiveness would be justly considered and proper authorities consulted on all subjects. The club at Ottawa has become a potent factor in the social and political life at the Capital and keeps abreast of the times by securing the foremost men to speak to them on all live topics. At the last meeting, E. H. Bennett, who has been chosen by the Dominion Government to prepare plans for the development and beautification of Ottawa and Hull, spoke on City Planning and offered many helpful suggestions. In regard to the local work, Mr. Bennett said:

"It is not a question of the style of the buildings, but proportion of character and the selection of the style of building which will go best with the bluffs of the city. The commercial silhouette must be controlled. Some believe the plans will possibly forego development similar to the capital of the United States. Let me set aside that idea for good. It is impossible in view of the topography. The development of Ottawa must be an expression not only of the climatic and natural conditions, but expressive of the race, and this will lead to results of a fine and lasting character."

With a frank expression of such matters before representative men, by one fully competent to grasp the existing essentials, there will be little, if any, trouble in securing the hearty cooperation of those in authority. And when once the people and the government are in sympathy with a project it will be promptly and wholesomely carried into execution.

*Sixth National Conference on City Planning—First time to be held in Canada—Its scope of work, exhibition of plans, prominence of speakers.*

THE SIXTH National and the First International Conference on City Planning will be held at Toronto May 25-27, 1914. The benefits to be derived from this convention to every village, town and city in Canada are innumerable—mainly on account of the fact that they are already engaged in the work of city-planning, and will have an excellent opportunity of studying what other places have already accomplished under similar conditions. That the Dominion Government foresees the beneficial results accruing from this conference is evidenced in their appointing the Conservation Commission of Canada to act as host. The generous grant from this same source together with the financial co-operation of the Ontario Government and the city of Toronto, warrants the statement that this conference—national, provincial and municipal in scope—will do more towards the beautification of Canada and the saving of money and lives to the various municipalities than any other conceivable act.

The conference will open with an address from the Field Marshal H.R.H. The Duke of Connaught, the Governor-General, and responded to by Frederick L. Olmsted, chairman of Executive Committee of National Conference on City Planning, and Fellow American Society Landscape Architects. These men need no introduction and the same may be said of all the other speakers who have been chosen to present the various phases of city-planning. The following topics will be open for general discussion after being presented by men well qualified to handle the subjects assigned them: "The Relative Importance of City Planning as Compared with all Other Functions of City Government," by Andrew Wright Crawford, editor of the city-planning section of the Public Ledger; "Provision for Future Rapid Transit," by J. V. Davies, consulting engineer for the Brooklyn Rapid Transit Company; "Rapid Transit and the Auto Bus," by John A. McCollum, assistant engineer, Board of Estimate and Apportionment, New York City; "Protecting Residential Districts," by Lawrence Veiller, secretary and director of the National Housing Association, New York City; "Toronto's Water Front Development," by R. S. Goulay, of the Toronto Harbor Board, and "Recreation Facilities in the City Plan," by H. V. Hubbard, professor of landscape architecture in Harvard University.

Unquestionably one of the most important features of the convention will be the consideration of the principles and procedure of a Canadian Town-Planning Act. The Conservation

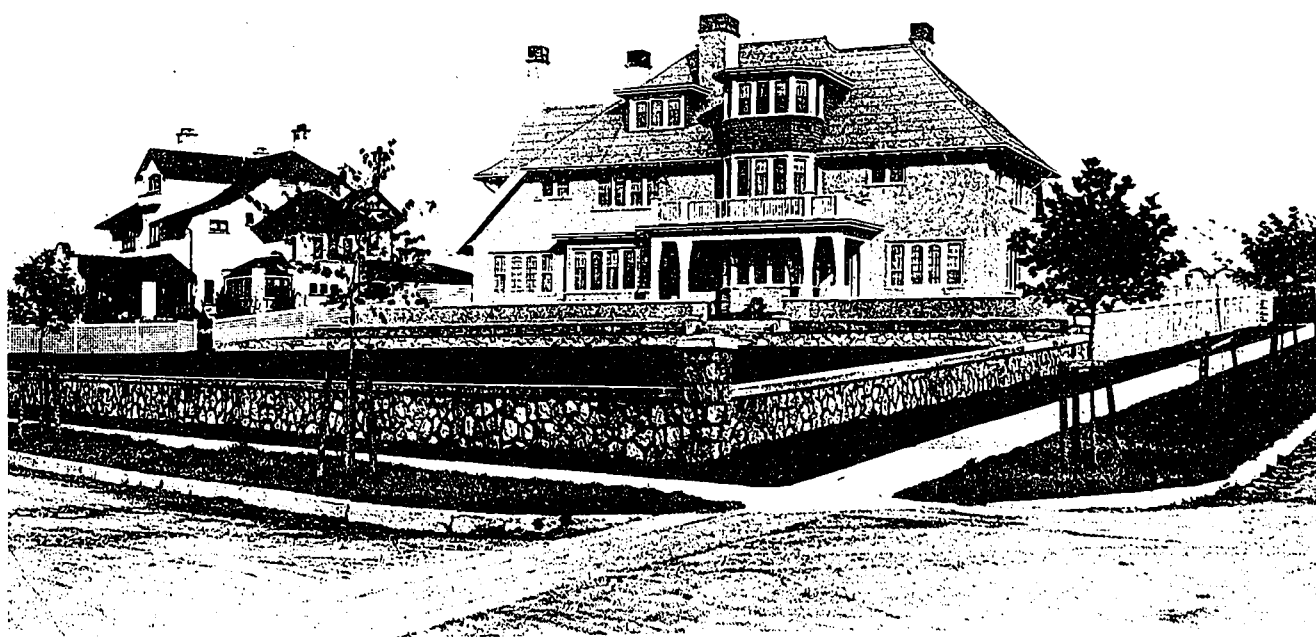
Commission of Canada has appointed a committee with Col. Burland as chairman to draft such an act which is to be freely discussed by experts from Canada, England, Germany and the States. This matter will be of universal interest. Hamilton, Ont. has deferred action in regard to city-planning until after this conference. Saskatoon is about to urge the Provincial Government to adopt a town-planning act. St. John, N.B., is also considering the adoption of an adequate plan to meet both her present and future needs. In fact, every Canadian city has or is considering the most practical and esthetic scheme for her own development along rational lines. Nothing could be of more vital importance than a Town-Planning Act comprising the fundamental principles necessary for each city which contemplates the enlarging and beautifying of its parks, streets and environs.

The exhibition in connection with the conference will consist of a large number of models, plans and diagrams shown recently in New York City as well as the work already accomplished in Canada. The variety of subjects alone will convey a slight idea of the vast amount of material to be presented. The exhibits are classified under: Comprehensive plans; civic centres and public buildings; planning of streets; housing the people; garden cities and suburbs; water supply and sanitation; parks and playgrounds; waterways; docks and bridges; railroads and transit; and helping industrial prosperity. It is to be sincerely hoped that all architects and engineers who are the authors of plans possessing special interest will communicate with W. S. Tecky, Commission of Conservation, Ottawa.

City-planning is a live question and needs the hearty co-operation of every person directly or indirectly interested. Too much credit cannot be given to the various people behind the city-planning movement. The high standing in their own profession of the men on the different committees show the importance as well as the broad scope of the work. The personnel of the speakers at the coming convention is indicative of the care taken by those in charge to have the best authorities discuss the most essential questions of the day. The exhibition illustrative of what has been done and is being accomplished will probably be the largest and best collection ever brought together. The invitations issued and the replies from all sources, including mayors, chambers of commerce, plan and park commissions, housing associations, engineering societies and architects, reveal the widespread desire to make this conference larger and more helpful than any other one held up to this time. And with the results already accomplished this can be done if the committees in charge receive your individual co-operation.



HOUSE BY T. ROBERTSON, ARCHITECT.



HOUSE BY MACLURE & FOX, ARCHITECT.

RESIDENTIAL WORK AT VANCOUVER, B.C.



VANCOUVER BLOCK, VANCOUVER, B.C.

# Vancouver, B. C.

THE growth of Vancouver during the last few years has been phenomenal. Springing from a wilderness less than a century ago it has become one of the large industrial centres of the growing West. During 1912 and 1913 over \$30,000,000 was expended in buildings, while many large projects are still in the course of completion or about to be started. The question of a civic centre has been constantly kept before the people, but only recently has it been made a vital issue. A scheme has been proposed which has received the endorsement of the commercial and industrial organizations of the city. The plan in addition to the group of central buildings includes the widening and beautifying of streets connecting Stanley and Hasting parks, located at extreme ends of the city. Monuments and fountains will be erected along the radiating thoroughfares which lead to the parks mentioned above.

The growth of Vancouver and the unprecedented commercial and industrial development of the territory in its immediate environments have been so rapid in recent years that the energies of the people have been directed to material interests, commercial enterprises, and development schemes, to the neglect of the artistic features or the beautifying of the municipality. The unusual activity in real estate and the rapid rise in values have encouraged the acquisition of centrally located properties in Vancouver for private enterprises and speculative purposes, while the demand for business houses and office buildings has been such as to encourage the construction of edifices to meet an emergency demand at high rental values.

This abnormal condition has resulted in the growth and development of a city possessing great commercial and industrial interests, but lacking in many respects the artistic features of a metropolitan municipality. There are many

splendid and artistic buildings in the business section of Vancouver, but they are so distributed and interspersed among smaller structures lacking in substantial and artistic features that their attractive appearance is lost or negated in the general ensemble. Telegraph, telephone, and overhead trolley wires form a network along the business thoroughfares, and the poles on which the wires are strung obstruct the view and give to the long straight streets an unsightly appearance. It is to correct these defects that the present movement for a civic centre has been started.

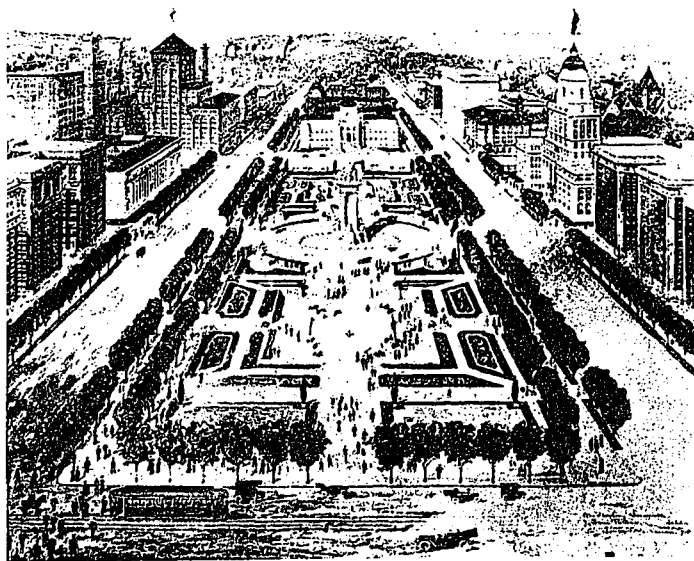
At the last municipal election the voters of Vancouver approved the plan for a civic centre and the location for a new city hall. The plan now under consideration is to use as a nucleus some vacant properties owned by the city and

to acquire others either by purchase or expropriation, within a radius bounded by Beatty, Cambie, Pender, Howe, Georgia, and Hastings streets. This district is in the centre of the business section, where the principal thoroughfares converge, and is admirably adapted to the purpose outlined in the plan.

Several of her recent commercial buildings are shown herewith as well as examples of the residential work. The Birks building is located at the corner of Granville and Georgia streets upon a site 100 by 120 feet; faced in glazed terra cotta on the main facades and white glazed brick in the courts.

Upon the interior the main floor is occupied by a retail store while the remaining portion of the building is arranged in offices. The structural parts are of reinforced concrete; stairs of marble; vaulted ceilings with ornamental plaster; marble terrazzo floors, and hardwood trimmings.

The Yorkshire building has ten stories; a frontage of fifty feet and a depth of one hundred and twenty feet. Built of reinforced con-



CIVIC CENTRE SCHEME. SOMERVELL & PUTNAM, ARCHITECTS.

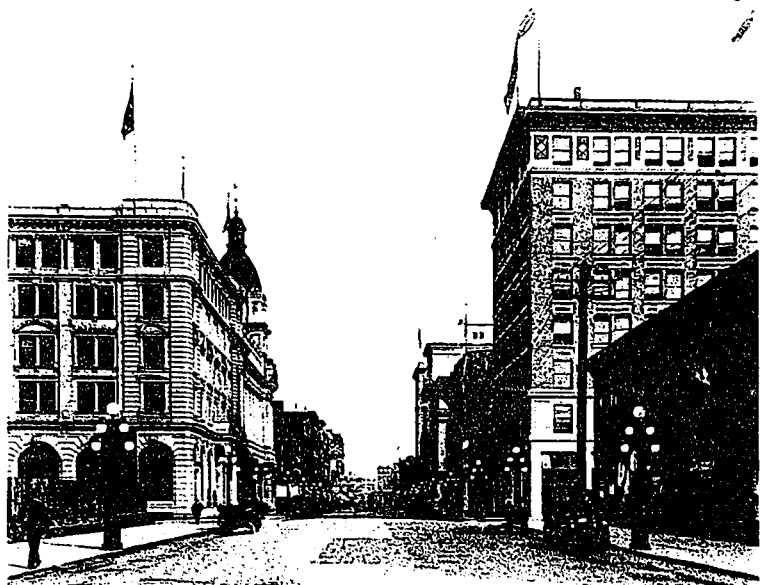


ROGERS BLOCK, CANADIAN BANK OF COMMERCE, AND C.P.R. STATION.

crete, the front is faced with white glazed terra cotta and the sides with pressed brick; the base course being of granite. The decoration of the main lobby consists of terra cotta with gold leaf ornament at the top and marble flooring. All corridors are wainscotted with glazed tile three feet high having glass partitions above. The ground floor is equipped for banking purposes; the floors being of terrazzo, counters and partitions of selected oak. The upper stories which have cork linoleum floors are to be laid out according to the wishes of the tenants. Equipped with a vacuum system of heating, the cost of the completed structure approximates \$300,000.

The Hotel Vancouver still in an unfinished condition, is faced with brick and terra cotta. In the main entrance vestibule marble, mosaic and terrazzo tile will be used for the floor and ornamental plaster for the ceiling. The vestibule will contain 20 pillars, each of which is to be panelled in marble to a height of 4 feet and above that in Austrian oak. A similar style of wainscot-

ting will be used for the entire ground floor. The building will contain 700 bedrooms altogether, each room having access to a private bathroom. All bedrooms will be fitted with solid oak doors and the interiors will be finished in white



HASTINGS STREET WEST.





HASTINGS STREET, DOMINION TRUST BUILDING TO RIGHT.

enamel. A convention hall measuring 50 by 100 feet will be one of the features of the Granville street wing. Provision has been made for a billiard room of similar dimensions directly underneath the convention hall in the basement. The hotel will have four main entrances altogether, one of these being in the Granville street wing and leading directly to the convention hall. A roof garden with pergola measuring 60 by 200 feet will comprise the entire 16th storey of the central building. There will be 18 electrically operated elevators in the hotel. The cost of the entire contract is expected to run as high as \$2,500,000.

In the competition for the Provincial Royal Jubilee Hospital, L. P. Rixford was awarded first prize; Somerwell & Putnam second and James & Davidson third. Fifty sets of drawings were submitted, many of which received merited comments from J. D. Atchison, advising architect in charge of the competition.

Mr. Lindsay in commenting on the future development of Vancouver, says:

"Vancouver is to be, in the very near

future, the converging point of six great transcontinental railroads, and in addition to these there are some three other railroads projected, which will connect these transcontinental lines, opening up very large tracts of land to settle-



GRANVILLE STREET.

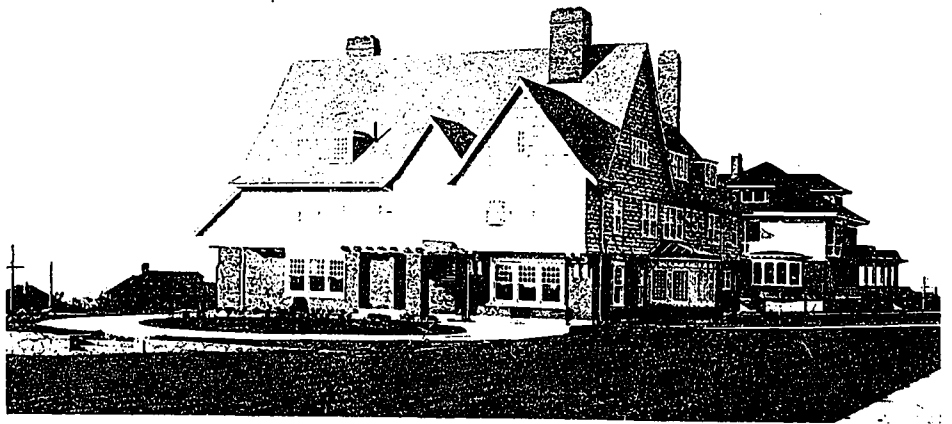


PANORAMIC VIEW

ment. Two of these are now nearing completion. Vancouver, now the principal port of call of a large number of ocean-going craft of all descriptions, is to be the Pacific Coast terminus or principal port of call for fourteen great steamship lines, and as Vancouver's harbor is accessible to the largest vessels afloat, it will rank second to none on the Pacific Coast."

At a recent meeting of the Vancouver Chapter of Architects, J. W. Mawson read a paper on "The Modern Landscape Architect." After defining landscape architecture as the art of correlating the component parts of a scheme over large areas and showing how it aims at producing a collective effect from the scattered units whether they be ecclesiastic, public or domestic buildings, trees, green sward, roadway or flower beds, he asks: "Are not architecture, horticulture, engineering and all the other factors which go to the making of a city or domain parts of one great art or science? Yes, in one sense, and that art is landscape architecture. As an art or science comes to be very fully known and the volume of its precedent increases, its adherents find it necessary to specialize and devote themselves to one portion of the subject, leaving the development of other branches to their confreres, each specialist sharing in the advances made by the others and contributing to the general progress of the science as a whole.

"Unfortunately there is sometimes the danger that in this subdivision of labor there may be the neglect of the art in the elaboration of its parts; thus in architecture, which depends for its success more than any other art upon correct staging, we are rapidly awakening to the fact that in the study of individual buildings we have neglected the greater and broader subject of landscape architecture. We have looked upon each unit in the composition too much as an entity in itself and too little as a component part of a larger scheme, and not until we can conceive of the individual creation in its dual capacity can architecture reach its highest



HOUSE BY SOMERVELL &amp; PUTNAM, ARCHITECTS.

development in the attainment of true art. "It may be objected that it is impossible to conceive of any building apart from its site and, therefore, design and staging cannot be dealt





OF VANCOUVER.

with separately by the domestic and landscape architects. While it is true that environment will influence the least responsible designer, so far as the design of his particular unit is concerned, it is only the influence of immediate surroundings on the unit, and that very partially, which he realizes; the greater possibilities contained in the opposite view, the relation of the unit to its surroundings are entirely neglected.

“In no sense of criticism, I refer you as an example on this point to our own Shaughnessy Heights. While many of the buildings are in themselves of exceptionally good design, I always feel, and I am sure you must feel also, that

of a master hand to co-relate and to co-ordinate these units should ever have been lost sight of is due, not so much to egotism on the part of those in charge of the various sections of the subdivision, as to the lack of adequate representation from which landscape architecture has suffered; the lack, that is, of a strong man to fill the post and worthily uphold the traditions of his office.

“In an article entitled ‘Vancouver, a City of Optimists,’ written by my father for the ‘English Town Planning Review’ a short time ago, there is a passage which reads: ‘Where was primeval forest yesterday, men are living and trading to-day and to-morrow there will be a great city, and to one’s mind instinctively leaps

the thought, what will the men of to-morrow say of the city which we of to-day have bequeathed them? Will it speak only of meanness and narrowness of outlook and its topography, fixed more or less for all time, fill them with despair, hamper their commerce and stifle their love of the beautiful at their very doors? Or can we, by the inception of a wise policy and its steady pursuit, with our eyes ever on the goal set before us, insure that generations yet unborn shall



HOUSE BY GRANT, HENDERSON & COOK, ARCHITECTS.

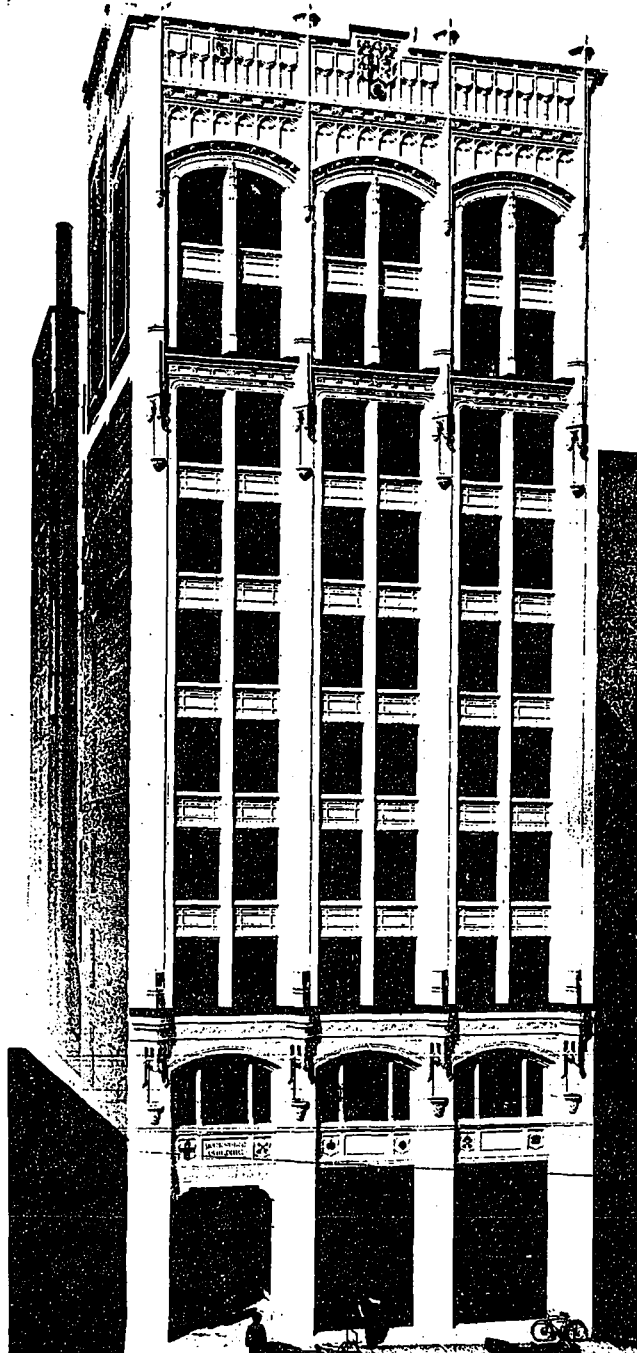
there is almost a total lack of harmony, viewing the property as a whole, and that sometimes the clash of color or style in two adjoining houses almost sets one’s teeth on edge. That the need

hold our efforts in grateful remembrance?”

“Gentlemen, I ask you to seriously put this question to yourselves: What are we doing in Vancouver to ensure that generations unborn

shall hold our efforts in grateful remembrance? For myself I would answer with shame: 'We are doing nothing.' It is true we are a city of optimists, but our optimism is of the Micawber type, we are waiting for something to turn up.

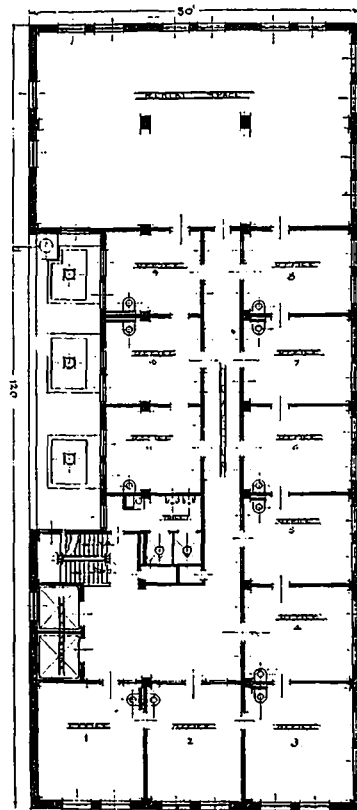
While almost every city on the American continent, including the Eastern and Middle West cities of Canada, are actively engaged in setting



drifting blindly into all the mistakes which the old world cities are regretting so bitterly today. Yes, even Athens, the most beautiful city in the old world, so rich in historical association and the fountain of inspiration for 2000 years of architects, sculptors and painters, has finally been called to book.

"Gentlemen, we may load our cities with beautiful and chaste buildings and handsome tree-lined boulevards, but if we neglect the fundamental principles of public health, housing of industrial classes and transit facilities, our work will have been in vain, and our beautiful building stand as monuments of our wasted opportunities.

"How many of us have taken thought for to-



ELEVATION AND PLAN.  
YORKSHIRE BUILDING.

morrow except of what we shall eat and drink? What arrangements have we made for dealing with the great volume of shipping which all believe is coming to our port with the opening of the Panama Canal and the operation of our great trans-continental railways? How are we to house our freight? What area must be given over to commerce? Where are we to house the men and their families who will handle this trade? Where are the administrative, educational and recreative centres to be located, and,

finally, how are we going to take care of the vastly increased surface traffic which must inevitably follow any increase in population or industry?

"That is the past. What of the future? How are we to ensure that our city will be healthful, convenient and planned on generous lines and, therefore, beautiful in the days to come and a fitting place in which to work and live, and who is responsible for the future? Primarily, we are, each one of us, responsible, because we are the men who elect the members of the city council, who are, after all, only the civic executive public servants, and they can do no more than put into effect the legislation which is dictated by public opinion. Cannot we, in this growing

their house in order and so regulating their growth that no monies shall be wasted and every unit be built from year to year according to a wisely preconceived policy. Vancouver, a city blessed with more natural advantages of location and beautiful surroundings than any other city on the continent and an almost perfect site from a topographical point of view, is

city of Vancouver, arouse public sentiment to the point of deciding a settled policy of city improvements, and say that we will not pull down next year what we did this year, because we find that we have to go a little further, and because what we have done will not work into our schemes for improving the next block. Cannot we say that we will have a plan and a descriptive report, or whatever it is, which will show us what we intend to do in the next hundred years, so that we do not have to start all over again with every new city engineer or council? It may be impossible to tie ourselves down in detail. Modern invention proceeds so rapidly that to-morrow we shall have amongst us, and every day onwards, things we do not dream of to-day, but broad principles may be made, and it is for these we should prepare, and for which we should lay down a policy.

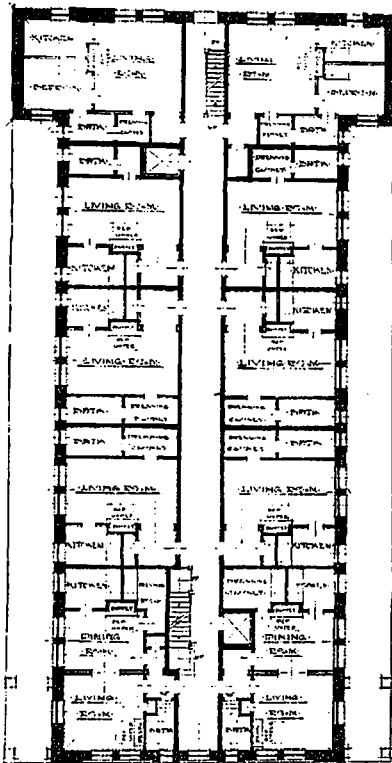
"Furthermore, this question is right here with us to-day, and it is up to each one of us individually and as a society to strain every effort and nerve to secure the only possible and desirable end where our city is concerned, but to create and adhere to, for all time, a policy and plan which will be worthy of a city so liberally endowed by nature with the good things of life."

At the first Annual Architectural Exhibition of the Vancouver Chapter of Architects, F. B. Vrooman spoke as follows on "The Architectonic Idea." Let me open this paper with a sentence which closes one of my books. It is a happy phrase of Dr. August Forel: "Let us not abandon the race to the fatalism of Allah; let us create it ourselves." That we ourselves have anything to do in the matter of making the world we live in, or making it a better or happier place to live in, seems little to have entered the thought of the vast majorities of mankind.

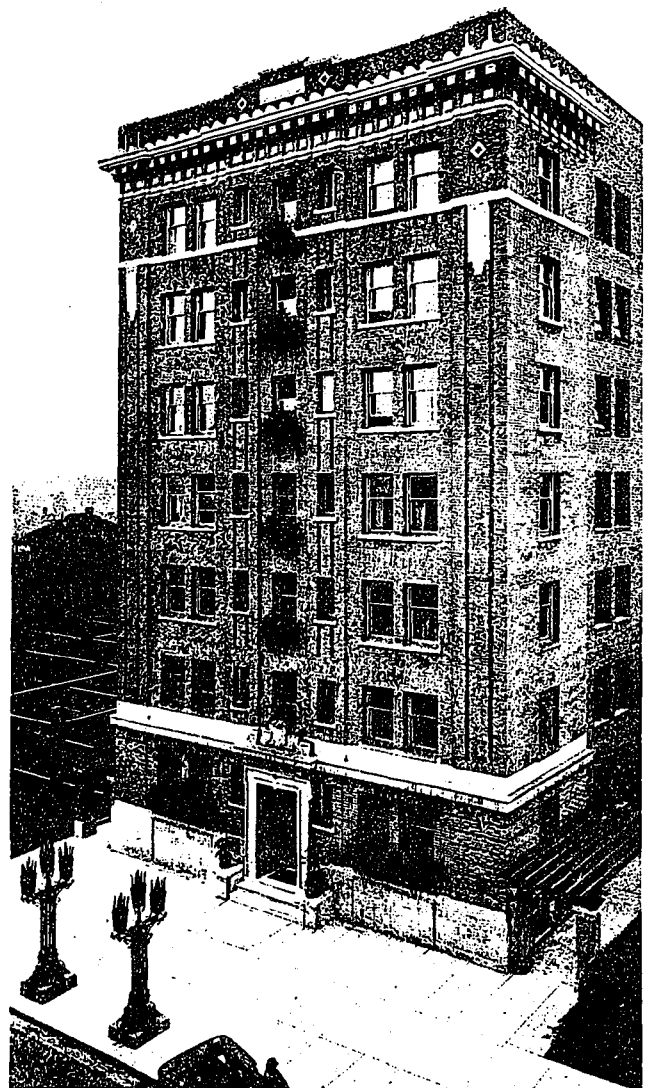
The fatal error and the hopeless outlook of our prevailing philosophy of life is in our point of view. It is the individual man. It is each for himself. The outlook of the world is the outlook

of the individual. The creed of the world is that the universe must be interpreted from the standpoint of the individual, not the individual from the standpoint of the universe. Now, my claim is that the regeneration of the world is impossible until that time comes when men are willing and able, each to adjust himself, the fragment to the whole—and that not only, but in that harmony of relationship with the other units as real as himself, which will do no violence to the architectonic idea.

The architectonic idea carries with it something creative, harmonious, efficient and artistic.



ELEVATION AND PLAN,  
CAROLINE COURT APARTMENTS.

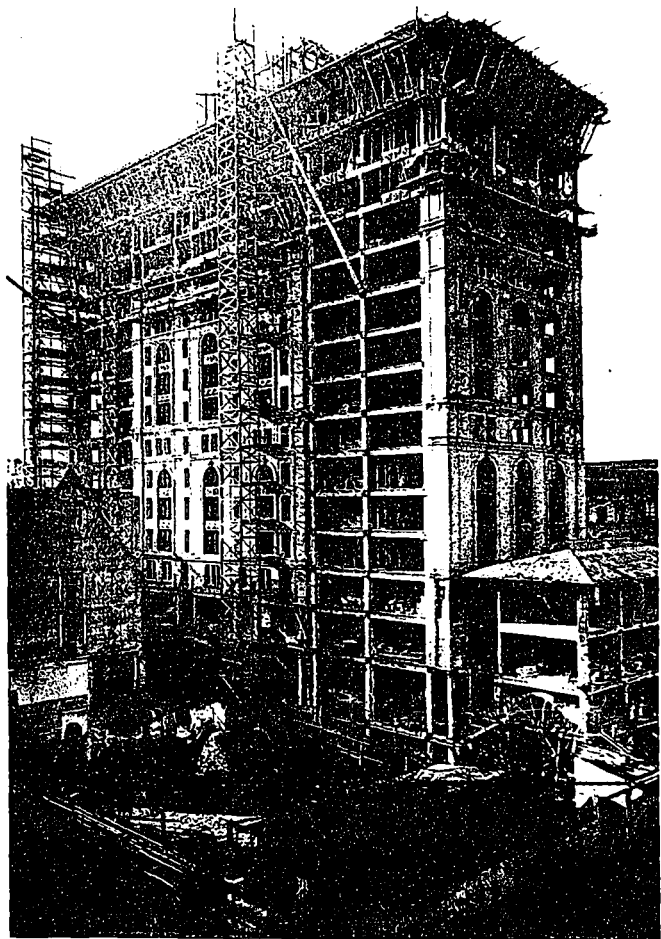


Primarily, the idea underneath the old Greek word "architecton" is, that behind the building's deed is the builder's thought. It involves policy or program, foresight, unity of design, and aim.

I have no intention of entering into any technical discussion of the subject of architecture, which every one of you understands so much better than I; but if I can make an application of the idea which underlies your work, this brief paper will not have been written in vain. Furthermore, it is no part of my design to make a



BIRKS BUILDING BY SOMERVELL &amp; PUTNAM.



VANCOUVER HOTEL BY F. S. SWALES.

plea for the architect's drawings and designs in building a house, since the world is fairly well educated to that point by this time. I wish to point out two directions where I believe the architectonic idea may be applied in the future for the vast betterment of mankind. I refer, first, to the city, and second, to the state.

Every city, especially a new and young and vigorous one, should have enough public spirit to begin its work for the future on intelligent lines, and there is no way of beginning a city without the great outlines of architectural plans; and by architectural plans I do not mean merely that part which pertains only to its landscape gardening, if I may use the phrase in the larger sense, but everything which pertains to its engineering efficiency in the practical administration of those affairs which deal with every day life of all the people, like transportation and traffic, like sewage, water and light, and things of that type.

Here we are in Vancouver, where less than a generation ago stood the ancient forest. In an area which alone is large enough for the future metropolis of the Empire on this ocean, have sprung up nearly a dozen separate municipalities without co-ordination or co-operation—without engineering efficiency or financial economy. Some efficient support has been given by the Park Board—all they could give it as to parks—but so far very little has been done at all adequate to meet the daily necessities of the people, and especially the children growing up, to give them open breathing spaces.

Very little has been done in the way of the great outline of the architectonic idea, which should be started by throwing this great area of the Burrard Peninsula into its three distinct and separate zones, which for the most part should not be mixed. First, the shipping and industrial district; second, the down town and retail district; third, the residential district. Now, in broad outlines, these districts should be distinct and separate zones. The residential district should not be invaded by factories with their clutter and smoke, nor indeed by the riff-raff, nor the residences of the riff-raff who always haunt the water-line about the wharves of every great shipping centre in the world—men of every nationality, and of no country for the most part, but who live on ships upon the sea. Such people should be segregated from the residential district of every great city. Then again the industrial population of a city should live near their workshops or factories, and these workshops and factories should be in the closest inter-relation with the ocean and railroad terminals. In other words, any intelligent plan for a city will involve vast areas laid out, which shall be sufficient for all needs of a reasonable future time for the closer inter-relation of in-

dustry and commerce. I do not mean retail trade, I mean industry and commerce, and they are two different things.

In speaking of the architectonic idea as applied to the state, it is necessary to call attention to the almost hopeless condition of Anglo-Saxon politics. There is something fundamentally wrong in our politics. It is opportunist; it is partisan; it is founded on interests, not principles. It appeals to selfishness, not patriotism. The consequence is, it is corrupt, and the corruption of Anglo-Saxon politics especially in Canada and the United States is undermining the respect of the common people for law and order, and in this is the great danger in the immediate future. The average political life of the average politician is guided by no over-ruling principle, no devotion to the common good. Back of this yet is our general philosophy of life, in which we have accepted the gospel of laissez-faire. It is a political expression of the general doctrine of individualism, stated briefly—every fellow for himself. It is the “personal liberty” idea, carried to impossible extremes, forgetful of the fact that there is no real freedom except through law and order. In architecture we would have the same doctrine, if it were allowed, that every brick-layer, and every hod-carrier is at liberty to do whatever may please his passing fancy in the house he is helping to build. It is the gospel that every ignoramus can change the architectural plans of the expert in the city being planned. It is the theory, that any fool can become a statesman, whether he is square or dishonest, wise or otherwise.

The greatest need of modern politics is a rational and constructive democracy. I do not mean the democracy of individualism which is undermining the very foundations of law and order, but an architec-

tonic democracy. That which holds the old regime together is self interest. Something larger and better must be substituted—the motive of goodwill and the purposive mission of



HOUSE BY GRANT, HENDERSON & COOK, ARCHITECTS.

the state, “to promote the general welfare.”

