

**PAGES**

**MISSING**

INDEX TO ADVERTISEMENTS

In the "Canadian Architect and Builder."

<b>Architects.</b>	<b>Contractors' Plant and Machinery</b>	<b>Mantels, Grates, and Tiles.</b>	<b>Roofing Material</b>
Ontario Directory... III	Rice Lewis & Son... IV	Holbrook & Mollington I	Canada Supply Co. xiii
Ouebec Directory... III	<b>Cements.</b>	Rice Lewis & Son... IV	Ormsby & Co. A. B. I
<b>Architectural Sculptors and Carvers.</b>	Owen Sound Portland Cement Co. III	<b>Mouldings.</b>	Metallic Roofing Co. ix
Holbrook & Mollington... I	The Bathurst Co. VII	Poynton & Co. Supply Decorators' Supply Co. xiii	Philip Carey Mfg. Co. viii
<b>Architectural Iron Work.</b>	<b>Ceramic Stains.</b>	S. Knechtel Wood Turning Co. II	Roofers Supply Co. II
Canada Foundry Co. 144	Cabot. Samuel... ix	<b>Mortar Colors and Single Stains.</b>	Zanzibar Paint Co. xiv
Dominion Bridge Co. I	Canad. Paint Co. 141	Cabot, Samuel... ix	<b>Wash Cord.</b>
Geo. B. Meadows Co. xvi	Zanzibar Paint Co. xiv	Turning Co. II	Samson Cordage Works... vii
<b>Bells and Clocks.</b>	<b>Elevators.</b>	<b>Water Colors and Single Stains.</b>	<b>State.</b>
Meneely & Co. xiii	Fensom, John... I	Cabot, Samuel... ix	Steinberger, Hendry Co. viii
<b>Bridges.</b>	Otis Elevator Co. I	Zanzibar Paint Co. xiv	<b>Stained and Decorative Glass.</b>
Canadian Bridge Company... 143	Mail ch & Co. viii	<b>Ornamental Iron Work.</b>	Bloomfield & Son, Henry... v
Dominion Bridge Co. I	Miller Box & Toms, viii	Dennis Wire & Iron Co. vii	Horwood & Sons, H. v
Hamilton Bridge Works Co. IV	Turbull & Russell Colv Williams & Wilson... II	Geo. B. Meadows Co. xvi	McKee Stained Glass Works... v
<b>Builders' Supplies.</b>	<b>Engines.</b>	Watson J. Hm. vii	McKenzie's Stained Glass Works... vii
Alabas Inc. Co. I	Canad. Photo-Eng. Business... II	<b>Ornamental Plaster.</b>	Pilkington Bros. v
Lewler Prism Co. Limited... xv	<b>Fire-Proof Doors, Etc.</b>	Hynes, W. J. xii	Queen City Plate Glass Co. xiii
Montreal Directory... xvi	Canad. Fire-Proof Door and Shutter Co. v	<b>Painters.</b>	St. George, H. E. v
Ontario Lime Association... xvi	<b>Folding Partitions.</b>	Montreal Directory... xvi	The Robert McCausland Stained Glass Co. v
Robertson & Co. D. Iv	Springer, O. T. II	<b>Prisms.</b>	<b>Sanitary Supplies.</b>
<b>Building Stone Dealers.</b>	<b>Grilles and Rattings.</b>	Luxfer Prism Co. Limited... xv	James Morrison Glass Co. 143
Ambler Red Stone Quarry Co. iv	Dennis Wire & Iron Co. viii	Pilkington Bros. vii	<b>Shingles and Slatings.</b>
Credit Fork Stone Co. iv	Geo. B. Meadows Co. xvi	<b>Prints and Engravings.</b>	Metallic Roofing Co. ix
Cr. ciston Quarries... iv	<b>Granite.</b>	Canada Paint Co. 143	Ormsby & Co. A. B. I
Hro je la... iv	Brunet, Jos. vii	Globe Paint Co. xiv	Roofers Supply Co. II
Hood & Son... iv	<b>Heating.</b>	Hollywood Paint Co. xvi	<b>Soil Pipe.</b>
Kline John... iv	Clare & Co. iii	Imperial Var. ish & C. Lr Co. 143	Toronto Foundry Co. II
Horse Foot Quarry... iv	D. King Bros. iii	Muirhead, Andrew... i	<b>Wash Lock.</b>
Roberts & Co. D. H. iv	Gu. vey, T. den Co. ii	Zanzibar Paint Co. xiv	A. W. Adams... xi
Silix Stone Quarries Co. iv	Ives & Co. vii	<b>Parquetry Floors.</b>	<b>Tubing and Fittings.</b>
Sackville Free Stone Co. iv	James Smart... iv	Elliott & Son Co. viii	Richmond Conduit Co. iii
Samu I & S. ne Thon. iv	Ormsby & Co. A. B. iv	Pilkington Br. s. vii	<b>Tiles.</b>
<b>Builders' Hardware.</b>	Pease Furnace Co. xiv	The Consolidated Plate Glass Co. II	American Enamelled Brick & Tile Co. i
Aikenhead Hardware Co. ix	<b>Interior Decoration.</b>	Toronto Plate Glass Co. viii	Holbrook & Mollington i
Rice Lewis & Son... ix	A. abasti & Co. I	<b>Plumbers.</b>	<b>Reinol and Church Furniture.</b>
Vokes Hardware Co. xii	Elliott & Son Co. viii	Montreal Directory... xvi	Globe Furniture Company... v
<b>Bricks.</b>	Geo. Jackson & Sons. v	Toronto F. ictory... xvi	Can. Office & School Furniture Co. xii
American F. naneled Brick & Tile Co. I	Thos. For ester Co. xiv	<b>Roofers.</b>	<b>Fences.</b>
Feansville Brick & Terr. Cotta Co. II	<b>Landscape Architect.</b>	Campbell & Giddy xvi	Imperial Vence Co. III
Deo. Cotta Co. II	Frederick G Tedd... III	Duthie & Sons, G... xvi	<b>Valves.</b>
Ton. Valley Brick Works... 143	<b>Lime.</b>	Douglas B. s. xvi	Jenkins Box... IV
Toronto Pressed Brick & Terra Cotta Co. III	Ontario Lime Association... xvi	Forbes Roofing Co. xvi	<b>Wall Plaster.</b>
Milton Brick Co. 141	Roberts & Co. xiv	Nicholson & Co. D. xvi	Alabastine Co. I
<b>Cement Blocks.</b>	<b>Legal.</b>	Reynie & S. n, Rch. xvi	Albert Mfg. Co. xii
Cement Block Machine Co. x	Laundry M. chin's Troy Laundry M. chary Co. xiii	Ormsby & Co. A. B. i	<b>Wire Lathing.</b>
Raven Lake Cement Co. xii	S. mbling, Wm. H. ix	Rin. hana George. xvi	The B. Greening Wire Company... III
	York Mfg. Co. xiii	Stewart & Co. W. T. xvi	Metallic Roofing Co. xii
	<b>Lumber.</b>	Williams & Co. H. xvi	Samson Cordage Works... vi
	Gl mour & Co. ii	<b>Rubber Tiling.</b>	
	<b>Wall Coats.</b>	Garta Pecha Rubber Co. x i	
	The Cutler Mfg. Co. I	<b>Reflectors.</b>	
		Frink, I. P. III	

**Architectural Sculptors..**

**Modelers Wood Carvers etc...**

Dealers in Maw & Co.'s and Minton & Co.'s Artistic and Plain Tiles for Cabinet Hearths, Floors, Etc.

No. 206 King St. West  
**TORONTO**  
TELEPHONE MAIN 2490

Established 1880.

GREATEST DURABILITY  
SMALLEST COST  
SUPERIOR EFFECT

**MUIRHEAD'S METAL WHITE**

This article, as its name implies, is a White Metallic Paint, ground in Pure Linseed Oil. IT DOES NOT injure the Linseed Oil as all grades of White Lead do. IT WILL NOT chalk nor flake off. IT WILL NOT blacken in an impure atmosphere. IT HAS greater spreading capacity than White Lead. IT IS non-poisonous, being a perfect sanitary paint. IT IS more easily applied than White Lead. IT IS unrivalled for painting the inside and outside of houses farm implements, boats, greenhouses, or any thing requiring paint. BY ACTUAL TEST it has worn six times as long as pure White Lead on a floor—it is equally good for door sills and decks of vessels. IT MAY be tinted to any shade. IT IS the most important article introduced for painting in recent years.

MANUFACTURED BY...

**Andrew Muirhead**

Office, No. 82 Bay Street  
Warehouse, Mincing Lane  
Factory, St. Lawrence St. **TORONTO**

Please Mention the CANADIAN ARCHITECT AND BUILDER when corresponding with Advertisers.

**ENAMELED BRICK (Royal Victoria Hospital, Montreal)**

**ENAMELED Subway Tile (Patented)**

ENAMELED INTERLOCKING TILE (Substitute for Brick)

**American Enamelled Brick & Tile Co.,**

1 Madison Avenue, NEW YORK.

Send for Catalogue explaining Patents and their application; Color Sheets; Special Shapes; and extensive list of our past work (illustrated).

**HUGH CAMERON**  
Canada Life Building, Montreal

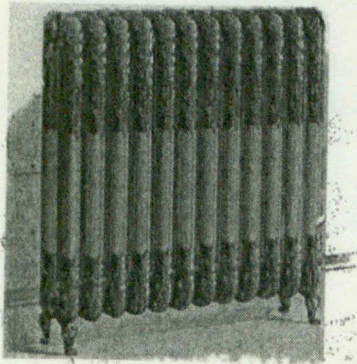
Canadian Agent

**WILLIAM MALLOCH & CO.**

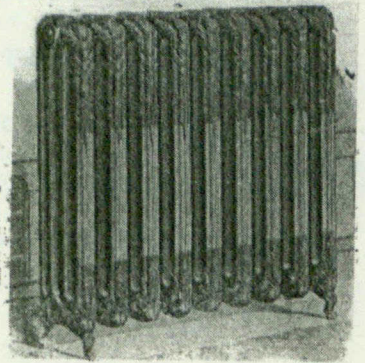
Electric Hydraulic Elevators  
Steam Hand Power  
Electric Dumb Waiters

**LONDON, ONT.**

# Hamilton Radiators



★  
 For  
 Hot Water  
 and  
 Steam  
 ★



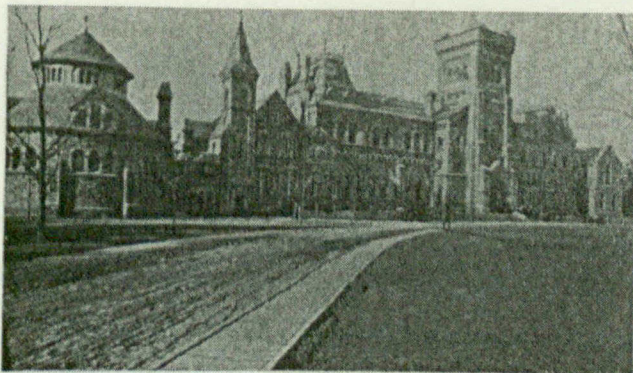
*Are the production of the best mechanical skill to be procured.  
 Unexcelled in QUALITY, DURABILITY, and EFFICIENCY.  
 Made with all iron to iron joints—no packing of any kind.  
 Used in hundreds of the best and most expensive buildings in Canada*

Manufactured by ... Correspond with us before deciding on your method of heating.

**THE GURNEY, TILDEN COMPANY**  
 Hamilton, - Canada. LIMITED

TORONTO OFFICE : 134 Bay Street.  
 EASTERN AGENTS : H. R. Ives, Montreal, Que., and The Star Iron Co., Montreal.  
 WESTERN AGENTS : The Gurney Stove & Range Co., Limited, Winnipeg, Man. CATALOGUE FOR THE ASKING

## DO YOU USE ENGRAVINGS?



The leading  
 Newspapers and  
 the leading  
 Advertisers in  
 Canada use those  
 made by

**THE ALEXANDER ENGRAVING CO.,**

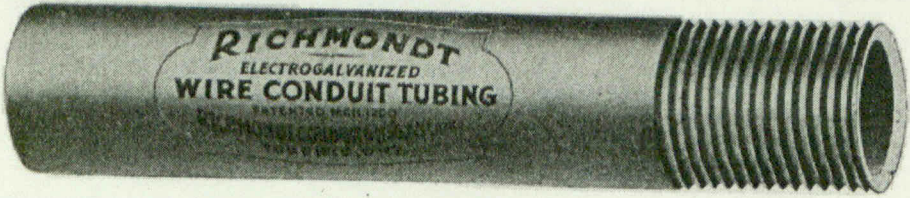
*Successors to Moore & Alexander*

**Engravers, Designers and Commercial Photographers**

Write for Prices....

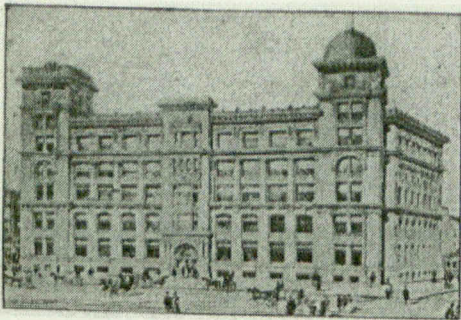
16 Adelaide St. West, TORONTO.

THE RICHMONDT CONDUIT & MFG. CO., LIMITED  
 SOLE MANUFACTURERS OF  
**RICHMONDT ELECTRO-CALVANIZED CONDUIT TUBING AND FITTINGS**



Contractors use it because—It Saves Time and Money. Supply Dealers carry it because—It Sells Itself.  
 Architects specify it because—It fills the Underwriters' requirements.

FACTORY AND OFFICE: 15, 17 and 19 Jarvis Street, TORONTO, CANADA.



GRAND TRUNK OFFICE BUILDING.

The largest and most modern Office Buildings, Hotels and Factories are equipped with the

**Webster System . .  
 of Steam Circulation**

Our 1902 Illustrated Catalogue gives a full description of this System, and will be mailed on application.

**DARLING BROS.**

“Reliance Works,” Montreal.

Cable Address: GILMOUR, TRENTON

MAIN OFFICES:  
**TRENTON, ONTARIO**

CODES { A B C  
 LUMBERMAN'S  
 ZEBRA

Established 1820

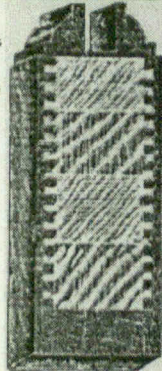
Established 1820

**GILMOUR & CO., LTD.**  
**TRENTON**  
**CANADA**

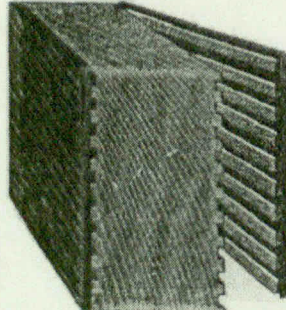


BRANCH OFFICES IN

- London, Eng.
- New York
- Chicago
- Glasgow
- Capetown, S. Africa
- Sydney, Australia

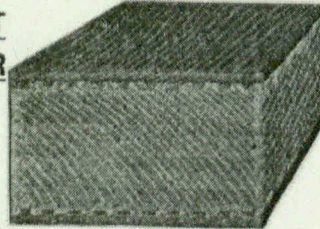


GTILE SECTION



SECTION SHOWING PROCESS

**PATENT  
 LUMBER**



SECTION PATENT LUMBER

CAPACITY OF MILLS & FACTORIES  
**25,000,000 FEET**  
 PER YEAR  
 OUTPUT;  
**300,000 DOORS**  
 PER YEAR

**SAW MILLS, PATENT LUMBER, DOOR,  
 SASH, BOX AND VENEER FACTORIES**

MANUFACTURERS OF  
 SASH, DOOR AND BOX FACTORY GOODS, LATH, SHINGLES, RAILROAD TIES, TELEGRAPH POLES AND POSTS,  
 JOINERY, FINE INTERIOR FINISH, HARDWOOD FLOORING, ETC. EGG CASES, EGG FILLERS

WRITE OR WIRE FOR SAMPLES AND PRICE LISTS

Responsible Agents Wanted in  
 All Parts of the World

**Gilmour & Company, Limited**

TRENTON, CANADA

ORDERS PROMPTLY FILLED

THE CANADIAN ARCHITECT AND BUILDER  
 DIRECTORY OF LEADING STONE AND GRANITE DEALERS

**LIGHT BROWN  
 or RED STONE**

*Sackville Freestone Co., Limited*  
 Sackville, New Brunswick.

—LARGE BLOCK, DIMENSION, SHODDY.—

State your requirements and ask for prices before contracting.

C. PICKARD, Managing Director.

**Amherst Red Stone Quarry Co.**  
 AMHERST, N. S.

**Amherst Red Stoe**

*Sampls Sent Free Hardens with Age  
 Correspondence Requested*

**STONE.**

Contractors can be supplied with all kinds of stones—Rubble, Coursers, all thicknesses, Footing Stone, Flagging, Crushed Stone, and Grey lime, at Horse Shoe Quarry, St. Marys, Ont., at reasonable prices, in quarry or F.O.B. cars at St. Marys, or destination. Also an analysis of their stone for retaining purposes or a flux. GEO. D. LAWRIE, Sec.-Treas. ALEX. DOUGLAS, Pres.

