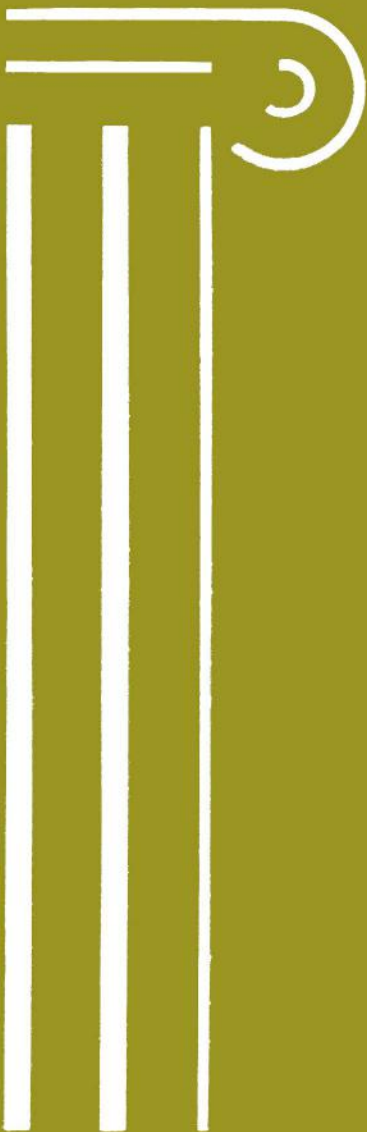


# JOURNAL

ROYAL ARCHITECTURAL  
INSTITUTE OF CANADA



VOL. 16

MAY, 1939

NO. 5

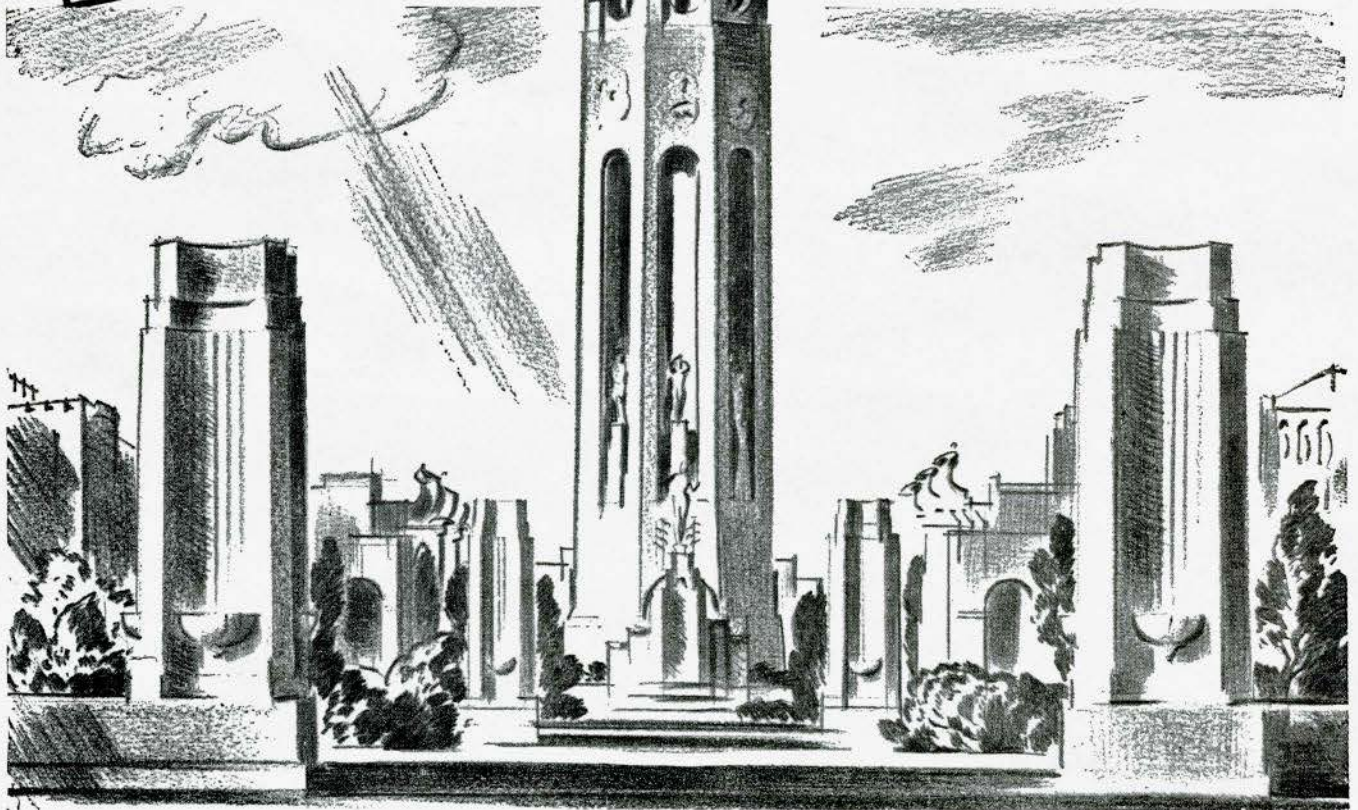
# "TOWER OF THE SUN"

*started with  
a pencil*

## THEME CENTER OF THE GOLDEN GATE INTERNATIONAL EXPOSITION

"Tower of the Sun" thrusting its slender beauty 400 feet in the air will dominate both skyline and spacious central "Court of Honor."

Notable is the new "Pacific" style of architecture created for this and other of the exposition buildings. Ancient Oriental forms blended with the setback pyramids and masses characteristic of Malayan and Incan treatments, carry out the "Treasure Island" atmosphere of this great Exposition.

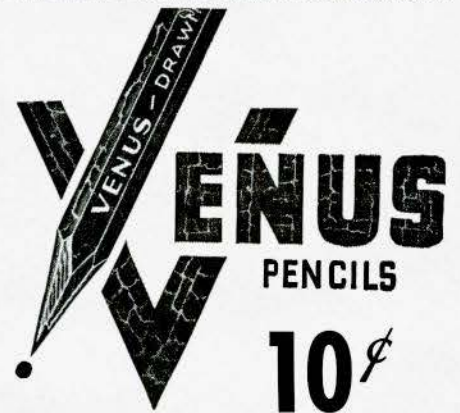


Trace the development of any great architectural achievement back to its beginning. What, more than anything else has given wings to thought? . . . Pencils! . . . And where thoughts really soar to great heights, Venus Drawing Pencils.

Venus Pencils give you the convenience of 17 shades of black. Plus the smoothness and exact grading of colloidal lead\* . . . Think of it! A Venus 3H made in 1909 is precisely the same shade of black as a 3H made in 1939.

These are the reasons why Venus Pencils save your time and your nerves . . . why you'll find it profitable to standardize on them.

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# “Decorative” is the

word for ASPHALT TILE FLOORING, Johns-Manville's answer to the “traffic problem” in modern buildings . . .



Part 5 in the Story of Johns-Manville

**Y**EARS ago, architects posed a question for building material manufacturers: “How long before you people give us a floor covering that will be beautiful but tough, resilient but durable, able to ‘stand the traffic’ in modern buildings over years of maintenance-free service?”

Johns-Manville research engineers picked up the challenge and went to work. And soon they had the answer. Out of the J-M Research Laboratories, largest of their kind anywhere, came the most significant flooring development of recent times—J-M Asphalt Tile Flooring.

Today, millions of square feet of J-M Asphalt Tile have been laid in office buildings, stores, theatres, restaurants, schools, hospitals and other public buildings—and in the basement recreation rooms of many thousands of private homes. Leading Canadian architects call it the ideal flooring specification where the covering *must* be good-looking—

ings. In the long run, it costs less, for it possesses a toughness and resistance to abrasion which assure service year after year with little or no upkeep. It is available in colorful and decorative tiles—with sizes from 3" x 3" to 12" x 24", in 1/8", 3/16" and 1/4" thickness—with a range of 34 attractive colors—and can be applied in dozens of patterns and color combinations.

If extension or abbreviation of the flooring pattern is desired, or if



Hundreds of smart decorative effects are possible with J-M Asphalt Tile. 34 colors to select from—in a wide range of sizes and thicknesses.

accidental damage makes repairs necessary, J-M Asphalt Tile can be laid or removed quickly and economically. Because it is fire-resistant, it has been officially approved for fireproof buildings in many cities.

It also has a mineral composition which cannot dry out or undergo any chemical change. It is resilient, quiet and safe underfoot.



This color-illustrated booklet shows many examples of the decorative patterns made possible by Asphalt Tile. . . . Send for free copy.

We have prepared an interesting, informative brochure, with many illustrations in color, which tells the whole story of J-M Asphalt Tile Flooring—and shows why this ultra-modern covering has been chosen for the floors of the new William H. Wright Building in Toronto and others equally outstanding. Send for your free copy today. We believe every architect will want to be fully acquainted with this low-cost, maintenance-free flooring of outstanding beauty—Johns-Manville *Decorative* Asphalt Tile.

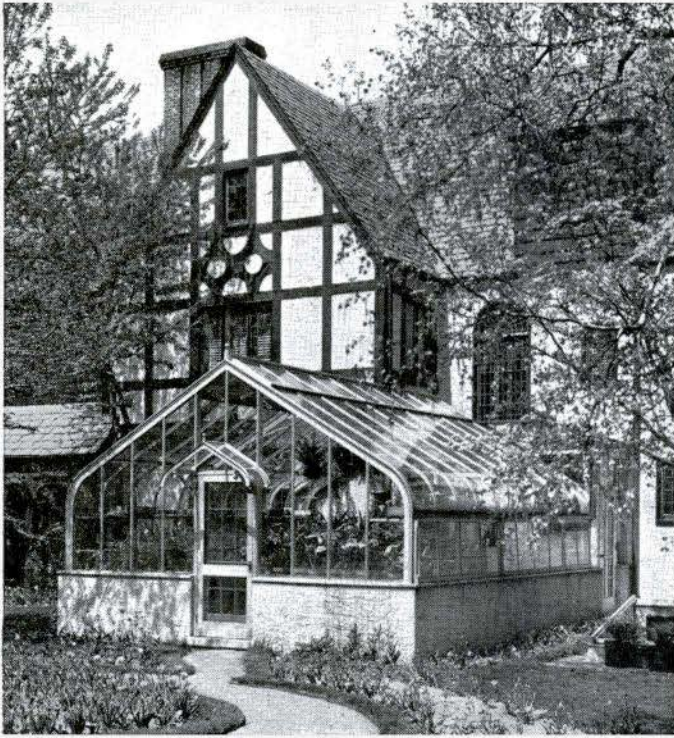


J-M Research developments include Asphalt Tile Flooring, Asbestos Roofing and Siding Shingles, Rock Wool Insulation, Transite, Built-up Asbestos Roofing and other products.

*must* wear well—*must* be quiet and comfortable to walk on—*must* be easy to clean.

J-M Asphalt Tile Flooring costs no more than other resilient floor-

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**JOHNS-MANVILLE**  
**Co., Limited**  
Mines and Factory at Asbestos, Que.  
**MONTREAL - TORONTO - WINNIPEG - VANCOUVER**



## Lord and Burnham Glass Enclosures Please Clients

Of all professional men, the architect is always among the first to sense the approach of prosperity. You can tell good times are on the way now by the increasing interest that is being shown in Lord & Burnham glass enclosures by home builders and remodellers everywhere. Architects and all concerned in home-planning have always agreed that no single detail can add so much to the livability of a house as a home for flower and fern. Research and experience of Lord & Burnham through the years have simplified designs and installations to a point where the luxury of a Lord & Burnham glass enclosure can be enjoyed by practically every man who puts up a house.

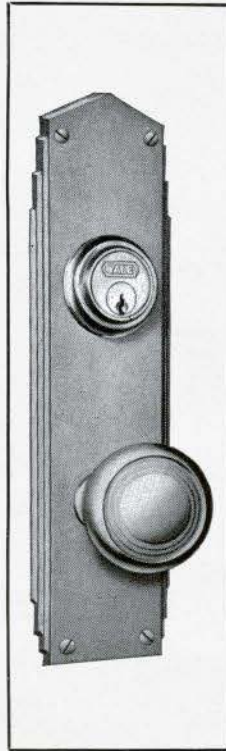
Architects find clients more and more receptive to the home-conservatory idea, where both modest and elaborate homes are involved. And to include Lord & Burnham in a plan proves profitable to the architect in goodwill retained and established.

Whether your plan calls for a "Standard" design or a glass enclosure built to your own specifications, Lord & Burnham offer you complete co-operation.

*Write us today.*

**Lord and Burnham**  
C O M P A N Y L I M I T E D  
 GREENHOUSES • HOME CONSERVATORIES • SWIMMING POOLS  
 TORONTO ST. CATHARINES MONTREAL

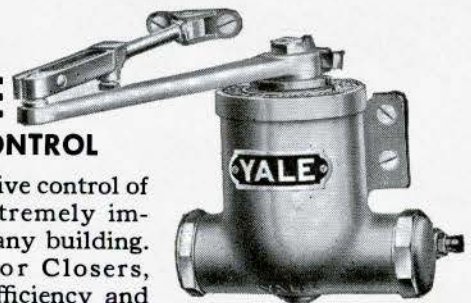
For Complete Satisfaction  
 use  
 TRADE **YALE** MARK  
 FINE QUALITY LOCKS  
 and BUILDERS' HARDWARE



**Q**UALITY . . . security . . . beauty . . . long life . . . those are characteristics for which YALE Locks and Builders' Hardware are famous everywhere. Architects and builders know that YALE is the mark of supreme dependability. Whatever the style of architecture, YALE Hardware offers the appropriate design in its extensive and varied array of patterns and materials.

### YALE DOOR CONTROL

Quiet, positive control of doors is extremely important in any building. YALE Door Closers, built for efficiency and durability, provide it. They are made in models and sizes to meet the requirements of doors of all types and locations.



*Yale Products are made in Canada*

**THE YALE & TOWNE MFG. CO.**  
 Canadian Division St. Catharines, Ontario

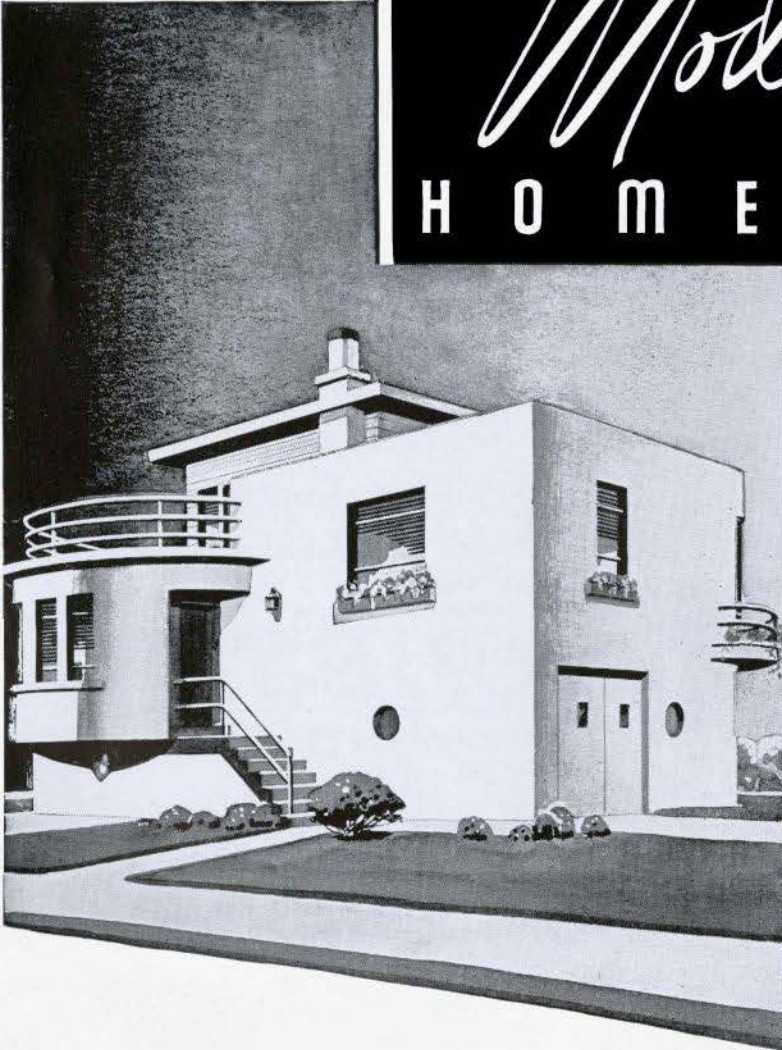
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## WIRING

FOR THE

*Modern*

H O M E



Wiring is the nervous system of the modern home. It supplies light and energy. To assure that this vital system maintains permanently the highest peak of efficiency, specify Northern Electric quality wires for every home requirement.