The Architectonic Idea is not a creation of man applied to political theory or practice. It will be, when it comes, the discovery first, and then the realization in the relations which exist among men, of the order of the universe. Some day, let us be allowed to hope, that the future Architect of the State will build the great

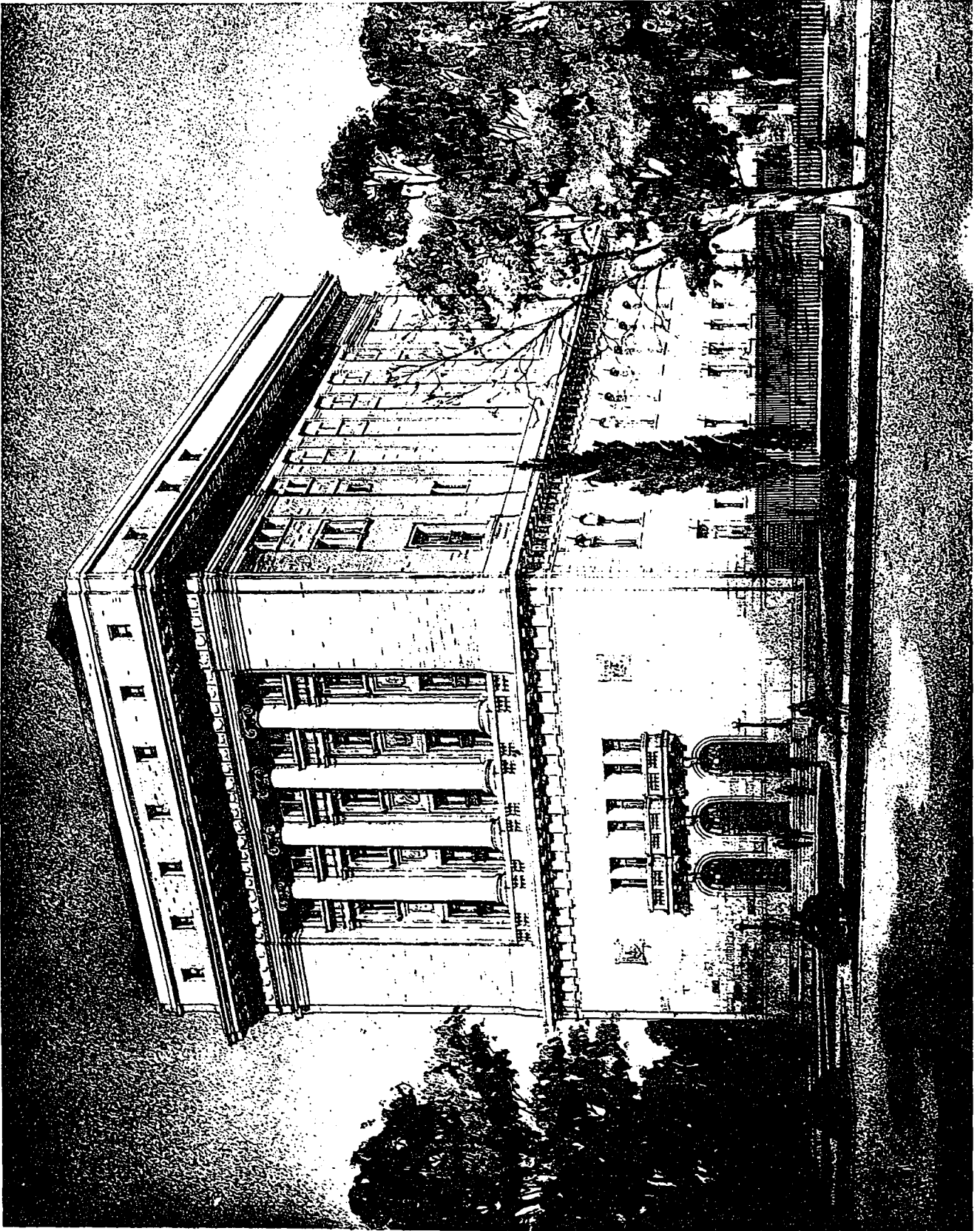


HOUSE BY MACKAY R. FRIPP, ARCHITECT.

Temple of Humanity upon the earth as the Great Architect of the Universe has built under the sky. “Let us not abandon the race to the fatalism of Allah. Let us create it ourselves.”

WINNING DESIGN,  
MASONIC TEMPLE,  
TORONTO, ONT.

H. P. KNOWLES,  
ARCHITECT.





# New Masonic Temple, Toronto, Ont.

C. H. Boyles

THE recent competition held in Toronto for a new Masonic Temple building was of unusual interest in that the contestants were from all parts of the Dominion, the fourth prize being won by an architect in the extreme West. Forty-one plans were submitted, most of which depicted the character of the building for which it was to be used and expressed a careful consideration of the problem from an esthetic as well as a practical standpoint. The successful competitors were: First prize, H. P. Knowles, New York City; second prize, John M. Lyle, Toronto; third prize, Hutchison, Wood & Miller, Montreal; fourth prize, A. W. Gould and A. E. Harvey, Victoria, B.C. The new temple will be erected on the west side of Spadina road north of Bloor street on the site of the house formerly occupied by Sheriff Mowat. The lot has a one hundred foot frontage with a depth of one hundred and ninety-eight feet.

The report submitted with the winning design by H. P. Knowles, the architect, is as follows:

The claim made for this building is its simplicity and compactness; in fact, it has been condensed as much as possible and still comes within the requirements of the program. The connections and circulation are direct; there is little or no waste space; the various rooms are well shaped and bear proper relation to each other; and this squareness and directness naturally simplify the construction.

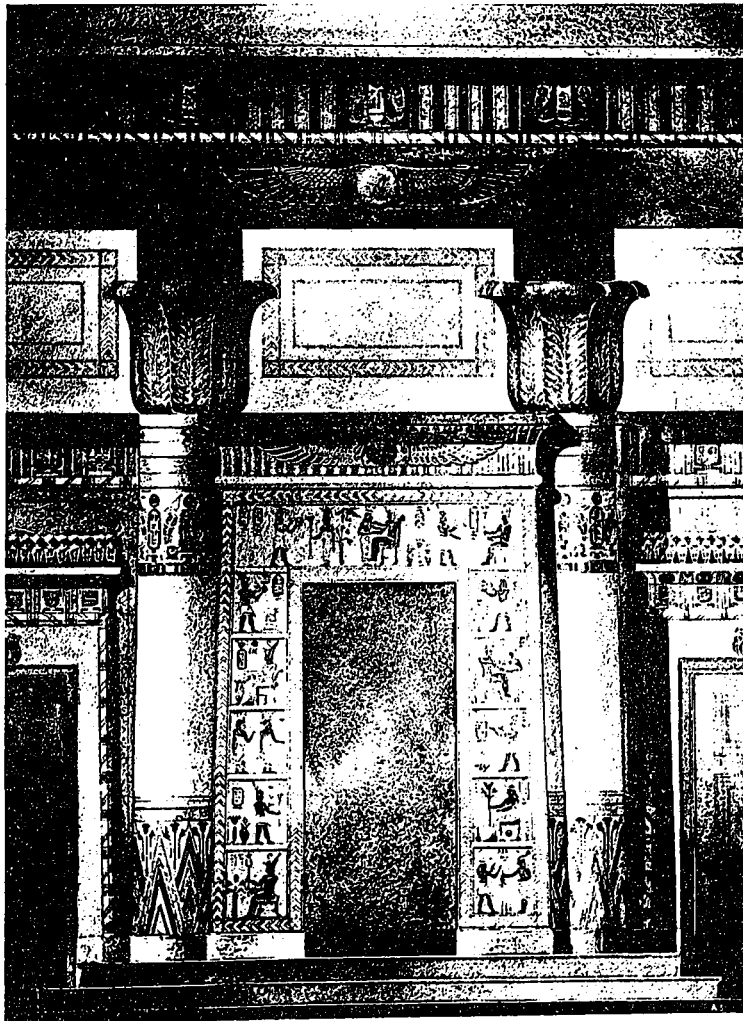
*Structural Details.*—The building proposed is fireproof throughout; the framework to be a

skeleton of steel columns (formed of channels and plates), beams and girders, the floor arches to be of terra cotta blocks or reinforced concrete as may be decided when estimating. The entire structure including the outside walls is to be carried on this steel framework. All outside walls are of brick, stone or terra cotta as indicated. Owing to the length of spans between supports in the assembly room and the various lodge, chapter, Scottish Rite, and Preceptory rooms, heavy steel girders will be required. All staircases will be constructed with steel carriages, cast iron risers, ornamental cast iron strings and wrought and cast iron balustrades, and marble treads. All interior parti-

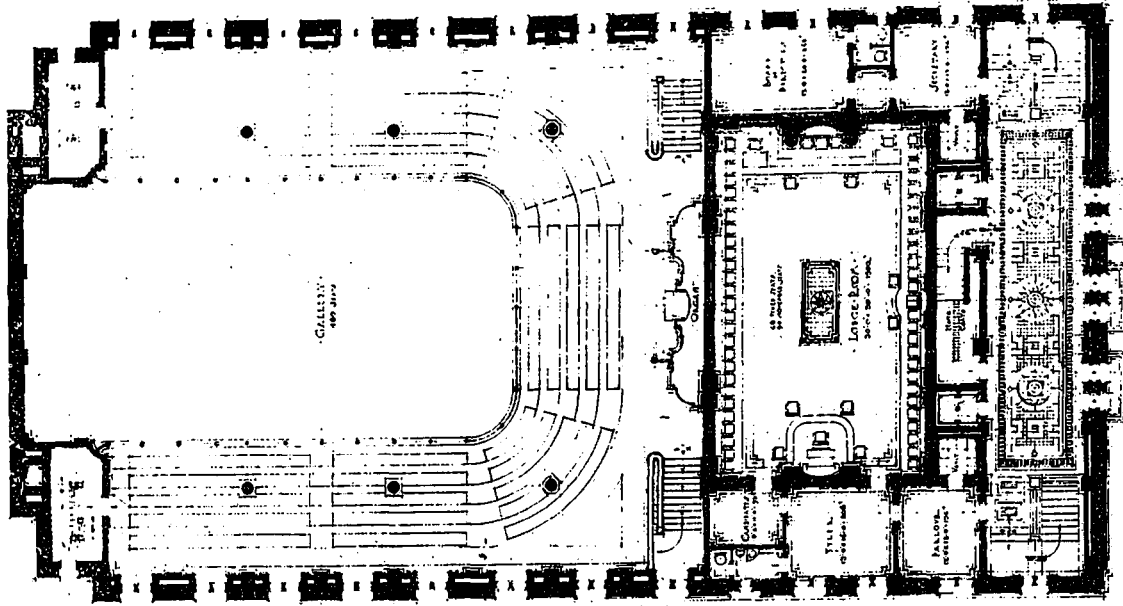
tions are of hollow terra cotta blocks; all floors in entrance and staircase halls, in corridors and toilets, shall be of marble mosaic or terrazzo mosaic; and all floors in lodge rooms, ante rooms, banquet rooms, etc., shall be of oak laid over cinder-concrete fill. All exposed steel members to be protected with not less than two inches of fireproof material, either burnt clay or concrete. All interior wood trim, doors, panelings, etc., to be of hardwood, the cores of which shall be treated with an approved fireproofing solution.

*Interior Arrangement.*—The building is entered from the street through three 6 ft.

doorways in the centre of the front into a broad entrance hall extending the full width of the building; at either end of which is located a broad, handsome staircase. The floor of this hall is lowered 4 ft. below the general first floor

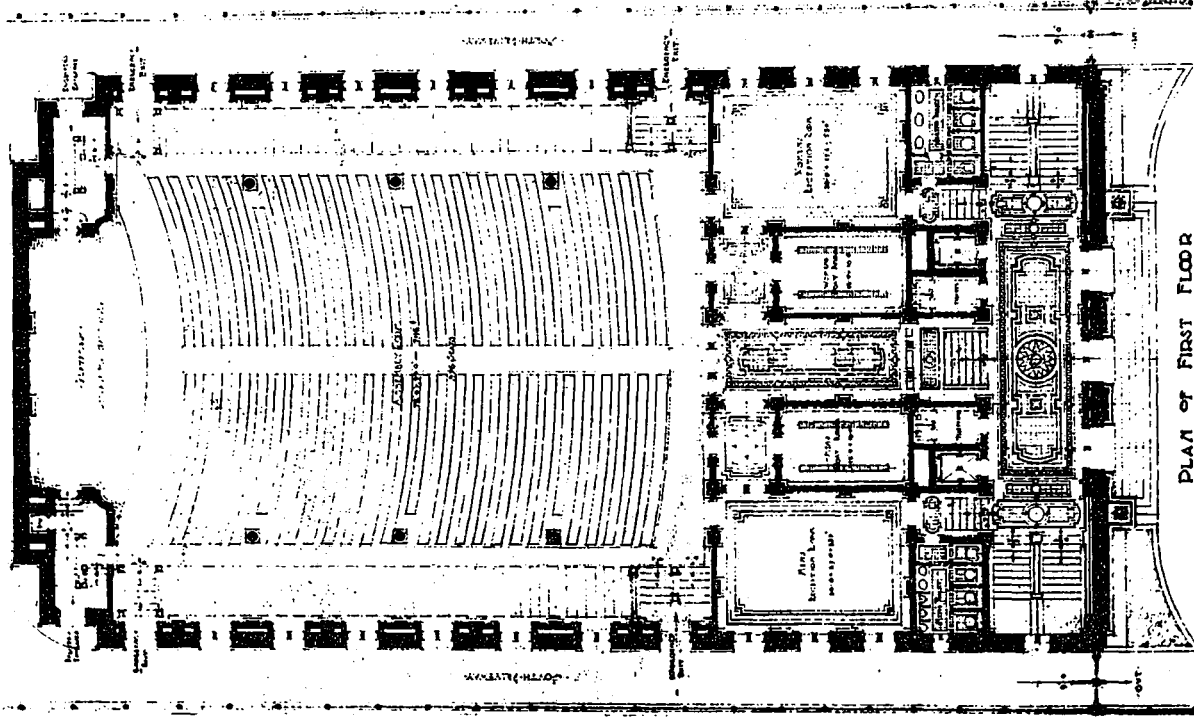


DETAIL OF CHAPTER ROOM, WINNING DESIGN.



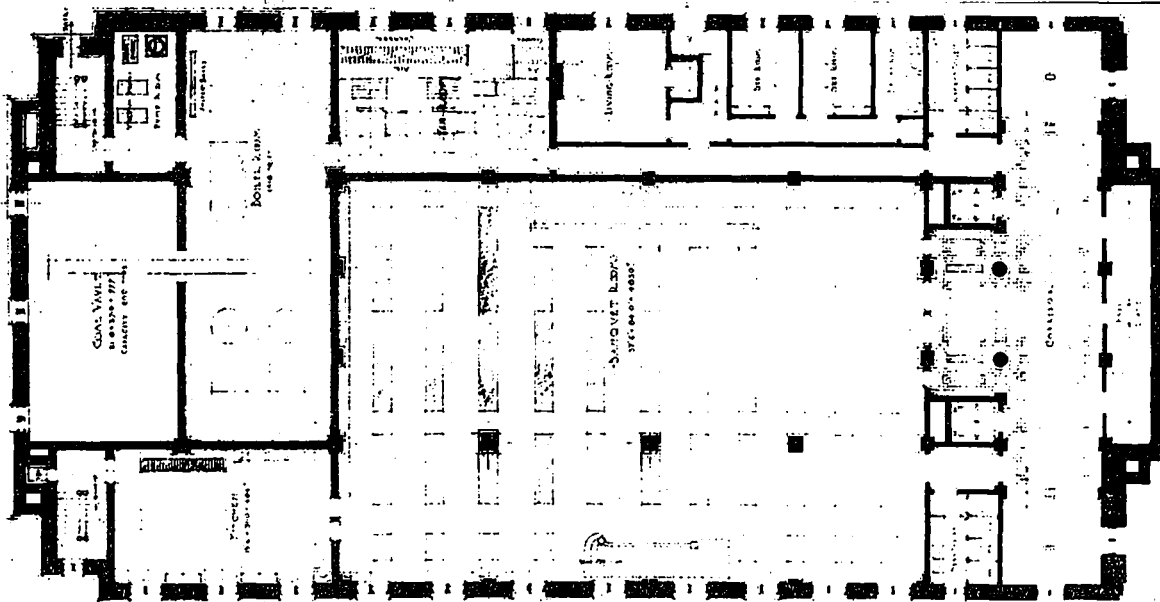
PLAN OF GALLERY GALLERY FLOOR.

J. P. KNOWLES, ARCHITECT.



PLAN OF FIRST FLOOR FIRST FLOOR.

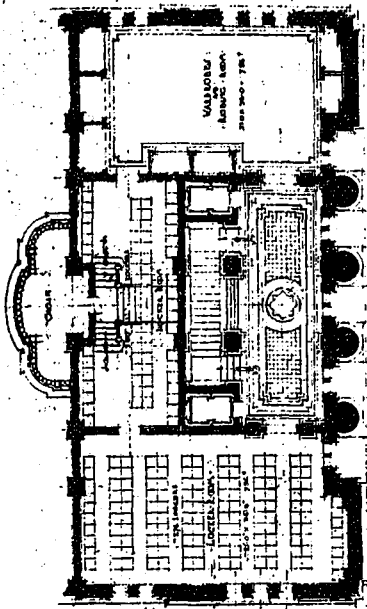
MASONIC TEMPLE, TORONTO, ONT.



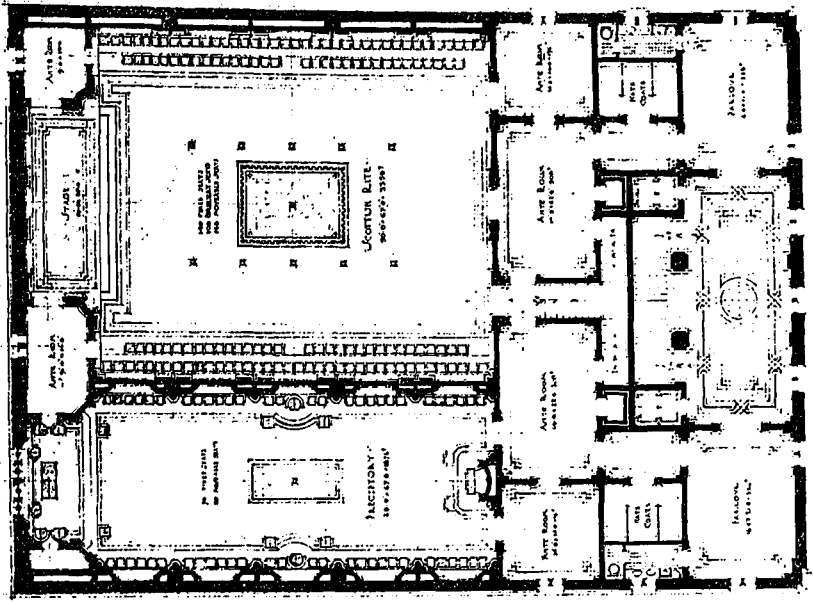
BASEMENT.

WINNING DESIGN.



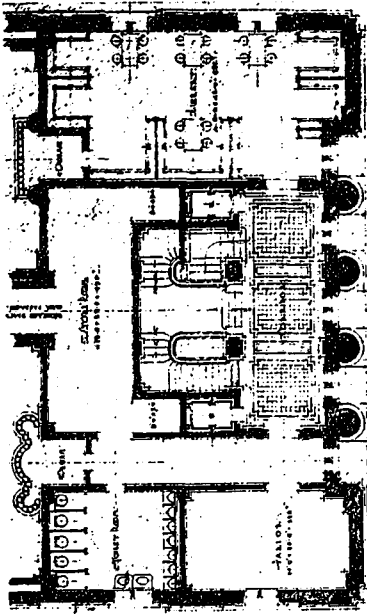


THIRD FLOOR MEZZANINE

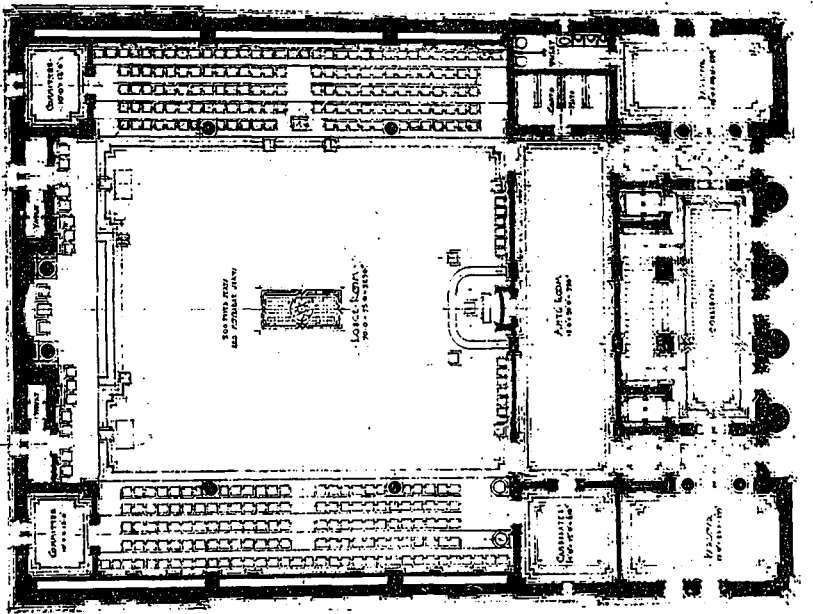


FOURTH FLOOR.

H. P. KNOWLES, ARCHITECT.

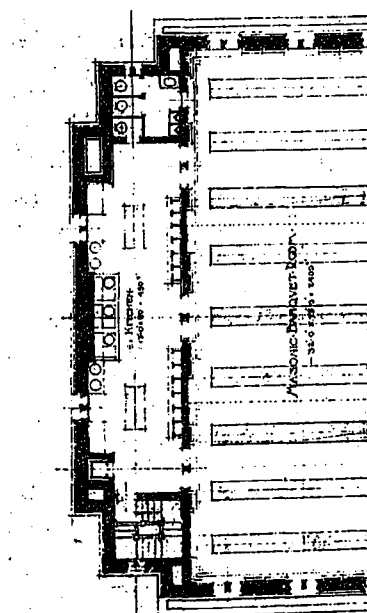


SECOND FLOOR MEZZANINE



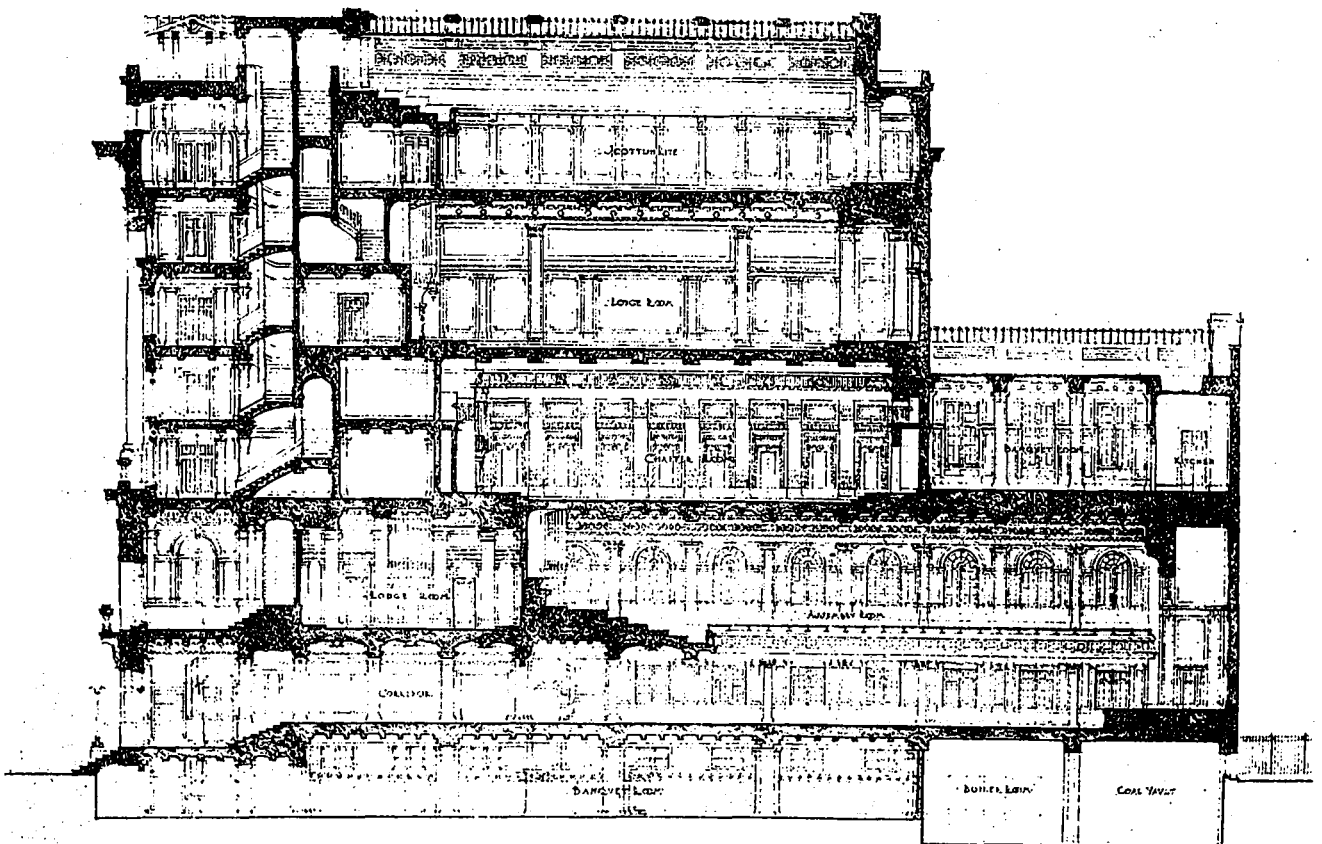
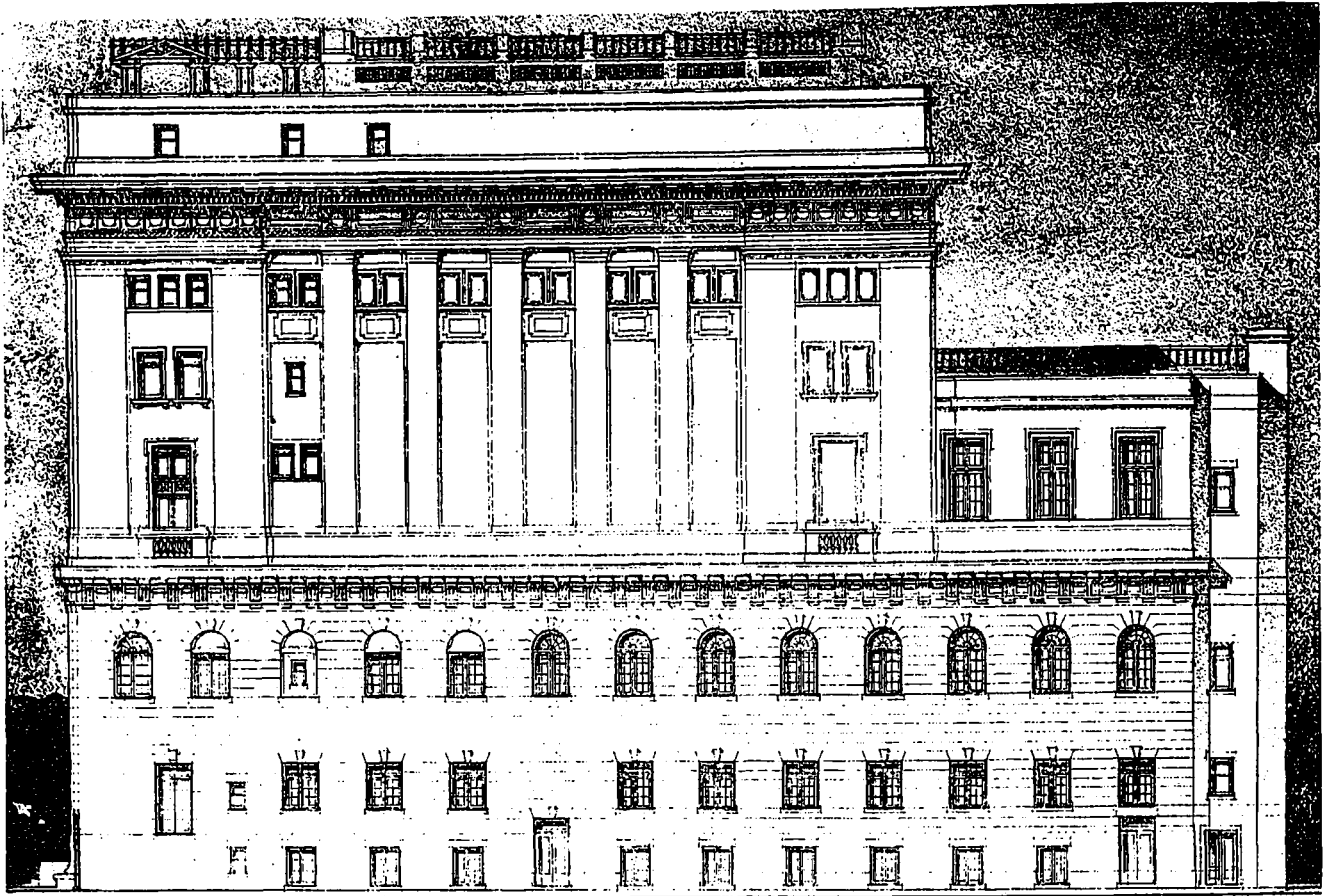
THIRD FLOOR.

MASONIC TEMPLE, TORONTO, ONT.



SECOND FLOOR.

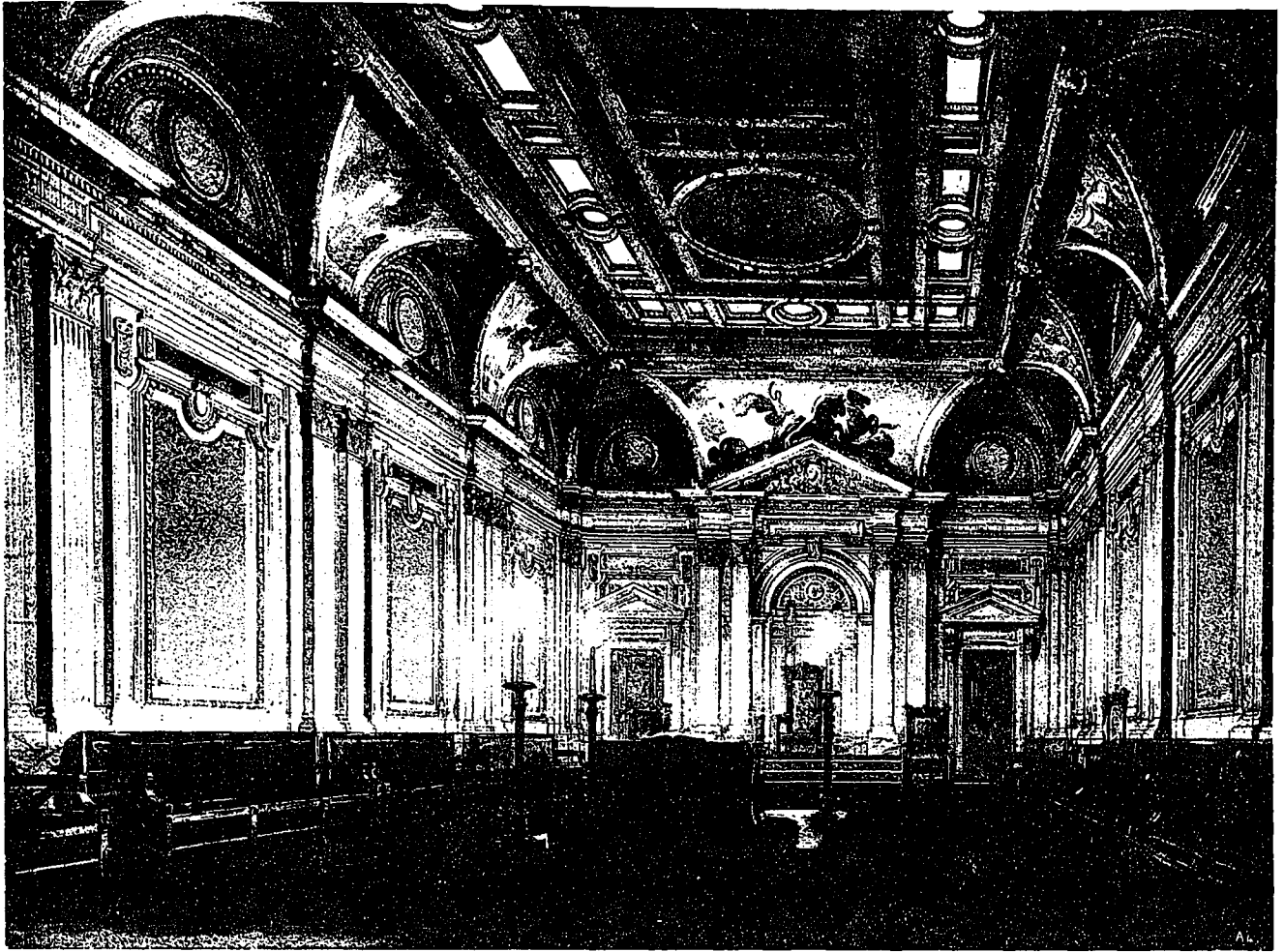
WINNING DESIGN.



SIDE ELEVATION AND SECTION.  
 MASONIC TEMPLE, TORONTO, ONT.

WINNING  
 DESIGN.

H. P. KNOWLES,  
 ARCHITECT.



SCOTTISH RITE ROOM, WINNING DESIGN.