**JOHN KLINE**

—MAKER IN—

**ROUGH AND DRESSED GRANITE**

Heavy blocks a specialty. Street paving and curbing. Also granite for monumental and building purposes. Estimates and samples on application JOHN KLINE, Granite Dealer, HALIFAX, N. S.

**GRANIGE**

Red and Rose Pink

Fine Rich Colours for . . . . .  
**BUILDING and MONUMENTAL PURPOSES**  
 and **GRANITE PAVING**  
 can be had at low figures from the  
 St. Phillipe d'Argenteuil Quarries.

Send for quotations and samples to

**JOS. BRUNET**  
 Cote des Neiges, Montreal, Que.

**MOAT RED**—Sand Stone.

**BLACK PASTURE**—Buff.

**NOVA SCOTIA**—Blue Grey.

**BATH**—Box Ground Grey

Selling Agents for Canada—

**Thos. Samuel & Son,**

A. G. MOONEY, Manager.

Telephone Main 2448.

15 Lemoine St., MONTREAL

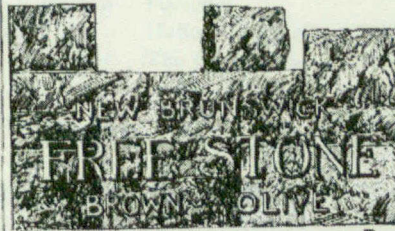
**JAMES BRODIE & CO.**

Quarries and Manufacturers of . . .

*Canadian Quinsy, Ebony  
 and Stanstead Granite*

*Monumental Building, Curbing, Pav-  
 ing, etc. — Rough Stock a Specialty*

Mount Johnston, Que.



BROWN AND OLIVE

**FREE STONE**

Any dimensions and finest quality,  
 for **BUILDING PURPOSES**, from  
 our New Brunswick quarries.

**Pulp Stones**

SAMPLES ON APPLICATION

**WM. HOOD & SON**

10 Richmond Sq., MONTREAL

**D. ROBERTSON & CO.**

**LIME AND STONE**

Credit Valley Sand-stone, Sills, Heads, Coursing and Dimension Stone our Specialties, either dressed or in the rough.

Lime Works at Milton,  
 Offices, Toronto and Milton.

**TO CONTRACTORS  
 AND BUILDERS**

Cheapest and best stone on the market  
 for footing, bridge work, dimension of  
 all sizes, sawed blocks, slabs and kerbing.

**Silex Stone Quarries Co.**  
 SHELBURNE, ONT.

**CROOKSTON QUARRIES,** Crookston, Hastings Co., Ontario.

**LIMESTONE** adapted for all kinds of heavy  
 Masonry.

Also Sills, Monument Bases, Rubble and Stone for  
 crushing purposes.

Grand Trunk & C. P. R.  
 Sidings.

**QUINLAN & ROBERTSON.**

For Prices of Unoccupied Spaces in above Directory, address the CANADIAN ARCHITECT AND BUILDER, Toronto.

**CREDIT FORKS STONE CO.**

84 Adelaide St. W.

TORONTO

**Brown Stone Quarries,**  
 ❖ ❖ ❖ **Credit Forks, Ont**

Supply the  
 Best . . .

**BROWN STONE** IN . . .  
 CANADA

**DIMENSION**      **COURSING**  
**RANDOM**        **SHODDY**  
**HEADS, SILLS**   **RUBBLE**

**BRIDGE  
 STONE**

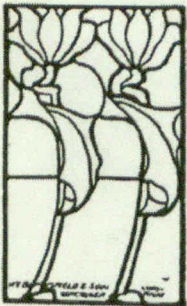
OFFICE:  
 84 Adelaide St. W.  
 TORONTO  
 Telephone 2028

Glass Painting...  
Memorial Windows  
**MCKENZIE'S STAINED GLASS WORKS**  
8 AND 10 MAIN STREET EAST  
Church and Domestic  
Ornamental Glass. Hamilton, Ont.  
Original Designs made to suit all classes of work.

**ROBERT McCausland, Limited**  
86 Wellington St. W., TORONTO  
*Memorial Stained Glass*  
*Decorative Leaded Glass*  
*Superior Metallic Glazing*

**GLASS ART WORKS**  
ESTABLISHED 1896.  
Memorial Church Windows,  
Geometrical and Quarrie Windows,  
Art Glass for Residences, etc.  
Send for designs and prices to

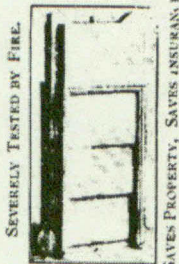
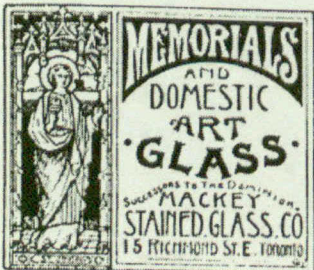
**H. HORWOOD & SONS** PRESCOTT, ONT.  
and Ogdensburg, N.Y.  
98 Bank Street, OTTAWA.



**HENRY BLOOMFIELD & SONS**  
ARTISTS IN STAINED and LEADED GLASS  
Mount Pleasant, Vancouver, B.C.  
SKETCHES AND PRICES ON APPLICATION.

**ART GLASS**  
Of Every Description.  
**Memorial Windows**  
A Specialty.  
**H. E. ST. GEORGE,**  
280 Dundas Street LONDON, ONT.

Please mention this paper when corresponding with advertisers.



SEVERELY TESTED BY FIRE.  
SAVES PROPERTY, SAVES INSURANCE.  
LATEST MODEL, CLOSED

**The Canadian Automatic Fire-Proof Door and Shutter Co.**

MANUFACTURERS OF  
Barber's Patents for Absolute Self-Acting Fire Proof  
Doors, Shutters, Vault Linings, Fittings, etc.,  
Safes, Document Boxes and Jewel Cases.

Everything guaranteed.  
For booklet and quotations, apply to  
**C. A. BARBER, MANAGER.**  
41 Beury Street - - - MONTREAL Que.

**The Globe Furniture Co., Limited**  
MANUFACTURERS OF . . .

**OFFICE FITTINGS**

Church and School Furniture  
WALKERVILLE, ONTARIO

**E**nriched Ceilings, Cornices, Friezes,  
Box Fronts, Capitals, Columns,  
Trusses, Mouldings and Centre  
Flowers for Ceilings  
MADE IN

**Fibrous Plaster and Carton Pierre**  
Drawings made and estimates given for every style of relief decoration  
for Theatres, Public Buildings, Private Houses, etc.

**Geo. Jackson & Sons,**  
49 Rathbone Place, LONDON W, ENGLAND

**NOW READY**

**Third Edition**

**CANADIAN CONTRACTOR'S HAND-BOOK  
and Estimator**

The third edition of the Canadian Contractor's Hand-Book has been published and is now on sale. The book has been revised and enlarged to upwards of two hundred pages, and the title changed to the Canadian Contractor's Hand-Book and Estimator, considerable matter bearing on the cost of performing various kinds of work having been added.

The price of the third edition, mailed free, is \$1.00 to subscribers of the CANADIAN ARCHITECT AND BUILDER, and \$1.50 to non-subscribers. Order from the publishers,

**The C. H. Mortimer Publishing Co., of Toronto, Limited**  
Confederation Life Bldg., Toronto.

ESTABLISHED 1859

**H. R. IVES & CO.**Manufacturers and Founders  
MONTREAL, QUE.**Architectural Iron Work**

THE NEW KING EDWARD HOTEL, TORONTO

Artistic Wrought Iron Gates, Fences, Bank Railings, etc., etc.  
Hammered Leaf Work.

Grilles, Chandeliers, Electroliers, etc., etc.

Elevator Enclosures and Elevator Cars from the plainest to the most elaborate designs

Electro Plating and Oxydizing in all Metals.

Duplex Exterior Copper Plating and Galvano Plastic Work.

**The Royal-Buffalo Hot Water Boiler**

Contractors for the Architectural and Artistic Wrought and Cast Iron Work in New King Edward Hotel, Toronto ; New Grand Trunk General Office Building, Montreal ; New Royal Insurance Co.'s Building, Montreal ; New C. P. R. Telegraph Building, Montreal ; New Merchants' Bank Building, Montreal, Etc., Etc.

**Samson Spot Cord**



Distinguished by our trade-mark the Colored Spot.  
Warranted to be of pure Cotton, Smooth Finish  
and Perfect Braid. Samples Free.  
SAMSON CORDAGE WORKS, Boston, Mass.

**The Canadian Portland Cement Company, Limited**

Manufacture "RATHBUN'S STAR" Brand

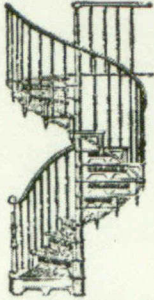
The Leading Canadian Portland Cement.

Capacity of Works: 500,000 Barrels per Year.

The RATHBUN CO.  
310-312 Front Street West, TORONTO, Ont.

SALES AGENTS

St. Lawrence Portland Cement Co.  
266 1/2 Notre Dame Street West, MONTREAL.



**Elevators, Enclosures and Cars  
Iron Stairs** of every description

Ornamental Railings for Offices and Banks,  
Fire Escapes, Etc.

Columns and Castings of all kinds.

**John Watson & Son,**

ARCHITECTURAL IRON WORKS

59-63 Dalhousie Street,

Phone, Main 4189x.

MONTREAL, Que.



**GLASS**

**GLASS**

**GLASS**

**Prismatic Rolled**

Polished Plate  
Window and

**Wire Rolled Glass**

Plain and Bevelled Mirror Plate, Etc., Etc.

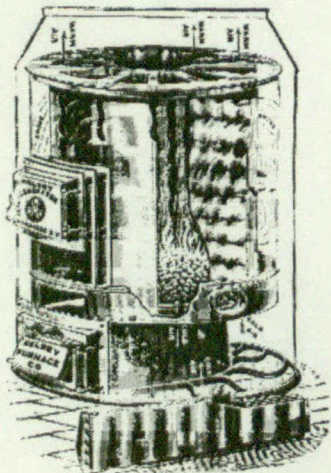
**PILKINGTON BROS., Limited**

Works:  
St. Helens, ENGLAND  
Maubeuge, FRANCE

Canadian Depots:  
Busby Lane, MONTREAL  
Mercer Street, TORONTO

Please mention the CANADIAN ARCHITECT AND BUILDER when corresponding with advertisers.

**The Kelsey Warm Air Generator**



A heating apparatus with from nine to seventeen vertical corrugated cast iron flues or sections forming the fire cylinder and combustion chamber, and having 65 square feet of heating surface to each square foot of grate surface.

Warms thoroughly and to the proper temperature great volumes of air by passing it through the sections and conveys it to every part of the building. Provides heat and most perfect ventilation for Residences, Churches and School Buildings.

SEND FOR BOOK OF OPINIONS  
FROM SATISFIED PEOPLE.

**The JAMES SMART MFG. CO., Limited**

Brockville, Ont., and Winnipeg, Man.



# MILLER BROS & TOMS

(Established 1869.)

## Machinists, Millwrights and Engineers

SOLE MAKERS IN CANADA OF THE

"Hill" Patent Friction Pulleys and Cut-off Couplings and "Hill" Patent Ring-oiling Hinges and Bearings

Office 88 Dalhousie St.  
Works 90 to 94 Dalhousie St. and  
121 to 127 Ann St.

## MONTREAL

## BENT GLASS

MANUFACTURERS

FOR { **Shop Fronts**  
**House Windows**  
**Show Cases**

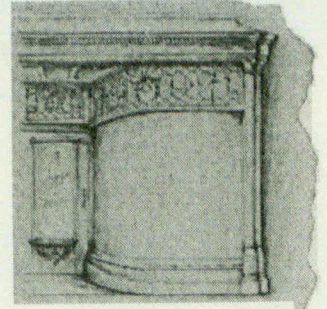
FINE BENT GLASS FOR CABINETS AND ART FURNITURE.

### Toronto Plate Glass Importing Co.

ALL KINDS OF WINDOW GLASS,

135 to 143 Victoria St.

TORONTO



Refractory Glass TRANSONS for Light Diffusion.

## CAREY'S Magnesia Flexible

### Cement ROOFING

Adapted to Flat or Steep Roofs. Always flexible. Fire-proof. Anyone can apply it. Durable as slate and costs less.

Correspondence promptly attended to. Catalogue and sample free.

### PHILIP CAREY M'FG. CO.,

94 Adelaide St. W., Toronto.

TENDERS WANTED

A Weekly Journal of advance information and public works.

The recognized medium for advertisements for "Tenders."

CANADIAN CONTRACT RECORD

TORONTO.

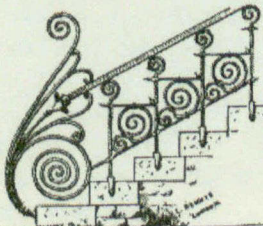
## OUR WOOD FLOORS

are made in our own factory and are now to be found all over Canada from Halifax to Vancouver. They are superior to the cheap American floors imported here and carry with them our guarantee. In addition to our catalogue design (free on request) we make any other design required at low prices.

The ELLIOTT & SON CO., Limited  
79 KING ST. WEST, TORONTO

# Use Rock Wall Plaster

## IRON STAIRS



Balconies, Railings,  
Grills, Wire Work

**DENNIS WIRE AND IRON CO.,**

LONDON, CAN.

Send for Catalogue.

School and Church **Bells**

Floor and Urinal **Slate**

Slate and Hypoplate **Blackboards**

**THE STEINBERGER, HENDRY CO.**  
Limited

73 RICHMOND STREET W., TORONTO

# The Canadian Architect and Builder

VOL. XV.—NO. 177.

SEPTEMBER, 1902.

## ILLUSTRATIONS ON SHEETS.

Houses on Spadina Avenue, Toronto.—Henry Simpson, Architect.  
Design for Proposed Residence, Scarth Road, Toronto.—J. P. Hynes, Architect.

## ILLUSTRATIONS IN TEXT.

St. Joseph's Church, Brighton, England.

## ADDITIONAL ILLUSTRATIONS IN ARCHITECTS' EDITION.

Photogravure Plate—Residence for Judge Street, Walmer Road, Toronto.—Eden Smith, Architect.  
Photogravure Plate—Library in Residence of Mr. B. E. Bull, St. George Street, Toronto.—Eden Smith, Architect.  
Photogravure Plate—Stable for J. E. Seagram, Waterloo.—Eden Smith, Architect.  
Design for a Public Library.—W. A. Langton, Architect.  
Houses, corner Isabella and Huntley Streets, Toronto.—Chadwick & Beckett, Architects.

## CONTENTS

Editorial . . . . .	105	A Flat Iron Church . . . . .	112
Our British Office . . . . .	106	Building Stones in the Northwest . . . . .	113
A Dominion Exhibition . . . . .	107	Legal . . . . .	115
By the Way . . . . .	108	Structural Work in America . . . . .	116
Stained Glass . . . . .	108	Notes of the Toronto Exhibition . . . . .	ix
Office Forms for Architects . . . . .	109	The Making of Veneer . . . . .	x
The Use of Colour . . . . .	109-110	Personal . . . . .	x
Uniformity in Specifications for Cement and Methods of Testing . . . . .	111	Hollow Walls of Artificial Stone . . . . .	xi
		The Gargoyles . . . . .	xii

## SPECIAL CONTRIBUTORS.

PROF. S. H. CAPPER, R.C.A., Department of Architecture, McGill University, Montreal  
MR. W. A. LANGTON, Architect, Toronto.  
“ EDMUND BURKE, “ “  
“ S. H. TOWNSEND, “ “  
“ FREDERICK G. TODD, Landscape Architect, Montreal.  
“ W. H. ELLIOTT, Toronto.  
“ J. C. B. HORWOOD, Architect, Toronto.  
“ A. F. DUNLOP, R.C.A., Architect, Montreal.

**Brick Fences.** BRICK fences which are so common a feature in England, have not been employed to any large extent in Canada, although the use of brick in conjunction with wrought iron for this purpose is noted in some recent work by Canadian architects. One difficulty which is said to attend the use of brick for this purpose in Canada, is that one side of the fence may be more subject to dampness than the other, leading to unequal expansion and contraction of the material, and ultimately to the toppling over of the structure. The use of cement instead of lime mortar in work of this character might prove a remedy.

**The Preferential Tariff.** THE news comes from Berlin that the German customs authorities will in future require certificates of origin in the case of American grain. This is regarded as a retaliatory slap at Canada for having granted preferential duty on British goods coming into this country. The Dominion should now demand a certificate of origin in the case of all imports from Great Britain. This would have the effect of shutting out large quantities of German goods which now find their way into Canada as British imports and get the benefit of the preference which was intended to apply only to British manufac-

tures. The statement is made on what appears to be good authority, that many German manufactured goods are shipped into England, where the assembling of the parts is done, after which the goods are exported to Canada and receive the benefit of the preference. At present there is nothing to prevent such a practice either by Germany or other countries. Means should be adopted to prevent the preference being accorded to any but bona fide British goods.

**Province of Quebec Association of Architects.** THE Council some months ago passed a resolution recommending that the Association establish a Scholarship for Students in the Architectural Department of McGill University. It is proposed that this scholarship should consist of a sum sufficient to pay the fees of the successful student during his four year's course. The action of the Council requires ratification by the Association. Two meetings of the Association were called for this purpose, but much to the regret of those who had interested themselves in the matter, the necessary number of members to form a quorum could not be got together. The matter will therefore come up for consideration at the annual meeting in January, when it is hoped the proposal will be approved. Meanwhile, by reason of the apathy of the members, the proposals, if adopted,

cannot go into effect until the opening of the winter term next year. The establishing of a scholarship of this character should awaken a deeper interest by the students in the study of Architecture, as well as in the P. Q. A. A. and the work of the Architectural Department at McGill.

