CONSTRUCTION

A JOURNAL FOR THE ARCHITECTURAL ENGINEERING AND CONTRACTING INTERESTS OF CANADA





OFFICE OF PUBLICATION



BRANCH OFFICES
MONTREAL -- VANCOUVE

TORONTO



MONTREAL -- VANCOUVER WINNIPEG



SLIDING

Door Hangers

Barn, Wharf, Warehouse, or Parlor Door

Has the largest sale of ANY hanger in Canada

WHY? Made of Malleable Iron. Runs on Round Track. Roller Bear-Parlor Door Absolutely ings. Pa

Made it 3 Sizer to carry Doors 250 fbs. to 2,000 fbs. each.

ALLITH MFG. COMPANY, LIMITED HAMILTON, ONTARIO

Dundas Stone

POR

Concrete, Road Metal and Flux

Canada Crushed Stone Corporation

LIMITED

DUNDAS - - - ONTARIO

Porous Terra-Cotta

Fireproofing

Hollow Tile Flooring

Robert Bennett

CONTRACTOR **TORONTO**

Phone Main 710

Builders' Exchange Phon Residence Phone Beach 4

Mackie Patent Heater

For Hot Water Service

Unexcelled for heating and purifying water for Bollers, Laundries, Hotels, Hospitals, Etc.

Goulds Pump Co.

National Trust Building TORONTO, ONT.

512 Coristine Building MONTREAL, P.Q.

HARDWOOD FLOORING **ECLIPSE** BRAND

BIRCH, MAPLE, QTI.D. OAK, PLAIN OAK

OUR SPECIALTIES

Artistic Interior Finish Mixed Bills-Lumber and Manufactured

The Knight Bros. Co., Ltd. BURKS FALLS, ONT.

Fred Holmes President

C. R. Holmes. Sec.-Trees.

TELEPHONE NORTH 663

FRED. HOLMES & SONS, LIMITED

Building Contractors

1113 YONGE ST., TORONTO

Fire Brick

Mortar Colors Prepared Plaster Sackett Plaster Board GYPSUM BLOCK FIREPROOFING LIGHT

Can be sawn through at any time. The best material made for the purpose.

WATERPROOF COMPOUNDS ROMAN BRICKS for Mantels, etc.

WHOLESALE OR RETAIL

The Contractors Supply Co. Limited. **TORONTO**

'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.

MONTRFAL

Toronto

WINNIPEC

The Steel Co. of Canada

Twisted Steel Bars

Concrete Reinforcement

Rounds and Squares. Bands and Flats, Copper Wire, Galvanised Wire, Nails, Screws, Bolts and Nuts.

SALES OFFICES Montreal

Toronto

Winniper

Maple Leaf Paints and Varnishes Specified

in your finishing and decorating plans insure perfect covering, permanency of color, unexcelled durability, 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 decoration

Elastilite has the good qualities of both inside and outside varnish for finishing.

The Imperial Varnish & Color Co., Limited 6-24 MORSE STREET TORONTO

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

Hillcrest 950 220 Howland Ave.

SOME OF OUR WORK

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

OR those Architects and Contractors who take care to be on the *safe* side in their specifications:

Offered you with
the recommendation of
a hundred years' service

Brandram's B. B. Genuine White Lead.

First tried more than a hundred years ago. It immediately set the world's white lead quality standard. Its pre-eminence remains unchallenged to-day. The process by which it is made is exclusive.

It makes whiter white lead.

It makes finer white lead.

Therefore Brandram's B. B. Genuine White Lead makes a finished job look better. Its wonderful covering capacity makes for economy. And, above all, it endures.

Will you let us send you our "Talk About White Lead" booklet? It is interesting and informative. A postcard brings it by return mail.

BRANDRAM-HENDERSON

Montreal Halifax St. John Toronto Winnipe

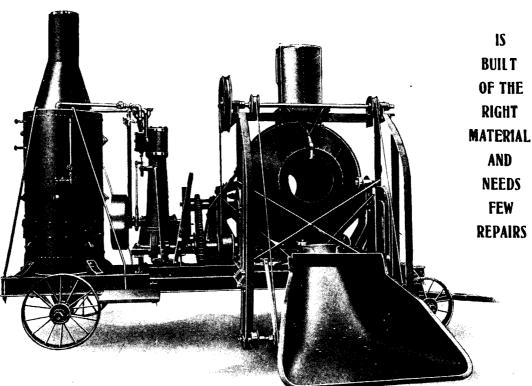
OUTLASTS

ANY OTHER MIXER ON THE MARKET

THAT IS WHY THE

Smith Concrete Mixer

15 THE CHEAPEST MIXER THAT IS **OFFERED** TO-DAY



We Illustrate Above Our 1913 Model

Smith Concrete Mixer With Side Loader

It Heads The List For QUANTITY as Well as QUALITY Built Right-Works Right-The Mixer That Never Fails.

MONTREAL

TORONTO
COBALT WINNIPEG CALGARY VANCOUVER

155 W. Richmond St.

Opp. Right-of-Way Mine
258-261 Stanley St.

10th Ave. & 3rd St. E.
365 Water \$t.

QUEBEC

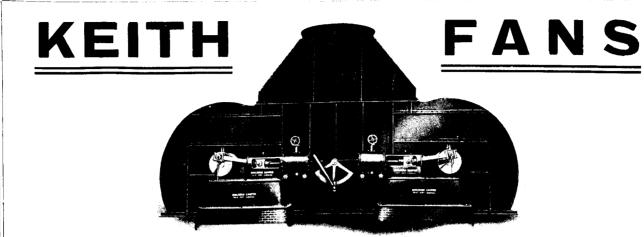
ST. JOHN, N.B.

HALIFAX.

71 Maple Ave.

57 Smythe St.

78 Granville St.



SHELDONS LIMITED

having obtained the Canadian Patent Rights on the

"KEITH FAN"

are the sole owners and manufacturers. All the leading Architects and Contractors in Canada are specifying "KEITH". The principles of design are such that they give the utmost satisfaction. For Heating and Ventilating, this type of Fan has many superior features over all others, and is the best investment one can make in order to secure the highest results. Illustrated pamphlets sent on request. Write for one.

SHELDONS LIMITED

GALT - - ONTARIO

Toronto Office: 609 Kent Building.

AGENTS:

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



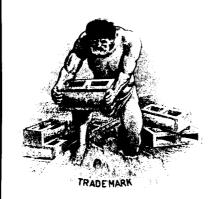


Have Us Build the Roof

N your next large contract, turn the roof over to us. To make a thoroughly waterproof and satisfactory roof is highly specialized work which our equipment and experience enables us to perform successfully in every case. We guarantee our work. Your responsibility ends when we assume the contract, and the many notable Canadian buildings for which we have constructed roofs is a guarantee of our ability to carry out the most important contracts.

Architects and Engineers should stipulate that the roofing contracts for their new buildings be entrusted to roofing experts, It is the only sure way to obtain satisfactory work in this important feature of a building.

Waterproofing and Roofing Materials of all kinds supplied. Send for Prices.



DISTRIBUTORS FOR

HERCULES

Waterproofing and Strengthening Compound

This reliable waterproofing comes in three forms—powder, paste and liquid, suitable for all classes of concrete work where absolutely permanent waterproofing is required. We have used it ourselves on many difficult waterproofing propositions and found that it not only effectually excludes moisture, but that it also increases the tensile and compression strength of the concrete, prevents hair cracks and effects a great economy in the use of cement.

The roof is the most frequent source of trouble to the contractor. Leaks resulting from faulty construction or unwise selection of materials, mean expensive repairs that eat up profits. Contracts undertaken by us are executed strictly in accordance with the architects' and engineers' plans and we assume full responsibility for the thoroughness of our work.

Let us Tender on your Roofing and Waterproofing Specifications.

Canadian Supply and Contracting Co.

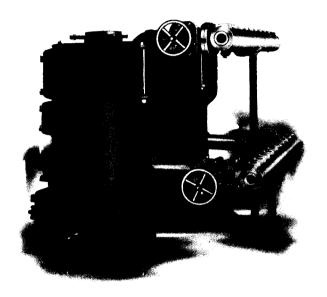
220 West King Street, Toronto







Twin-Connected Safford Boilers



The Safford Boiler is the boiler for every home.

The Safford Boiler is scientifically constructed.

The **Safford Boiler** receives more recommendation than any other boiler.

The **Safford Boiler** has more water around the firepot where the hottest fire is; has wider flue surfaces, and less water in the sections than any other boiler.

The **Safford Boiler** Grate is more simple in construction, has fewer parts and is more easily repaired than that of any other boiler.

Those contemplating putting in new boilers or installing hot water heating in their homes will act wisely if they insist on using a **Safford Boiler.**

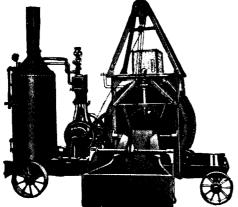
For further particulars write to

THE

DOMINION RADIATOR COMPANY

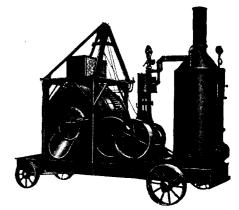
Toronto Montreal Winnipeg Calgary Vancouver St. John, N. B.

Concrete Mixers Must be Built Strong and of the Best Material



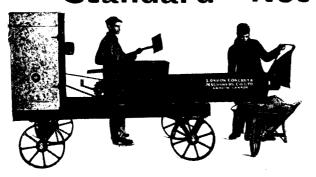
London Standard Drum Batch Mixer

The First Cost of a Concrete Mixer is only a small item if it is continually breaking down

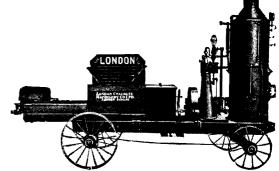


I ondon Standard Drum Batch Mixe

The London Mixers are Built up to a Standard---Not Down to a Price

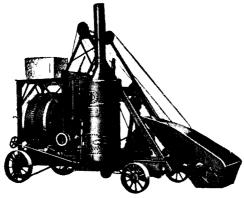


London Mortar Mixer



London Automatic Batch Mixer, No. 1

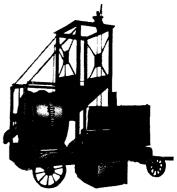
By manufacturing on a large scale we have been able to sell High-Grade Machines at Remarkably Low Prices



London Paving Machine

We manufacture a Complete Line of Concrete Machinery and Cement Working Tools and Contractors' Equipment

Ask for our 1913 Catalogue; it contains information for every contractor



London Special Paving Mixer, with Front Loader and Rear Discharge

The London Concrete Machinery Co., Limited

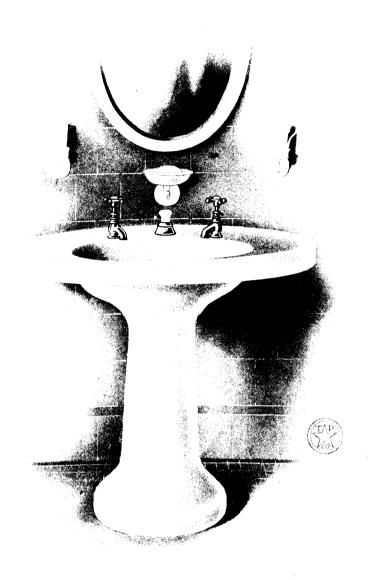
Cabell St. and Kitchener Ave., London, Ont., Canada

TORONTO OFFICE: N.E. Cor. Richmond and Bay Sts. WINNIPEG OFFICE: 445 Main St., Winnipeg, Man. AGENTS

FOSS & HILL, Machinery Co., Montreal, Que. G. B. OLAND, Halifax, N.S.

HAMILTON MACHINERY CO., Calgary, Alta. B. C. EQUIPMENT CO., Vancouver, B.C.

We Are The Largest Manufacturers of Concrete Machinery in Canada



One of the Most Attractive Lavatory Designs in Our Large Display of Vitreous Ware

Call and see this as well as the many other patterns in Vitreous, Porcelain Enameled Iron and Solid Porcelain Ware shown in our New Exhibition Rooms

The James Robertson Co., Limited

207-219 SPADINA AVE.

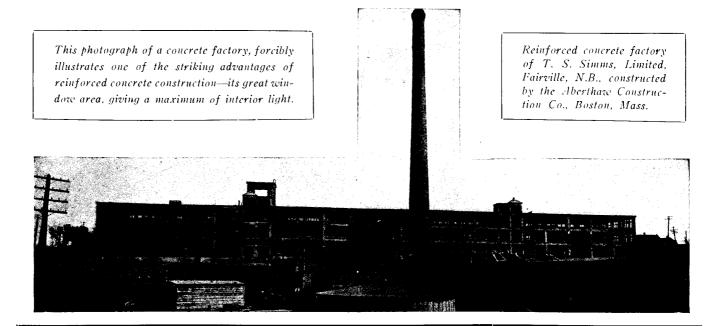
Wholesale dealers in

PLUMBING, STEAMFITTING, LEAD AND MILL SUPPLIES

MONTREAL Oue.

TORONTO Ont.

ST. JOHN N. B. WINNIPEG Man.



Concrete Factories are Most Efficient

The efficiency of a machine is the ratio of the amount of work a machine does, to the amount of work required to operate it. The output is equal to the input minus the work lost or wasted. The less wasted the greater the efficiency.

In the same way the efficiency of a factory may be defined as the ratio of output to input. Output, financially, is increased by reducing unnecessary expenses.

Concrete Stops Wastes

Concrete buildings are proof against fire, water and vermin. They give the maximum light and are sanitary. They resist vibration, and are permanent and durable.

Fire-proofness reduces insurance rates. Water or liquids used in certain processes will not leak through floors to destroy valuable goods below. Rats and other vermin find no place to live in a concrete building, thus eliminating losses from this cause. Maximum light and sanitary conditions increase efficiency of employees. Lack of vibration reduces wear and tear of machines. Permanency and durability reduce depreciation.

The way in which concrete stops these leaks is fully described in our handsomely illustrated 224 page book, "Factories and Warehouses of Concrete". It contains photographs and data of factories and warehouses for all classes of industries.

You can have a copy free if you will mention this advertisement.

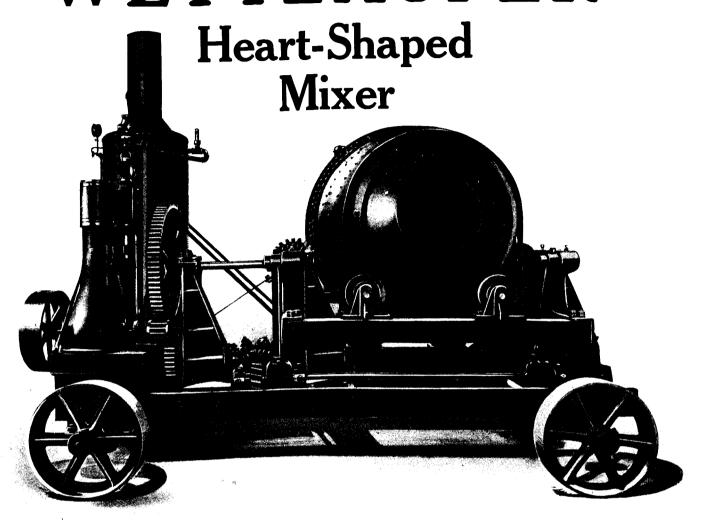


Canada Cement Company Limited

PORTLAND CANADA COMENT AS

Montreal

"WETTLAUFER"



Bigger Profits for the Contractor

The Heart-Shaped Mixer Produces Better Concrete and Does it Cheaper

When you use this Mixer you are able to figure exactly what your costs will be.

There are no come-backs from using a defective mixture,—it mixes smoothly, evenly, accurately, and at record speed.



"The Mixer that delivers the goods"

Your gang is kept working all the time,—no break-downs, no waiting for materials.

On any job the Wettlaufer Heart-Shaped Mixer enables you to meet all competitive prices and make a good profit.

Call at any of our showrooms and see it work. We will gladly demonstrate it for you and tell you the actual experiences of contractors who have used this mixer on all kinds of big concrete jobs. We will send you our catalogue on Hoists, Pumps, Stone Crushers, and Tile, Block and Brick Machines.

WETTLAUFER BROS., Head Office and 178 Spadina Ave., TORONTO

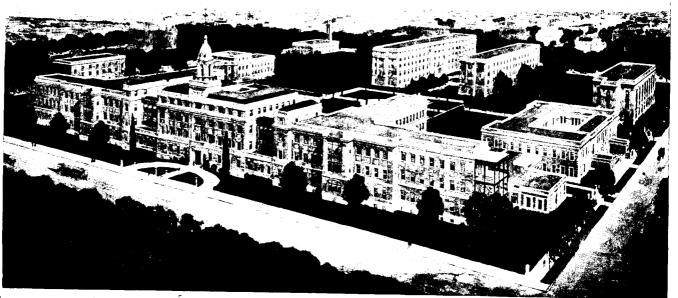
BRANCHES

Winnipeg Office---CANADIAN BRITISH ENG. CO., 324 Smith St. A. R. WILLIAMS' MACHINERY CO., 15 Dock St., St. John, N. B. J. L. LACHANCE CO., 263 St. Paul St., Quebec, Que. MAYSMITH & LOWE, 1057 Mears St., Victoria, B. C.

WETTLAUFER BROS., 316 Lagauchetiere St., Montreal, Que. R. F. MANCILL, 41 Codigan Block, Calgary, Alta. A. E. HODGERT, Regina, Sask. HALLMAN MACHINERY CO., Vancouver, B.C.

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

Turnbull Elevators



New General Hospital Toronto

Darling & Pearson Architects

The Elevator Equipment in the Administration, Surgical, and Medical Buildings are of the Electric Passenger Type equipped with all modern safety devices and specially arranged for Hospital Service.

They are being built and installed by

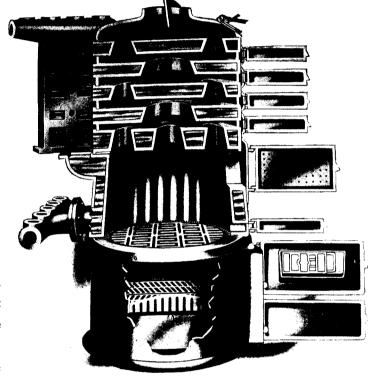
The Turnbull Elevator Mfg. Co. TORONTO, ONT.

Represented by—A. R. Williams Machinery Co., St. John, N. B.; General Supply Co., Ottawa: Wm. Kenney, 405 Nanton Block. Winnipeg; Northwestern Electric Co., Regina; Cunningham Electric Co., Calgary: Geo. E. Brennan & Co., Vancouver.

Another Big Improvement in Hot Water Boilers

The large flared flues of the "Sovereign" Hot Water Boiler make it satisfactory for burning soft coal, wood or any burnable material. It will draw the full heating value out of any kind of fuel.

The flues in the "Sovereign" are larger, and more broadly flared than ever applied in hot water boiler designing. It is the "baffled travel" that prevents the too direct and rapid outlet of the heat fumes from the fire bed.



Notice the utility of the individual clean out doors of the "Sovereign" for sooty fuel. It is the only boiler that permits of frequent cleanings without sacrifice of heat concentration.

Your automobile, your phonograph, your telephone equipment, your electric light, your gas stove, your office typewriter and every other apparatus associated with your daily domestic or business life is improved from year to year. WHY NOT ACCEPT IMPROVEMENTS IN YOUR HEATING APPARATUS?

The "Sovereign" is an improved hot water boiler of a modern type. Do not allow a boiler that is behind the times to be installed in your house.

Taylor-Forbes Company Limited

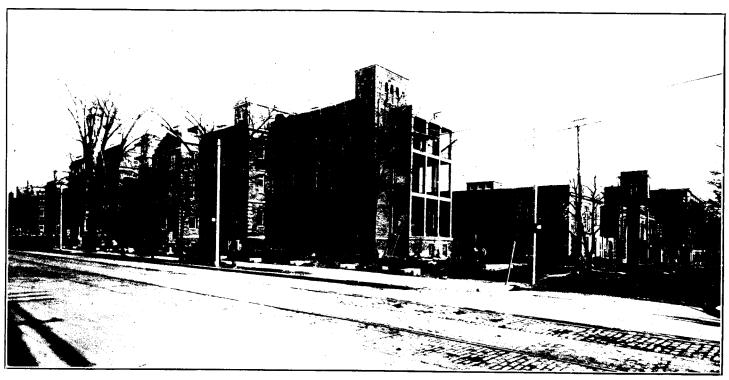
Head Office and Works-GUELPH, ONT.

TORONTO-1088 King St. West VANCOUVER, B.C.-1070 Homer St. QUEBEC-Mechanics Supply Co. MONTREAL—246 Craig St. West WINNIPEG—Vulcan Iron Works ST. JOHN, N.B.—32 Dock St.

CALGARY-P. D. McLaren, Limited

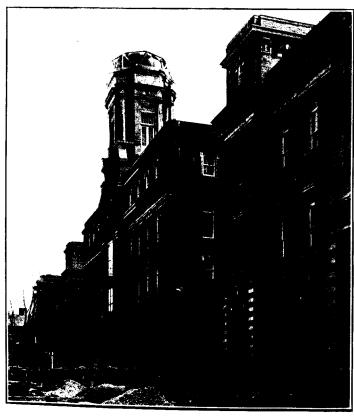
Largest Group of Hospital

20 MILLION DON VALLEY BRICKS were used in These Buildings



General View of Group of Buildings, Toronto's New General Hospital.

Darling & Pearson, Architects



Administration Buildings, Toronto's New General Hospital. Darling & Pearson, Architects.



Toronto's New General Hospital is now practically completed and is undoubtedly the most important group of buildings of brick construction in Canada. Twenty million bricks were used in its construction, as well as a vast quantity of Porous Terra Cotta Fire-

proofing, and in order to secure the highest quality, samples and tenders were invited from all over Canada and the United States. The fact that Don Valley Products were selected and that the contract has now been successfully carried out, is not only a striking proof of the architectural and structural merits of Don Valley manufacture,—it also shows the magnitude of the plant and equipment that could fill this order, for the bricks were of a special size and although this contract was the largest in Canadian building history, deliveries were always made when required.

Head Office
36 Toronto St.
TORONTO

DON VALLEY

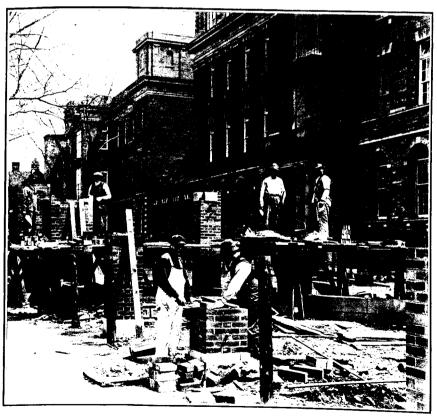
l Buildings on the Continent

Also 800,000 Sq. Ft. of DON VALLEY Porous Terra Cotta Fireproofing



View from Inner Court, Toronto's New General Hospital. Darling & Pearson, Architects.

HE architects of these buildings made splendid use of the decorative qualities of the bricks themselves. J.A.P. Don Valley Semi-Vitreous Facing Bricks were used for all the outside walls. They are of a special length with oriental face and have a pronounced contrast in colors with tones ranging from flecked golden to deep bronze and purple. Now that the buildings are completed the wisdom of this choice is apparent. Although the walls stretch for a whole city block there is no suggestion of monotony, the color and texture of the bricks forming a pleasing harmony that expresses perfectly the architects' ideas. The qualities that secured for Don Valley Products preference over all competitors make them the first choice of Canadian architects for their more important work.



Section of North Face, Toronto's New General Hospital. Darling & Pearson, Architects.

BRICK WORKS

Montreal Agent
DAVID McGILL
83 Bleury St. - Montreal



A. A. Post, Architect

St. Michael's Hospital, New Wing, Toronto-

The plaster work in this modern hospital wing is laid over

PEDLARS' METAL LATH CORNER BEAD

which is used in the finest and most modern types of buildings constructed in Canada. The Lath comes in several convenient gauges. The Corner Beading may be had to suit several types of wall construction.

The Pedlar People can make prompt deliveries in the big building centres on Metal Lath, Metal E and T Studs, Brick Wall Plugs and Wall Bonds, Metal Track for Partitioning, Clinton and Mesh Fabric Concrete Reinforcement, Vents, Skylights (copper, galvanized or Toncan metal) and Metal Sheathing, Ceilings, Art Side Walls, Shingle, etc., in addition to Lath and Corner Beading, promptly delivered in any quantity.

Write for Specifications to meet construction in hand or planned.

THE PEDLAR PEOPLE LIMITED Est'd 1861

MONTREAL 321-3 Craig St. W.

TORONTO 111-113 Bay St. WINNIPEG 76 Lombard St. LONDON 86 King St.

OT TAWA
423 Sussex St.

Quebec . . . 127 Rue du Pont. St. John, N.B. 42-46 Prince William St. Hallfax, N.S. 16 Prince St. Sydney, N.S. . 194-208 George St. Chatham . . 200 King St. W.
Port Arthur . 45 Cumberland St.
Calgary . . . Room 7, Crown Block.
Edmonton . . 563 Third St. W.
Lethbridge . . 1262 First Ave. S.

Medicine Hat Toronto St.
Moose Jaw . 202 Fairford St. West.
Saskatoon . Box 1645.
Vancouver . 108 Alexander St.
Victoria . . 434 Kingston St.

Head Office and Works: OSHAWA, CANADA.

"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 Caich 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

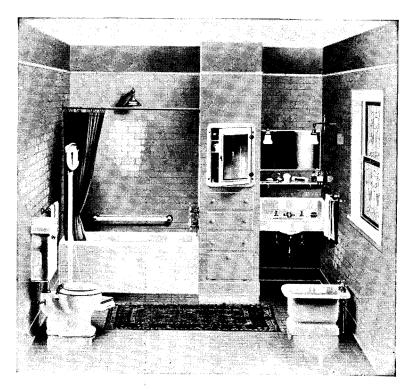
Clare Bros. & Co., Limited PRESTON, ONTARIO

VANCOUVER

WINNIPEG

"Standard Sanitary"

MODERN BATHROOM



Design P-85

A strictly modern bathroom must combine sanitation, convenience and comfort. If it lacks any of these requisites, its usefulness is impaired and its purpose defeated.

The installation of "Standard Sanitary" Plumbing Fixtures insures every element of satisfaction because they are made with a view to sanitation and cleanliness, are conveniently and practically designed and are guaranteed to give efficient and lasting service.

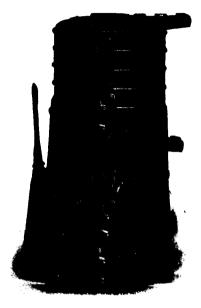
The bathroom illustrated above combines with beauty and refinement every modern sanitary idea. Every fixture is set into the tiling, affording no place for dust or dirt to collect. Each is easily cleaned, as it is impossible for dirt or moisture to collect under the Fixtures.