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armoured bushed cable.

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Northern wires and cables meet all requirements of the H.E.P.C. and the Canadian Electrical Code. Consult our nearest branch for complete details.

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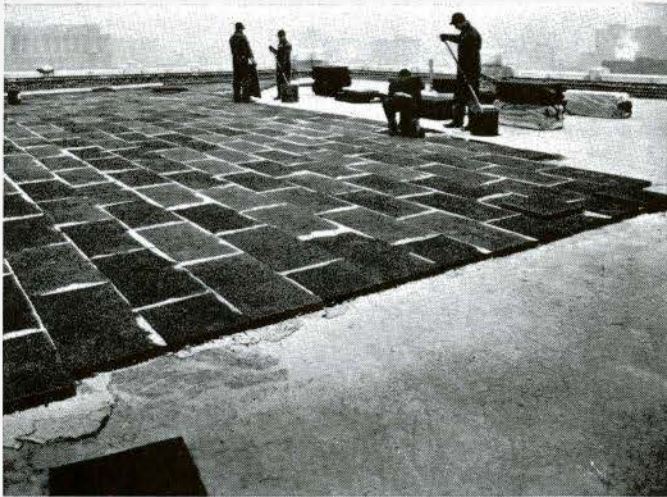
**Northern**  **Electric**  
COMPANY LIMITED

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# CONDENSATION

can't attack the roof of this  
new air conditioned building



## *It's Insulated with Armstrong's Corkboard*

WHEN warm air comes in contact with a cool surface, moisture forms. This condensed vapour presents a danger because it is likely to damage unprotected roof areas of air conditioned buildings. That is why more and more architects are choosing Armstrong's Corkboard to insulate roofs of new buildings.

This efficient insulation helps to avoid a temperature drop between the outer and inner surfaces of the roof, thus preventing condensation. The tiny, still-air cells of which cork is composed effectively bar the passage of heat. Equally important, these cells resist moisture, and keep their efficiency through many years of service.

Armstrong's Corkboard and Cork Covering help to provide efficient, economical air conditioning in many of the country's leading buildings. Detailed information will be supplied on request.



## ARMSTRONG CORK & INSULATION COMPANY LIMITED

MONTREAL  
WINNIPEG

TORONTO  
QUEBEC



*More* **DAYLIGHT**  
*means*

*Faster Work  
Fewer Rejections  
Less Accidents*

# *Fenestra*

**WINDOWS**

**Make Daylight Work For You**

Even a five per cent. increase in production efficiency makes a big difference on the balance sheet. Yet many factory operations are carried out under a 60 per cent. or more deficiency of Daylight.

If Daylight deficiency had a column on your ledger, the results might astound you. Slowed down production, rejected parts, wasted material, all take their toll from your net profit.

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Our business is Daylight. We will gladly lay before you the facts about Daylighting and increased production. Then you can judge for yourself. Architects, Builders, Owners have availed themselves of this unusual service. It costs nothing to know where you stand.

**CANADIAN METAL WINDOW  
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Montreal Address, 185 Van Horne Avenue

# END LEAKY BASEMENTS

## *The Sure* BONDEX WAY



**BEFORE**—Here's a typical basement, damp and unhealthy, because hard rains seep right through the walls.



**AFTER**—Treated with Bondex Waterproof Cement Paint, the same basement is bone-dry and ideal for laundry work.

**Spring Rains make Homeowners say . . .**



**Use This  
Coupon  
Today!**

**"Let's Do Something About Dampness"**

The rainy season brings a crop of leaky basements and rouses the anger of Mrs. Housewife against the rivulets that trickle across the laundry or play-room floor. That's where Bondex Waterproof Cement Paint comes in! Suggest a treatment of this world-famous finish that beautifies as it waterproofs basement walls.

**For Non-Porous and Painted Surfaces  
Use the New BONDEX-PRIMER**

For painted and integrally-waterproofed surfaces, use one coat of the new Bondex-Primer followed by a finish coat of Bondex. For porous and non-painted surfaces use two coats of Bondex in a choice of 16 colors. Folder giving complete instructions will be gladly sent on request—use coupon.

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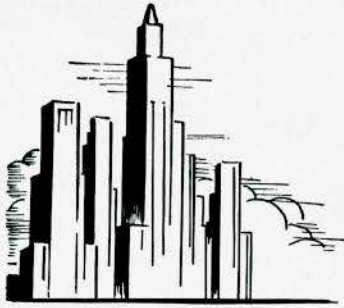
THE REARDON COMPANY LIMITED, 177  
146 St. Peter Street, Montreal, Quebec.

Please send illustrated folder on Bondex  
Waterproof Cement Paint for basement use.

Name.....

Address.....

City.....Province.....



## PROMINENT ARCHITECTS

ACCEPT OUR CO-OPERATION ON QUESTIONS OF

## PAINT AND PAINTING

**Dept. of Architectural Service**  
**THE SHERWIN-WILLIAMS Co.**  
*of Canada, Limited*

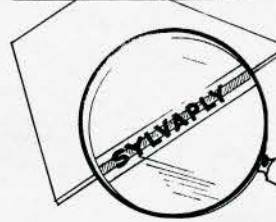
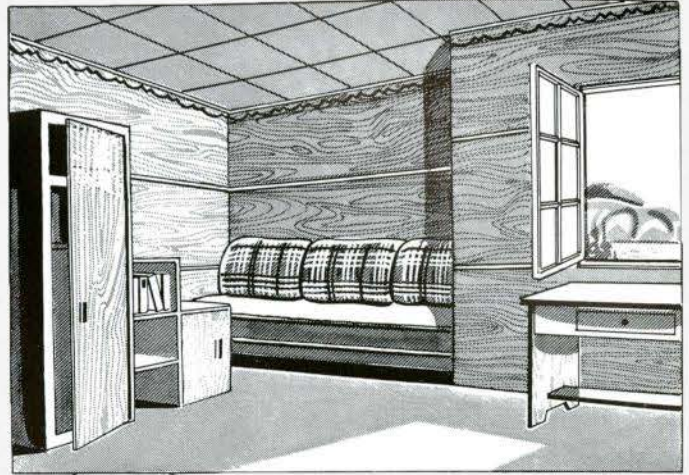
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MANY architects have come to regard the Sherwin-Williams Advisory Service as part of their own organization. We would like you to look upon it in the same way.

A fully qualified paint engineer will call any time you wish to discuss special paints, their application, colors, etc. Panels will gladly be made up to show you paints or stains as they will appear when applied. Such service entails no obligation whatever on your part.

Just write or phone Department of Architectural Service, The Sherwin-Williams Company of Canada, Limited, P.O. Box 489, Montreal.

**SHERWIN-WILLIAMS PAINTS**



Every Genuine SYLVAPLY Panel Has Name Stamped on Edge.

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THERE is a vast field throughout Canada for quickly-constructed, economically-built summer places of all kinds. Every architect, lumber dealer and building contractor can create extra business in this field by using SYLVAPLY as the basic material in plans, specifications and cost estimates.

*Specify SYLVAPLY for*  
*Sheathing*  
*Wall Panels*  
*Roof-Decks*  
*Sub-Floors*  
*Built-ins*

SYLVAPLY (real lumber, laminated) practically sells itself as the ideal material for the summer home, cottage or cabin. Its advantages are obvious: Easy to handle, speedy construction; quickly and effectively finished in natural stains or rubbed down paint; harmony with natural surroundings; a multitude of uses.

Contact our nearest office for literature and any information you may require.

"It's A Natural"

for Summer Camp Construction!

## SYLVAPLY

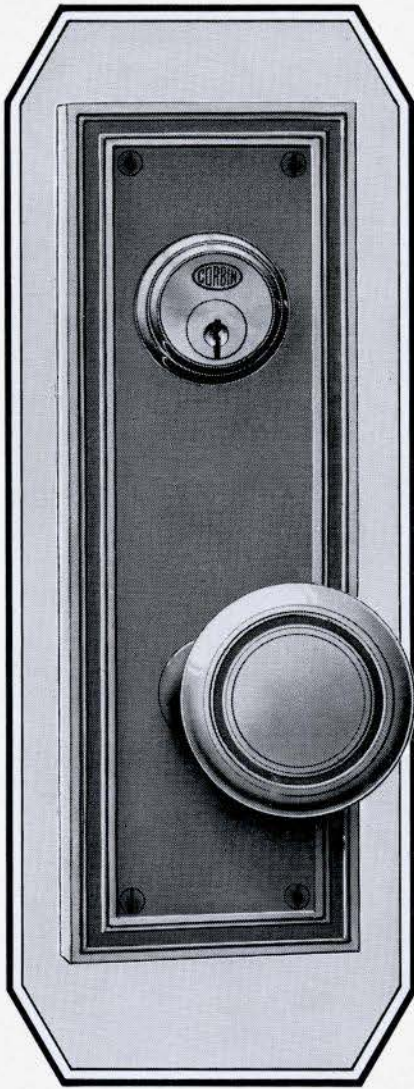
GIANT PANELS OF DOUGLAS FIR PLYWOOD

Manufactured by:

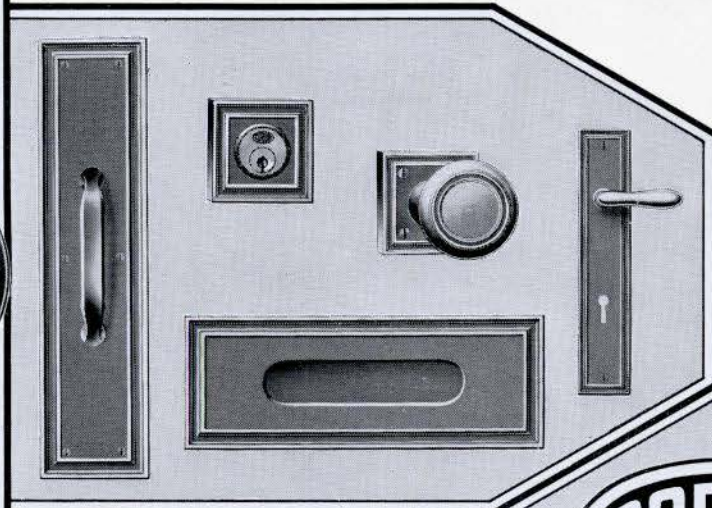
**BRITISH COLUMBIA PLYWOODS LIMITED**  
**VANCOUVER, CANADA**

Toronto Office and Warehouse: 26 Ernest Avenue—KENWOOD 8545  
 Quebec Agents: H. R. MacMillan Export (Quebec) Limited,  
 234 Coristine Building, Montreal.





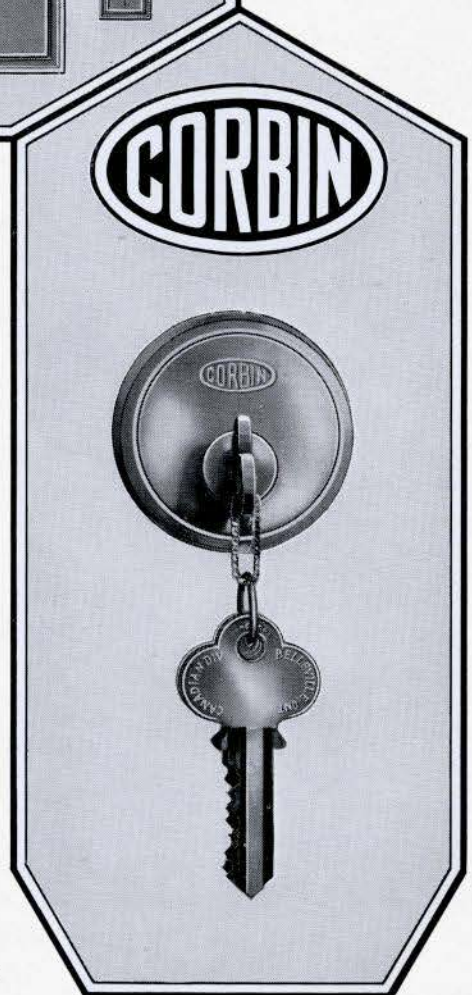
**COSMOS**  
A CONSERVATIVE  
ARCHITECTURAL DESIGN OF  
CLASSIC SIMPLICITY



*This design is typical of Corbin ability to maintain a classic simplicity that is almost severe — and at the same time, avoid monotony.*

*M*ANY architectural designs call for builders' hardware of rather severe lines. Yet such simplicity must not become mere flat plainness. Cosmos achieves strict simplicity, while preserving grace in outline and harmonious balance of elements.

This pattern is one of the Corbin family of distinguished builders' hardware, made expressly for fine office and public buildings. Solid cast bronze, in a variety of handsome, durable finishes.



*"Good Buildings Deserve Good Hardware"*

**CORBIN LOCK COMPANY OF CANADA, LIMITED**  
BELLEVILLE ONTARIO



Interior photograph of Erskine and American United Church—Montreal.

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The skill and technique of experienced photographers were essential factors in photographing the artistic beauty of this interior.

With trained men and modern equipment at their disposal, ASN is well qualified to serve efficiently your every photographic need.

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- Durability
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RECOMMEND THE WOOD  
WITH PROVEN QUALITIES

# WHITE PINE

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{ This is the seventh of a series of advertisements featuring White Pine for architectural uses. }



Trade Mark  
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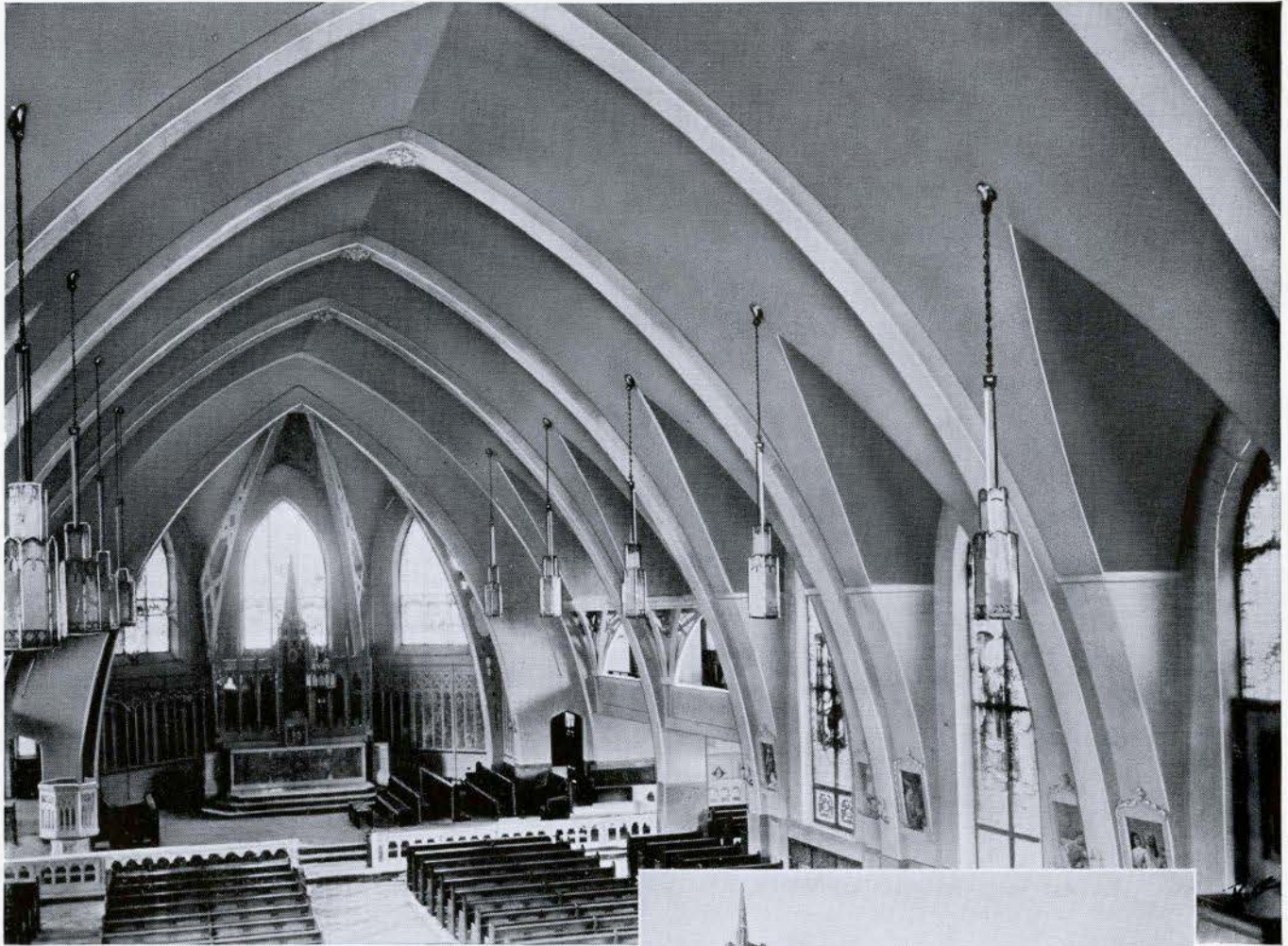
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# Built with CONCRETE For Permanence and Fire-Safety



*Interior and exterior views of St. Julien Church.  
Maurice Champagne, Architect.*

St. Julien Church, at Lachute Mills, Quebec, is an outstanding example of the adaptability of concrete construction to ecclesiastical architectural requirements, without undue cost. Write us for information on this modern material.