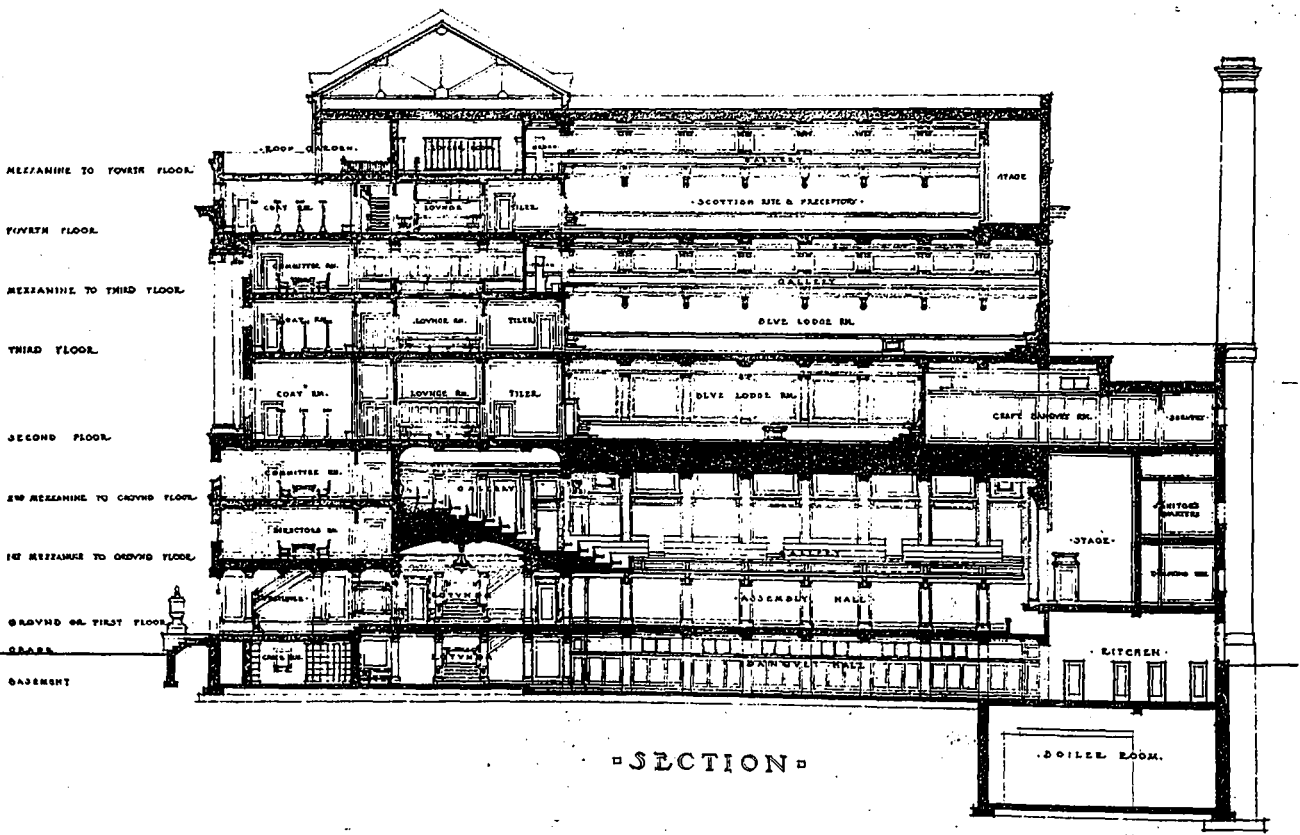
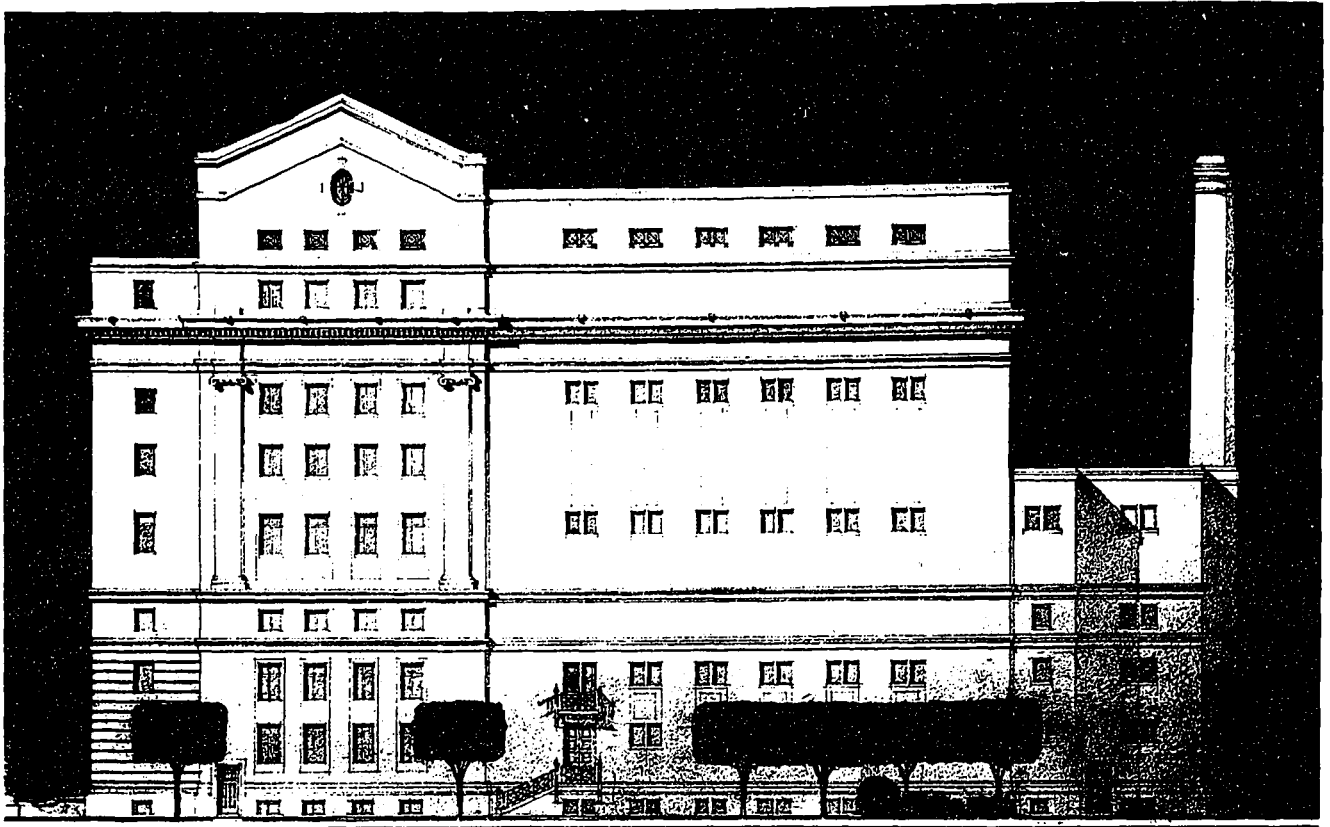
level (see sections and first floor plan) in order that additional height and dignity may be given to this entrance hall. On either side of the centre of this hall is a passenger elevator of the overhead electric traction type, which eliminates all elevator machinery in the basement and requires only a small motor room on the roof.

On the centre axis leading directly to the large assembly hall is a broad corridor 12 ft. wide and to the left and right before entering the main room are openings leading to the lounging rooms, coat rooms, toilet rooms, etc., for both men and women. These rooms are large and conveniently arranged to care for large crowds and after crossing the entrance hall no contact whatever is had with the Craft members using the upper floors—the elevators and staircases being arranged for the exclusive use of the members. The two flights of gallery stairs are placed within the assembly room, and one of them extends down to the banquet hall in the basement. Two additional staircases are provided for emergency in the gallery on both north and south sides at the stage end of the room. In addition to the main entrances to the assembly room, six additional emergency exits are provided, three to each side, all opening directly to the side driveways. Fixed seats,

liberally arranged, provide for 1456 sittings, which with the additional sittings on the platform elevated 3 ft. above the floor level, make the required 1500 seats. This room is 99 ft. long to the back wall of the platform, and is 76 ft. wide and 31 ft. 6 in. high. Ample space is furred off from the side walls to provide for a supply of fresh air and for the exhaust ducts leading to the roof fan house. The treatment of this room is simple and dignified, with an order of pilasters around the walls, and a deeply panelled ceiling. Attention is particularly called to the natural lighting of this room.

On the gallery floor is found space for the smallest lodge room, accommodating 150; also the necessary rooms for the Board of Directors. These latter rooms are easily reached from the main entrance, as they are at the head of the north staircase one flight up.

On the second floor is a lodge room and a chapter room, each accommodating 250. A large toilet room for these two rooms is placed on the mezzanine directly over the ante rooms as shown. Between these rooms on the second floor is a corridor leading directly into the Masonic banquet room. This room is the full width of the building with large windows at either end and a kitchen at the rear. Dotted



SECOND PRIZE DESIGN.

SIDE ELEVATION AND SECTION.

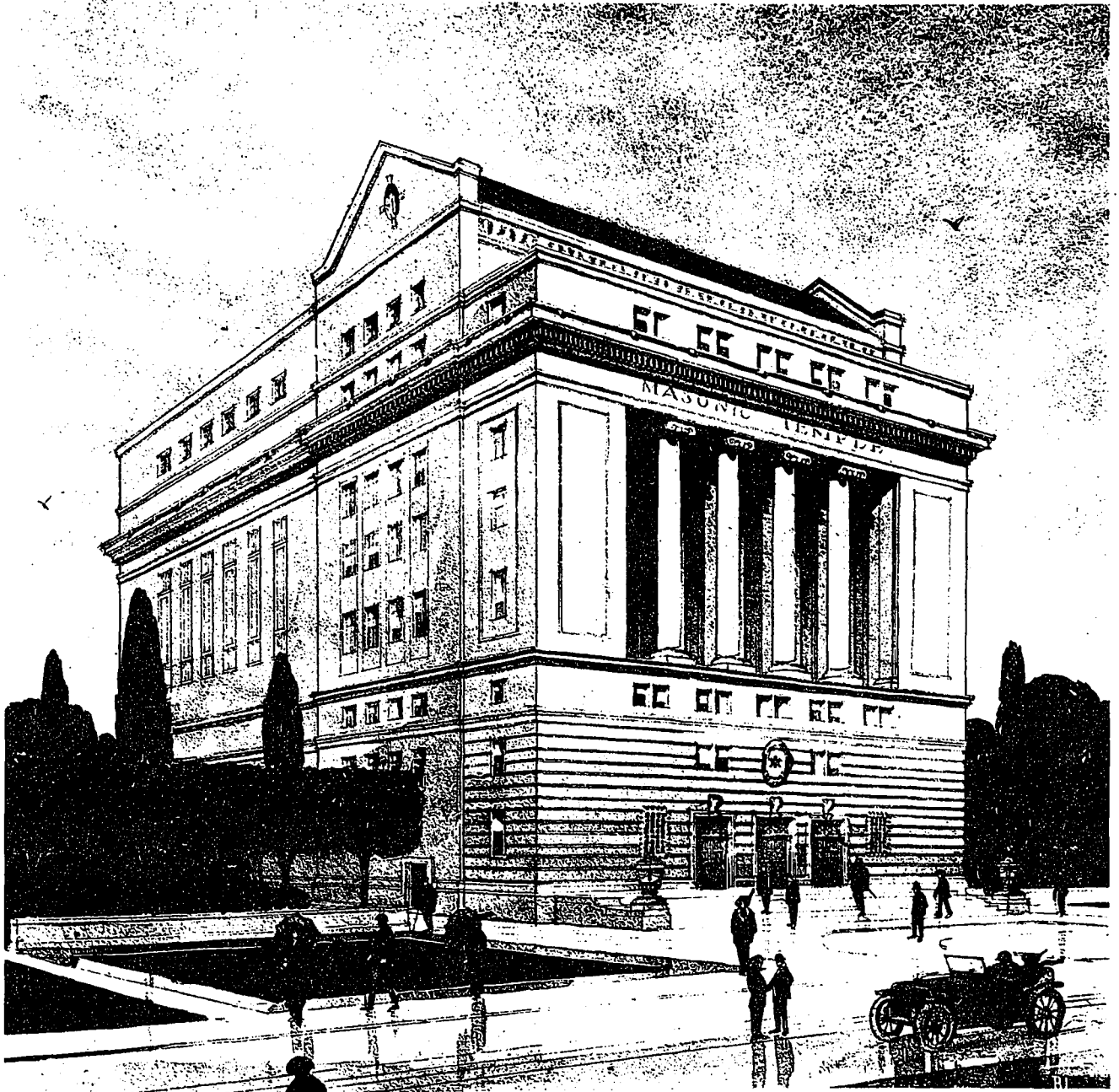
JOHN M. LYLE, ARCHITECT.

MASONIC TEMPLE, TORONTO, ONT.

lines indicate three possible divisions with sliding partitions, each of which may be served through an independent kitchen entrance. A staircase leads down from the kitchen to the rear yard and tradesmen's entrance. Dumb-waiter, range, vent flues, refrigerators, toilets, etc., are all indicated. The second story mezzanine contains the library on the north side, a large parlor or committee room on the south

private staircase leading to the ante rooms above.

The fourth floor is divided into two main rooms to be used by the Preceptories and Scottish Rite bodies. The larger room has a gallery at the rear extending back over the ante rooms 17 ft. and the full width of the room, and is reached by a broad stairway leading directly from the main room or from the ante rooms as



SECOND PRIZE DESIGN, MASONIC TEMPLE, TORONTO, ONT.

JOHN M. LYLE, ARCHITECT.

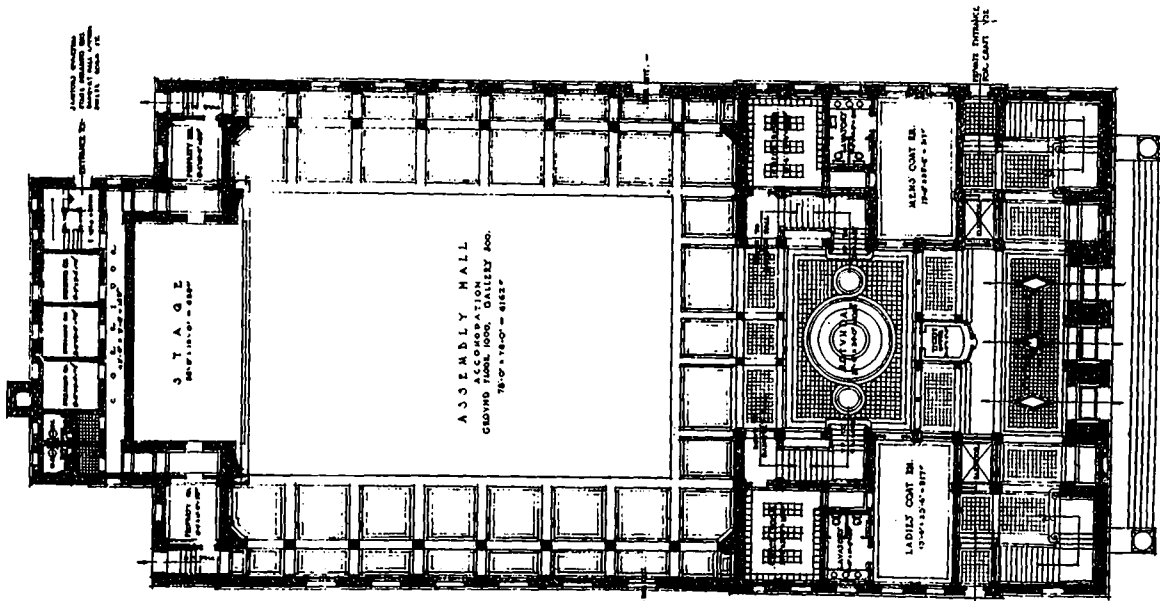
side, and a storage space in the centre or dark portion.

On the third floor is the large lodge room capable of seating 500 on one floor; also commodious ante rooms, parlors, committee rooms, etc. The third floor mezzanine is used by the Preceptories and Scottish Rite bodies occupying the top or fourth floor, and here are placed the lockers, wardrobes, and robing rooms, and a

may be desired. The main staircase extends to the roof; and over the front portion of the roof as indicated on the front and side elevations is placed a roof garden for the use of the Craft.

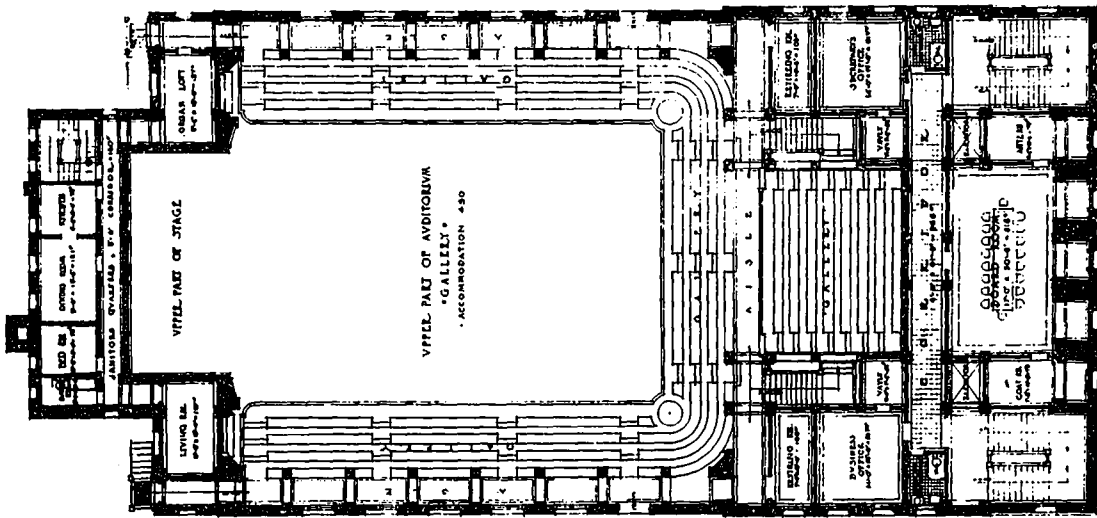
*Exterior.*—The exterior is intended to indicate simplicity, dignity and solidity; it is simple and pure in design; classic in treatment and monumental in its mass; its great scale and broad wall surfaces lend dignity; and the mas-

# CONSTRUCTION



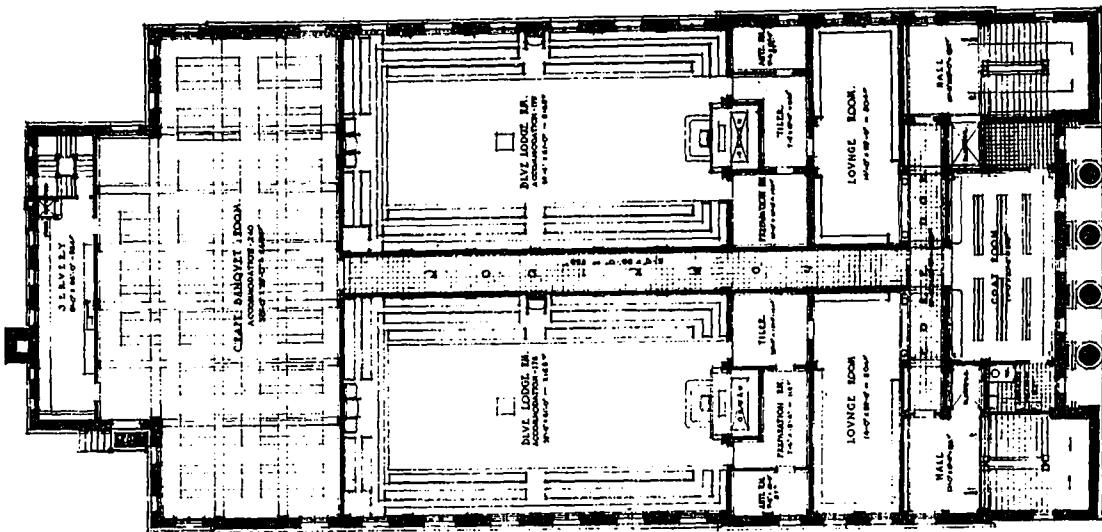
FIRST FLOOR PLAN.

SECOND PRIZE DESIGN.



MEZZANINE FLOOR PLAN.

MASONIC TEMPLE, TORONTO, ONT.



SECOND FLOOR PLAN.

JOHN M. LYLE, ARCHITECT.

siveness of the columns, its broad blank pavilions and high base combine to give this facade an appearance of strength. Its internal divisions are clearly indicated on the exterior: the great assembly hall occupies the lower or base portion of the structure; while the other Masonic divisions occupy the upper portion; the division being marked by the cornice over the first story; and even without the aid of the two coats of arms flanking the main entrance, the beholder must easily recognize the purpose for which this building is intended.

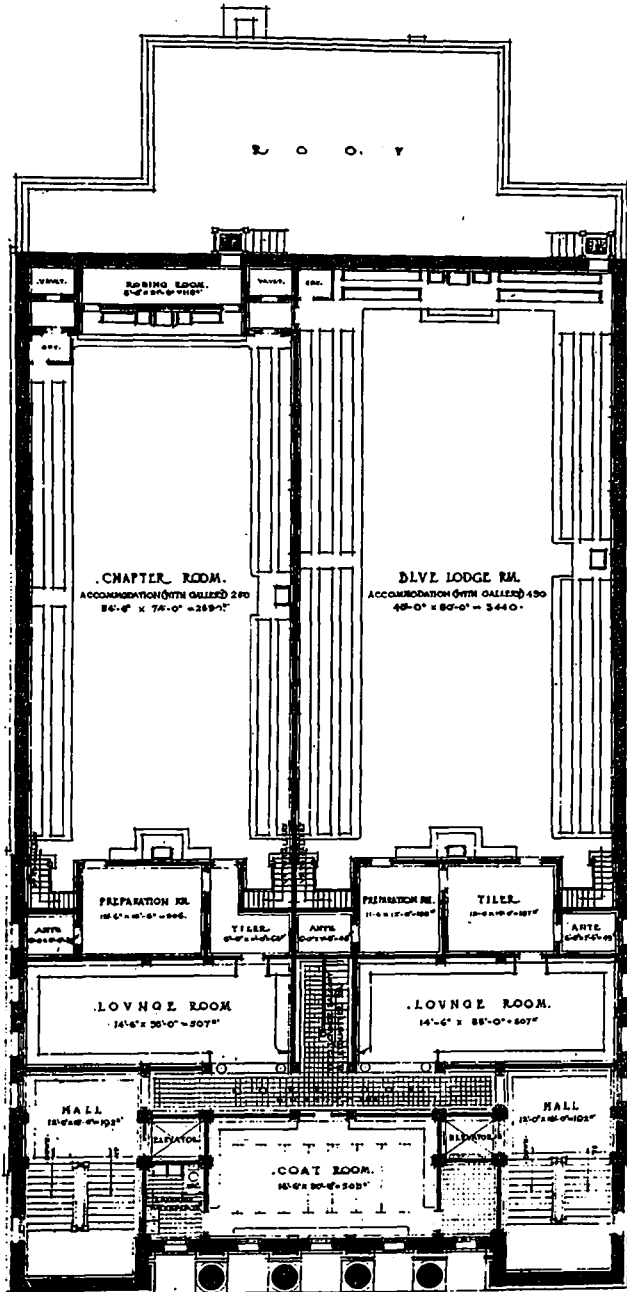
It is proposed to execute the base course in granite; the entire first story on the front and two sides in plain ashlar buff-colored limestone; the upper part in a buff or cream-colored rough textured brick, with the columns, cornices and mouldings in terra cotta.

*Heating.*—The building is heated by a low-

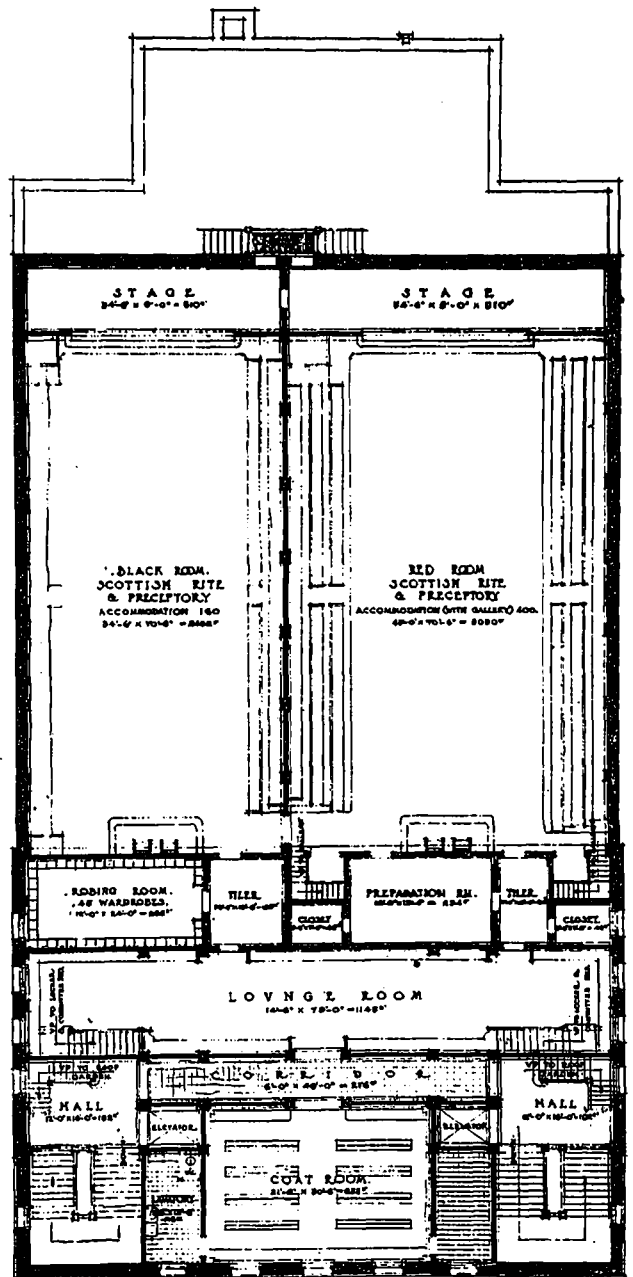
pressure steam heating apparatus of ample capacity to heat the building. Three boilers of approximately 75 h.p. each are indicated in the boiler room, one of which is intended as a spare unit; and additional space is left for yet another unit should necessity require it.

In the pump room are shown vacuum, house and sump pumps. Direct radiators, automatically controlled, to be placed under all windows, and to be enclosed in all principal rooms. Filtered air to be supplied and foul air exhausted through a system of ducts and flues, concealed in the walls and partitions of all lodge, chapter, assembly and other principal rooms; also in the toilet rooms throughout the building. Fans, motors, tempering coils, filtering chambers, etc., are located in the fan room in the basement, also in the fan house on the roof.

The following terms are taken from the pro-



THIRD FLOOR PLAN.



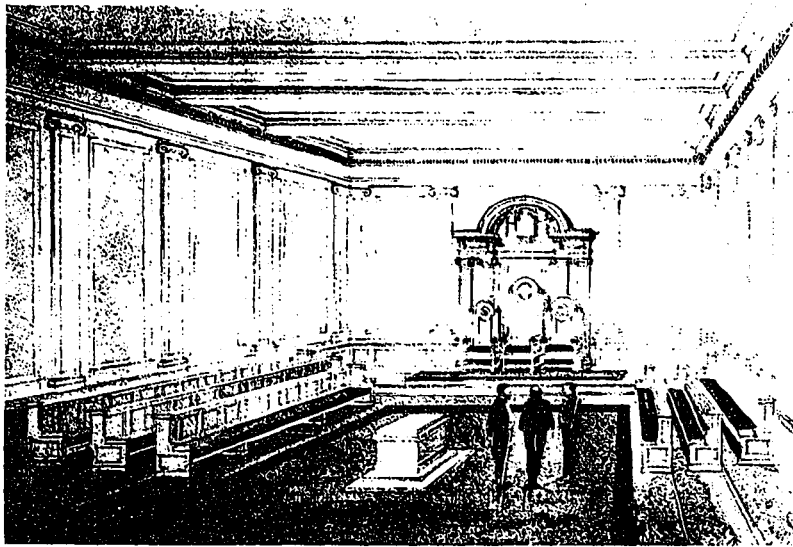
SECOND FLOOR PLAN.

SECOND PRIZE DESIGN.



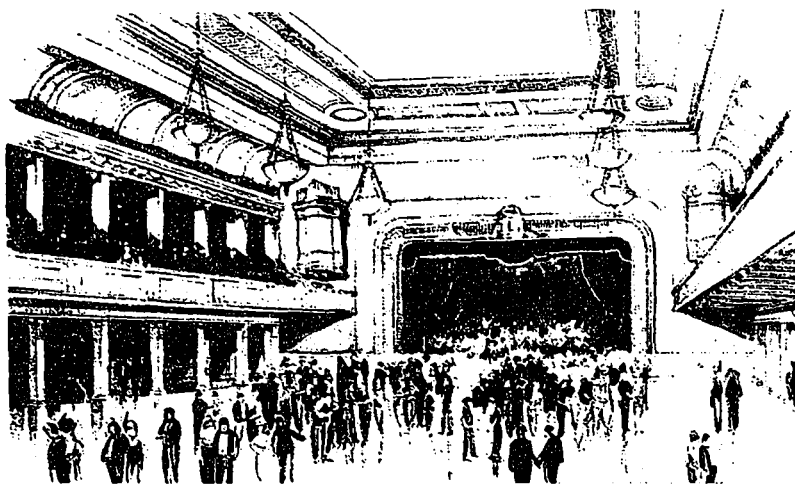
gram submitted to each of the competitors:

*Preparation and Delivery of the Competitive Drawings.*—1. The drawings submitted shall be made to a scale of one-eighth of an inch to the foot and shall comprise the following only:—



BLUE LODGE ROOM, SECOND PRIZE DESIGN.

(a) Floor plan of each storey (and roof if desired). (b) Sufficient sections to clearly illustrate the scheme proposed, including treatment of principal rooms. (c) East, north and south elevations. (d) A perspective drawing showing principally the east frontage of the building, with the horizontal line taken ten feet above the ground level. This drawing may be executed in any medium and in whatever manner the competitor prefers. Any competitor may submit further perspective sketches illustrating char-



ASSEMBLY HALL, SECOND PRIZE DESIGN.

acteristic treatment of the various lodges and assembly room.

2. The scale drawings shall be made in India ink or monochrome on white paper, delivered flat in a portfolio, and not framed or mounted.

The elevations may be washed in with cast shadows. All rooms and corridors shall be figured for dimension and area. The main titles shall be in Roman capitals, and all other lettering, notes and figuring shall be in plain block type. The size of each sheet of drawings shall approximate thirty-two by thirty-six inches—this to include all borders, titles, lettering, etc.,—the portfolio to be made just large enough to comfortably hold them.

3. The competitor shall submit with the drawings a typewritten unsigned statement, briefly describing the arrangement of the building, its construction and materials, and the type of heating and ventilating proposed, with an explicit statement of the rate at which the work is estimated to cube (exclusive of equipment) together with a guaranteed computation of the number of cubic feet in the building properly worked out, with description as to what method is followed in working out the cubical contents.

4. The drawings must have no mark or device of any kind, nor any hand writing, or other means of identification. With each set of drawings is to be enclosed a plain blank sealed white envelope containing the name of the author, together with a statement that the designs and drawings have been prepared in his own office, under his own supervision. Envelopes will not be opened until after the award has been made.

5. Any infringement of these regulations or disclosures of identity may be held sufficient ground for the exclusion of the drawings from the competition.

6. The drawings and the descriptive statement shall be enclosed in a plain blank sealed package, which, together with the blank envelope, shall be again enclosed in a second sealed covering addressed and delivered between 9 a.m. and noon on the 20th of January, 1914.

*Accommodation, Etc.*—It is to be understood that the data given below is merely approximate, also that the location of the various rooms is not arbitrary. It is to be observed, however, that, as the large hall and banquet room are expected to be used for purposes of revenue, they be so situated that their occupancy will not

bring the persons using them into the portions of the building devoted more particularly to the purposes of the Craft. It is to be observed, also, that the apartments having the fewest occupants and most infrequent use, should be



placed highest up, in order to reduce, as much as possible, expense in running the elevator or elevators. A roof garden, partially covered, may be suggested.

The site upon which it is contemplated to erect the building is at No. 16 Spadina Road, having a frontage of 100 feet and a depth of 198 feet, but a boulevard or parking of 25 feet at the front must be reserved, free of encroachments, though a driveway may approach the entrance or entrances over this reservation.

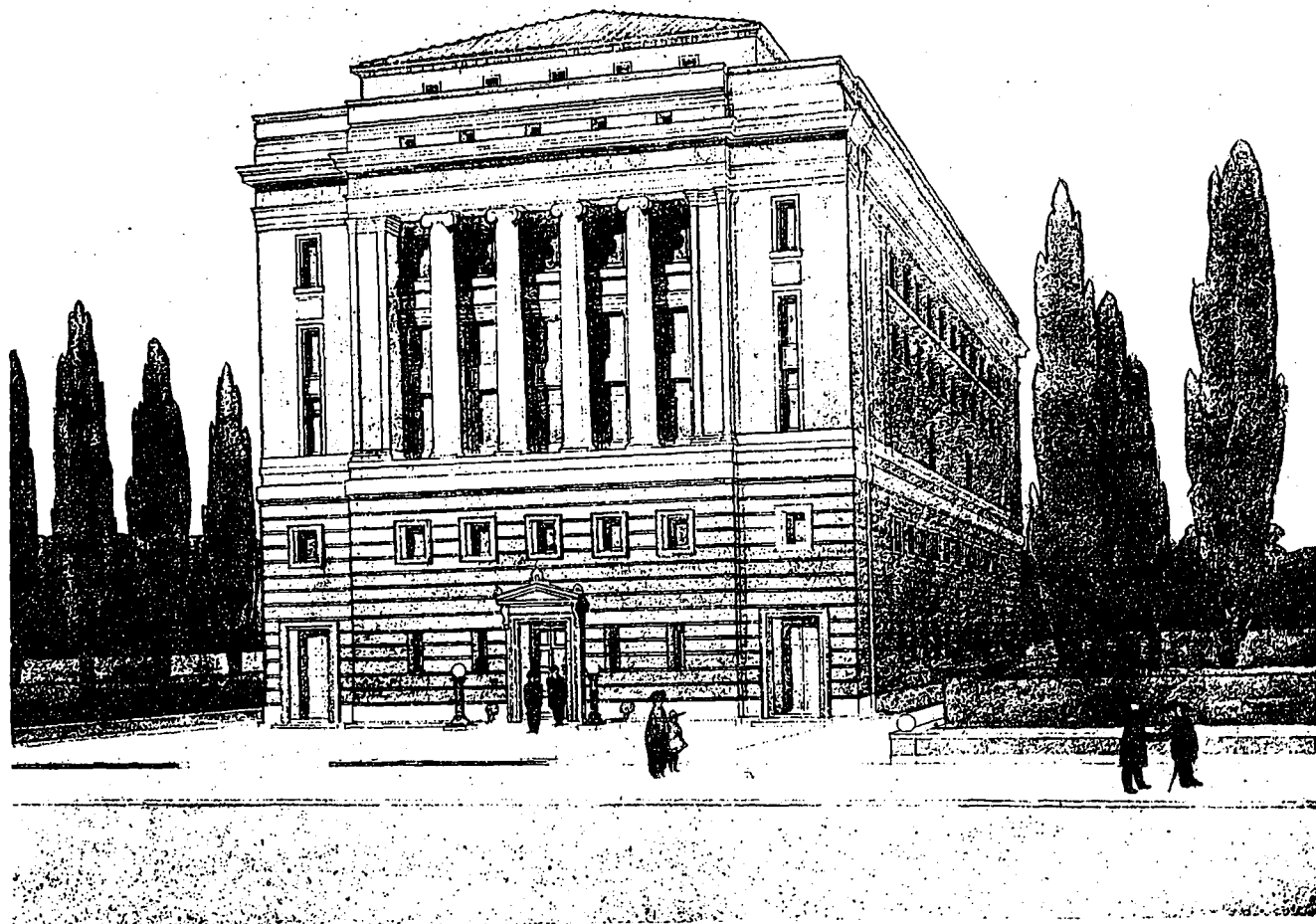
As the flankages may be exposed for some

moderate-sized vault on each floor is required.

The promoters contemplate an expenditure of about \$250,000.00 and the cost will require to be kept within ten per cent. of this amount, consistent with a building suitable for the purpose, characteristic in design, and of worthy material.

The following is a schedule of apartments required, which may be amplified, but not reduced in number.

Assembly room, 1500 persons; banquet or supper room for use in connection therewith, 500 persons; banquet room for Craft use, 250

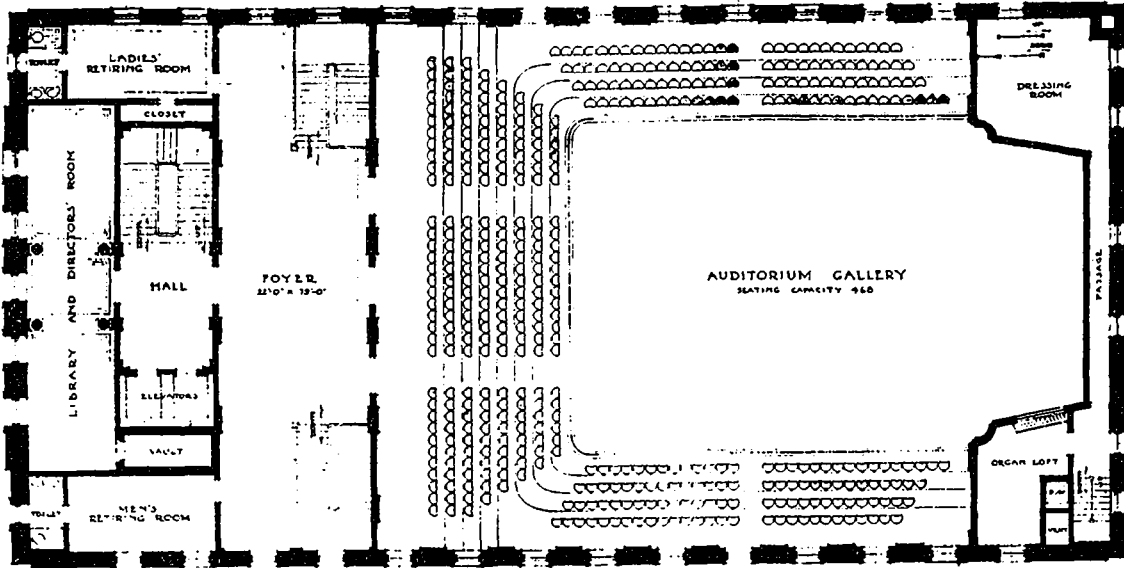


THIRD PRIZE DESIGN, MASONIC TEMPLE, TORONTO, ONT.