THE ways of the trades unions, like those of the heathen Chinese, are sometimes peculiar. News of what appears to be the very latest cause for a strike comes from Grand Rapids, Mich. The union bricklayers of that city have refused to work on a building because the foundation walls are constructed of cement and are carried up a few feet above the ground level. Members of the union state that the action was taken because of the effect the use of cement as a building material will have on their trade, the new construction not requiring the services of skilled bricklayers and stone masons, and threatening, in case of the universal adoption of the cement construction, to deprive them of a large part of their employment and thus drive them into other fields. It is a foregone conclusion that this action must fail to seriously retard the use of cement for building purposes. The adaptability of the material for foundations and for the entire construction of certain classes of buildings, such as warehouses and factories has been so far established that its extended use in this direction in the future is assured. On the other hand, it does not seem probable that it will become popular in the construction of residences and other buildings in which a high standard of architectural effect is sought for. After all, therefore, its effect on the employment of bricklayers will probably not be serious. In any case the unions will not be permitted to dictate to owners, architects and builders what materials they shall employ in the construction of buildings.

A correspondent writes that the table on page 110 of the new edition of the Canadian Contractor's Hand Book, showing the number of bricks in walls of various thicknesses, will not apply to bricks manufactured in Toronto. This is no doubt true, but the table is correct for some other localities, as for example the Maritime Provinces. Our correspondent's complaint again draws attention to the fact that there is scarcely any limit to the variations in size of bricks manufactured in this country. As an illustration in point, an architect who has some work in progress in a northern town writes "I am putting up a block of stores, and because of the brick famine in this section, I am compelled to use three makes of bricks—one from Barrie, another from Stayner and the third by a local manufacturer. No two makes are alike in size. This causes a great deal of trouble in bonding." The three manufacturers from whom this architect obtained his bricks are distant from one another not more than fifty to sixty miles. It will thus be seen how sizes vary even in what might be considered the same locality. In short each manufacturer appears to be a law unto himself. In another column will be found a table similar to the one in the Hand Book, but based on the largest size brick made in the Dominion so far as we can discover. This may be of some value, but from what has been stated it will be seen that no table that could be compiled would

meet the requirements. Steps should be taken by the government or by the Architectural Associations and Builders' Exchanges to compel Canadian manufacturers to adopt a standard size for bricks, and put an end to the inconvenience arising from existing conditions.

#### City House Exteriors.

WIDE differences of opinion exist among architects with regard to what must be considered important features of their work. A discussion took place recently among members of the profession with reference to the outside appearance of city dwellings. A certain well-known house in Chicago was cited, which in the opinion of one architect had more the appearance of a prison than of a residence. The answer was that the interior of this house was entirely satisfactory and that the windows and doors faced upon an attractive inner court. Some of the parties to the debate contended that the exterior of a house facing the street might be of almost any character; that the owner and architect were not under obligation to make the exterior of such a building pleasing to the public; that the main requirement was to make the interior satisfy the desires of the owner. Others strongly combated these views, and held that in order that cities might be pleasing and interesting, it was necessary that attention should be given to the exterior treatment of residences as well as other buildings. Against this opinion was cited the American style of street house, which is so designed as to convey the idea that the occupants live, to a large extent, on the street. This style of house has large porches and verandahs, bow and other windows set low so that the interior is plainly visible from the street. There is something to be said in favor of both sides of this question. Perhaps the solution lies in the architect taking a middle course—that is, in making the outside of the house as attractive as the funds at the disposal of the owner and architect may permit, without in any way sacrificing the interior. It is undoubtedly proper that a dwelling should afford those who occupy it the necessary privacy, but it does not therefore follow that it should present to the observer from the street the appearance of either a barn or a prison.

#### OUR BRITISH OFFICE.

Owing to increased British business, the publishers of the CANADIAN ARCHITECT AND BUILDER have established a branch office at 22 Grand St. Helen's, London, E. C. Persons interested in the building trade are requested to avail themselves of the facilities thus afforded for securing information regarding the demand in Canada for constructive materials. Our representative will be pleased to call personally in response to a request. Address the C. H. Mortimer Publishing Co., 22 Great St. Helen's, London, E. C.

In Prussia the Minister of Public Works has determined to prescribe by circular the necessary rules which are to be observed for the proper control, in manufacture, of the qualities of cement. In future every depot will be required to have a test office. The tests will not make it impossible for any but a specialist to carry them out; a knowledge of the use of the instruments and reagents will be all that is necessary. This knowledge can be acquired in either the State laboratory or in one of the cement works. Thirty pounds is to be advanced to each depot for the purpose of buying the necessary instruments, which are to be of the same pattern as those in the Charlottenburg laboratory.

## A DOMINION EXHIBITION.

At the Toronto Industrial Exhibition last week the Hon. Mr. Tarte spoke of the desirability of holding a Dominion Exhibition, and of holding it at Toronto, as a good central place, already possessed of an experienced organization capable of carrying such an exhibition out. Mr. Tarte's promise to personally endeavor to help forward such an exhibition may be taken to mean that he does not ignore the question of cost. A Dominion show will require Dominion money, and its advocacy by Mr. Tarte may be considered as bringing the matter within the sphere of practical politics.

The idea ought to be taken up with energy. On the question of general expediency there is no doubt that it is a great idea, having incalculable possibilities in the way of developing trade within our own borders. We do not know each other well enough. There has been a rush of development in this country of late years that requires just such an opportunity as an all-Canadian exhibition to enable the different provinces and sections of the country to become acquainted with the nature and extent of each other's productions. We are apt, both in buying and selling, to think first of other countries, because we have not yet learned to expect our own country to supply us with either the products or the market we want. By dint of successes in the World Fairs of other countries, we have learned that the fruit and dairy products of Ontario rank first class in this planet. Our fisheries have long been a main support of the Roman Catholic church, in Europe as well as in this country; and we have recently come to regard ourselves as one of the granaries of the world. Our northwest is indeed rapidly enabling us not only to sell wheat to the world, but gold, to buy it with.

Yet these are but specialties; points in which we range ourselves with other countries. There are, besides these commodities, plenty more, which ought to be as well known inside the country. It is only a few things after all that a nation can expect to supply to other countries; but it ought to expect to supply itself with all but a few things. We give each other the least possible encouragement. We say Canadian manufactures cannot afford to be first class because they have not the market to justify it. The market is here; gaping for first class articles; but importing them from the United States.

It is just such a state of affairs that a national exhibition of national productions will tend to rectify. For such a chance producers will produce their best, and we shall be able to see if we have not in our own country not only the necessaries of life—food, clothing and fuel; but also its luxuries—books, plumbing supplies and objects of beauty.

Of course such an exhibition will do us no harm with the outer world. Canada is a great country for summer visitors from other countries, and Toronto is apt to be a place of call for most of them. To say nothing of the summer conventions, which find it a convenient and pleasant meeting ground, Toronto is in the way of Americans fleeing for July and August to our north-west fishing rivers and to Muskoka; and it is near Niagara, which European visitors must see before they can face their friends at home. With a Dominion Exhibition going on, these visitors would "stop off" and "take in" the show; and more would come because there was a show to see. All of which

would be good for trade, both present and prospective; and would no doubt, sooner or later, pay the cost of the exhibition. But the idea which appeals most to the imagination and suggests the greatest possibilities is the national stock-taking and interprovincial acquaintance-making that would take place; giving openings for trade, or producing at one stroke a market, for which both producer and purchaser have long been ready if they had only known of one another; a grand national courting bee to promote marriage between industry and trade in our family connexion.

To take one example which is of interest to readers of the CANADIAN ARCHITECT AND BUILDER: There is abundance of building stone in Ontario; limestones, sandstones, granites, gneisses, serpentines and marble. Specimens have been collected by the Bureau of Mines and made a striking exhibit at the Pan-American Exposition. Yet for these stones we go to Indiana, Ohio, Scotland and Italy; and for all that can be seen at present will continue to go there indefinitely. Here is one sort of product that our deserted waterways might very well carry, and there is nothing so likely to cause them to do so as a National Exhibition, well carried out.

This brings us to the aspect of the question which is more within the province of this journal than the question of the general advantage of holding such an exhibition. If done it must be done well; and in that need lies the chance of Toronto redeeming its lost opportunities in the way of both grounds and buildings for its Industrial Exhibition. It is at these grounds that the Dominion Exhibition will naturally be held. But while the Toronto Industrial Exhibition Association is no doubt the best available means of putting it on foot, the grounds of the exhibition are not only inadequate—a defect easily corrected by the juxtaposition of the extensive vacant military ground by the Stanley Barracks and the filling in which it is proposed to do on the lake shore—but, to have any adequacy at all as a mere portion of the show, the grounds will require an upsetting and reconstruction from which they will never recover; and that is what they want. It is such a chance to get things pulled down and things built that is not likely to occur again for many years; for the Park Commissioner, though stout, is temperate, and apparently healthy. Would he were a worse man, and had a better imagination! The grounds of the Industrial Exhibition, regarded as fair grounds, are just about as near nothing as they can be. An annual visitor has still, every year, to think before he can find his way to the grand stand. As for finding his way from it—there is but one way for everybody, and that in the wrong direction. Happy is the suburban Parkdaler who alone, when the fireworks are done, gets home to bed, undegraded (and unbruised) by crushing in a street car. There ought to be an eastern exit connected with either trams or trains; and the necessary accomplishment of such additional exit for a big Exhibition might be made one of Toronto's permanent gains proceeding from the Dominion show. But these, through important considerations, are quite secondary to the absolute want of effect in the present fair grounds. The plan is mere confusion. There is no leading idea, no visible arrangement, no attraction for the eye. These wandering roads with incoherent

buildings on them make no recognition of the fact that, a Fair is after all a great out of doors assembly; that people are out of doors most of the time and want to find their pleasure in being there. By making proper effort a Dominion Exhibition might be made an occasion to change all this. Its principal court would suffice for the main portion of the permanent Toronto Fair; and matters should be so arranged that the buildings round this should be made permanent and the court designed to be sufficient both in size and beauty to make the Toronto Exhibition what it should be.

Mr. Tarte's proposal that the Dominion Exhibition should be held next year leaves too short a time to do the thing properly; on the other hand it is hard to do anything that will take two years to do, on a ground where an Exhibition is held every year. But there are preparations, drawings contracts, ironwork, etc., that would be all the better for having a year, or all that is left of it after getting under way; and the filling in of the lake front might also go on at once. It would be cruel to shorten the Street Commissioner's enjoyment of such a happy dumping ground for ashes to one brief year. Besides there is going to be a shortage of ashes this year. With one year to advance preparations as far as possible, and a season of great activity, the thing might be done for the June after next. It would take this time also, one would think, to make sure of good exhibits.

If it is to be accomplished so soon as this there is no time to be lost, and even if it is given another year there is no occasion to delay taking the preliminary steps.

#### BY THE WAY.

Referring to a crusade which has been started in Dundee against the defacing of buildings by smokers striking matches against the walls, the London Builders' Record points to the necessity of using for walls which are liable to defacement from any cause, materials which are proof against disfigurement. Glazed or glass tiles or bricks will meet this requirement in many positions.

x x x

In remodelling the Union Loan Building, Toronto, Messrs. Burke & Horwood, the architects, have adopted the American plan of designating the ground floor as the First Floor, the floor above as the Second Floor, etc., and have so numbered the rooms as that the room number shall indicate the particular floor on which it may be found. For example, on the first or ground floor the rooms number from 10 to 19, on the 2nd floor from 20 to 29, on the 3rd floor from 30 to 39, etc. The numbers of the several floors are shown in bold figures on the sides of the elevator.

x x x

The residents of a London street in which a large building was in process of construction appealed for and were granted an injunction restraining the contractor from operating a derrick before 7 a.m., on the ground that it spoiled their slumbers. The contractor did not let the matter rest there, however, but carried the case to the Court of Appeal, which discharged the injunction. The court held that there was no vested right which secured people living in a residential street from being disturbed before 8 a.m. It was to the interest of everyone to have the work executed as quickly as possible. The contractor also

submitted the plea that he was under penalty to complete the building by a given date.

x x x

The members of the Institute of British Clayworkers hold a yearly excursion and visit in a body places of special interest where combined with pleasure information of value to the trade may be obtained. The practice is a commendable one. This year a visit was made to the clayworking districts of France. In this connection the British Clayworker remarks: "The trade in brickmaking is a long way behind England as a whole. There are comparatively few facing bricks made in France, and those chiefly in the Burgundy district, which we did not visit. The common brick trade is, generally speaking, of a very inferior stamp, but those made at Vaugirard were of a very fair quality, and the fire bricks made at Boulogne were excellent. The glazed bricks made at Ivry cannot compare with those made in England by the best firms, but they were excellent bricks, and the question arises whether the perfection and costliness of the English article is justifiable or necessary for ordinary purposes. We should be inclined to think that a product equal to that of Ivry would find an immense market at its relative price in this country. The French tile is undoubtedly a very superior product and worthy of extensive imitation. It is universal on the Continent. It is cheaper and lighter than the plain tile and more ornamental. It is cheaper and cooler than the slate. Some very good work is done in terra cotta, but it has not the pretensions of English architectural terra cotta. The use of it is undoubtedly limited by questions of cost, and it is only on very superior buildings that the architectural stoneware produced at Ivry could be introduced."

#### STAINED GLASS.

At a meeting of the Sheffield Society of Architects and Surveyors Mr. A. Jeffery delivered a lecture on "Stained Glass," in which he said that the first stained glass executed in England was in the time of King John. Previous to this all glass came from Italy, which even at this date boasted of eminent artists. The old masters taught us many lessons, and much could be learnt from them. We should try and embrace all the good qualities of the old men, ignore their shortcomings, and try to improve on what had been done before us. After the sixteenth century stained glass died out, and did not again revive until the nineteenth century. Mr. Jeffery went on to explain that a window should be part of a building, and should not be treated as a picture or wall decoration. If a man attempted a picture he spoiled his material as glass and made a very bad picture. The lecturer described the different methods of manufacture. He said that English glass was superior to foreign, both in material and workmanship. The most important point in a window, in his opinion, was permanency, and only the most permanent of colours should be used, at whatever cost. Speaking of domestic glass he did not think the modern style was a passing fancy, but that it had come to stay, but like all other transitions in art at the outset it seemed to have been let loose, and we appeared to be seeking after something we could not quite grasp. But the style would ultimately settle down and find its own level. He was eagerly looking forward to the time when there would not be so much commercialism in connection with artistic crafts, and hoped architects in the near future would come more into contact with the craftsmen, and by their joint ideas succeed in raising the standard of work,

OFFICE FORMS FOR ARCHITECTS.

We have received from Mr. Walter Chesterton, architect, of Winnipeg, a copy of a form of certificate which he has used for some time past and has found very satisfactory. We take pleasure in reproducing the form herewith for the information of our subscribers to whom we trust it will be found valuable. In this connection we would be pleased to receive from architects copies of any office forms which they may have

on which the placing of colour of different values depends, to influence the ultimate effect of the whole interior, that is to say, as influencing the architecture. This is what really concerns the architect, and it concerns him just in the same way as the sections of his mouldings or the position of his carved detail concern him—they are all matters vitally affecting the general impression which his building is to produce.

Let us then endeavor to see what should be the at-

No. .... 190..

Contractor.....

Contract .....

Proprietor .....

	\$	Cts.	\$	Cts.
AMOUNT OF CONTRACT				
Amount Certified Previously -				
" Deductions - - -				
" Retained - - -				
Now due - - - - -	\$			
EXTRAS.				
Amount of Claims -				
Previous Payments -				
Deductions - - -				
Amount Retained -				
Now Due - - - - -	\$			
Total Due - - - - -	\$			

No. ....

WINNIPEG, MAN.,.....190..

I hereby Certify that .....

is entitled to..... Dollars,

for..... Labor and Materials used on CONTRACT

and..... Dollars for EXTRAS allowed in the

EXECUTION } and completion of.....

ERECTION } for.....

STATEMENT.

EXTRA WORK.				CONTRACT.			
	\$	Cts.	\$	Cts.		\$	Cts.
Total claim - -					Amount of Contract - - -		
Previous Payments.....					Amount previous payments		
Deductions - -					" deductions - - -		
Amount Retained.....					" retained - - -		
Amount now due - -					Amount due on contract -		
Received payment.....190					" " for extras - -		
					Total amount now due		

proved to be particularly adapted to their requirements, as well as particulars of office methods generally.

THE USE OF COLOUR.