**CANADA CEMENT COMPANY LIMITED**

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## ALUMINIUM IS AN IDEAL BUILDING MATERIAL

**A**LUMINIUM is an ideal material for many purposes and is used in increasing quantities in modern buildings. Its lightness, ease of handling, its resistance to corrosion and its reasonable cost are only a few of its characteristics which appeal strongly to architects.

The above illustration shows aluminium electric light fixtures (including those recessed in the wall) balcony rail, doors and handrail in the Toronto Hydro-Electric Building, Carlton Street, Toronto. Chapman and Oxley, Toronto, were the architects and this work was produced by Architectural Bronze and Iron Works, Toronto.

We carry in stock a large variety of shapes, also Aluminium and its alloys in ingot form for castings.

*Write for information regarding sections, weights, etc.*

# The BRITISH ALUMINIUM CO. LIMITED

380 Adelaide Street West - - - Toronto  
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## These Two Men Speak for Thousands

These two men — master painter, property owner—echo the preference of thousands like them when they use and recommend Elastica Quality Paints.

They know that Elastica is a name that covers over 30 years experience in manufacturing paints that are formulated to modern ideas of decoration and colour—paints that are made from the finest quality materials for rock bottom economy and guaranteed performance.

Men like these,—“men who know”,—back your choice of Elastica paints, varnishes and enamels,—thoroughly dependable for every job and purpose.



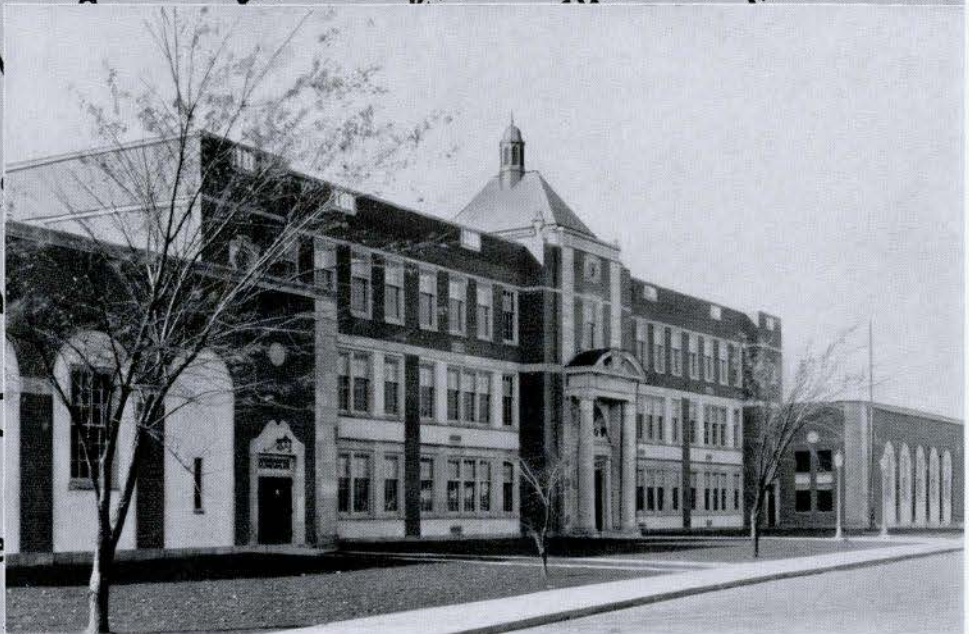
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 by JOHNSON has  
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very type of building  
 stable result is the  
**CONVENIENCE**  
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 development of the new  
**AIR CONDITIONING**  
 to many ingenious  
 special devices  
 exclusively the  
**JOHNSON** engineering  
 keeping up-to-date  
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Lawrence Park Collegiate, Toronto, Ont. — Board of Education, Architects

**ECONOMY — CONVENIENCE — HEALTH**  
 assured by  
**JOHNSON CONTROL SYSTEMS**

Those who were responsible for planning and erecting Lawrence Park Collegiate, Toronto, established no precedent when they arranged for the installation of automatic temperature control "by Johnson". The system of 37 Johnson room thermostats, operating 122 valves on radiators, is representative of those which are in service in many other modern buildings, throughout the Dominion.

Johnson automatic temperature control, for heating, cooling, ventilating, air conditioning, and industrial processes, may be specified with complete confidence. Johnson engineers, as pioneers in the industries which they serve, can tell you about their complete line of modern devices, tried and tested to satisfy every requirement. Ask them for detailed information!

**JOHNSON TEMPERATURE REGULATING COMPANY OF CANADA, LTD.**

**JOHNSON**  
**AUTOMATIC TEMPERATURE AND AIR CONDITIONING CONTROL**

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# EASIER TO SELL

because  
they're  
**NEW!**\*



1. . . . the  
**IMPROVED**

## "Excelda" Closet Combination

TWO exclusive new features will be found in this year's "EXCELDA":

1. A new float valve which fills the tank quietly.
2. A seat of improved design.

The other features of the "EXCELDA" are already well known to the trade: its smart cut-corner lines . . . all vitreous china construction . . . trouble-free performance . . . and the one-piece appearance of tank and bowl which are bolted closely together. Ideal for moderately priced installations. Complete details on request.

## 2. . . . the "Vorto" Pedestal Urinal

The "VORTO" siphon jet pedestal urinal (No. 8040) is designed for public buildings. Flushing action is prompt and quiet; large water surface eliminates fouling space; trapway will pass 1½" diameter ball, thereby taking care of refuse; and deep water seal prevents escape of sewer gas. Made of vitreous china, the "VORTO" will not discolour. Available with either top or rear inlet.



\* THE FIRST of a series of advertisements introducing new fixtures to the Trade.

*Sanitary ware with this trademark is made of heavy vitreous china.*



*Will not craze or discolour, and is impervious to moisture, acids, bacteria.*

**CANADIAN POTTERIES  
LIMITED**  
**SAINT JOHNS QUEBEC**



## It Pays to Install QUALITY FIXTURES

**T**HERE is never any doubt about performance when the faucets and showers bear the name WALLACEBURG . . . for these better fittings are always dependable. They're built to last for decades . . . not just a few years . . . and the home owner is not faced with the expense of constant repairs. In every corner of Canada they are daily proving that better fixtures are far cheaper in the long run.



*No wonder WALLACEBURG Fixtures stand up better. They're made the craftsmanship way . . . a lot of care taken with every part . . . and never any skimping anywhere. Then, too, they all receive many searching tests and inspections before shipment. There IS a difference.*

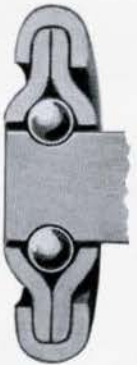
DEPENDABILITY  
FOR 34 YEARS

ASK YOUR  
PLUMBER

**WALLACEBURG**  
TORONTO MONTREAL WINNIPEG VANCOUVER

**"Trifles make perfection . . .  
but perfection is no trifle"**—Michel Angelo

**S**SOME of the "trifles" contributing to the excellence of ROLLTITE-OVERHEAD DOORS can be seen on close examination (although sometimes overlooked), others, equally important, are invisible, but worth consideration.



**F**OR instance; the roller axles are **CASE HARDENED**. That's one invisible quality having a technical name which means "long life". An ordinary steel axle would "get by."

And the rollers; notice the one-piece solid tread which prevents spreading or "splitting", another long-life feature.

*This roller was designed for durability—not for price.*

**T**HEN take the track. In common practice this track would be made of ordinary steel sheets, but Rolltite track is made of **COPPER-BEARING STEEL**. Why? Well, it is rust resisting and lasts six times as long as ordinary steel. An invisible "trifle".



**T**HE cables are heavier and stronger than ordinary practice might allow. Their tested lifting capacity is **TEN TIMES** requirements. And the bottom ends are moulded into the terminals. There has never been one pull out. Just another of those little extras that account for the perennial dependability of Rolltite Doors.

**H**ERE'S another place where a few cents could be saved at a sacrifice of quality. Ordinary black hinge-bolts would do,—but Rolltite bolts are **CADMIUM PLATED** to eliminate any possibility of rust streaks on the outside of the door. Notice the special "flush head" design.



**E**XAMINE the latch mechanism. On each end of the sturdy, solid steel connecting bar is a heavy cast iron case enclosing an oversize, durable spring. The latch bar proper is overly strong and durable.



**T**HE centre handle assembly is designed for long, hard usage. It isn't built down to lowest possible cost.

The whole latch mechanism could be made cheaper, but - -

**E**VERY Rolltite door is **CUSTOM-BUILT** and **SERIALLY NUMBERED**. A complete specification of every door is recorded so that parts or service can be quickly and accurately supplied if ever required.



**IMPORTANT  
EXCLUSIVE FEATURE**

**M**UCH more than a "trifle" this distinctive advantage is the basic principle of Rolltite Doors. The "DIAGONAL GUIDE" ensures complete weather tightness together with easy operation,—without the use of links, springs, movable tracks or gadgets.

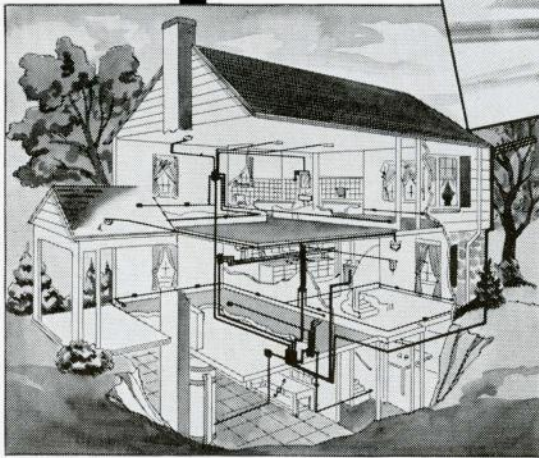
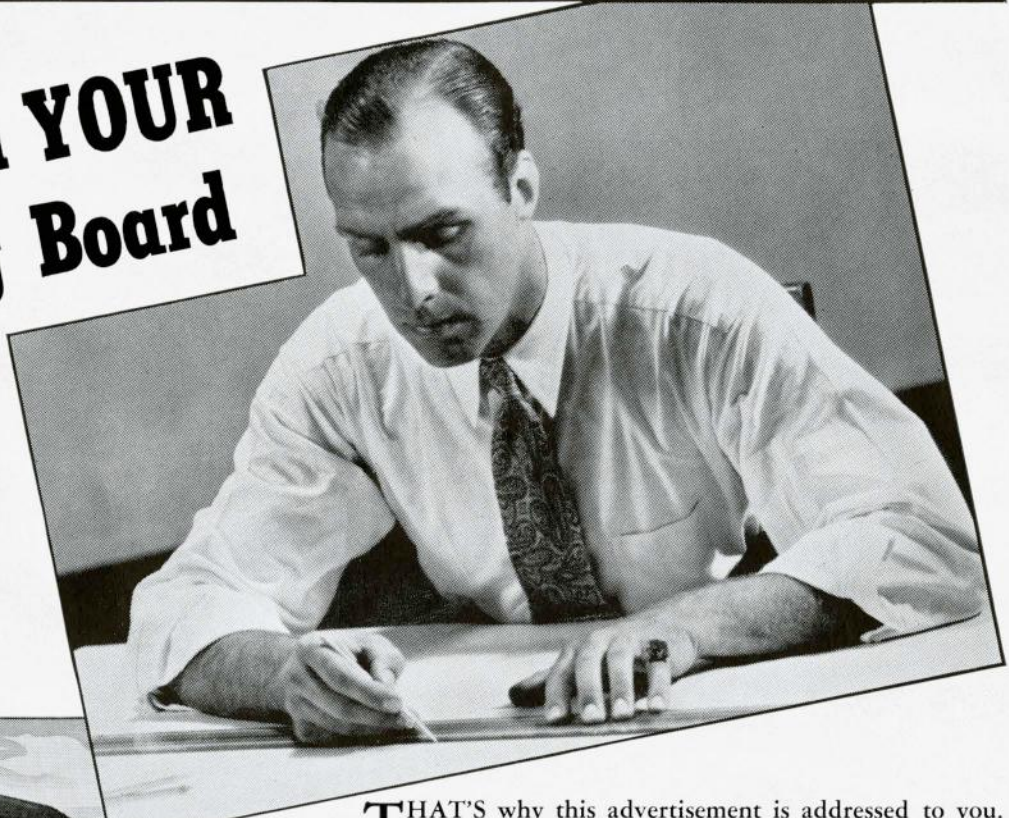
Track and brackets are welded together—not bolted. Nothing to come loose or get out of order. No adjustments. Only Rolltite has the **DIAGONAL GUIDE**.

**T**HESE are only a few of the "trifles" which 15 years of experience and development have created, and which account for the present perfection of ROLLTITE-OVERHEAD DOORS.

**RICHARDS-WILCOX CANADIAN CO., LTD. LONDON, ONT.**  
Branches at Montreal, Toronto, Hamilton, Winnipeg, Vancouver

# "Adequate Wiring"

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# JOURNAL

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“**E**VERY Man's proper Mansion House and Home, being the Theater of his Hospitality, the Seate of Self-fruition, the Comfortablest part of his owne Life, the Noblest of his Sonnes Inheritance, a Kinde of private Princedome; Nay, the Possessors thereof, an Epitomie of the whole World: may well deserve by these Attributes, according to the degree of the Master, to be decently and delightfully adorned.”

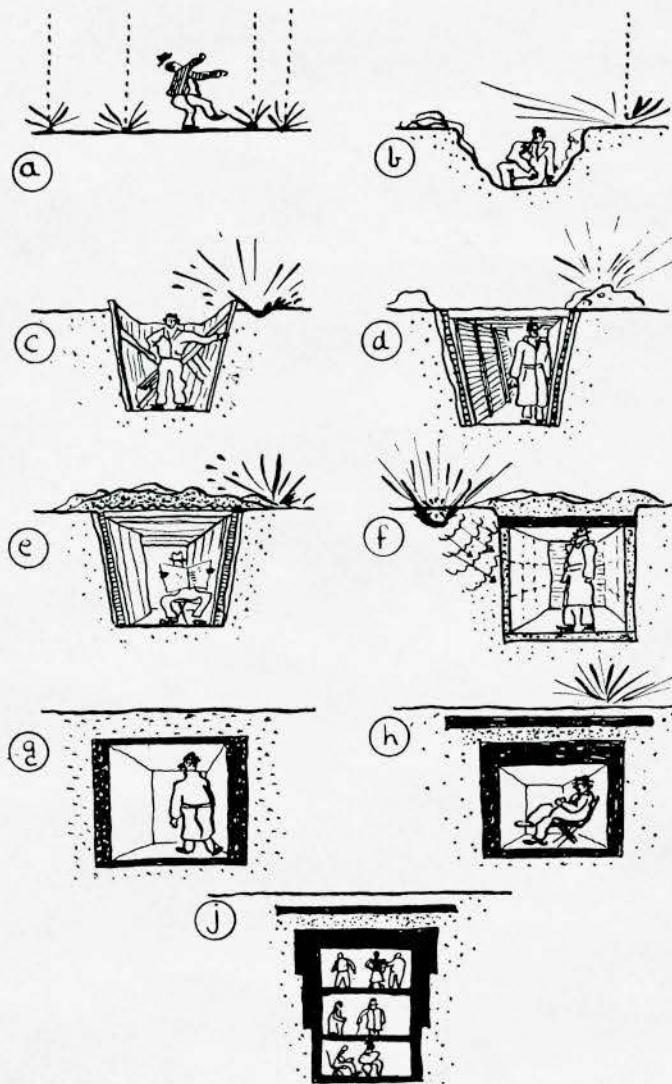
—Sir Henry Wotton. (1568-1639).