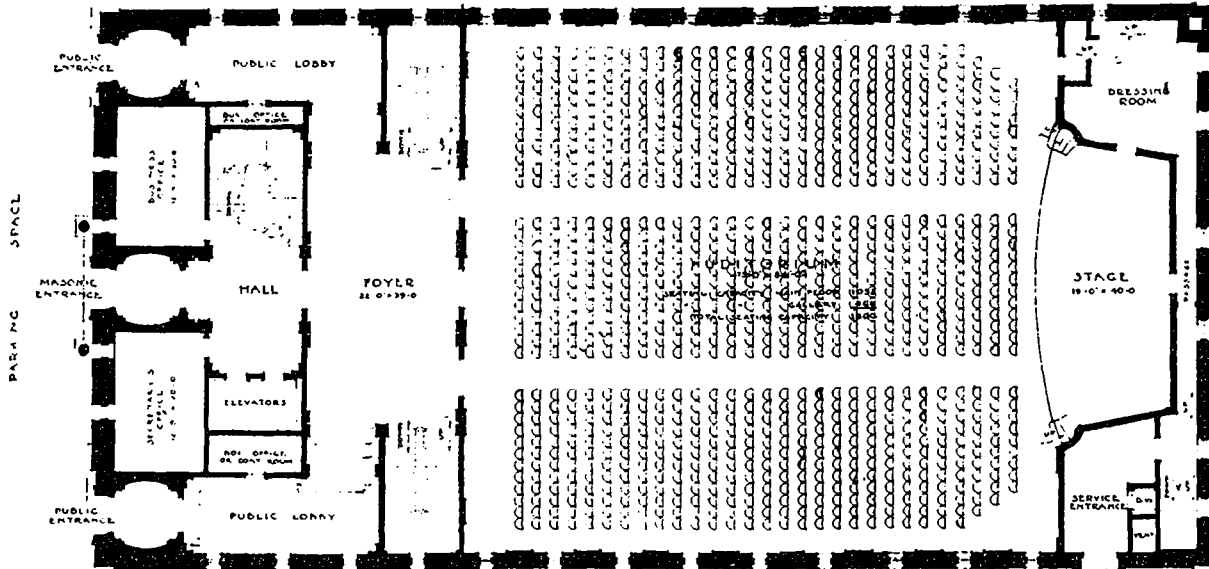
HUTCHISON, WOOD & MILLER, ARCHITECTS.

years to come, the side elevations should receive due study. It is required that sufficient space be reserved for a driveway on the north side, suitable for automobiles or delivery wagons. On the south side only sufficient space need be provided for air, and a moderate amount of light in the event of an adjoining building being erected close to the building line. The building may be four or five stories in height in addition to the basement, but not necessarily the full height for the entire length of the structure. The structure should have fireproofed floors, roof and main partitions or divisions. A

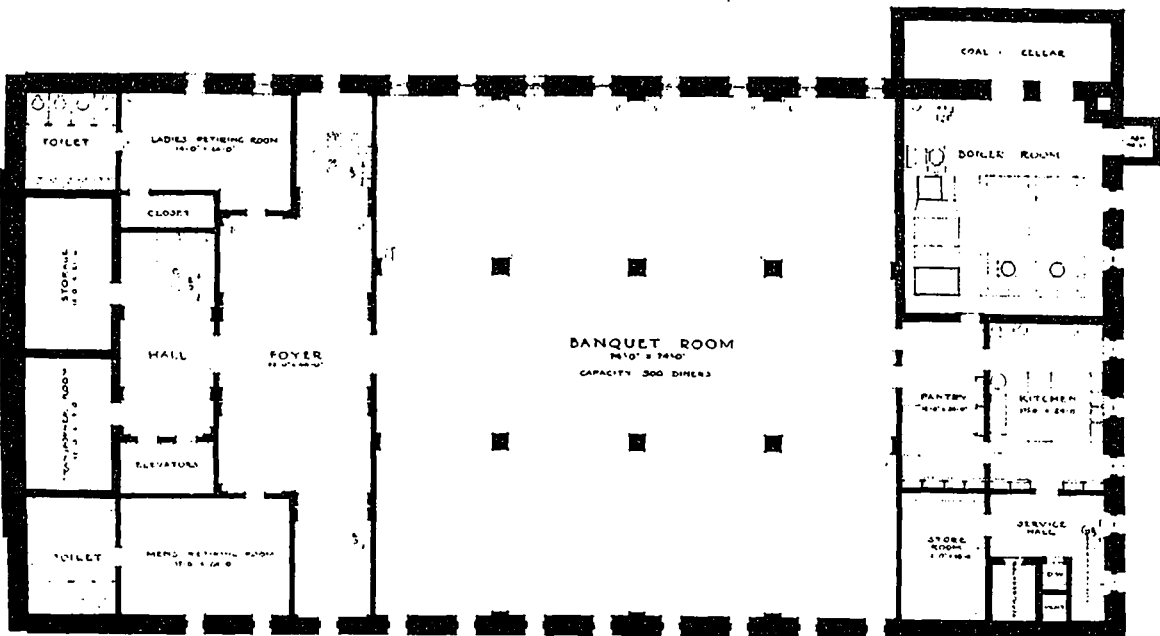
persons; Blue Lodge room, 500 persons; Blue Lodge room, 200 persons; Blue Lodge room, 150 persons; Chapter room, 250 persons. The top floor to be devoted to Scottish Rite and Preceptory purposes in common. Two rooms will be required, one to accommodate 400 and the other 150. In connection with the above there will be committee rooms, lounge rooms, lavatories, cloak rooms, etc. 400 lockers will be required on top floor or convenient thereto, also wardrobes and robing room. Business office will be required on lower floor with rooms for directors and secretary. It is also desired that there



MEZZANINE FLOOR PLAN.



FIRST FLOOR PLAN.



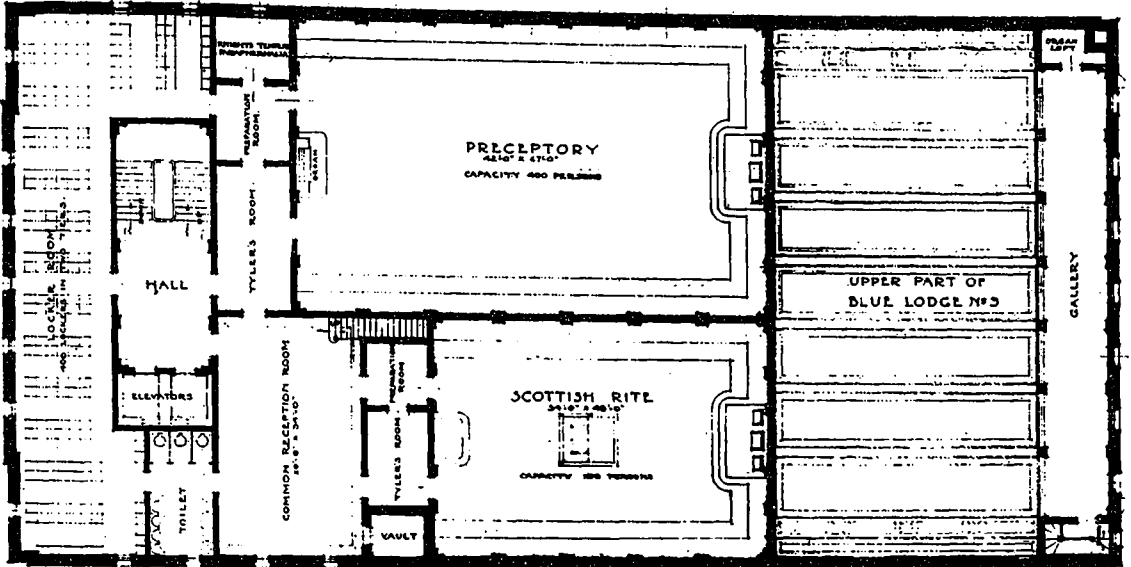
BASEMENT PLAN.

THIRD PRIZE DESIGN.

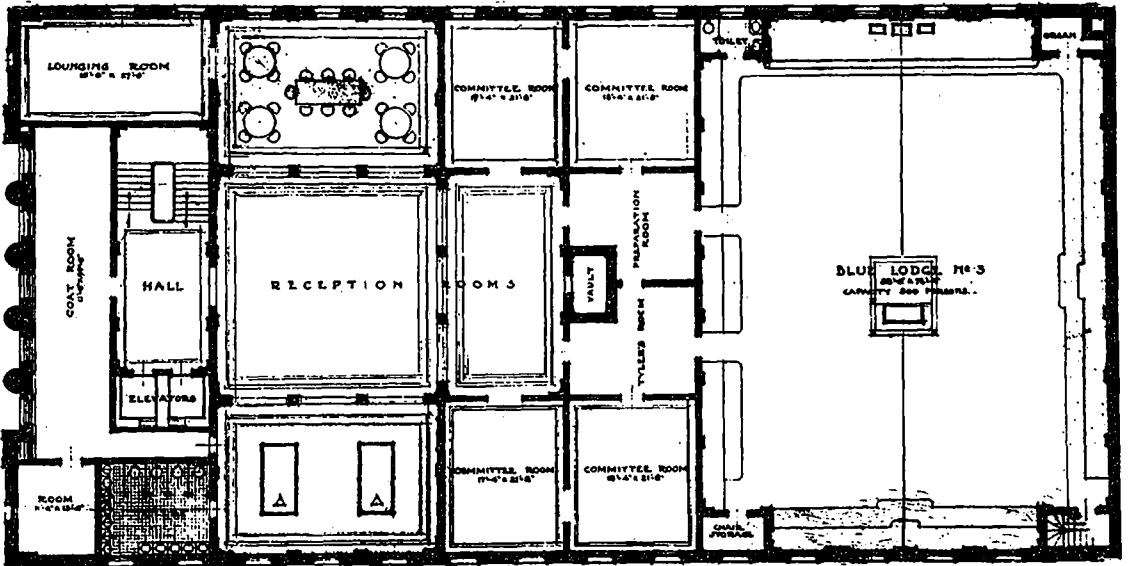
MASONIC TEMPLE, TORONTO, ONT.

HUTCHISON, WOOD & MILLER, ARCHITECTS.

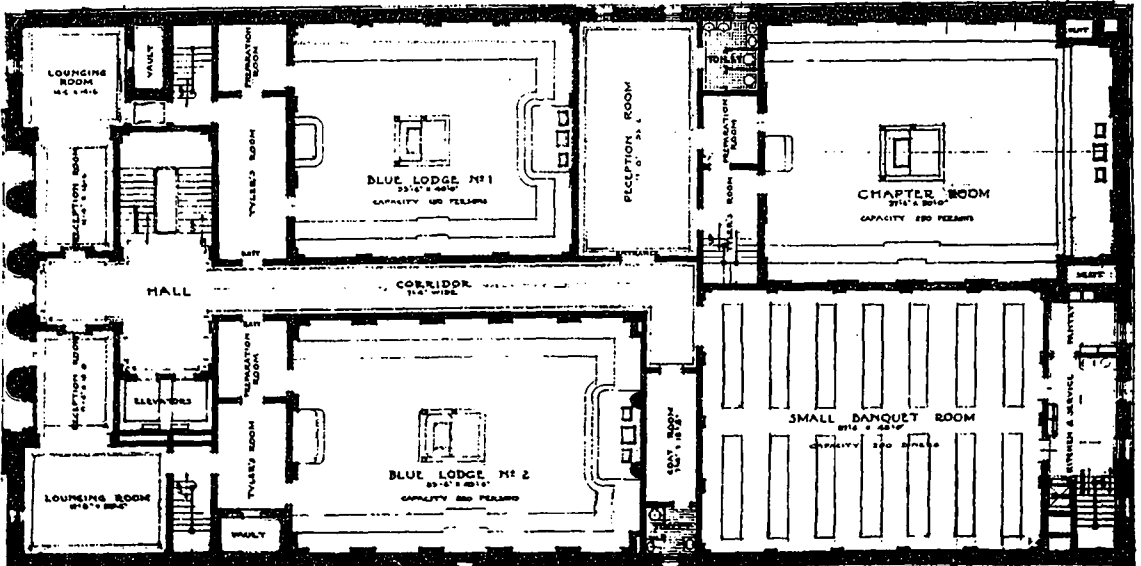
FOURTH FLOOR PLAN.



THIRD FLOOR PLAN.



SECOND FLOOR PLAN.



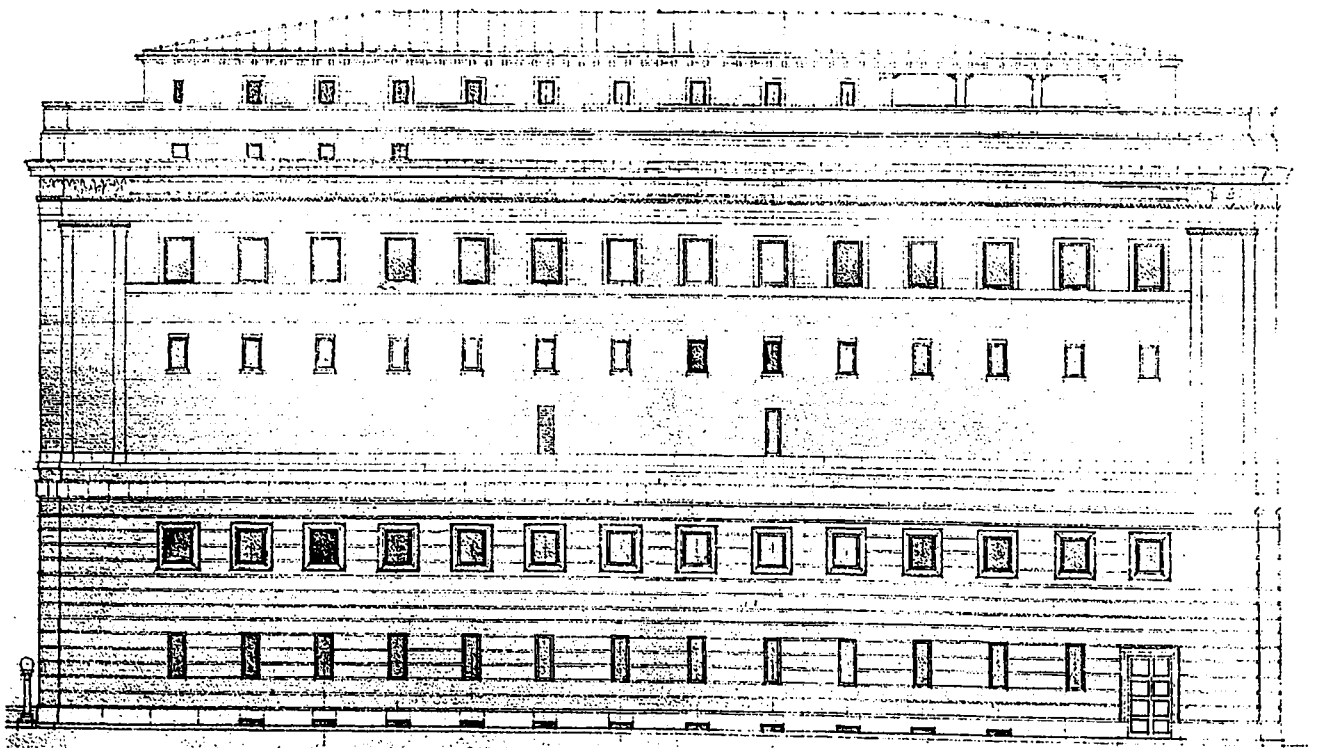
THIRD PRIZE DESIGN.

MASONIC TEMPLE, TORONTO, ONT.

HUTCHISON, WOOD & MILLER, ARCHITECTS.



LONGITUDINAL SECTION

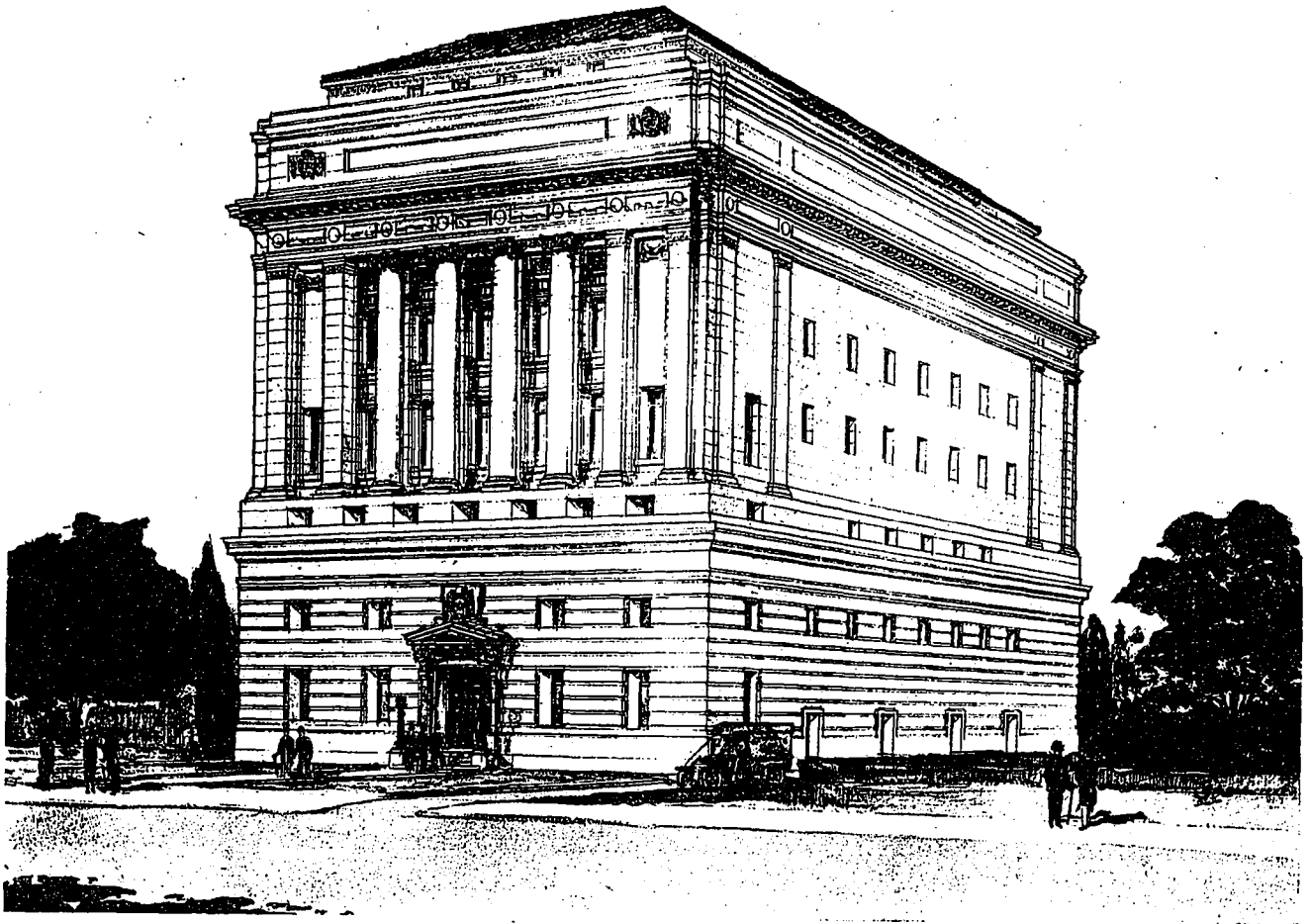


NORTH ELEVATION

THIRD PRIZE  
DESIGN.

MASONIC TEMPLE, TORONTO, ONT.

HUTCHISON, WOOD &  
MILLER, ARCHITECTS.



FOURTH PRIZE DESIGN, MASONIC TEMPLE, TORONTO, ONT.

A. W. GOULD &amp; A. E. HARVEY, ARCHITECTS.

shall be some unallotted space for library or other purposes. Janitors' rooms must be provided.

It is intended to rent the assembly room for social purposes, including dances, assemblies, conventions, concerts, etc. Careful designing is necessary as it will be the only space rentable to persons outside the Craft. A stage or platform will be required. Adequate kitchen, stores, refrigerator, cloak, lavatory and retiring and other rooms must be provided. The assembly room is an important revenue producing feature of the building and the acoustic properties must be carefully provided for.

*The Architect and the Work.*—1. The architect to whom the promoters shall award the work, shall, if and as required by the promoters or any committee thereof, make such changes in plan and arrangement as shall be necessary to meet with the views of the promoters.

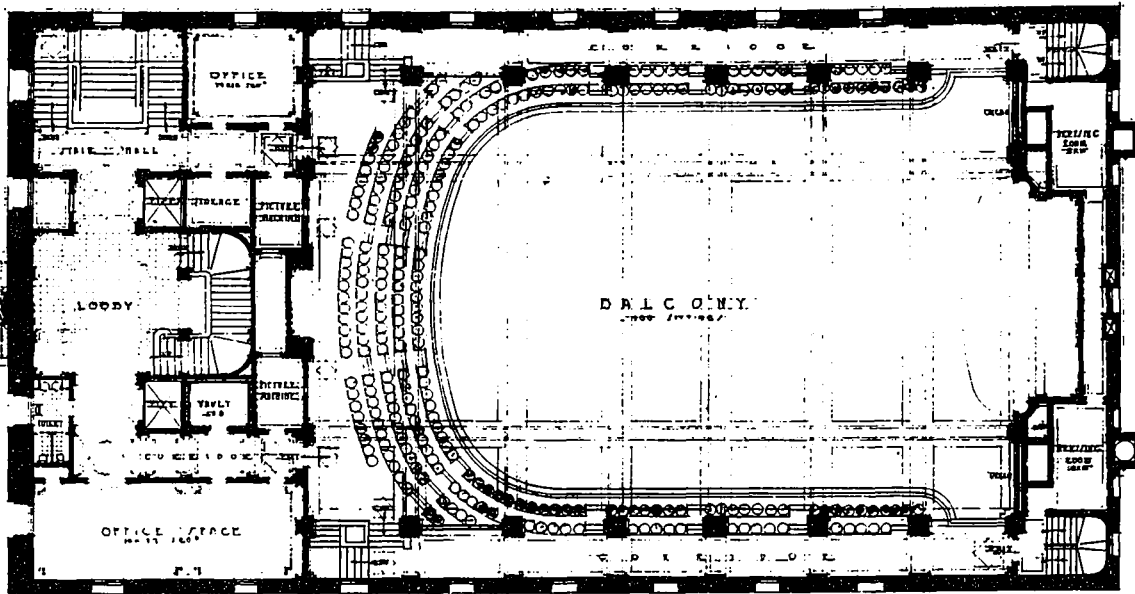
2. After the plans have been finally accepted by the promoters the architect shall prepare working drawings and specifications and shall supervise the work during the construction of the building.

3. All drawings and specifications as instruments of service are to remain the property of the architect, but one record copy on tracing linen, or blue print of the plans, elevations and sections of the work as executed, to the scale of one inch to eight feet, shall be furnished free by the architect to the promoters when the works are completed together with a set of specifications appended to correspond with the works, including a correct figured plan of all the drains inside and outside the building, as carried out, all duly certified by him.

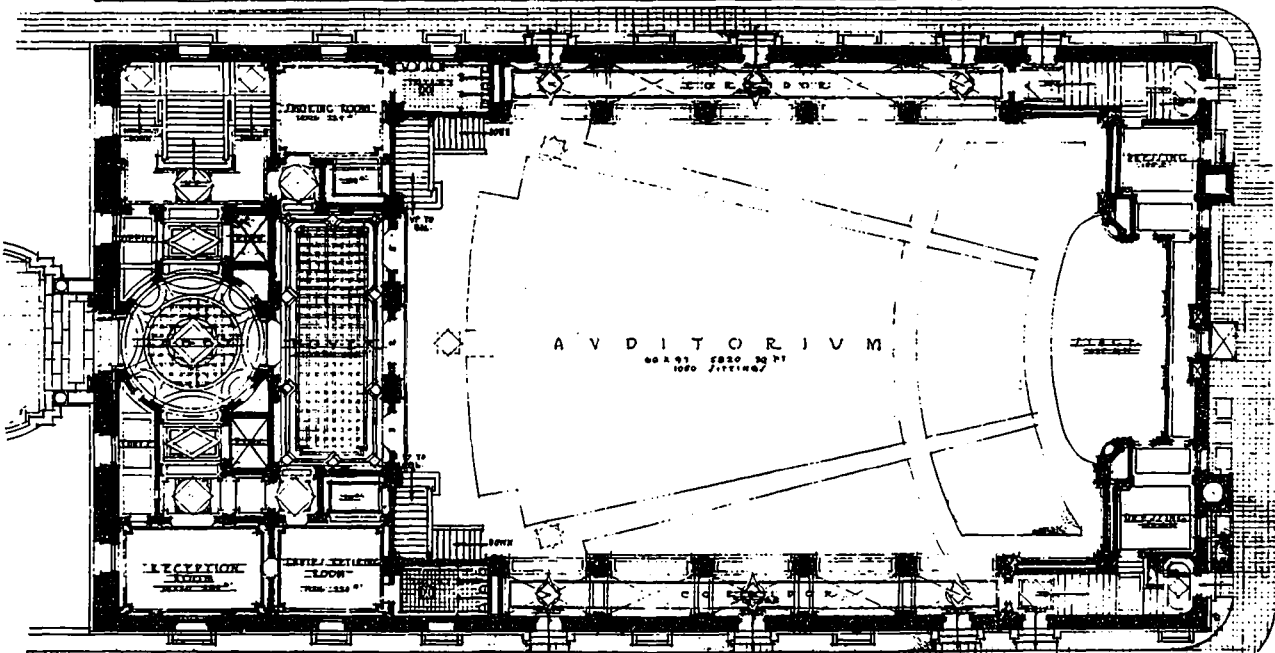
4. The architect shall appoint a thoroughly competent clerk of works, approved by the promoters. The architect shall regulate the duties of the clerk of works and shall have power to discharge him for cause. Such clerk of works shall devote his whole time to the job and shall be paid by the promoters.

5. The architect shall appoint a qualified professional electrical, heating and ventilating engineer (not a contracting firm or a member of one) approved by the promoters. The fees of such engineer or engineers shall be paid by the architect out of his own commission.

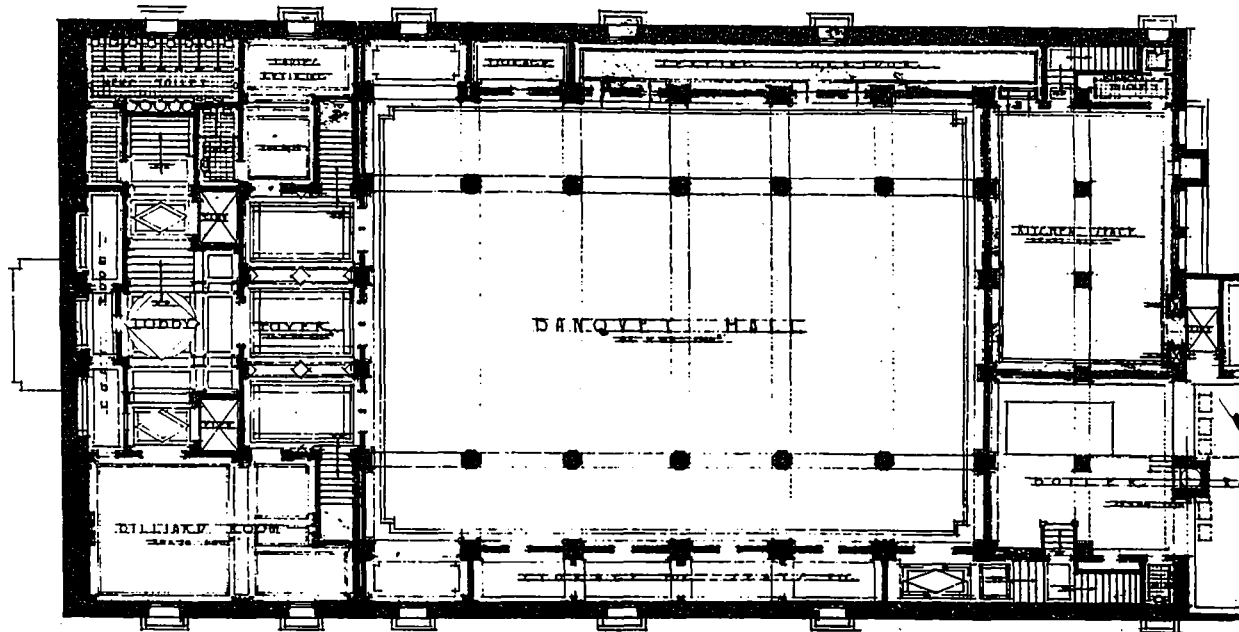
CONSTRUCTION



FIRST FLOOR PLAN.



GROUND FLOOR PLAN.

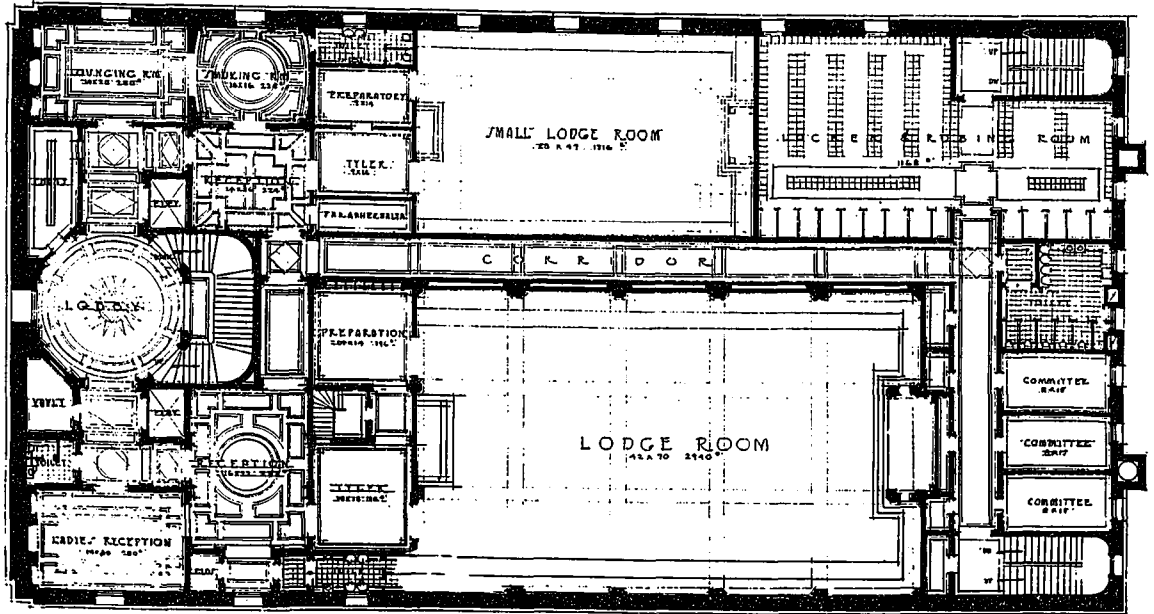


BASEMENT PLAN.

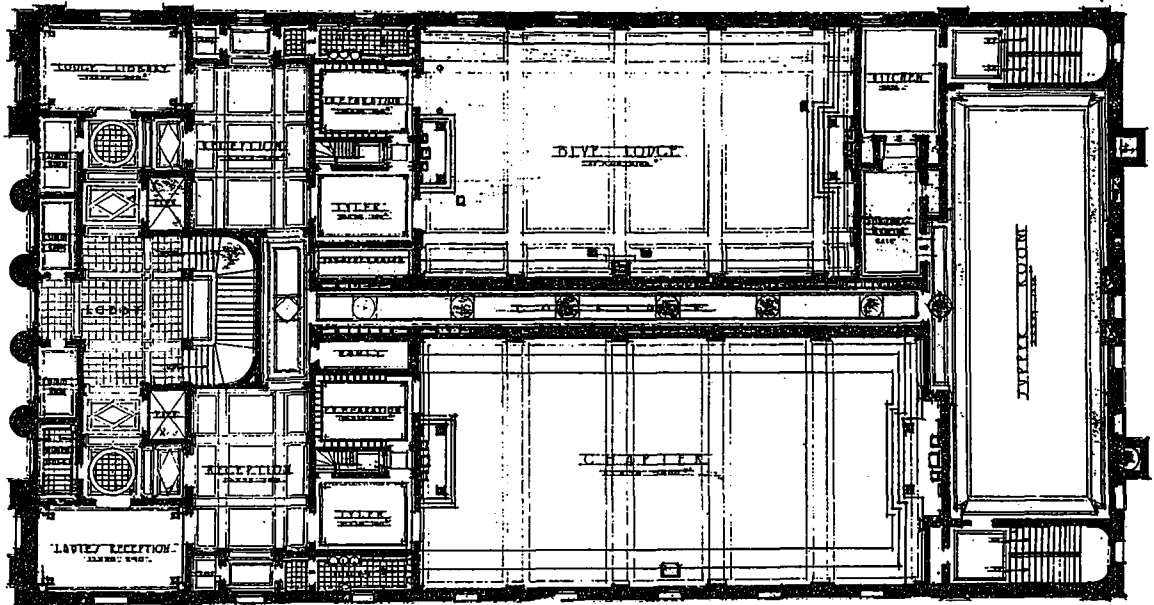
FOURTH PRIZE DESIGN, MASONIC TEMPLE, TORONTO, ONT.

GOULD & HARVEY, ARCHITECTS.

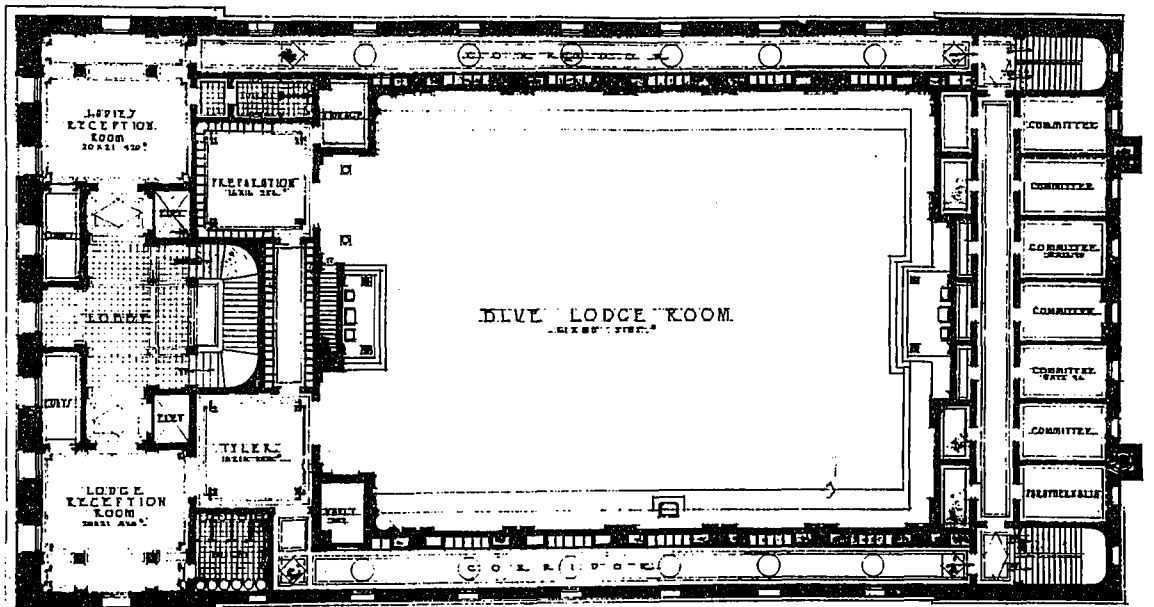
FIFTH FLOOR PLAN.



FOURTH FLOOR PLAN.



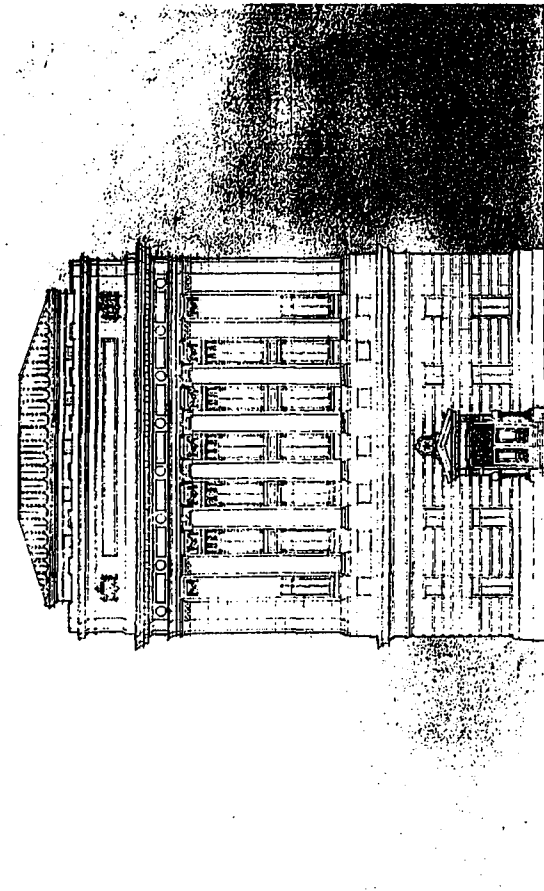
THIRD FLOOR PLAN.



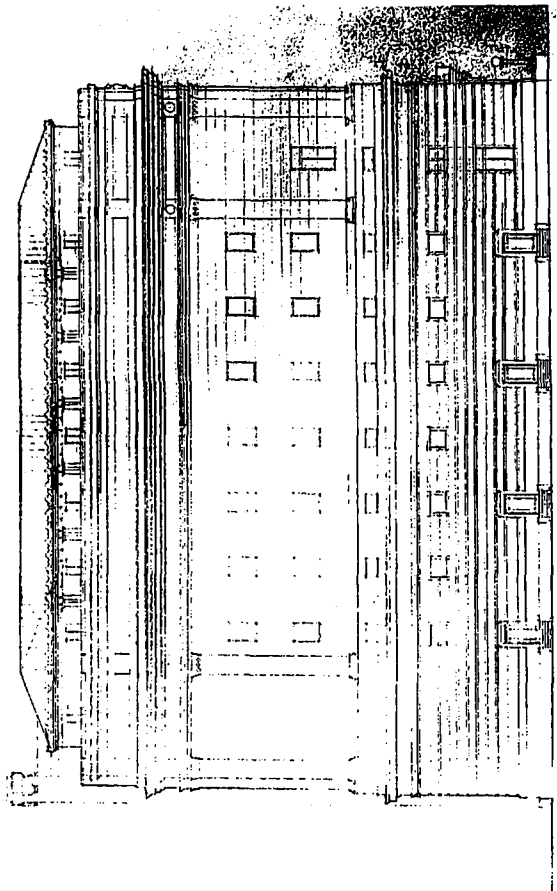
GOULD & HARVEY, ARCHITECTS.