"Standard Sanitary" Plumbing Fixtures are made by the Standard Sanitary Mfg. Co., Ltd., of Canada and can be obtained anywhere in the Dominion. They are handled by the leading Plumbers throughout the provinces, and are carried by Jobbers and Sales Agents throughout the Dominion, facilitating prompt deliveries and service.

Standard Sanitary Mfg. Co.

General Offices and Factory: Royce and Lansdowne Aves., Toronto, Ontario
TORONTO STORE
HAMILTON STORE
55-59 Richmond Street East
20-28 Jackson Street West

TEEL AND RADIATION, LIMITED



NO. 6 H. B. "KING"

OUR PRODUCTS:

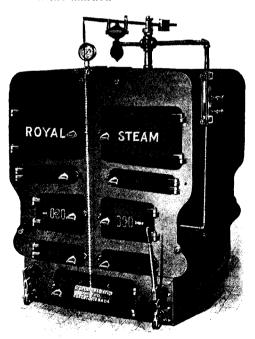
- "KING" HOT WATER BOILERS
- "ROYAL" ROUND STEAM BOILERS
- "ROYAL" SQUARE STEAM AND WATER BOILERS
- "ROYAL" TANK HEATERS
- "KING" AND "IMPERIAL" RADIATORS

Specify our products as outlined above and insure for your client "Satisfaction" and "Prompt Shipment."

From present indications the demand for Boilers and Radiators will be greater than last year.

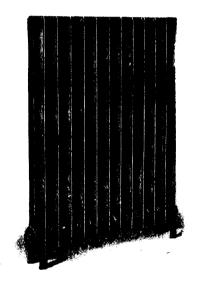
We are better equipped to meet this demand than any other manufacturer, with our new and modern plant at St. Catharines together with our Toronto Plant running night and day. Our output has been more than doubled.

The "KING" Hot Water Boiler is favored and accepted everywhere as representing Efficiency of the highest type at lowest coal consumption of any boiler on the market.



Our "ROYAL" Round Steam and Square Sectional Steam and Water Boilers are already repeating the success of The "KING" Boiler.

"KING" Radiators are so well and favorably known that it is only necessary to mention



"IMPERIAL" ONE-COLUMNII

clean smooth castings.

We would draw attention, however, to our New "IMPERIAL" Radiator made only in one and two column plain, in every height. See Cut showing clear cut lines and

S-48 7"ROYAL" STEAM

Catalogues mailed on request.

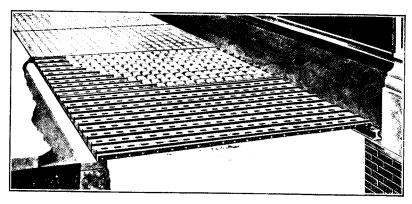
HEAD OFFICE, FRASER AVE., TORONTO

BRANCHES: 138 Craig Street West, MONTREAL 101 St. John St., QUEBEC

SHOWROOMS: 80 Adelaide Street East **TORONTO**

Agencies In All The Leading Cities of Canada.

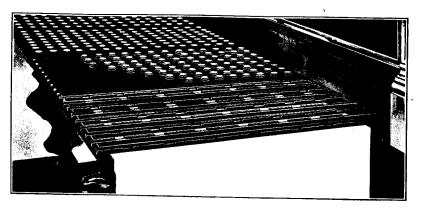
PAVEMENT SIDEWALK GLASS



If you are interested in Sidewalk Prism Constructions that are guaranteed against leakage, write for particulars regarding these.

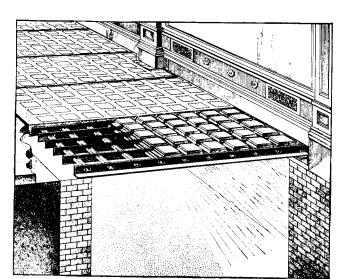
Simplex Sidewalk Construction

is the only double reinforced construction on the market and is the acme of perfection in sidewalk lighting. Architects and owners who understand and appreciate the advantages of SIMPLEX willingly pay the additional price for this construction.



Nu-Plan Sidewalk Construction

is shipped in knock-down form and is exceptionally easy to set up and can be installed by an ordinary cement finisher. This construction derives its enormous strength from the use of angles instead of bars.



Barlock Sidewalk Construction

has stood the test of years, and installations of many years ago are still in good condition. The glass area of approximately 70 per cent. on the underside of this construction gives you the assurance of the maximum amount of lighting.

All of the Above Constructions Are Covered by Canadian Patents

With any of the above we can furnish glass to suit the requirements of the basement or other part of the building to which light is required to be reflected. We can supply the blank glass, the 3-point prism glass and the single pendant prism glass.

All glass sent out by us is coated with our patented plastic malleable compound, which insures glass from shaling from exposure of the cement or steel.

THE HOBBS MANUFACTURING COMPANY LIMITED MONTREAL TORONTO LONDON WINNIPES VANCOUVER

MEDUSA WATERPROOFING

Has Imitators but No Competitors

Used in the concrete work of Canadian buildings that present the most difficult waterproofing problems, and has never failed.



Harbor Commissioners' Elevator, Montreal. Medusa Waterproofing used.

It Waterproofs the Cement Itself

instead of trying to plug up leaks that develop after the cement is set

Medusa Waterproofing is a dry white powder that is thoroughly mixed with the cement and aggregate before any water is added. The whole mixture thus becomes waterproof. It will stand any water pressure, and the strength or set of the cement is in no way affected.



solation Hospital, Winnipeg. Architects—Ross & MacDonald.
Contractors—Clayton Bros. Medusa Compound supplied by the
V. C. North Contracting and Supply Co., Winnipeg.

Medusa Waterproofing has been used successfully where other waterproofings have failed. The basic principles of successful waterproofing are fully covered by our patents and while fair competition is welcomed, we have been obliged to enter suits against several imitators who attempted to trade on the reputation *Medusa* has gained.

Gives permanent results

for Foundations, Cellars,

Reservoirs, Walks, Stor-

age Tanks, Floors, Roofs,

Stucco, Concrete Blocks,

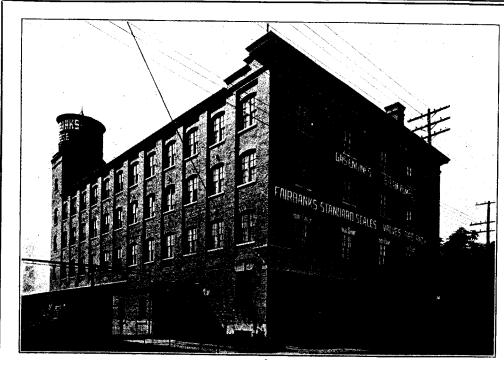
Cement Mortar.

The cost of Medusa Waterproofing is more than covered by the saving in cement, as a comparatively poor mixture gives splendid waterproofing results when Medusa is used.

Manufactured by

Stinson-Reeb Builders' Supply Company, Limited

Tenth Floor, Eastern Townships Bank Bldg., Montreal, P.O.



BUILT WITH PORT CREDIT WIRE CUT BRICK.

Architect, T. Pringle & Son, Ltd.

WIRE CUT AND PRESSED BRICK

Our plant has a capacity to meet any order.

Port Credit Brick Company, Limited McKinnon Building, Toronto



Frankland School, Toronto

One of the Queen City's new public schools. This 17-roomed school was built at a cost of \$75,000. It is thoroughly fire-proof and modern in every particular. The up-to-date inter-communicating system installed was supplied by

THE VOITHERS - Electric AND MANUFACTURING CO. UNITED

Manufacturer and Distributor of Telephone and Fire Alarm Apparatus and Eectrical Supplies for Every Possible Need.

MONTREAL REGINA HALIFAX CALGARY TORONTO EDMONTON WINNIPEG VANCOUVER

ACORN QUALITY FIRE-PROOF WINDOWS



E claim for this window that it is the only one on the market to-day that is absolutely wind-proof as well as fire-This is accomplished by the flange setting into the rabbit $\frac{7}{8}$ inch, which not only forms a perfect wind break, but does not interfere with the working of the sash.

The whole window is stamped by steam power, with steel dies, so that all parts are uniform.

When you want fire-proof windows ask for Acorn Quality, and be sure you take no other. If you get Acorn Quality you get satisfaction, and you get safety from wind and fire.

Before you decide to place your order be sure and write to us and get our prices, and let us show you what Acorn Quality Fire-proof Windows really are.

We feel sure of your decision.

The Metal Shingle & Siding Co.

PRESTON. ONT.

MONTREAL, QUE.



The Constructor Says-

"When a joiner glues two pieces of wood together, he supports the joint by clamps until the glue has hardened.

"Now, mortar is very much like glue. When you want it to seal perfectly together around the filaments of metal

lath, you should support it in position until it hardens.

"That is why I always use

HERRINGBONE METAL LATH

"It is the only kind which has ribs on the back to support the wet clinch."

CLARENCE W. NOBLE

117 Home Life Building

TORONTO

The Metal Shingle & Siding Co., Manufacturers

Carbonic Acid Compression "The Modern Method"

Temperature as desired. ice-making if required. Need only unskilled attention and small floor space. Clean and absolutely safe. Always available. Delivery of most sizes from Montreal stock.

The illustration shows the Linde British Carbonic Acid Refrigerating Plant as installed in

Hotels Flats

Residences

Apartment Houses Club Houses Hospitals

Butcher Shops

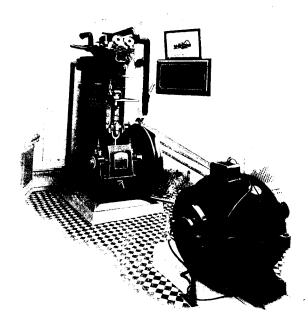
Grocery Stores

Fish Markets Restaurants Dairies

ESTABLISHED

In Great Britain 27 years In Canada 18 years

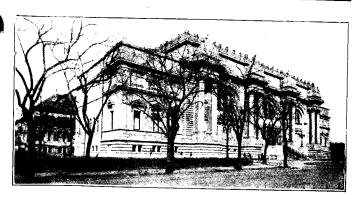
Has the largest output in the world of Retrigerating Machinery



CANADIAN OFFICES CORISTINE BLDG MONTREAL

90% of Art Galleries Lighted With FRINK REFLECTOR

The superiority of the Frink System of lighting is positively proven by the fact that 90% of the important American Art Galleries are lighted with Frink Reflectors.



Metropolitan Museum of Art, New York. Galleries Lighted with Frink System

If you have any building in which pictures or mural decorations must be artificially lighted, write us for a list of our installations. This list is unanswerable testimony of superiority.

We can guarantee satisfactory results provided the Engineering Department at our nearest Branch is consulted and furnished with a set of plans or scale drawings to guide them in their recommendations.

Write our Engineering Department at nearest Branch for full information.

The Canadian H. W. Johns-Manville Co., Limited SOLE SELLING AGENTS FOR FRINK PRODUCTS.

Manufacturers of Asbestos and Magnesia Products

ASSESTOS

Asbestos Roofings, Packings, Electrical Supplies, Etc.

TORONTO

MONTREAL

WINNIPEG

VANCOUVER

1665

Electric Light Fixtures Artistic in Design and of Superior Workmanship



Our immense stocks of high class electric light fixtures and our command of the best manufacturing facilities enables us to undertake the equipment not only of private residences, but of hotels, club houses, hospitals, office buildings and public buildings generally anywhere in Canada.

The Toronto branch of the Quebec Bank, the Transportation Building in Montreal, and the head office of the Bank of Toronto, Toronto, are among the larger buildings we have lately equipped with electric light fixtures.

Correspondence is invited.

Murray-Kay, Limited

36 & 38 KING STREET W. TORONTO.



"YALE" MARKED LOCKS

The name Yale on a lock means positive security to millions of people all over the world—to the thousands in your locality.

From these Yale-Marked Locks has been developed a line of Yale Hardware so complete and so varied in designs and finishes, that it offers every advantage in carrying out your ideas.

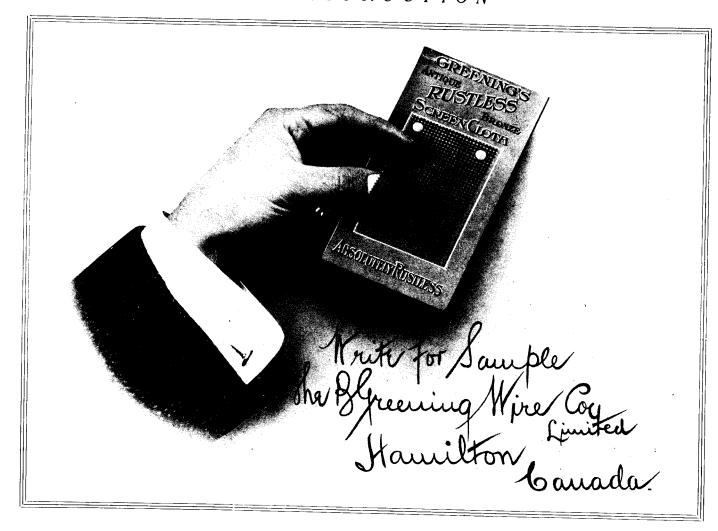
Yale Locks and Hardware have the quality which will express and perpetuate your own good taste, and your clients will appreciate your specifying the Locks and Hardware they know most about.

Our booklet, "The Ghost and the Burglar," is both entertaining and instructive. Write for a copy.

Canadian Yale & Towne Ltd.

Makers of Yale Products in Canada: Locks, Padlocks, Builders' Hardware, Door Checks and Chain Hoists

General Offices and Works: St. Catharines, Ont.



Often the <u>home</u> is the hospitalconsequently it should be built to be noiseless—with

NEPONSET

FLORIAN SOUND DEADENING FELT

The sanitary sound-deadener. Built on dead air cell principle.



Bird & Son, Hamilton, Ont., Montreal, St. John, N. B., Winnipeg, Vancouver [F. W. Bird & Son.]

Comes Ready for Application

Prevents all rust and corrosion on iron, steel wood, concrete, and stone surfaces - on bridges, roofs, sidings, girders, water tanks, gasometers, ties and foundations.

Saving Foundations

At Slight Cost

Bitunamel will preserve and strengthen foundations and the other exposed parts of a building subjected to corrosion.

Bitunamel provides an impervious coating which makes corrosive action of any kind impossible.

The average cost of painting a surface with Bitunamel is about half a cent a foot, so great is its covering capacity. The film it gives is highly elastic and will last for many years. It practically doubles the life and value of any surface to which it is applied.

Contains no Coal Tar

Send for the "Bitunamel Pamphlet"

Bitunamel is specified by leading architects for foundation and all iron work. Bitunamel is water-proof, weather-proof, acid-proof, alkali-proof and gas-proof.

The Ault & Wiborg Co., of Canada, Limited

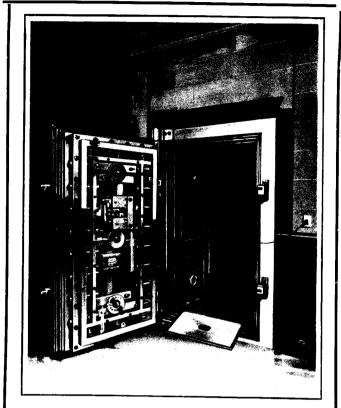


Varnish Works **TORONTO**

MONTREAL WINNIPEG

Philadelphia Cincinnati Ruffalo New York Chicago

Minneapolis San Francisco London Paris



Showing Vault "with Outer and Inner Doors open" of The Dominion Bank at Vancouver, B.C., Designed, Built and Installed by us

35 Years Experience, **Expert Mechanics & Best** Material Obtainable

Are all combined in the construction of G. & McC. Co. Safes and Vaults

OUR AIM HAS ALWAYS BEEN

To build Safes and Vaults as well as it was possible to build them, and it is owing to this care on our part that G. & McC. Co.

SAFES & VAULTS

have always stood the test.

OUR RECORD

35 YEARS WITHOUT A LOSS is one of which we are justly proud.

Ask for our Catalogue and Book-"Profitable Experience."

The Goldie & McCulloch Co.,

Head Office and Works - GALT, ONT., CANADA Branches or Agencies in TORONTO, MONTREAL, WINNIPEG, VANCOUVER and ST. JOHN, N.B.





Structural Water-Proofing

Concerning Building Materials "A Satisfied Client Means a Satisfied Architect"

If you specify

DEHYDRATINE

or HYDRATITE for your Foundations and accept no substitute – Dryness and freedom from moisture will be an accomplished fact.

DEHYDRATINE is made in many consistencies to meet the requirements for Water-Proofing ALL parts of the structure under a system known as "The MEMBRANEOUS METHOD."

HYDRATITE (PASTE OR POWDER) for Water-Proofing Concrete under what we were first to designate "The Integral Method."

27000 Pounds of HYDRATITE were used in the foundation Bank British North America, Montreal; Norcross Bros., Contractors.

Our Organization affords every facility for insuring Bone-Dry Sub-Structures and Damp-Proof Super-Structures.

WRITE FOR PARTICULARS AND CATALOGUE

Pinchin-Johnson & Co.

(Canada) Limited, Toronto

Manufacturers of

SYMENTREX CONCRETE COATING, AND FERRO-FAX "The Ferrolithic Method" (Copyright) For Dust-Proofing Concrete Floors.

AGENCIES IN ALL CITIES



Satinette)

THE IMMACULATE FINISH

A Pure White Enamel, very durable and sanitary, which never turns yellow.

Regularly specified by the most prominent architects, and used by leading decorators.



the enamel of world-wide reputation—is suitable for all classes of enamel work.

There's an "INTERNATION-AL" VARNISH SPECIALTY—the best of its kind—for every description of finishing.

Complete specifications for all classes of finishing, furnished on request.

Full Imperial Measure in every can bearing the "INTERNATION-AL" imprint.

INTERNATIONAL VARNISH (

TORONTO - WINNIPEG

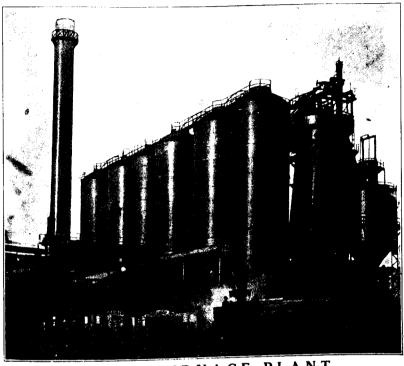
Canadian Factory of Standard Varnish Works

NEW YORK CHICAGO LONDON BERLIN BRUSSELS MELBOURNE

Largest in the world and first to establish definite standards of quality.



"Bitumastic" Solution and Enamel



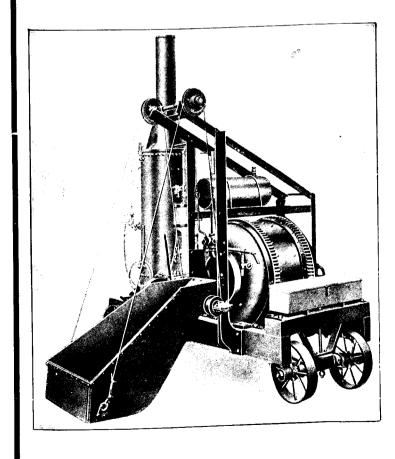
BLAST FURNACE PLANT

All surfaces of these important structures were coated with two coats of Wailes, Dove & Co.'s patent "Bitumastic" Solution. The original anti-corrosive—very large covering capacity—dries quickly—does not crack or peel off. Is not affected by chemical fumes—hot smoke, salt or fresh water. Sample sent upon request.

Canadian Bitumastic Enamels Co.

720 Traders Bank Building TORONTO, ONT.

(Exclusive Ontario Agents)



Koehring Concrete Mixers

Are Best Because:

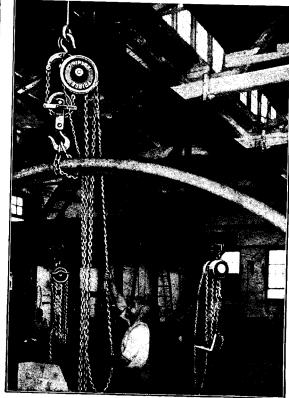
They will produce most of the best concrete at least total cost, when all costs are figured.

Our Catalogue Illustrates This Statement.

Canada Foundry Co.

Toronto Montreal Halifax Ottawa Cobalt Porcupine Winnipeg Calgary Vancouver Nelson Prince Rupert

THE TRIPLEX BLOCK



A 4-ton Triplex Block used for handling girders in a steel structural shop in Brooklyn.

Why should weight of material restrict output?

WHY shouldn't a workman who handles metal do as much work per hour as a man who handles cork?

Hundreds of industries manufacturing heavy materials are using hoisting machines, and conveying apparatus in connection therewith so efficiently that workmen scarcely realize that the loads they are moving single handed, thousands of pounds every hour of the day, are any more than trifling loads of a few score pounds.

THE NEW BOOK OF HOISTS

shows such plants in operation and gives tables of efficiency which will help to solve your manufacturing problems. Send for a copy to-day. To-morrow you may be too busy to think

TRIPLEX BLOCKS.

16 sizes: One-fourth of a ton to forty tons. 300 active stocks all over the United States and Canada.

Every Block Tested to 50% Overload.

The Canadian Fairbanks-Morse Co.,

Montreal St. John Ottawa Toronto Winnipeg Saskatoon Calgary Vancouver Victoria

Expansion

For quick and efficient work in fastening any kind of support, bracket, upright or any fixture to walls, floors or ceilings of brick, stone, concrete or any material in which a hole can be made. They mean a great saving of time, labor and money.

For Construction Work

Above or below water, under or above ground, in or out of doors, in hot or cold places, in fact any place where it is necessary to make a good substantial fastening such as securing steam pipes, radiators, automatic sprinkler systems, stand pipes, iron railings, heaters, furnaces, etc. Architects who know, specify Sebco Products-others should learn their merits. Samples on request.

STAR EXPANSION BOLTS

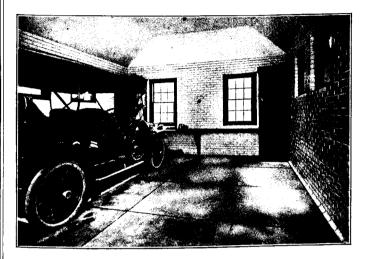
J. EDWARD OGDEN, Canadian Distributor 377 St. Paul St., Montreal

28 Toronto St., Toronto

425 Henry Ave. Winnipeg



Sanitary&Fireproof Interiors For Modern Garages



Mr. Harry C. Camman's Garage, Greenwich, Connecticut.

DURABILITY, BEAUTY AND SANITATION are important factors to be considered by the prospective builder.

"AMERICAN" ENAMELED BRICK

burned at a temperature of 2,300 degrees Fahrenheit insure absolute protection agained destruction by fire.

MINIATURE SAMPLES in standard colors—Bright and Matt finish—submitted, at charges prepaid, upon formal request.

AMERICAN ENAMELED BRICK AND TILE COMPANY, 1182 BROADWAY

Asbestos Corrugated Sheathing



Protects Interiors from Extreme Heat

The high temperatures which a summer sun develops behind walls and roofs of corrugated iron, can be avoided by the use of Asbestos Corrugated Sheathing.

This Sheathing does not heat up like metal on the exposed surface, and the insulating properties of the Asbestos prevent the heat from working through to any extent and radiating into the building.

In the winter these same insulating proper-

ties greatly lessen the amount of heat which escapes through walls and roof.

Whether the building is to be used to accommodate workmen or to store goods, this protection from extremes of temperature is most important.

Moreover, Asbestos Corrugated Sheathing is absolutely fireproof, never requires painting, and is practically everlasting.

Write for Booklet 10, which gives particulars and prices.

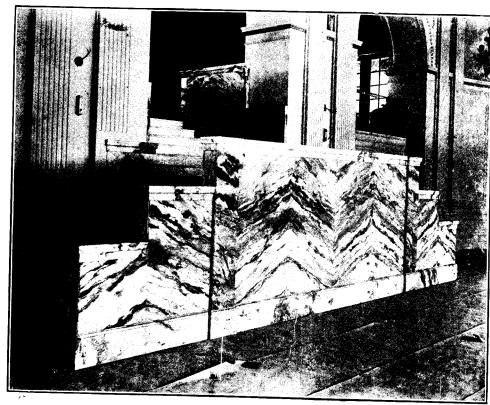
ASBESTOS MANUFACTURING COMPANY LTD.

Address – E. T. Bank Building, 263 St. James St., Montreal.

Factory at Lachine. P. Q. (near Montreal)

Dominion Marble Company, Limited Factory-MONTREAL, QUE. Quarries-SOUTH STUKELEY, QUE.

Factory_MONTREAL, QUE



Royal Dominion Marble

This cut shows a view of a stairway in the

Chateau Laurier Ottawa

in our

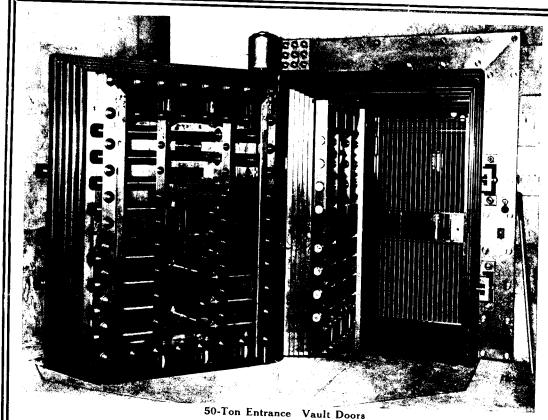
Violetta Marble

Ross & Macfarlane, Architects Geo. A. Fuller Co., Contractors

We can do as good work for you. Let us figure on your plans.

Our address is

P. O. Box 1166 Montreal Canada



Two sets of these vault doors were recently installed for BANK OF MONTREAL and ROYAL TRUST CO., Winnipeg.

When completed, these were the heaviest vault doors on the continent.

> BUILT **ENTIRELY** IN **CANADA**

J. & J. TAYLOR, LIMI

TORONTO SAFE WORKS Branches MONTREAL

TORONTO, CANADA WINNIPEG



Every Morning onstruction

Will Lay a Letter On Your Desk

F you are a contractor, a manufacturer or dealer in builders' supplies or building equipment you will find that the news contained in this letter is of vital importance to you. It will enable you to get after business of which you would otherwise have no knowledge, and it will give you information regarding all activities in the building trades, several days before this news becomes public property.

To be first in the field when contracts are being awarded is an advantage that many manufacturers and dealers are every year spending thousands of dollars to obtain. Here is a means of getting information which cannot be obtained otherwise, unless a sales organization that covers the whole country, be employed.

ONSTRUCTION'S DAILY REPORT SERVICE is first and foremost, reliable. We have means of obtaining authentic advance reports on building and engineering projects, that are exclusive with us; our organization extends to all the principal centres in Canada and has succeeded in establishing and maintaining friendly relations with the people most interested in all building projects.