A word which impressed us early in our architectural career was the word “eclectic”. It was always used to describe the architecture of the 19th century, and we remember hearing Mr. John M. Lyle referring somewhat disparagingly to that strange period as “the age of eclecticism”. This house number of the *Journal* would indicate that we also live in an age of eclecticism—in fact it may not be an exaggeration to say that we, rather than the Victorians, are the true eclectics. When you visualize your favourite Victorian house or collection of villas on a street, you find they are all of the same brand. It is true we speak of a particular brand in the Queen City, but the worst things there are probably not much worse or better than their contemporaries in Montreal or Ottawa. There was in all late Victorian houses a similarity of treatment of window, gable, dormer and masonry which miraculously persisted in urban, suburban, and country dwellings over widely scattered areas. In a street of such houses framed by great elms there is a certain melancholy beauty which we find completely lacking in the restless nonconformity of the modern suburb.

Of course, thanks to the camera, we are abundantly equipped for a riot of styles. You will notice that Cape Cod settles down comfortably in British Columbia and that New England and old England hold the fort on the Prairies. Tudor architecture is to be found in every Province and no class of building from gas station to office building is free from its benign, or if you prefer it, malignant influence. It would appear from the *Journal*, which rarely lies, that eclecticism is under restraint in Ontario and Quebec. For years those provinces vied with each other in variety of architectural styles, but that period

has, except in spots, disappeared. Both those provinces have a native architecture which, with one or two unfortunate lapses, has been permitted to develop over a long period. The result in Ontario is a certain facility in the Georgian manner which at times reaches real achievement, but on the average produces a rather smug respectability arising, partly, out of too close a study of the original. Quebec has its native French domestic architecture, fostered, we have no doubt, by the McGill publications of old work. It is most successful in the stone cottage with a straightforward simple roof, and is least successful when attempted in a house of Georgian mansion dimensions, and for obvious reasons. Professor Nobbs quite convinced us that the bell cast was a strange and unsuitable termination to the roof at the eaves, and we are surprised that it ever appeared and that it has persisted so long.

While our thoughts are on bell casts, Georgian doorways and label moulds, it may be as well to consider the new architecture beside which such futilities are as sounding brass and tinkling cymbals. We draw your attention to the “late Christian” catacombs of England. While the English Journals groan with such information and even the South African Record devotes issues to discussions on poison gas and A.R.P., we feel it our bounden duty to acquaint our members with the new architecture. Being underground, the charge of eclecticism can be avoided and street manners in architecture will be a thing of the past—for there will be no streets.



Courtesy of the official Journal of A.A.S.T.A., London, England.

# EXTERNAL STUCCO FINISHES

By WILLIAM ALLEN

## 1. Introduction

**S**TUCCO, or rendering, as we know it today is a very old form of wall finish, considerably altered by contemporary advances in knowledge and changes in building technique, but still used for essentially the same purpose that it always was, that of providing a jointless, weather resistant surface.

Undoubtedly the contemporary advances in knowledge, and changes in building technique have been somewhat disjointed. So much is new, and so changed are conditions that it is impossible to embrace the whole technique from a new viewpoint, and relate all the parts, physically and chemically, at once with success; yet it is equally difficult to resist inroads on successful traditional techniques by new materials and methods, which although good in themselves may react in an unfortunate manner with the older types of work.

The stabilisation, as it might be termed, of building will take some time yet. There is a good deal of research still to be done, and yet more assimilation by the designer of the information already available.

The technique of stuccoing provides a typical example of this state of affairs, and it is not surprising to find in the world today two distinct approaches to the problem. On the one hand we have a method used extensively in Mid-European countries where a mixture of lime, cement and sand is thrown onto a surface, and finally scraped to provide a finish; and on the other hand there is a technique widely practised in the British Isles and the remainder of the English-speaking world where a rich cement and sand mix is trowelled onto a surface, and the finish is smooth. The aim in the one is to provide a porous surface of only moderate strength which will absorb moisture and prevent it streaming down the wall; and in the other the idea has been to obtain a hard, smooth impermeable surface which will shed the moisture. Of the two approaches it would appear that the former is highly successful in practice, while the latter frequently results in failures.

Stuccos, until a very few years ago, had never been the subject of comprehensive research, and even operatives in those districts where stuccos were giving good service, were unable to state the reasons, other than as personal opinions, for the success of their work. An investigation seemed very necessary, and the Building Research Station took up the problem, and to ensure that no possible clue was overlooked a survey of continental practice was included as part of the programme. The work is by no means complete, but information is now available upon which a successful specification can be based.

Canadian and American conditions tend to resemble English practice on the whole, although with some exceptions, and for this reason an attempt will be made here to describe both the "pro's and con's" of each of the variable constituent methods and materials that finally go into the making of a stucco.

There are four principal factors contributory. The first is the material to which the stucco is applied; the second, the method by which it is put in place; the third, the material itself, and the fourth, the manner in which it is surface-finished.

## 2. The Backing

In Canada, stucco is most frequently applied to either metal lath or brickwork as a backing. Concrete is also found sometimes, and occasionally, on cheap residential work, wood lath is used.

Of metal lath very little need be said. It is usually quite satisfactory, and in the ordinary course of events there is only one thing which must be guarded against—the possibility of corrosion. This will not happen extensively, however, if the lath is well covered by the mortar, for the free lime in the cement will act to protect the metal; the local corrosion which may occur after some years is not likely in itself to result in serious failure.

Upon the coverage afforded by the mortar there is, however, one influencing factor which might be noted: the mortar should be very workable, so that it gets well into and around the mesh. A straight cement-sand mixture is harsh and coarse, and will not be as satisfactory in respect of workability as a cement, lime and sand combination.

If the opportunity occurs, as it often does in frame construction, to give a coat of mortar to the inside of the lath after the base coat has been applied outside, a more satisfactory degree of permanence could, of course, be assured.

Brickwork is a more potent and likely cause of failure than metal lath as a stucco backing, but there must be an excess of moisture present in the brickwork for failure to occur.

Brickwork contains various soluble salts, and when the wall is saturated they go into solution. In that condition they may react with the cement of the stucco and progressively break down its adhesion to the brickwork.

Provision against damage of this nature can be made in two ways, firstly by avoiding the use of bricks with high salt content, and secondly by preventing the ingress of moisture.

At the present time it is not possible to say in all cases what represents a dangerous amount of the salt, but fortunately, the most frequent offenders are the most easily detected—the sulphates of calcium and magnesium. The presence of these can be readily ascertained by a simple chemical analysis, and it would be advisable to avoid the use of brick containing more than a very minute percentage.

Moisture finds its way into walls nine times out of ten through some structural defect, and the tenth time through cracks in the stucco itself. Badly designed parapets and roofs; poor or non-existent damp proofing about ground level, and poor damp proofing at the backs of retaining walls are all the source of much trouble with brickwork. Particularly dangerous is it to omit any precaution against the transfer of soil moisture to the brickwork, for the soil itself is a never-ending source of undesirable salts.

The cracking of stucco is partly a matter of mix, partly of method of application, and partly "key" provided by the backing. It results primarily from drying shrinkage.

If the restraint provided by adhesion to the backing could be perfect, and the backing very strong, the primary cause of cracking could not operate effectively and cracking itself would be reduced. Adhesion to the backing is, therefore, very important, and bricks should not be chosen without this point receiving consideration. Bricks to be stuccoed should be well fired and hard, to resist the shrinkage stresses, should have medium suction, or be well grooved and undercut to provide a mechanical key; and the joints between bricks should be well raked, for the same purpose. Probably the best type of brickwork to stucco is that which has been roughly erected.

Concrete is usually a very dense material, with a surface having low suction, a poor thing for stucco. Hacking the surface is not likely to be very beneficial unless it is extraordinarily well done, and it has been concluded that the concrete will not contribute much to the adhesion. There are ways of dealing with it, however, which make it quite satisfactory;

these will be described in connection with the undercoat and its application.

Wood lath is never likely to be really successful. The moisture movement of wood is so great that under conditions of exposure it is almost certain to dislodge the stucco.

In summary at this point, it seems that metal lath should be fairly satisfactory, although probably not permanent, in the building sense of that word. Brickwork requires certain precautions, but can be excellent and durable. Concrete, aside from the poor adhesion, is good, and the adhesion problems can be overcome in other ways. And wood lath is not likely to be satisfactory with modern stuccos.

### 3. *Methods of Applying Stuccos.*

Stucco is either:

- (a) Thrown on,
- (b) Trowelled on.

When the backing is of metal lath, the aims in applying the base coat are twofold: one wants to cover the metal well, and one wants to develop the "key" to the maximum.

To satisfy both these requirements a good deal of mortar should be applied, and it should be applied vigorously, and these factors together suggest that trowelling is the only method of application which is likely to work. The workability of the mix is important, of course, as previously noted.

When the backing is of brickwork the aim in applying the base coat will mainly be the development of adhesion. And it is this very important point the continental operatives disagree with most of the rest of the world, for they say that in placing this coat with a trowel there is a danger of trapping a thin layer of air at the interface of mortar and brickwork, which will prevent the development of adhesion. Throwing on, they say, is the only way of overcoming this. And to illustrate their argument they point to the difficulty of removing mortar droppings from even such a smooth surface as tile work. Investigation is proceeding on this point, but in the face of the success which attends the continental workmanship one hesitates to question the methods employed.

"Throwing on" as it is practised in Europe means that the mortar, somewhat wetter than usual, is picked up on the back of a trowel and flung vigorously onto the wall with a backhand motion.

It is significant that an English operative, who was employed by the Building Research Station to carry out some experimental stucco panels by the "thrown" technique, has adopted it in his practice, and finds that he can undersell his competitors, and offer a better result to his clients.

For brickwork it seems again that the more workable mix, the lime mortar gauged with cement, is a more suitable backing, although it should also be noted that the suction of the brickwork must be adjusted, if necessary by wetting, so that it is not too high. Otherwise the mortar loses too much water, and is unable to complete its set properly at the interface.

Where concrete surfaces are to be stuccoed, or where a brick wall is on a very exposed site, the backing should first be treated with a slurry consisting of one volume of Portland cement to two and a half volumes of sand. The slurry should be thrown on in the thinnest possible manner which will just cover the wall, and no attempt should be made to smooth it. The proper undercoat should then be applied as previously described for brickwork.

In summary at this second stage, it seems that the basecoat of the stucco should only be applied by trowelling in the case of metal lath, and that it should be thrown on to other backings. Concrete, and brickwork in exposed places, should be first prepared with a cement-sand slurry. It adheres well to the concrete and provides a good key for what follows, and it

adds to the waterproofness and adhesion in the case of brickwork.

### 4. *The Proportions of the Mix*

The proportions of the mortar mix for the undercoat are very important.

Some mention has been made of the stresses set up by drying shrinkage. If the mortar is strong and rich, it will almost certainly develop sufficient tensile and shear stresses in shrinking to cause cracking or complete failure of the adhesion in places. The cement-gauged lime mortars which have been mentioned are much less likely to develop these stresses to a serious extent.

Experience has shown that any additional cost resulting from this sort of mortar will in all likelihood be offset by methods of application and increased workability.

The following proportions for the mortar are suggested:

Cement, lime and sand in the proportions of 1:2:9 by volume.

### 5. *The Finish Coat*

In preparation for the finish coat, the undercoat should be thoroughly scratched, or preferably scraped, to provide key, and be allowed to dry not less than three days in warm weather, and seven in cold or wet weather.

It should, if necessary, be wetted to reduce suction.

The finish coat should never be stronger than the undercoat, or it may pull away and crack. If possible, it should be slightly weaker, and this applies to either roughcast, pebble-dash, or fine-textured finishes. Moreover, it should apparently, also be thrown on, like the undercoat if the best results are to be had. Roughcast and pebble-dash must, of course, be thrown, but the finer-textured finishes have often, in the past, been laid on with a trowel.

The finish-surface is quite as important to the weatherproofness and appearance of the wall as any item so far discussed.

To be weatherproof implies that the surface prevents moisture penetration—most important with a stuccoed wall.

In the normal course of events a stucco will only admit water when it is cracked. Methods of preventing cracking of the undercoat have been discussed, and apply to this topcoat as well, but in addition, the surface finishing may be the cause of trouble. This should only occur, however, if trowelling is resorted to, for this brings to the surface a rich laitance, which can develop very considerable strength, and in shrinking may be strong enough to produce cracking. Roughcast and pebble-dash offer an opportunity for relief of shrinkage stresses by the formation of insignificant cracks about the individual stones. In general, finishes which are thrown on should not be the source of trouble, providing, of course, that they comply with the other requirements of a good stucco.

The appearance of a stucco is an awkward and disturbing point, for, while it must receive some dirt from the atmosphere, unlike stone, it cannot readily be cleaned. Painting is not desirable, of course, for once commenced it must be maintained from time to time. Perhaps one of the best ways of renewing the surface is by throwing on a very thin coat, or "spatter-dash", of the original mix. But it will be seen that if stucco must actually have its surface renewed from time to time, it cannot be considered as a permanent, or even semi-permanent material.

But perhaps this is not the direction in which one should look for lasting satisfaction with a stucco: perhaps the aim should be a surface which can continue to weather, and which may, like London's grime, often add to the picturesqueness of the building in time.

This point was in the minds of those at the Building Research Station when they undertook their continental survey. They looked at buildings of all ages, with all types of finish in all sorts of atmospheres, and were able to make some very interesting comments in their report.

It appears, for instance, that the smooth, hard, impermeable surfaces, far from washing clean in the rains as their exponents have maintained, simply streaked badly, and stained readily. On the other hand, the absorbent, porous surfaces, and the roughcast and torn finishes, which tend to prevent moisture running down the wall, turned dark fairly evenly, and presented quite a satisfactory appearance for some years. But there are two continental habits which must be taken into account when basing any remarks on these results: the first is that they use elaborate flashings and drips and, secondly, that they often mix into the aggregate quite a lot of shiny, hard material which tends to keep the surface bright even though the tone goes darker. The elaborate metal flashings are, perhaps, the more important of the two things. They are placed over every horizontal surface, no matter how small, and formed always to cast the moisture away from the wall. Window sills, for instance, are turned up at the ends to prevent water running over, and both window sills and copings always have a slight overhang. Careful protection of this kind adds much to the appearance over a number of years.

But it is not only the appearance which is affected by this detail; horizontal surfaces in the comparatively soft lime-cement stuccos are very vulnerable points if not protected, and the flashings, on the continent, are made to serve a double purpose, in adding to the endurance as well as the appearance.

It might finally be noted that many continental operatives are of the opinion that scaffolding plays a large part in the appearance of the work. Their idea is to have an arrangement whereby the stages can be conveniently moved up and down so that the continuity of the work will be uninterrupted, and lines of demarcation avoided.

In summary, then, it appears that the porous, absorbent surface-finishes have certain advantages over the hard, impermeable, smooth types of stucco. The finishes should never be trowelled, but merely left as thrown, or scraped.

To the appearance and life of the stucco elaborate flashings can be expected to add, and the use of a fine aggregate which contains hard and shiny material may also be desirable.

It may be useful to the readers, after so much comment on continental surface finishes to describe one in detail.

The stucco is, as a rule, factory mixed, which aids uniformity of colour. On arrival at the site it is at once thrown onto the wall in a thickness of about one-third inch, ruled level, and smoothed slightly with a trowel if necessary. A few hours later—the period depending on the weather—the surface is scraped with a tool consisting of several pieces of worn hack-

saw blade set in a frame, or a piece of metal lath on a frame, or some similar instrument. This cuts the surface and removes the skin to about half the thickness of the coat. A steel rule is finally used to make the work neat and plumb.

The surface texture in uniformity and charm is most satisfactory, and there seems no reason why this sort of work should not become as popular in the English-speaking world as it now is on the continent.

#### 6. General

The curing of stucco rarely receives any consideration, but one or two points are worth noting.

It was once argued by analogy with concrete that stucco should be cured under damp conditions. It is now recognised that this was a fallacy, the reason being that "creep" (a term applied to the plastic flow of materials under sustained stress) proceeds, in cement products, most actively during the first month. If the normal drying shrinkage of the stucco is delayed beyond the period of active creep, the relief of shrinkage stresses by this agency will be reduced, and the likelihood of cracking increased.

During exceptional hot weather the work should be protected from the direct rays of the sun, and, of course, during freezing periods the work should be altogether suspended.

It may be useful to make one observation on the general external design of buildings to be stuccoed, particularly if the practices recommended in this article are utilised.

The stuccos resulting from these practices will not withstand abrasion, or ground moisture very successfully, although excellent in other respects. Plinths of buildings would for this reason best be carried out in some entirely different material more suited to the conditions to which a plinth is subjected. Stone or brick would, for instance, usually be much better than a cement-gauged lime stucco.