FOURTH PRIZE DESIGN, MASONIC TEMPLE, TORONTO, ONT.

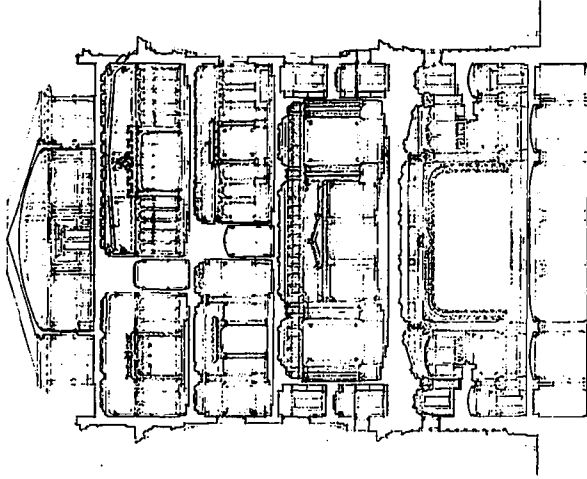
CONSTRUCTION



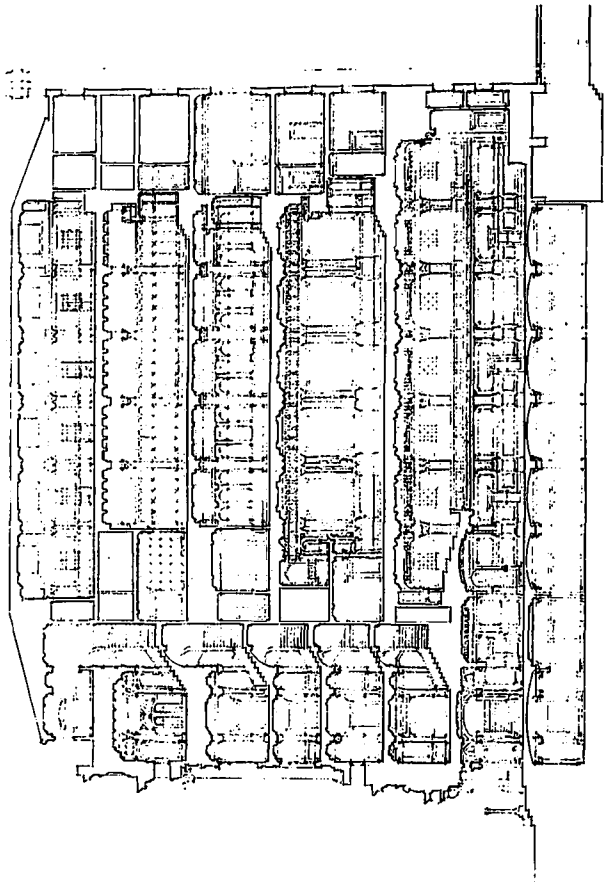
EAST ELEVATION



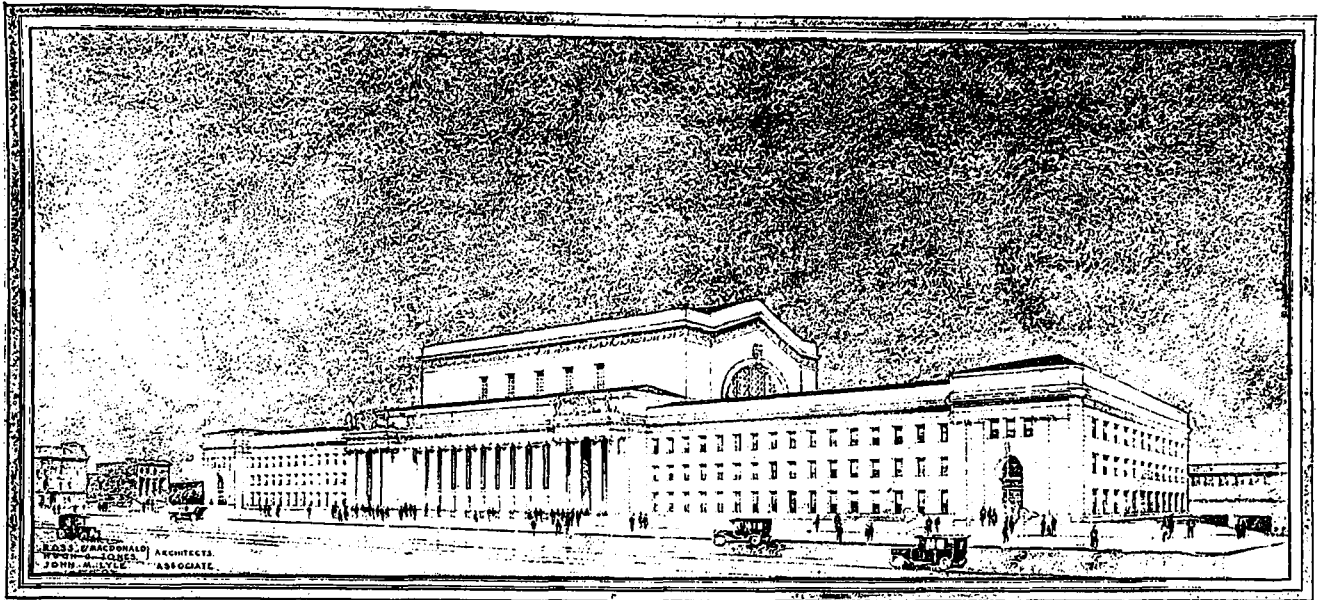
NORTH - ELEVATION - SOUTH



SECTIONS







## Toronto Union Station

THE Grand Trunk and Canadian Pacific railways entered into an agreement something over a year ago to form a Terminal Company for the purpose of erecting and operating a union station at Toronto. The Terminal Company appointed as its consulting engineers H. R. Safford, chief engineer of the Grand Trunk and J. M. R. Fairbairn, assistant chief engineer of the Canadian Pacific, with J. R. W. Ambrose, engineer of grade separation as chief engineer of the terminal. Messrs. Ross & Macdonald and Hugh G. Jones received the appointment as architects to design and supervise the construction of this work. They subsequently appointed as local associate, John M. Lyle, of Toronto.

The architects were instructed by the board of engineers of the Terminal Company to study the traffic problem at Toronto in all its aspects and peculiarities, and, without dictation from either road to design a station which would adequately meet the needs of the passenger traffic of the city and to provide for the large growth of traffic indicated by the growth of population of the city and surrounding districts during recent years. They have been working faithfully and continuously on the problem for the past ten months and have collected and tabulated all of the traffic data of the station covering the past twenty years, so far as procurable. They have also made extended inspection trips, visiting all of the larger terminals in America and have obtained from these terminals the amount of traffic being handled by them. This information has all been compiled in tables, which furnish a scientific basis for the design of the new station for Toronto.

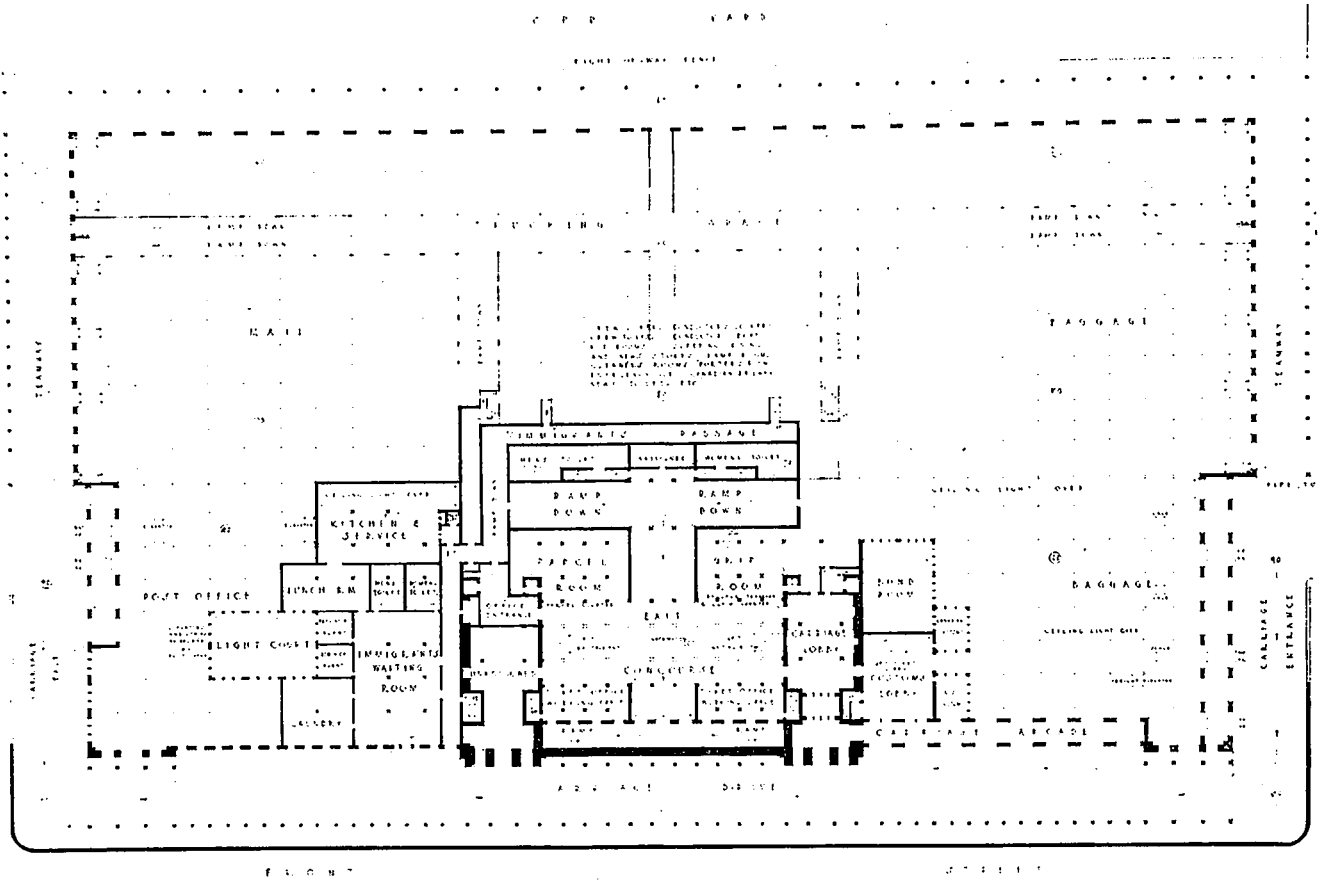
The architects' recommendations are contained in an exhaustive report which was pre-

sent to the engineering board of the Terminal Company and this report has been thoroughly discussed by representatives of both railroads.

This report shows the passenger traffic to be equal to that of Washington, D.C., and to be half that of St. Louis or Kansas City. The baggage business is, however, surprisingly heavy, being equal to that of the Pennsylvania Station, New York, and almost as great as that of St. Louis Station, Boston South Station and Grand Central Station, New York. The parcel business bears nearly the same relation, being equal to that of the Pennsylvania Station, New York, but is somewhat less than the Grand Central Station, South Station, Boston, Kansas City or St. Louis Stations. The fact is brought out that the average number of pieces of baggage or parcels per passenger is greater at Toronto than at any large station on the Continent, so far as records are obtainable.

The character of traffic handled at the St. Louis, Washington and Kansas City union stations is similar to that at Toronto. These stations handle a heavy through and local business with heavy maximum periods occurring during certain seasons of the year. The arrangements of these stations and the relation of their present traffic to the areas provided have been very helpful in regard to the requirements for Toronto.

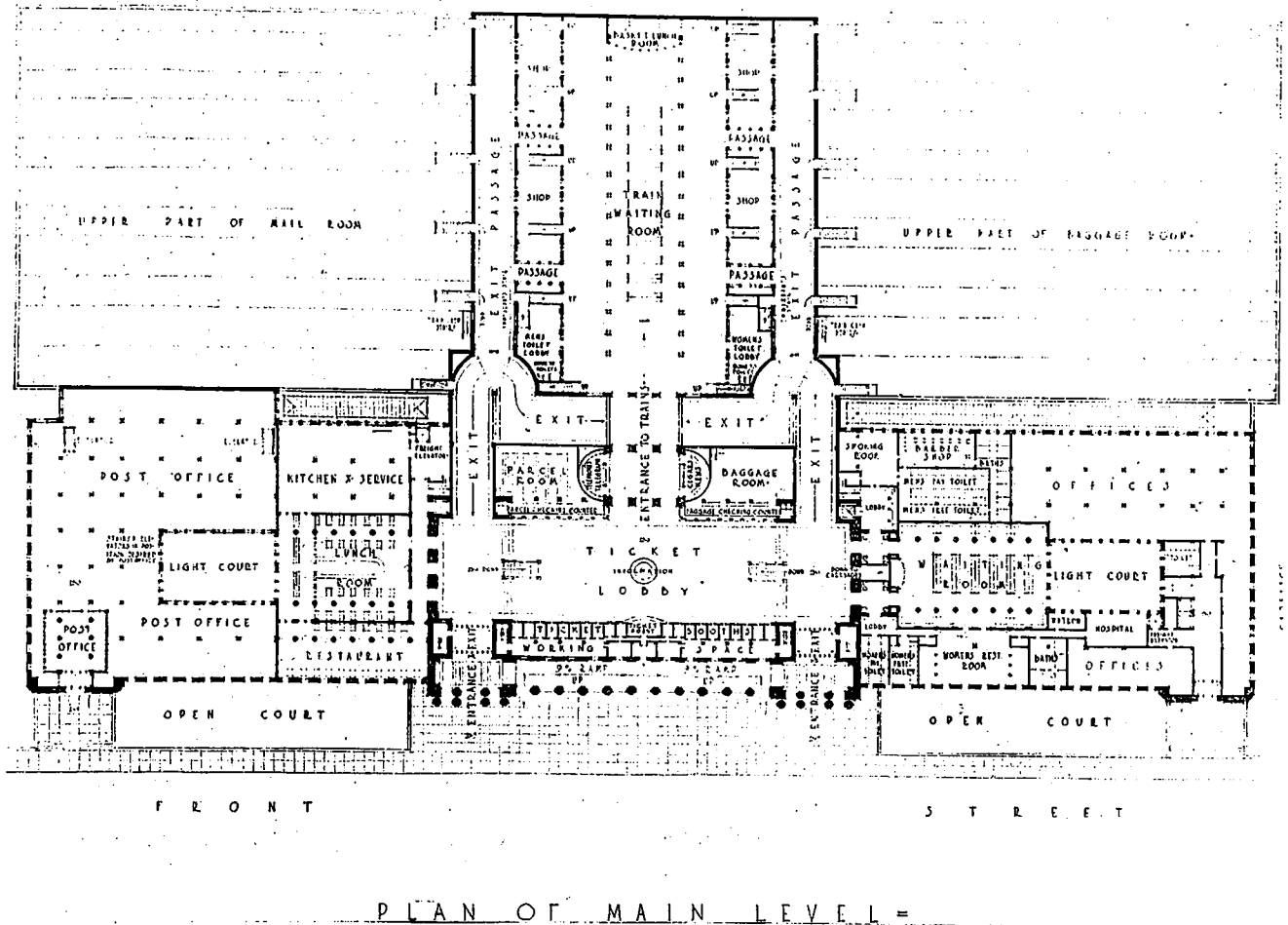
In considering the design of the station, it was found that the average normal traffic at Toronto could be taken care of by a station building of somewhat smaller dimensions than the one proposed, but it is in consideration of the heavy maximum periods such as Exhibition time, June and Christmas holidays, with their attendant crowding and discomfort, which have influenced



BASEMENT PLAN

the architects in recommending the construction of a building large enough to afford a complete separation of entrance and exit traffic during heavy periods and for the time when the traffic of the station has grown to demand it. This principle of the complete separation of traffic and the method proposed for accomplishing it has been accepted by the two roads interested, and is obtained through the utilization of conditions of the site and the relation of track levels to the street. This idea of complete separation of traffic is the dominating one in the design of the station. There has been no station constructed with a similar object in view where it can be so completely accomplished as is contemplated for Toronto, and we can therefore recite no parallel case. The Grand Central station in New York provides separation of express and suburban traffic on two levels, the inbound and outbound express traffic being further separated through the provision of additional separate station buildings. The Pennsylvania station, New York, provides a separate exit concourse, but the arrangements are such as to make the meeting of friends difficult. The new Kansas City station provides separation until the ticket lobby is reached.

It so happens at Toronto that the elevation of Front street above the present track level affords an opportunity for placing a train waiting room at a level midway between the street level and the proposed exit concourse beneath the ticket lobby. This arrangement approximately averages the distances which entrance and exit passengers have to travel and does away with all confusion and crowding and unsatisfactory arrangements for meeting friends, which have been borne by the public in the past. The great advantage to the travelling public will become immediately apparent to anyone who will analyze the operation of the station designed under these conditions. Passengers on entering the station to take trains will enter a large ticket lobby, approximately 90 ft. wide by 250 ft. long. In this lobby within plain sight are placed all of the general business facilities of the station. In the centre of the room is the information bureau; on one of the long sides the ticket offices to the number of 20; at one end of the ticket lobby is the restaurant and at the other end the general waiting room. Opposite the ticket offices are the parcel checking counter and the baggage checking counter, each with a frontage of 50 ft. These are separated by a 40 ft. entrance



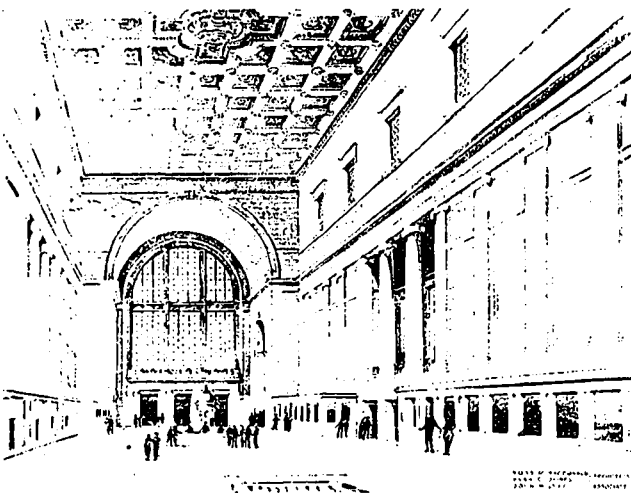
passage to the train waiting room. Owing to the elevation of the railroad tracks above the street level, this room is placed beneath the tracks. Similar rooms are provided in the new Michigan Central station at Detroit, and the new union station at Winnipeg, though these are much smaller than the one proposed for Toronto. The train waiting room is reached by passing down a broad easy ramp in the entrance passage from the ticket lobby. As the stairs to trains lead directly out of this room from either side, it will naturally be a gathering place for passengers after they have completed their business in the ticket lobby. This room, though limited in height by the elevation of the tracks, will be 100 ft. by 250 ft. and will be made attractive through the use of light-colored, durable materials, such as marble and glazed terra cotta, and will provide all the comforts which may be required by waiting passengers, including an abundance of light and ventilation and concessions for the sale of various articles which may be needed by the traveller. Access to trains is by stairs to the right for west-bound trains, and to the left for east-bound trains. Train bulletins and announcements concerning the arrival and departure of trains are located

near each stair leading to train platforms.

Passengers arriving on trains will descend separate exit stairs leading from the train platforms to separate exit concourses placed each side of and flanking the train waiting room. For passengers who wish to transfer to trains on other tracks, provision is made to pass them through to the train waiting room. Passengers wishing to exit from the station will follow along the exit passages, and during light traffic will pass into the ends of the ticket lobby where they may meet their friends, transact their business and exit to the street or to cabs.

The difference in levels between the exit passages and the ticket lobby makes possible the provision of easy ramps from the exit passages to an exit concourse placed beneath the ticket lobby. During heavy periods exit passengers will pass through this exit concourse, which, except for the ticket offices, is practically a duplicate of the ticket lobby above, and exit passengers will find all of the facilities required by them within easy access. The information counter is in the centre of the room and parcel checking and baggage claim counters are provided in locations similar to and directly beneath those of the ticket lobby. The advantages of this ar-

arrangement for passengers are that the business capacity of the station is practically doubled and the transaction of passengers' business will be greatly facilitated through the absence of the interference of entering passengers. In the same manner, passengers hurrying to trains will not be hampered by crowds of exited passengers wishing to use the facilities of the station. The arrangements for meeting friends are ideal, in that there will be but one point where all passengers can be met, irrespective of the direction from which they arrive. It is expected that checked hand baggage can be de-



TICKET LOBBY.

livered to passengers in a much shorter time and passengers having to pass baggage through the customs will find the customs offices close at hand. Provision is made for cab service adjoining the exit concourse.

In connection with the general waiting room at the ticket lobby level, provision is made for men's pay and free toilets on one side and for women's pay and free toilets, adjoining a women's rest room on the opposite side, also a

**THE HISTORY** of skyscrapers dates back to ancient Rome. The tenement houses were so great in number and so badly constructed, that in A.D. 69 Emperor Otho, when marching against Vitellus, found his way barred for twenty miles by the ruins of tenement houses undermined by inundation. The spontaneous collapse of tenement houses at that time was so frequent an occurrence that it caused but little excitement. Tenants were constantly fearing cremation or burial in their homes and companies existed for the purpose of propping up and sustaining houses. Emperor Augustus limited the height of new houses that opened upon the streets to about sixty-eight feet in order to make less frequent such disasters. Martial alludes to a poor man, a neighbor, who was obliged to mount 200 steps to reach his garret.

baby room, matron's room and emergency hospital, so located as to avoid the taking of invalids through the station building proper. Toilet facilities are also provided in connection with the train waiting room. A large lunch room and restaurant are located at the easterly end of the ticket lobby. Immigration quarters are so placed as to permit the passing of immigrants through the station without traversing the public portions of the building.

Large provisions for handling the enormous baggage and mail business in the station are made in the space beneath the train viaduct, with direct communication by elevators to all the train platforms. The building is to be fitted with every modern convenience for the traveller, and we believe whether operating under light or heavy traffic, the travelling public will be able to transact its business without congestion or confusion at any time.

The exterior of the building has been designed in an adaptation of Roman classic architecture, and it is the intention to secure a beautiful and dignified effect through the use of plain and simple wall surfaces and the sparing use of ornament, which becomes dingy and dirty in a few years on a building of this character. The interior of the ticket lobby will be of similar style to harmonize with the exterior.

The architects and railroad officials have given extended study to all of the conditions entering into the traffic problem of Toronto and the plans prepared will afford real relief to the travelling public and will provide facilities for the traffic for many years to come. It is believed that the station when completed and operated as outlined above, will provide the best and most conveniently arranged building of its kind on the continent. The plans are now being completed and should be ready for the reception of tenders within a few weeks.

**THE** following announcement in regard to the R.A.I.C. Assembly has been issued by Alcide Chausse, Hon. Secretary: The Seventh General Annual Assembly of the Royal Architectural Institute of Canada will be held at Quebec, Que., on September 21st and 22nd, 1914. A very interesting programme is being prepared which will include matters of interest to every architect is cordially invited and is welcome at all test is cordially invited and is welcome at all sessions and entertainments, whether a member of the R.A.I.C. or not. The programme will be sent early in August to all the members of the R.A.I.C. and will contain all the particulars concerning the Assembly. The committee of arrangements of the Assembly is composed as follows: J. H. G. Russell, J. P. Ouelet, R. P. LeMay, A. R. Decary, and Alcide Chausse.

# Reinforced Concrete Construction, Hart House, Toronto

CLARENCE W. NOBLE

THE REINFORCED concrete construction in the auditorium of the Hart House, Toronto University, Sproatt & Rolph, architects, presents several unusual and interesting problems. The building is in the form of a quadrangle. The enclosed area is excavated and the auditorium under discussion is placed in the excavated area. It is covered by a roof which comes approximately at the ground line and supports a hanging garden. The centre of the garden will be occupied by a fountain surrounded by a cement walk, with the areas left thus unoccupied to be covered with earth and planted with flowers and shrubs. All of this is carried on the auditorium roof.

The distance between side walls of the auditorium is fifty feet, which, on account of the nature of the occupancy, cannot be divided by intermediate supports. The solution naturally suggesting itself for the support of a roof of this kind would be the use of steel trusses. These, however, would be far too deep for the available head room and steel or concrete beams would next suggest themselves. A beam, however, in this situation is also impracticable. It is necessary that the ceiling height should approach as nearly as possible to the level of the roof garden, and even a beam of this span in this situation would be deeper than would be reasonably allowable. An arch, on the other hand, could be built with a comparatively shallow depth at the crown and thus avoid this objection. This is the reason that an arch was adopted as a support for this roof.

An arch, in order to be most economical under loads uniformly distributed, would be parabolic in form. It would rise well at the crown with a sharper curvature at the centre of the span than at the haunches, which would therefore be low and comparatively straight. An arch of this sort is objectionable for an auditorium, as the low haunches interfere with the line of sight. It was found necessary, therefore, in the early consideration of the design of this arch, to abandon the most economical

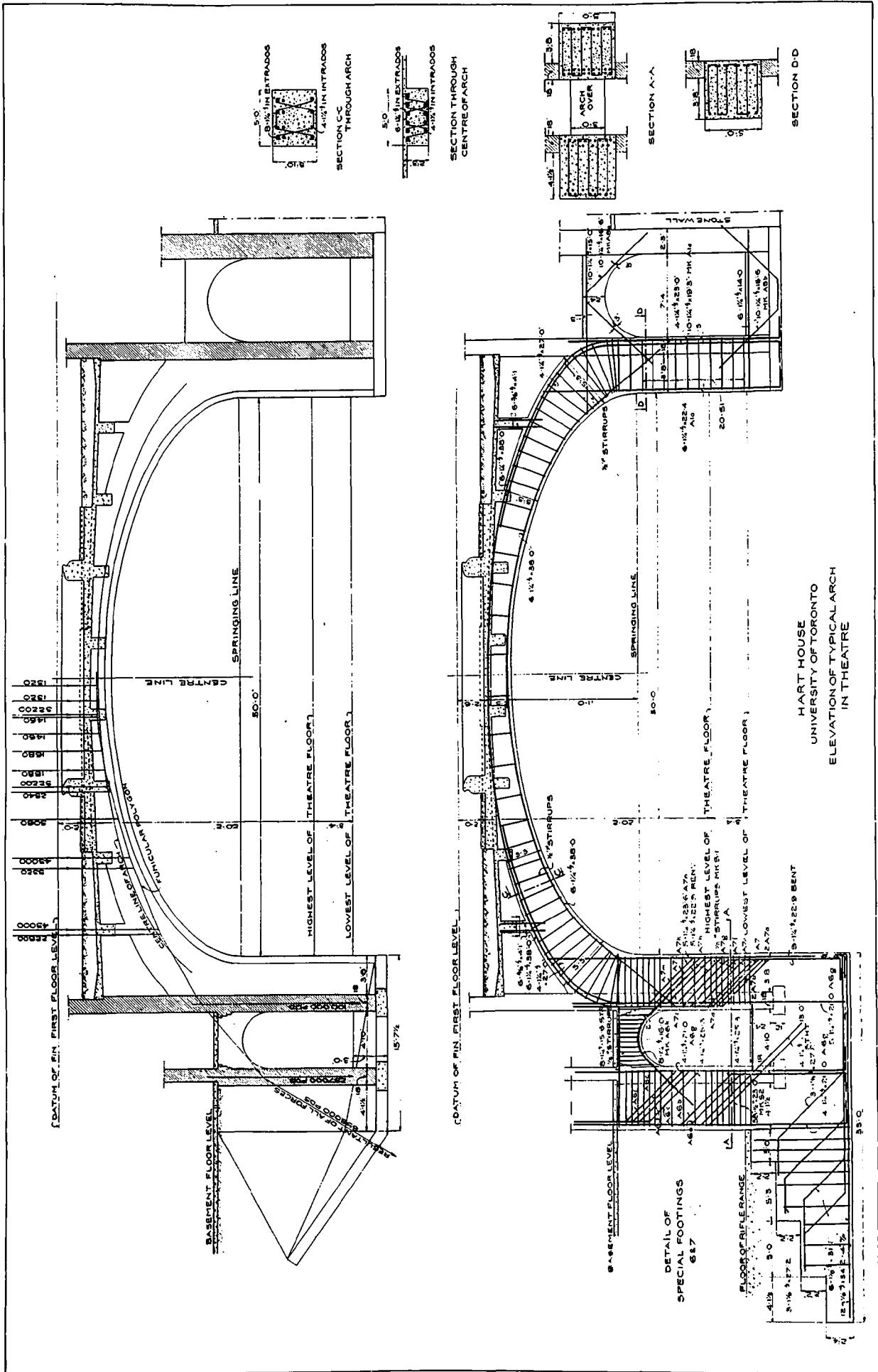
type of construction. It was found necessary, in order to give the best possible view of the stage, to keep the haunches of the arch as high as could be done. This caused the adoption of an arch of elliptical form with the springing line well up on the side of the wall.

It was at this point that a new difficulty in the design of this arch was encountered. With the spring line well up from the floor it was found impossible to bring the horizontal thrust to the earth by any form of abutment ordinarily in use. The spring line is some thirteen feet above the floor, and the arch sprung directly from ordinary brick walls. These brick walls separate the auditorium from corridors which parallel it on either side. The line of thrust of the arches therefore must pass directly through these corridors. It is impossible to introduce an abutment of the ordinary type in the corridors without blocking them.



VIEW OF AUDITORIUM SHOWING CONSTRUCTIONAL ARCHES.

The opposite side of the corridor is variously occupied. A part of the area is unexcavated. In another location there is a rifle range. In still a third location it was planned to leave an unexcavated portion, but when construction took place there was found a splendid bed of building sand in this situation, and it was judged more economical to secure this sand than to leave this portion unexcavated. This area therefore was not utilized in the finished building.



HART HOUSE  
UNIVERSITY OF TORONTO  
ELEVATION OF TYPICAL ARCH  
IN THEATRE

CONSTRUCTION DETAILS OF AUDITORIUM IN HART HOUSE, TORONTO.

Several possible solutions of the problem were discussed, tried and abandoned. The first thought was to put a pilaster at each end of the arch. These would extend to the roof level, would support the arch and would be reinforced to form a vertical beam. The upper ends of this beam would be tied together by steel bars run through the roof slab, thus causing the horizontal thrust from the opposite sides of the arch to neutralize each other. This was abandoned because the ground on which the foundation rested was so soft that it could not be regarded as reliably able to take the horizontal thrust at the lower end of the beam.

An attempt was then made to remedy this difficulty by placing ties in the floor of the auditorium as well as in the floor of the roof garden, thus enclosing each arch in a rectangle consisting of two vertical beams and horizontal tie above and below. This was abandoned as being unduly expensive. The reinforcement required for the vertical beams was exceedingly heavy and the top and bottom ties presented practical difficulties on account of their length.

The present solutions were therefore adopted. The term solutions is advisedly used in the plural as there are three separate cases, each requiring their own type of abutment.

In each case the line of thrust was carried across the corridor by a small and heavily reinforced concrete arch. When this line of thrust, after crossing the corridor, went into an unexcavated area, an abutment and footing of the ordinary type was there constructed. This presented no unusual difficulties, except that on account of the height of the spring line, and the flatness of the arch, the line of thrust, even when the weight of the two corridor calls was considered, was unusually close to the horizontal. The first design of the footings was made with the intention of having the bottom surface of the footing not horizontal, but, as near as could be, perpendicular to the line of thrust of the arch. It was found, however, on excavating, that the soil uncovered was not suitable for a footing of this nature. The abutment was therefore redesigned and continued outward sufficiently to place the base of the footing in a horizontal position.

When the horizontal thrust of the arch, after crossing the corridor, came into an area which had been excavated in order to secure sand, it was found advisable to build in this situation a stone wall which could at the same time act as support for the reinforced concrete floor above and as a portion of the abutment of the arch. As the wall is on line with the arch the thrust passes through the wall, and the footing is designed to care for the load of the floor above, the wall itself and the horizontal thrust of the arch.

It was when the space on the opposite side of

the corridor was occupied by the rifle range that the real difficulty of constructing the abutment was encountered. The placing of the arch over the corridor in this situation apparently had only the effect of transferring the difficulty from the wall of the corridor to the wall of the rifle range. It appeared equally impossible to put a satisfactory abutment in either situation.

The solution of this trouble is shown in the accompanying drawings. In brief the abutment is made in the form of a hollow rectangle. The two vertical sides are pilasters in the walls in either side of the corridor. The top is the arch over the corridors and the bottom is the footing. The four sides and corners of this rectangle are reinforced so heavily that the line of thrust from the arch can pass across and through it without causing greater stresses in the concrete or reinforcement than those used in ordinary practice. In this way the line of thrust is brought through the corridors in diagonal direction and passes into the rifle range at a distance only slightly above the floor. This is assisted in no small degree by the fact that the load on walls on both sides of the corridor tend to turn the line of thrust more sharply toward the vertical. In spite of this, however, it passes entirely outside of the rectangle as it would ordinarily be constructed.

All engineers and architects know that in order to insure stability in the footing of the wall on which there occurs a horizontal pressure it is necessary that the line of thrust must pass to the earth inside the middle third of the width of the footing. In order to insure this condition in the footings in question it was necessary therefore to extend them well under the floor of the rifle range. It was necessary to build these extensions as cantilevers and to pour them as units with the foundation under the rectangle. The cantilever reinforcement is very heavy.

The accompanying drawings show graphically the details of the solution in certain of these cases as well as the construction details. By comparison of these two sketches their relation to each other will be more readily understood.

The provisions of the Toronto building by-law increased the difficulty of the design of this arch. Safe stresses according to usual practice were secured in this design by an arch three feet wide. In order to meet the requirements of the building by-law, however, it was found necessary to widen the arch to five feet. This increase of forty per cent. in the weight of the arch had the natural effect of greatly increasing the horizontal thrust at the spring point, and consequently making a second solution of the abutment necessary. This second solution, on account of the greater horizontal stresses involved, was considerably more difficult than the original solution.



# Engineering Books

*The Slide Rule*, by R. G. Blaine, explains the theory and use of the slide rule, logarithms, etc. It illustrates the quick and easy method of calculating by numerous examples worked out. The author realizes that many do not employ the rule through lack of a clear perception of the elementary principles and so endeavors to show in a simple manner the theory of the instrument so that anyone may master the slide rule in a short time. Published by E. & F. N. Spon, Ltd., London. Costs \$1.00.

\* \* \*

*Handbook of Cost Data* for contractors and engineers, by H. P. Gillette, is a reference book giving methods of construction and actual costs of materials and labor on numerous engineering works. This work differs from other books on prices of materials in that it covers the whole field of civil engineering and the costs are analyzed and discussed. The author appreciates the difference between a contract-price and a contract-cost and as a result furnishes a detailed description of the methods used in construction and operation. And while itemized cost data occupies part of the book, still a large section is devoted to an account of the manner in which the work is done, the organization of the forces, and the machines used. A number of the best systems for cost keeping are described. The wants of the contractor have been supplied by data giving the itemized unit costs under stated conditions while those of the engineer have been met by providing data whereby he can ascertain the number of units in a structure of a given class and size as well as the unit cost. The book contains 1854 pages, bound in leather, and costs \$5.00. Published by the Myron C. Clark Publishing Co., Chicago and New York.

\* \* \*

*Mechanics of Engineering*, by I. P. Church, comprises statics and dynamics of solids; the mechanics of the materials of construction, or strength and elasticity of beams, columns, shafts, arches, etc.; and the principles of hydraulics and pneumatics, with applications. Diagrams, illustrations and examples of a practical nature constitute a large part of the 834 pages comprising the book. The formulae are divided into two classes; those admitting of the use of any system of units whatever for measurements of force, space, mass, and time, in numerical substitution; and those which are true for specified units only. Attention is repeatedly directed to the matter of correct numerical substitution, especially in dynamics, where time and mass, as well as force and space, are among the quantities considered. In assigning values of the numerous coefficients

necessary in hydraulics, the results of the most recent experimental investigations have been considered. The work is published by John Wiley & Sons, New York, and costs \$6.00.

\* \* \*

*A Manual of Mining* by M. C. Theseng and E. B. Wilson, is the fourth revised and enlarged edition based upon lectures delivered at the Colorado State School of Mines. The work consists of two parts; the first containing a brief geological review and a discussion of such points as the engineer must include in his report, *i.e.*, the preparatory and development work, systems of mining and the plant for power, hoisting, pumping, and ventilation; the second embracing the practise of prospecting, drilling, blasting, shafting, tunnelling, and timbering, in addition to some remarks upon the examination of mines. The principles of the construction and operation of machines used in mining are explained with a perspicuity and conciseness necessary among students and mining men, to whom a knowledge of the fundamenta of their work is valuable. At the end of each chapter is a list of references comprehending the latest literature on the subject. The book contains over 700 pages, illustrated. Published by John Wiley & Sons, New York, at a cost of \$5.00.