The information gathered is sifted out and classified according to its relative importance, so that those who receive our report service can tell immediately just what items they can use, and whether it would be worth while to put forth a strong effort to get the business.

Construction Daily Report Service does not create opportunities, but it points out where the opportunities are. It acts as your personal representative in digging up prospective business.

Write for full particulars. With our organization behind you, you will be in a position to take advantage of the unparalleled activity in Canadian building circles.

THE-

LINDE CANADIAN

REFRIGERATION CO., LIMITED 37 St. Peter Street - - Montreal, P.Q.

Refrigerating and Ice-Making Machinery

CORK INSULATION

If you have any proposition where you think mechanical refrigeration would pay, write us and we will give you full particulars as to cost, operating expenses, etc.

BEAMS CHANNELS ANGLES TEES BARS

STEEL

GIRDERS COLUMNS TRUSSES PLATES

Large tonnage in stock for immediate shipment Structures designed, fabricated and erected

International Marine Signal Co., Ltd.

OTTAWA, ONTARIO

A FULL LINE

of metal ceilings, corrugated iron, metal sidings, plasterers' corner bead, eave troughs and sundries; also a full stock of galvanized flat sheets is now being carried in our new ware-rooms.

Telephone orders given very prompt attention.

Our new catalogue of Steel Buildings, Oil Houses, Storage Houses, Metal Tanks, etc., is ready for distribution.

Write us to-day for a copy.

THE A. B. ORMSBY CO., Limited

Associated with THE METAL SHINGLE & SIDING CO., Limited

ADDRESS NEAREST BRANCH

MONTREAL Quebec TORONTO Ontario PRESTON Ontario WINNIPEG Manitoba SASKATOON Saskatchewan CALGARY Alberta

EDMONTON Alberta

Head Office: TORONTO, ONTARIO

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

GALT, - ONT.



BIRKS BUILDING, OTTAWA.

ARTHUR LE B. WEEKS, Architect

The Elevators in this Building were made and installed by the

Otis-Fensom Elevator Company Limited

Head Office: Toronto

Works: Hamilton, Ont.



Standard Ideal Plumbing and Bathroom Fixtures are installed in the Most Important Buildings of all Classes from Coast to Coast



Manhattan Apartments, Vancouver, B.C. Parr & Fee, Architects; Barr & Anderson, Plumbers; W. L. Tait, Contractor. Standard Ideal Plumbing Fixtures used.

The Standard 9deal Company Std.

Sales Offices and Showrooms:
Toronto, Montreal, Winnipeg

Head Office and Factories: PORT HOPE, CANADA













Holly Lodge, Largest Apartment Block in Vancouver, B.C. Wright, Rushforth & Cahill, Architects; Barr & Anderson, Plumbers; Dalton Bros., Contractors. Equipped with Standard Ideal Plumbing Fixtures.

HESE buildings, recently erected in Vancouver, show the fine type of structures now being built in the far Western metropolis.

As is usual in buildings of this class, Standard Ideal Plumbing and Bath-room Fixtures were installed, the specifications calling for an absolutely durable, dependable and thoroughly sanitary ware and Standard Ideal Ware has proved to the satisfaction of Canadian Architects and builders that it fulfills these requirements.

In apartment houses and hotels a great deal depends on having every detail of equipment up-to-date and adequate to withstand the greatest strain likely to be imposed on it,—for these reasons the selection of Standard Ideal Ware has the endorsement of Canada's foremost architects.

The Standard **Steal** Company Std.

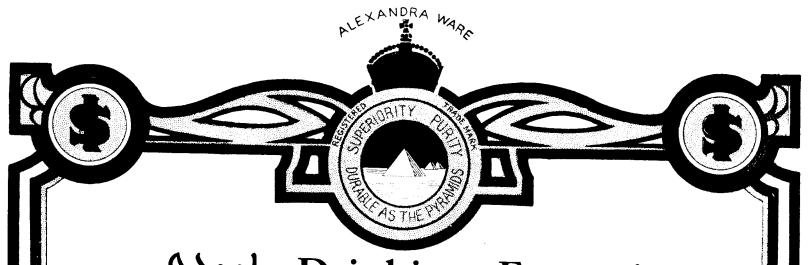


Dunsmuir Hotel, Vancouver, B.C. Architects, Parr & Fee. Plumbers, Barr & Anderson. G. W. Gibb, Contractor and Owner. Equipped with Standard Ideal Plumbing Fixtures.

LEXANDRA" Ware has yet to find its equal for high-class bathroom installations. Its pure white glistening surface, its wonderful durability, the ease with which it can be kept clean, and the fact that it will not discolor, chip, crack or craze under any conditions of service, have won for it an international reputation.

It is made in a great number of forms, suitable for the finest installations either in private residences or in hotels, apartments, etc., and in its designing and construction are embodied the newest improvements in sanitary science.

Specify "Alexandra" Ware for your better class of work. Our trade mark constitutes a positive guarantee of quality.



I Drinking Fountains



are made in designs and sizes for every use. They are constructed to withstand the abuse that a public fixture usually encounters, and their snowy enamelled surfaces will last a lifetime. We manufacture the most complete line of Drinking Fountains ever offered to the trade, and they are fully described and illustrated in a NEW CATA-LOG which will be sent upon request.



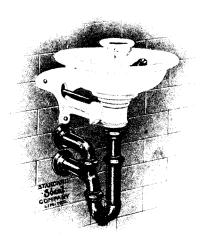
MADE IN 167 DESIGNS AND SIZES



Plate F 3013.

Plate F 3055.

Plate F 3305.



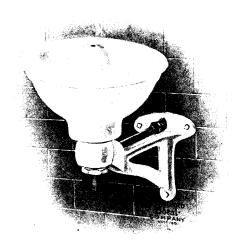


Plate F 3342.

The Standard & deal Company Stal

Branch Offices and Showrooms: Montreal, Toronto, Winnipeg, Vancouver

General Offices and Factories:
PORT HOPE, CANADA



ALE XANDRA WARE

CONSTRUCTION

VOL. VI

No. 5

CONTENTS FOR MAY, 1913

Competitions for new departmental buildings at OttawaCriticism of E. White's	
scheme for the replanning of Ottawa——Atelier work in relation to the student and draftsman.	
TWO NEW BUILDINGS, OTTAWA, ONT	173
THE REPLANNING OF OTTAWA	178
TWO CLUB BUILDINGS, OTTAWA, ONT.	181
MEMORIAL TO KING EDWARD VII	183
W.C.T.U. BUILDING, TORONTO	185
C.P.R. STATION, VANCOUVER	188
ASSINIBOIA CLUB, REGINA	189
PUBLIC LIBRARY, REGINA	191
COLLEGIATE INSTITUTE, REGINA	192
CURRENT TOPICS	193
FIRE RESISTING VALUE OF PLASTERED PARTITIONS	195
TRADE NOTES	208
Full Page Illustrations	
ruii rage illustrations	
U. S. POST OFFICE, NEW YORK CITY Frontisp	iece
	iece 171
U. S. POST OFFICE, NEW YORK CITY Frontisp	
U. S. POST OFFICE, NEW YORK CITY	171
U. S. POST OFFICE, NEW YORK CITY	171 172
U. S. POST OFFICE, NEW YORK CITY	171 172 177
U. S. POST OFFICE, NEW YORK CITY	171 172 177 180
U. S. POST OFFICE, NEW YORK CITY	171 172 177 180 182
U. S. POST OFFICE, NEW YORK CITY	171 172 177 180 182 184
U. S. POST OFFICE, NEW YORK CITY	171 172 177 180 182 184 200

H. GAGNIER, Limited, Publishers GRAPHIC ARTS BUILDING, TORONTO, CANADA

BRANCH OFFICES:

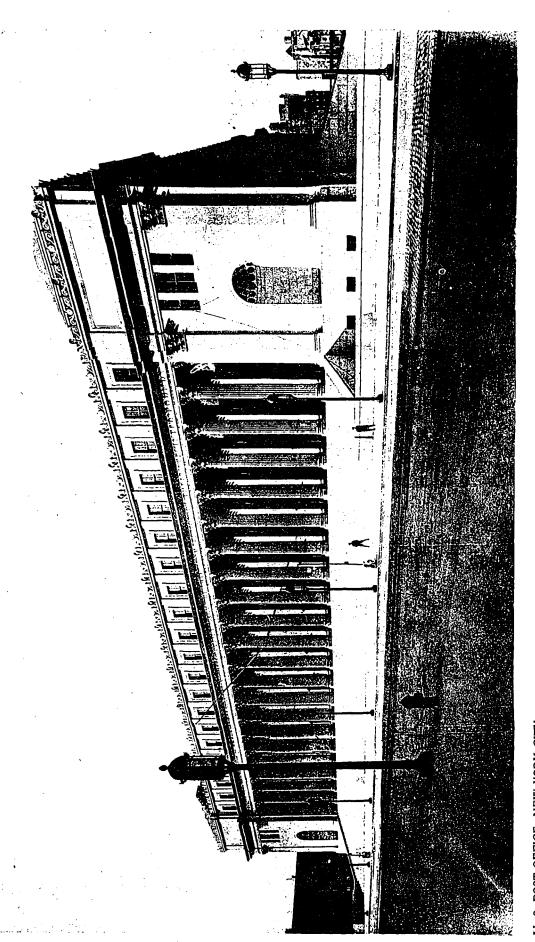
MONTREAL

WINNIPEG

VANCOUVER

CHICAGO

NEW YORK



U. S. POST OFFICE, NEW YORK CITY.

MCKIM, MEAD & WHITE, ARCHITECTS.



New Departmental Buildings at Ottawa— Advisability of competitions—The irreparable mistake of following the proposed scheme.

ALL ARCHITECTS will commend the action of the Government in calling for general competitions for the new departmental buildings. Nothing has proven more of an eyesore than the Victoria Memorial Museum at Ottawa. In design, in plan and in construction it is lamentably weak. Our readers are too well aware of its faults to take space in mentioning them, but we feel that one example of this kind affords ample opportunity for our apologetic natures. It is only by allowing various architects to develop their ideas that we can arrive at a satisfactory solution. And it is more than gratifying to feel that a part of the Government officials, at least, are broad enough to realize what a terrible mistake it would be to have the new buildings erected by the same corps of artists who were responsible for the museum. Our commercial architecture in Ottawa is reaching a high standard and demonstrates the truthfulness of Leonard Stokes' statement that the Canadian commercial buildings are better, architecturally, than those in the old country. These same men can demonstrate their ability if allowed to execute their ideas already formulated in reference to the needs of the Government. The great demand for office room is felt in all departments, and as a consequence, the planning of new structures will The location, size and soon become imperative. style will have considerable to do with the future charm of the capital. Word comes that the Government will shortly call for a general competition of British and Canadian architects to submit plans based on the general design submitted by E. White. Is it possible that the men in charge of this work will allow the need of accommodations to blind them to every other consideration? Can they be so foolhardy as to accept a scheme which is absolutely incongruous to the design of the Parliament Buildings, the avenues which lead up to it and to the natural contour of the ground upon which it is to be located. Some potent influence must be brought to bear-and at once.

The replanning of Ottawa—Proposed scheme by E. White severely criticized by architects in general—A question of vital importance.

THE CITY OF OTTAWA is scarcely aware of the momentous problem which is agitating the artistic sensibilities of Canadian people. It is not a question of whether the capital shall have a comprehensive plan for the beautification and future development of the city. This fact has already been settled. But the chief point to be considered is the selection of plans which will eradicate the blunders of the past and eliminate the possibility of future mistakes.

The city of Ottawa, destined to be the political centre of a great country has natural advantages over other capitals. Located on a high cliff overlooking the Ottawa River, it commands an impressive view of the distant Laurentian hills. At the present time there are two hundred and thirty-seven acres devoted to parks and playgrounds within the city limits and two thousand acres of natural park adjacent.

In view of the natural advantages and the wonderful possibilities presented, we must bend our efforts in a manner most worthy of our well known ability in matters of civic improvement. We cannot afford to consider the cost. This is the reason why neighboring cities are spending millions of dollars to obliterate the false ideas of narrow visioned men of yesterday. Surely we have learned this lesson already and why repeat the same absurdities condemned so harshly in those who failed to rectify the ignorant plans of their predecessors.

As N. Cauchon said in his lecture at Ottawa—summarized in another part of this issue: "Prominent architects who visit the city invariably express their regret that at the time when land was comparatively inexpensive this street (Metcalf) was not sufficiently widened to permit of proper treatment." Metcalf street, it is claimed, could have been made a wide avenue leading to the Houses of Parliament. The point arises, if it were possible at one time, cannot it be made practical now. It may mean the demolition of many buildings and at a great cost. But why hesitate, for these reasons? Ten years hence the

capital of Canada will be so important and the developed resources of this country so vast that the expenditure necessary to make such a radical change now will have been more than justified. Comparatively speaking, it will cost no more to make a wide approach to the Parliament Buildings now than it would have five years ago. But the rapid growth and the high class of buildings being erected in Ottawa to-day will exclude the possibility of such a change unless done in the very near future.

Several reasons have been offered why Edward White's plan for the replanning of Parliament Hill should not be accepted. Unquestionably the streets of the city should have been considered in relation to the proposed buildings. There is no point of interest at the head of any one approach and the commanding vistas, for which foreign cities are so famed, do not enter into the scheme at all. This, if nothing else, should be sufficient cause for its rejection. A second point was brought out by Frank W. Simon, a well known British architect, who said: "Ottawa is a most picturesquely situated place. Your present Parliament Buildings are wonderful, both as regards architecture and natural situation. I understand you are going to add new ones; I have, in fact, seen sketches of the proposed buildings and I am strongly of opinion that they should be designed in harmony with the present structures. As proposed, they would challenge these latter in a rather disastrous way. I do not, consequently, approve of Edward White's plans.

Leonard Stokes, in his recent visit to this country, while unwilling to comment on the proposed scheme for the new departmental buildings, said: "There should be a great deal of consideration before you take any step. The site the Government has taken north of Wellington street is a difficult one to deal with. You do not want to make another mistake."

Mr. Stokes suggested the cutting away of the cliff around Parliament Hill and constructing at a lower level a large semi-circular building on it for departmental purposes. This structure would look out on the river and locks, extending from a point east of the East Block, following the side of the cliff around below the Parliamentary Library to the jog in the cliff near the West Block. The cliff could be cut back to a sufficient distance to allow for the width of the building as well as a roadway on the concave side of the semi-circular structure. The building would be connected with the Parliament Buildings by underground passages. There would be lots of light as all the windows look out onto an unobstructed view and the building would be long and narrow. It would also give an impressive effect to Parliament Hill, particularly when viewed from the river on the east or west sides, presenting a picture of the river, then the rugged cliff for a few feet, then the departmental building, and towering above it the present Parliament Buildings, all one grand series.

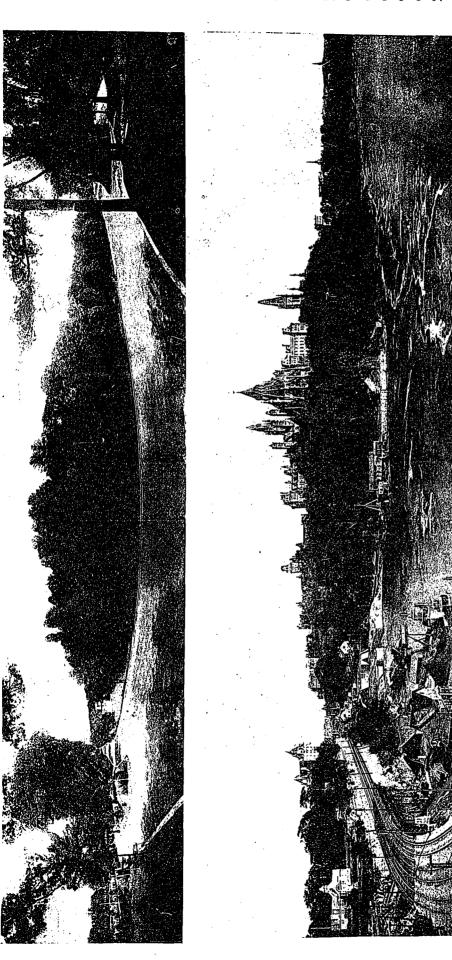
It is to be sincerely hoped that among all our representatives in Ottawa there are a few whose vision is keen enough and whose patriotism is so deeply rooted that they will make a decided stand for both a practical and artistic plan. We cannot afford to accept the first scheme proposed, especially if it contains little of commendation. Let the architects and others interested in civic improvement think seriously over this matter and after mature deliberation express yourself freely and forcibly. We need united action upon a question which means so much to every Canadian.

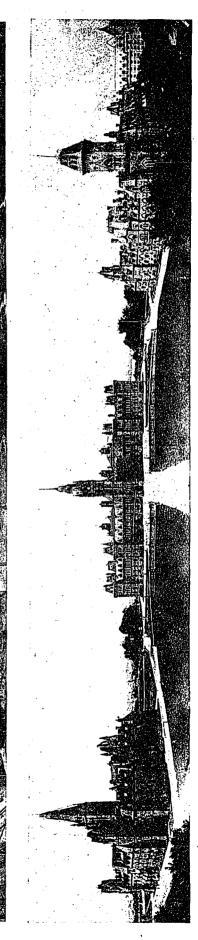
The atelier work—Its aid to the College graduate and the beginner—Essential to those lacking educational advantages.

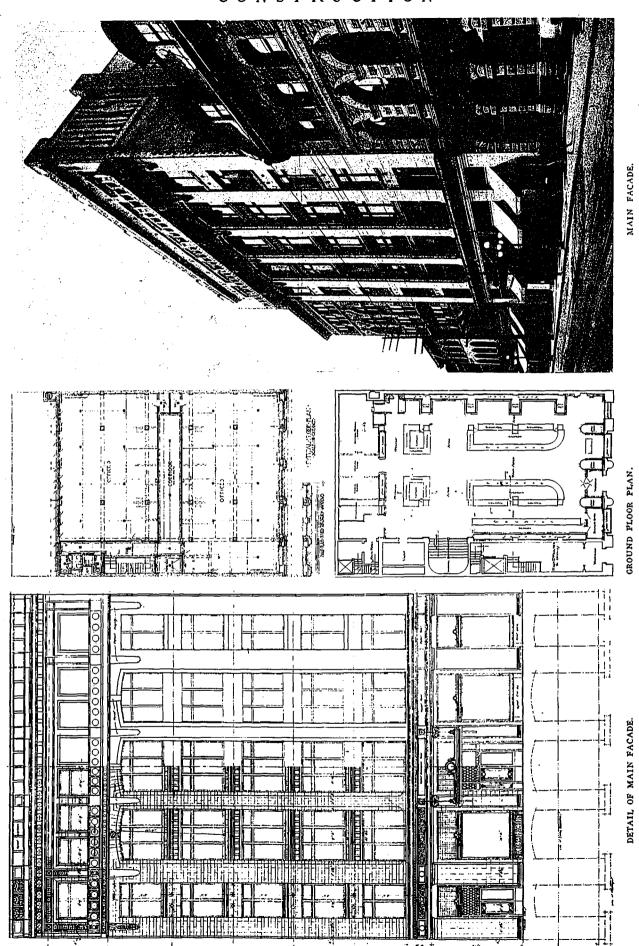
THE CRITICISM that the editorial on atelier work in the last issue is detrimental to the interests of the departments already established in the various colleges is unwarranted. The school has its own individual function and is worthy of the responsibilities placed therein. It lays the foundation for the student in his eagerness to grasp the essentials of modern work as based upon the architecture of former generations. It teaches him to concentrate his efforts on well known precedents of pure style and harmonious proportion. It gives him the power to grasp the problem intelligently, the ability to adapt pure and wholesome products of good art and the knowledge of how and where to locate the various examples which furnish the proper incentive in his work.

All this and more is derived from the careful and conscientious efforts of the college courses. But the atelier has its mission also. Here the student under the guidance of one or more practising architects of high standing can make himself more proficient in the use of his mechanical training. His work assumes the nature of a post-graduate course and broadens the theoretical into the practical. student can apply himself to the advanced problems, while the young man who cannot avail himself of the preparatory work in college, is able to grasp the fundamental principles under the guidance of men who are well versed in the needs of the beginner and who are fully capable of criticizing in a wholesome practical manner. We do not wish to detract one iota from the university courses, in fact we strongly urge every young man to grasp the exceptional opportunities which such institutions extend. But in placing an H.C. upon the young man of ability simply because he is not in a position to enjoy these privileges is wrong and should not be countenanced. Were we to debar from the profession all those who never graduated from a school of architecture, there would be a dearth of good men to carry on the large amount of work which is being done throughout the Dominion. Since some of the largest offices debar the draftsman who has not a degree we feel that our readers would more than appreciate a statement from them as to how they justify their position.











STORE ROOM IN BIRKS BUILDING, OTTAWA

Two New Buildings, Ottawa, Ont.

POR SOME YEARS the commercial side of architecture in Ottawa has been at a complete standstill. Few buildings were erected until recently which showed any marked advance, and consequently a false impression was given to the thousands who visit the capital city annually. It is encouraging to note the vast improvement in this direction during the last two or three years, and bespeaks a promising future.

No city should receive more attention to the character of its buildings since the whole country is more or less measured by the artistic development of its capital. Ottawa is exceptionally favored in its natural surroundings and should allow of no new structure which might detract from the general artistic appearance of its streets. Once the atmosphere of beauty permeates throughout the city there will be little need of unfavorable comment.

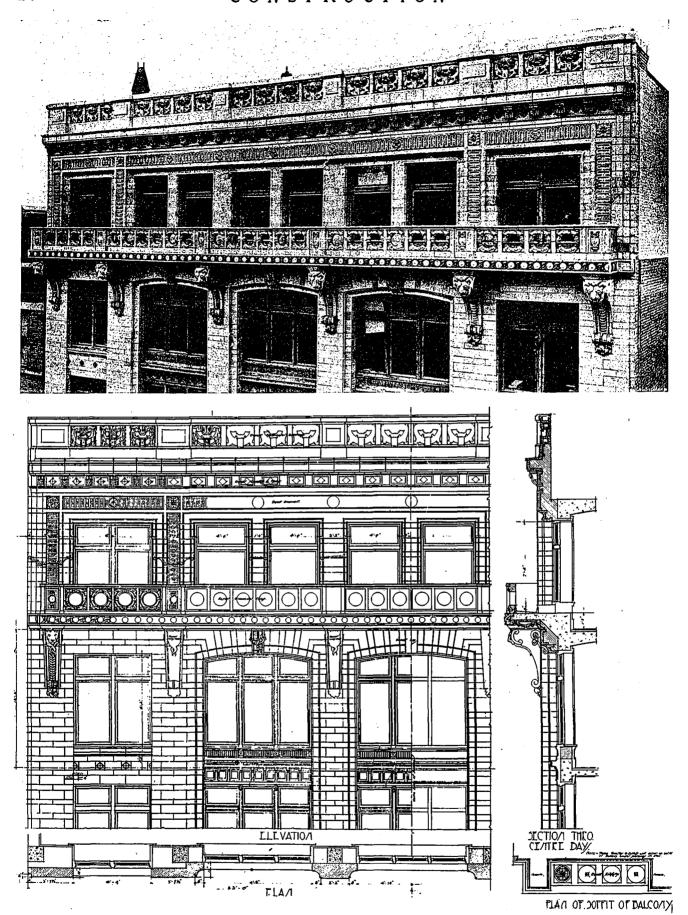
The buildings illustrated in this number reveal the high standard set by the profession, while others in the course of erection plainly demonstrate that a decided step forward has been made along the lines of dignified and artistic architecture.

Birks Building, Ottawa.—The new Birks building is a reinforced concrete structure designed to accommodate the business of Messrs. Henry Birks & Sons, Limited, jewelers, who occupy the ground floor, basement and half of the second floor. All floors above the ground floor are devoted to office purposes. The facade of the building is of English

terra cotta. Upon the interior the store is finished with moulded plaster ceilings supported by columns of Violet Breche marble, the slabs being 14 feet long in one piece; the floors are finished with marble mosaic, while all fixtures, counters, show cases, etc., are of mahogany. The heating is by the vapor system. All public corridors, toilets, etc., are finished in terrazzo and marble.

Canada Life Building, Ottawa.—The building for the Canada Life Company is a fireproof structure with reinforced concrete columns and slabs. The ground floor is occupied by the business offices of the Canada Life Assurance Company, the upper floors being subdivided for private offices. The entrance hall is panelled in Missisquoi marble with marble mosaic covering the entire ground floor. The walls of the business office are panelled with African mahogany, the ceiling beams and cornice being richly modelled in plaster. The front of the building is finished in English semi-glazed terra cotta, and was one of the first high buildings to be erected on Sparks street.

One is led to believe that the new impetus to building will bring about a wholesome atmosphere conducive to an artistic centre. It is already noticeable in the business sections, the hotel and apartment districts and throughout the home territory. With the proper selection of a design for the new departmental buildings, Ottawa will undoubtedly become one of the most beautiful capital cities of the world.

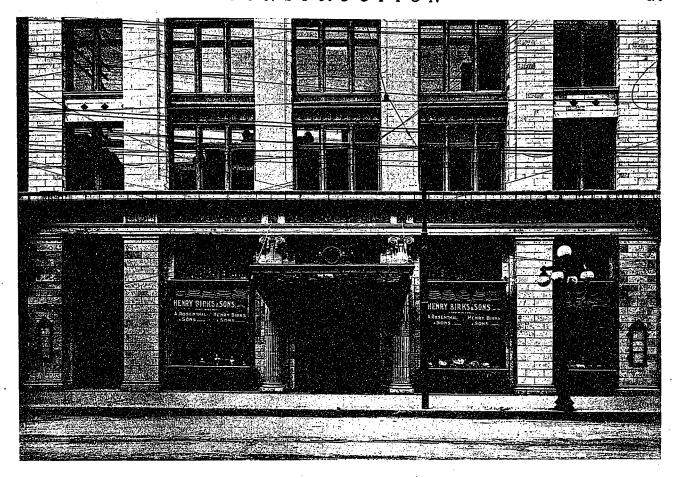


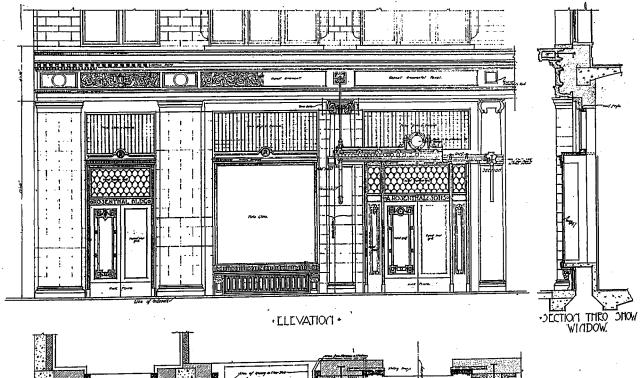
DETAIL OF CORNICE AND BALCONY.