Considerable regret is felt by many of the older members of the A. A., that colour is being so little studied by the students of to-day. The primary cause is, no doubt, that there are already so many subjects which must be taken up for the examinations; but I am inclined to think that, behind this, there is also the consciousness that it is a big subject in which the way is not very clear, and in which the results, as seen in the experience of their elders, are apt to be extremely uncertain. The student sees examples of the introduction of colour, by good men too, which he cannot bring himself to think are of much advantage to the building though not without harmony in themselves, nor wanting in attractive quality as to design; and he is puzzled as to what to study, or what to admire. And the real fact is that, as a "Handmaid of Architecture," colour is neither properly studied nor even properly looked at by the majority of architects. One has but to turn to the papers read and the discussions on them to realise that the attention is all given to points of method or medium, or to questions of hagiology or archaeology, all matters interesting in themselves, but only in a secondary degree of importance to the architect's work. It is hardly an exaggeration to say that even the harmony of colour itself is, for the architect, a study of secondary importance; for he may obtain assistance in that when it comes to the execution; but it is of the first importance for him to know and understand what colour can do for his building, and how. This means that he needs to study and understand not so much particular harmonies and contrasts of individual hues, as the general principles

titude of the architect towards colour. Firstly, he wants to be sure that his building will gain by the use of colour. It will certainly gain if the colour helps to explain and adorn it without disturbing the sense of repose, or if it, perhaps, assists in producing repose. Observe that the quality of repose has nothing to do with the "medium" to be used or the "subject" to be introduced. It has to do with simplicity of expression in all that concerns the suggestion of stability. Now colour, properly placed and of proper value, can greatly assist simplicity of expression, even amidst much elaboration; just as it can also annihilate simplicity. This is almost entirely a matter of judicious placing of the colour values; that is, so adjusting them that those structural forms which express stability, are first recognized, and that features of secondary importance are not the first to attract notice or to compete for attention. This does not imply that colour is to be lavished on the structural features—far from it. The end may be often attained by leaving them almost plain; but it means that they are to be constantly in mind, and that whatever is done with colour must be so done as not to set up an interest at variance with, or detracting from, the structural expression. This is not an empirical statement, it is a sufficiently obvious general law; but it receives extraordinarily little attention from those whom it most concerns; for in its application, it is not only less simple than it appears, but it is capable of infinite variety.

When the colour decoration of an interior has to be considered, it requires to be studied in the first instance much as a picture would be, as a whole; and, as with a picture, although some special scale of colour may be intended, it will be better in most cases to think it out, or plot it out in monochrome; for so the mind will be less embarrassed by a multitude of problems at

one time. At starting, what we have to decide is which lines or features are essential to the expression of the building, and how these can best be maintained as a connected whole. In some places they will need accentuating, in others rather blending or connecting with adjoining surfaces—for we do not want a harshly defined network or skeleton of construction exhibited—we want to recognize the bony structure, not to have it shown detached from the muscular tissue. All this and the main features of ornamental treatment can be best worked out in black and white; for by this it is more easy to see where force is required, where to be avoided; and the effect of awkward or ungraceful lines is more easily recognized. It is only when the scheme has reached the point where these general requirements have been satisfactorily adjusted, that the question of rendering it into colour need be taken up. Of course with lengthened experience, the practised colourist arrives at the result by a short and mental process.

Now the rendering into colour of any scheme of decoration naturally demands not only a knowledge of colour, that is of the effects of colours on each other and of their harmonies, but it also demands considerable experience in the use of colour for decorative purpose, where each colour has to be used point-blank, without the shadings and modulations which play so important a part in the colouring of a picture. And, besides this, experience can alone prepare even a good colourist for the extraordinary changes to which his colours are subject between the palette and the surface to be decorated. No one who has not the experience can be in the least prepared for the amazing pranks which reflected lights can play on colours; nor for the almost equally astonishing influence of the tones prevailing in the proximity of the parts under treatment. These are matters which cannot be learnt at the desk or the drawing board; and for that reason, if for no other, the execution of the scheme in situ needs the experienced hand if it is to succeed. But a much more limited experience may succeed in projecting an excellent scheme, if only guided by a true architectural sense; and when I said above that a knowledge of the harmony of colour was, for the architect, of secondary importance, what I intended to imply, and what I think will be seen is that such knowledge, however desirable, and however essential for the full working out of a colour scheme, is less necessary for the architect than the perception of the nature of the aid to be looked for from colour; and that, whilst few can have the time or the opportunity to gain such a knowledge of colour as would enable them to prepare and carry out a whole decorative scheme, most architects can, if they will, train themselves to see how and in what form such decoration can be of service to their building. Careful observation and the habit of analyzing the motives in good examples, and the value of the results obtained, will by degrees render the student much more confident as to the direction in which he must seek success in his own works.

The study of colour, if a man has any developed sense of colour, may be carried on day by day, by observation or by practice, in a dozen different ways. Sketching, whether from landscape, from flowers, or from example, is all good study if done with the mind awake to understand the lesson. In sketching, we have to grasp the fact that each colour is affected by

others near it, and that its value is relative, not fixed. We have to learn that the foliage of the tree which comes into our subject cannot be represented by the hue of its individual leaves, but by the different hue produced by the many thousand lights, shadows and reflections of its many thousand leaves, qualified too by the tones of adjoining objects and by the interposed atmosphere. Similar lessons are to be learnt in sketching from flowers, in the doing of which the student will soon find that the charm of his subject and its harmonious contrasts largely depend, not upon the direct contrast of a brilliant flower with an individual leaf, both equally lit, but upon the contrast of the bright flower itself enriched by some shade, with foliage tones qualified by shadow and reflection. His sketch, if it does not catch these facts, fails of its colour lesson. When it comes to the application of such lessons to decorative colouring, as harmony, the student has to remember not what was the "local colour" of flower or leaf, but what tones of colour produced the harmonious effect, so that when he sees his sketch at home, in a diffused light, he still has some equivalent of the original charm.

For the study of the application of colour, decoratively, the great school is Italy; but before a man can profit by it he must have some amount of mental training, and have done something in the way of cultivating his powers of analysis; that is to say, he must have learnt not only to recognise what is good, but why it is good; and to be able in some degree to understand what the artist aimed at. Perhaps only by degrees will he arrive at appreciating the subtleties by which the end was attained: for these, like the master touches in a picture, are only to be recognised by one who has himself made some progress. But the broad principles and general motive can be understood by anyone whose architectural instincts are true, and can bring an unprejudiced mind to study them. At the same time he has to be on his guard against confounding executive merit with decorative excellence; for it is only too true that as the former grew the latter tended to decline. In Italy, moreover, the really good work is often swamped by a vast quantity of later bad art, frequently so bad as to discourage the student from his search for the good.

There is another, collateral method of studying colour decoration, which is interesting in itself and affords valuable training too. It is the habit of regarding every interior in which one may happen to spend a little vacant time, as a possible subject for colour treatment. In the intervals of a concert, between the acts of a play, or during the delivery of some after-dinner speech, to try and think out carefully a scheme of colouring for the place in which you would otherwise be suffering ennui, is at once a diversion and profitable study. You have to be your own critic and to ask yourself "Why?" at every step; but the habit gives a useful grip of the way of looking at the subject.

The study of colour, however, once pursued, has a constant and ever new attraction which grows with the pursuit. The architect who does not heed it leaves one side of himself uncultivated, and loses one joy in life; his buildings lose a part of their possible charm, at any rate within; or sometimes, by later inconsequent or unskilled treatment, lose all.—J. D. Crace, in A. A. Notes.

UNIFORMITY IN SPECIFICATIONS FOR CEMENT  
AND METHODS OF TESTING.

The attainment of a standard specification is greatly desired by all those called upon to use cement in works of construction; indeed, this matter is of such importance to the manufacturer and consumer that both are concentrating their efforts in endeavouring to accomplish this result.

Mr. Lesley has given us much interesting information in regard to the great variation at the present time in specifications for cement, these variations not only arising from differences of opinion between experts as to what constitutes good material, and from different methods of testing, but also arising in many instances from lack of knowledge or from inexperience. Some of the specifications call for high strength, others for low; some require quick and others slow setting; many require a finely ground product to be slow setting and to be low in sulphuric acid, which is difficult and often impossible to produce; others introduce chemical qualifications which, if not submitted to an expert for approval, often impose very unnecessary restrictions on the manufacturer.

The difficulties under which the manufacturer labours are therefore evident. His material must satisfy all of the specifications of his different contracts, and a single product can scarcely be controlled by subsequent treatment to meet these different requirements; also he is sometimes asked to meet impracticable conditions. The advantages of a uniform specification to a manufacturer would therefore be great. Instead of being obliged to meet irrational and sometimes impossible specifications requiring a great variety of grades of material, he would be required to produce only one, or possibly two, grades, one quick and one slow setting. His work would be greatly simplified, which would not only reduce the probability of producing inferior material, but also tend to reduce the cost of production.

The advantages of uniformity in specifications, moreover, are by no means entirely in favor of the manufacturer. The material would be ground to a certain fineness, have a definite specific gravity, and develop a strength with less range of variation when treated under definite conditions. Thus the consumer could depend upon the quality of his material better than he does now, and would consequently be able to use it more understandingly, by adopting more efficient methods of manipulation and more economical designs. He would also be able to establish the fact when failures in mortar and concrete occur from poor workmanship and improper manipulation of the materials rather than from the inferior quality of the cement, and he would apply such remedies as would secure more durable and permanent structures. The investigation of cement in any one branch of construction would have a definite bearing on all cement construction and could be utilised in every line, whereas now they excite interest only in a general way.

Again, the consumer would not only save money through economies in manipulation and design, but his material would actually cost less, due to the reduction in cost to the manufacturer, resulting from the production of a standard article. The small consumer, also, not having sufficient appliances for accurate testing, would be more sure of the character of his material. Under the present system he is liable to get all the inferior products of the mill and the shipments which have been condemned on more important work, whereas if only a standard grade of material were produced he would be more likely to secure a normal product.

Everyone connected with a laboratory for testing cement knows the great influence which details of seemingly minor importance exert upon the results. In the preceding part of this paper it has been assumed that uniformity in specifications is equivalent to uniformity in the material itself, but this evidently would not be the case unless the specifications were based upon a standard method of testing. For instance, one laboratory might obtain a certain value on a seven-day sand test and another might obtain a much greater value on exactly the same material. Therefore if the uniform specification called for a value intermediate between the two, the first laboratory would require a higher testing cement than the second, even should their requirements be identical. In order for a uniform specification, therefore, to have any practical value, it must be based on a standard method of testing.

The principal reason that tests of cement show such variations in the results obtained by different operators, is that it is one of the few materials that is not tested entirely in the form in which it is manufactured and sold. Bars of iron and steel, bricks and wood, are tested not only in the form in which they are to be used, but also in the form in which they are produced and sold.

Cement, on the contrary, is made in one form, tested in a second and used in a third form.

The tests of cement may be divided into two classes: First, those which can be made with comparative accuracy, and second, those which are only relative owing to the great influence which the personal equation has upon the results.

The first class of tests are those made on the material as it is manufactured and sold, i.e. specific gravity, fineness and chemical analysis. The second class includes those tests which are made on the material after it has been subjected to certain processes and combined with other elements, and hence exists in a different form from that in which it was produced, i.e. time of setting, tensile and compressive strength and soundness.

The first class of tests are capable of standardization, providing the apparatus and materials used are made and handled with precision. The second class, on the other hand, are subject not only to variations in the material itself, but also to variations in the other elements used with this material and to variations in the processes employed in combining them.

On account of the difficulty of procuring suitable apparatus for making tests and of manipulating it with exactness, variations will be found to some extent to affect all tests.

The determination of specific gravity is probably least subject to variations due to differences in method where reasonable care is exercised in its manipulation.

The test of fineness, on the other hand, is subject to variations on account of the difficulty of procuring standard sieves and of manipulating them with precision.

Chemical analyses are also subject to similar irregularities. In the tests made on pastes of cement, the inaccuracies of manipulation enter with double force, on account of the introduction of other elements and of the greater influence of the personal equation.

On account of these many possible sources of error, therefore, it is evident that every detail of manipulation and every piece of apparatus used must be prescribed exactly, thus standardizing the methods of testing if it is desired to adopt a uniform specification.

This, however, would not be the only advantage gained by the introduction of uniformity in methods. Even if there were no thought of adopting a standard specification, a standard method of testing would still be decidedly beneficial, in that it would place all results obtained on any material, in any place, on exactly the same basis. Under the present system the results of tests in one laboratory are of little practical value to another. If, however, these results all had the same basis they would have a direct bearing on, and be strictly comparable with, the results obtained elsewhere, which would vastly increase our knowledge of the behaviour of the material, and also render unnecessary a great amount of duplication of investigations.

For instance, a laboratory might make an apparently exhaustive series of tests investigating some property of cement. These tests might be repeated by a second laboratory, using different methods and probably obtaining results seemingly contradictory, thus leaving every one confused as to the indications of the tests, whereas if standard methods had been used the results would be much more likely to have been corroborative.

Standardization of methods, therefore, would have the great advantage of placing on a common basis all results either of routine work or of experimental investigations.

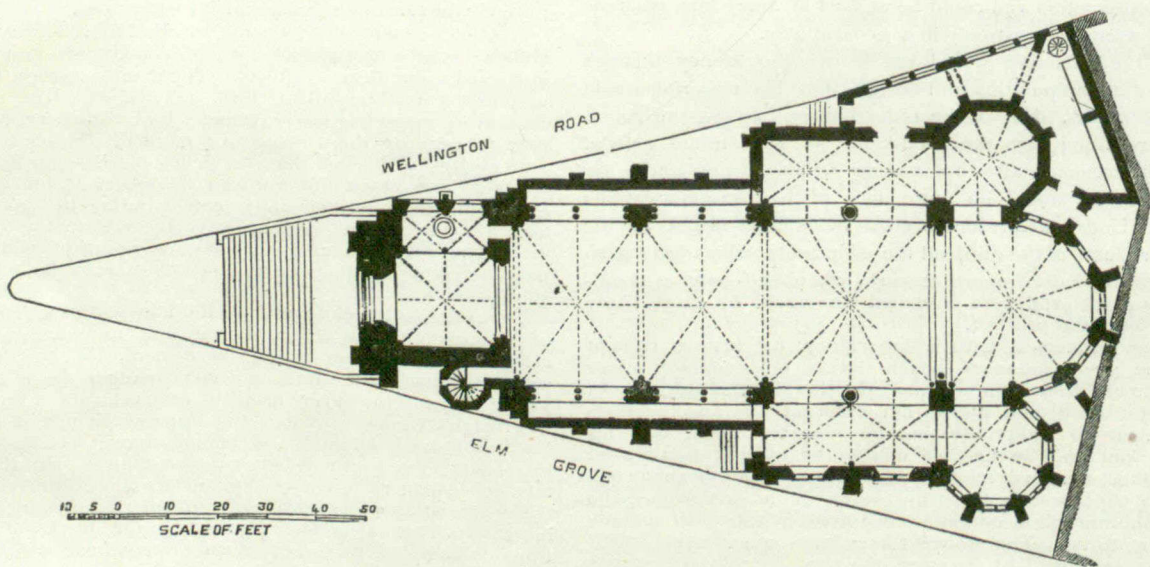
Another benefit also would be the doing away with the constant source of friction between manufacturer and consumer in regard to the results of tests. The manufacturer's laboratory may use a method giving high results, and the consumer's laboratory may yield lower values; both, however, being accurate as regards their respective method. The manufacturer, not always realising that the consumer's specifications are based on the results of his own laboratory, and not of the manufacturer's, is constantly endeavouring to show that the failure to meet the requirements is due to the consumer's methods. This is a comparatively unimportant matter, but it helps to show the many annoyances that could be obviated by standardisation.

The American Society of Civil Engineers, through the report of its committee in 1885, was the first to inaugurate a set of rules for the uniform testing of cement. While these rules served their purpose in an excellent manner for a number of years, they fail to entirely meet the requirements of to-day. This has resulted from several causes, among which may be mentioned, first, improved methods of manufacture; second, increased knowledge of testing and better acquaintance with the properties of cement; third, the demand for greater accuracy and the more rigorous requirements in specifications; fourth, the increasing importance and magnitude of the works of construction in which cement is used as the principal material.

In recognition of these facts, the Society has recently appointed a committee to report methods for the uniform tests of cement. In carrying out these instructions the committee is confronted with the difficulties attending the selection of standard methods by which uniform and comparable results may be obtained. Anyone engaged in the testing of cements must necessarily encounter the same difficulties and must realize that the basis of a standard specification is a system of testing which will give uniformity in results. This fact cannot be too strongly emphasised. It would therefore appear logical that the first efforts should be directed towards securing uniformity in methods of testing, then the foundation of a uniform specification would naturally follow.

\*A paper read before the American Section of the International Association for Testing Materials by Mr. George S. Webster.





Ground Plan.

ST. JOSEPH'S CHURCH, BRIGHTON, ENGLAND.

A "FLAT-IRON" CHURCH.

To the Editor of the CANADIAN ARCHITECT AND BUILDER . . .  
 SIR,—In an editorial last month (September) you made reference to the much advertised "flat iron" building recently erected on the corner of 5th Avenue and Broadway, New York. Many people imagine this building to be the only one of any importance ever erected on a similar gore. To show this to be a mistake, I enclose you herewith the plan and perspective of St. Joseph's Church, Brighton, England, built in 1879, on a gore similar to the "flat-iron" gore. It will be seen the tower and steeple stand on

the narrow end of the plot, and rise to a height of some 200 feet above street grade. This illustration is taken from the Builder of March 13th, 1880.

The church at the time came in for considerable criticism, because a perspective view of either side of the building obtained at certain angles, gave to the building a narrow and stilted appearance. Taken from the other end of the church gave it an appearance of being larger than it actually was.

Collingwood, Ont Sept. 8, 1902.

F. T. H.

BUILDING STONE IN THE NORTHWEST.