\* \* \*

*Fireproofing of Steel Buildings*.—Joseph Kendall Freitag presents a systematized and collected form of information on the subject of the development of the fireproofing of steel buildings and its present most approved and efficient methods of treatment, as recommended and used in the best practice of the day. While appreciating the experimental stage of fireproofing, the author presents recommendations relative to all phases of constructional work which will in themselves produce as nearly a fireproof and waterproof building as the character of the materials employed will permit. The great need for such a work is felt in the stupendous fire losses in Canada and the States which are steadily increasing with the development and population of the country. The subject is covered under the following headings: Introductory and Development; Fires and Tests; Materials; Planning; Details and Equipment. John Wiley & Sons, New York, are the publishers of the book, which costs \$2.50.

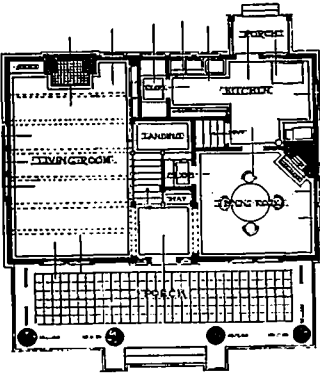
\* \* \*

Any or all of the above mentioned books may be secured from Eugene Dietzgen Co., Ltd., 116 Adelaide street West, Toronto, or their Western agents, Strains, Limited, 313 Portage avenue, Winnipeg.



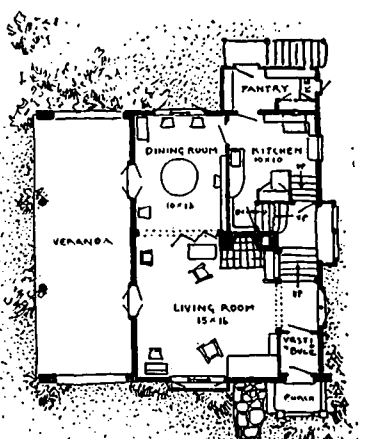
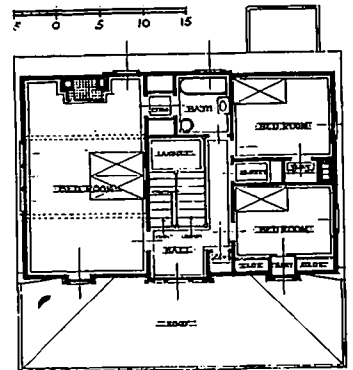


HOUSE AT ENGLEWOOD, N.J.



TWO SMALL AND INEXPENSIVE HOUSES.

Built of buff stucco upon metal lath; veranda floor of brick laid herringbone; trimmings dark brown with roof stained dull brown.



FIRST FLOOR PLAN.

TWENTY-FIVE HUNDRED DOLLAR HOUSE, CHICAGO, ILL.

# CONSTRUCTION

A JOURNAL FOR THE ARCHITECTURAL  
ENGINEERING AND CONTRACTING  
INTERESTS OF CANADA



FREDERICK REED, Editor

H. GAGNIER, LIMITED, PUBLISHERS

Corner Richmond and Sheppard Streets,  
Toronto - - - Canada

BRANCH OFFICES:

MONTREAL—171 St. James Street

WINNIPEG, MAN.—13 Royal Bank Building

CHICAGO—People's Gas Building

NEW YORK—156 5th Avenue

**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, 35c.

**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 duly returned.

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

**Vol. VII . Toronto, May, 1914 No. 5**

## CURRENT TOPICS

THE architectural firm of Lindsay & Brydon announce the removal of their offices from 65 Victoria street to Trinity square and Yonge street, Toronto.

\* \* \*

W. G. HUNT, formerly of 990 Bloor street W., and A. Woodburn, recently associated with the City Architect's Department, have opened offices at 244 Confederation Life Building for the practice of architecture.

\* \* \*

**BUILDERS' ACID**, which is equal parts of muriatic acid and water, will remove spots of mortar on brick or stone work, but is not the right material for cleaning stone that is begrimed from smoke and dirt. To accomplish this,

apply to the surface, with a long-handled fibre brush, a strong solution of caustic soda or pearl ash. Let it remain on for about fifteen minutes, then wash several times with clear water, using a stiff brush or broom for the purpose. If this will not be effective enough, scrub the stone with a stiff fibre brush, using soft soap and concentrated lye and sand, allowing this to remain on the stone until nearly dry, then rinse with clear water, using a brush to remove the cleansing material.

\* \* \*

THE CONSTRUCTION of a dam across the St. John River at Meductic is proposed by the St. John River Hydro-Electric Company. The project has been laid before the legislature, and its promoters claim the work will cause an ultimate expenditure of some \$3,650,000. The proposed dam will cross the St. John at Meductic above Fredericton and transmit power to Fredericton and Marysville, down the valley of the river over 80 miles to St. John.

\* \* \*

COPING with physical handicaps which for many years baffled some of the world's greatest engineers, the Canadian Pacific railway is now projecting a scheme of greater magnitude than anything of its kind previously attempted on this continent—the boring of a five-mile, double-track tunnel through Mount MacDonald, one of the peaks in the Selkirk range, near Cambie, three miles west of Glacier. The passage will obviate the present necessity of using two long spiral "loops" on the western slope and many miles of snow sheds, the improvements being designed to effect a big grade reduction and the abandonment of one of the most costly sections of railway from an operating point of view, on the entire system.

A tremendous amount of excavation work has been done, the material scooped out being conveyed in dump cars and being deposited in places where filling has been found necessary for the roadbed. Two big steam shovels, one of them scooping up as much as 100 tons at once, are at work in the cutting which will lead up to the portal of the passage. The tunnel will follow a straight line under Mount MacDonald, emerging in the Beaver Valley.

The contractors are employing an entirely new method in tunnel piercing—they are projecting what is known as a "pioneer" bore. This is a small preliminary shaft, seven feet by nine, which will parallel the course of the main tunnel fifty feet distant and will be bored from both ends at the same time. The idea is quite in the nature of an experiment and was decided upon only after careful calculation and mature consideration.

With the "pioneer" bore the work will be

greatly facilitated. Side drifts will be excavated leading into the course of the main tunnel and drillers will thus be enabled to attack a number of points at once. While blasting is proceeding in one part of the shaft the workers will be able to continue their activities in another instead of having to cease work each time a shot is fired as would be the case with the one heading. The same applies to the excavation part of the work. Lines of cars loaded with material can be kept continually in motion from the various drifts which would not be possible were the operations concentrated all at one point. Another great advantage is the fact that the "pioneer" bore will act as a ventilating shaft, enabling the passage of a current of air through the two bores and the connecting passages. It will also serve a permanent purpose in the same connection on the completion of the main tunnel.

One of the difficult engineering feats carried out in connection with the tunnel undertaking was the diversion of the course of the Illecilawaet River. This stream which during the spring freshets assumes the dimensions of a raging torrent, presented a great handicap, as its original channel crossed the location for the approaches at a point where a deep cutting had to be excavated to secure the necessary grade for the entrance of the tunnel, and then skirted the route for a considerable distance. While measures could have been taken effectively for carrying the tracks on trestles or bridges, there would still have been a danger of the river encroaching on the line or undermining the roadbed, and so it was decided to change the course of the stream.

Accordingly a deep trench nearly a mile long was dug on the left side of the approaches. This will act as a continuation of the original channel of the river and will divert the stream past the cutting to a point where an arched culvert will turn the water under the tracks again into the old creek bed on the right side of the railway.

The new location for the line will shorten the route by four miles. The enterprise is officially known as Roger's Pass tunneling scheme, and the work and related movements will involve the expenditure of more than \$10,000,000. The tunnel will take rank as the longest railway bore in America. The Hoosac tunnel on the New York Central line is the longest at present, being just four and three-quarter miles through.

## BOOKS

The 1914 Edition containing 5,000 facts about Canada can be secured from the Canadian Facts Publishing Co., Toronto, Canada, for 25 cents. The work is arranged alphabetically and full of valuable information.

"The Hollow Tile House," by Frederick Squires, consists of 15 short chapters which tell the whole story of tile, its manufacture, the English and European precedents for the use of stucco in covering its surface, somewhat about design, what architects design for themselves, and for the other fellow, the most recent devices for the treatment and decoration of stucco, and finally the development of tile as an exterior finish in itself. The book contains over two hundred illustrations chosen from foreign and American sources. Published by William T. Comstock Co., New York. Price, \$2.50.

"How to Frame a House," or House and Roof Framing, by Owen B. Maginnis, seventh edition, revised and enlarged, contains one hundred and fifty drawings of houses, roofs, etc. Additional matter covers subjects which are not obtainable in other text books, such as the methods of rustic carpentry and joinery, methods of house moving, and miscellaneous framing, such as the building of review stands, grain elevators, boat houses, wooden bridge work and large wooden trusses. Published by William T. Comstock Co., New York. Price, \$1.50.

"Electric Light and Motor Wiring," by George J. Kirchgasser, is a pocket addition on the different systems of electrical wiring, how they are installed and the National Electrical Code requirements. The work is illustrated and possesses many diagrams of a practical nature. Published by the Electroforce Pub. Co., Milwaukee, Wis. Cost, \$1.00.

\* \* \*

ONE of the most costly items in the upkeep expense of sea water baths is the frequent repairs that have to be made to the piping, due to the rapid corrosive action of the sea water, especially when heated.

An interesting interview with the engineer of the Columbia Baths at Atlantic City was recently secured on the actual experience in these baths—which have been in constant operation for over fifteen years—with wrought iron pipe for conducting sea water, both hot and cold.

A suction line drawing water from the ocean was installed fourteen years ago, to supply the Columbia pools with sea water. Byers wrought iron pipe was used for this line, and for fourteen years gave no trouble whatsoever. Last summer, the baths were greatly enlarged and it was necessary to replace the suction line with a much larger diameter. The original lengths of Byers pipe, laid fourteen years ago, were found to be in prime condition, having lost very little from corrosion, despite the fact that they were exposed to both inside and outside action. This pipe was so good that it was laid again in another part of the work for another purpose.

An even more severe test was found to have operated on a heating system of Byers two-inch pipe, galvanized. This system was laid fourteen years ago, with the suction line referred to above, and when the extensive alterations to the plant last summer caused it to be taken up, it was found to be in almost perfect condition, and was replaced with no repairs whatever.

Fourteen years, under such conditions as the constant carrying of sea water, is a test for the corrosion resistance of pipe whose value will be readily admitted by the most exacting.

\* \* \*

C. C. MENDHAM, who has been connected with the outdoor staff in Toronto of the Herbert Morris Crane & Hoist Company, Limited, has been appointed resident engineer in Berlin for the same company. This appointment is in line with the well-known policy of the Herbert Morris Crane & Hoist Company which consists not only in carrying large stocks of this manufacture to ensure prompt delivery, but in furnishing also a consulting engineering service which will advise on the best equipment for any given set of conditions.

\* \* \*

LIGHTING the farm home by electricity, while not altogether a novel idea, is a convenience which comparatively few farmers appreciate. The Northern Electric Company, Limited, have just issued a comprehensive bulletin covering their low voltage lighting outfits. With such an outfit installed, the farmer may enjoy the same electrical conveniences as have heretofore been confined to those living in cities or towns. Electric irons, toasters, vacuum cleaners and fan motors are only some of the many conveniences that may now be used on the farm. A copy of the bulletin may be secured by writing this company at their nearest office.

\* \* \*

"MEDUSA WATERPROOFING" is the title of a practical booklet issued by the Stinson-Reeb Builders' Supply Company. The contents treat of the history, uses, tests and advantages of waterproofing materials; the successful results obtained under heavy water pressure; testimonials from various sources, and illustrations of buildings where "Medusa" waterproofing has been used. The booklet may be obtained by writing this company at their new address, Read Building, Alexander street, Montreal.

\* \* \*

THE Master Builders' Company have appointed Neil Gillies manager of the Toronto office. Mr. Gillies first came to Toronto as manager of the Canada Floors, Limited; later he

formed a partnership under the firm name of Brett, Gillies and Moyes of Montreal and Toronto, carrying on an extensive business in composition and asphalt flooring. Through this connection Mr. Gillies is well-known among architects and contractors, and should prove a valuable acquisition to the company.

\* \* \*

"THE TOWN of Asbestoslate." This title in red, on a sketchy cover of Scotch grey, introduces a most attractive booklet. By way of describing a thriving little Canadian town, whose real name we will leave you to find out, it illustrates some charming homes and attractive public buildings. These and dozens of others in this embryo city, are roofed with Asbestoslate—hence the name. The exceptionally artistic tone of the booklet does not prevent it from giving many valuable suggestions and much useful information to intending builders, to whom the publishers will be glad to send it on request. Write the Asbestos Mfg. Co., 263 St. James St., Montreal, for a copy of "The Town of Asbestoslate."

\* \* \*

THE TITLE, "Waterproofing for Cement Houses," is given to a booklet in which the problem of waterproofing cement stucco houses is discussed logically and interestingly. Such a careful treatment of this subject is bound to increase interest in the use of cement stucco, and in the necessity for safeguarding against dampness. The booklet is written around Ceresit Waterproofing Compound, which is explained by the fact that it is issued by the Ceresit Waterproofing Company, Chicago.

\* \* \*

THE DESIGN for the reinforced concrete construction used in the auditorium of the Hart House, Toronto, illustrated in this issue of CONSTRUCTION, was made by Clarence W. Noble. Mr. Noble also supplied the reinforcing bars.

### THE LAST WORD

in the art of manufacturing High Grade Surveying and Drawing Instruments has been developed in the Dietzgen Instruments, the possession and use of which guarantees accurate results.

Scales, Slide Rules, Draughting Equipment and Accessories of a complete list are also manufactured by us and sold direct to the Architect and Engineer.

#### BLUE PRINTS

made from tracings a specialty.

EUGENE DIETZGEN CO., LTD.,  
116 Adelaide St. W., Toronto.

# Barrett Specification Roofs

If you should specify merely "a five-ply tar-and-gravel roof" instead of "a Barrett Specification Roof"—

You might get as good a roof as a Barrett Specification Roof, though built somewhat differently—

But on the other hand, you may get materials of uncertain qualities—

Or a roof with little or no pitch between the layers—

Or a scanty surface coating of pitch and gravel—

And you wouldn't know about it until a few years later—*when the roof leaked.*

But if you put The Barrett Specification into

your building specifications and see that it is carried out, you are sure—

1. That the materials will be right,
2. That they will be used in the right amount and in the right way,
3. That your roof will last upwards of twenty years without another cent of expenditure,
4. And that the cost per foot per year of service will be lower than it could possibly be with any other kind of roofing.

As Barrett Specification Roofs cost less than any other permanent roof to begin with and as their maintenance cost is nothing, the unit cost comes down to about 1/4c. per square foot per year, a figure unapproached by any other roof covering.

Copy of The Barrett Specification with tracing ready for incorporation into your building plans sent free on request. Address nearest office.

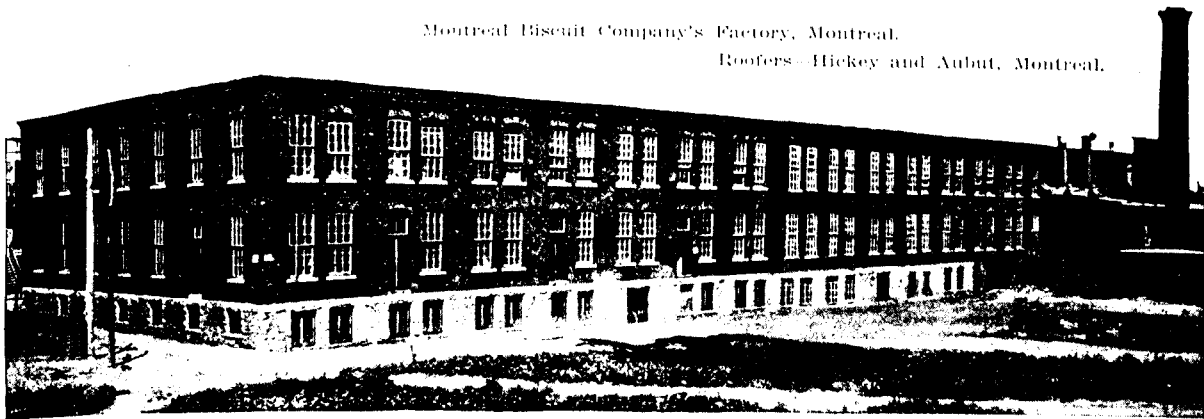
**Special Note** We advise incorporating in plans the full wording of The Barrett Specification, in order to avoid any misunderstanding. If any abbreviated form is desired, however, the following is suggested:  
**ROOFING**—Shall be a Barrett Specification Roof laid as directed in printed Specification, revised August 15, 1911, using the materials specified and subject to the inspection requirement.

**THE PATERSON MFG. CO., Limited**

Montreal Toronto Winnipeg Vancouver St. John, N.B. Halifax, N.S. Sydney, N.S.

Montreal Biscuit Company's Factory, Montreal.

Roofers—Hickey and Aubut, Montreal.





# Leaded Art GLASS

We manufacture Leaded Glass for Dwellings, Theatres, Clubs and all kinds of domes and interior partitions, and will submit special sketches to match any color scheme. We are also specialists in Church and Memorial Windows.

Leaded Glass Work is only one of our many lines. We carry a large stock of

## ALL KINDS OF GLASS for BUILDING PURPOSES

in our various factories.

Write us for our new catalogue and prices.

### The HOBBS Manufacturing Company Limited

**Montreal Toronto LONDON Winnipeg**



## G. & McC. Co. SECTIONAL WATER TUBE BOILERS

Have straight 4-inch Tubes,  
Have large Steam and Water  
Drums, and connecting Nipples  
of increased size.

Have Positive and Rapid Circu-  
lation, Enlarged Area for  
Combustion, and increased  
Steaming Capacity.

Illustration shows one of our Type A, Double Drum, Sectional Water Tube Boilers in course of installation at the plant of the Kelsey Wheel Co., Windsor, Ont.

We shall be glad to send our New Water Tube Boiler Bulletin No. 30 and any information required, to your address upon request.

### THE GOLDIE & McCULLOCH CO., LIMITED

HEAD OFFICE AND WORKS, GALT, ONTARIO, CANADA

TORONTO OFFICE:  
SUITE 1101-2,  
TRADERS BANK BLDG.

WESTERN BRANCH:  
248 McDERMOTT AVE.,  
WINNIPEG, MAN.

QUEBEC AGENTS:  
ROSS & GREIG,  
412 ST. JAMES ST.,  
MONTREAL, QUE.

BRITISH COLUMBIA AGENTS:  
ROBT. HAMILTON & CO.,  
VANCOUVER, B.C.

## Port Credit Brick

Our Specialty

is

# BRICK

PORT CREDIT BRICK!

Wire Cut or Pressed,

From Canada's FINEST Shale.

Made FULL SIZE—7¼ in. x 10 in.—

At the rate of 50,000 daily,

Within 35 minutes of Toronto.

Each Brick uniformly Hard-Burned throughout.

*Moisture absorption—LOW.*

*Crushing test—HIGH.*

*Prices RIGHT.*

*Deliveries—ON TIME.*

10 Reasons WHY it ought to pay YOU to specify and use

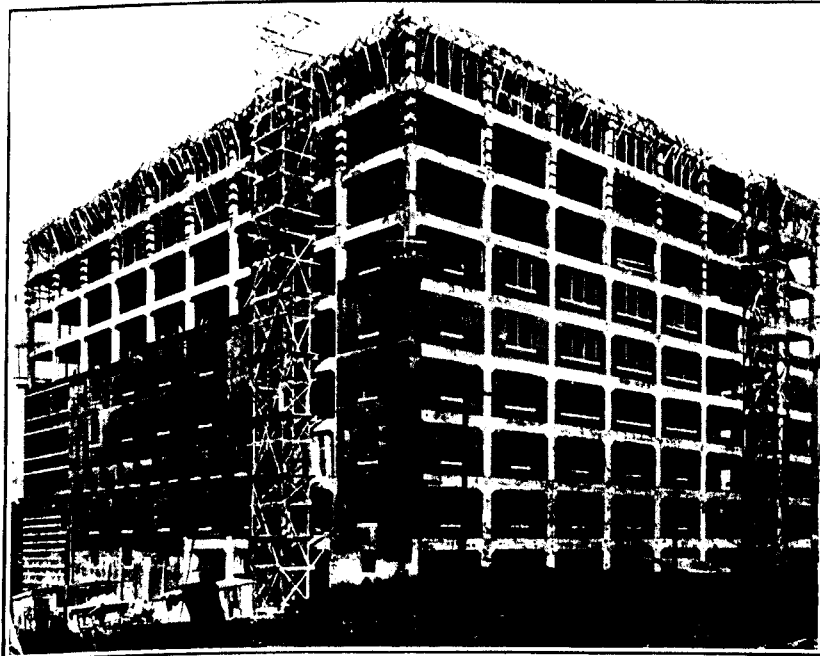
PORT CREDIT BRICK!

## Port Credit Brick Company, Limited

PORT CREDIT

Toronto Office: McKinnon Building

### "Made of Canada's Finest Shale."



Montgomery Ward Warehouse, Kansas City, Mo.

**U**NPATENTED concrete reinforcement is fifty to seventy-five per cent. cheaper than the patented article, cost and strength considered. A competitive tender using patented steel must therefore be based on a weaker design than one using unpatented steel. If not, it would not compete.

I design and sell unpatented reinforcement. I start with your architect's plans and end with the technical details complete and the reinforcing bars delivered at the job. A lump sum covers the entire transaction.

## CLARENCE W. NOBLE

417 Birks Bldg.  
Montreal

117 Home Life Bldg. 905 Electric Railway Chambers  
TORONTO

Winnipeg



## OUR EXPERIENCE Will Help You to Correct Bad Acoustics

Our Acoustical Department has satisfactorily solved the acoustical problems of a great many important structures throughout the country. This list should conclusively prove our ability to correct and perfect the acoustics of any large auditorium or assembly room.

Court House, Moose Jaw, Saskatchewan, Canada.  
Great Hall, The College of the City of New York.  
The Little Theatre, New York, Auditorium.  
Williams College, Williamstown, Mass., Thompson Memorial Chapel.  
Grace Church, Lowell, Mass., Auditorium.  
Mt. Aloysia Convent, Millvale, Pa., Large Dining Room.  
Montgomery County Court House, Norristown, Pa.  
National Cash Register Co., Dayton, O., Convention Hall.  
Chamber of Commerce, Cleveland, O.  
First Presbyterian Church, Evanston, Ill., Auditorium.  
Glencoe School, Glencoe (Chicago), Ill.  
LaCrosse County Court Room, LaCrosse, Wis.  
Federal Building, Indianapolis, Ind., U.S. District Court Room.  
St. Paul's Church, Detroit, Mich., Auditorium.  
Municipal Building, Bristol, Va., City Hall and Court Room.  
Robeson County Court House, Lumberton, N.C.  
Tulsa County Court House, Tulsa, Okla.



We are well qualified to undertake the permanent correction of defective acoustical conditions of any room or auditorium.

*Great Hall, College of the City of New York. Note that J-M Acoustical Treatment does not interfere with the highly artistic appearance of the walls or ceiling.*

Write our nearest branch for full particulars

### THE CANADIAN H. W. JOHNS-MANVILLE CO., Limited

MANUFACTURERS OF ASBESTOS ROOFINGS, STUCCO, PIPE COVERINGS, COLD STORAGE INSULATION, WATERPROOFING, SANITARY SPECIALTIES, ACOUSTICAL CORRECTION, CORK TILING, ETC.



Toronto

Montreal

Winnipeg

Vancouver

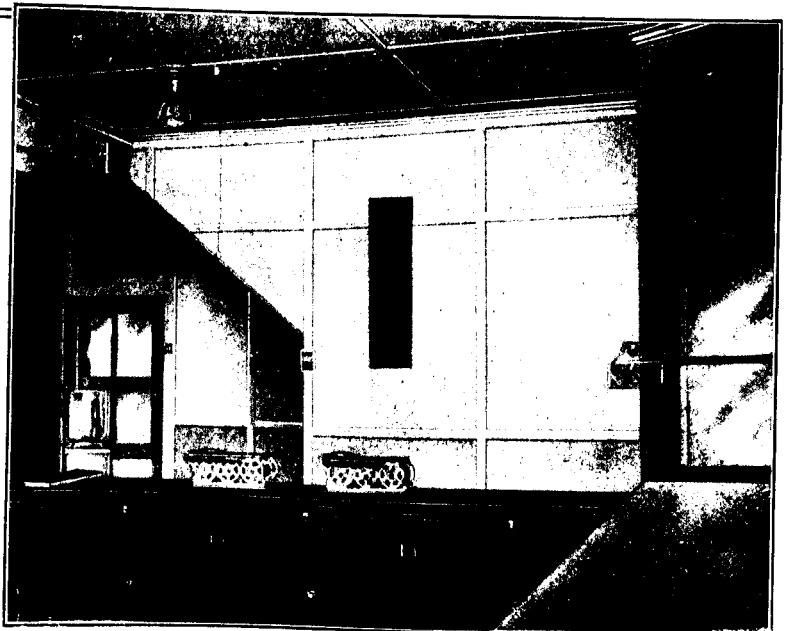
## LINABESTOS Building Board Makes Fireproof, Sanitary Walls and Ceilings

Don't think of Linabestos as just another building board. It is something entirely different. There is no paper about it—no fibre board—no tar or asphalt compounds. It is made of Portland Cement and Asbestos, in solid, compact sheets 3-16-inch thick, 42 inches wide, and 4 or 8 feet long.

Being absolutely fireproof, Linabestos checks a blaze instead of feeding it.

Linabestos is particularly desirable for kitchens, bathrooms, and finished basements, where, with a coat of paint, it gives a perfect sanitary finish—and ceilings that will never crack nor fall. It is well suited, too, for offices, halls and dining rooms, where a panelled finish is most effective.

Write for a sample of Linabestos and Folder 10, giving full information about it.



*This view of a part of the office of Wm. Rutherford & Son Co., Limited, one of Montreal's leading Lumber Dealers, shows an attractive and absolutely fireproof Linabestos finish. Rutherford's are so well satisfied that they are now selling LINABESTOS.*

### Asbestos Manufacturing Co., Limited

Address, E. T. Bank Bldg., 263 St. James St., MONTREAL

Factory at Lachine, P. Q. (Near Montreal)



# "American" Enameled Brick

**Sanitary,  
Fireproof and  
Impervious to Moisture**

Manufactured "exclusively" for over twenty years by a factory designed to produce only the highest standard of Enameled Brick.

**Architects, Structural Engineers and  
Prospective Builders**

should write for *Fifth Edition Catalog and Miniature Samples in the Standard Colors.*

**American Enameled Brick & Tile Co., 1182 BROADWAY  
NEW YORK**



The "Mill and Power House" Booklet will also be found interesting to prospective builders of this class of construction.



**Prompt Attention  
given formal en-  
quiries.**



**A large Volume of  
Warm Air on a Low  
Fuel Consumption**

Is produced by the

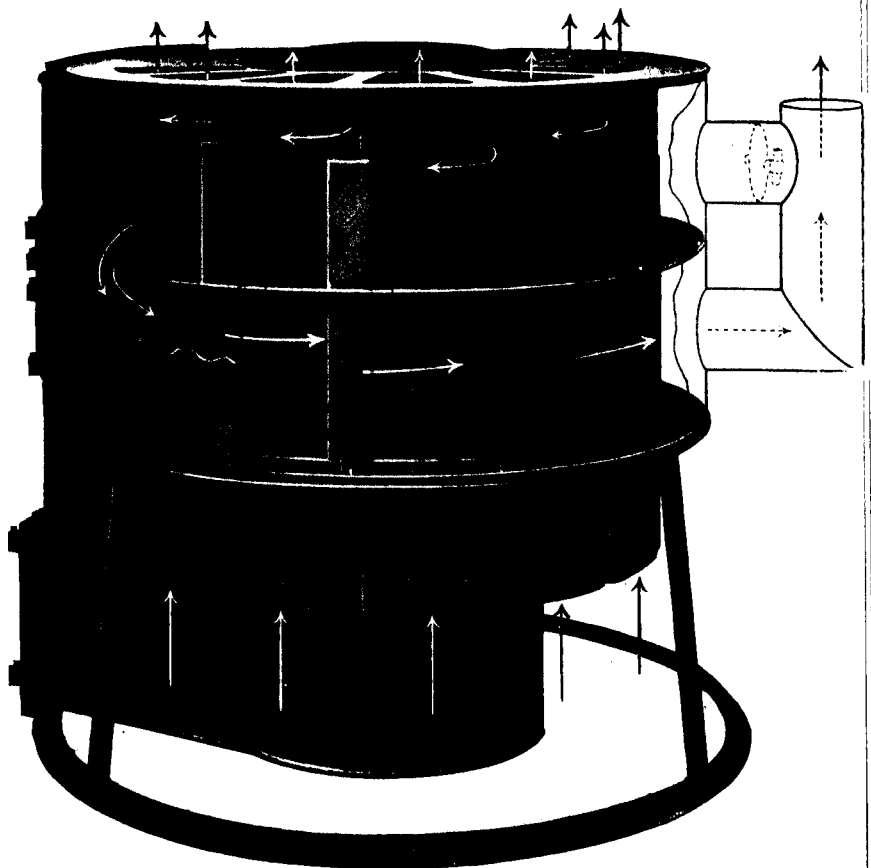
**CALORIFIC  
Warm Air Furnace**

The heat is evenly distributed to every part of the building. It is simple to operate and does not readily get out of order.

Let us send full particulars of this thorough and economical heating system. Then you will always specify the Calorific.

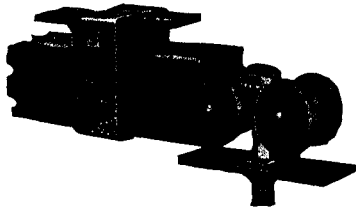
**Record Foundry and  
Machine Company**

**Montreal, P.Q. Moncton, N.B.  
Winnipeg, Man.**



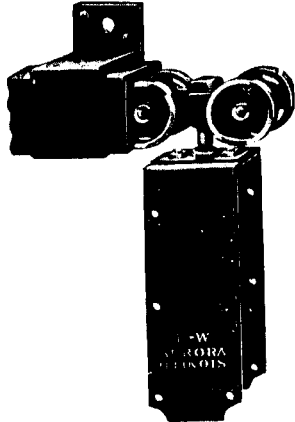
Showing direct draft attachment applied to the "Calorific" from back of radiator, also course of fire travel around air heating columns to smoke stack.

# "A Hanger for any Door that Slides"



Folding Door Hanger.  
Forged Steel Ball-Bearing.

In the absence of definite specifications by the architect, sliding doors are generally hung on hangers that are too light or not adapted to the purpose.

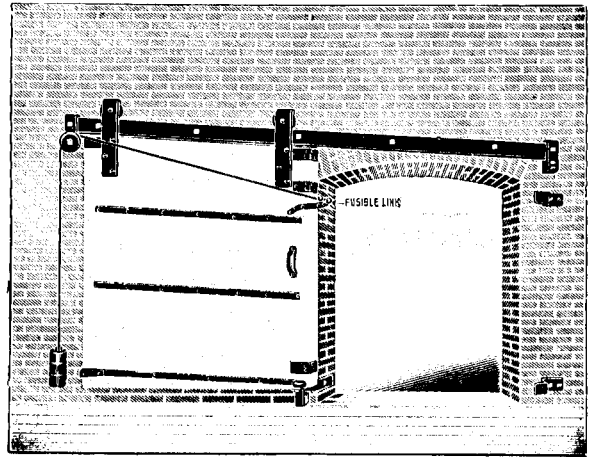


Trolley Hanger 150 1/2 B.  
Forged Steel—Ball-Bearing.  
Vertical and Lateral  
Adjustment.

The results are unsatisfactory operation, damage to doors and constant expense.

There is a right hanger for every purpose in the R-W Line—our catalogue (mailed on request) enables the conscientious engineer to select it.

There is a special "Architects' Edition" of our little monthly, "Door Ways," containing much of value to the fraternity on Sliding and Folding Doors. If you are not receiving it, kindly let us know.



**FIRE DOOR HARDWARE**  
Swing, Slide and Vertical types. Inspected under the supervision of Underwriters' Laboratories. Insist on label.

## Richards-Wilcox

CANADIAN COMPANY, LTD.  
LONDON, ONTARIO.

# ALWAYS USE Hammer Brand Plaster of Paris

Manufactured for Half a  
Century  
The Standard of Excellence



TRY IT  
and compare its surface  
covering capacity with  
other Brands

Manufactured Solely By

## ALBERT MFG. COMPANY

HILLSBOROUGH, NEW BRUNSWICK, CANADA

Export Agents: THE IMPERIAL EXPORT CO., LIMITED

MELBOURNE:  
17 Queen St.

SYDNEY:  
Martin's Chambers, Moore St.

AUCKLAND:  
34 Fort Street

CHRIST CHURCH:  
\_\_\_\_\_ St.



Centrepiece of Mosaic Entrance, New Art Schools, Bournemouth.

The above is an illustration of the actual material photographed at our works previous to being packed and sent off to the job for fixing.

## CERAMIC MOSAIC

### The EVER-LASTING and EVER-POPULAR MOSAIC FLOOR

### A CARTER SPECIALTY

The popularity of a Mosaic Floor for Halls, or Floors of Public Buildings is more evident year by year. The demand for Carters' Ceramic Mosaic Flooring is steadily increasing, which fact we are sure will not surprise those of our readers who are acquainted with the remarkable quality of a Carter Mosaic flooring.

Mosaic Floors being composed of small tiles, i.e., tesserae, the material lends itself particularly to distinctive ornamentation and is thus very suitable for name panels in Shop Entrances, and Heraldic emblems in Public Buildings. (See the fine example shown in our illustration.)

The tesserae are made in a large range of colors and once a floor is laid it is practically everlasting. The wear and tear of years cannot affect the design or the color as this is carried right through the Tiles.

We make a special feature of both Unglazed and Glazed Mosaic for Name Fascias to Shops, Warehouses and Public Buildings and for internal decorations of Churches, &c. These are probably more expensive in the original cost, but the subsequent redecoration is entirely obviated apart from the durability and artistic effect.

Several very attractive Mosaic designs are shown in our Catalogue, but we are always anxious to illustrate the adaptability of this material to any building or style of decoration.

**Carter & Company, Limited**

14 Encaustic Tile Works, Poole, Dorset

London Office, 29 Albert Embankment

## Knowing how means Success

If you have an important piece of work on which certain fixtures have to be fastened to walls of concrete, brick, stone, etc., what method would you employ? Surely not the old-fashioned lead-in or wood plug fastening, but the SEBCO METHOD, which insures security, permanency, neatness and satisfaction.

## HOW to do it—

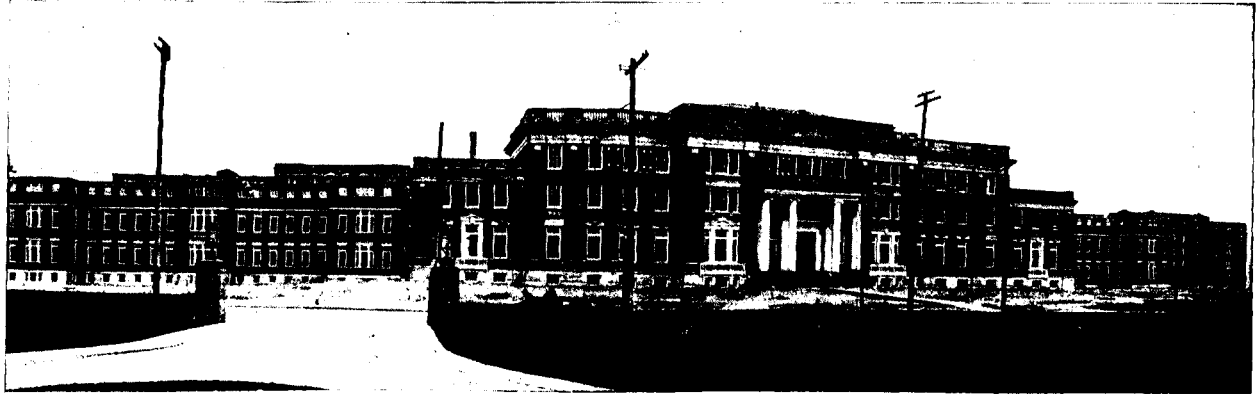
Drill a hole, insert a SEBCO Shield, place fixture and tighten bolt—the job is done—the shield has expanded, embedding itself so firmly in the surrounding material that it can't loosen or pull out.

*Send for our Catalog, also samples of Expansion Bolts and Anchors.*



377 St. Paul St., Montreal  
28 Toronto St., Toronto  
425 Henry Ave., Winnipeg

**STAR EXPANSION BOLTS** J. EDWARD OGDEN  
Canadian Distributor



Cincinnati General Hospital.

## Specified here **BAY STATE BRICK AND CEMENT COATING**

Two coats were used on the concrete and brick walls in all basements, tunnels, ceilings of porches, etc., of this great institution built by the Hospital Company, Cincinnati, Ohio. Architects, Samuel Hannaford & Son.

They preferred our coating to others because it not only protects against moisture, but "lights like the sun" and does not flake off when properly applied and is **absolutely sanitary**.

Let us send you Booklet 7 that explains many ways of waterproofing and decorating both exteriors and interiors.



### **WADSWORTH, HOWLAND & CO., Inc.**

Paint and Varnish Makers and Lead Corroders.