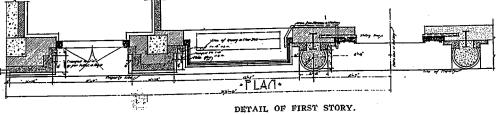
BIRKS BUILDING, OTTAWA, ONTARIO.

WEEKS & KEEFER, ARCHITECTS.

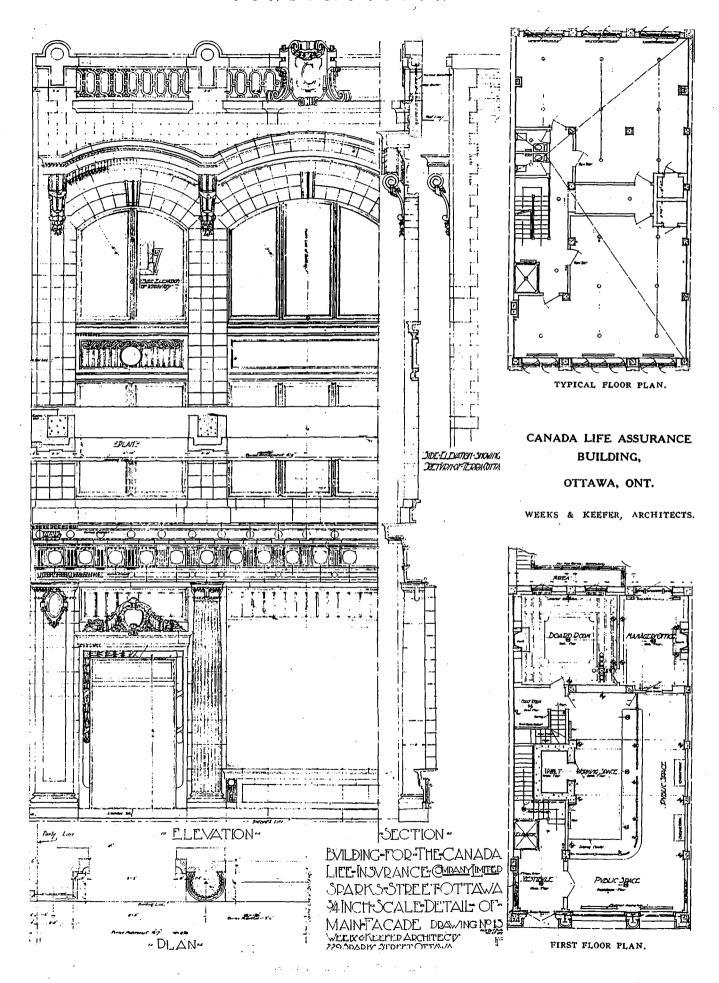
8

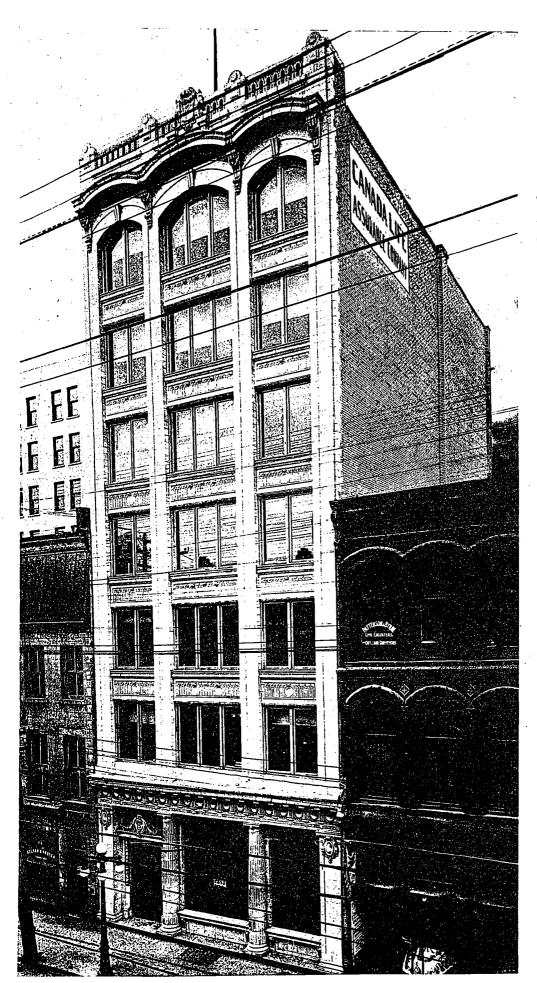






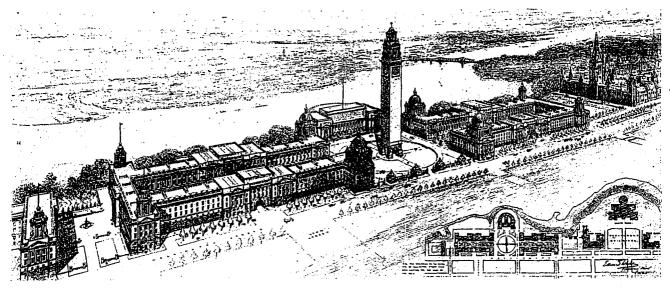
BIRKS BUILDING, OTTAWA, ONTARIO. WEEKS & KEEFER, ARCHITECTS.





CANADA LIFE ASSURANCE COMPANY, OTTAWA, ONT.

WEEKS &
KEEFER,
ARCHITECTS.



PERSPECTIVE VIEW OF PROPOSED SCHEME, BY E. WHITE, ARCHITECT.

The Replanning of Ottawa

OR some time the replanning of Ottawa has been the cause of a great deal of discussion and consideration by the people of the Federal Capital. Particularly has this been the case during the past year, since it became apparent that the Government must enter upon an extensive building programme if it is to cope with its great need of office accommodation. At present a great number of private buildings are rented to supply office space and this arrangement does not prove at all satisfactory because of the scattering of departments and branches thus necessitated over various portions of The volume of Government business is rapidly increasing, due to the remarkable growth of the country.

Last year the Government expropriated a considerable tract of land west of Parliament Hill, the area extending from the cliffs which overlook the Ottawa River to Wellington street. It is somewhat less in width than the portion commonly known as Parliament Hill, which also stretches from Wellington street to the cliff. The new district extends along Wellington street approximately 1,700 feet.

How to best utilize this new area for departmental buildings is the question that has brought the discussion of replanning the city to an issue. N. Cauchon, of the engineering firm of Cauchon & Haycock, is preparing plans of the city and surrounding localities for the Government. The primary object is to provide a map for the guidance of the Provincial Railway and Municipal Board in passing upon plans of new subdivisions, as well as to form a groundwork for the future improvement of Ottawa and outskirts in keeping with the artistic and practical needs of our Capital City.

It is believed that when this new map has been

submitted to the Government, steps will be taken to provide a commission with authority over the entire question of improving the layout of the city. It has been the cause of considerable regret that when the Houses of Parliament and the East and West Blocks were built no provision was made to have a wide central avenue leading through the city to them with ample provision for a monumental approach to the main building and Parliament Square. Excellent use is made of similar opportunities in other capital cities, but in Ottawa, Metcalf street, which could have formed such an approach, is slightly out Prominent architects who visit the city invariably express their regret that at the time when land was comparatively inexpensive this street was not sufficiently widened to permit of proper treatment

Mr. Cauchon recently gave a lecture before the Women's Art Association in which he advanced a scheme to provide against a similar mistake in the new group of departmental buildings. He suggested the widening of Lyon street, which parallels Metcalf street four blocks further west, into a broad boulevard running through a central portion of the city and having for its focal termination the main feature of the new departmental group. The treatment would be somewhat similar to the Champs Elysees in Paris, which forms an impressive vista from the Arc de Triomphe to the Louvre. The main feature in the departmental group would form a commanding position when looking up the widened Lyon street, which could be called the King's Way.

The Dominion Government recently engaged the services of Mr. E. White, of England, who—assisted by Sir Aston Webb—prepared a plan for the treatment of the lands recently expropriated. One of the accompanying illustrations shows their



SKETCH SHOWING EXISTING BUILDINGS.

plan as submitted to the Government—a view from the south. A second sketch shows the view from the Quebec side of the Ottawa River as the cliffs appear to-day, and a third as they would appear with the erection of the proposed buildings.

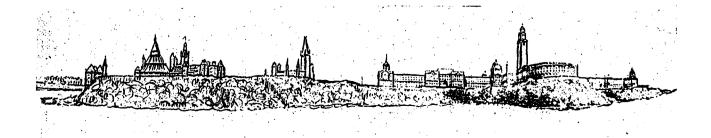
Mr. Cauchon, in discussing these plans, considered them to be wrong in principle. He argued that in the treatment of extending flat surfaces, long horizontal lines should not be used since they only tend to accentuate the flatness, but that vertical lines should predominate in the composition to balance the low effect of the natural conditions. He maintained that the proposed buildings are wrong also in plan because no advantage is taken of the city streets in order to provide focal points for the existing vistas.

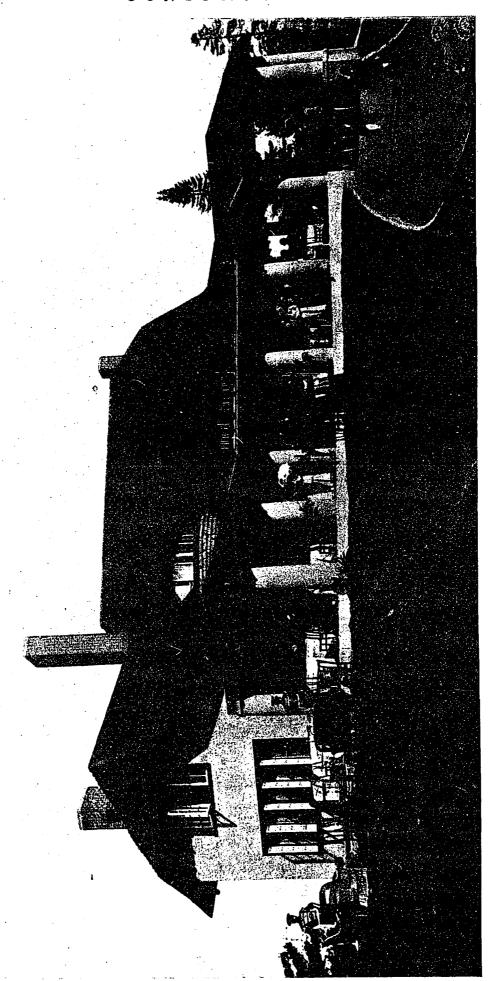
He stated further that the plans were wrong in style, being a very modern Renaissance, and would not harmonize with the Gothic architecture of the Parliament Buildings, which naturally form the keynote to the whole composition. The central tower was also criticized as not being an integral part of the building and lacking ostensible function. suggested a style of architecture that, while not necessarily of the Ogival Gothic which prevails in the main Parliament Buildings, would be of a transitional character naturally evolved from it. For example, he cites the early French Renaissance, which combined adaptability of plan and openings to modern needs. A tall building was recommended along Wellington street somewhat similar to the Chateau Laurier, roughly outlined in composition with towers facing the vistas and curtain walls between.

For the river elevation the idea was advanced to

have a series of masonry terraces to the water's edge. the architectural lines of which should be carried around the face of the present promontory on which the existing Parliament Buildings are located. This irregular promontory would be cut back in order that the lower stories might not be foreshortened as they now appear when viewed from the opposite side of the river. Such a treatment with an embankment driveway along the water's edge would unite the present and the future buildings in one architectural composition with the river as the common plane. Mr. Cauchon explained how this was particularly desirable from the fact that the new buildings would be on a bench some 40 or 50 feet lower than the present buildings, and unless united to the former in a comprehensive composition would always appear as a disjointed grouping.

Mr. Cauchon said that the architects in all parts of the Dominion should take an even greater interest than heretofore in the Federal Government buildings. He urged that they express their views freely. in order that the public may become enlightened and co-operate with them in raising the artistic standard of our public buildings and make them representative of Canada's great growth. He strongly urged that the design of all great public buildings should be on a competitive basis, giving the public a chance to get the best and the architects an opportunity to produce structures of artistic and practical merit. It is only in the case of public buildings that there is an opportunity of designing idealistic work. With strong, wholesome criticism from the profession and united action on the part of all deeply interested, the development of Ottawa will be along wholesome and practical lines.





OTTAWA HUNT CLUB, OTTAWA, ONTARIO.

WEEKS & KEEFER, ARCHITECTS.

Two Club Buildings, Ottawa, Ont.

ANADA'S WEALTH in natural sports has necessitated the construction of club buildings throughout the various provinces. The rapid growth in the cities has increased the number of such organizations and enriched the landscape with artistic and homelike buildings. Ottawa already possesses a number of attractive clubs, and is continually adding others, which are equipped in a thoroughly practical manner and whose architecture furnishes an expression of the spirit within. The examples illustrated here are representative of the vast improvement in this direction and augur well for the future position the Dominion may strive to hold in this phase of its life.

Hunt Club Building, Ottawa.—The building is located on a magnificent site on the Rideau River, about seven miles from Ottawa. The central fea-

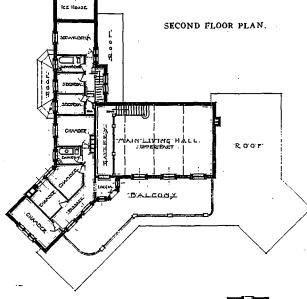
ture of the club house is the large assembly hall, two stories in height, with easy connection to diningroom and service portion. The plan is of a "Y" type, giving a maximum amount of light to all parts of the building. The sleeping rooms for members are located above the diningroom, kitchen, pantries and servants' quarters being located in the rear wing. By taking advantage of differences in grade the smoking-room is located below the assembly hall, the floor being at the level

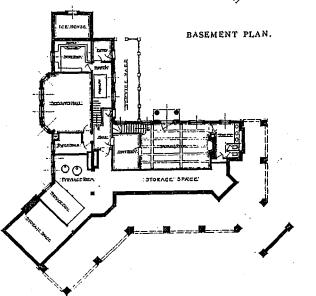
of the stable yard in the rear. The building is of frame construction, the exterior being finished with cement stucco on metal lath. The overhanging roof of the verandah and porte cochere gives a very pleasing effect of shade.

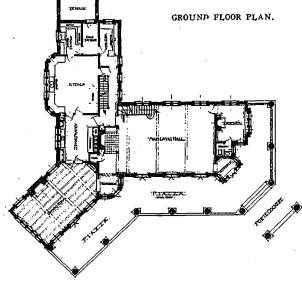
The Royal Ottawa Golf Club.—The Royal Ottawa Golf Club is situated on the Aylmer Road about four miles from the city of Ottawa. The site is a commanding one, overlooking the links, the River, and in the distance the Laurentian Hills. The building is built of rough red brick with wide white joint, above which the finish is gray stucco. The roof is shingle, which have been allowed to weather to a warm gray tone. A broad verandah encircles the front wing of the building, while a dining verandah has been provided at the rear. The interior on the main floor has been devoted to the various club

rooms and service, the upper floor being laid out for members' bedrooms and servants' quarters. Large fireplaces give a homelike appearance to the interior; the ceilings are beamed, and the walls panelled with open strap work. Large and numerous windows give an excellent view in all directions. The building is heated and extensively used in the winter as well as during the golf season.

A few club buildings recently erected in the States are shown in this number.

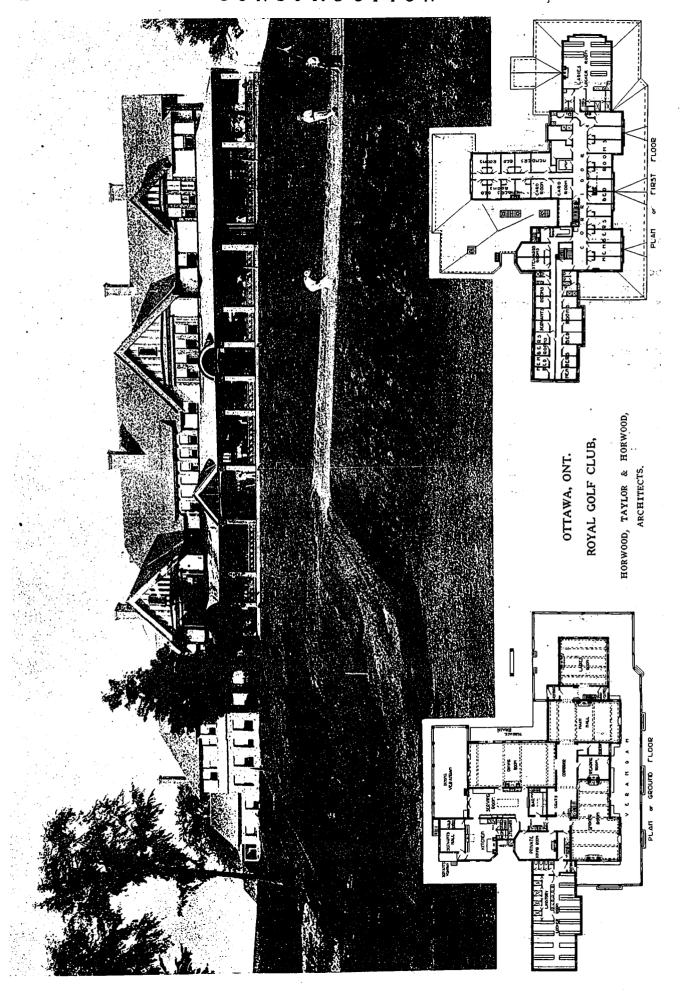


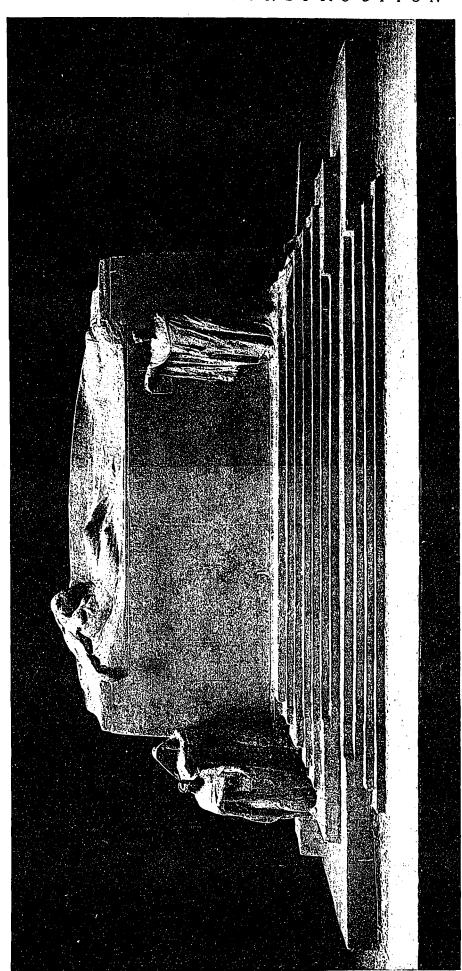




PLANS OF OTTAWA HUNT CLUB, OTTAWA, ONT.

WEEKS & KEEFER, ARCHITECTS.





٥.

MEMORIAL TO THE LATE KING EDWARD VII.

maker, the King standing in meditation, over him the spirit of Peace, an heroic figure carved in the stone, dreaming of the past, while the symbol of War (the cannon) lies half buried at her feet.

On the steps at the base of the wall stands the figure of Justice, erect, strong and reliant, ready to help and support Knowledge (which is Truth), in her task of civilizing and enlightening the world. On the wall are the words: "Through Truth and Justice he strove that War might cease and Peace descend o'er all the earth."

Mr. Allward conceived the idea of placing the King against a simple background of stone, so that the full expression of this figure might carry at a distance, at the same time affording an opportunity for a pose, kingly and thoughtful. The contour of the monument is such that it does not compete with the various towers and turrets, at the same time it is sufficiently high and broad to be a dignified and impressive mass placed above the level of the small details of the bridge, traffic, etc. The various parts unite to form one complete ensemble of harmony and dignity.

ns. S. Nicholson Babb, London, was awarded second enlightening ze.

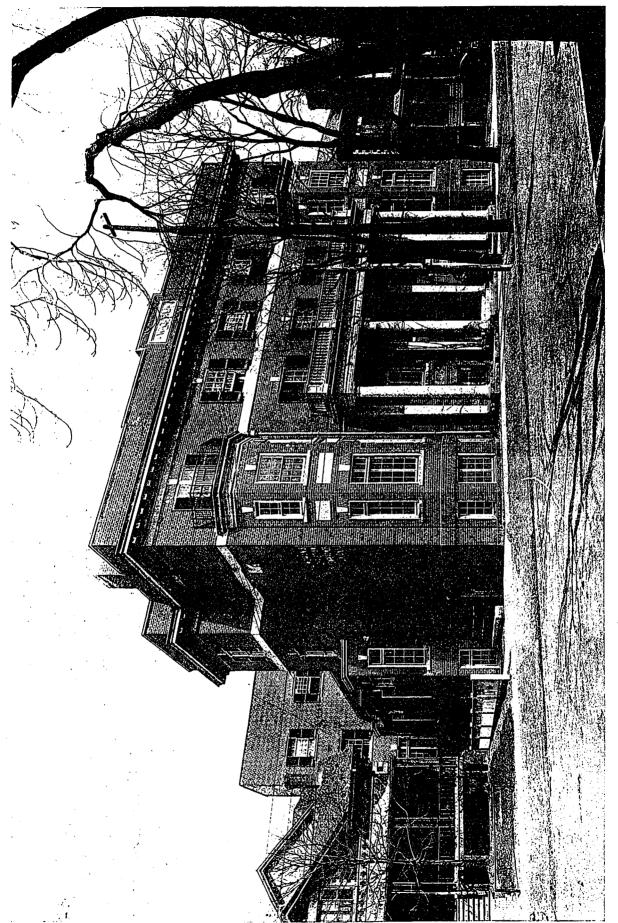
The motive of the design is that of the King as a Peace- and Peace d

figures ten feet high and the reclining figure fifteen feet in length. Walter Allward, of Toronto, won the competition

over some forty contestants, of which only five were Cana-

Government as a fitting memorial to the late King Edward VII. The site for the monument is on the slope of Parliament Hill, Ottawa, and will be fifty-five feet long, the lower

The above design has been accepted by the Federal



WOMAN'S CHRISTIAN TEMPERANCE UNION BUILDING, TORONTO, ONT. BURKE, HORWOOD & WHITE, ARCHITECTS.

W. C. T. U. Building, Toronto, Ont.

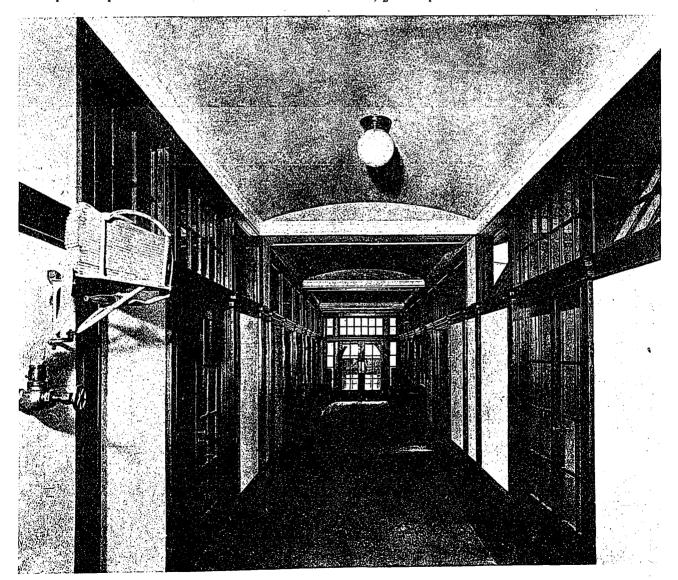
BURKE, HORWOOD & WHITE, Architects

THE ONE prevailing idea in planning this Woman's Christian Temperance Union was to furnish a thoroughly up-to-date home for girls. Lodging benefits, educational facilities and physical culture, all enter into one comprehensive scheme. The character of the work accomplished by this organization and the vast need for revenue necessitates a building that is inexpensive and at the same time practical and wholesomely designed. This has been accomplished in a large degree by making the motive a Georgian treatment depending upon the simplicity of line and color for the general effect—a worthy example to emulate.

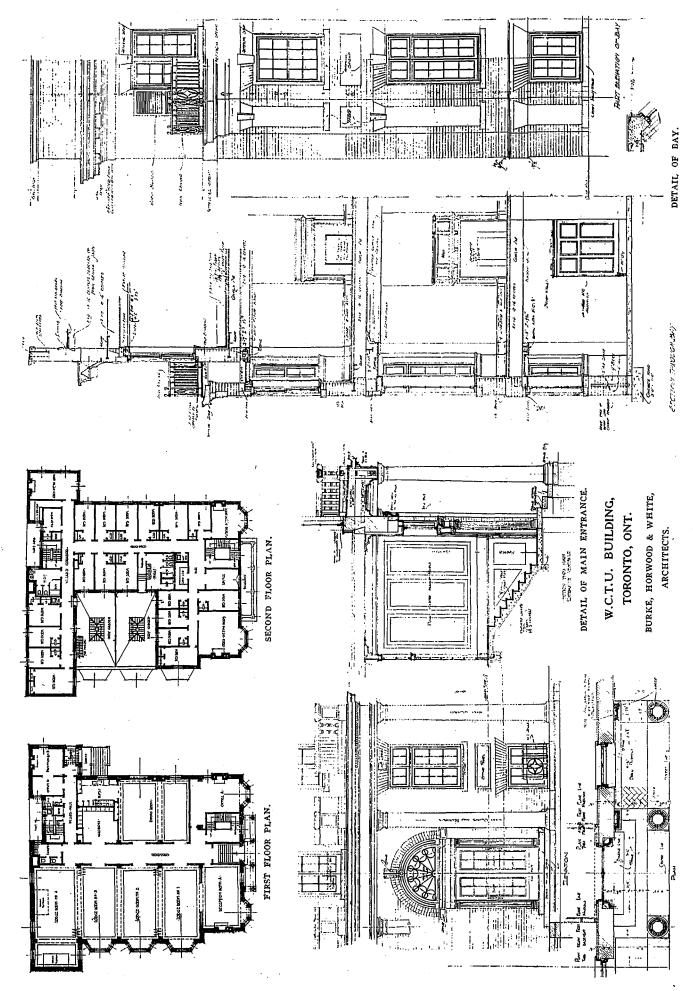
The interior is of deep red brick laid in English bond with large white mortar joints. The entrance portico of wood is painted white and opens into a vestibule of marble steps and wainscot, and walls of tinted paneled plaster. Upon the interior the basement walls are of brick with all woodwork in Georgia pine. Aside from the heating arrangements, this floor provides for the large gymnasium, shower baths and locker rooms.

On the main floor the corridor and dining-room are finished in oak, the lodge rooms in ash, and the reception room in mahoganized birch. The walls are finished in plaster possessing a champagne tint. Living quarters occupy the second and third floors with sitting rooms arranged for in the second story only.