#### 7. Conclusion

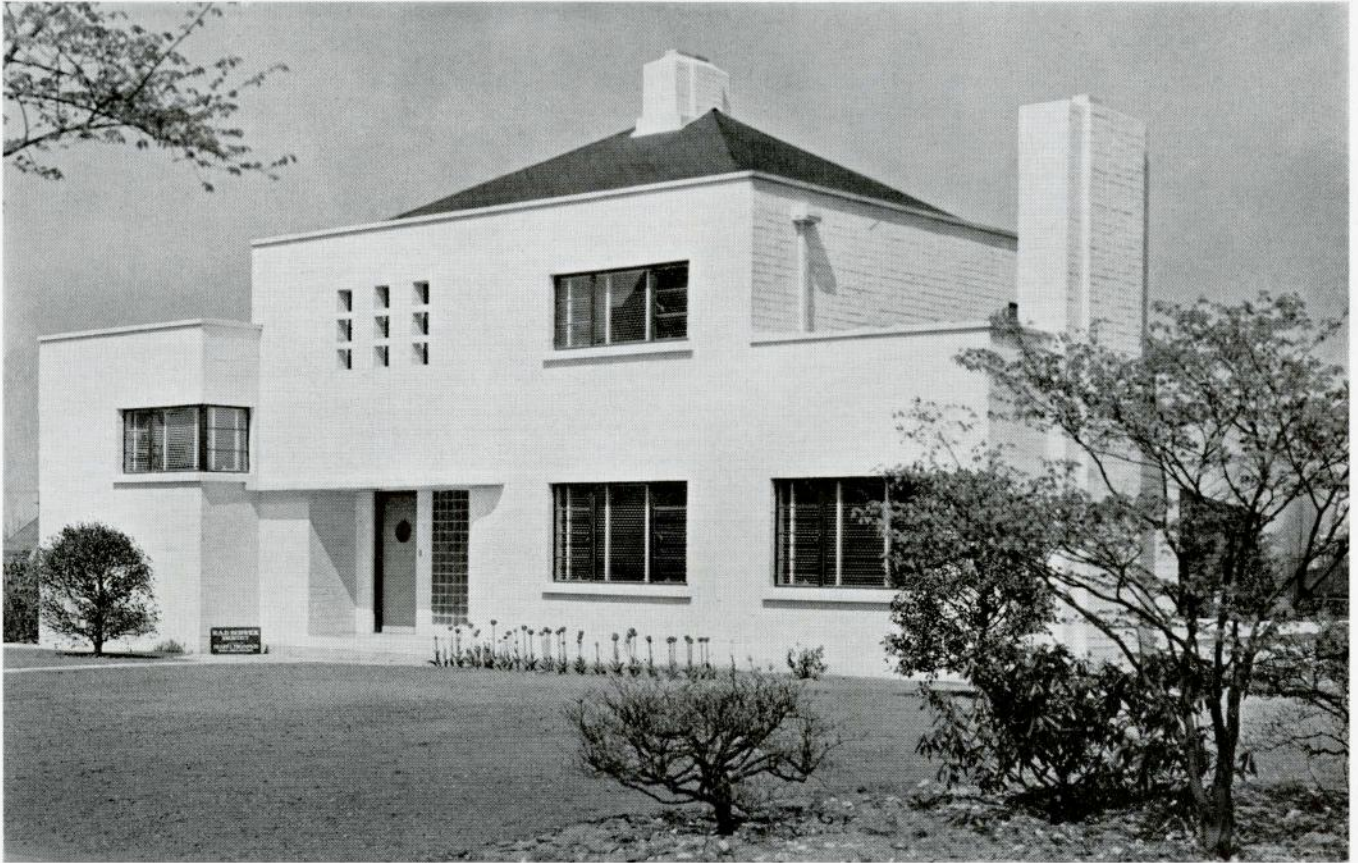
Many practices and mortars recommended here will be somewhat different from those employed at present in many parts of Canada. It is advisable, therefore, that before they be used to replace others which are better known that some small test panels be erected and observed for some time, so that the actual experiments will not be performed on the final structure.

#### NOTE

*The Building Research Station has recently published the results of the survey of continental practice in a bulletin form, No. 16 in the series, entitled "External Rendered Finishes—A Survey of Continental Practice". This is published by H.M. Stationery Office, and is available, price one shilling, from all booksellers.*

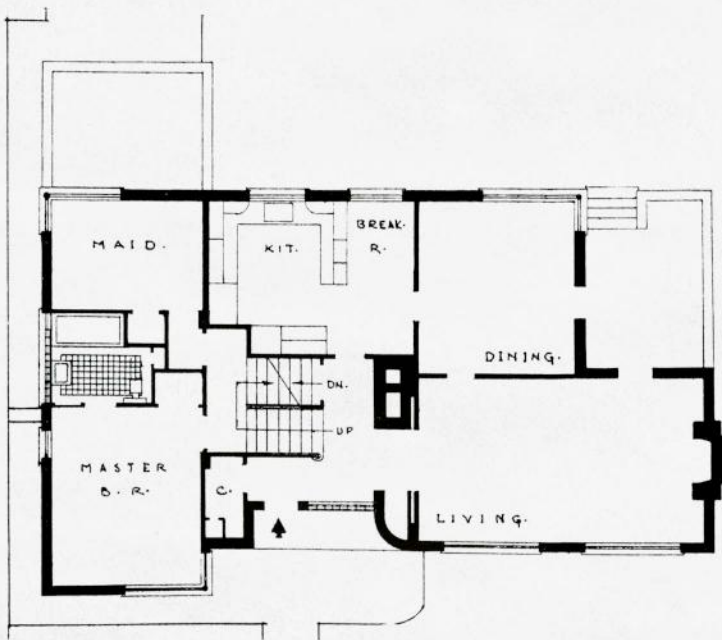
*Canadians will find it useful and interesting reading.*

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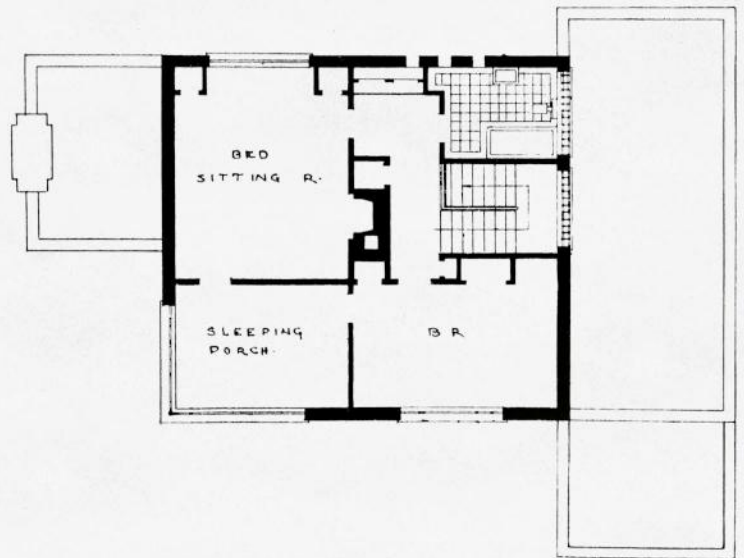


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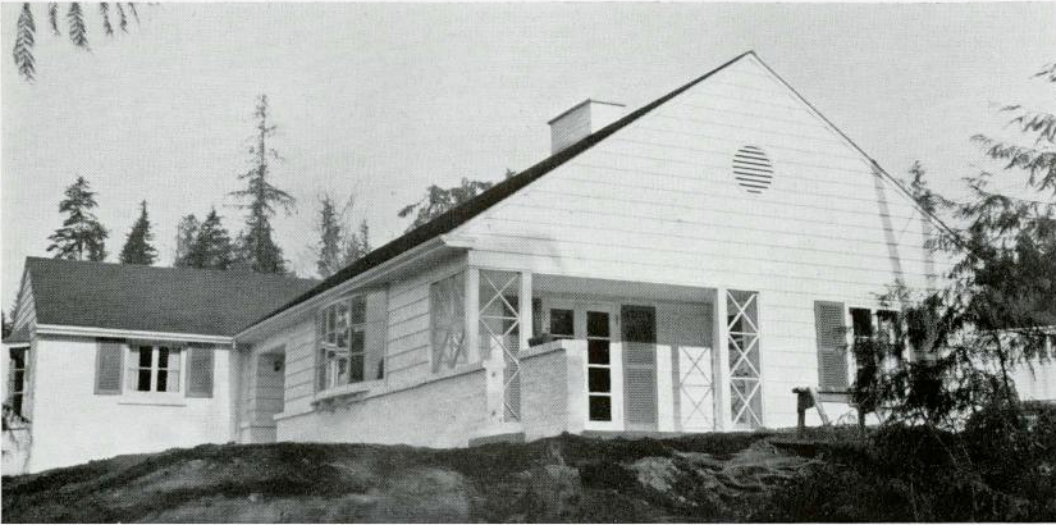


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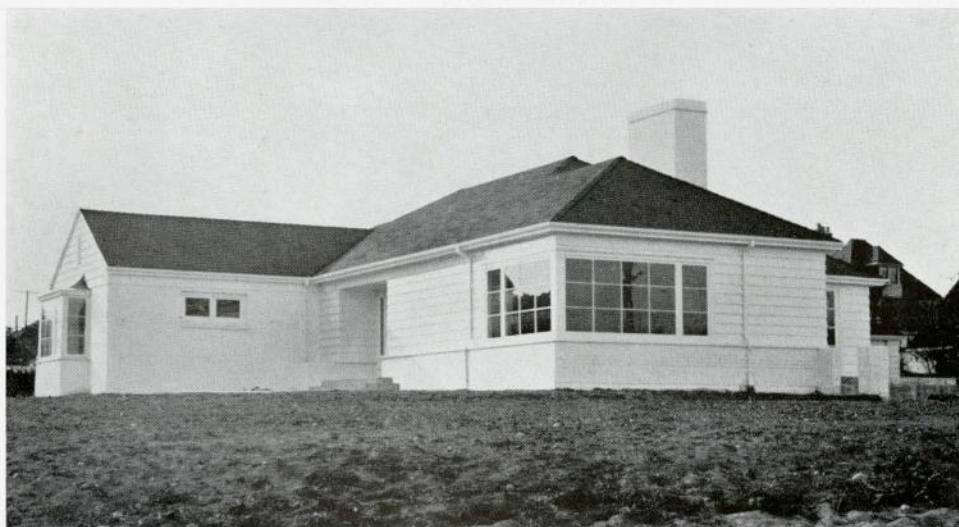
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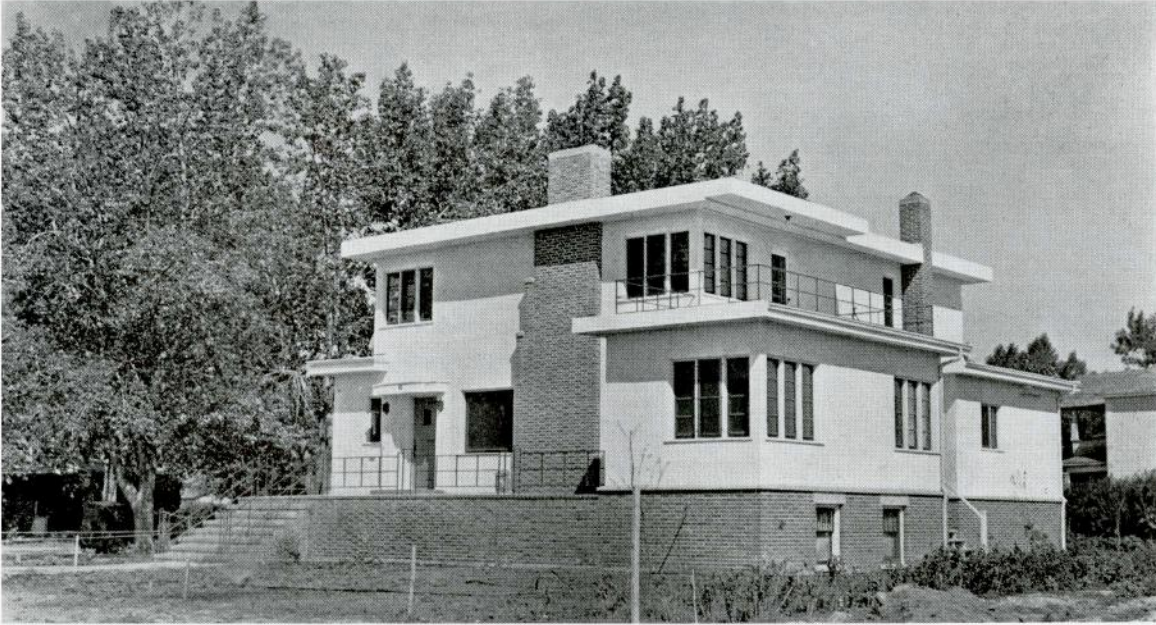
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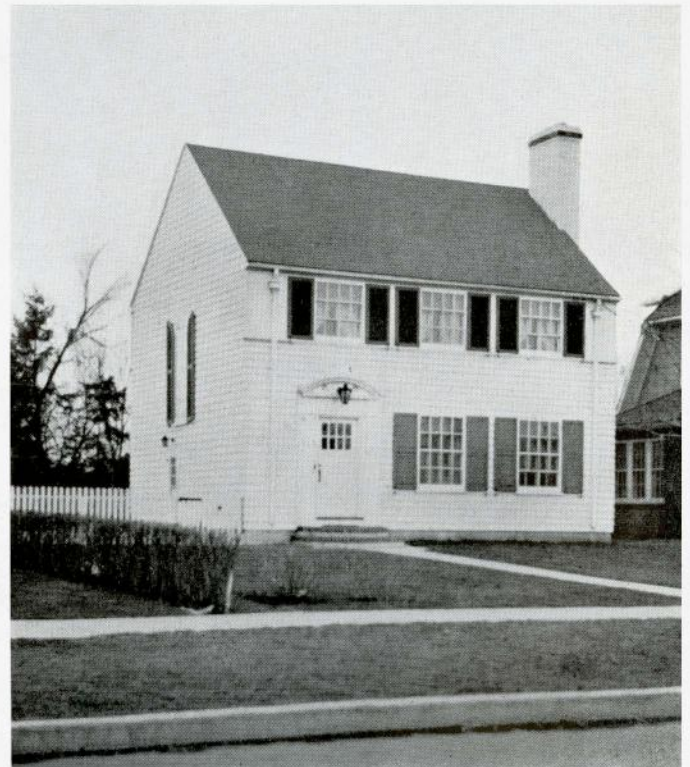