BOSTON, MASS.

Canadian Representatives:—Walter F. Gouinlock, 217 Confederation Life Bldg., Toronto, Can.

David McGill, 83 Bleury St., Montreal, Can. Waite-Fullerton Co., Winnipeg, Calgary, Edmonton and Regina.

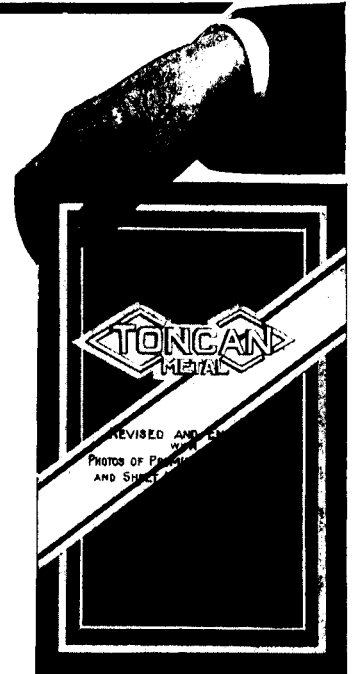
# This Book is Yours For The Asking

This book is a valuable compendium of interesting data on an interesting subject. It is written in non-technical language so that it might be of value to both the technically trained men and men in non-technical lines of business.

A few of the topics discussed are:

- THE DIFFERENCE BETWEEN RUST AND CORROSION
- THE CAUSE OF CORROSION
- THE EFFECT OF CORROSION
- THE ONLY LOGICAL REMEDY FOR CORROSION
- CHEMICAL ELECTROLYSIS IN SHEET METAL
- OLD TIME IRONS VS. PRESENT DAY STEEL
- THE VALUE OF A CORROSION-RESISTING SHEET METAL

Simply write on your own letter head or your Company's to



**The Pedlar People, Ltd., Oshawa, Toronto, Montreal**

Canadian Distributors of **TONGAN METAL** Sheets and Products

**The Stark Rolling Mill Co., Canton, Ohio**

Sole Manufacturers



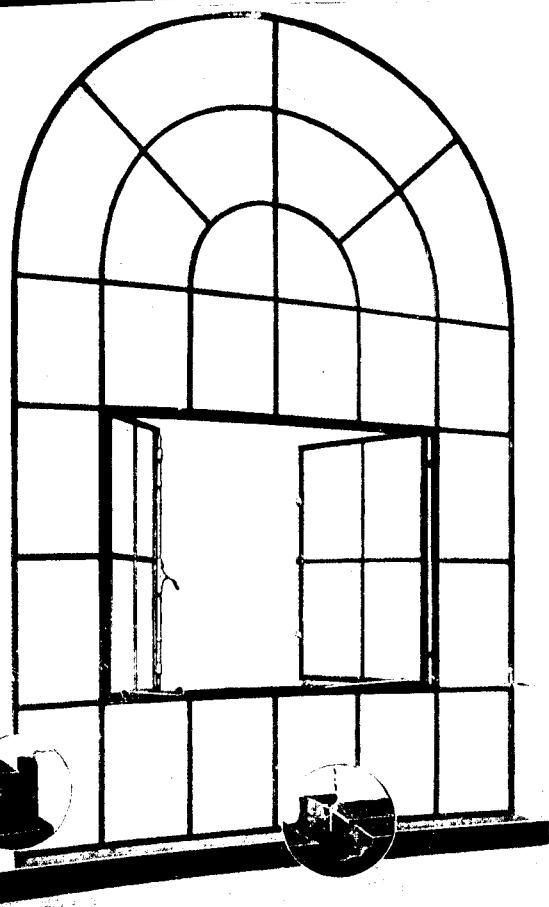
PARLIAMENT BUILDINGS, TORONTO

Architect: GEO. GOUINLOCK

Registers and Grilles Throughout These Buildings Made By  
**TUTTLE & BAILEY MFG. CO., OF CANADA, LTD.**

Write for Catalogues and Quotations

BRIDGEBURG, ONTARIO



## KAHN SYSTEM

### of REINFORCED CONCRETE

covers the entire field of permanent fire-proof construction from garage to industrial plant, from residence to skyscraper.

Our Florestyle construction is sound-proof and fire-proof, and reduces cost of office buildings, hotels, hospitals and apartment houses, residences, etc. Particulars gladly furnished.

Kahn Steel Sash, for use in factories, warehouses, power plants, etc., is made of specially rolled mild steel sections; is fire-proof, weather-proof, permanent. Double contact ventilators, hinged on Kahn's Patent Hinges.

**THE TRUSSED CONCRETE  
 STEEL CO.  
 OF CANADA, LIMITED**

Head Office and Factory:  
**WALKERVILLE, ONT.**

Branch Offices: Halifax, Montreal, Toronto,  
 Fort William, Winnipeg, Calgary, Vancouver

# JAMIESON'S PAINTS

The final touch to a good piece of architecture is the decoration. The best sort needs absolutely pure paints. Over half a century of paint-making experience is concentrated in every can of Jamieson's Pure Prepared Paints. Specify them.

**R. C. JAMIESON & CO., Limited**  
 Established 1858  
 MONTREAL VANCOUVER  
 Owing and Operating P. D. Dods & Co., Limited



**D**OING business with a good house is like making love to a widow.

You can't overdo it.  
It is safer to let

## "RELIANCE" HANGERS

be your widow. They'll never disappoint you.

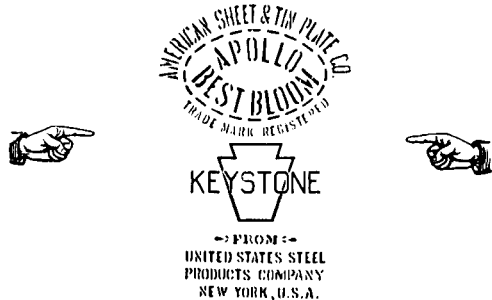
**Reliance Ball Bearing Door Hanger Company**

1 Madison Ave. - NEW YORK

**Canadian Agents:**

Douglas-Milligan Co., Montreal, Toronto, Ottawa, Quebec.  
 Wm. N. O'Neill & Co., Ltd., Vancouver, Victoria.  
 Waite-Fullerton Co., Ltd., Winnipeg, Calgary.

**A Product Without a Peer**  
For Roofing, Cornices, Guttering, etc.



**KEYSTONE**  
COPPER BEARING, RUST RESISTING  
**SHEETS**

**BLACK and GALVANIZED**

Send for our Special Booklet and Prices

**B. & S. H. THOMPSON & CO., Ltd.**

Transportation Bldg.  
MONTREAL

Traders Bank Bldg.  
TORONTO

Selling Agents for Eastern Canada for  
**United States Steel Products Co. New York**  
 Branch Offices, Winnipeg and Vancouver.

# **Ormsby - Lupton - Steel - Sash**

Rolled Steel—Low Carbon Members  
 All Sections—Solid—One Piece  
 Accuracy in Glass Sizes Guaranteed  
 Muntins Locked Making Joints Inseparable

## **Ormsby-Steel-Partitions Pond Continuous Sash**

MINIMUM COST—MAXIMUM STRENGTH AND LIGHT

# **The A. B. Ormsby Company, Ltd.**

TORONTO

Associated with

WINNIPEG

**THE METAL SHINGLE AND SIDING COMPANY, LIMITED**

**PRESTON**

**MONTREAL**

**SASKATOON**

**CALGARY**

AGENTS—

Vancouver, N. J. Dinnen & Company  
 Victoria " "  
 Winnipeg " "  
 Calgary " "  
 Saskatoon, Mackenzie & Thayer.

N. Battleford, Mackenzie & Thayer.  
 Edmonton, E. C. Coombs.  
 Regina, Robson Supply Co.  
 Moose Jaw, General Builders Supply Co.  
 Prince Albert, Bowman Supply Co.

Quebec, J. A. Bernard.  
 Ottawa, Canadian Agency & Supply Co.  
 Halifax, Frank A. Gillis & Company.  
 St. John, J. C. Berrie.

# **24 GAUGE EXPANDED STEEL LATH**

"Galt" Lath is becoming more and more popular. Plasterers are finding out that it takes less mortar, has a better key and is more reasonable in price than any other kind.

WRITE FOR PARTICULARS.

**THE GALT ART METAL CO., Limited**

(DEPT. "A")

**GALT, - ONT.**



## MARQUISES

**T**HE attainment of a Marquise design of substantial appearance and artistic lines appropriate to the class of structure on which it is to go is possible only when the work is in skilled hands.

**O**UR expert craftsmen, having at their command every material and facility, have conceived and executed many worthy examples in this line, one of which appears above.

**T**HE door grille shown above is one of our many handsome designs in this popular embellishment.

We would be pleased to send you designs and estimates.

*The Dennis Wire & Iron Works Co. Limited*  
GENERAL OFFICE AND WORKS  
LONDON, CANADA

# BITUNAMEL

REGISTERED

An Enamel-like coating of a bituminous nature for the protection of all kinds of Iron or Steel surfaces, such as Pontoons, Bridges, Roofs, Girders, Tanks, Tubes, Car Trucks, Steel Cars, Ships' Bottoms, Foundations, etc.

*It will fulfil the following conditions:*

- Moderate in price.
- Great covering capacity.
- Possesses great elasticity and tenacity.
- Dries quickly and hard with a smooth surface.
- Will not crack nor peel off.
- Easily applied, does not require heating or melting.
- Is sent out ready for use.
- Is impervious to rust and moisture from within and without.
- Is unaffected by 1 per cent. of boiling caustic water.
- Absolutely waterproof, as a coating for foundations of buildings to render them waterproof it has no superior.
- Walls coated inside before being plastered will be rendered perfectly damp-proof.
- Steel plates coated fifteen years ago still perfectly protected and good.
- Steel pontoons coated eighteen years ago still perfectly protected and good.
- Fresh water tanks coated ten years ago still perfectly protected and good.
- It is also a wonderful preservative of wood whether above or below ground, preventing decay.
- We guarantee it free from rosin and to have a flash point of not under 75° F.
- Put up in packages from 1-gallon cans to barrels.

**The Ault & Wiborg  
Co., of Canada, Limited**



Varnish Works  
TORONTO  
MONTREAL WINNIPEG  
Cincinnati Philadelphia  
New York Buffalo  
Chicago Minneapolis  
San Francisco London Paris



**Positively Permanent Protection**

WITH

**J-M BUILT-UP  
ASBESTOS ROOFING**

A roof covering that is mineral through and through. It is built up on the roof with layers of Asbestos felt cemented together and coated with Trinidad Lake Asphalt.

J-M Built-Up Asbestos Roofing gives perfect fire protection and is water-proof, acid-proof and practically time-proof.

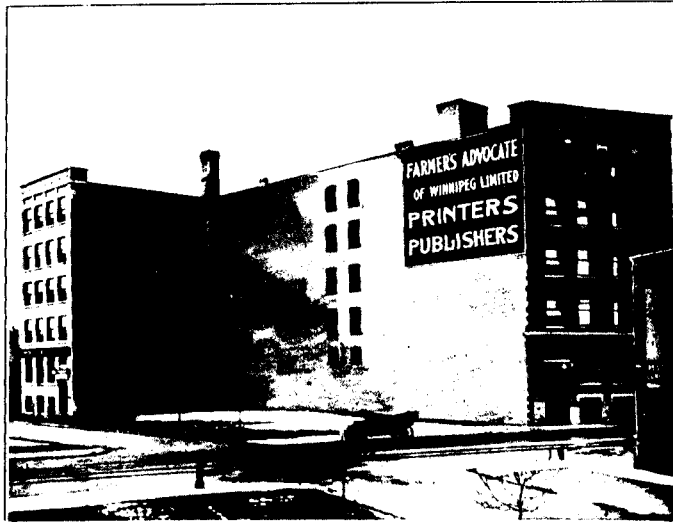
Less than one per cent. of the essential oils in J-M Built-Up Asbestos Roofing are lost when tested under heat at 325 degrees Fahrenheit for seven hours. As the sun's heat is very much less than this, the proof is conclusive that under the most severe weather conditions the asphalt saturants and coating used in this roofing will not become brittle or lose its water-proofing qualities. Other roofing saturants and cements become brittle, dry and are worthless in a few years.

The smooth surface of J-M Built-Up Asbestos Roofing makes it easy to inspect and repair leaks caused by accident, while it is almost impossible to locate leaks in roofings covered with gravel or slag.

This roofing weighs less than one-third as much as ordinary built-up roofings, so does not require such heavy roof construction.

We have experienced men at each of our branches to apply this roofing.

Write our Nearest Branch for Catalog and further information.



*Roofing Plant of the Farmers' Advocate, of Winnipeg, Ltd. Roofed with J-M Built-Up Asbestos Roofing.*



**THE CANADIAN H. W. JOHNS-MANVILLE CO., LIMITED**

Manufacturers of Asbestos Shingles; Roofings; Stucco; Pipe Coverings; Cold Storage Insulation; Waterproofing; Sanitary Specialties; Acoustical Correction; Cork Tiling; Fireproof Doors, Etc. 1695

COVERS THE CONTINENT

**Toronto**

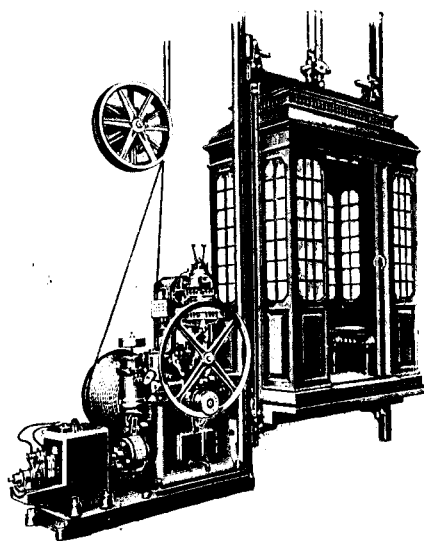
**Montreal**

TRADE MARK  
**ASBESTOS**

**Winnipeg**

**Vancouver**

**Elevator Equipment**



**Stigler's** Patented Passenger and Freight **Elevators**

**RADIO ELECTRIC COMPANY OF CANADA, Limited**

Head Office; 805-7 New Birks Bldg. : : Montreal, Quebec

**RONUK FLOOR POLISH**

**Floors That Safeguard Health**

Efficient sanitation is one of the most important problems the architect or builder of to-day has to solve.

Germs and dirt are always with us and find their logical collecting place on the floor.

Ronuk, in addition to its proven superiority as a polish and preservative to the wood, is an efficient antiseptic and germicide, without being offensive or corrosive.

This important quality particularly commends Ronuk for use in hospitals and public institutions.

For further information about Ronuk write

**RONUK LIMITED**

HEAD OFFICE FOR CANADA.

**53 Yonge Street, Toronto**

Factory: 91-93 Youville Square,

Portslade, England. **Montreal.**

Our contract department will undertake or arrange with Contractors for the first polishing or the maintenance of floors for institutions or residences at a rate commensurate with their size and characteristics.



## The Seal of Approval

For over half a century architects and builders who handle the best work have been specifying Berry Brothers' architectural finishes. With various ends in view—lasting service, greatest beauty, the client's approval or the certainty of satisfaction—they choose Berry Brothers' varnishes.

Our records show that Berry Brothers' Varnishes have been used in many of the finest buildings of the country. City skyscrapers, government and municipal buildings, the most pretentious clubs and residences as well as small buildings and modest homes of all sorts—have been beautified and made more attractive and lasting by the use of Berry Brothers' finishes.

## BERRY BROTHERS' VARNISHES

Among the best known are these varnishes:

**LIQUID GRANITE**—A floor varnish whose name suggests its wonderful durability.

**LUXEBERRY WHITE ENAMEL**—For white interior finishing. A white enamel that stays white.

**LUXEBERRY SPAR** (It's waterproof)—For marine uses and for all kinds of outdoor finishing exposed to the weather. Will not turn white, crack nor check.

To specify Berry Brothers' Varnishes is to insure absolute satisfaction to your clients. Sold by dealers everywhere.

**BERRY BROTHERS**  
(INCORPORATED)  
World's Largest Varnish Makers

Established 1858

Factory: WALKERVILLE, ONTARIO



COUNTRY CLUB, ST. JOSEPH, MO.  
Stained with Cabot's Stains.  
Roof in Mottled Red Tile Effect. Trimmings Dark Brown.  
Walter Boschen, Architect, St. Joseph.

### Reliable Shingle Stains

Shingle stains can be as cheap and worthless as the maker's conscience will allow. Kerosene is the favorite cheaper, mixed with coarse and adulterated colors. Such stains are not worth applying, because they cost as much to apply as good stains, and the colors wash off and fade, and your shingles are made dangerously inflammable. *Don't accept any stain that smells of kerosene or benzine.*

### Cabot's Creosote Stains

are made of refined Creosote and no kerosene. The colors are lasting, clear, and beautiful. They are the original and standard shingle stains, and every gallon is guaranteed.

*You can get Cabot's Stains all over the country.  
Send for samples and name of nearest agent.*

**Samuel Cabot, Inc.,** <sup>Mfg.</sup> **Chemists, Boston, Mass.**

Canadian Agents:

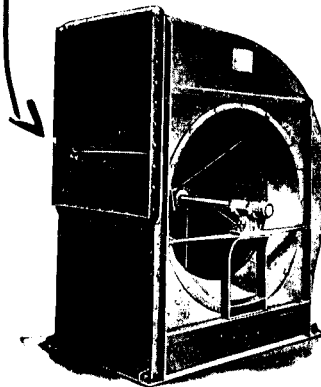
A. Muirhead Co., Toronto. Braid & McCurdy, Winnipeg.  
Henry Darling, Vancouver. Seymour & Co., Montreal.  
Saskatchewan Supply Co., Canadian Equipment & Supply  
Saskatoon. Co., Calgary.

Cabot's Quilt, Waterproof Cement and Brick Stains  
Conservo Wood Preservative, Damp-proofing,  
Waterproofing.



### Multi-Blade Fans for Heating and Ventilating

have withstood such rigid tests in actual practice that Architects and Engineers the world over, are specifying them for duty in Schools, Churches, Theatres, Hotels, Office and Industrial Buildings.



### Sirocco Multi-Blade Fans

Handle *twice* the amount of air—consuming *less power* than fans of any other type, wheel diameters being equal.

Your request will bring bulletin containing capacities, sizes, etc.

CANADIAN *Sirocco* COMPANY  
LIMITED

WINDSOR, ONTARIO.

SALES ENGINEERS:

CLARK T. MORSE,  
301 McGill Bldg.,  
MONTREAL.

W. P. EDDY,  
301 Tribune Bldg.,  
WINNIPEG.

E. C. POWERS,  
43 Victoria St.,  
TORONTO.

S. S. CLARKE,  
605 2nd St.,  
CALGARY.

**THE PICTURE SHOWS---**

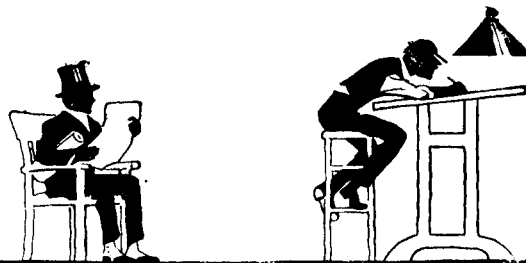
Some Products of our Ornamental Iron Department. Can These be Excelled?



Entrance Doors Imperial Trust Co. of Canada  
Chadwick & Beckett, Architects

**The GEO. B. MEADOWS, Toronto**

Wire, Iron & Brass Works Company, Limited  
Meadows Block - - Toronto, Canada



**Your responsibility to clients extends far**

beyond giving them what they *think* they want. If they have the right kind of confidence in you they—consciously or unconsciously—look to you for what they *ought* to have.

So in planning the always important details of finish, tell them quite frankly that

**Dougall  Varnish**

costs a little more than some other brands—but is worth the difference ten times over.

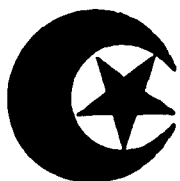
Give your client the benefit of your past experience in trying to do with a less perfect product. And also of those other experiences where, with the aid of Dougall Quality, the job has turned out 100 per cent. satisfactory. For the kind of co-operation that counts call on us without hesitation.



THE  
**Dougall Varnish Co.**  
Limited

MONTREAL, QUEBEC

Associated with  
Murphy Varnish Co., U.S.A.



**Oriental Rugs**

There is no other floor covering in the world that can give the same satisfaction as a *Real Oriental Rug*, and no home is complete without them. My stock of genuine Persian, Turkish and Indian Carpets and Rugs is the largest and most complete for any decorator and architect to make selections from.

*Special Sizes and Colors Made to Order to suit Interior Decorations.*

**Levon Babayan**

77 Bay Street, Toronto

Canada's Largest Wholesale  
Importer of Oriental Rugs

# FIRE DOORS REDUCE INSURANCE RATES

Every Door we manufacture bears the Underwriters' official label.  
 :: Officially labelled Underwriters' hardware used exclusively. ::

==== LET US ESTIMATE ON YOUR NEXT REQUIREMENT ====

## FEATHER & ROADHOUSE

Skylights, Cornices, Hollow Metal Windows, Kalameined Doors

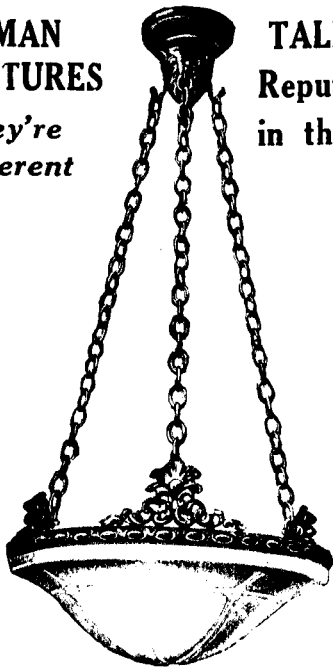
Phone Ad. 2377

- 528 Front Street West -

TORONTO

TALLMAN  
FIXTURES

*They're  
Different*



TALLMAN'S  
Reputation is  
in the Goods

*Tallman Brass & Metal Co.*  
HAMILTON, ONT.

## THE MARITIME BRIDGE CO. LTD.

Successors to

WM. P. McNEIL & Co. Ltd.

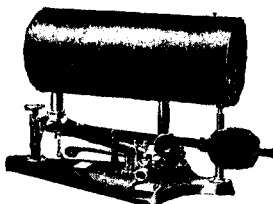
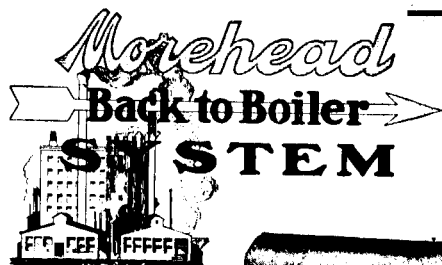
MANUFACTURERS OF

**BRIDGES—STEEL BUILDINGS  
ROOF TRUSSES—TURN-  
TABLES—TOWERS—GIRDERS  
AND STRUCTURAL STEEL  
WORK OF ALL KINDS**

*ESTIMATES FURNISHED PROMPTLY*

**LARGE TONNAGE OF PLATES  
SHAPES AND BARS IN STOCK**

**Office and Plant New Glasgow, N.S.**



## Saves—

That's the basic and fundamental purpose of the Morehead System—to SAVE—heat, fuel, time and labor.

Furthermore, you can return condensation direct to your boiler without the use of a pump or injector—and at a temperature up to 330° Fahr. In performing this service, the Morehead System consumes but 1-10 the amount of steam required by a steam pump for doing the same work.

Acquaint us with conditions in YOUR plant. Then let our engineers show you how the MOREHEAD can SAVE for YOU. WRITE TO-DAY.

**Canadian Morehead Manufacturing Co.**

WOODSTOCK - ONTARIO

## Structural Steel for Quick Delivery

We carry in stock at Montreal 5,000 tons of Structural Shapes and are in a position to make quick shipment of either plain or riveted material for

### BRIDGES, ROOF TRUSSES

**Columns, Girders, Beams, Towers and Tanks, Penstock**

**Estimates Furnished Promptly** **Capacity 18,000 Tons Annually**

## Structural Steel Co., Limited

**Main Office and Works** - - - - - **MONTREAL**



## "MALTESE CROSS" INTERLOCKING RUBBER TILING

THE IDEAL FLOOR COVERING.

Needs no special foundation and is the most durable floor that can be laid. Made in a variety of soft, rich colors that will harmonize with any surroundings.

MADE IN CANADA SOLELY BY

### GUTTA PERCHA & RUBBER LIMITED

TORONTO      MONTREAL      WINNIPEG  
CALGARY      VANCOUVER

Tel. East 6200, Code A.B.C. 5th Ed. Guild Broms,  
MONTREAL



## EXPERTS

With unrivalled experience stretching over very many years, can give you that one quality which is only produced by efficiency and training.

**High Class Furniture  
Cabinet Work  
Joinery  
Modellers  
Carvers**

Agents for the Bromsgrove Guild of England, Metal Workers to H.M. the King.

### The Bromsgrove Guild (Canada) LIMITED

456 Clarke Street - - MONTREAL



## Safety First

Perfect control of car is ensured by installing the

### "Roelofson" Direct Connected Electric Passenger Engine

as shown in illustration. Operated and controlled by Magnet Control and Lever Switch in car. We also manufacture Freight and Passenger Elevators, Electric, Hydraulic and Hand Power, also Dumb Waiters, Motors and Controllers.

### Roelofson Elevator Works    Galt, Ontario

## THE "EMPIRE" BRANDS

of CEMENT WALL—WOOD FIBER and FINISH PLASTERS

are the standards of quality, and are essential to FIRE-PROOF and FIRE-RETARDENT construction. They are light in weight—tough, and practically indestructible.

Make walls and ceilings FIRE-PROOF, SOUND-PROOF, AND VERMIN-PROOF.

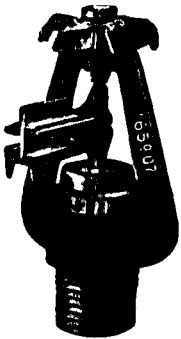
*Write for Specification Booklet.*

**Manitoba Gypsum Co. Limited.**  
WINNIPEG, MAN.

### FIRE NEVER GETS BEYOND CONTROL

in the plant that is equipped with

### MANUFACTURERS' AUTOMATIC SPRINKLERS



What would it mean to you just now to be burned out? More than you care to think about.

Put the possibility beyond a doubt by installing Manufacturers Automatic Sprinklers.

With them you have protection at a minimum and the insurance of continuity in business.

And your Insurance Policy will cost you less because of their installation.

*Write for Estimates.*

**The General Fire Equipment Co.**  
72 Queen St. East **Limited** TORONTO, CANADA

### CONSTANT SERVICE

IS ASSURED TO THE  
CONTRACTOR WHO USES

## "BEATTY"

### Material Handling Equipment

Very often when you are under bond to finish work by a certain time and you must key your plant up to the highest pitch, a breakdown means great loss or even ruin.

### Beatty Plant

is designed and constructed to safeguard the contractor against dangerous delays and reckless operation. Get the benefit of our fifty years' experience.

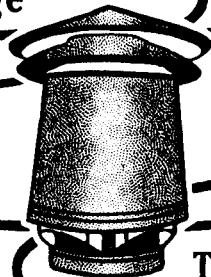
Send for catalogue TO-DAY.

**M. Beatty & Sons, Limited**  
Welland, Ontario

Agents—

H. E. Plant, 1790 St. James St., Montreal.  
Robert Hamilton & Co., Vancouver, B.C.  
H. W. Petrie, Toronto.  
E. Leonard & Sons, St. John, N.B.  
A. R. Williams Machinery Co., Winnipeg.

### The KERNCHEN Siphonage



*"It pulls out the vitiated air."*

*"It pulls out the steam and smoke."*

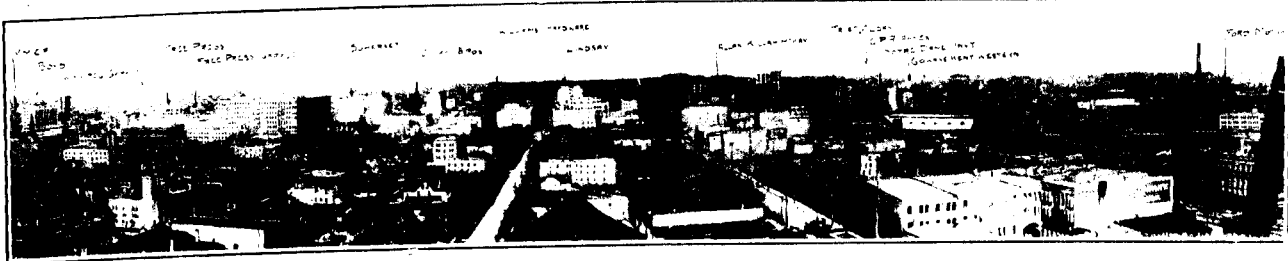
*"It pulls out fumes and gases."*

*"It pulls while others do not."*

**The Brantford Oven and Rack Co. Ltd.**  
Brantford, Ontario

**THE BUILDING VENTILATOR**  
That is Efficient, Durable and Sightly

**THE TURNER "MUSHROOM" SYSTEM**  
IS ADAPTED TO ALL KINDS OF REINFORCED CONCRETE WORK



SOME WINNIPEG "MUSHROOM" BUILDINGS.

For information and estimates address **C. A. P. TURNER, 601 Canada Building, WINNIPEG, MAN.**

**No. 1375  
R. I. W.  
PAINT**

**Resists Fumes of Chemical Gases and Acids**

SPECIALLY ADAPTED FOR USE IN SUGAR REFINERIES, PAPER MILLS, BREWERIES, INTERIOR OF TANKS, MINES AND SUBWAYS.

**Write For Special Specification**  
For Special Conditions you have to meet.

**R. I. W. DAMP-RESISTING PAINT COMPANY**

(TOCH BROS.)

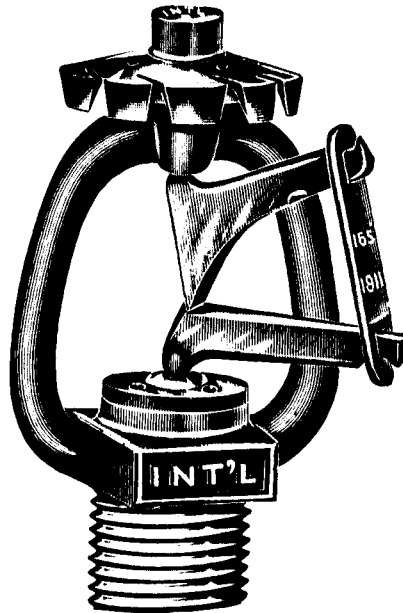
Canadian Office, 201 MAIL BUILDING, **TORONTO**  
" Factory, OAKVILLE, ONT.

DISTRIBUTORS:

Black Building Supply Co. Limited, Toronto.	Can. Equipment & Supply Co., Limited, Calgary & Edmonton.
Dartnell Limited, Montreal	Carter, Dewar, Crowe Co., Vancouver.
Western Paint Co., Winnipeg.	

WRITE NEAREST DISTRIBUTOR FOR FULL INFORMATION

**INSTANTANEOUS  
FIRE Protection.**



Reduce your Insurance Rates from 40% to 60% by equipping your buildings with

International  
Automatic  
Sprinklers

**W. J. McGUIRE, Limited**  
**TORONTO—MONTREAL**

**"BEAVER BRAND" HARDWOOD FLOORING**



The Seaman, Kent Co., Limited, Meaford, Ont.

Gentlemen,—In regard to your inquiry of the 13th inst., I must say that your Flooring is fully up to the standard. I am well pleased with it. It lays well and makes a very smooth, glossy surface.

I hope I will be able to use another carload of it in 1914, or before the year is out.

Yours truly,

It is not necessary for you to take this man's word. Send us your next order and let us convince you that "BEAVER BRAND" is the best Flooring that money can buy.

**THE SEAMAN, KENT CO., Limited**

SALES OFFICES—Montreal, P.Q., 970 Durocher St.

Toronto, Ont., 263 Wallace Ave.  
Winnipeg, Man., 506 Ashdown Block.  
Calgary, Alta., 501 McLean Building.  
Vancouver, B.C., Hamilton and Davie Streets.

FACTORIES—Meaford, Ont., Fort William, Ont., and Ste. Agathe, Que.

# Keiths LIMITED

## Reduce Insurance Premiums

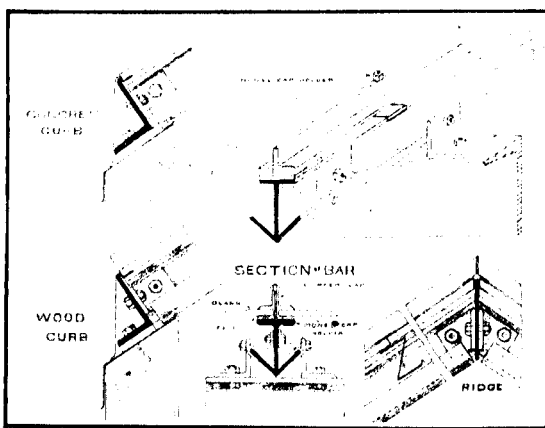
WILL YOU LET US SEND YOU AN EXPERT FREE OF CHARGE

to show you the best investment you ever made. Many Sprinkler Systems are paying their Owners 50% per annum return on the investment in reduced insurance premiums, and in addition are affording almost perfect protection against loss by fire due to interruption of business.



Associated Automatic Fire Sprinkler.

Head Office: 297 Campbell Av., Toronto.  
Quebec Office: 707 New Birks Bldg., Montreal



## The Anchor Bar Skylight

is specially designed for large areas where the bar length is over eight feet. There are many exclusive features of the "ANCHOR BAR" which combine to make a skylight of quite exceptional merit—strong in construction, glass secure from sliding, and the skylight is *specially secure at the curbs.*

We will gladly furnish estimates for any skylight requirements.

**GEO. W. REED & CO. LIMITED, MONTREAL**

Structural Steel  
Grey Iron Castings

Ornamental Lamp Pillars  
Automobile Turntables

Iron Stairs  
Fire Escapes

MANUFACTURED BY

# REID & BROWN

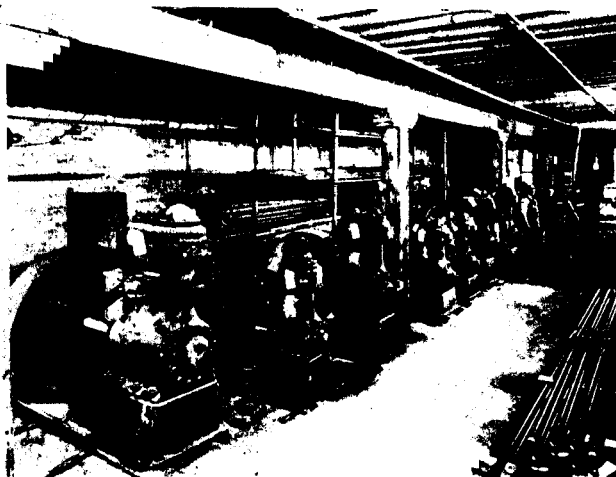
CONTRACTORS AND ENGINEERS

Office and Works: 63 Esplanade East - - - Toronto, Ont.

Phones: Main 904 - 905

PRIVATE BRANCH EXCHANGE

Beams, Channels, Angles, Plates, etc., in stock.



## "YORK" ICE MACHINES (TORONTO STOCK)

Get our prices and advice on any REFRIGERATING PROPOSITION you may have.