Until recently the impression prevailed that there existed in the Canadian Northwest but little building stone. Investigation has revealed however that extensive deposits of more or less excellent quality, are to be found between Winnipeg and Lake Winnipeg extending as far west as Stonewall and east to Whitemouth. Outcroppings are noticeable at Stonewall, Stony Mountain, Little Stony Mountain, Lower Fort Garry and East Selkirk. Stone from these points was used by the Selkirk settlers very soon after their coming to the country. Lower Fort Garry gives evidence of the use of this stone by the Hudson's Bay Company; the Kildonan church, and St. Andrew's church at the rapids are later examples. The early tombstones were made of the same material.

The Stonewall quarries have been considerably developed. Those at Stony Mountain have been used very largely for building in connection with the penitentiary. The main quarry at little Stony Mountain is owned by the city of Winnipeg and from it enormous quantities of stone have been used on the streets of the city, both as curb and foundation stone and for concrete and macadamizing. From the Selkirk quarry has come most of the ornamental stone used in Winnipeg.

Mr. Garson, formerly a contractor of St. Catharines, while erecting some buildings at Rat Portage, searched this territory for a stone which would meet his requirements, and located a deposit of 60 acres about two miles from Tyndall station on the C. P. R. and 29 miles from Winnipeg. He proceeded to develop the quarry and has already taken out 75000 tones of stone from an area of an acre and a half at a depth of less than 20 feet. As to the appearance of the stone, Mr. D. A. Dowling, B. A. Sc., in his report on the geology of the district says: "It presents a peculiar mottled appearance, which adds much to its beauty as an ornamental stone. This strange mixture of brown and white is difficult to account for. In some cases it appears as if its origin might be due to seaweed remains. Often the color portion approaches the color of yellow ochre and seems impregnated with iron, while the intervening spaces are more or less colored. So marked is this mottled condition that stone from this section can be distinguished at once from other stone in the Lake Winnipeg district."

The death is announced of George Farquhar, a prominent contractor of Toronto.

PUBLICATIONS.

Modern Carpentry — a Practical Manual — by Fred T. Hodgson, Architect; Frederick J. Drake & Co., Chicago, publishers.

This new work, by a well known author, consists of 195 pages enclosed within cloth covers, and copiously illustrated. It treats in plainly understood language of carpenter's geometry and joiner's work, and gives many practical examples of best methods of performing various kinds of work. The book concludes with a number of useful tables and memoranda for builders.

The London Builders' Journal tells of a contractor who has carried sleight-of-hand (on a large scale) into the domain of building construction. He was recently building a dozen houses, each with a kind of underground kitchen which the local authorities required to be connected with the rooms above by a staircase. Now a dozen staircases are expensive, and it occurred to this enterprising contractor that it would be much more economical to have one only. So he bought a substantial staircase and fitted it up to the first house, got the local inspector to examine it, and obtained his certificate. The staircase was then removed to the second house, where another inspection took place, followed by another certificate, and so on through the whole twelve houses. In the last house the staircase was allowed to remain, but—verb. sap.—in the others its place was taken by a step-ladder.

THE  
**CANADA**  
**PAINT**  
**COMPANY**  
LIMITED

☞ The "ELEPHANT"  
Brand of White Lead  
has stood the test for  
forty years ☞

THE  
**CANADA**  
**PAINT**  
**COMPANY**  
LIMITED

☞ Correspondence Invited.  
Montreal and Toronto

**Milton**

DR. ROBERTSON, PRESIDENT.

J. S. McCANNELL, MANAGING DIRECTOR.

**ARCHITECTURAL TERRA COTTA**

We make a Specialty of Ornamental Brick and Terra Cotta Mantels

High-Grade Pressed and Ornamental Bricks in red, buff, yellow, salmon, brown, and Special shades. : : :

**Pressed**

Our products have a wide reputation and are specified by leading architects

**THE MILTON PRESSED BRICK CO., LIMITED**

**Bricks**

Works and Head Office: MILTON, ONT.

Montreal Agents: T. A. MORRISON & CO., 204 St. James Street.

THE CANADIAN ARCHITECT AND BUILDER

THE CANADIAN ARCHITECT AND BUILDER

A Monthly Journal of Modern Constructive Methods,

(With a Weekly Intermediate Edition—The Canadian Contract Record).

PUBLISHED ON THE THIRD WEDNESDAY IN EACH MONTH IN THE INTEREST OF ARCHITECTS, CIVIL AND SANITARY ENGINEERS, PLUMBERS, DECORATORS, BUILDERS, CONTRACTORS, MANUFACTURERS OF AND DEALERS IN BUILDING MATERIALS AND APPLIANCES.

The C. H. MORTIMER PUBLISHING CO. of Toronto, Limited, Publishers, Confederation Life Building, - TORONTO, CANADA.

Telephone Main, 2362.

Branch Offices:

IMPERIAL LIFE INSURANCE BUILDING, MONTREAL. Bell Telephone 2299.

22 GREAT ST. HELEN'S, LONDON, E.C.

SUBSCRIPTIONS.

THE CANADIAN ARCHITECT AND BUILDER will be mailed to any address in Canada or the United States on the following terms: Architects' Edition, \$3.00 per year; Regular Edition, \$2.00 per year. The price to foreign subscribers is: Architects' Edition, 16 shillings; Regular Edition, 12 shillings. Subscriptions are payable in advance. The Journal will be discontinued at expiration of term paid for, if so stipulated by the subscriber; but where no such understanding exists, will be continued until instructions to discontinue are received and all arrears of subscription paid.

ADVERTISEMENTS.

Prices for advertisements sent promptly on application. Orders for advertisements should reach the office of publication not later than the 12th, and charges of advertisements not later than the 5th day of the month.

EDITOR'S ANNOUNCEMENTS.

Contributions of value to the persons in whose interest this journal is published are cordially invited. Subscribers are also requested to forward newspaper clippings or written items of interest from their respective localities.

Subscribers who may change their address should give prompt notice of same. In doing so, give both old and new address. Notify the publishers of any irregularity in delivery.

ONTARIO ASSOCIATION OF ARCHITECTS.

OFFICERS FOR 1902.

PRESIDENT - W. A. LANGTON, Toronto.  
 1ST VICE-PRESIDENT - JOHN A. PEARSON, Toronto.  
 VICE-PRESIDENT - GEORGE W. GOULLOCK, Toronto.  
 TREASURER - W. L. SYMONS, Toronto.  
 REGISTRAR - W. R. GREGG, 94 King W., Toronto.

COUNCIL:

LAWRENCE MUNRO - Hamilton.  
 A. H. GREGG - Toronto.  
 EDMUND BURKE - Toronto.  
 C. H. C. WRIGHT - Toronto.  
 A. R. DENISON - Toronto.

PROVINCE OF QUEBEC ASSOCIATION OF ARCHITECTS.

OFFICERS FOR 1902.

PRESIDENT - J. VENNE, Montreal.  
 1ST VICE-PRESIDENT - W. E. DORAN, Montreal.  
 2ND VICE-PRESIDENT - R. P. LEMAY, Quebec.  
 SECRETARY - PROF. S. H. CAPPER, Montreal.  
 TREASURER - J. S. ARCHIBALD, Montreal.

COUNCIL.

G. E. TANGUAY - Quebec.  
 A. RAZA - Montreal.  
 A. C. HUTCHISON - Montreal.  
 D. R. BROWN - Montreal.  
 A. A. COX - Montreal.  
 S. LESAGE - Montreal.  
 AUDITORS—C. DUFORT, Montreal; J. H. LE RON, Quebec.

TORONTO BUILDERS' EXCHANGE.

BOARD OF DIRECTORS:

JAMES B. THOMSON, President.  
 JOSEPH RUSSELL, Vice-President.  
 R. G. KIRBY, 2nd Vice-President.  
 JOHN L. PHILLIPS, Secretary.  
 DAVID WILLIAMS, Treasurer.  
 THOS. CHRISTY.  
 WM. SM L'WOOD.  
 A. WELLER.  
 JOHN HOIDGE.

JAS. CRANG.  
 JOHN R. LYON.  
 WM. DAVIDGE.

JOHN M. GANDER.  
 JAS. CRANG.  
 JOHN VOKES.  
 WM PEARSON.

LONDON BUILDERS' EXCHANGE.

BOARD OF DIRECTORS:

D. C. SIMPSON, President.  
 JOHN NUTKINS, 1st Vice-President.  
 JOHN WHITTAKER, 2nd Vice-President.  
 GEO. S. GOULD, Secretary-Treasurer.

WM. TYTLER.  
 THOS. JONES.  
 ED. MARTYN.  
 EO. YOUNG.  
 S. STEVELY.

VANCOUVER BUILDERS' EXCHANGE.

BOARD OF DIRECTORS

E. COOK, President.  
 A. E. CARTER, Secretary.  
 H. A. BELL, Treasurer.  
 T. BRADBURY.

C. P. SHINDLER.  
 K. M. FRASER.  
 E. G. BAYNES.  
 D. SAUL.

WINNIPEG MASTER CARPENTERS' ASSOCIATION.

BOARD OF DIRECTORS

A. MacDONALD, President. A. McCORMICK, Secretary.  
 A. G. AKIN, 1st Vice-President. J. G. LATIMER, Treasurer.  
 A. SUTHERLAND, 2nd Vice-President.

MASON BUILDERS' EXCHANGE.

BOARD OF DIRECTORS:

D. D. WOOD, President. A. N. McCUTCHEON, 1st Vice-President  
 W. F. LEE, 2nd Vice-President. A. T. DAVIDSON, Secretary.  
 EDWARD CASS, Treasurer. WILLIAM ALSIP.  
 D. T. JACKSON. ANGUS BROWN.  
 J. MALCOM.

MONTREAL BUILDERS' EXCHANGE.

BOARD OF DIRECTORS:

C. T. WILLIAMS, President. H. R. IVES.  
 C. W. HUGHES, Vice-President. JAMES PATON.  
 G. J. SHEPARD, Secretary-Treasurer. N. T. GAGNON.  
 JOHN WIGHTON. JOSEPH LAMARCHE.

CHAMBRE SYNDICALE DE LA CONSTRUCTION.  
 (French Builders' Exchange.)

8 St. James Street, Montreal.

BOARD OF DIRECTORS.

J. B. GRATTON, President. FELIX SAURAGEAN.  
 G. MENARD, 1st Vice-President. L. Z. MATHIEN.  
 T. CHARPENTIER, JR., 2nd Vice-President. H. CONTANT.  
 ALCIDE CHAUSSE, Treasurer. ELZ. COTE.  
 N. T. GAGNON, Secretary. LOUIS PAVETTE.

VICTORIA BUILDERS' EXCHANGE.

BOARD OF DIRECTORS:

W. D. MCKILLICAN - Chairman  
 E. W. WHITTINGTON - Secretary  
 THOS. CATTERALL - Treasurer

The Canadian Coral Marble Company has been incorporated, with head office at Toronto, and authorized capital of \$500,000. The provisional directors are: S. M. Brookfield and H. J. Crowe, Halifax; E. D. Davison, Bridgewater, N. S.; J. W. Hutt, Liverpool, N.S.; H. W. Bickell, C.R.S. Dinnick and J. W. Moyes, Toronto, and T. M. Kirkwood, Owen Sound. The company is empowered to manufacture a composition known as coral marble for flooring, etc.

Owing to its remarkable hardness, elasticity and durability, it rivals the best wax finish, but is free from its unpleasant slipperiness.

Moving furniture or boot heels do not leave white marks, nor does soap, mud, or water destroy its fine appearance. It dries dust proof in about three hours.

Being very penetrating it closes the pores of the wood against disease germs, making it invaluable for hospitals, asylums, and similar institutions.

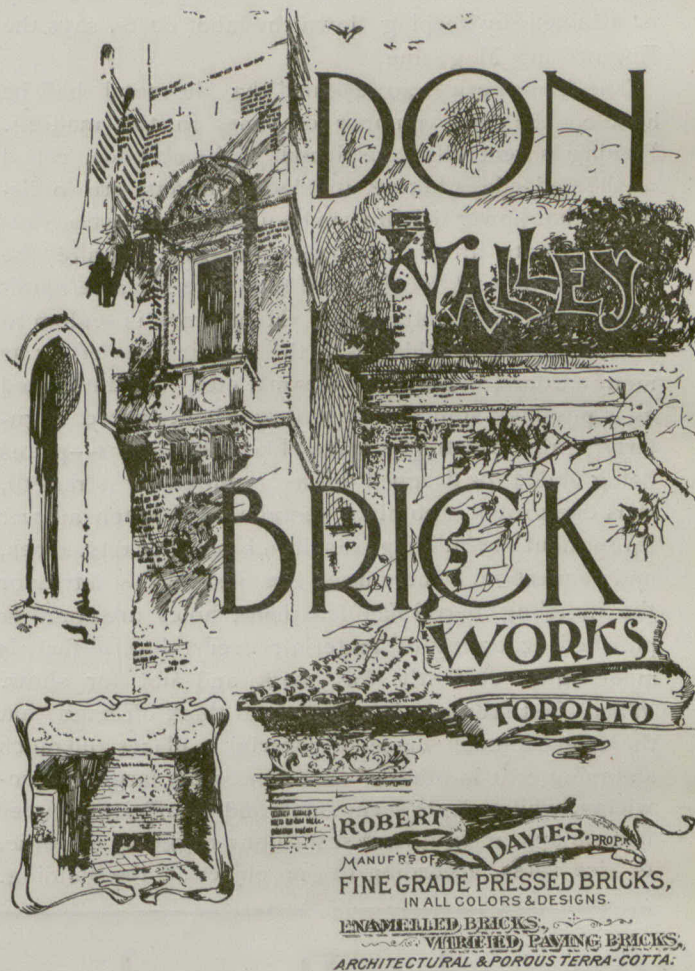
Architects patronize home industry and specify Granitine Floor Finish.

LEGAL.

The City Solicitor of Toronto has given it as his opinion that when once a building permit has been issued the civic authorities have not power to revoke it. This opinion is the outcome of a petition by the residents of a certain district in the city of Toronto to have the same included in the brick limit, and pending the change to withhold authority from the holder of a building permit for a row of rough-cast houses.

It is satisfactory to learn, says the London Engineering Times, that the (British) Court of Appeal has confirmed the judgment already given that a building owner is responsible for the payment of provisional sums for work performed by special artists or tradesmen, or for other works or fittings to the building whenever the architect shall so direct. Building owners sometimes imagine that when a tender is accepted they have no liabilities except to the contractor, and in such cases it is difficult to explain to them that there are sub-contractors who have also claims, the payment of which does not necessarily increase the total amount they had undertaken to pay. In the case in question, *Hobbs v. Turner*, the contract form of the Institute of British Architects was employed. Clause 28, relating to the payment of provisional sums, was therefore accepted by both parties. It was mentioned in the specification that railings of the value of £20, exclusive of carriage, fixing and profit, were to be provided for, and they were supplied by the plaintiff. A certificate certifying that plaintiff was entitled to £27 10s was sent to the defendant, the building owner, by the architect. The defendant declined to pay, repudiating his liability, and alleging that he had a claim against the builder for bad work. The Master of the Rolls interpreted clause 28 as meaning that the building owner and not the builder should be considered as the principal in regard to it. In such matters the builder was only the agent of the building owner. But his Lordship declined to decide whether under clause 28 the architect had authority to determine who was to pay, as well as to whom payment should be made. Apparently it was the intention of those who drew up the form of contract that the architect was to have the power of choice, for the sums are to be paid at such times and in such amounts as the architect shall direct, and sums so expended shall be payable by the contractor or by the employer. The only directing power is the architect and it is not suggested that it is optional on the part of the employer to pay or decline to

pay. It is to be regretted that the Court was not more decisive in dealing with this part of the question, although it may hereafter be accepted that the initial liability in respect of this class of work was established.



# The Canadian Bridge Co., Limited

Walkerville, Ontario.

... MANUFACTURERS OF

## STEEL BUILDINGS, ROOF TRUSSES

Railway and Highway Bridges and Structural Steel and Iron Work of all descriptions  
Estimates furnished upon application.

THE  
**JAS. MORRISON**  
**BRASS**  
**MFG. COMPANY**  
LIMITED  
TORONTO, ONT.

**Showy Bathrooms** 

are always features of the most finished houses.

Unattractive and unsanitary bathroom appliances destroy the pleasures of a bath as surely as muddy water.

Our bath room equipments supply all that can be desired in the make-up of an ideal lavatory.

Our line is one of many styles and shapes; of varied materials and combinations, of wise and sanitary constructions and of diversified prices.

No bath room should be equipped without thorough consideration of our offerings, information concerning which will be cheerfully sent on request.

## STRUCTURAL WORK IN AMERICA.

In the course of a very interesting series of papers on structural costs recently published in the Engineer, the practice in tall building construction in America is set forth in a manner which shows clearly how economy is attained by keeping down the labor costs, says the Engineering Magazine.

The framework is so designed that the metal shall be handled the least number of times in the making. Planing is generally conspicuous by its absence, rolled or sheared edges taking its place. Rivets are so disposed that power driving can be used to the best advantage. Joints are so arranged that they require the minimum of work on site, and their rivets can be readily put in by pneumatic tools. Hand work is seldom to be detected—everything is as the machine has left it; as many girders, stanchions, beams, etc., are duplicated as is possible; stanchions are throughout spaced regularly; girder riveting is made alike in like spans—plates being added or dropped off as required for strength, thus one girder web plate template will often answer throughout the building; cast iron bases, pockets, shoes, and connection, where used, are just as the fletcher or the tumbling barrel has left them; holes are cored or punched according to material; everything, in fact, is made most evidently for work and not for show. When first seen one is tempted to think off-hand that there seems much waste of material in places and much skimping of it in others. Brackets seem large and unwieldy, whilst cleats seem small and insufficient; girder flanges appear light, and stanchions ruggedly gigantic, or vice versa, according to the object of the building.