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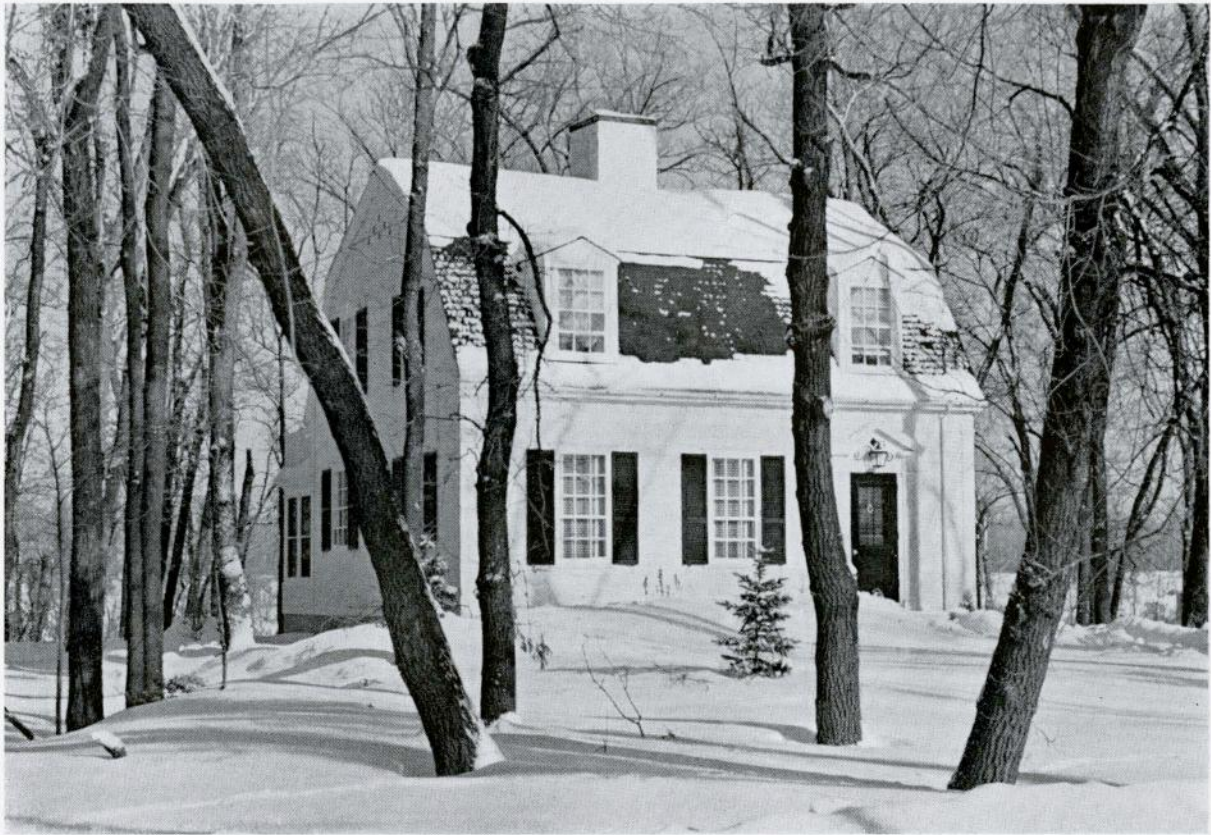
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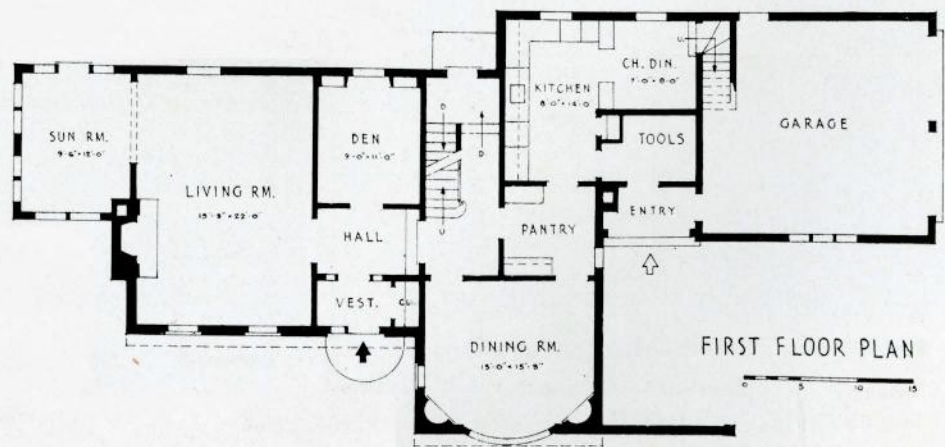
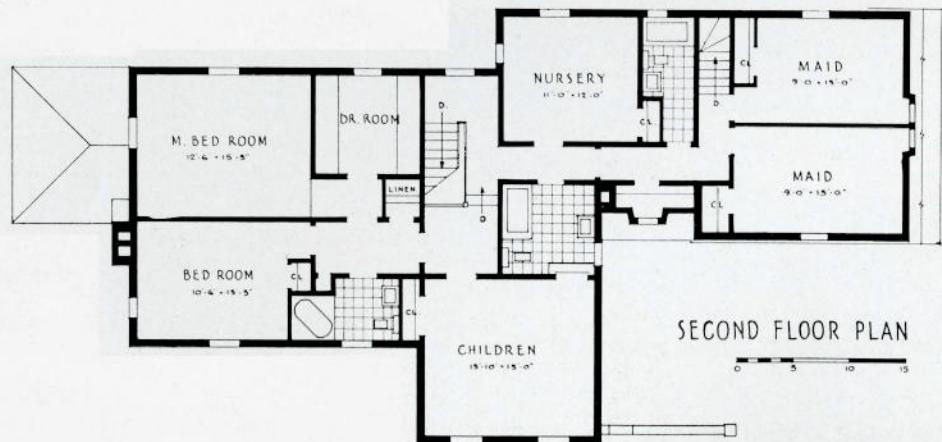