To the left of the entrance vestibule is the reception room, the administrative department directly opposite. One of the important features of the building is the large assembly hall, which can be divided into small lodge rooms by means of accordion doors. The cost of the completed structure was 16½ cents per cubic foot.



MAIN CORRIDOR.





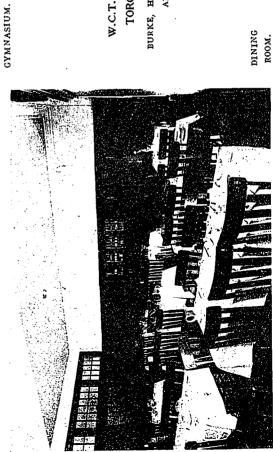


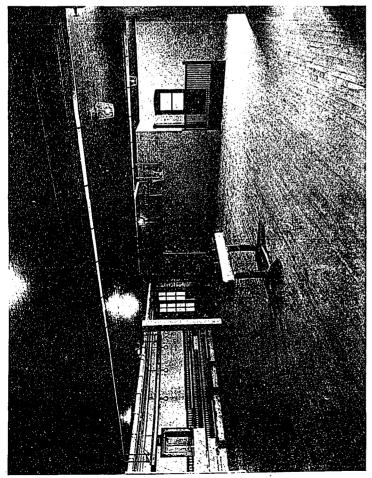
LODGE ROOM.

BURKE, HORWOOD & WHITE, W.C.T.U. BUILDING, TORONTO, ONT.

ARCHITECTS.

RECEPTION ROOM.





DINING ROOM.

ment of brick and limestone, with a granite base. The comfort of the passengers has been considered from every point of view, and when completed, it

will be one of the most up-to-date terminals in the

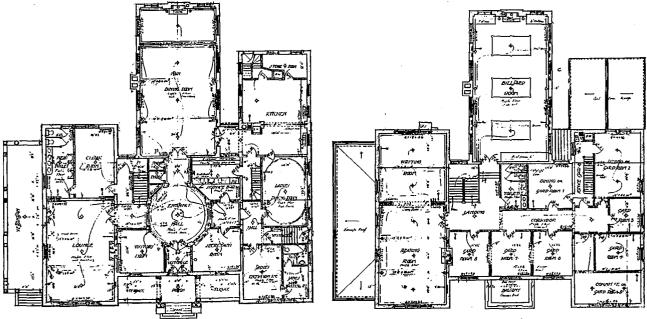
world.

with the ever increasing traffic as well as anticipating The company has already begun the erection of the additions to the Vancouver The Canadian Pacific Railway, in order to cope the future growth of the city, is erecting a new terminal at Vancouver.

Hotel, which are costing \$2,000,000, and the appropriation for the construction of the new station is The building will be erected adjoining the present site, extending some 400 feet on Cordova street. The design calls for a treatust short of \$1,250,000.

WEBSTER, ARCHITECTS. BAROTT, BLACKADER IJ Ū.IJ Ū ◇◇;◇ Ŋ Ŋ Ŋ C.P.R. STATION AT VANCOUVER, B.C.





GROUND FLOOR.

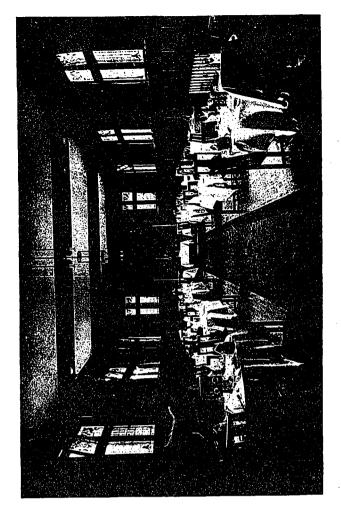
ASSINIBOIA CLUB, REGINA, SASK. STOREY & VAN EGMOND, ARCHITECTS.

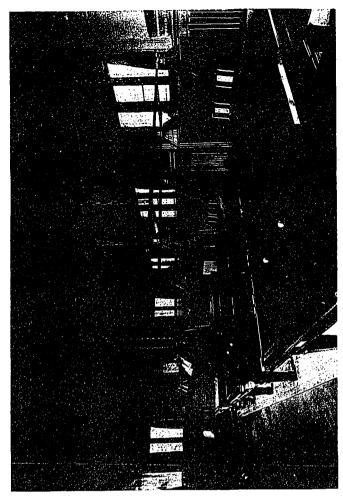
FIRST FLOOR.

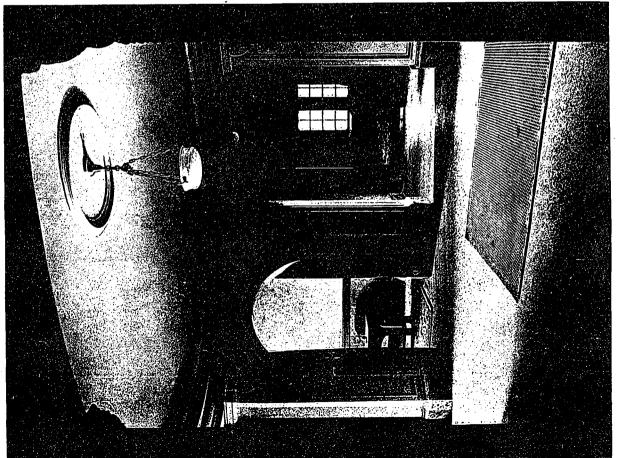
This club is recognized as one of the finest and best appointed clubs in Western Canada. The central feature of the ground floor plan is a circular rotunda giving access to the large lounge room, visitors' room, dining room, secretary's office, and ladies' department. The top floor is devoted to guests' bedrooms and the basement to help, stores, etc.

A principal feature in planning is the ladies' department on the ground floor, consisting of reception room, returning room and dining room, with separate ladies' entrance. Upon the interior the decoration is carried out in decorative plaster work, fumed oak finish, mosaic flooring, marble work, parquet flooring.

This building was erected at a cost of \$65,000.00.

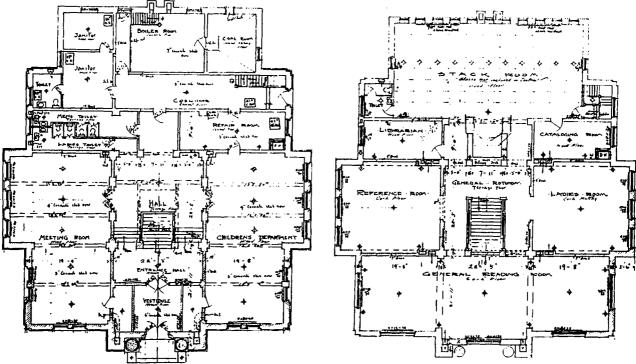






ROTUNDA, DINING ROOM AND BILLIARD HALL, ASSINIBOIA CLUB, RECINA, SASK. STOREY & VAN EGMOND, ARCHITECTS.



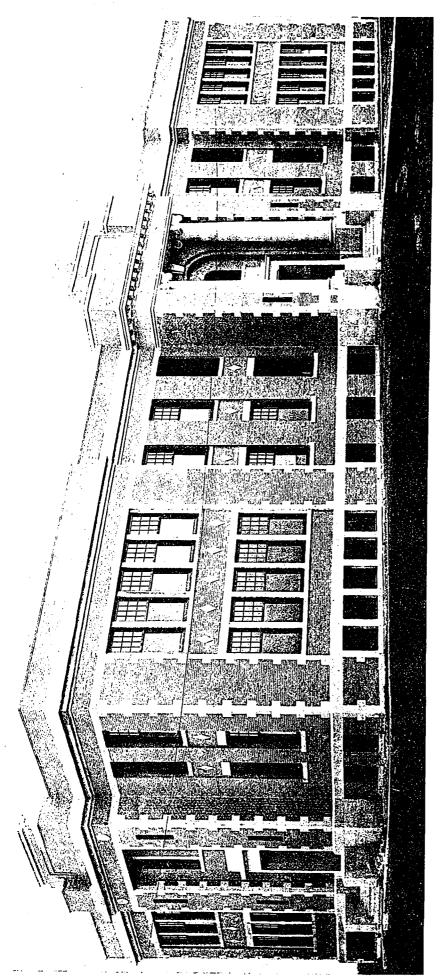


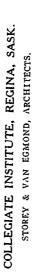
GROUND FLOOR PLAN.

PUBLIC LIBRARY, REGINA, SASK. STOREY & VAN EGMOND, ARCHITECTS.

MAIN FLOOR PLAN.

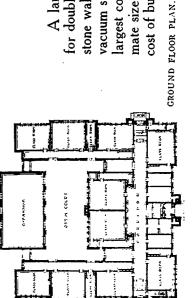
The exterior of the library is in stone and buff brick. The building is entirely fireproof with reinforced concrete construction; floors of cork and tile mosaic; stairway of marble. The central rotunda has a domed ceiling with skylight above, accessible to general delivery room, ladies' reading room, librarian, reference room, and general reading room. A heating plant is provided for in sub-basement at rear in addition to a vacuum steam heating system. The stack room is arranged so that a mezzanine floor can be added to double the capacity. The library, which is specially noted for its practical arrangement, cost \$50,000.00, and exemplifies the general progressive spirit of the Western cities.





A large addition to this building is now under construction, with a plan for doubling the present capacity. The structure is fireproof with brick and stone walls and reinforced concrete floor construction; iron and slate stairs; vacuum steam heating; and exceptionally large gymnasium. This will be the largest collegiate institute in the Province of Saskatchewan, with an approximate size of 175 by 160 feet, two stories and basement in height. The total cost of building will be \$200,000.

FIRST FLOOR PLAN.



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 VANCOUVER—334 Granville Street CHICAGO—Advertising 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 first 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. 6 Toronto, May, 1913

No. 5

CURRENT TOPICS

HUBERT SAVAGE, A.R.I.B.A., has opened up an office for the practice of architecture in the Haynes Block, Fort street, Victoria, B.C.

ON THE TOP floor of the new head office building of the Bank of Toronto, King and Bay streets, Toronto, is now located the new quarters of Messrs. Carrère, Hastings and Eustace G. Bird, architects.

THE NEXT convention of the American Society of Municipal Improvements will meet at Wilmington, Del., Oct. 7-10, 1913. The committee on fire prevention consists of Alcide Chaussé, chairman, of Montreal; Norman S. Sprague, of Pittsburg, Pa., and L. C. Willis, of Dallas, Texas.

THE SCHOOL BOARD at Victoria, B.C. has decided to call for competitive designs among the architects in reference to new buildings. This plan is to be in force after the present schools under construction by the board architect, C. E. Watkins, have been completed.

THE BUILDERS' EXCHANGE of Regina, Sask., has elected the following officers for the ensuing year: J. M. Taylor, president; D. Smith, vice-president; William Whiteford, secretary; H. Potts, George Minkley, A. Young, and W. A. Wilson, executive committee.

CORRECTION.—The plans on pages 154 and 155 of the April issue of "Construction," pertaining to the competition for the Winnipeg City Hall, belong to the perspective on page 157, and were part of the design submitted by Hugh G. Jones, architect. The plans on pages 156 and 157 should have been placed with the perspective on page 155 and credited to Brown & Vallance, architects.

THE FOLLOWING notice from Medicine Hat shows the rapid growth in some of our Western cities: The curling rink is being fixed up for sleeping quarters and the City Council will approach the Canadian Pacific Railway in regard to a supply of boarding cars to help meet the house shortage. The curlers abandoned curling for the balance of the winter in order to let the city have the rink.

CECIL S. BURGESS, A.R.I.B.A., formerly of McGill University, has accepted the position of superintendent of architecture for the University of Alberta, which is establishing a department of architecture. Work on the new buildings will begin in a short time, the site of which comprises 258 acres on the south shore of the Saskatchewan River. Mr. Burgess, before going to Montreal, was a practitioner in Edinburgh, London and Liverpool. He is a native of Scotland and a member of the Quebec Association of Architects.

THE VANCOUVER Chapter of the British Columbia Society of Architects will hold an exhibition, beginning on the evening of June 18, and continuing for a period of two weeks. The exhibition will consist of a selection of the best architects' work, executed and contemplated, in that section. In addition to the work of the local architects, the Architects' Chapter has arranged for a complete exhibition of the photographs of the buildings of the World's Fair now in the course of construction in San Francisco. The general committee in charge consists of Messrs. J. R. Putnam, W. T. Whiteway, T. Hooper, A. A. Cox, W. S. Painter.

WILLIAM PEARSON, president of the Winnipeg Housing and Town Planning Association, at a recent meeting of the Industrial Bureau of that city, announced that it was the intention of the association, if possible, to raise a million dollars which would be devoted entirely to housing, the work embracing the construction of a sufficient number of homes to take care of the ever-increasing population of Winnipeg. Numerous reforms that will tend to beautify the city, if carried out, were proposed.

In addressing the meeting, Mr. Pearson said:

"The city expresses the ideals and spirit of its people, and the citizens to a large extent are moulded by the physical characteristics of the city, that is by its building and general layout and the amount of attention it devotes to parks, play grounds, and public institutions of various kinds.'

The Industrial Bureau has done magnificent work in the way of bringing industries to the city, and the association's duties are supplementary to the work of the Industrial Bureau in dealing with what he might describe as environmental conditions. He thought each one should cooperate for the beautifying of their surroundings and the health of the city and its home, thus working for a well planned city.

THE FOLLOWING notice, issued by Alcide Chaussé, Hon. Sec., will be of interest to the old and new members of the R.A.I.C.: charter of the R.A.I.C., adopted by Parliament on the 1st April, 1912, provided for the federation of the provincial associations of architects throughout Canada, recognized by the Royal Institute, and as such federation was effected at the fifth general annual assembly of the R.A.I.C., held at Ottawa, on the 7th October, 1912, all members in good standing of the five federated provincial associations are now members of the R.A.I.C. without paying any entrance fee or annual subscription. The old members of the R.A.I.C. in good standing and not members of any of the five federated provincial associations, remain members of the R.A.I.C., but they will continue to pay their annual subscription to the R.A.I.C. until such time they have joined one of the five federated provincial associations. members of the R.A.I.C. who are also members of any one of the five federated provincial associations will not have to pay any more annual subscriptions to the R.A.I.C. after the date of federation. by-laws of the R.A.I.C. will be revised and amended to conform to the conditions created by the new charter, at the sixth general annual assembly of the Institute, which will be held at Calgary, Alberta, in September, 1913.

THE FOLLOWING JUDGMENT, handed down recently by Mr. Justice Lennox, of the High Court, in the action taken by Denison & Stephenson architects, vs. E. W. Gillett Co., Ltd., may prove of value to our readers. The case deals with the employment of a clerk of works and is clearly outlined in the judgment itself:

'Counsel for the defendants argued that this action should be decided upon the question of credibility. Determined by this standard, my judgment is unhesitatingly in favor of the plaintiffs. Even leaving out the important factor of probability—taking the naked testimony and the manner of giving it alone—I am convinced that Mr. Dobie instructed the plaintiff Denison to engage a clerk of works for the defendant company and agreed that the company should bear the expense. The evidence of the other plaintiff, uncontradicted, while he does not go to the length of saying that Dobie gave instructions at that time shows that he was interested in the wages to be paid and is strongly corroborative of Mr. Denison's evidence. I am satisfied, too, that whether from the discussion on the 15th of June, 1911, when the plaintiffs were retained or the terms of Exhibit 20, clause (c), Mr. Dobie realized all along that it was for the company to decide whether there would be a clerk of works, and if employed, em-

ployed at the company's costs.

'The probabilities, however, are peculiarly cogent in this case. The defendant company had engaged a Chicago architect, Mr. Beman, and were to pay him 5 per cent. commission and his travelling expenses. The oftener Mr. Beman came to inspect the greater the cost. He was not to provide a clerk of works. Both Beman and defendants found that it would be better to have an associate architect in touch with local conditions, and necessary as a matter of law, and consequently, as defendants allege, an arrangement was come to between Beman and the plaintiffs to which the defendants were not parties, that the plaintiffs would perform for Beman the professional work which had to be done in Toronto, on a division of fees. It was no part of Beman's contract to engage or pay for a local superintendent or clerk of works—this is shown by clause (c) of exhibit 20, and is sworn to, and it might have been done with a good deal better grace by Mr. Beman. How, then, could Mr. Dobie imagine that the plaintiffs were to undertake this charge? As it was they visited the works at least 100 times, and presumably relieved the defendants from paying the travelling expenses of Mr. Beman for as many trips from Chicago. Probabilities? Even if Mr. Dobies' manner of giving evidence had been more satisfactory than it was I would find it difficult to believe that for weeks before there was any work to oversee he and Mr. Craig were time and again enquiring about a clerk of works, anxiously and repeatedly asking who was to pay for him and always answered in the same way, "we pay," and the more so as at the time it is sworn that the plaintiffs were bound to keep a man constantly there.

'There will be judgment for the plaintiffs for \$1,100, with interest from the 22nd of November. 1912, and the costs of this action.'

Fire Resisting Value of Plastered Partitions

THE FOLLOWING is a brief summary of tests recently held in Cleveland, Chio, to show the relative fire resisting value of various typical plastered partitions. The work was under the supervision of V. D. Allen, building inspector, who appointed for the board of examination and report, L. H. Miller of the Bethlehem Steel Co.; Professor J. H. Nelson, Case School of Applied Science, and W. S. Lougee, architect. Figure 1 gives a general view of the testing furnace, while 2 and 3 show the plan and vertical cross-section.

The panel to be tested formed the outer wall of the furnace, being built into a frame made from

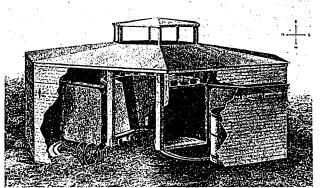
nine-inch channels, lined with brick; the whole being hinged on the one edge and supported on a wheel rolling on a curved steel track at the other, forming a door which could be readily opened by means of a block and tackle without injury to the specimen. Heat was thus applied to the partition on one side only, and was

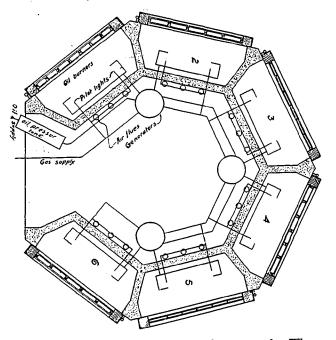
test the partition is subject to a stream of water from a 1½ in. nozzle under 30 pounds pressure for two-and a half minutes. The only variation from the rule worth noting is that the temperature at the end of the test averaged 1,900° F., providing the specimen was still in existence.

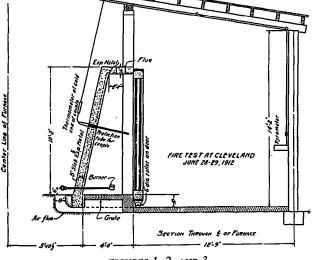
The description of the tests in this synopsis is given in the order of their merit. It should be stated, however, that the opinion of relative value is but a personal one. The full report, printed in booklet form, gives all the facts, enabling one to confirm or dispute the judgment here expressed.

Panel No. 3 was constructed with three-quarter

inch rolled channel studs, spaced twelve inches apart and lathed on one side with 24 gauge metal lath wired to studs. Plastered to a solid thickness of two inches with cement mortar mixed one to two and a half, containing one-tenth as much hydrated lime as cement and one pound of hair in the scratch coat to each bag of cement.







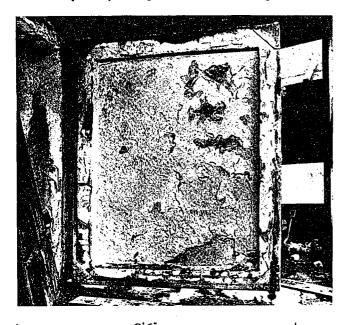
FIGURES 1, 2, AND 3.

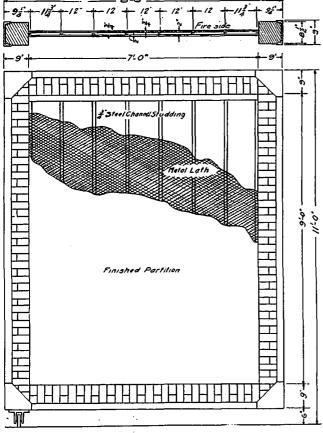
GENERAL VIEW, PLAN AND VERTICAL CROSS SECTION OF
FURNACE.

produced by a gas flame under perfect control. The furnace was provided with pyrometers and peepholes for examination of the heated side of the specimen during the test.

The method adopted is similar to that prescribed by the American Society of Testing Materials as a standard test for fireproof partition construction, which calls for a temperature raised to 1,700° F. during the first half hour and held at that temperature for one hour and a half. At the end of the heat This partition was not thoroughly dried out, and the explosion of confined steam threw off part of the outer plaster coat early in the test, but in spite of this, an almost perfect test resulted. After one hour the temperature of the outside of the wall was 280° F., while the temperature of the furnace was 1,840° F. The furnace temperature was finally forced to 1,929, the outside temperature not being taken, as the thermometers only registered 300° F. Owing to unequal expansion the panel deflected at the

centre $3\frac{1}{2}$ in. toward the fire; but only opened one crack on the inside in doing so. The application of the hose reduced this deflection to $2\frac{3}{4}$ in. The water when thrown against the red hot plaster caused a portion of the outer coat to chip off, but not of sufficient quantity to expose the lath. The panel was





PANEL NO. 3.

left apparently in good enough condition to go through the same test a second time.

Panel No. 5 contained two and one-half inch 18 gauge sheet metal studs, spaced twelve inches apart and lathed on both sides with 24 gauge metal lath

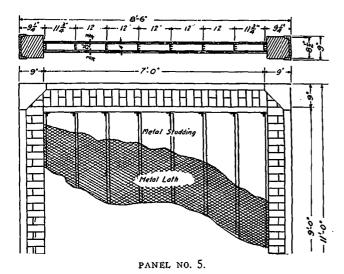
wired to the studs. Three coats of cement plaster formed a finish on each side of the partition.

The behaviour of this panel during the test was very similar to the solid metal lath and stud panel. It showed no less heat conductivity than the solid panel, and deflected somewhat more. The water test washed the plaster out sufficiently to expose the lath over a limited area near the hottest part of the flame. This exposure of the lath was the only phase in which the test was less satisfactory than that of the solid partitions. The highest pyrometer reading in the test was 1,976° F.—nearly 300 degrees above the specifications for a standard test. As the plaster did not disintegrate badly in the immediate vicinity of the pyrometer, it was evident that the fire where the plaster did disintegrate was much hotter than the instrument indicated.

Panel No. 4 was built according to the standard specification of the Associated Metal Lath Manufacturers for cement stucco outside walls. The outside of the wall, which was the side toward the fire in the test, consisted of 24 gauge metal lath attached to wood studs spaced twelve inches on centres. As herringbone lath was not used in these tests, it was necessary to place quarter-inch round rods between the lath and the stud in order to get key at the studs. The outer wall was plastered with three heavy coats of lime and cement mortar, the last coat being applied between the studs to the clinch of the first coat and the three totalling one and one-half inches in thickness. The inside of the wall had metal lath applied directly to the studs and plastered three coats of cement plaster.

After this test had run about forty-five minutes the gas generator broke, and the test was consequently discontinued until the next day. It was then completed with a due allowance for additional time necessary to heat the furnace. The maximum heat attained inside the furnace was 1,943° F., at which time the average temperature on the opposite side of the partition was about 300°.

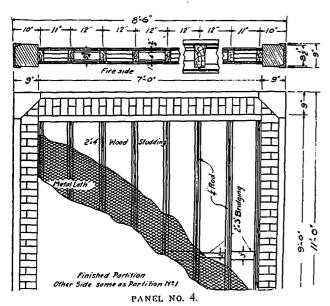
When it is considered that the temperature of a wood fire varies between 800° and 1,100° F., and that the partition was built with wood studs and tested at a temperature that varied from 1.100° to 1,943° for over an hour and three-quarters, the result of this test is astonishingly good. After the fire and before the water test the partition was apparently in very good condition, but the water test exposed the lath over a third of the wall area. The washing out of the plaster was far greater than in the case of the hollow metal lath and metal stud partition, and was probably due to the greater amount of lime used in the plaster. Removal of the lath to examine the studs showed that they charred away by distillation to a depth of perhaps half an inch from the red hot inner face, but were still in good enough condition to support a floor. This was doubtless due to the absence of an air current between the studs. key of the plaster on the outside of the wall was not injured.

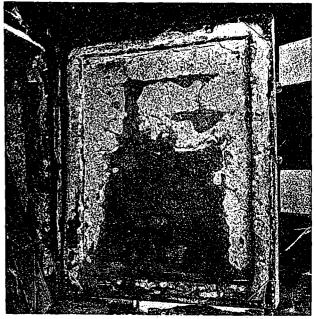


Panel No. 1 had 24 gauge metal lath on both sides of wood studs spaced twelve inches apart, and plastered with three coats of cement plaster.

In general this panel was tested similarly to the cement stucco panel, although the result was not as The cracks which opened during the test became large enough to admit air to the studs so that later on the combustion of the studs themselves occurred, instead of combustion of the gases distilled from the studs as they reached the open air through the cracks. As the decrease in the amount of these escaping gases was first noted one hour and thirtyeight minutes after the start of the test, it is probable that this was approximately the time at which the stud took fire. The application of the water only exposed the lath over a small area. The partition after both the fire and water test was still an efficient fire stop, although during the last half hour of the test it was not in condition to support a floor.

This test is of particular interest to school and apartment house architects, as metal lath is commonly used in these buildings as a fire retardant. A partition which will hold the floods during a severe fire lasting an hour and a half and will act as a fire



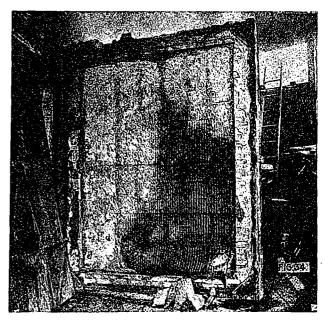


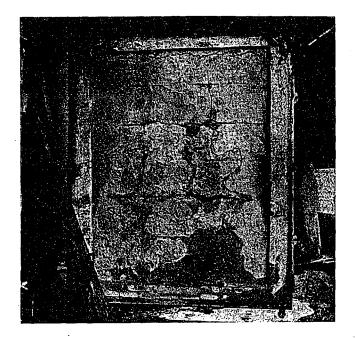
stop for more than two hours is sufficiently fireproof to eliminate danger to life in all cases, and to save property in most cases.

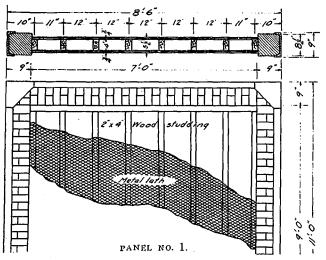
Panel No. 2, of wood lath on wood studs, and the one following, were not tested with the idea that they were fireproof, but in order to get a comparison between the semi-fireproof construction made with metal lath and wood studs and the ordinary type of combustible construction.