But one has only to study things out a little to realize that all this is of set purpose. We are so used at home to providing against so many chances that are never likely to happen concurrently, that our structures have taken a character of their own, and we miss these characteristics when viewing other work. If workmanship can be saved by a slight sacrifice of material, the American carefully considers it. In no land are scientific principles better understood than in his, but he is much keener after the dollar than to sacrifice it for the sake of theory, and he will unerringly fix on the cheaper way of carrying out his principle. He keeps as far way from the smith's fire as he can, and does not enlarge his scrap heap with useless croppings and clippings, and as a direct consequence gets work made very much quicker, on the whole much cheaper, and quite as good and sound and equal to what is demanded of it as though it had been made to a government specification and was finished all over.

It may be argued that this sort of thing is not compatible with good work, but there is no reason why it should not be so. In masonry structures there is no attempt made to dress the inner faces of stone which is to be backed by rubble or brickwork, and since the structural work of a modern steel building is entirely imbedded it should be made to fulfill only those demands which legitimately come upon it.

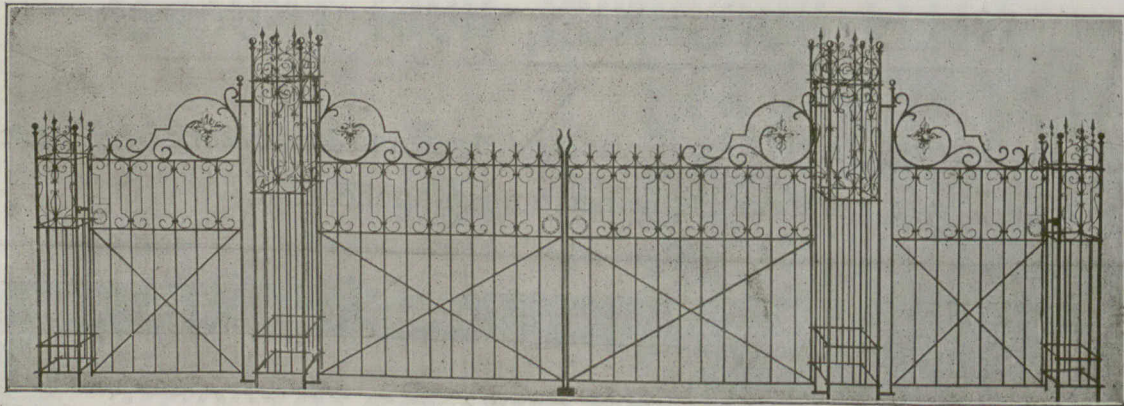
Tommy—Say, Papa, what is a wash drawing?

His Papa—A picture to be used as an advertisement for a new brand of soap.

# Canada Foundry Company, Limited

ORNAMENTAL IRON DEPARTMENT

Head Office and Works: TORONTO, ONT.



DESIGN NO. 23a.

## Ornamental Wrought Iron Fences

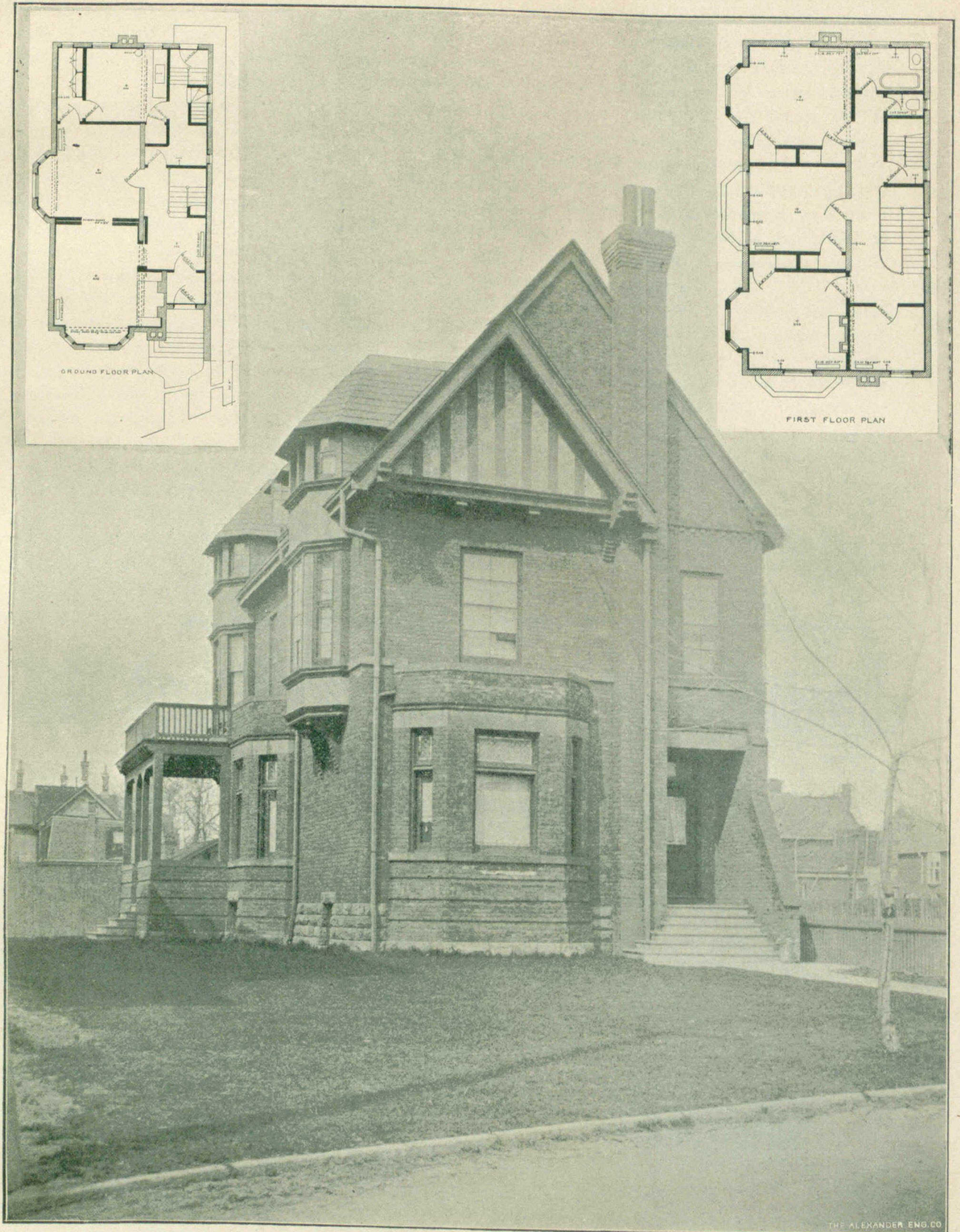
From New and Modern Designs.

Architectural Ironwork of Every Description

Grilles, Railings, Elevator Cars and Enclosures,

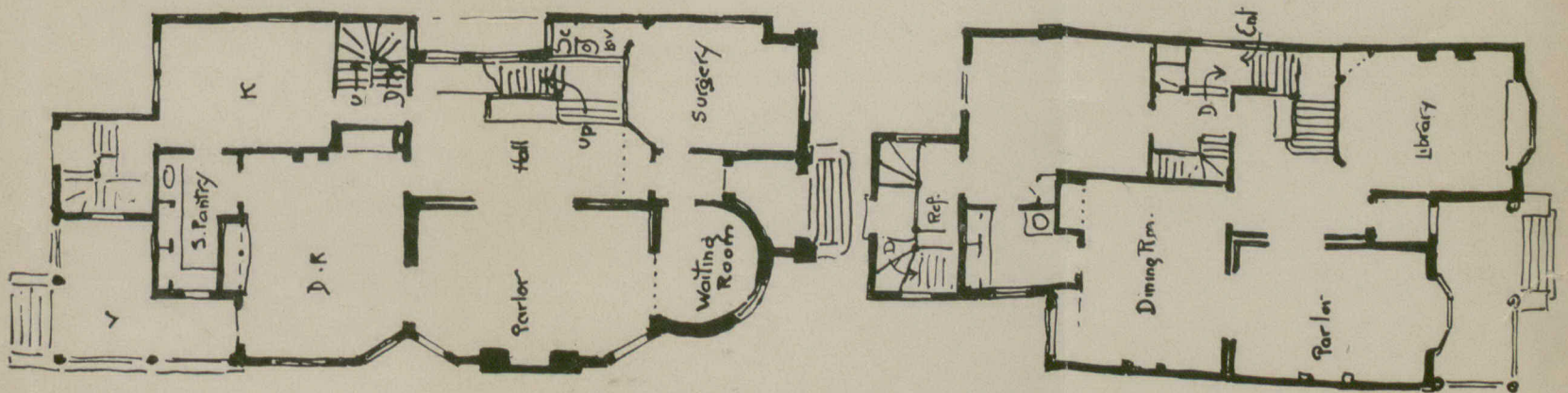
Staircases, Fire Escapes, Fire Dogs, Fenders, etc.

SEND US YOUR SPECIFICATIONS



DESIGN FOR PROPOSED RESIDENCE ON SCARTH ROAD, TORONTO.

J. P. HYNES, ARCHITECT.



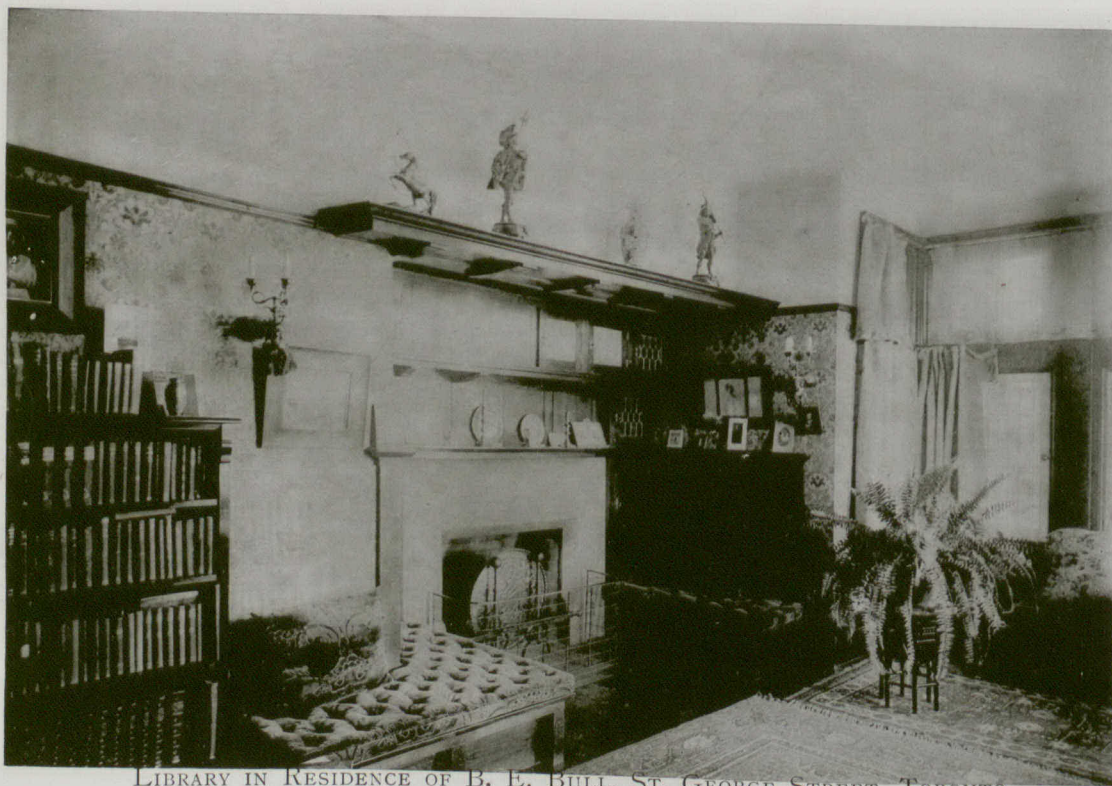
HOUSES FOR MR. S. RICHARDSON, SPADINA AVENUE, TORONTO.

HENRY SIMPSON, ARCHITECT.



RESIDENCE FOR JUDGE STREET, WALMER ROAD, TORONTO.

EDEN SMITH, ARCHITECT.



LIBRARY IN RESIDENCE OF B. E. BULL, ST. GEORGE STREET, TORONTO.

EDEN SMITH, ARCHITECT.





STABLE FOR J. E. SEAGRAM, WATERLOO, ONT.  
EDEN SMITH, ARCHITECT.





THE ALEXANDER BROS.

PAIR OF HOUSES, CORNER OF ISABELLA AND HUNTLEY STREETS, TORONTO.  
CHADWICK & BECKETT, ARCHITECTS.

NOTES OF THE TORONTO EXHIBITION.

The Exhibition which has just closed must be classed among the best, if not the best, held during the twenty-two years since this annual Fair was inaugurated. A noticeable improvement has been effected by the removal of some of the older buildings and the erection of several new ones, and the consequent re-arrangement of the grounds and exhibits.

The improvement would have been much greater had the new main building been completed. As it was the large unfinished structure served only to remind the visitors of the unwisdom of placing the control of such an enterprise in the hands of the Municipal Authorities, whose dilly-dallying methods made impossible the completion of this building for use this year.

Having in mind the damage sustained last year by rain owing to the leaky roof of the old main Building, exhibitors of the finer classes of goods made but a very small display this year, and the attractiveness of the Exhibition as a whole was from this cause somewhat impaired.

Our space will not permit more than brief mention of some of the principal exhibits in the line of materials and apparatus for buildings.

The Canada Foundry Co. made an interesting display of wrought iron fencing, grille work, spiral staircases, columns, beams, etc.

The Pease Furnace Co. had as usual an interesting display of heating apparatus, a prominent feature being their new Economy hot water boiler.

The Globb Paint Co., Limited, of Toronto, exhibited a fine grade of mixed paints and varishes, filters, oils, etc., arranged in immense pyramids. One of these pyramids was composed of an extra fine grade of ground pure white lead, oak varnishes and hard oil.

The Metallic Roofing Co., Toronto, showed some beautiful designs in metal ceilings and shingles. Their display included finials, pillars, columns, center pieces, etc., also a large lion's head, one of many embossed by the company for a large bank building to be constructed in Montreal. The decoration of the company's exhibit with flags of all nations was very effective.

The Adams Automatic Sash Lock, exhibited on a model window in the Main Building is a very ingenious, simple and durable contrivance. There appears to be nothing about it to break, even by careless handling. These fasteners can be put on any window, are finished to suit trimmings, and windows cannot be closed without locking. Mr. Adams also exhibited a mortise lock which can be inserted in the door without cutting away the wood-work. It is made from sheet steel and brass, being a combined lock and latch. Both the sash lock and mortise lock are sold through the hardware trade as cheaply as the commoner locks.

The exhibit of the Otis Elevator Co., (Ltd.) was a prominent feature of the main building. The spur-gear elevator is a special feature of this company, as well as their machines under the Magnet Control System. The Automatic Electric House Elevator, combined with a dumb waiter and worked electrically by "push button" received much attention and favourable comment.

The Dairy Building and the Art Gallery at the Toronto Exhibition attracted considerable attention, being constructed of cement blocks. The Cement Block Machine Co., 4 & 5 James Building, Toronto, of which Mr. P. W. Stanhope is President, are the manufacturers of this new building material and take contracts for buildings, window sills, and other features of buildings for which stone has hitherto usually been employed. Their factory at the Queen's wharf is turning out this new article in large quantities.

Wm. H. Sunbling

LAUNDRY MACHINERY

15 years' experience in best companies in U. S. General and Special Machinery Manufactured and Repaired. Send for Plans and Estimates. 643 Yonge Street, Toronto.

BUILDERS' HARDWARE AND CONTRACTORS' SUPPLIES.

AIKENHEAD HARDWARE LIMITED

PHONE MAIN 3500. 6 Adelaide St., E. Toronto



CABOT'S CREOSOTE SHINGLE STAINS

The Original and Standard Shingle Stains are made only by SAMUEL CABOT, of Boston, Mass. Every package bears his trade mark, and every gallon is guaranteed. Used and proved in every climate for nearly twenty years. Also

CABOT'S Sheathing and Deafening "Quilt"

the most perfect insulator of heat and deadener of sound on the market. Decays moth and vermin-proof, and uninflamable

Samples, Catalogue and full information upon application to the manufacturer. etc. etc.

CANADIAN AGENTS:

ANDREW MUIRHEAD, 89 Bay St., Toronto.  
SEYMOUR & CO., Montreal.  
C. G. HENSHAW, Vancouver.  
F. H. BRYDGES, Winnipeg.  
W. H. THORNE & CO., St. John  
E. D. ADAMS Halifax.

Our Metallic Ceilings and Walls

Are an ideal finish for all kinds of buildings, because they combine both beauty and utility.

We make an almost countless assortment of artistic designs—the plates fitting accurately, the joints imperceptible, and the pattern continuous in perfect precision throughout.

The sanitary superiority, fireproof protection, handsome effect, and moderate cost, appeal to all progressive people.

By ordering from us you make sure of reliable quality.

Full information in our Catalogue— it makes interesting reading for all Builders and Architects.

METALLIC ROOFING COMPANY, LIMITED,

WHOLESALE MANUFACTURERS.