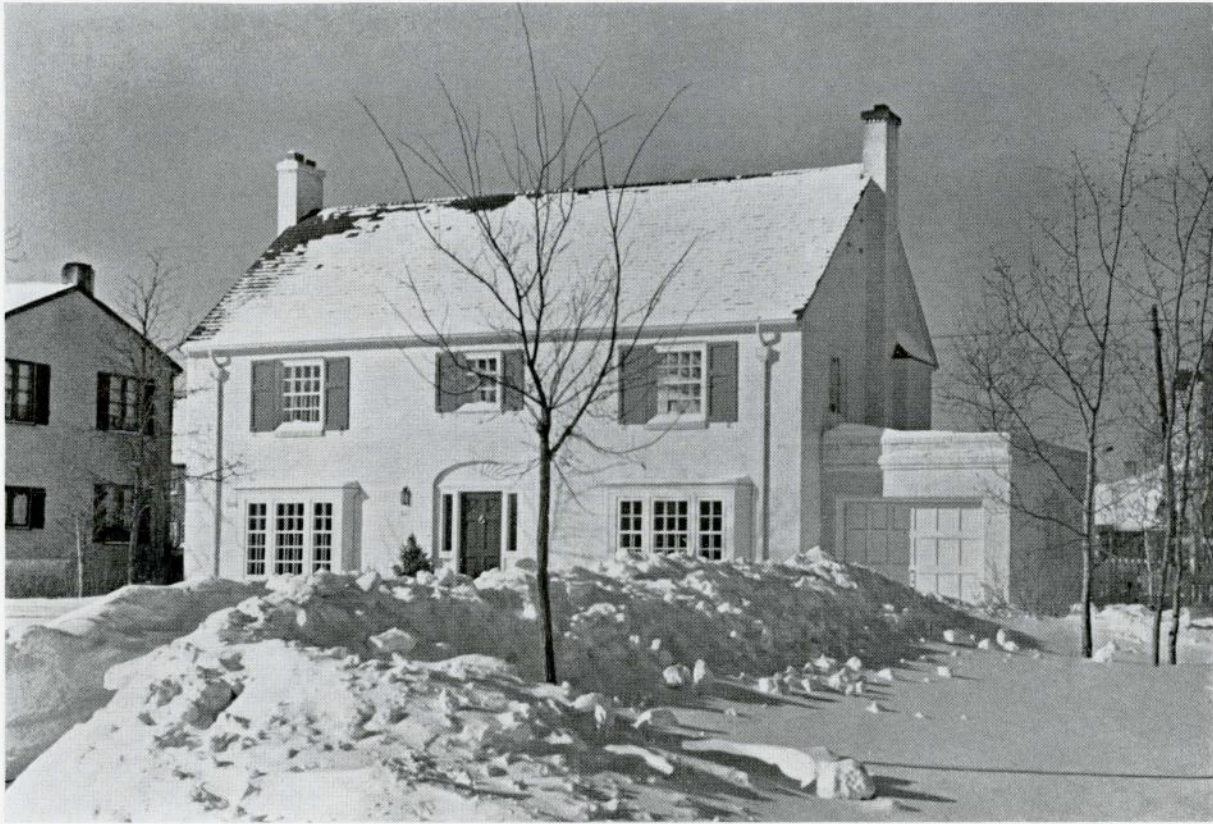
SECOND FLOOR PLAN



HOUSE OF MR. ALEX. ROBERTSON, TUXEDO

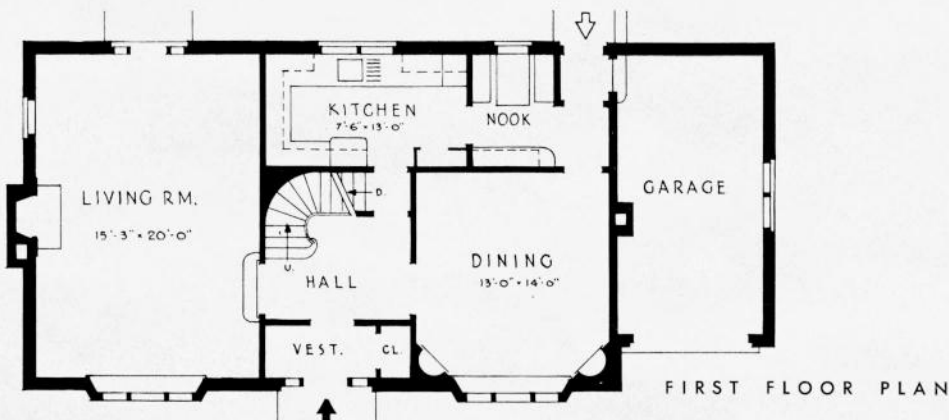
MOODY AND MOORE, ARCHITECTS

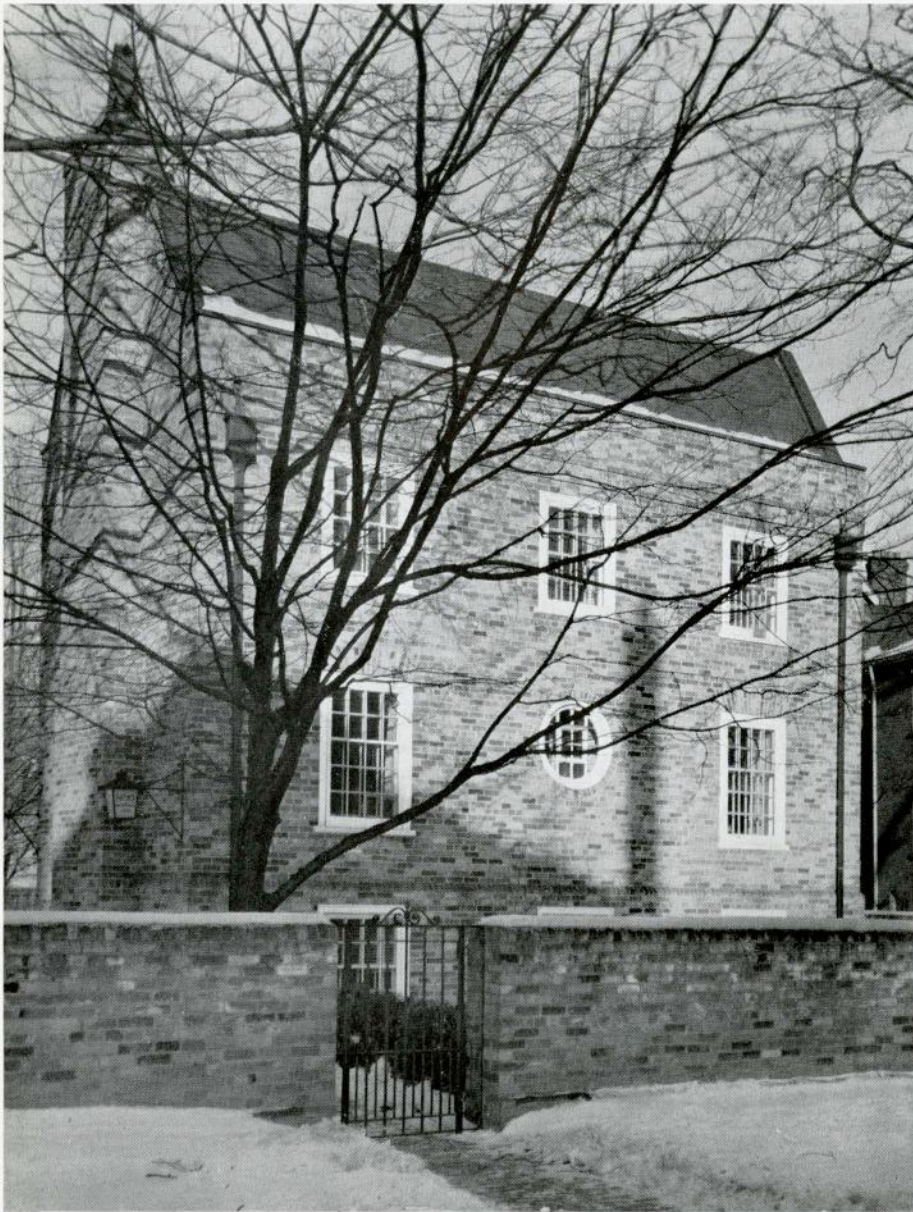




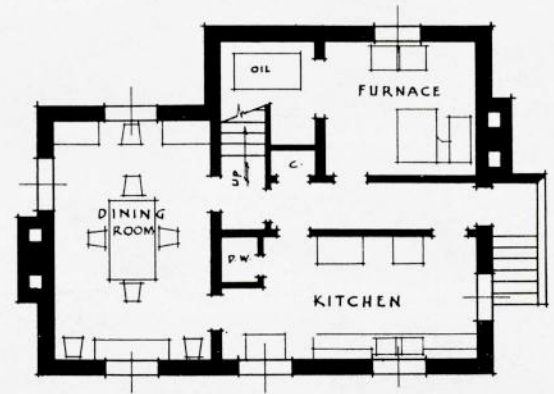
HOUSE OF MR. A. M. PATTON, TUXEDO

MOODY AND MOORE, ARCHITECTS

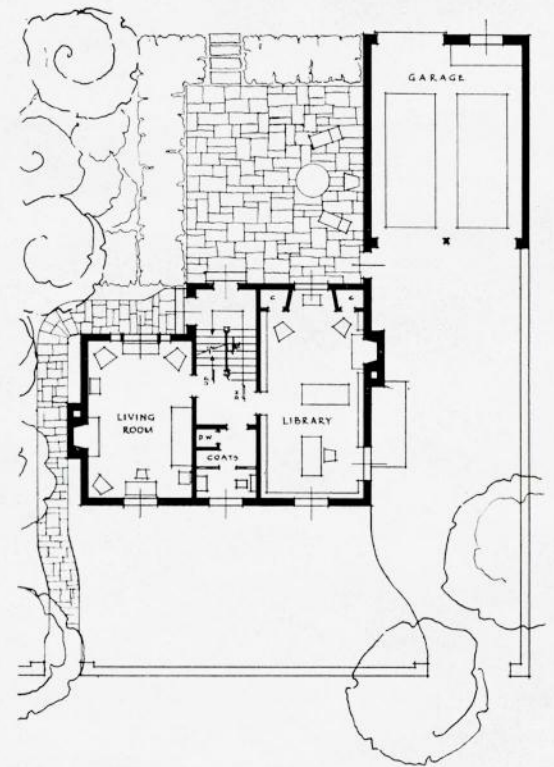




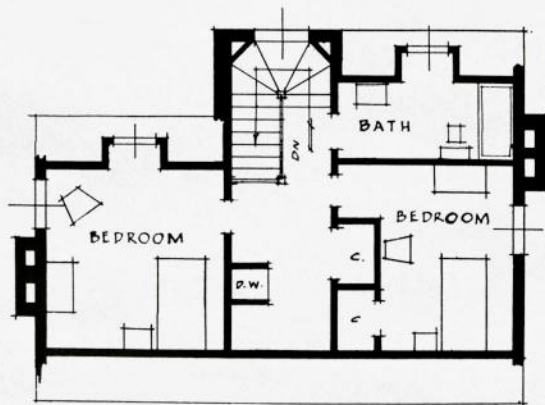
HOUSE OF MR. J. W. WALKER, TORONTO  
SAUNDERS AND RYRIE, ARCHITECTS



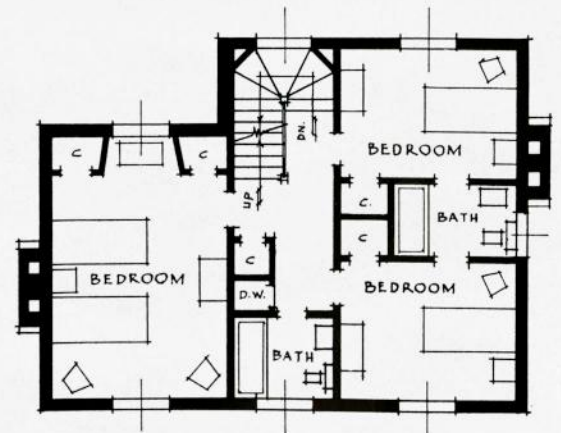
BASEMENT PLAN



FIRST FLOOR PLAN



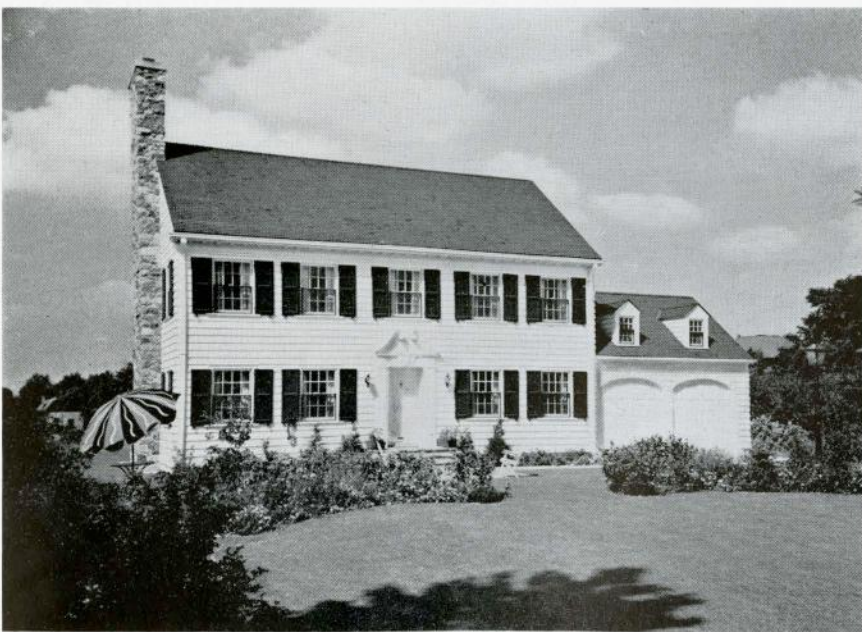
THIRD FLOOR PLAN



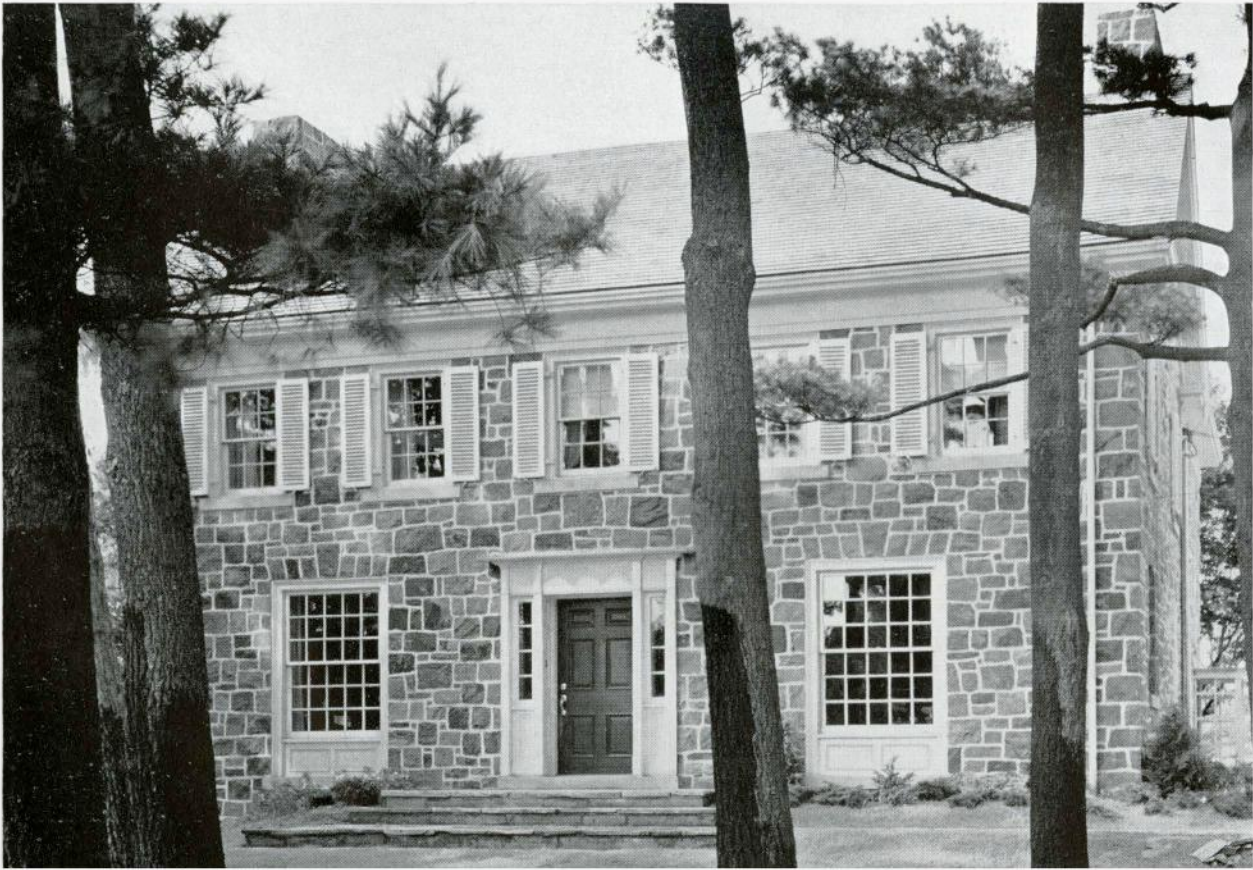
SECOND FLOOR PLAN



ENTRANCE DETAIL



HOUSE OF MRS. GEORGE H. McCULLAGH, LONDON  
W. STUART PAVEY, ARCHITECT



HOUSE IN BARRIE

WILKES AND FISHER, ARCHITECTS



LIVING ROOM





HOUSE OF MR. G. P. SPEIRS, TORONTO

MURRAY BROWN, ARCHITECT



STAIRWAY

ONTARIO



HOUSE IN TORONTO  
ALLWARD AND GOUINLOCK, ARCHITECTS



HOUSE OF MRS. R. H. PRINGLE, TORONTO  
GORDON S. ADAMSON, ARCHITECT



HOUSE OF MR. R. C. BANNISTER, TORONTO  
MACKENZIE WATERS, ARCHITECT



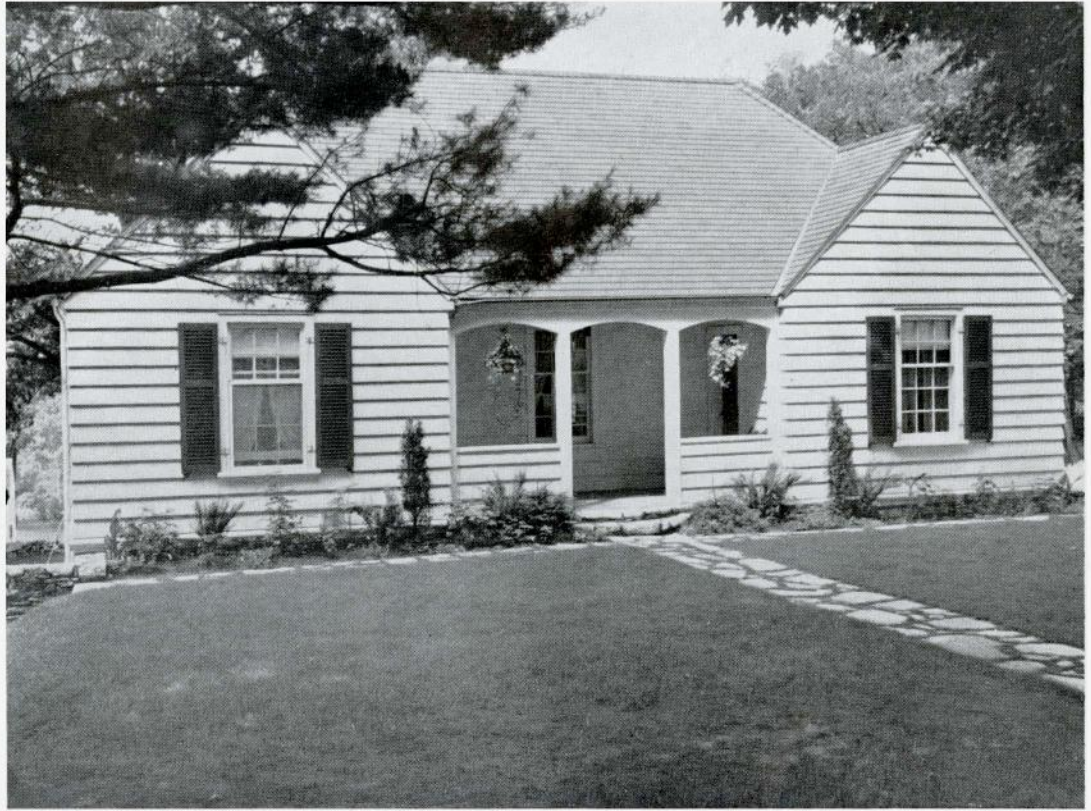
HOUSE OF MR. W. MARSH MAGWOOD, TORONTO  
CATTO AND CATTO, ARCHITECTS



HOUSE IN TORONTO  
BRUCE H. WRIGHT, ARCHITECT



HOUSE IN TORONTO  
BRUCE H. WRIGHT, ARCHITECT



HOUSE OF MR. G. E. GUEST, GRAVENHURST  
FORSEY PAGE AND STEELE, ARCHITECTS



HOUSE OF MR. G. COLLIN GRANT, TORONTO  
EARLE L. SHEPPARD, ARCHITECT



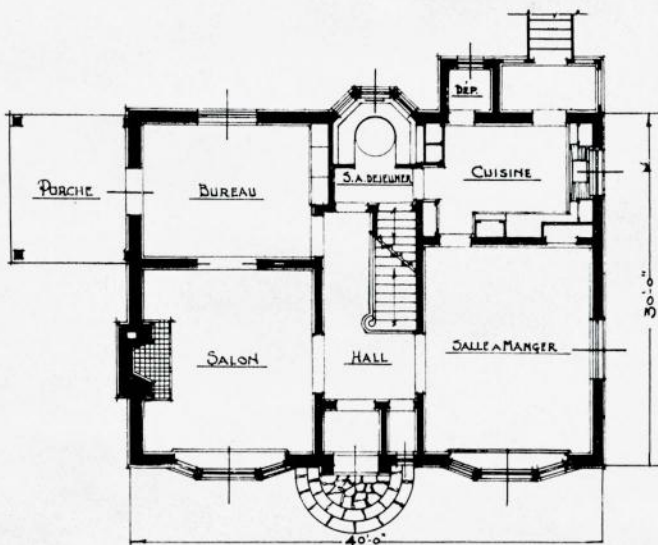
HOUSE OF MR. G. E. HACKNEY, SEIGNIORY CLUB  
LAWSON AND LITTLE, ARCHITECTS



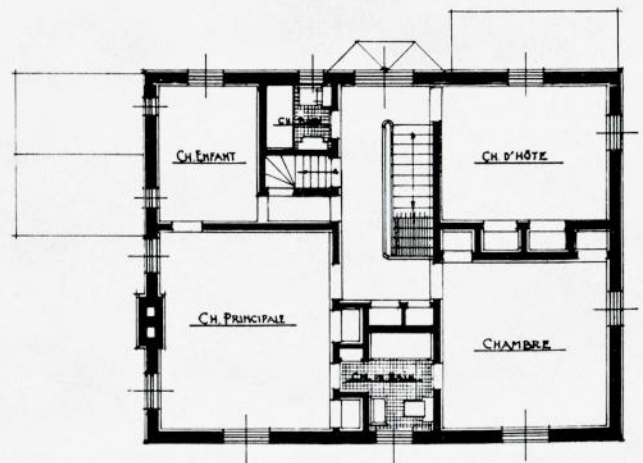
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NORTON A. FELLOWES, ARCHITECT



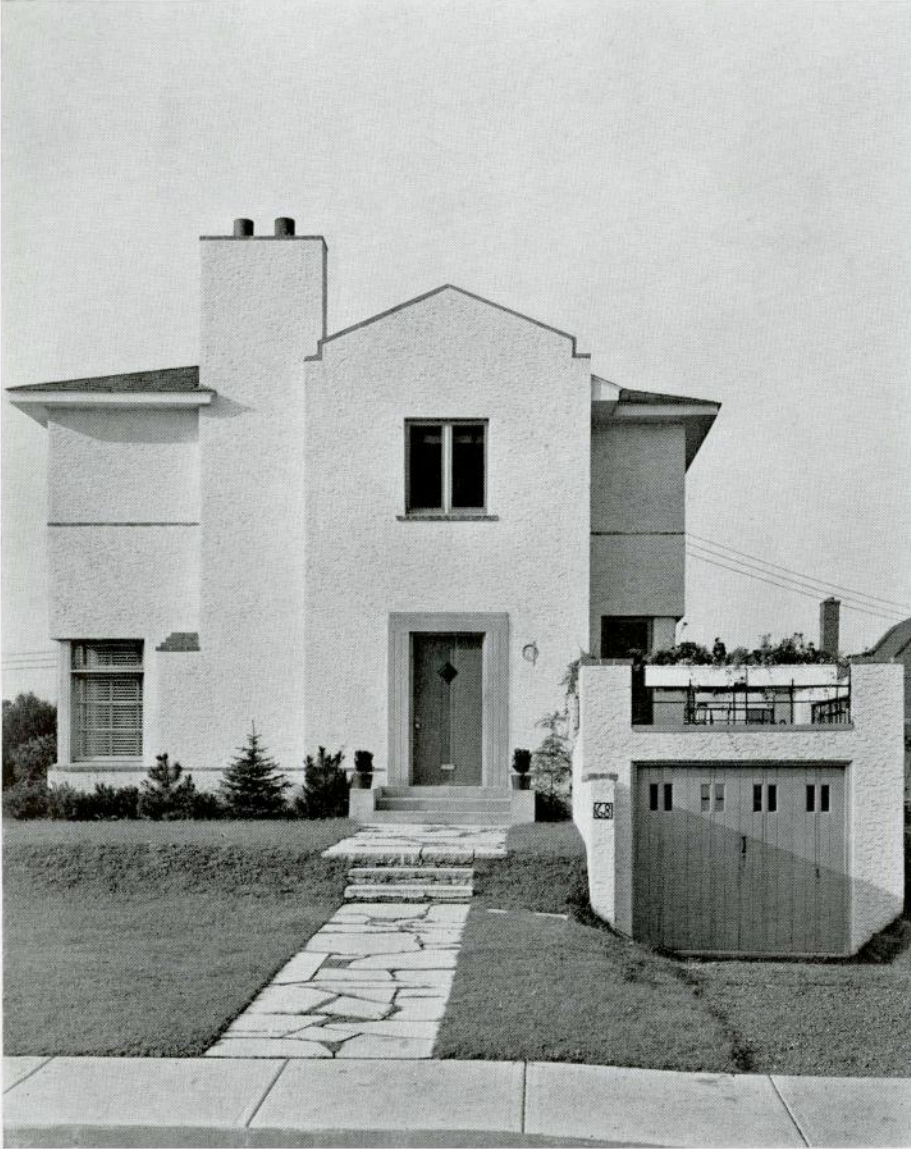
HOUSE OF DR. J. EDOUARD MORIN, QUEBEC  
 SYLVIO BRASSARD, ARCHITECT



FIRST FLOOR PLAN

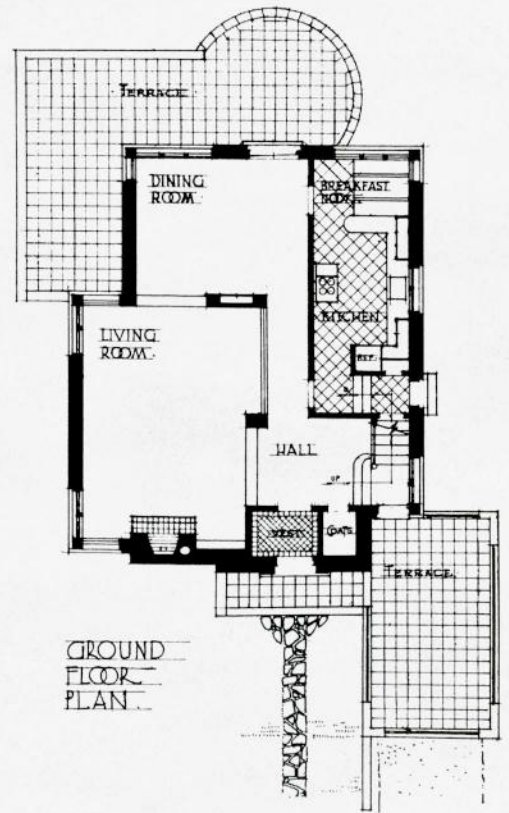
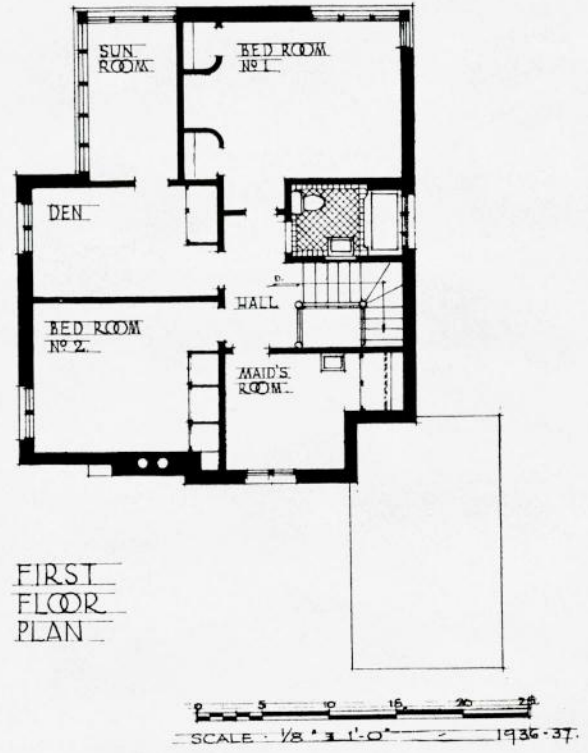


SECOND FLOOR PLAN



HOUSE OF MR. FRANCO CONSIGLIO, HAMPSTEAD

FRANCO CONSIGLIO, ARCHITECT





# CO-OPERATION WITH THE ARCHITECT

*Address of Mr. Pierre Blouke to Members of the Royal Architectural Institute of Canada,  
February 18, 1939, Chateau Laurier, Ottawa.*

Mr. Chairman, Fellow Architects and Neighbours:

**T**HIS is not my first visit to Canada, as I have been fortunate enough in summers past to view its scenic beauties and enjoy part of my holidays fishing in many of your lakes. My contacts with your commercial and professional life—and, I might add, your winters—however, have been neglected and, because of this, I hope you will pardon my consequent shortcomings in that respect.