The construction consisted of wood stude spaced 16 inches apart, lathed with wood lath and plastered two coats, the first coat of hard wall and the second a sand-lime finished with grounds 3/4 in. thick.

Observations on this construction were not as satisfactory in determining facts as on the panels previously discussed. In the cases of the fireproof panels an observer could state with certainty that had the fire been stopped at any time during the test the panel would not have further depreciated. In the case of the partition formed with metal lath on wood studs,







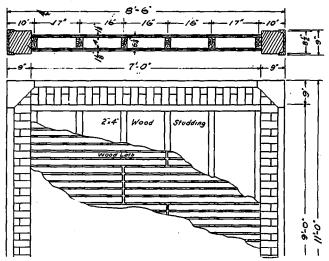
observations on the discharge of gases resulting from wood distillation showed that the studs did not take fire until the test had been on for about an hour and forty minutes. It is probable that the injury to the partition, would have stopped with the turning off of the flame, had the test been stopped previous to that time.

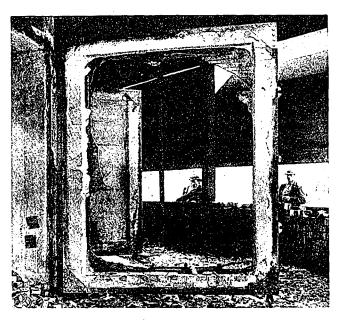
In the case of the panel of wood lath and wood studs, it is hard to determine just when the stopping of the test would have prevented the total destruction of the panel. Fifty-two minutes after the test started part of the plaster dropped off the inside of the panel because the wood lath supporting it had totally burned away at that point. It is therefore probable that the partition was doomed on account of combustion of the framing starting about thirty minutes after the test started. The destruction of wood framing was practically complete an hour and twenty minutes after the test started, yet the outer coat of plaster stood, with the exception of the formation of one hole, throughout the balance of the test. The opening of the door caused the complete collapse of the plaster.

Panel No. 6 was exactly like the one constructed of wood lath and studding, except that plaster board was substituted for wood lath.

This partition was under test when the failure of the gas supply occurred as described in the discussion of the test of the cement stucco panel. The test had been on for twenty-four minutes, and fortunately the destruction of the panel through internal combustion had not started, so the test could be completed next day.

After twenty-nine minutes of test—with allowance for the interval—the plaster board burned off the fire side, showing the wood structure of the panel on fire. This is a poorer showing than that made by wood lath where the same incident occurred after fifty-two minutes. The first hole in the outside of the partition occurred at fifty-eight minutes, as contrasted with one hour and twenty-nine minutes for wood lath. The test was stopped at one hour when only half through, and as in the case of the wood lath and stud test, the partition collapsed when the door was opened.

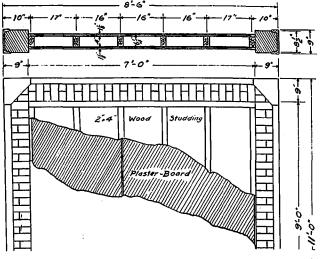


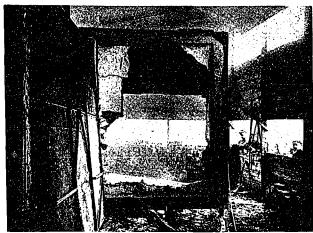


PANEL NO. 2.

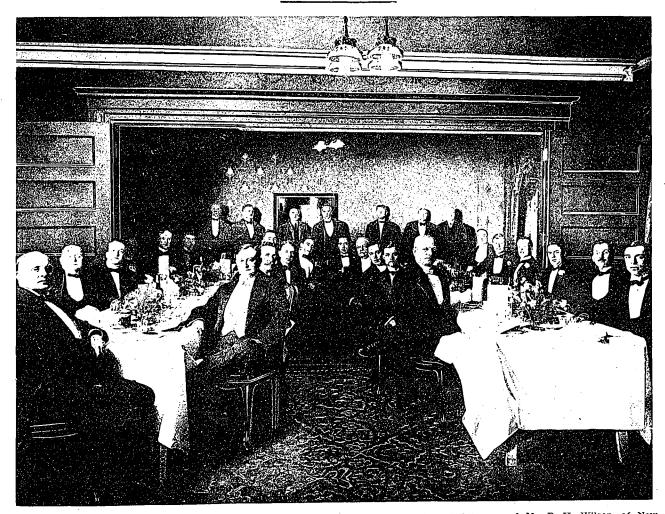
The complete failure of plaster board in this test seemed to be due to the fact that there was no direct bond between the plaster on the wall and the plaster

in the board, except through the intervening paper When, therefore, the temperature of the wall became high enough to char this felt the separation of the plaster from the wall was complete.



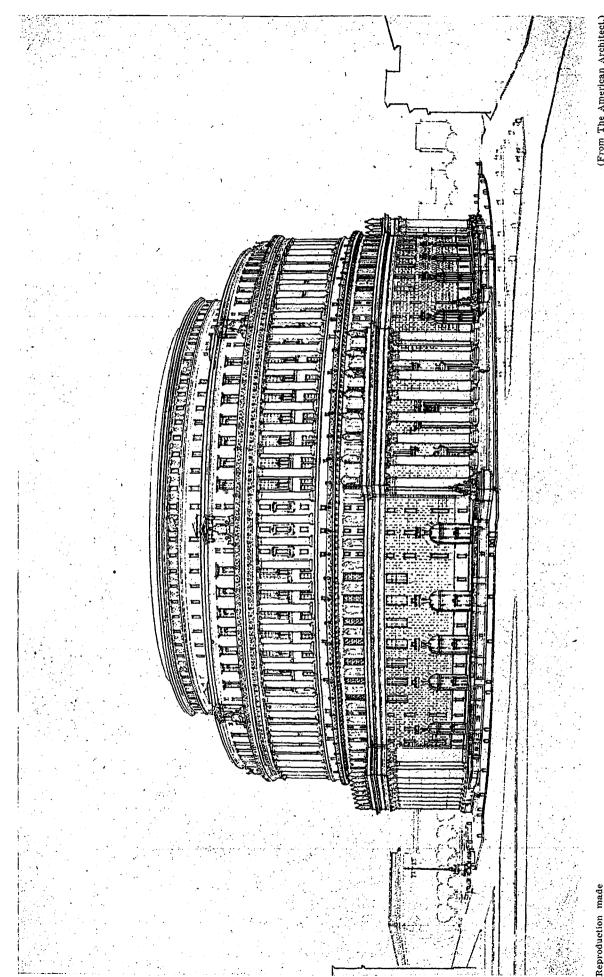


PANEL NO. 6.



All parts of Canada were represented at the third annual banquet of the Sales Department of the Canada Cement Company Limited, held at the St. Regis Hotel, Montreal, on April 12th. In addition to the felicitations common to such occasions, the remarks of F. P. Jones, general manager, concerned a subject of interest to the public, as well as to the members of the Company When the Company was organized four years ago, one of its first corporate ambitions was to reduce the cost of cement to the consumer, without sacrificing a high standard of quality. The fact that this ambition has been realized, to the point where the price of the company's product is lower than cement was ever before sold for in Canada, was brought out at the banquet, to the thorough satisfaction of those present. The rapidly growing demand for cement, and various improvements in the company's facilities for supplying it, were also touched upon. Mr. Jones presided, as toastmaster. Senator W. C. Edwards, of Ottawa;

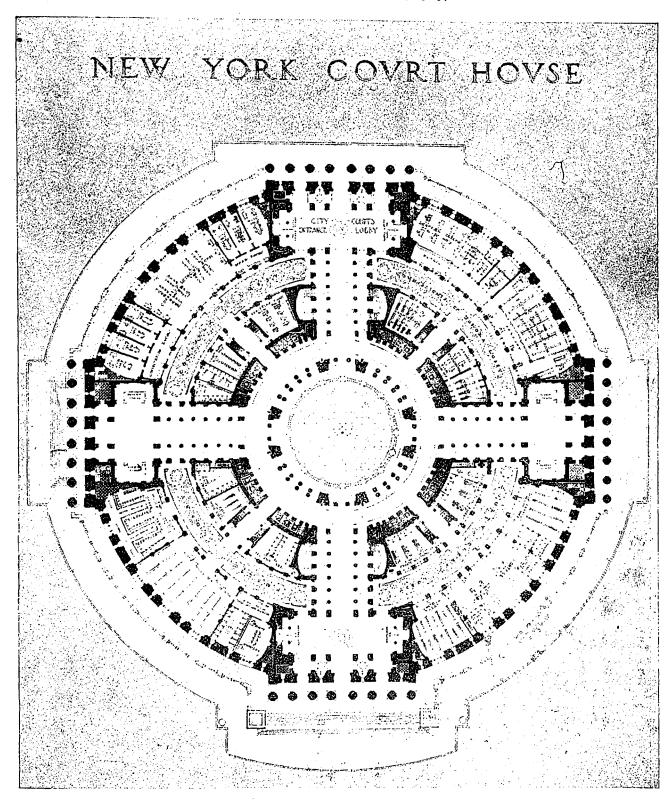
Hon. D. Murphy, of Ottawa, and Mr. P. H. Wilson, of New York, were present as the company's guests. Members of the sales department were present as follows: Montreal, W. H. Ford, general sales manager; J. A. Lapres, assistant sales manager; G. Charette, L. A. Charpentier, C. C. Laplerre, A. H. McGuire, W. T. Newmarch, W. A. Toohey, salesmen; Toronto-J. D. Johnson, sales manager; E. W. Coles, G. G. Dunlop, F. A. Robertson, L. J. Wookey, P. A. M. Wright, salesmen. Winnipeg—W. P. S. Johnson, sales manager; H. F. Beresford and S. W. Beresford, salesmen. Calgary—Geo. N. Gorman, sales manager; J. L. R. Gorman, John Bovard, salesmen; W. O. Bovard, special travelling representative. Heads of other departments were present as follows: A. C. Tagge, general superintendent; L. S. Bruner, manager of publicity; H. S. Van Scoyoc, inspecting engineer; J. A. V. Dube, traffic manager; J. V. L. Rianhart, purchasing agent.



PERSPECTIVE VIEW -FIRST PRIZE DESIGN.

COMPETITION FOR NEW YORK COUNTY COURT HOUSE.

,

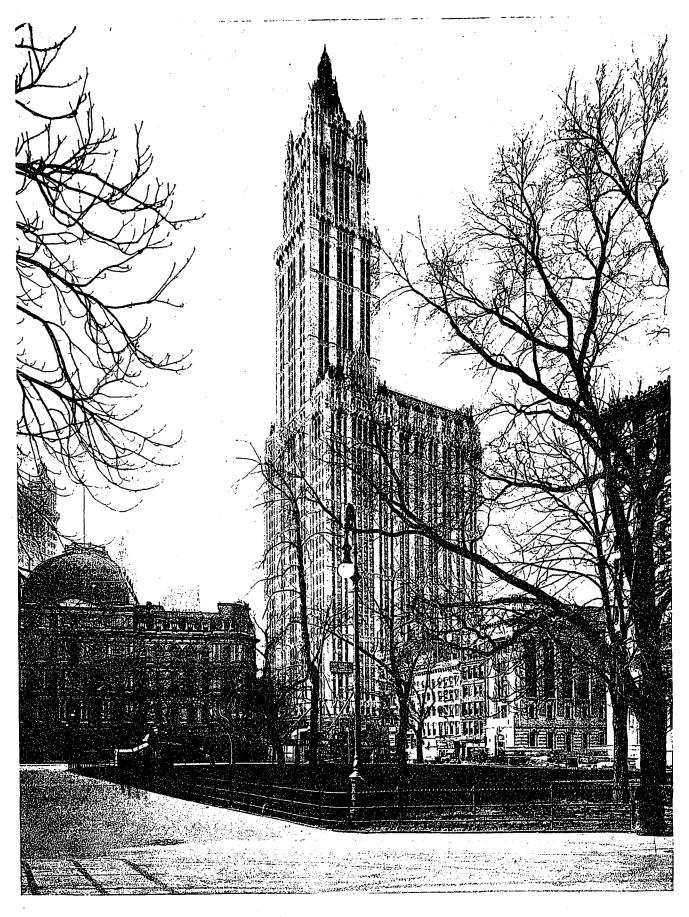


GROUND FLOOR PLAN.

COMPETITION FOR NEW YORK COUNTY COURT HOUSE.

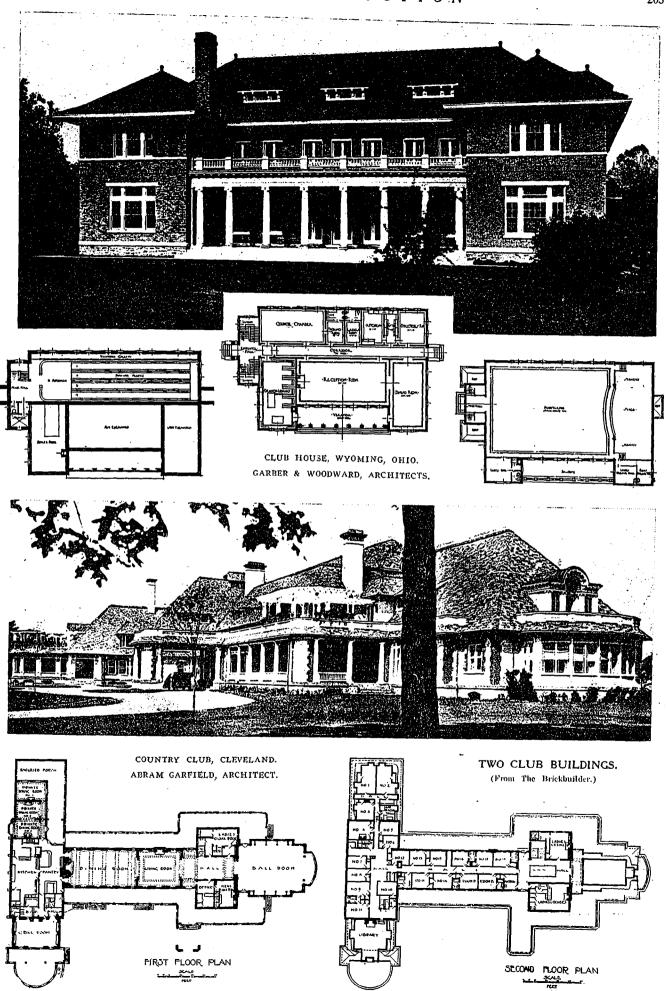
FIRST PRIZE DESIGN-GUY LOWELL, ARCHITECT.

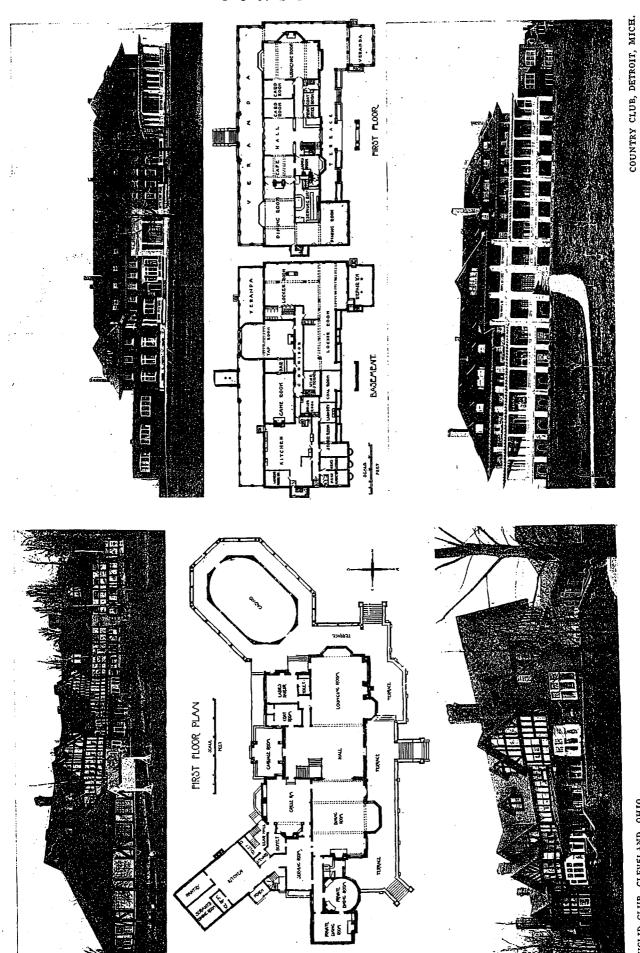
Mr. Lowell's accepted plan for the New York Court House has been universally approved on account of the facility with which all the work can be carried on. The building is accessible from all directions with spacious corridors leading to the central lobby around which are arranged the elevators. One entire floor accommodates the city court, four floors the supreme court, and another floor the library and dining rooms. The building will cover approximately 120,000 square feet of ground.



WOOLWORTH BUILDING, NEW YORK CITY, N.Y.

CASS GILBERT, ARCHITECT.



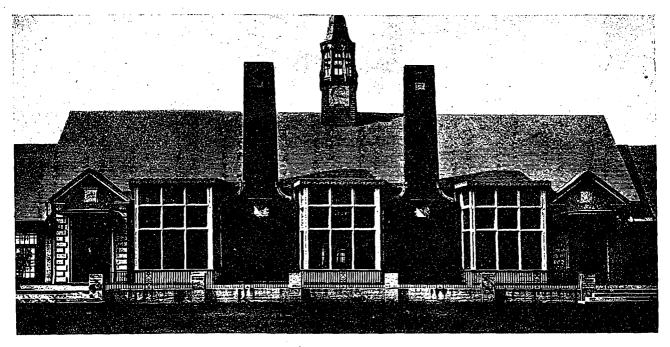


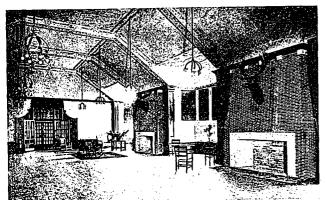
EUCLID CLUB, CLEVELAND, OHIO. MEADE & GARFIELD, ARCHITECTS.

TWO CLUB BUILDINGS.

ALBERT KAHN, ARCHITECT.

(From The Brickbuilder.)



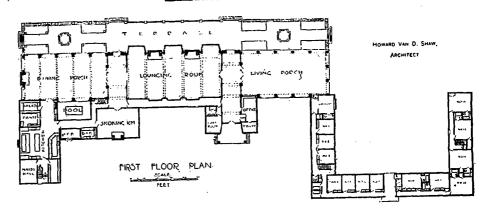


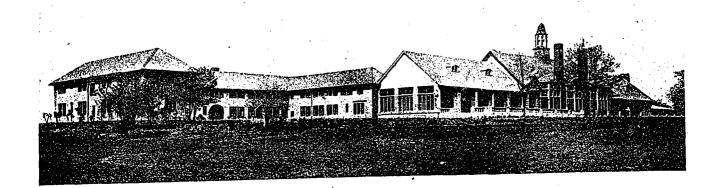


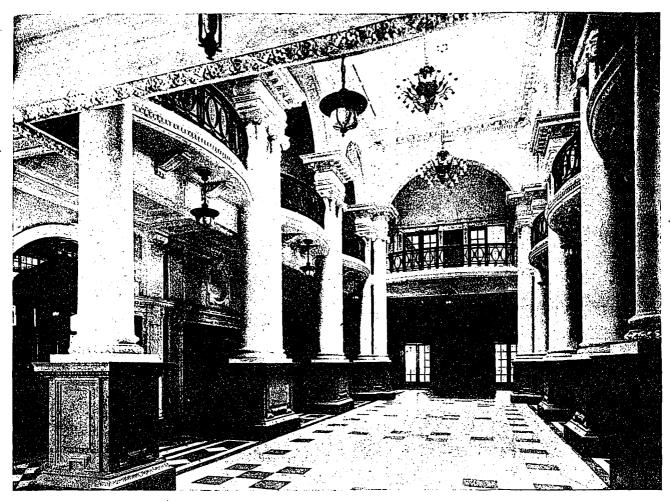
HOMEWOOD COUNTRY CLUB, FLOSSMOOR, ILL.

HOWARD VAN B. SHAW, ARCHITECT.

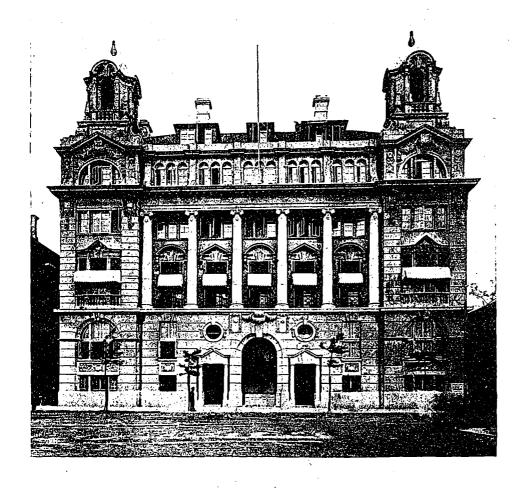
(From The Brickbuilder.)





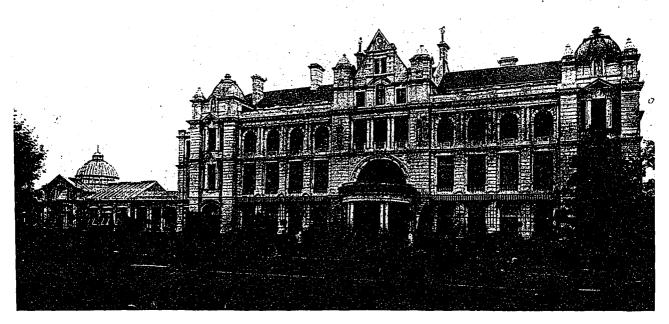


ROTUNDA.



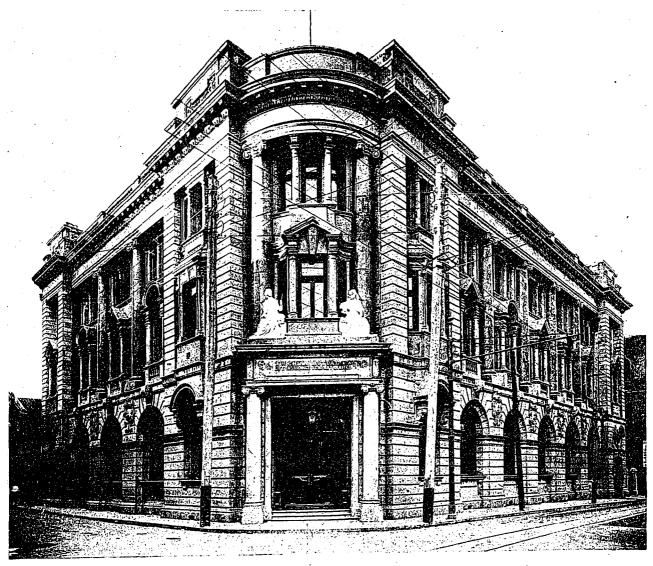
TWO VIEWS OF THE BRITISH CLUB, SHANGHAI, CHINA.

This building, constructed of stone and marble, accommodates a membership of two thousand. The total cost was \$250,000.



HOUSE AT SHANGHAI, CHINA.

BUILT OF WHITE STONE WITH DECORATIONS IN GOLD LEAF.



CHINA MUTUAL LIFE INSURANCE COMPANY, SHANGHAI, CHINA.

ONE OF THE LATEST additions to the pamphlet advertising world is the little 16-page booklet "Beautiful Floors," issued by the Dougall Varnish Company, of Montreal. It is descriptive, as are all such pieces of literature, and attractively arranged. The booklet is published by the Murphy Varnish Company of the United States, Canadian agents for whom are the Dougall Varnish Co. of Montreal. "Health and beauty," "Natural wood floors and varnishes," "Transparent floor varnishes," "A varnish that has wearing power," "How you can tell whether it is fine varnish," "Davy Crockett's advice—don't," "For a new floor of close-grain wood," and other topics of very timely interest in this season of general clean-up, are published in "Beautiful Floors." This booklet may be secured from the Dougall Varnish Co.

THE FOUNDATION for the High School and Administration Building, Montreal (E. & W. Maxwell, architects) is being waterproofed on the inside by the "integral method," the waterproofing compound being Hydratite. This work is being executed under the inspection and direction of the Industrial Foundation and Waterproofing Co., of Toronto, the material being furnished by Pinchin, Johnson & Co., Ltd. Undoubtedly this is one of the largest jobs in Canada to be waterproofed under "the integral method" in the form of an interior application. Details of this work consist in applying a three-quarter inch coating on the inside of all walls below grade, in a one to two mixture of cement and sand, with the waterproofing compound being mixed therein, carried across all floors and then turned up three inches on the columns.

THE YALE & TOWNE Manufacturing Co. announce the removal of its general and executive offices from 9 Murray street to 9 East 40th street, New York city. The new quarters comprise a twelvestory building erected by the company for their exclusive use. The basement accommodates the salesroom and repair department; the ground floor provides ample room for the various exhibits; the twelfth floor takes care of the executive offices, while the remaining portion of the building is occupied by the managing staff and clerical force.

THE BEAVER CO., LTD., of the Canadian Beaver Companies, has already broken ground at Thorold, Ontario, for the erection of a large modern plant for the manufacture of "beaver board." Power from Niagara Falls will be used and a contract has just been closed for the first unit of 2,800 h.p., to be run continually night and day for thirty years. Later machinery will be installed which will require nearly 6,000 h.p. in addition to 500 h.p. which will be generated in the boilers for the treatment of fibre.

THE FIRM of J. & J. Taylor has just been awarded the contract to supply the steel vault doors and lining for the Bank of Montreal, to be erected in London, England. The work will be erected in the Toronto factory and put into place by the company. This is a worthy compliment to "Canadian made" goods and reflects credit upon the company which has been able to secure the contract over local competitors.

THE NAME of the Winnipeg branch of the "Pease" Foundry Co., Ltd., Toronto, has been changed to "Pease" Western Foundry, Ltd., and is located at same address, 287 Donald street, Winnipeg. This branch has all the territory west of Fort William to the Rockies, and is under the charge of Mr. J. M. Bell, who entered into this work at Winnipeg after many years as sales manager at the head office, Toronto.

AFTER THREE YEARS of constant study and application of the street paver problem, the Chain Belt Company, Milwaukee, Wis., now have ready for distribution the chain belt street paver. This paver is equipped with a boom 20 feet long and delivery bucket. Paving contractors have found this the most economical method of spreading concrete on streets, as it eliminates the use of wheelbarrows and carts. The concrete is discharged from the mixer into the delivery bucket, travelling on a single boom, which can be swung at an angle of 180 degrees, taking care of a street 50 feet wide. The boom bucket will hold a full batch of the mixed concrete and is provided with an automatic tripper, while the gates open up automatically at any place where it is desired to deposit the concrete. When the bucket returns to the mixer the gate closes automatically. The same man who operates mixer levers also controls the movement of the boom and bucket. In work where the road is less than 18 feet in width a gravity swivel chute may be substituted for the distributing boom.