TORONTO

MONTREAL

WINNIPEG

THE MAKING OF VENEER.

The Imperial Veneer Company, Limited, have large works in Sundridge, Parry Sound District. Their Manager, Mr. W. T. Chambers was kind enough to explain the process of manufacture to our representative. First the logs are put in large vats, or tanks, and boiled for from six to twelve hours. Then after being peeled they are carried with large cranes, and put into the veneer machine, which works automatically, and cuts the veneer, from 1/32 "up 3/8" as required. The veneer comes off in one continuous sheet, but for convenience is cut into about 30 ft. lengths. It is then taken to the clipper, and cut to size; from there it goes to the dry kilns, where it remains until perfectly dry. If it is to be used as single stock, it is taken to the shipping room and done up into bundles, or crated ready for shipment. As the company make a specialty of built up stock, suitable for all kinds of panelings and furniture, the building up is the most important part of their work. For this purpose the company use a water-proof glue. They exhibit samples of wood that have remained in water for twelve hours, and are seemingly as perfect as possible. The process of gluing up the veneer is of itself very interesting. When the veneer comes from the dry kiln, it is taken to the glue rollers or spreaders. Two large sixty ton presses stand near by; on the bottom or base of the press is laid a large cawl suitable for the panel to be pressed; on this is laid the first or face sheet of veneer; then the center or filling is run through the glue roller, and laid with the grain of the wood running opposite to the face; then the back is laid on that with grain running same as face. When forty or fifty panels are laid up, the press power of sixty

tons is turned on, and under this immense weight, the material is compressed into a small space. When the pressure is at its greatest the upper and lower cawl are bolted together and it is then wheeled to a drying room and allowed to dry thoroughly; from there it goes to the trimming table once more to be cut to exact size and then to the sander and polisher, when it is ready to ship. The company have orders from some of the largest English and German firms, as well as the local trade.

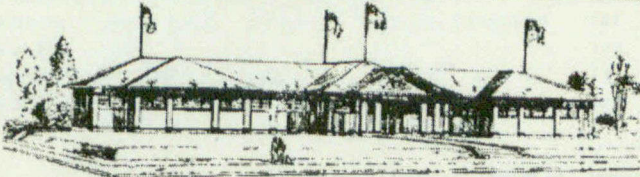
PERSONAL.

Mr. John J. Honeyman, architect, has recently removed from Rossland, B. C. and opened an office in the Molson's Bank Building, Hastings Street, Vancouver, B. C.

The death is announced at St. Louis of Mr. James Stewart, the contractor who recently made a record for rapid construction in England in connection with the new Westinghouse factories at Manchester. The late Mr. Stewart lived for many years in Kingston Ont. following his arrival from Scotland, in 1842, and erected a number of prominent buildings in Kingston and Ottawa.

The announcement of The York Manufacturing Co., 1027 Yonge St., Toronto, manufacturers of laundry apparatus, first appears in this number.

Wm. H. Sumbing, who has had much experience in the manufacture of laundry machinery, has established a factory in this line at 643 Yonge St., Toronto. His announcement appears in this number.



Dairy Building, Erected A. D. 1907, Exhibition Grounds, Toronto. Built of Hollow Cement Blocks for the National Portland Cement Co., Limited. Factory, Durham, Ont. F. W. Stanhope, Man.

BY THE

Cement Block Machine Co.,

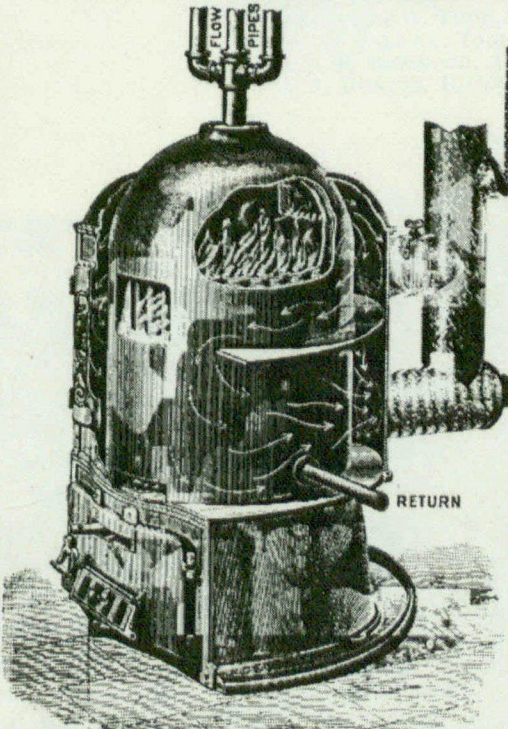
OF TORONTO

Manufacturers of all kinds of

Architectural Cement Blocks, Sills, Heads, Coursing Cornices, Friezes, Capitals, Columns, Bases, etc

Office and Works:

Foot of Bathurst St., Queen's Wharf, TORONTO



A HEATER WITHOUT A JOINT

Is What we Offer You in

THE PRESTON HOT WATER BOILER

The advantages of this feature in its construction are self-evident. There can be no leaks on account of bad packing, nor is there any opportunity given for expansion or contraction to open up joints. The water chamber is made in ONE SOLID CASTING, and so designed as to give a VERTICAL CIRCULATION. By making use of this NATURAL LAW we greatly increase the efficiency of the heater.

A post card to us will bring our booklet with full description.

CLARE BROS. & CO.,  
Preston, Ont.

HOLLOW WALLS OF ARTIFICIAL STONE.

Mr. Harmon S. Palmer of Washington, D. C., was one of the first men in America to foresee the merits and possibilities of Portland cement in the construction of buildings, and for the last fifteen years has been exclusively engaged in cement building. About eleven years ago he devised the Palmer Hollow Block process which he has improved on at different times since. Mr. Palmer realized that the great strength of Portland Cement did away with the necessity of a solid wall and that hollow walls were cheaper and more sanitary. These were the fundamental ideas. He advanced the art step by step from the first crude and cumbersome way of moulding between planks and then building with solid bricks, until now but one single operation is necessary.

The time required for laying these blocks is one-third less than the time required for laying brick, and the mortar required is far less.

With the use of hollow concrete building blocks, the sanitary conditions are claimed to be superior to those of any solid wall, as the outside resists the rain and dries quickly, while a solid wall often remains damp all winter. The hollow space affords facilities for inserting gas and water-pipes, electric wires, speaking tubes, ventilators, etc., thus cheapening construction.

One part of Portland Cement and five parts of sand are used to make the concrete. The blocks may be made where the building is erected, only a few days being necessary for them to harden sufficiently for use. One skilled hand alone is sufficient to superintend the work which can be done by ordinary laborers. One block is equivalent to some forty bricks; the saving in labor, time and mortar is evident. Then again, the wall being hollow, an air space is provided and there is no need of lathing, the finishing plaster being applied directly to the inner face of the wall.

Thomas McLaughlin, Secretary-Treasurer Raven Lake Portland Cement Company, Limited, 16 King St. West, Toronto, is the sole authorized agent for the Dominion of Canada for the sale of Palmer's Patent Hollow Concrete Building Block Machinery and Process and the Right to use the same in exclusive territory.

NOTES.

Recent excavations at the Phillipsburg Railway and Quarry Company's quarry at Stanbridge, Que., are said to have disclosed the existence of large quantities of stone for dimension, bridge, monumental and decorative purposes.

A recent visitor from China to Toronto, states that a great deal of building is going on in Hong Kong, with an active demand for structural steel and other building material that could be supplied by Canada if a steel plant was in operation on the Pacific coast.

The Royal Academy has made an appeal to its members and to the public for subscriptions towards the rebuilding of the Campanile at Venice. We are disposed to join in the protest made by the London Architectural Record, against the unwisdom of rebuilding the structure in the original style instead of making it as our contemporary expresses it "a product of its own time in its design."

The automobile has attained considerable popularity in Toronto, where the asphalt pavements and easy gradients are extremely favorable to its use. Quite a number of the new residences constructed this year have automobile stables attached. No doubt in the near future these will be regarded as necessary adjuncts to all residences of a certain value.

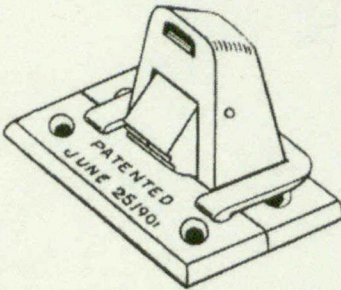
WARNING TO CONTRACTORS

THOMAS McLAUGHLIN,

16 KING ST. WEST, TORONTO, ONT.,

SECRETARY-TREASURER OF RAVEN LAKE PORTLAND CEMENT COMPANY, LIMITED, is the sole authorized Agent for CANADA for Palmer's Patent Hollow Concrete Building Blocks and Building Block Machinery. The Walls of the Dairy Building and the Foundation of the Art Building on the Exhibition Grounds are fair examples of what can be done in one department of building by the use of Palmer's Patent Hollow Concrete Building Blocks. For Machines and Exclusive Territory apply to our Canadian Agent at address above. All infringements will be prosecuted and, therefore, Contractors, Property owners and others will avoid trouble and expense by consulting our authorized Agent before using our Patented Hollow Blocks or Machines.

HARMON S. PALMER, Washington, D. C.



Greatest Invention of the 20th Century.

Adams' Automatic Self-Locking Sash Lock

The Adams Automatic Sash Lock is the only self-locking sash lock; is scientifically constructed; can be used on any window and put on by any person. It draws the sash together, thus keeping out dust, cold, etc., and prevents rattling.

P. S.—We have also patented a new MORTISE LOCK, which for neatness, durability and cheapness, should tend to revolutionize door locks. We will be pleased to send samples and quotations.

Address all orders and enquiries to

A. W. ADAMS, 78 McKenzie Crescent, TORONTO.

A. P. MACLAREN, President.

W. T. CHAMBERS, Gen. Manager and Sec'y.

C. W. BURNES, Manager of Mill.

IMPERIAL VENEER COMPANY, Limited

Phone Main 4503.

Head Office, Room 20, Manning Arcade, TORONTO  
Mill at Sunridge, Ont.

MANUFACTURERS OF ALL KINDS OF

VENEERS

BUILT UP STOCK OUR SPECIALTY

Suitable for Paneling, Wainscoting, Floor-  
ing, Cabinet Work, etc.

Selling Agents for the celebrated

Waterproof Glue

Bookbinders' Glue

Albumenoid Paste

Waterproof Paints, etc.

THE GARGOYLES.

The Gargoyles are a grewsome group ;  
 Their styles are really various ;  
 They always live in "Singles," and  
 Are not at all gregarious,  
 For their expressions are so sour,  
 So vicious and nefarious,  
 And their positions socially  
 Are certainly precarious.

For they must live beneath the eavens  
 And on the copings balance,  
 And form around the roofs and tiles  
 A most unpleasant valance.  
 They make "bad faces" from the roof  
 (There's no one they've respected),  
 They hold themselves aloft, aloof,  
 With jeers  
 And leers  
 And sneers gives proof  
 Of manners much neglected.

NOTES.

"Comfortable Homes" is the title of an unusually attractive booklet referring to and descriptive of the "Economy" hot water heating boiler recently placed on the market by the Pease Furnace Co., of Toronto.

Elsewhere in our columns will be found the advertisement of the oldest established bell foundry in America, that of Meneely & Co., West Troy, N.Y. Their specialty is in casting the highest grade pure copper and tin bells, and their chimes and peals are all attuned by a new, special process said to be far superior to any other method. This firm recently furnished a chime of 10 bells to the St. Peter's Lutheran Church, Berlin, Ontario. They also supplied the fine chime of bells in St. James Cathedral, Toronto, said to be the heaviest set of chimes in the Dominion. The firm is now making a chime of 10 bells for the next oldest church in Canada, St. John's English church, Lunenburg, Nova Scotia, the giver of this chime being the Hon. Lieut.-Col. E. C. Kaulbach, M. P. ; the bells will be suitably inscribed. This firm quite recently furnished a fine bell for St. Mary's R. C. church, London, Ont., besides many more too numerous to mention here. Architects wishing to secure bells of best quality will do well to communicate with this old, reliable foundry.

# Patent Interlocking Rubber Tiling

The most perfect Floor Covering for Hotels, Cafes, Business Offices, Banks, Court Rooms, Churches, Hospitals, Vestibules, Halls, Billiard and Smoking Rooms, Lavatories and Bath Rooms.

**NOISELESS      NON-SLIPPERY      WATERPROOF      SANITARY**

Carefully selected range of soft, beautiful colors, affording ample scope for combinations in harmony with surroundings. Will outwear iron, granite or marble as a floor covering.

WRITE FOR PRICES AND PARTICULARS.

Sole Canadian Manufacturers

The **GUTTA PERCHA and RUBBER MFG. CO.** of Toronto, Limited

Factories: 115-116 West Lodge Avenue  
 24-28 O'Hara Avenue

TORONTO, CANADA.

Head Office and Warerooms :  
 45-47-49 West Front St.

## Constructional Hardware

It Will Pay  $\left\{ \begin{array}{l} \text{ARCHITECTS (when making plans and specifications)} \\ \text{OWNERS (when contemplating building)} \\ \text{BUILDERS (when purchasing supplies)} \end{array} \right\}$  to consider

Underwriters' "Acme Duplex," Fire Proof, (self-releasing by fire) Ventilating, Up-to-date Constructional Hardware

"Acme" Automatic (self-closing by heat) Fire Door and Shutter Fittings

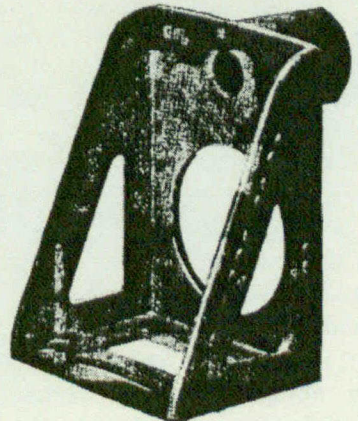
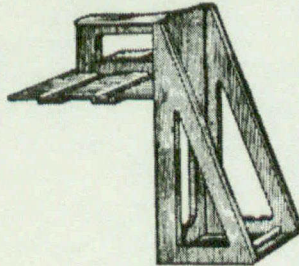
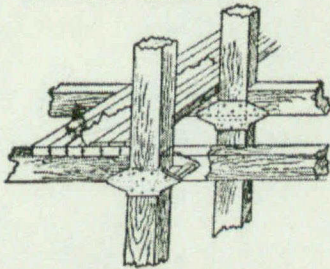
"Hoidge" Metal Angle Bead

"Acme Multiplex" Ventilating Apparatus for foundries, factories, auditoriums, laboratories, etc.

"Acme Duplex" Posts Caps and Bases.

Duplex Joist and Beam Wall Hanger.

Duplex Joist and Beam Wall Hanger.

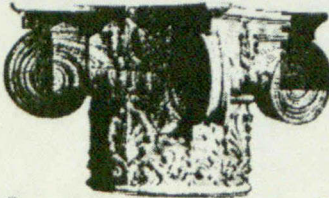


Manufactured and Sold by

The **VOKES HARDWARE CO., Limited**

Corner Yonge and Adelaide Sts., TORONTO.

# CAPITALS



Copyright, 1899, Decorators' Supply Co.

## The Decorators' Supply Co.

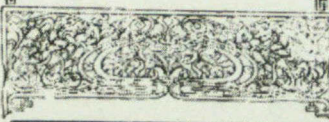
209-215 South Clinton St.,  
CHICAGO, ILLS.

Manufacturers  
of...

Composition Capitals  
For Interior and Exterior,  
Interior Plastic Relief,  
Exterior and Interior  
Composition Orna-  
ments,  
Fine Grille Work.

Send for Catalogues.

# GRILLES



## TENDERS WANTED

A Weekly Journal of advance informa-  
tion and public works.  
The [reco need] [motium] for [advertise-  
ments for Tenders.]

CANADIAN CONTRACT RECORD  
TORONTO.

**WILLIAM J. HYNES,**  
16 Gould Street, Toronto.  
**CONTRACTOR AND PLASTERER**  
Relief Decorations in Stucco, Fibrous  
Plaster, Cement, Etc.  
Large and varied stock of Centers, Caps,  
Cornices, Friezes, Etc.  
Modelling and Designing.  
TELEPHONE MAIN 1600.

FAVORABLY KNOWN SINCE 1826. **BELLS**  
HAVE FURNISHED \$5,000,000  
CHURCH SCHOOLS & OTHER  
**C. MENEELY & CO.** PUREST BEST  
WEST-TROY, N.Y. GENUINE  
CHIMES. EYE CATALOGUE & PRICES FREE.  
Bells Mounted in any style.  
**GREAT CLOCK BELLS FOR CITY HALLS;**  
FIRE ALARM AND TOWER CLOCK BELLS.  
Westminster & Cambridge Clock Chimes.  
Inquiries from Architects solicited.

Please mention CANADIAN ARCHITECT  
AND BUILDER when corresponding  
with advertisers.

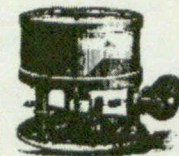
**The Queen City Plate Glass and Mirror Co., Limited.**  
243, 245 & 247 Victoria Street, TORONTO, ONT.

EXTENSIVE DEALERS IN  
Plate Glass, Window Glass, Ron Glass, Plain and Ornamental Rolled Glass, Skylight  
Glass and all other glass required for Buildings, also Glaziers' Points  
and Putty in Bladders or Bulk.