CANADIAN ICE MACHINE  
CO. LIMITED

Engineers and Contractors

MAIN OFFICE:  
163 Yonge St., Toronto  
Fitting Warehouse & Shop  
Toronto

BRANCHES: Montreal  
Winnipeg





# ENDS ALL FLOOR TROUBLES

TRADE

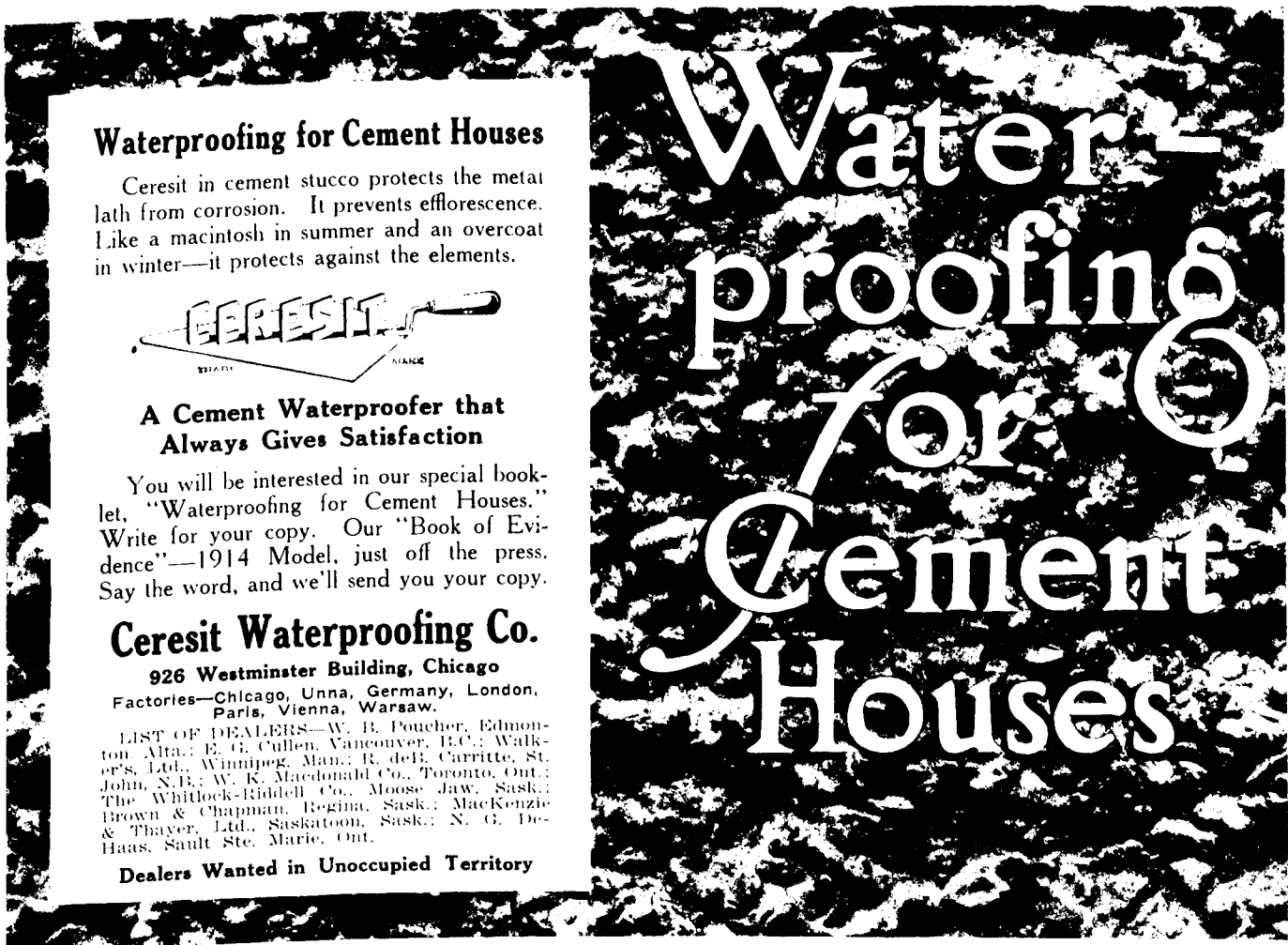
# ELASTICA

MARK

## FLOOR FINISH


The one perfect Floor Varnish.

**MAR-PROOF AND WATERPROOF**  
 Send for booklet No. 84 "How to finish floors" containing complete information about the proper care of floors.



# Waterproofing for Cement Houses

Ceresit in cement stucco protects the metal lath from corrosion. It prevents efflorescence. Like a macintosh in summer and an overcoat in winter—it protects against the elements.



**A Cement Waterproofer that Always Gives Satisfaction**

You will be interested in our special booklet, "Waterproofing for Cement Houses." Write for your copy. Our "Book of Evidence"—1914 Model, just off the press. Say the word, and we'll send you your copy.

**Ceresit Waterproofing Co.**  
 926 Westminster Building, Chicago  
 Factories—Chicago, Unna, Germany, London, Paris, Vienna, Warsaw.

LIST OF DEALERS—W. B. Poucher, Edmonton, Alta.; E. G. Cullen, Vancouver, B.C.; Walker's, Ltd., Winnipeg, Man.; R. deB. Carritte, St. John, N.B.; W. K. Macdonald Co., Toronto, Ont.; The Whitlock-Riddell Co., Moose Jaw, Sask.; Brown & Chapman, Regina, Sask.; MacKenzie & Thayer, Ltd., Saskatoon, Sask.; N. G. DeHaas, Sault Ste. Marie, Ont.

**Dealers Wanted in Unoccupied Territory**

# Waterproofing for Cement Houses



Compact—easy to erect. Takes up no room in basement.



Hoisting head revolves. Can be deposited on sidewalk without lifting.

**G. & G. Telescopic Hoist (Patented)**

With compound gear and brake attachment—for Hoisting and Lowering Ash Cans, Kegs, Barrels, etc., from cellar to Sidewalk.

No part shows above sidewalk when not in use. Maximum working capacity, 500 lbs. Hoisting Handle does not revolve when load is being lowered. Raises load at speed of 30 feet a minute. The position of operator, standing at sidewalk when hoist is in use, protects the public against danger of falling into shaft; and protects operator against danger of heavy load falling on him.

**GILLIS & GEOGHEGAN** 544 West Broadway  
NEW YORK

W. T. Grose, Winnipeg, Agent for Manitoba, Saskatchewan, Alberta; William N. O'Neil Co., Ltd., Agents for British Columbia; B. & S. H. Thompson & Co., Limited, Montreal, Agents for Quebec; Black Building Supply Co., Limited, Toronto, Agents for Ontario.

For **Exposed Places**

USE

“QUEEN'S  HEAD”

CANADA

**GALVANIZED  
IRON**

The extra heavy coating of Zinc makes it the most durable iron on the market.

**JOHN LYSAGHT, Limited**  
Makers

**A. C. LESLIE & CO., LIMITED**  
Montreal

Bristol, Newport & Montreal

Managers Canadian Branch

**High Grade Gypsum Products**

“CROWN



BRANDS”

TRADE MARK

**Cement Plasters**

Neat Hair Fibred, For Base Coat

**Finishing Plaster**

Cheaper than Plaster Paris

**Stucco Finish**

**Wood Fibre Plasters**

Fibred with wood, Unsanded

**Crown White Finish**

Equal to Keene's Cement

**Plaster Paris**

**Crown Gypsum Co., Limited, Lythmore, Ont.**

## A DIRECTORY FOR

## ARCHITECTURAL SPECIFICATIONS &amp; CONTRACTORS' SUPPLIES &amp; MACHINERY

- Adamant Plaster.**  
Stinson-Reeb Builders' Supply Co.
- Air Washers and Humidifiers.**  
Sheldons Limited.
- Architectural Bronze and Brass Work.**  
Dennis Wire and Iron Works. Meadows, Geo. B. Co.
- Architectural Iron.**  
Dennis Wire and Iron Works. Meadows, Geo. B. Co. Pedlar People, The.
- Architectural Stucco Relief.**  
Hynes, W. J., Ltd.
- Architectural Terra Cotta.**  
Toronto Plate Glass Imp. Co.
- Asbestos Products.**  
Asbestos Mfg. Co. Canadian Johns-Manville Co. Ormsby, A. B., Ltd.
- Bank and Office Railings.**  
Dennis Wire and Iron Works. Meadows, Geo. B. Co.
- Bank and Office Window Blinds.**  
Dennis Wire and Iron Works. Meadows, Geo. B. Co.
- Bath Room Fittings.**  
Canadian Johns-Manville Co. Robertson Co., James B. Standard Sanitary Co.
- Bent Glass.**  
Toronto Plate Glass Imp. Co.
- Belting.**  
Gutta Percha and Rubber Mfg. Co., Ltd.
- Brick Machinery.**  
Wettlaufer Bros.
- Blowers.**  
Sheldons Limited.
- Blow and Vent Piping.**  
Ormsby, A. B., Ltd. Pedlar People, The.
- Boilers.**  
Clare Bros. Co. Dominion Radiator Co., Ltd. Goldie & McCulloch Co., Ltd. Taylor-Forbes Co., Ltd. Wettlaufer Bros.
- Brass Works.**  
Robertson, James B. Co.
- Brick and Terra Cotta.**  
American Enamel Brick and Tile Co. Dartnell, E. F., Ltd. Don Valley Brick Works. Stinson-Reeb Builders' Supply Co.
- Bridges.**  
Dominion Bridge Co.
- Building Paper and Felts.**  
Asbestos Mfg. Co. Bird, F. W. & Son. Canadian Johns-Manville Co. Pedlar People, The.
- Building Supplies.**  
Bird, F. W. & Son. Dartnell, E. F. & Co. McFarlane-Douglas Co. Stinson-Reeb Builders' Supply Co. Pedlar People, The. Wettlaufer Bros.
- Building Ventilators.**  
Brantford Oven & Rack Co.
- Caen Stone Cement.**  
Hynes, W. J., Ltd.
- Caps for Columns and Pilasters.**  
Galt Art Metal Co. Hynes, W. J., Ltd. McFarlane-Douglas Co. Pedlar People, The.
- Cars (Factory and Dump).**  
Sheldons Limited. Wettlaufer Bros.
- Cast Iron Columns.**  
Pedlar People, The.
- Cement (Fireproof).**  
Canadian Johns-Manville Co. Dartnell, E. F., Ltd. Stinson-Reeb Builders' Supply Co.
- Cement Block Machinery.**  
Wettlaufer Bros.
- Cement Brick Machinery.**  
Wettlaufer Bros.
- Cement Machinery.**  
Wettlaufer Bros.
- Cement Tile Machinery.**  
Stinson-Reeb Builders' Supply Co. Wettlaufer Bros.
- Coal Machinery.**  
Herbert Morris C. & Hoist Co.
- Cold Storage and Refrigerator Insulation.**  
Bird, F. W. & Son. Linde British Refrigerator Co.
- Concrete Coatings.**  
Wadsworth, Howland & Co.
- Concrete Construction (Reinforced).**  
Pedlar People, The. Trussed Concrete Steel Co.
- Concrete Mixers.**  
Dartnell, E. F., Ltd. Wettlaufer Bros.
- Concrete Steel.**  
Dennis Wire and Iron Works. Noble, Clarence W. Pedlar People, The. Trussed Concrete Steel Co.
- Conduits.**  
Conduits Co., Ltd. Northern-Electric Mfg. Co. Pedlar People, The.
- Contractors' Machinery.**  
Wettlaufer Bros.
- Contractors.**  
Wettlaufer Bros.
- Contractors' Supplies.**  
Dartnell, E. F., Ltd. Stinson-Reeb Builders' Supply Co. Wettlaufer Bros.
- Cork Board.**  
Canadian Johns-Manville Co.
- Corner Beads.**  
McFarlane-Douglas Co. Pedlar People, The.
- Cranes.**  
Herbert Morris C. & Hoist Co. Dominion Bridge Co., Ltd.
- Crushed Stone.**  
Stinson-Reeb Builders' Supply Co., Ltd.
- Cut Stone Contractors.**  
Dartnell, E. F., Ltd.
- Damp Proofing.**  
Ault & Wiborg Co. Canadian Johns-Manville Co.
- Deposit Boxes.**  
Goldie & McCulloch Co., Ltd. Taylor, J. & J.
- Doors.**  
Burton & Baldwin Mfg. Co.
- Drills (Brick and Stone).**  
Star Expansion Bolt Co.
- Drying Appliances.**  
Sheldons Limited.
- Dumb Waiters.**  
Otis-Fensom Elevator Co. Roelofson Elevator Works. Turnbull Elevator Co.
- Electrical Apparatus.**  
Northern-Electric Mfg. Co. Roelofson Elevator Works.
- Electric Hoists.**  
Herbert Morris C. & Hoist Co. Wettlaufer Bros.
- Electro-Plating.**  
Dennis Wire and Iron Works.
- Electric Wire and Cables.**  
Imperial Wire & Cable Co. Robertson Co., James B.
- Elevators.**  
Roelofson Elevator Works. Wettlaufer Bros.
- Elevators (Passenger and Freight).**  
Otis-Fensom Elevator Co. Roelofson Elevator Works. Turnbull Elevator Co.
- Elevator Enclosures.**  
Dennis Wire and Iron Works. McFarlane-Douglas Co. Meadows, Geo. B. Co., Ltd. Otis-Fensom Elevator Co. Roelofson Elevator Works.
- Enamels.**  
Ault & Wiborg Co. Berry Bros. Imperial Varnish & Color Co. International Varnish Co.
- Engines.**  
Goldie & McCulloch Co., Ltd. Sheldons Limited. Wettlaufer Bros.
- Engineers' Supplies.**  
International Engineering Co. Robertson Co., James B. Sheldons Limited.
- Exhaust Fans.**  
Sheldons Limited.
- Expanded Metal.**  
Galt Art Metal Co. Leslie & Co., A. C., Ltd. Noble, Clarence W. Pedlar People, The. Stinson-Reeb Builders' Supply Co.
- Expansion Bolts.**  
Star Expansion Bolt Co.
- Fire Brick.**  
Dartnell, E. F. Stinson-Reeb Builders' Supply Co.
- Fire Sprinklers.**  
General Fire Equipment Co. McGuire, W. J. Vogel Co. of Canada, Ltd.
- Fire Extinguishers.**  
Canadian Johns-Manville Co. General Fire Equipment Co. Northern-Electric Mfg. Co. Ormsby, A. B., Ltd. Vogel Co. of Canada, Ltd.
- Fire Escapes.**  
Dennis Wire and Iron Works. Meadows, Geo. B. Co., Ltd. Reid & Brown.
- Fireplace Goods.**  
Dennis Wire and Iron Works.
- Fire Proofing.**  
Canadian Johns-Manville Co. Dartnell, E. F. Don Valley Brick Works. Noble, Clarence W. Port Credit Brick Co. Pedlar People, The. Trussed Concrete Steel Co.
- Fireproof Steel Doors.**  
Dennis Wire and Iron Works. Feather & Roadhouse. McFarlane-Douglas Co. Ormsby, A. B., Ltd. Pedlar People, The. Stinson-Reeb Builders' Supply Co.
- Fireproof Windows.**  
Feather & Roadhouse. Galt Art Metal Co. Ormsby, A. B., Ltd. McFarlane-Douglas Co. Pedlar People, The. Stinson-Reeb Builders' Supply Co.
- Flooring.**  
Bird, F. W. & Son. Seaman-Kent Co.
- Furnaces and Ranges.**  
Clare Bros., Ltd. Taylor-Forbes Co., Ltd.
- Galvanized Iron Works.**  
Galt Art Metal Co. Ormsby, A. B., Ltd. McFarlane-Douglas Co. Pedlar People, The. Sheldons Limited.
- Galvanized Iron.**  
Leslie & Co., A. C. Pedlar People, The.
- Glass.**  
Consolidated Plate Glass Co. Toronto Plate Glass Co.
- Greenhouse.**  
Lord & Burnham Co.
- Grille Works.**  
Dennis Wire and Iron Works. Meadows, Geo. B. Co., Ltd. Roelofson Elevator Works. Taylor, J. & J.
- Hangers.**  
Feather & Roadhouse. Ormsby, A. B., Ltd. Richards-Wilcox Co.
- Hardware.**  
Taylor-Forbes Co., Ltd. Richards-Wilcox Co.
- Heating Apparatus.**  
Clare Bros., Ltd. Dunham, C. A. Co. Goldie & McCulloch Co., Ltd. Pease Foundry Co., Ltd. Sheldons Limited. Taylor-Forbes Co., Ltd.
- Heating Engineers and Contractors.**  
Sheldons Limited.
- Hoisting Machinery.**  
Herbert Morris C. & Hoist Co. Otis-Fensom Elevator Co. Wettlaufer Bros.
- Hinges.**  
Taylor-Forbes Co., Ltd.
- Iron Doors and Shutters.**  
Dennis Wire and Iron Works. McFarlane-Douglas Co. Taylor, J. & J.
- Iron Stairs.**  
Dennis Wire and Iron Works. Meadows, Geo. B. Co., Ltd.
- Installation.**  
Bird, F. W. & Son. Canadian Johns-Manville Co. Seaman-Kent Co.
- Interior Woodwork.**  
Seaman-Kent Co.
- Jail Cells and Gates.**  
Dennis Wire and Iron Works. Goldie & McCulloch Co., Ltd. Taylor, J. & J.
- Joist Hangers.**  
Taylor-Forbes Co., Ltd. Trussed Concrete Steel Co.
- Lamp Standards.**  
Dennis Wire and Iron Works. Seaman-Kent Co.
- Lath (Metal).**  
Galt Art Metal Co. Noble, Clarence W. Pedlar People, The. Stinson-Reeb Builders' Supply Co. Trussed Concrete Steel Co.
- Laundry Tubs.**  
Toronto Laundry Machinery Co.
- Marble.**  
Dartnell, E. F. Robertson Co., James B.
- Metallic Sash.**  
Feather & Roadhouse. McFarlane-Douglas Co.
- Metal Shingles.**  
Galt Art Metal Co. McFarlane-Douglas Co. Pedlar People, The.
- Metal Store Fronts.**  
Dartnell, E. F. Dennis Wire and Iron Works. Galt Art Metal Co. McFarlane-Douglas Co. Pedlar People, The.

## **DOMINION BRIDGE CO. LIMITED**

Head Offices and Works,  
MONTREAL

Branch Offices and Works,  
Toronto, Ottawa, Winnipeg

Supplied all the steel for the C. P. R.  
Building, King and Yonge Sts., Toronto.

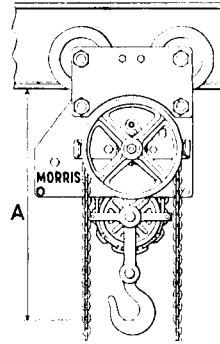
**CAPACITY  
100,000 Tons**

**Engineers and Contractors**

Steel Buildings of all kinds,  
Railway and Highway Bridges,  
Swing and Bascule Spans,  
Turntables, Electric Cranes,  
Hoisting Appliances, Lift Locks,  
Hydraulic Regulating Gates, etc.

Large Stock of Standard Structural  
Material at All Works

## **MORRIS TRAVELING SPUR-GEAR BLOCKS**

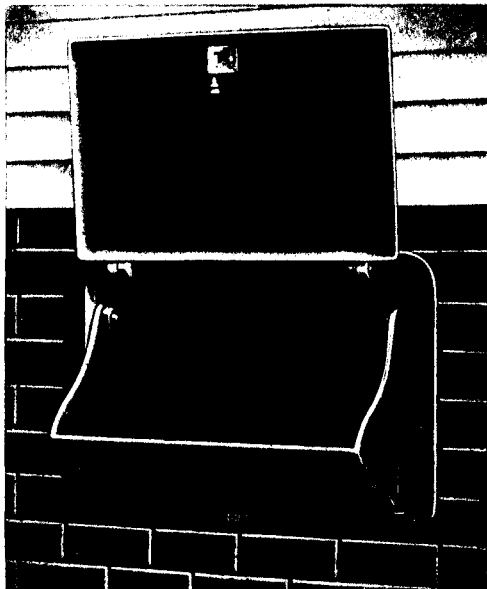


**ARE THE ONLY RIG FOR  
LIFTING AND SHIFTING.**

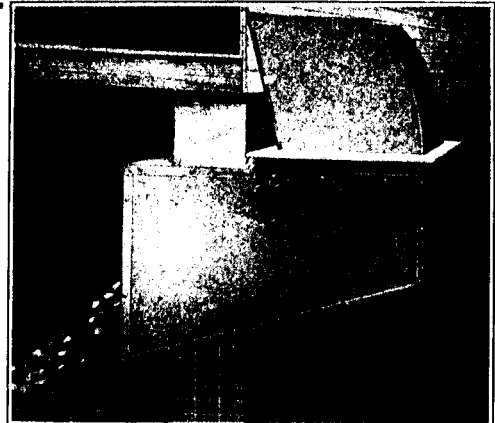
**THE HERBERT MORRIS CRANE  
& HOIST COMPANY, LIMITED,  
EMPRESS WORKS, Peter Street, TORONTO.**

## **Modern Coal Chutes for Modern Buildings**

THE MAJESTIC COAL CHUTE provides a much more convenient method for putting fuel into basements than does a basement window.



The Majestic Coal Chute.



The Majestic Grade Line Chute.

It protects the window and the wall of the building, and keeps the adjacent lawn free from coal and dirt.

It is neat in appearance, fastens securely and is as easily installed as a window frame. Strongly constructed and lasts a lifetime.

THE MODEL CHUTE has a transparent Rubber Glass door, which admits ample light.

THE MAJESTIC GRADE LINE CHUTE can be used to advantage where floor is on same level as sidewalk.

Let us send catalogue, with full particulars and name of nearest agent.

**THE GALT STOVE & FURNACE CO., Limited  
GALT, ONTARIO**

ARCHITECTURAL DIRECTORY, Continued.

- Metal Walls and Ceilings.**  
Feather & Roadhouse.  
Galt Art Metal Co.  
McFarlane-Douglas Co.  
Noble, Clarence W.  
Ormsby, A. B., Ltd.  
Pedlar People, The.
- Mortar Mixers.**  
Wettlaufer Bros.
- Non-Conducting Coverings.**  
Ault & Wiborg.  
Canadian Johns-Manville Co.
- Ornamental Iron Work.**  
Dennis Wire and Iron Works.  
Meadows, Geo. B. Co., Ltd.  
Turnbull Elevator Co.
- Packing (Steam).**  
Canadian Johns-Manville Co.
- Packing.**  
Gutta Percha and Rubber Co.
- Paints (Steel and Iron).**  
Dartnell, E. F.  
Imperial Varnish & Color Co.  
International Varnish Co.
- Paints and Stains.**  
Berry Bros., Ltd.  
Dartnell, E. F.  
Imperial Varnish & Color Co.  
Robertson, James B.
- Pipe Covering.**  
Canadian Johns-Manville Co.
- Pasters.**  
Canadian Johns-Manville Co.  
Hynes, W. J.
- Plaster Corner Beads.**  
Galt Art Metal Co.  
McFarlane-Douglas Co.  
Pedlar People, The.
- Plate and Window Glass.**  
Consolidated Glass Co.  
Toronto Plate Glass Co.
- Plumbers' Brass Goods.**  
Robertson Co., James B.
- Plumbing Fixtures.**  
Robertson Co., James B.  
Standard Sanitary Co.
- Porcelain Enamel Baths.**  
Robertson Co., James B.  
Standard Sanitary Co.
- Pumps.**  
Wettlaufer Bros.
- Radiators.**  
Taylor-Forbes, Ltd.
- Refrigerator Insulation.**  
Bird, F. W. & Son.  
Canadian Johns-Manville Co.
- Reinforced Concrete.**  
Noble, Clarence W.  
Pedlar People, The.  
Trussed Concrete Steel Co.
- Relief Decoration.**  
Hynes, W. J.
- Revolving Screens.**  
Wettlaufer Bros.
- Rock Crushers.**  
Wettlaufer Bros.
- Roofing Paper.**  
Bird, F. W. & Son.  
Canadian Johns-Manville Co.  
McFarlane-Douglas Co.  
Pedlar People, The.
- Roofing.**  
Asbestos Mfg. Co.  
Bird, F. W. & Son.  
Canadian Johns-Manville Co.  
Galt Art Metal Co.  
McFarlane-Douglas Co.  
Patterson Mfg. Co.  
Pedlar People, The.
- Roofing (Slate).**  
Ormsby, A. B., Ltd.
- Roofing (Tile).**  
Dartnell, E. F.  
Pedlar People, The.
- Rubber Tiling.**  
Gutta Percha and Rubber Co.
- Safes (Fireproof and Bankers').**  
Goldie & McCulloch Co., Ltd.  
Taylor, J. & J.
- Sanitary Plumbing Appliances.**  
Robertson Co., James B.  
Standard Sanitary Co.
- Sand Screens.**  
Wettlaufer Bros.
- Shafting, Pulleys and Hangers.**  
Goldie & McCulloch Co., Ltd.
- Sheet Metal.**  
Leslie, A. C.  
Pedlar People, The.
- Sheet Metal Workers.**  
Feather & Roadhouse.  
Galt Art Metal Co.  
Ormsby, A. B., Ltd.  
McFarlane-Douglas Co.  
Pedlar People, The.  
Sheldons Limited.
- Shingle Stains.**  
International Varnish Co.  
Robertson Co., James B.
- Sidewalks, Doors and Grates.**  
Dennis Wire and Iron Works.
- Sidewalk Lifts.**  
Otis-Fensom Elevator Co.
- Slate.**  
Robertson Co., James B.
- Stable Fittings.**  
Dennis Wire and Iron Works.
- Staff and Stucco Work.**  
Canadian Johns-Manville Co.  
Hynes, W. J.
- Steam Appliances.**  
Sheldons Limited.  
Taylor-Forbes Co., Ltd.
- Steam and Hot Water Heating.**  
Dunham, C. A. Co.  
Sheldons Limited.  
Taylor-Forbes Co., Ltd.
- Steel Concrete Construction.**  
Noble, Clarence W.  
Pedlar People, The.  
Trussed Concrete Steel Co.
- Steel Doors.**  
Dennis Wire and Iron Works.  
Feather & Roadhouse.  
Ormsby, A. B., Ltd.  
Pedlar People, The.
- Structural Iron Contractors.**  
Dennis Wire and Iron Works.  
Dominion Bridge Co.  
Reid & Brown.  
Structural Steel Co., Ltd.
- Structural Steel.**  
Dennis Wire and Iron Works.  
Dominion Bridge Co.  
Reid & Brown.  
Sheldons Limited.  
Structural Steel Co., Ltd.
- Telephone Systems.**  
Northern Electric & Mfg. Co.
- Terra Cotta Fireproofing.**  
Dartnell, E. F.  
Don Valley Brick Works.
- Tile (Floor and Wall).**  
Dartnell, E. F.  
Don Valley Brick Works.
- Traps.**  
Can. Morehead Mfg. Co.
- Vacuum Cleaners.**  
Northern-Electric Mfg. Co.
- Vacuum Heating System.**  
Dunham, C. A. Co.
- Varnishes.**  
Ault & Wiborg Co.  
Berry Bros., Ltd.  
Dougall Varnish Co.  
Imperial Varnish & Color Co.  
International Varnish Co.
- Vaults and Vault Doors (Fire-proof and Bankers').**  
Goldie & McCulloch, Ltd.  
Taylor, J. & J.
- Valves.**  
Dunham, C. A. Co.  
Robertson Co., James B.  
Taylor-Forbes Co.
- Ventilators.**  
Brantford Oven Co.  
Feather & Roadhouse.  
Galt Art Metal Co.  
McFarlane-Douglas Co.  
Sheldons Limited.  
Pedlar People, The.
- Wall Finishes.**  
Berry Bros.  
Dartnell, E. F.  
International Varnish Co.
- Wall Hangers.**  
Taylor-Forbes Co.
- Waterproofing.**  
Ault & Wiborg Co.  
Bird, F. W. & Son.  
Canadian Johns-Manville Co.  
Ceresit Waterproofing Co.  
Dartnell, E. F.  
Stinson-Reeb Builders' Supply Co.  
Wadsworth, Howland & Co.
- Waterworks Supplies.**  
Robertson Co., James B.
- Wheelbarrows.**  
Wettlaufer Bros.
- White Lead, Putty and Oils.**  
International Varnish Co.
- Window Guards.**  
Dennis Wire and Iron Works.
- Wire Rope and Fittings.**  
Otis-Fensom Elevator Co.  
Wettlaufer Bros.

An Index to the Advertisements

	PAGE		PAGE		PAGE
Alabastine Co., Ltd. ....	31	Dennis Wire and Iron Co. ....	38	Pedlar People, Ltd., The .....	10
American Enameled Brick & Tile Co. ....	31	Dominion Bridge Co. ....	50	Port Credit Brick Co. ....	29
Albert Manufacturing Company .....	32	Don Valley Brick Works .....	14, 15	Radio Electric Co. of Canada .....	39
Allith Mfg. Co., Ltd. ....	Inside Front Cover	Dougall Varnish Co. ....	41	Record Foundry and Machine Co. ....	31
Asbestos Mfg. Co. ....	30	Dunham Radiator Trap. ....	Inside Front Cover	Reed & Co., Geo. W. ....	46
Ault & Wiborg .....	38	Eureka Refrigerator Co. ....	52	Reid & Brown .....	46
Beatty & Sons, Ltd. ....	44	Feather & Roadhouse .....	42	Reliance Ball Bearing Door Hanger Co. ....	36
Bennett, Robert .....	Inside Front Cover	Galt Art Metal Co. ....	37	Richards-Wilcox Canadian Co. ....	32
Berry Bros., Ltd. ....	40	Galt Stove and Furnace Co. ....	50	R.I.W. Damp Resisting Co. ....	45
Bird & Sons F. W. ....	3	General Fire Equipment Co. ....	14	Robertson Co., Jas. B. ....	9
Brantford Oven and Rack Co. ....	44	Gillis & Geohegan .....	48	Roelofson Elevator Works .....	43
Bromsgrove Guild, Ltd. ....	43	Goldie & McCulloch Co., Ltd. ....	28	Ronuk, Ltd. ....	39
Burton & Baldwin Mfg. Co. ....	Inside Front Cover	Gurney Foundry Co., Ltd. ....	21	Seaman, Kent Co. ....	45
Byers, A. M. Co. ....	17	Gutta Percha & Rubber Co. ....	43	Sheldons Limited .....	5
Cabot, Samuel, Inc. ....	40	Hobbs Mfg. Co., Ltd. ....	28	Standard Sanitary Co. ....	13
Canada Cement Co. ....	4	Hynes, W. J. ....	Inside Back Cover	Star Expansion Bolt Co. ....	33
Canadian Crushed Stone Corporation. ....	4	Imperial Varnish and Color Co. ....	Inside Front Cover	Stark Rolling Mill Co. ....	34
.....	Inside Front Cover	International Varnish Co. ....	47	Stinson-Reeb Builders' Supply Co. ....	7
Canadian H. W. Johns-Manville Co. ....	30, 39	Jamieson & Co., Ltd., R. C. ....	36	Structural Steel Co. ....	43
Canadian Ice Machine Co. ....	46	Keith's, Ltd. ....	46	Sun Brick Co., Ltd. ....	24
Canadian Morehead Mfg. Co. ....	42	Leslie & Co., Ltd. ....	48	Tallman Brass and Metal Co. ....	42
Canadian Pressed Brick Co. ....	.....	Levon Babayan .....	41	Taylor-Forbes Co. ....	6
.....	Inside Front Cover	Lord & Burnham Co., Ltd. ....	8	Taylor, J. & J. ....	20
Canadian Sirocco Co. ....	40	Manitoba Gypsum Co. ....	44	Thompson, B. & S. H. Co. ....	36
Canadian Supply and Contracting Co. ....	.....	Maritime Bridge Co., Ltd. ....	42	Toronto Laundry Machine Co. ....	.....
.....	Outside Back Cover	Master Builders Co. ....	19	.....	Inside Front Cover
Carter & Co., Ltd. ....	33	McFarlane-Douglas Co. ....	26	Toronto Plate Glass Co., Ltd. ....	52
Ceresit Waterproofing Co. ....	47	McGuire, W. J., Ltd. ....	45	Trussed Concrete Steel Co. ....	35
Clare Bros. & Co. ....	16	Meadows Co., Geo. B. ....	41	Turnbull Elevator Mfg. Co. ....	11
Conduits Co., Ltd. ....	Outside Back Cover	Morris Crane & Hoist Co. ....	50	Tuttle & Bailey Mfg. Co. ....	35
Consolidated P. Glass Co. ....	Inside Front Cover	Noble, Clarence W. ....	29	Turner, C. A. P. ....	45
Consolidated P. Glass Co. ....	52	Northern-Electric Co. ....	22	Vogel Co. of Canada, Ltd. ....	Inside Front Cover
Crown Gypsum Co., Ltd. ....	48	Ormsby, Limited, A. B. ....	37	Wadsworth, Howland & Co. ....	34
Curry, E. J. ....	Outside Back Cover	Otis-Fensom Elevator Co. ....	23	Wardell, W. H. ....	Inside Front Cover
Daney, H. N. & Son. ....	Inside Front Cover	Patterson Mfg. Co. ....	27	Wettlaufer Bros. ....	12
Dartnell, Ltd. ....	Outside Back Cover				

# EVERYTHING in GLASS for BUILDING PURPOSES

*We Carry a Complete Stock  
at all our Branches*

PLATE GLASS	PRISM GLASS
SHEET “	CATHEDRAL GLASS
FIGURED “	MIRRORS
ART “	SIDEWALK PRISM
METAL STORE FRONTS	

## The Consolidated Plate Glass Co. of Canada, Limited

**MONTREAL**  
30 St. Sulpice Street

**TORONTO**  
241 Spadina Avenue

**WINNIPEG**  
375 Balmoral Street

## The Eureka Refrigerator



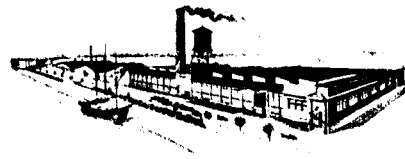
More Eureka Refrigerators are used by Hospitals, Hotels, Public Institutions, etc., than all patented refrigerators combined. There is nothing made to equal them and they are now acknowledged to be the dryest and most sanitary refrigerator made.

28 years' experience is a guarantee. They are made to suit any building.

### Eureka Refrigerator Co. Limited

Factory and Showrooms, Brock Ave.,  
TORONTO

Telephone Parkdale 513.



## GLASS BENDERS TO THE TRADE

THE  
TORONTO PLATE GLASS  
IMPORTING COMPANY,  
LIMITED

91-133 DON ROADWAY  
TORONTO

GLASS IMPORTERS  
AND  
MANUFACTURERS

W. J. HYNES, President

E. J. CURRY, Vice-President

R. M. CASE, Sec.-Treas.

The House of Hynes Established 1840

# W. J. HYNES, Limited

720 DUPONT STREET - TORONTO

The Largest Plain and Ornamental

## Plastering Contractors and Staff Mfrs. in Canada

Caen Stone Cement Work Our Specialty

Models, etc., to Architects Details.

Send for Catalogue—Free

WE ADMIT NO SUPERIORS IN PLASTER WORK

*We place the accumulated experience of over 70 years at your service.  
Can refer you to our satisfied customers from Newfoundland to Japan.*

No charge made for Sketches or Suggestions

Office Phone: Hillcrest 1750.

Yard Phone: North 6936

After Business: Phone Junc. 4047

R. M. CASE, Sec.-Treas.



**Forward,  
March!**

The trend of the times is forward. Architects, Contractors and Builders are making better buildings every day.

Hardwall Plaster is now required for all good construction. We have improved our manufacturing methods to keep up with the times. Paristone and Pulpstone Hardwall Plasters are now made to pass the most rigid inspection, and the working qualities are unsurpassed. We can prove this. Our representative will call upon request, and arrange a demonstration.

**THE ALABASTINE CO., Limited, PARIS, ONT.**

# Canadian Supply & Contracting Co., Limited

Structural Waterproofing, Engineers and Contractors  
TORONTO, CANADA

## Let Us Tender on your Roofing, Waterproofing and Flooring Specifications

We undertake contracts for Roofing, Waterproofing, Tar Rock, and Mastic Asphalt Flooring. Our Complete Equipment enables us to execute the work in accordance with the Architect's and Engineer's Specifications.

Our work on many notable Canadian Buildings is a guarantee of our ability to successfully carry out the most important contracts.

We carry a large stock and can make immediate shipments of Roofing, Waterproofing and Insulating Material.

## BUILDING SUPPLIES

FINE FACE BRICK. Dry Pressed and Plastic. All Colors and Sizes.

"TAPESTRY" BRICK. Red, Grey, and Golden.

ENAMELLED BRICK. Stanley Bros.' best English, also American in English and American sizes.

PORCELAIN FACED BRICK. Eggshell finish. White, Grey, Mottled and Variegated.

GLASS BRICK.

FLOOR QUARRIES.

ROOFING TILE,

SANDSTONES.

BEDFORD (INDIANA)

LIMESTONE.

## "DARTNELL, LIMITED"

Established 1893.

MONTREAL

## "GALVADUCT" and "LORICATED" CONDUITS are

(a) Regularly inspected and labeled under the supervision of Underwriters' Laboratories, (Inc.).

(b) Inspected by Underwriters' Laboratories (Inc.), under the direction of the National Board of Fire Underwriters.

(c) Included in the list of approved Electrical Fittings issued by the Underwriters' National Electric Association.

(d) Inspected and labeled under the direction of the Underwriters' Laboratories (Inc.).

(e) Included in the list of conduits examined under the standard requirements of the National Board of Fire Underwriters' by the Underwriters' National Electric Association after exhaustive test by the Underwriters' Laboratories and approved for use.

## CONDUITS COMPANY, LIMITED

TORONTO

MONTREAL

MEMBER OF  
TORONTO BUILDERS'  
EXCHANGE.

Some 1913-1914 Contracts:

Shea's Hippodrome, Terauley St.  
Selby Hotel, N. Sherbourne St.  
Columbus Club, N. Sherbourne St.  
Loretto Academy, Brunswick Ave.  
St. Paul's New Club House, Queen E.  
Underwood Building, Victoria St.  
Stevenson Building, Church St.  
Chapel, Newman Hall, St. Joseph St.  
Gloucester Apts., Gloucester and Church Sts.  
W. T. Kernahan's Residence, Rosedale.  
New St. Charles Hotel, Bay Street.

## E. J. CURRY

### Plastering Contractor

Goodyear Building,  
Simcoe & Richmond Sts. TORONTO

Phones:

Office, A. 1829  
Supplies, N. 6533  
Exchange, A. 208  
Residence, N. 3909

High class work my motto. Let me submit an estimate on your next contract. I guarantee prompt attention to repairing. Valuations and fire losses adjusted. Staff and models to Architect's detail.