MANUFACTURING HEADQUARTERS

FOR

Mathematical, Surveying and Scientific Instruments, Drawing Materials, Draughting and Blue Printing Equipment.

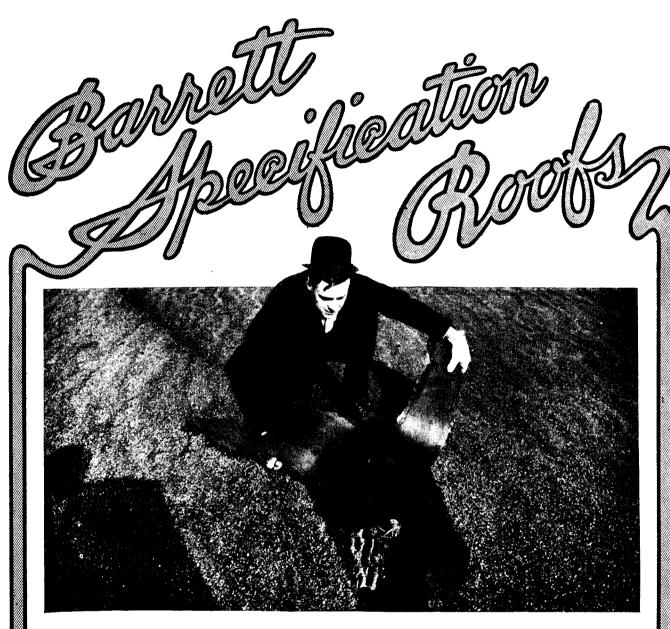
Blue Prints made from Tracings.

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

Manufactories:

European: Nuremberg. American: Chicago.

Canadian:
Toronto.



AFTER THE FIRE

Striking proof of the fire retardant qualities of a Barrett Specification type of roof appears almost every time there is a city or factory fire. The photograph herewith shows a typical instance.

This building was completely gutted by fire. The building is isolated so that the firemen could not get to work on the roof, and in consequence the roofing received practically no protection by water.

The roof, although it had acted as a blanket over the flames, showed only trifling damage at two or three small points where the support was completely destroyed. If it were not for the necessity of replacing the roof boards be-

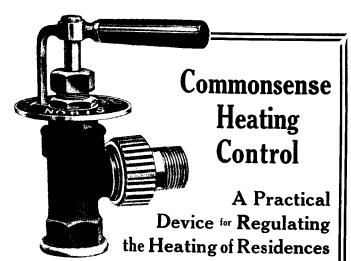
neath, which were badly burned from inside, the roof could have been put in first-class condition at very little cost.

There are thousands of instances like this, where Barrett Specification Roofs have withstood severe exposure to fire, and thousands of buildings are saved every year from exterior fire exposure by these fire retardant roofs.

The Barrett Specification will be sent free on request. Every architect and engineer and property owner should have a copy on file.

The Paterson Mfg. Co., Limited

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



Architects and householders who have experienced the discomforts of the usual factory-like installations for househeating which overheat the rooms, even when the radiators are shut off and where the heat of the latter cannot be regulated to the requirements of the room, should find out about this new valve.

about this new valve.

It permits you to regulate the heat to any desired degree, a simple turn of the handle, as when turning on gas or water gives you all the heat necessary, a boon to the average householder, especially the women, who chiefly suffer from poorly regulated heating.

Have us show you how it works. We suarantee our valves to work satisfactorily.

The Nobis Engineering Co. 329 West King St., Toronto.

of Reinforced Concrete

Steel Sash Hyrib Rib Bars Rih Metal



Concrete **Finishes**

Waterproofing Pastes.

Trussed Concrete Steel Co. of Canada, Limited

Head Offices and Works: Walkerville, Ont.

Branches Everywhere

Why Zig-Zag Heat Tubes-

A battery of heavy cast-iron heat tubes surround the fire

in a Kelsey Warm Air Generator

Fresh air from the under draft passes through these tubes to the warm air pipes that distribute it throughout the

These heat tubes are made zig-zag to increase their radiating surface. The air turns and twists up through them, getting the full benefit of the heat.

Each of these zig-zag tubes weighs about 70 lbs., and there are from 8 to 16 of these tubes in each Kelsey Generator.

Once the heavy mass of iron becomes heated it remains hot for hours and hours, circulating a constant supply of warm air throughout the building.

Think of the economy this means! As a matter of fact a Kelsey Generator consumes from 20 to 30 per cent. less fuel than the ordinary furnace.

Full information about the Kelsey Generator will be sent you on request. Write for it.

The James Smart Mfg. Co., Limited

Brockville, Ont.

Winnipeg, Man.



Residence of Ralph Peters, Esq., President, Long Island R.R. Aymar Emburg II., Architect, New York.

hingles stained with Cabot's Shingle Stains, stucco stained with Cabot's Waterproof Cement Stains, and lined with Cabot's Quilt, for warmth.

Cabot's Creosote Shingle Stains

The Standard Stains for Shingles, Siding or Trimmings. The first shinglesstains ever made, and quality guaranteed by thirty years' use all over the world. Made of the strongest and finest colors, ground in pure linseed oil, and Crosote, "the best wood preservative known." No cheapeners, no adulterants, no kerosene or benzine.

Gabot's "Quilt" Heat-proof Cold — "Quilt"

Heat-proof Gold-proof Sound-proof

The warmest lining. One layer is warmer than 40 layers of common building paper. Uninflammable, ton-decaying, vermin-proof. Insulates heater and refrigerator cars, cold-storage and ice-houses, and all other buildings. Deaders sound in floors and partitions, and in cars.

buildings. Deadens sound in floors and partitions, and all other Cabot's Waterproof Cement Stains

For waterproofing and artistically tinting stucco and similar cement surfaces.

Cabot's Waterproof Brick Stains

For freshening and restoring old, faded and discolored bricks, and waterproofing all bricks.

Cabot's Conservo Wood Preservative

For preserving ties, poles, planking and all lumber exposed to decay.

Cabot's Plasterbond Damp-proofing

For direct plastering on brick or concrete without studding or lathing.

Forms a perfect, permanent and impervious bond.

Cabot's Protective Paint

For protecting structural iron and steel from rust, corresion and electrolysis.

Cabot's Mortar Colors

Cabot's Mortar Colors
Strongest, fixest and most lasting.

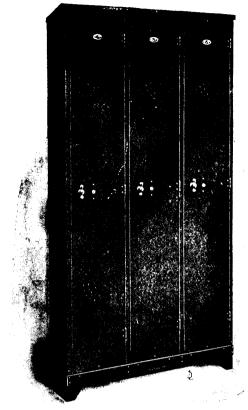
Send for Samples and Prices.

Samuel Cabot, Inc., Manuf's Chemis's, Boston, Mass.

CANADIAN AGENTS;

A. Muirhead Co., Toronto. Henry Darling, Vancouver, Saskatchewan Supply Co., Saskatoon.

Braid & McCurdy, Winnipeg, Seymour & Co., Montreal, Canadian Equipment & Sup-ply Co., Calgary.



No. 35 "D" Standard Metal Lockers.

"D.L." Standard **ETAL LOCKERS** and Shelving

RACTICALLY all buildings to be used for factories, offices, stores, hotels, or for public and institutional purposes require a locker installation. The superiority of metal lockers for all purposes is unquestioned. The only point to decide is what make of metal lockers to specify.

D. L. Standard Metal Lockers have several hygienic and safety features to commend them.

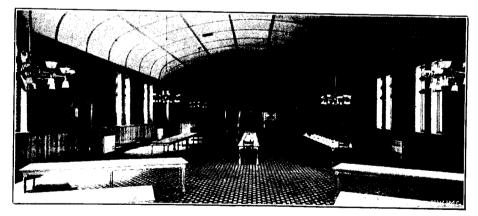
They are made in Canada's largest locker works, by workmen especially skilled in this class of work.

Our factory facilities enable us to undertake the largest contracts and we will submit special designs for any particular work required.

Have us estimate on your plans.

DENNIS WIRE AND IRON WOR COMPANY LIMITED General Offices and Works, LONDON, ONT. Branch Offices: Toronto, Winnipeg, Halifax

Let Us Solve Your Acoustical Problems



Dining Room, Mt. Alvernia Convent. Millvale, Penna. Entire Ceiling Treated by Our Acoustical Department.

We are prepared to correct defective acoustics in churches, theatres, court rooms, and all other types of buildings.

buildings.

Our Acoustical Department is in charge of men who have made an exhaustive study of Acoustical Correction. We are prepared to undertake this work along scientific and artistic lines. We employ corrective methods derived from recent scientific research, and guarantee results.

Without charge or obligation we will gladly consult with any architect or engineer.

Write our nearest branch

The Canadian H. W. Johns-Manville Co., Ltd.

Manufacturers of Asbestos and Magnesia Products

ASBESTOS.

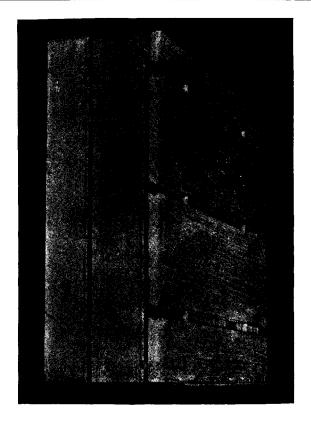
Asbestos Roofings, Packings, Electrical Supplies, etc.

TORONTO

MONTREAL

WINNIPEG

VANCOUVER





See how it is put together

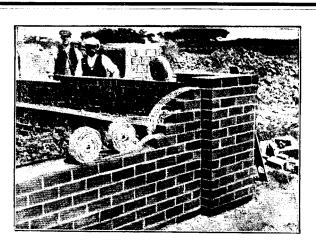
The accompanying cut shows the construction of the "Empire" closet tank. Notice the wooden dowels in addition to the tongue and groove in every joint. This is known as the "Bull Dog" joint and is patented in Canada and the United States. With such a joint it is impossible for the wood to separate or split, which makes "Empire" closet tanks absolutely reliable in every way. They give splendid satisfaction under the severest service tests. The seats are constructed in the same way, making them indispensable in factories, public buildings, or anywhere where they are subjected to rough usage.

> Look for the "Bull Dog" mark on the end of every tank. It is a guarantee of careful construction and superior materials, Every part of every outfit is thoroughly tested before leaving our factory.

EMPIRE MANUFACTURING CO., LIMITED

BRASS FOUNDERS AND FINISHERS

LONDON, ONTARIO



Reinforcement

The Latest Development in Building Construction.

WRITE FOR PARTICULARS AND PRICES

REINFORCED BRICKWORK CO., LTD.

100 Carlton Bldg. Winnipeg

Western Agents

THE DOMINION EQUIPMENT & SUPPLY CO.

Winnipeg

Edmonton

Calgary, Alta.

Brick & Supplies, Ltd.





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

Build "Yourself" Into Your Buildings

Leave the stamp of your "quality" in the finished structure. Establish your reputation as a builder of first-class, modernly equipped buildings.

PEASE Heating Systems

Insure both builder and purchaser.

The builder's reputation and the purchaser's comfort and convenience.

Our staff of competent heating engineers are at your disposal and will help you solve your heating problems free of cost.

PEASE FOUNDRY COMPANY

Works:

Brampton, Toronto, Montreal, Winnipeg, Vancouver, Hamilton

"Blood Will Tell"

There's "breeding" in varnish as well as in people.

Buy the varnish with a pedigree



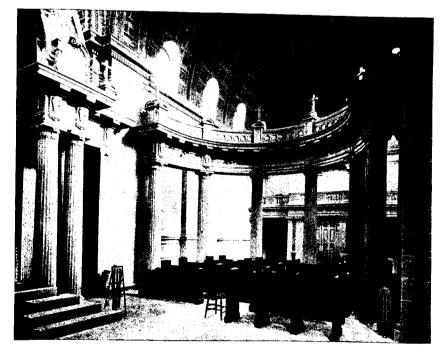
MADE ONLY BY

Berry Brothers

World's Largest Varnish Makers
Since 1858

Walkerville, Ont.

CAEN-STONE CEMENT



A material that allows imitation of French Caen-Stone that cannot be distinguished from the real stone. Texture and color are perfect.

Our illustration shows Baldachino and Choir Screen in the remodelled Church of Our Lady of Lourdes, Toronto. Special models and large castings were made in units and fixed in position upon metal furring, which we also executed.

In addition to contracting for this material, we are the agents for the Knickerbocker Brand of Caen-Stone, which we have always in stock. Each work requires special knowledge and involves different methods. Will be pleased to furnish information or specifications on request.

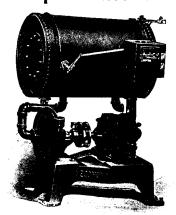
W. J. HYNES, LIMITED

16 Gould Street

TORONTO

Phone Main 1609

It will improve your heating plant to install an **Economy Automatic Condensation** Pump and Receiver



Increases rapidity of circulation by grawing condensation through the system, venting the air and returning water to boiler at high temperature. Eliminates snapping, pounding and cracking in radiators and pipes. Comprised of an expansion tank, automatic switch and centrifugal pump automatically operated by electric motor. Easily installed and increases the efficiency of either high or low pressure system 50 per cent.

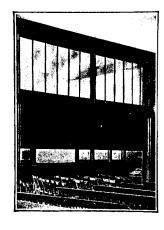
An "Economy" Hot Water Circulating Pump

automatically operated by an electric motor will cure that sluggish circulation in your hot water system. Write for full particulars.

THOMAS & SMITH, Inc.

116-118 N. Carpenter St. CHICAGO, ILL

Represented by JAMES J. MARTINDALE Room 112 Mail & Empire Bldg. Toronto, Canada



Watsmith

The modern method of closing off floor space in Sunday Schools, Churches, and all Public Buildings.

Ltd.

Highest efficiency, economy of floor space, simplicity of construction, ease of operation, reliability, attractive appearance—all are embodied in Rolling Partitions of the Watsmith

No sagging, no crevices, no creaking hinges, no getting out of order.

Our Partitions have proved their superiority by years of service in many public buildings throughout Canada.

Send for Further Particulars.

The Watson-Smith Co...

Geary Avenue, TORONTO

SPECIFY BY NAME

The next time you are specifying lockers write

"Meadows Metal Lockers"

They are made to suit all purposes, are of exceptionally rigid construction, and have a number of original features, including a three way locking device superior to anything else of its kind on the market.

Send for our illustrated booklet; "Locker Lore" and get our prices.

GEO. B. MEADOWS Toronto Wire, Iron and Brass Works Co., Limited TORONTO, CANADA

Structural Steel Grey Iron Castings Ornamental Lamp Pillars Garbage and Refuse Incinerators Builders' Iron Work

Automobile Turntables Iron Stairs Fire Escapes

MANUFACTURED BY

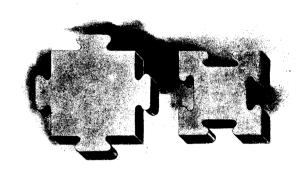
CONTRACTORS AND ENGINEERS

Office and Works: 63 Esplanade East

Toronto, Ont.

Phones: Main 2341 - 5089

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



"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

TORONTO MONTREAL WINNIPEG CALGARY VANCOUVER

The Fastest Fire Fighters in the World



Faster than the Quickest Fire Brigade—and Deadly Sure in Their Work—are

Manufacturers' Automatic Sprinklers

Always on guard—day and night. Respond instantly to the call of fire

itself. Absolutely independent in their action—will fight till the fire is out. Insensible to fumes and smoke.

Installed in a building, they pay for themselves in the Insurance premiums saved.

Let us send you full particulars of our Sprinkler System.

The General Fire Equipment Co.

72 Queen St. East TORONTO, CANADA

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 RUSSES

Columns, Girders, Beams, Towers and Tanks, Penstock
Estimates Furnished Promptly Capacity 18,000 Tons Annually

Structural Steel Co., Limited

Main Office and Works

MONTREAL



"BEAVER BRAND" HARDWOOD FLOORING

Is the Ideal Flooring

BECAUSE:

When you insist on having "BEAVER BRAND" Flooring used in your buildings you will have the Most Perfect Flooring that can be manufactured.

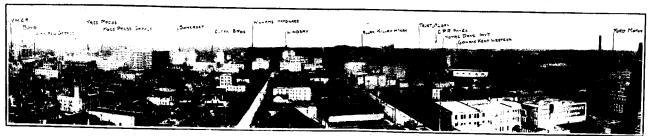
THE SEAMAN, KENT CO., Limited

Factories—Meaford, Fort William, Ont., and St. Agathe, Que.

Sales Offices—Montreal, P.Q.—970 Durocher Street
Toronto, Ont.—263 Wallace Avenue.
Winnipeg, Man.—506 Ashdown Block.
Calgary, Alta.—501 McLean Building.
Vancouver, B.C.—Hamilton & Davie Sts.

THE TURNER "MUSHROOM" SYSTEM

IS ADAFTED TO ALL KINDS OF REINFORCED CONCRETE WORK



SOME WINNIPEG "MUSHROOM" BUILDINGS.

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

"ROYAL" LOW CISTERN COMBINATIONS "Fit For Any Bath Room"



"SWAN" (Noiseless)

Twin Syphon Jet Combination. Beautiful Solid Porcelain Tank with Centre Push. Stop Valve on Supply Pipe.

T. McAVITY & SONS, Ltd.

MONTREAL

ST. JOHN, N.B.

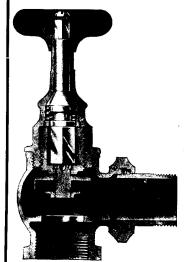
LETHBR'DO

KERR

(Patented)

PACKLESS RADIATOR VALVES

Remain Tight.



Not like other types of Packless Valves.

No rubber composition rings in bonnet.

Strictly an all metal valve.

Hard Bronze stem and cone in bonnet, ground with glass to seat.

Phosphor Bronze Spring, Non-corrodible.

This is the valve Heating Engineers and Architects have been waiting for. Try it out, and we will prove it.

The Kerr Engine Company, Limited

Manufacturers

Walkerville, Ontario

THE"EMPIRE"BRANDS

We want an opportunity to prove to Owners and Architects that the "Empire Brands" of

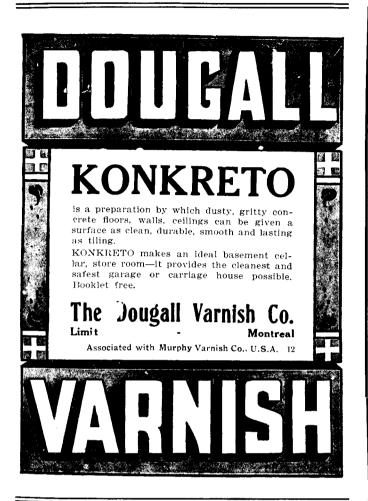
WALL PLASTER—CEMENT WALL WOOD FIBER and FINISH

are in every way the most satisfactory you could get, bar NONE. We will be glad to send you complete specification Booklets.

MANITOBA GYPSUM CO., LIMITED

WINNIPEG, MAN.

(5)



REMEMBER IT'S WATERPROOF

No. 110
Damp Resisting Paint
EXCLUDES DAMPNESS

WIDELY USED FOR BACKING OF LIMESTONE, GRANITE, MARBLE AND OTHER BUILDING STONES, TO PROTECT SAME FROM THE CHEMICAL ACTION AND DISCOLORATION OF THE ALKALI IN THE CEMENT MORTAR USED IN LAYING UP THE STONE.

THE MARBLE, IN THE NEW HEAD OFFICE BUILDING OF BANK OF TORONTO IN TORONTO, IS BACKED WITH R.I.W., NO. 110.

R. I. W. Damp Resisting Paint Co.

(TOCH BROTHERS)

Canadian Office 202 Mail Building TORONTO
Factory 1372 Bathurst Street

R. I. W. Paints Carried in Stock in Principal Canadian Cities.





GLASS BENDERS

TO THE TRADE

TORONTO PLATE GLASS
IMPORTING COMPANY,

91-133 DON ROADWAY
TORONTO

GLASS IMPORTERS
AND
MANUFACTURERS

DOMINION BRIDGE CO.

LIMITED

Montreal, P.Q.

BRIDGES

TURNTABLES
ROOF TRUSSES
STEEL BUILDINGS

Electric and Power Granes

Structural Metal Work of All Kinds

BEAMS. CHANNELS, ANGLES PLATES, ETC. IN STOCK

Advertising Value.

Manufacturers of building materials and supplies deal with such a restricted number of people that they find advertising that appeals to the public generally, to be largely wasted effort.

Profitable advertising for them, must be directed to the people who buy or direct the purchase of their products.

Every advertisement they pay for must be read by a large percentage of their prospective customers.

"Construction" is published in the interests of the architects, engineers and contractors in Canada. It has a large circulation in every part of the country, and the quality of its pages both from an editorial and mechanical standpoint, gives it an assured position in its particular field.

Its advertising pages are used by many of the leading manufacturers and dealers who wish to interest architects and builders in their products.

We would like to hear from you regarding your sales problems.

We know that "Construction" can help you secure the favorable attention of those you wish to interest, and we will gladly furnish you with full particulars about our rates and also tell you about our Daily Report Service.



Cor. Richmond & Sheppard Sts.
TORONTO.

National Bridge Company of Canada Limited

J. N. Greenshields, President.
H. W. Beauclerk, Treasurer.
D. W. Bliem, General Manager.

STRUCTURAL STEEL WORK
For Bridges and Buildings of Every Description

ANNUAL CAPACITY 20,000 TONS

5,000 Tons of Beams, Channels, Angles, Plates, Flats and Bars, always in stock at our works for quick delivery

Enquiries Solicited

Designs and Estimates Promptly Furnished

Address Head Office and Works at

MONTREAL

CANADA

THE

LAUTZ-DUNHAM

COMPANY, LIMITED

Successors to

THE LAUTZ CO.

145 CHURCH ST., TORONTO

Foreign and Domestic

MARBLES

Wall Tile - Floor Tile - Mantles Terrazzo - Mosaics



"NULITE"

Drawn Wire Continuous Filament Tungsten Lamp

The Lamp with a Record

The lamp Architects should specify is "NULITE" thereby guaranteeing the purchaser complete lamp satisfaction.

"NULITE" Lamps are in use with most of the largest industries, offices, buildings, and departmental stores throughout Canada.

WHY? Quality—that's all.

Embodied in the "NULITE" Lamp you get quality, efficiency, durability, economy; in fact, everything which goes to make a lamp superior.

AND IT IS SUPERIOR. TRY THEM.

"NULITE"

A Canadian Product.

Manufactured by

The Canadian Tungsten Lamp Company, Limited

Branch warehouses at:

HAMILTON, ONT.

Montreal, 246 Craig St. W.

Winnipeg, 56 Albert St.

Vancouver, 365 Water St.

THE MISSISQUOI MARBLE COMPANY, Ltd.

Canada's pioneer and leading concern in the Marble business

THEY will sell you Quarry Blocks, Sawn Marble, Marble completely finished for either interior or exterior purposes, and, if necessary, they will contract to set it in place.

Samples may be seen at District Sales Offices:

H. D. Sutherland	Toronto, Ont.
V. C. North	Winnipeg, Man.
Bosse & Banks	Quebec, Que.
General Contractors' Supply Co., Ltd	Halifax, N.S.
A. K. Milis & Son	Ottawa, Ont.
James Robertson Co., Ltd	St. John, N.B.
G. R. Duncan	Fort William, Ont.
Walker & Barnes	Edmonton, Alta.
The Ritchie Contracting & Supply Co., Limited	Vancouver, B.C.
631 Coristine Building	Montneyl Oue

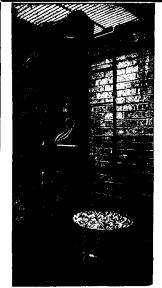
INSTANTANEOUS FIRE Protection.



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

International Automatic Sprinklers

W. J. McGUIRE, Limited
TORONTO——MONTREAL





G. & G. Telescopic Hoist

With Compound Gear and Brake Attachment—Made of Strong and Durable Material.

For Hoisting and Lowering Ash Cans, Kegs, Barrels, etc. Takes up less room than other hoists; the opening in the steward of can

age of can.

It is telescopic—no part showing above sidewalk when not in use.

A powerful brake attachment permits the lowering of heavy load without trouble, its compactness makes hoist very easy to erect—a great advantage when shipped f.o.b. cars.

GILLIS & GEOGHEGAN 544 West Broadway NEW YORK W. T. Grose, Winnipeg, Agent for Manitoba, Saskatchewan, Alberta B. & S. H. Thompson & Co., Limited, Montreal, Agents for Quebec Black Building Supply Co., Limited, Toronto, Agents for Ontario

Exposed Places

USE

"QUEEN'S HEAD"

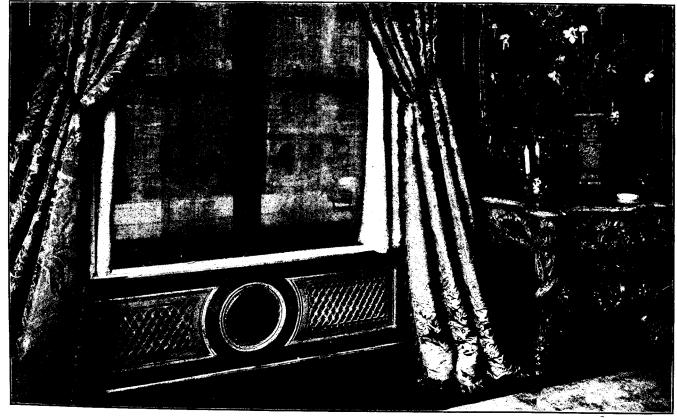


ALVANIZED IRON

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

Bristol, Newport & Montreal Managers Canadian Branch

JOHN LYSAGHT, Limited | A. C. LESLIE & CO., LIMITED Montreal



In this beautiful drawing room the artistic effect is not marred by ugly radiators, but the architect has placed them in winstyle of architecture.

Send for Catalogue 66A—just issued, showing eighty of these Special Grille Designs suited to various orders of decoration—Colonial, Classic, Empire, Louis XIII, XIV, XV, XVI, and Oriental.

New York

Chicago

HEATING PROBLEM SOLVED.

Architect, Albert J. Bodker.

Architect, Albert J. Bodker.

Ohicago

Reprint the paridators, but the architect has placed them in winstyle of architecture.

Send for Catalogue 66A—just issued, showing eighty of these Special Grille Designs suited to various orders of decoration and Oriental.

New York

Chicago

Balley MFG. Co., EST. 1846.

Clicago

Bridgeburg, Ontario.

·A·DIRECTORY FOR

·ARCHITECTURAL·SPECIFICATIONS & CONTRACTORS · SVPPLIES & MACHINERY

Adamant Plaster.
Stinson-Reeb Builders' Supply
Co.