MANUFACTURERS OF  
Plain and Ornamental Chipped Glass, Sand-Cut Glass and Art Lead Work, Brit ish,  
Russian and Black Mirror Plates.

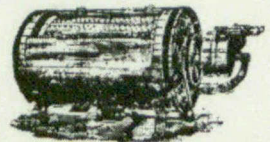
BEVELLERS.

MIRROR MAKERS.



The York Manufacturing  
Company, Limited  
Manufacturing a full  
line of  
**Laundry Machinery**

Office and Works:  
1018-1020 Yonge St., TORONTO.  
Importers and Dealers in High-  
Grade Laundry Supplies.



# Troy Laundry Machinery Co., LTD.

OUR LINE IS THE LARGEST, BEST AND MOST COMPLETE

WRITE US FOR CATALOGUE AND LAUNDRY GUIDE.

Troy Chicago New York San Francisco

The Best Ready Roofing on Earth.

TRINIDAD ASPHALT MFG. CO.

## Asphalt and Asbestine Gravelled Ready Roofing WITH INTERLOCKING LAP.

Fire, water, acid or gas proof. Shipped with cement and nails for laying.  
ASPHALT, PAINT, CEMENT, COATING, ROOFING, DEADENING  
and SLATERS' FELT. BUILDING and INSULATING PAPER of all  
kinds. The trade supplied. Prices and samples from the

CANADA SUPPLY CO., Agents, - Windsor, Ontario

# Lincrusta Walton

(The Sunbury Wall Decoration)

Solid in Relief.

Solid in Color

Artistic Decorations for Walls and Ceilings. Will  
stand any climate and never wear out.

For Price Lists, Illustrations, Samples, Etc., write to

**Fred<sup>l</sup> Walton & Co., Limited,**

1 NEWMAN STREET, LONDON, W.

Sole Manufacturers and  
Patentees.



New high relief material for Ceilings  
and Friezes, is Firm in Relief and  
Light in Weight.  
Beautiful as Plaster at much less cost.  
A large assortment of cheap patterns in  
low relief.

Canadian Agents:

ARTHUR LAURENT, 187 St. John St., Quebec.  
Agent for Ontario and Quebec.  
F. T. BAGSHAVE, Assiniboine Block, Winnipeg

ARCHITECTS SPECIFY



Interior or Exterior  
On Your Buildings.

MANUFACTURED ONLY BY  
**THE GLOBE PAINT CO.**  
LIMITED  
422-24 ADELAIDE ST. W. Toronto, Ont.  
Correspondence Solicited.



# The ZANZIBAR PAINT CO., Limited

TORONTO

Zanzibar as a preservative of  
 Shingle . . . of wood, in durability  
 of service, strength  
 Stains . . . of color and beauty  
 of appearance  
 E X E L.

Correspondence  
 from  
 Architects  
 Desired.

Zanzibar Elastic, Durable,  
 Anti Rust Rust Proof. For  
 Paint . . . Structural Iron  
 Work, Bridges,  
 Roofs, etc.  
 Made in six colors

## ALBERT MANUFACTURING CO.

MANUFACTURERS OF

MANUFACTURERS OF



PATENT  
 ROCK WALL PLASTER

"HAMMER BRAND"  
 CALCINED PLASTER

HILLSBOROUGH, N. B., CANADA

Trade **FAB-RI-KO-NA** Mark

## WOVEN WALL COVERINGS

No Cracked Plaster    No Marred Walls    Beauty of Finish    Strength and Durability

*Lining Burlap*  
*Prepared Burlap*  
*Shel-Kona-Burlap*  
*Tapestry Burlaps*  
*Prepared Canvas*  
*Dyed Tapestry Burlaps*

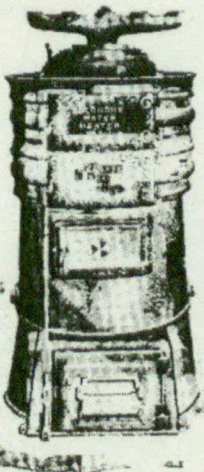
*Lustra-Kona Burlaps*  
*Ko-Na-Mo-Burlaps*  
*Buckrams*  
*Printed Burlaps*  
*Burlap Borders*  
*Metallic Thread Effects*

And other kinds and grades of goods for Painting, Staining, Papering and other modes of decorating before application to the wall. They take the place of the last coat of plaster and are stronger and more durable, being finished goods and needing no other treatment after hanging.

The latest and most artistic Wall Coverings. Write for information and samples to

THE THOS. FORRESTER CO., Montreal, Canada

or J. SPENCER TURNER CO., 71-73 Worth St., NEW YORK  
 Jewin Crescent, London; 228 Fifth Ave., Chicago; 801-803 Lucas Ave., St. Louis



## NO BOLTS — NO PACKING

Our Hot Water Boiler has a heap of good points about it. No bolts or packing are used in its construction—just a simple screwed nipple connection. Then a very deep fire pot insuring a slow burning, steady fire.

It's easy to erect, and it means satisfaction every time as far as the householder is concerned.

We claim it's the best Boiler in the world, and every happy possessor of the

**"ECONOMY"**

Boiler claims the same thing it's no experiment. Write for booklet and information on water heating.

### J. F. Pease Furnace Co.

LIMITED.

Head Office: 189-193 Queen St. East, TORONTO.

# Luxfer Decorative Glass



PRICES—(Per square foot)—104 75c 112 65c 123 \$1.50 123a \$1.60 150 \$1.60 163 \$1.75 171 \$1.00 175 \$1.50 206 \$1.00 210 65c 218 \$1.75 221a \$1.00  
 224 \$1.50 235 \$2.75 238a \$2.00 247 \$1.10 313 \$1.50 317 \$1.50 32 \$3.50 323 \$3.50 324 \$1.95.

**Copper Electroglazed** in bright, antique or black finish.

**LEADED WORK** of all kinds.

*Write for designs and prices.*

**Luxfer Prism Co., Limited**

98-100 KING STREET WEST, TORONTO

## Classified Directory of Montreal Contractors and Dealers in Builders' Supplies

### BUILDING MATERIALS

#### E. F. DARTNELL.

Stone, Pressed and Common Bricks, Mineral Wool, etc.  
Telephone 2381. 180 St. James Street.

#### J. A. MORRISON & CO.

Milton Pressed Bricks, Limestone and Sandstones, Contractors' Plant, Crushed Stone for Concrete, etc.  
24 St. James St., Montreal.

#### GEO. A. COWAN,

Building Supplies,

Telephone 2463. Office, 59 Temple Building

#### JAS. W. FYKE & CO.

Importers Structural Material—Iron and Steel  
Telephone 312. Merchants Bank Bldg.

Subscribe for the ARCHITECT AND BUILDER.

### ROOFERS

D. NICHOLSON & CO., Roofers, 679 St. Paul Street, Montreal. Gravel Roofing a Specialty.  
Repairs of all kinds promptly attended to.  
Bell Telephone 1065.

Advertise in the ARCHITECT AND BUILDER

## Classified Directory of Toronto Contractors and Dealers in Builders' Supplies

### BUILDING MATERIALS

GEORGE RATHBONE, 2 Northcote Ave. Pipe, Hemlock and Hardwood Lumber; Lath, Shingles and Cedar Posts; Sawn Veneers. Re-sawing up to 30 inches wide a specialty.

### Ontario Lime Association

Manufacturers and Dealers in

Grey Lime, Guelph White Lime, Ontario Cement, Portland Cements, Plaster Paris, Hair, Fire Brick, Fire Clay, Sewer Pipe, etc.

Telephone 020. 118 Esplanade St. E., Toronto

### BUILDERS and CONTRACTORS

#### FREDERIC HOLMES, Contractor

Telephone North 063. 1111 Yonge St., TORONTO.  
Estimates given for Cut Stone, Brickwork, Etc.

#### JAMES ISAAC

Cut Stone Contractor,  
30 Dupont Street, Toronto.

### MANTELS, GRATES and TILES

Toronto Hardware Mfg. Co.  
1100 Queen St. W.  
ALSO PLUMBERS' SUPPLIES.

### ROOFERS

#### ROBT. RENNIE & SON,

Terra Cotta Tile,

#### SLATE AND GRAVEL ROOFERS, &C.

Every description of Roofing Slate always on hand. Galvanized Iron Ridges, Valleys and Flashings supplied.  
Telephone 2344. 378 Berkeley St., TORONTO.

#### H. WILLIAMS & CO.,

23 Toronto St. TORONTO.

#### ROOFERS

With Slate, Felt and Gravel; also Williams' Flat Slate Roof—the best. We lay ROCK ASPHALT on cellar bottoms, floors and walks—the best material for this work. Telephone No. 321.

#### W. T. STEWART & CO.

#### Felt and Slate Roofers,

Dealers in Felt, Pitch, Tar, Sheathing Paper, Carpet Paper, and all kinds of Building Paper.  
Office: Cor. Adelaide and Bay Sts., TORONTO.  
Estimates furnished. Telephone No. 698.

#### G. DUTHIE & SONS,

Terra Cotta Tile, Slate and Felt Roofers,  
Cor. Widmer and Adelaide Sts., TORONTO.  
GALVANIZED IRON FURNISHINGS SUPPLIED.  
Telephone 1836.

#### ESTABLISHED 1856

Slate and Felt Roofing.  
FORBES ROOFING CO. 153 Bay St

### DOUGLAS BROS.

#### SLATE, TILE AND METAL ROOFERS.

Sheet Metal Work, Metallic Ceilings, Skylights, etc.  
24 Adelaide Street West, TORONTO.  
Telephone 360.

#### PIONEER GALVANIZED IRON WORKS

ESTABLISHED 1855.

#### GEORGE RINGHAM

23 and 25 Edward Street, TORONTO

Copper and Galvanized Iron Cornices,  
Skylights, Etc., Metal Ceilings

Felt and Slate Roofing. Phone 2577.

### MOVERS

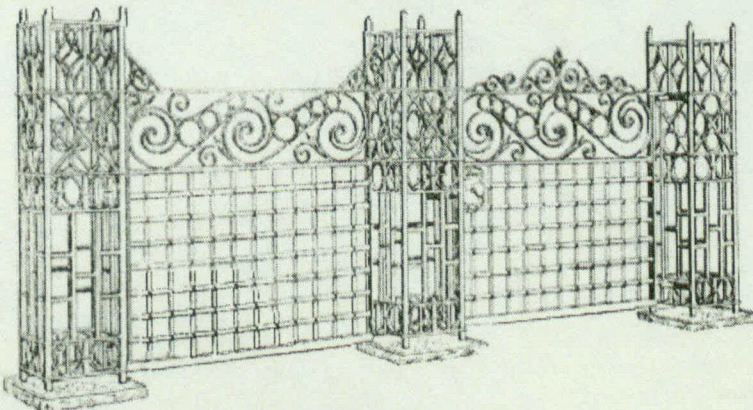
#### I. WARDELL & SON

450 Spadina Avenue,  
Move Frame and Brick Houses and Machinery.

Send for 3rd edition of the Canadian Contractors' Handbook. Price \$1.50; \$1.00 to subscribers of the Canadian Architect and Builder.

THE C. H. MORTIMER PUBLISHING CO.  
OF TORONTO, LIMITED.

# SPECIFY HOLLYWOOD PAINT



## Special Designs in IRON FENCING

BANK RAILINGS  
WROTE IRONS  
WIRE WORK

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

**Architects.**

FRANK DARLING. J. A. PEARSON  
**DARLING & PEARSON**  
 Architects,  
 Members of the Ontario Association of Architects.  
 Imperial Bank Building, Leader Lane - TORONTO

**SYMONS & RAE,**  
**ARCHITECTS**  
 15 Toronto St. TORONTO

Henry Langley. Chas. E. Langley.  
**LANGLEY & LANGLEY,**  
**ARCHITECTS**  
 Members of the Ontario Association of Architects.  
 Canada Life Building, King St. W., TORONTO.

**EDMUND BURKE & J. O. B. HORWOOD**  
**ARCHITECTS**  
 15 TORONTO STREET, TORONTO.

**W. R. STRICKLAND,**  
**ARCHITECT**  
 95 Adelaide Street East, TORONTO.

**DAVID ROBERTS,**  
**ARCHITECT**  
 Office, No 17 & 18 Union Block, } TORONTO.  
 Cor. Toronto & Adelaide Sts.

**GEO. M. MILLER & CO.**  
**ARCHITECTS**  
 Toronto General Trusts Building - TORONTO

**J. C. FORSTER,**  
**ARCHITECT**  
 Member Ontario Association of Architects.  
 MEIRS BLOCK, OWEN SOUND.

**POWER & SON,**  
*Architects and Building Surveyors,*  
 Merchants' Bank Chambers,  
 KINGSTON, ONTARIO.

**Frederick G. Todd**  
**LANDSCAPE ARCHITECT**  
 Formerly with Messrs Olmsted, Boston.  
 Advice, Sketches, Designs, or full Working Plans for Parks, Cemeteries, Country Estates and Home Grounds. : :  
 Bell Telephone Building, Montreal  
 Telephone Main 4836.

**PROVINCE OF QUEBEC ARCHITECTS.**

A. T. Taylor, F.R.I.B.A., R.C.A  
**TAYLOR & GORDON,**  
**ARCHITECTS**  
 43 St. FRANCOIS XAVIER St., MONTREAL  
 Telephone Main 2817.

**HUTCHISON & WOOD,**  
*Architects and Valuers,*  
 151 St. James Street, MONTREAL  
 Telephone Main 258.

**H. STAVELY,**  
**ARCHITECT**  
 Member Province of Quebec Association of Architects  
 113 St. Peter Street, QUEBEC

**WIRE LATH**

The only perfect Lathing, for the reason that the Wire is completely embedded in Mortar and CANNOT RUST. It is the only Lathing that will stand the test of time.

**THE B. GREENING WIRE CO.,**  
 (LIMITED)  
 Hamilton, Ont. - Montreal, Que.

**Auditorium Lighting**

is a specialty in itself. We have been making a success of it for nearly half a century. Send data for estimates. Special designs on request.

**I. P. FRINK, 551 PEARL ST., NEW YORK**

Please mention this paper when corresponding with advertisers.



**The Desk of the Age.**

Every device necessary to make a desk reliable, labor-saving, economical, is found in those we manufacture.

In material and construction, in finish and utility, in durability and design they lead all other makes.

They make an office a better office. Our catalogue goes into detail.

Canadian Office and School Furniture Co., Montreal, Ont.  
 685, 687, 689, 691, 693, and 695 St. James Street

**The Owen Sound Portland Cement Company, Limited**

Works at SHALLOW LAKE, ONT.

— MANUFACTURE —

**SAMSON BRAND**      **MAGNET BRAND**

WRITE FOR PRICES AND TERMS. . . .

**THE OWEN SOUND PORTLAND CEMENT CO.**

Head Office, OWEN SOUND, ONT.

**John Lucas,**

377 Spadina Ave., Sales Agent for Toronto, Ont. Phone 1113 Main



**The Toronto Pressed Brick and Terra Cotta Works.**



ROOFING AND FLOORING TILES, CRESTING, FINIALS AND CHIMNEY TOPS

Send for Samples and Prices. \* Special and prompt attention given to Architects' Terra Cotta Drawings.

Write: **Toronto Pressed Brick Works**

Montreal Agent: E. F. DARTNELL, 180 St. James Street,

Head Office: **MILTON, ONT.**  
 C. J. LEWIS, Proprietor.

**Bronze Builders' Hardware**  $\frac{3}{4}$   $\frac{3}{4}$   
**GRATES** <sup>A</sup> <sup>N</sup> <sup>D</sup> **MANTELS**  
**TILING** <sup>F</sup> <sup>O</sup> <sup>R</sup> **FLOORS** <sup>A</sup> <sup>N</sup> <sup>D</sup> **WALLS**  
**RICE LEWIS & SON**  
 Limited **TORONTO**

Write for Prices  $\frac{3}{4}$

**The Turnbull Elevator Mfg. Co.**

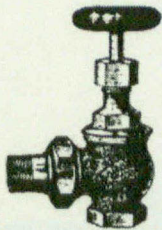
MANUFACTURERS OF  
 ELECTRIC, HYDRAULIC  
 HAND and POWER

**ELEVATORS**  
 AND  
 DUMB WAITERS

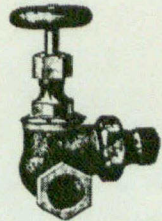
TURNBULL ELEVATOR WORKS  
 126 John Street

Toronto, Ont.

**Jenkins Brothers'  Radiator Valves**



Stand at the head, are specified by Architects and Engineers, and are always referred to by Steam Fitters when THE BEST is called for. Nothing but the purest and best Steam Metal is used, and the composition takes a Beautiful Color, making the finest finished work that can be produced. They contain the JENKINS DISC, making them perfectly Steam tight, and the Keyed Stuffing Box, which holds the packing securely, and prevents leakage around the stem. They are made in all styles and sizes. As there are many imitations, insist on having those bearing our Trade Mark, and you will get the Standard Guaranteed Valve.



**Jenkins Brothers, 17 Pearl St. Boston, Mass.**

New York

Philadelphia

Chicago

London, E. C.

**BEAMS**  
**CHANNELS**  
**ANGLES**  
**PLATES, ETC.**



**2.000 TONS**

FOR SALE BY

**Hamilton Bridge Works Co.**  
 LIMITED  
 HAMILTON, CANADA

SEND FOR STOCK LIST

Long Distance Telephone 630.