Air Washers and Humidifers. Sheldons Limited.

Architectural Bronze and Brass Work.
Dennis Wire and Iron Works.
Meadows, Geo. B. Co.

Architectural Iron.
Canada Foundry Co., Ltd.
Dennis Wire and Iron Works.
Meadows. Geo. B. Co.
Metal Shingle and Siding Co.
Pedlar People, The.

Architectural Stucco Relief. Hynes, W. J., Ltd. Architectural Terra Cotta. Toronto Plate Glass Imp. Co.

Artificial Stone.
Roman Stone Co., Ltd.

Roman Stone Co., Ltd.

Asbestos Products.
Asbestos Mfg. Co.
Canadian Johns-Manville Co.
Ormsby, A. B., Ltd.

Bank and Office Railings.
Canada Foundry Co., Ltd.
Dennis Wire and Iron Works.
Greening Wire Co., Ltd.
Meadows, Geo. B. Co.

Bank and Office Window Blinds.
Dennis Wire and Iron Works.
Greening Wire Co., Ltd.
Meadows, Geo. B. Co.

Bath Room Fittings.
Canadian Johns-Manville Co.
Robertson Co., James B.
Standard Ideal Co., Ltd.
Standard Sanitary Co.

Bent Glass.

Bent Glass.
Toronto Plate Glass Imp. Co.

Belting.
Canadian Fairbanks-Morse Co.
Gutta Percha and Rubber Mfg.
Co., Ltd.
Mussens Limited.

Mussens Limited.
Canadian Fairbanks-Morse Co.
Sheldons Limited.
Blow and Vent Piping.
Metal Shingle and Siding Co.
Ormsby, A. B., Ltd.
Pedlar People, The.

Ormsby, A. B., Ltd.
Pedlar People, The.

Boilers.
Clare Bros. Co.
Dominion Radiator Co., Ltd.
Goldie & McCullough Co., Ltd.
Mussens Limited.
Pease Foundry Co., Ltd.
Steel and Radiation, Ltd.
Taylor-Forbes Co., Ltd.
The John McDougall Caledonian Iron Works, Ltd.

Brass Works.
Kerr Engine Co.
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.
Canada Foundry Co., Ltd.
Dominion Bridge Co.

Building Paper and Felts.
Asbestos Mfg. Co.
Bird, F. W. & Son.
Canadian Johns-Manville Co.
Metal Shingle and Siding Co.
Pedlar People, The.

Pediar People, The.

Building Supplies.
Bird, F. W. & Son.
Canadian Fairbanks-Morse Co.
Dartnell, E. F. & Co.
Metal Shingle and Siding Co.
Mussens Limited.
Stinson-Reeb Builders' Supply

Co. Pedlar People, The. Caen Stone Cement. Hynes, W. J., Ltd.

Caps for Columns and Pilasters. Hynes, W. J., Ltd. Metal Shingle and Siding Co. Pedlar People, The.

Cars (Factory and Dump).
Mussens Limited.
Sheldons Limited.

Cast Iron Columns.
Canada Foundry Co.
Pedlar People, The.
The John McDougall Caledonian Iron Works, Ltd.

Cement. Canada Cement Co.

Cement (Fireproof).
Canadian Johns-Manville Co.
Dartnell, E. F., Ltd.
Stinson-Reeb Builders' Supply

Cement Block Machinery.

Ideal Concrete Machinery Co.

London Concrete Machinery Co.

Mussens Limited.

Cement Brick Machinery.
London Concrete Machinery Co.
Mussens Limited.

Cement Machinery. London Concrete Machinery Co. Mussens Limited. Steel and Radiation, Ltd.

Cement Tile Machinery.
Ideal Concrete Machinery Co.
London Concrete Machinery Co.
Mussens Limited.
Stinson-Reeb Builders' Supply

Cold Storage and Refrigerator Insulation. Bird, F. W. & Son. Linde British Refrigerator Co.

Concrete Construction (Reinforced).

Metal Shingle and Siding Co. Pedlar People, The. Steel and Radiation, Ltd. Trussed Concrete Steel Co.

Concrete Mixers.
Canada Foundry Co.
Canadian Fairbanks-Morse Co.
Dartnell, E. F., Ltd.
London Concrete Machinery Co.
Mussens Limited.
Wettlaufer Bros.

Concrete Steel.
Canadian Fairbanks-Morse Co.
Dennis Wire and Iron Works.
Greening Wire Co., Ltd.
Metal Shingle and Siding Co.
Noble, Clarence W.
Steel & Radiation, Ltd.
Pedlar People, The.
Trussed Concrete Steel Co.

Conduits. onduits. Conduits Co., Ltd. Pedlar People, The

regiar People, The.

Contractors' Machinery.
Canadian Fairbanks-Morse Co.
Mussens Limited.

Contractors' Supplies.
Dartnell, E. F. Ltd.
Greening Wire Co., Ltd.
Mussens Limited.
Stinson-Reeb Builders' Supply
Co.

Cork Board. Canadian Johns-Manville Co.

Corner Beads.
Metal Shingle and Siding Co.
Pedlar People, The.
Steel and Radiation, Ltd.

Cranes.
Canadian Fairbanks-Morse Co.
Dominion Bridge Co., Ltd.
International Marine Signal Co.
Mussens Limited.

Crushed Stone. Stinson-Reeb Builders' Supply Co., Ltd.

Cut Stone Contractors.

Dartnell, E. F., Ltd.

Roman Stone Co., Ltd.

Damp Proofing.
Ault & Wiborg Co.
Canadian Johns-Manville Co.
Pinchin, Johnson Co.

Deposit Boxes.
Canadian rairbanks-Morse Co.
Goldie & McCulloch Co., Ltd.
Taylor, J. & J.

Doors. Burton & Baldwin Mfg. Co.

Drills (Brick and Stone).
Mussens Limited.
Star Expansion Bolt Co.

Drying Appliances.
Sheldons Limited.

Otis-Fensom Elevator Co.
Turnbull Elevator Co.

Dennis Wire and Iron Works.

Electric Wire and Cables.

Greening Wire Co., Ltd.

Robertson Co., James B.

Elevators (Passenger and Freight).
Otts-Fensom Elevator Co. Freight). Otis-Fensom Elevator Co. Turnbull Elevator Co. The John McDougall Cale-donian Iron Works, Ltd.

Canada Foundry Co.
Dennis Wire and Iron Works.
Greening Wire Co.
Meadows, Geo. B. Co., Ltd.
Otis-Fensom Elevator Co.

Cus-Fensom Elevator Co.

Enamels.
Ault & Wiborg Co.
Berry Bros.
Canadian Bitumastic Enamels
Co.
Imperial Varnish & Color Co.
International Varnish Co.
Moore, Benjamin Co.

Moore, Benjamin Co.

Engines.

Canadian Fairbanks-Morse Co.
Goldie & McCulloch Co., Ltd.
Mussens Limited.
Sheldons Limited.
The John McDougall Caledonian Iron Works, Ltd.

Engineers' Supplies.
Canadian Fairbanks-Morse Co.
Kerr Engine Co.
Mussens Limited.
Robertson Co., James B.
Sheldons Limited.
Steel and Radiation.

Exhaust Fans.

Steel and Radiation.

Exhaust Fans.
Sheldons Limited.

Expanded Metal.
Galt Art Metal Co.
Leslie & Co., A. C., Ltd.
Metal Shingle and Siding Co.
Noble, Clarence W.
Pedlar People, The.
Steel and Radiation, Ltd.
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.

Voget Co. of Canada, Ltd.

Fire Extinguishers.

Canadian Johns-Manville Co.
General Fire Equipment Co.
Ormsby, A. B., Ltd.

Vogel Co. of Canada, Ltd.

Fire Escapes.
Canada Foundry Co.
Dennis Wire and Iron Works.
Meadows, Geo. B. Co., Ltd.
Reid & Brown.

Reid & Brown.

Fireplace Goods.
Carter & Co., Ltd.
Dennis Wire and Iron Works.
Murray-Kay Co., Ltd.

Fire Proofing.
Canadian Johns-Manville Co.
Dartnell, E. F.
Don Valley Brick Works.
Noble, Clarence W.
Port Credit Brick Co.
Pedlar People, The.
Steel and Radiation, Ltd.
Trussed Concrete Steel Co.
Fireproof Steel Doors

Trussed Concrete Steel Co.
Fireproof Steel Doors.
Dennis Wire and Iron Works.
Metal Shingle and Siding Co.
Mussens Limited.
Ormsby, A. B., Ltd.
Pedlar People, The.
Steel and Radiation.
Stinson-Reeb Builders' Supply

Co.

Fireproof Windows.
Galt Art Metal Co.
Hobbs Mfg. Co.
Metal Shingle and Siding Co.
Ormsby, A. B., Ltd.
Pedlar People, The.
Stinson-Reeb Builders' Supply
Co.

Flooring.
Bird, F. W. & Son.
Seaman-Kent Co.

Seaman-Kent Co.
Furnaces and Ranges.
Clare Bros., Ltd.
Pease Foundry Co., Ltd.
Steel and Radiation, Ltd.
Taylor-Forbes Co., Ltd.
Galvanized Iron Works.
Metal Shingle and Siding Co.
Ormsby, A. B., Ltd.
Pedlar People, The.
Sheldons Limited.

Galvanized Iron.
Leslie & Co., A. C.
Metal Shingle and Siding Co.

Glass.
Consolidated Plate Glass Co.
Hobbs Mfg. Co.
Toronto Plate Glass Co.

Grille Works.

Dennis Wire and Iron Works.

Meadows, Geo. B. Co., Ltd.
Steel and Radiation, Ltd.

Taylor, J. & J.

Hangers. Ormsby, A. B., Ltd.

Hardware. Canadian Yale & Towne, Ltd. Taylor-Forbes Co., Ltd.

Hardwood Flooring. Canadian Fairbanks-Morse Co.

Canadian Fairbanks-Morse Co.

Heating Apparatus.
Clare Bros., Ltd.
Dominion Radiator Co.
Dunham, C. A. Co.
Goldie & McCulloch Co., Ltd.
Kerr Engine Co.
Pease Foundry Co., Ltd.
Sheldons Limited.
Steel and Radiation, Ltd.
Taylor-Forbes Co., Ltd.

Heating Engineers and Con-tractors. Sheldons Limited.

Hoisting Machinery.
Mussens Limited.
Oits-Fensom Elevator Co.

Hinges.
Taylor-Forbes Co., Ltd.

Hydrants. Kerr Engine Co. Hydraulic Machinery.
The John McDougall Caledonian Iron Works, Ltd.

Iron Doors and Shutters.

Dennis Wire and Iron Works.

Metal Shingle and Siding Co.

Taylor, J. & J.

Iron Stairs.
Canada Foundry Co.
Dennis Wire and Iron Works.
Meadows, Geo. B. Co., Ltd.

Iron Supplies.
Keri Engine Co.

Installation.
Bird, F. W. & Son.
Canadian Johns-Manville Co.
Seaman-Kent Co.

Seaman-Kent Co.
Interior Woodwork.
Blonde Lumber Co.
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.

Trussed Concrete Steel Co.

Lamp Standards.
Canada Foundry Co.
Canadian Tungsten Lamp Co.
Dennis Wire and Iron Works.
Seaman-Kent Co.

Lath (Metal).
Galt Art Metal Co.
Greening Wire Co., Ltd.
Metal Shingle and Siding Co.
Noble, Clarence W.
Pedlar People, The.
Steel and Radiation, Ltd.
Stinson-Reeb Builders' Supply
Co.
Trussed Concrete Steel Co.

Laundry Tubs.

Laundry Tubs.
Toronto Laundry Machinery
Co.

Leaded Glass. Hobbs Mfg. Co.

Marble.

Dartnell, E. F.

Dominion Marble Co., Ltd.

Missisquoi Marble Co.

Robertson Co., James B.

Metallic Sash.
Hobbs Mfg. Co.
Metal Shingle and Siding Co.
Steel and Radiation, Ltd.

Metal Shingles.
Galt Art Metal Co.
Pedlar People, The.

Metal Store Fronts.
Dartnell, E. F.
Dennis Wire and Iron Works.
Hobbs Mfg. Co.
Metal Shingle and Siding Co.

Metal Walls and Cellings.
Metal Shingle and Siding Co.
Noble, Clarence W.
Ormsby, A. B., Ltd.
Pedlar People, The.

Municipal Supplies. Mussens Limited.

Non-Conducting Coverings. Ault & Wiborg. Canadian Johns-Manville Co.

Ornamental Iron Work.
Canada Foundry Co.
Dennis Wire and Iron Works.
Meadows, Geo. B. Co., Ltd.
Steel and Radiation, Ltd.
Turnbull Elevator Co.

Packing (Steam). Canadian Johns-Manville Co.

Packing.
Canadian Fairbanks-Morse Co.
Gutta Percha and Rubber Co.

Paints (Steel and Iron). Brandram-Henderson Co.

Canadian Bitumastic Enamels Co.
Dartnell, E. F.
Imperial Varnish & Color Co.
International Varnish Co.
Pinchin, Johnson Co.

Paints and Stains.

Berry Bros., Ltd.

Brandram-Henderson Co.

Canadian Bitumastic Enamels Co.
Dartnell, E. F.
Imperial Varnish & Color Co.
International Varnish Co.
Pinchin, Johnson Co.
Robertson, James B.

Perforated Steel.
Greening Wire Co., Ltd.

Pipe Covering. Canadian Johns-Manville Co.

Pasters.
Brandram-Henderson Co.
Canadian Johns-Manville Co.
Hynes, W. J.
Plaster Corner Beads.
Metal Shingle and Siding Co.
Pediar People, The.

Pedlar People, The.

Plate and Window Glass.
Consolidated Glass Co.
Hobbs Mfg. Co.
Toronto Plate Glass Co.

Plumbers' Brass Goods.
Canadian Fairbanks-Morse Co.
Robertson Co., James B.
Standard Ideal Co., Ltd.
Steel and Radiation, Ltd.

Steel and Radiation, Ltd.
Plumbing Fixtures.
Robertson Co., James B.
Standard Ideal Co.
Standard Sanitary Co.
Pneumatic Tools.
Mussens Limited.

Porcelain Enamel Baths. Robertson Co., James B. Standard Ideal Co., Ltd. Standard Sanitary Co.

Radiators. Dominion Radiator, Ltd. Steel and Radiation, Ltd. Taylor-Forbes, Ltd.

Refrigerating Machinery.
Linde British Refrigeration
Co., Ltd.

Refrigerator Insulation. Bird, F. W. & Son. Canadian Johns-Manville Co. Metal Shingle and Siding Co.

Radiator Valves. Kerr Engine Co. Steel and Radiation Co., Ltd.

Reinforced Concrete.

Metal Shingle and Siding Co.
Noble, Clarence W.
Pedlar People, The.
Steel and Radiation, Ltd.
Trussed Concrete Steel Co.

Relief Decoration. Hynes, W. J.

Roofing Paper.
Canadian Johns-Manville C.o
Bird, F. W. & Son.
Pedlar People, The.
Metal Shingle and Siding Co.

Roofing. ooting. Asbestos Mfg. Co. Bird, F. W. & Son. Canadian Johns-Manville Co. Metal Shingle and Siding Co. Patterson Mfg. Co.

Roofing (Slate). Ormsby, A. B., Ltd.

Roofing (Tile).
Dartnell, E. F.
Metal Shingle and Siding Co.
Pediar People, The.

Rubber Tiling.
Gutta Percha and Rubber Co. Safes (Fireproof and Bankers'). Canadian Fairbanks-Morse Co. Goldie & McCulloch Co., Ltd. Taylor, J. & J.

Sanitary Plumbing Appliances. Robertson Co., James B. Standard Ideal Co., Ltd. Standard Sanitary Co.

Sand Screens.
Steel and Radiation, Ltd.
Greening Wire Co.

Screens. Watson-Smith Co., Ltd.

Shafting, Pulleys and Hangers. Canadian Fairbanks-Morse Co. Goldie & McCulloch Co., Ltd.

Sheet Metal.
Leslie, A. C.
Metal Shingle and Siding Co.

Sheet Metal Workers.
Galt Art Metal Co.
Metal Shingle and Siding Co.
Ormsby, A. B., Ltd.
Pedlar People, The,
Sheldons Limited.

Shingle Stains.
International Varnish Co.
Pinchin, Johnson Co.
Robertson Co., James B.

Sidewalks, Doors and Grates.
Dennis Wire and Iron Works.

Sidewalk Lifts. Otis-Fensom Elevator Co.

Sidewalk Prisms. Hobbs Mfg. 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.
Canadian Fairbanks-Morse Co.
Kerr Engine Co.
Sheldons Limited.
Steel and Radiation, Ldt.
Taylor-Forbes Co., Ltd.

Steam and Hot Water Heating.
Dominion Radiator Co., Ltd.
Dunham, C. A. Co.
Sheldons Limited.
Steel and Radiation, Ltd.
Taylor-Forbes Co., Ltd.

Steel Casements.
Steel and Radiation, Ltd.

Steel Concrete Construction. Noble, Clarence W. Pedlar People, The. Steel and Radiation, Ltd. Trussed Concrete Steel Co.

Steel Doors.

Dennis Wire and Iron Works.

Mussens Limited.

Ormsby, A. B., Ltd.

Pedlar People, The.

Structural Iron Contractors.
Canada Foundry Co.
Dennis Wire and Iron Works.
Dominion Bridge Co.
Hamilton Bridge Co.
Reid & Brown.
Structural Steel Co., Ltd.
Toronto Iron Works.

Structural Steel.
Canada Foundry Co.
Dennis Wire and Iron Works.
Dominion Bridge Co.
Hamilton Bridge Co.
Mussens Limited.
Reid & Brown.
Sheldons Limited.
Structural Steel Co., Ltd.

Telephone Systems.
Northern Electric & Mfg. Co.
Terra Cotta Fireproofing.
Carter & Co., Ltd.
Dartnell, E. F.
Don Valley Brick Works.
Missisquoi Marble Co.

Tile (Floor and Wall).
Carter & Co., Ltd.
Dartnell ,E. F.
Don Valley Brick Works.

Vacuum Heating System. Dunham, C. A. Co.

Dunham, C. A. Co.

Varnishes.
Ault & Wiborg Co.
Berry Bros., Ltd.
Brandram-Henderson Co.
Imperial Varnish & Color Co.
International Varnish Co.
Pinchin, Johnson Co.

Vaults and Vault Doors (Fireproof and Bankers').
Goldie & McCulloch, Ltd.
Taylor, J. & J.

Valves.

Valves.
Canadian Fairbanks-Morse Co.
Dunham, C. A. Co.
Kerr Engine Co.
Robertson Co., James B
Steel and Radiation, Ltd.
Taylor-Forbes Co.

Ventilators.

Metal Shingle and Siding Co.
Sheldons Limited.

Wall Finishes.
Berry Bros.
Brandram-Henderson Co.
Dartnell, E. F.
Imperial Paint and Color Co.
Internationat Varnish Co.
Pinchin, Johnson Co.

Pinchin, Johnson Co.

Wall Hangers.
Taylor-Forbes Co.

Waterproofing.
Ault & Wiborg Co.
Bird, F. W. & Son.
Canadian Johns-Manville Co.
Dartnell, E. F.
Kerr Engine Co.
Mussens Limited.
Pinchin, Johnson Co.
Stinson-Reeb Blirs. Supply Co.
Waterworks Supplies

Pincnin, Johnson Co.
Stinson-Reeb Blirs. Supply Co.
Waterworks Supplies.
Mussens Limited.
Robertson Co., James B.
Standard Ideal Co., Ltd.
Wheelbarrows.
Mussens Lmiited.
White Lead, Putty and Oils.
Brandram-Henderson C.o.
International Varnish Co.
Pinchin, Johnson Co.
Window Guards.
Dennis Wire and Iron Works.
Greening Wire Co.
Steel and Radiation, Ltd.
Wire Rope and Fittings.
Greening Wire Co., Ltd.
Mussens Limited.
Otis-Fensom Elevator Co.

An Index to the Advertisements

Annua Mig. Co., Dia Inside Pront Cover	Timple and
	Frid-Lewis CoOutside Back Cover
Asbestos Mfg. Co 31	Galt Art Metal Co 26
Ault & Wiborg 27	General Fire Equipment Co 47
Bennett, RobertInside Front Cover	Gillis & Geoghegan 52
Berry Bros., Ltd 45	Goldie & McCulloch Co., Ltd 27
Bird & Sons, F. W	Goulds Pump Co Inside Front Cover
Brandram-Henderson, Ltd 3	Greening Wire Co 26
Burton & Baldwin Mfg. Co., Inside Front Cover	Gutta Percha and Rubber Co 47
Canada Cement Co	Hobbs Mfg. Co., Ltd 20
Canada Crushed Stone Corporation	Holmes & Son, FredInside Front Cover
Inside Front Cover	Hynes W J
Canada Foundry Co 29	Imparial Varnish and Color Co
Canada Supply and Contracting Co 6	Inside Front Cover
Canadian Bitumastic Enamels Co 29	International Marine Signal Co 34
Canadian Fairbanks-Morse Co., Ltd 30	International Varnish Co 28
Canadian H. W. Johns-Manville Co 24, 43	James Smart Mfg. Co., Ltd 42
Canadian Pressed Brick CoInside Back Cover	Kerr Engine Co 48
Canadian Tungsten Lamp Co	Knight Bros. Co Inside Front Cover
Canadian Woodtile Co Inside Back Cover	Lautz Co
Carter & CoInside Back Cover	Leslie & Co., Ltd 52
Clare Bros. & Co	Leven Babayan4
Conduits Co., LtdOutside Back Cover	Linda British Refrigeration Co 4
Consolidated P. Glass CoIns.de Front Cover	- Lindo Canadian Refrigeration 👓
Contractors Supply CoInside Front Cover	London Concrete Machinely Co
Dancy, H. N. & SonInside Front Cover	Maloney & Co. John Hiside Back Cover
	Manitoba Gypsum Co
	McAvity, T. & Sons, I.d
	Alcumbe, W. J., Little
Dominion Equipment and Supply Co 49 Dominion Markle Co 44	Meadows Co., Geo. D
Dominion Marble Co 44 Dominion Radiator Co 32	Metal Shingle and Siding Co
Dominion Radiator Co. 32 Don Valley Brick Works 7	Missisquoi Marble Co
Don Valley Brick Works	Mussens Limited
Dougall Varnish Co	National Buildes Co
Dunham Radiator TrapInside Back Cover	Noble, Clarence W Y
	Y

PAGE		
44	Makke D	PACE
Back Cover	Nobis Engineering Co.	42
26	Nothern Electric and Mfo (1), (4)	
47	Ormsoy, Limited, A. R.	0.5
52	Ous-rensom Flevator Co	0.0
27	ratterson Mig. Co	4 4
rout Cover		
26	reular People, Lital Tha	
47		
20	ron Credit Brick Co.	0.0
ront Cover	reid & Brown	4.0
45	D.I. W. Dainh Registing Co.	
Front Cover		
34		
28		
	Standard Sanitary Co. Star Expansion Bolt Co. Starland Rediction Telescope	18
	Steel and Radiation T+d	30
Front Cover	Steel and Radiation, Ltd. Steel Co. of Canada, Ltd. Inside Front C	1:
52		
	Taylor-Fordes Co.	
8	Thomas & Simin, inc	
Back Cover		
48	Toronto Laundry Machine Co.	
48		
51	Toronto Plate Glass Co., Ltd.	4:
46	Trussed Concrete Steel Co. Turnbull Elevator Mer. Co.	. 4:
23	announ Encyator Mig. Co	. ::
$ \begin{array}{cccc} & 51 \\ & 25 \end{array} $	Turner, C. A. P. Tuttle & Bailey Mfg. Co.	. 4
	Voget Co. of Canada Ltd Incide Reets Co.	
50	watson-smith Co	4
23	Wettlaufer Bros.	. 1
	le & Towne Mfg Co 99	

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 "Canadian." Popular among architects and contractors.

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

Canadian Pressed Brick Company PHONE 423 and 2457 Head Office Room 36 Federal Life Building

-:-

HAMILTON,

Ontario

The Tallest Office Building in Canada
(The C.P.R. Building, Toronto)
AND

The Tallest Office Building in the World
(The Woolworth Building, New York City)
Are Both Equipped With the

Dunham Radiator Trap

For Vacuum Heating

These two installations abould convince you of the superiority of the system.

You should know more about this method of heating. We shall be glad to tell you. Write us to-day.

C. A. Dunham Co. Limited Factory and Main Office:

TORONTO
ONTREAL WINNIPEG. VANCOUVER MONTREAL

WOODTILE

"INDESTRUCTIBLE" Hardwood Flooring

Made in sheets on the END grain

Is guaranteed not to warp or sliver. Different Designs. Prompt Deliveries

Canadian Woodtile Co., Ltd.

83 Jarvis Street - Toronto, Ont.

Western Agents - DOBSON & PERRY. 214 Princess Street, Winnipeg

Laundry Machinery

Complete Plants for all purposes Write Us, Stating Requirements

Toronto Laundry Machine Co., Limited

TORONTO,

Montreal,

Agencies at Winnipeg,

Vancouver.

John Maloney & Co.

Corner Queen and Dufferin Sts.

WRITE US FOR

Crushed Stone

Shaw Quarry Stone, Rubble and Cut Lime, Sewer Pipe, Fire Brick

Capacity: 200 TONS PER DAY

Office Phone, Park 64 Residence Phone, Park 1040

Toronto

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.O.

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

Ceramic Flooring

WHY SHOULD THIS APPEAL TO YOU? BECAUSE IT IS-

ARTISTIC-The Tiles are made in a VARIETY of COLOURS, and can be adapted to any SPECIAL STYLE of DESIGN.

DURABLE-The FLOORS once laid are LASTING. They cannot CRACK or GO SOFT, like some other descriptions of flooring.

INEXPENSIVE—The DESIGNS ARE EASILY FIXED AND HANDLED, being packed in multiple quantities fastened on paper.

Allow us to submit prices and designs to harmonize with the structural or furnishing equipment of the buildings you have in hand or in contemplation.

Carter & Co., Ltd. 14 ENCAUSTIC TILE WORKS, POOLE, DORSET, ENGLAND

London Office and Showrooms: 29 Albert Embankment S.E.

Toronto Iron Works

Limited

Expert Builders of

STEEL PLATE AND

STRUCTURAL IRON WORK

OF ALL DESCRIPTIONS

Including

Tanks, Boilers, Stacks, Standpipes, Flumes,

Blast Furnaces. Etc.

Office and Works:

Foot of Cherry St., Toronto

Phone Main 3274

"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 tests by the Underwriters' Laboratories and approved for use.

CONDUITS COMPANY, LIMITED

TORONTO

MONTREAL.

FRID-LEWIS CO.

LIMITED

GENERAL CONTRACTORS and ENGINEERS

> Head Office WINNIPEG

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 gizes.

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