Before turning to the immediate subject of my speech, I should like to mention that I have on different occasions enjoyed meeting with Mr. Nichols, your Director of Housing, at various conferences at home, and later have corresponded with him on items of mutual interest, and I feel that I am here somewhat in the guise of an exchange student, to listen and to learn all that I can as to what the architectural profession in Canada is doing on various problems which concern the profession.

In accepting the invitation of your President to meet with you I appreciate the consequent obligation such acceptance assumed. I am asked to speak to you on the subject: "Co-operation with the Architect". Both time and lack of ability suggest confining what I say to you on this subject to my personal experience and observations of the past few years as Architect Adviser to the Home Owners' Loan Corporation and Federal Home Loan Bank Board.

I have enjoyed reading recently De Tocqueville's remarkable book "Democracy in America"—a book to which many students have turned in the past few years because that discerning Frenchman had a perspective on many of our problems which we apparently too often lack. In 1840 he reports: "In the United States the greatest undertakings and speculations are executed without difficulty, because the whole population is engaged in productive industry, and because the poorest as well as the most opulent members of the commonwealth are ready to combine their efforts for these purposes. The consequence is that a stranger is constantly amazed by the immense public works executed by a nation which contains, so to speak, no rich men."

This productiveness through private enterprise persisted with but few lapses during the ensuing ninety years, and the architect enjoyed an appropriate place and prosperity along with business. Prior to 1930 it was possible to a great degree to coast along with a momentum which was moving basically in the direction of prosperity. Like the engineer of a train, the business entrepreneur had little concern about the right-of-way; most of the problems were of an internal variety. Today he is the driver of an automobile which must weave its way through a maze of new and heavy social traffic; thus, many of the problems are of an external character. Throughout the greater part of our history, we have expanded so rapidly that the tendency was to minimize numerous social and political problems which are common to older nations.

During this notable era up to 1930 the architectural profession at home, because of its absorption in the larger problems of architecture such as state capitols, gigantic railroad terminals, skyscrapers, country clubs and so forth, lost something which is not only valuable but vital for its very existence, and that is a broad public understanding of the profession. Walter McCornack, the new Dean of the School of Architecture at Massachusetts Institute of Technology, points out that "the architectural profession is sadly lacking in its

contacts with the average citizen and finds itself handicapped in public understanding and sympathy with its objectives and its true worth. We are a small group—apart—and before we reach the full realization of our strength and become recognized as a profession for service to the great mass of consumers, we must find a means for reaching the people, rendering personal service as architects rather than have the output of our trained men reach the public in the impersonal way—by bureaus" (meaning government departments).

My father, in his early youth, taught school in Western Pennsylvania. One day a student reported that he had just seen a rabbit climb a tree. The teacher said: "Why, Jimmy, you know that rabbits do not climb trees." The boy replied: "This one did. He was being chased furiously by a dog."

The extent of the depression at home and the new social trends, not yet fully understood, which the depression created, have chased the architect up a tree, figuratively.

From this unhappy and unexpected vantage point the profession has had an opportunity to review and reflect upon its past history—and I incline to the belief that this experience will have a salutary effect.

It is usually the part of wisdom to move with, rather than oppose, irresistible force. This precept may be applied not only in relation to physical bodies, but also to social movements. Neither is it simply a matter of expediency, inasmuch as the sheer magnitude of mass movements tends to establish new standards of judgment. Of course, it is highly important to distinguish between mushroom developments and the more deep-seated social movements which will affect our mode of living for many years to come. The ability to make this differentiation is of particular significance to the architectural profession today, confronted as it is by a complexity of social, economic and political currents of varying merit and stability.

In dollar volume of construction at home the greater portion is in the residential field and this for the most part is not cleared through architectural offices. This is of principal concern to some of us in the profession who, like Walter Gropius, believe "that the architect must make his profession socially and economically indispensable to the community and that he must definitely overcome that unpleasant state of being regarded by ignorant people as a costly luxury". This we are setting out to do, as I shall explain later. I do not feel anyone of intelligence will take issue with what Sir Reginald Blomfield said in an address to the Royal Institute of British Architects: ". . . Applied science has developed so fast and in so many directions that it is impossible for an architect to keep pace with every branch of it; and besides all this, he has his own art to master. For when all is said and done, the first business of an architect, that which differentiates him from other men, is his power and knowledge of design . . ." To make this power and knowledge increasingly more acceptable is the real challenge which the profession must meet.

As Architect Adviser to the Home Owners' Loan Corporation, my experience, as it directly relates to the profession of architecture, has been most provocative. The corporation, as you may know, was chartered during the depression to refinance mortgages on small homes, which were in distress. The purpose was to protect home ownership at a time when this field of investment was totally demoralized and the number of foreclosures was increasing daily to a fantastic figure. Dur-

ing the refinancing period the Home Owners' Loan Corporation saved over 1,000,000 homes for their owners, approximately one out of every ten urban dwellings in the entire country.

Its Reconditioning Division has handled nearly 700,000 completely separate building contracts for the reconditioning of homes in which it is interested either as mortgagee or owner. These contracts are for the most part in range from \$100 to \$2,000.

Early in the organization of this Division we consulted with a number of well-known architects to assist in determining upon a programme and schedule of fees to meet adequately a construction problem, unprecedented in type and scale. The programme was designed to make practical use of the training of the architectural profession in a nation-wide refinancing operation and under pressure to meet an emergency. This operation is headed by an architect and has a complement of nearly 2,200 salaried and fee personnel. Our salaried staff is principally a supervisory one. Most of the technical work is carried out on a fee basis by independent architects and engineers through their own offices. The professional services performed are similar to the everyday work of an architect engaged in any remodelling project—inspecting the property, writing specifications, taking bids, letting contracts and supervising construction.

Placing this work in the hands of fee architects rather than the handling of such work direct by a salaried staff, permits the architect to maintain his own office and professional identity in his community, as well as enabling him to contract for such other architectural services as may develop. These fee architects are finding this work very desirable. In the early days of this programme we found some resentment on the part of certain elements in the industry to our policy of engaging architects for this work, but I am convinced that the success in carrying out our reconditioning programme can be attributed, in no small part, to the technical training and the self-imposed ethical standards of the architectural profession. We are of the opinion that through this experience, on such a vast scale, the architect has definitely re-established himself as the proper party to serve as technician in a field of construction which was unfortunately abandoned to less-competent agencies.

Nothing but good can come from this new experience. As I view it, an architect's office, to my knowledge at home, seldom was organized to take care of this type of service; not until the depression descended upon us did the average architect consider it possible or dignified to render a service dealing in such small units. To do so efficiently and profitably it is really only a problem of proper office organization, and to a great measure our agency has helped to solve this problem. As a result our architects are carrying on in this work not only to their immediate profit, but also to their permanent benefit. So much for the Home Owners' Loan Corporation and "Co-operation with the Architect".

Experience in the United States with the depression has taught many other lessons in home financing and construction. It has brought into perspective our former careless disregard of costs and our wasteful lack of planning in the small house field. Here our customary American pattern is a sorry bequest. It has neither the simple lines of a pioneer cabin, the graceful balance of a French provincial, the rustic symmetry of an English cottage nor the royal dignity of pure Colonial. Our small house construction is a hybrid or mongrel, the product of that queer fraternity—the jerry-builders—whose motive was a speculation for profit and whose product is derisively referred to as ginger-bread. Our immediate programme, therefore, has to do with introducing the technician into a field of construction sadly in need of his guidance.

Our cities are not made up entirely of Rockefeller Centres or Empire State Buildings. The great architectural background consists in the main of quite minor affairs, which are architectural problems and which are still quite important, if not in individual size, at least because of their multiplicity. It must also be remembered that there are nearly 10,000 architects in the United States who should be employed in some useful way. I have noticed that our most conspicuous architects have continually been able to function successfully in and out of depressions; not so the majority in the profession—and yet the need for such technical training and experience has not diminished. Your problems are no doubt not dissimilar to ours, but perhaps less exaggerated.

I am not unmindful of the fact that there are architects who quite legitimately cannot engage themselves actively in our programme which has to do with small home construction, and no doubt there are present here architects who have other equally important interests and are making equally important contributions towards the same objective. I trust that I shall have their forbearance. I am reminded of an incident at a recent social gathering in Virginia, where there was vivid and exhilarating conversation by all—with the exception of one guest—on the subject of horses—racing, hunting and breeding. The hostess noticed the lack of spirit and the dourness in this guest and asked him what his principal interest was, to which he replied: "Shooting." Inquiring further, she asked: "And what do you shoot?" His reply, which satisfied her curiosity but not her desire to promote complete social unanimity was: "Horses!"

The American people are "Home Owner" minded, in spite of the discouraging experiences of the immediate past. Home ownership is a national habit and perhaps not a bad one. Regardless of the current attention given to large-scale low-rental housing operations, the major building activity will continue to be in the construction of single family dwellings. Because this is so, I believe it will be of interest to many of you to know something about the effort of the Federal Home Loan Bank Board to solve this problem in co-operation with the architectural profession.

First, I should briefly describe what the Federal Home Loan Bank Board is. This Board was established in 1932 by act of Congress to organize a nation-wide home financing agency somewhat similar to what is known in commercial banking circles as the Federal Reserve System. This Board directs the Federal Home Loan Bank System as well as the Home Owner's Loan Corporation mentioned earlier. The Bank System is a permanent home financing device. The country is divided into 12 regions, each region having a Federal Home Loan Bank. For example, the Federal Home Loan Bank of Boston serves the members of the System located in New England. Membership insures certain borrowing privileges from the Regional Bank as well as other benefits. There are to date some 4,000 members of the Bank System, most of which are of the building and loan type of lender. To be eligible for membership the lending institutions' management and assets must be in order, and its principles of conducting business acceptable to the Washington Board. This agency has in the past couple of years exerted tremendous influence in correcting most of the previous abuses in the financing of homes. Today more home financing is cleared through members of this System than any other agency or group of lenders and has assets of over four billions of dollars.

Financing has always been a major factor in construction; whether it precedes, follows or accompanies planning, it exercises a dominant control which makes logical the addition of certain voluntary regulations imposing new safeguards and new economies. By suitable controls sub-standard construction will gradually be eliminated.

The Federal Home Loan Bank Board, for about two years, has sponsored the Federal Home Building Service Plan—a programme for fostering local home building facilities featuring architectural participation. While initially developed as a desirable service for mortgage lenders comprising the Federal Home Loan Bank System, the Board's Plan subsequently was made available to non-member mortgage lenders and in the past year has stressed and sought the co-operation of all local home building and home selling agencies.

Already architects in fifty or more localities have agreed to furnish such service, and the recent full endorsement by the Directors of the American Institute of Architects would seem to insure architectural co-operation everywhere that the Plan is applicable. Already over 400 attractive and economical small house designs have been prepared by participating architects.

The Federal Home Loan Bank Board has agreed to make these facilities available as a nucleus for a co-operative industry and government programme. While not officially announced yet, the American Institute of Architects, and the Producers' Council (a group of 68 manufacturers of building materials affiliated with the American Institute of Architects) have established a formal relationship with the Federal Home Loan Bank Board to advance the programme sponsored by our Board. This gives proper identification of the architect in a nation-wide industry programme which shows promise of real accomplishment. The architect, the lender and the industry voluntarily co-operating in this field of construction represent a powerful triumvirate to do good.

The essential elements of this architect - lender - industry programme are as follows:

1. To promote better design and better construction in the small house field.
2. To align architects, building supply dealers, manufacturers, financial institutions, operative builders, etc., in such promotional programme and in a more unified service to consumers.
3. To make available to the consumer an adequate limited architectural service at a reasonable fee, thereby increasing the architectural profession's participating in and revenues from small house building.

4. Through this design and plan service, to facilitate the development by the industry of materials, equipment and methods of construction which will bring about reduction of small house building costs.
5. To provide a promotional vehicle in which the manufacturer can participate:
  - (a) To promote good building;
  - (b) To secure actual prospects for further sales effort.
6. To create a source of revenue for the maintenance and further development of this programme in the interests of all participating groups.

To carry out these objectives, the architects propose to make a special architectural design, specification and supervising service available at low cost to home builders. It will be available to the prospective home owner who prefers to develop his home building project directly with the architect, as many higher-priced projects are handled, but equally available to operative builders who build for sale, contractor builders who build on order, or lumber dealers or others who seek to provide complete houses for home owners and through such service to merchandise their particular materials or products. It thus utilizes all existing home merchandisers. Such special architectural service will be provided at a fixed fee usually amounting to from two to three per cent. of the construction cost and not, therefore, imposing any unreasonable burden upon the cost of the house. Generally the top limit of cost for which such special facilities are provided will be \$7,500, but with emphasis on houses costing from \$2,000 to \$5,000.

This programme is still in its infancy. I recognize that some of the old and tried ways of professional practice are being altered, but I am not unmindful of the words of the poet Keats who said that he preferred "Imprudent mobility to prudent immobility".

The goal which we are seeking is one which might well challenge the best that is in all of us. Therefore, we press on to fulfill the high calling of our profession and serve our fellow man.

*Mr. Pierre Blouke is Architect Advisor, Home Owners' Loan Corporation, Washington, D.C.*

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## NOTICE

Professor C. S. Burgess, head of the Department of Architecture in the University of Alberta, retires on pension on November 1st of this year but has been asked to continue to instruct the present third year students till the close of the session 1939-40 so that they may complete their course. Otherwise the Department of Architecture will cease to exist at this University.

Professor Burgess intends to continue to reside in Edmonton with the special view of supporting the Town Planning movement in which he has been interested since the institution in 1929 of the Edmonton Town Planning Commission of which he has been a member from the beginning.

# PROVINCIAL PAGE

## ALBERTA

### *Small Residences in Alberta*

Although it has been difficult to get architects in Alberta to furnish illustrations of their residential work, yet much work of this kind in the province is of very good quality both as regards architectural design and as "machines to live in".

Owing to the severity of winter conditions the standard of insulation requires to be of the best. In the cities this is ensured by stringent by-laws which demand well insulated construction. One consequence of this requirement is a scarcity of houses built of brick or stone, though a certain number are brick-veneered. It is found much easier and more economical to conserve heat by frame building than by brick building. Naturally, much attention is being given to air-conditioning. For small residential work warm air heating is almost exclusively employed. This method has been raised to a much more efficient level since the introduction of propulsion by fans. Good houses are now generally supplied with air, cleaned, moistened and circulated. Cooling in summer is not much used, for, in spite of fairly high summer temperatures during the day, the nights are generally sufficiently cool, so that unwarmed circulation in summer is considered sufficient.

Stucco finish for the exteriors is very much in favour owing to its lower cost in upkeep in painting. Cement stucco on metal lath stands the climate well. It has also an advantage as regards fire-proofing. A house plastered inside, stuccoed outside, and roofed with asphalt shingles is a fairly good fire risk. Fires in residential districts are extremely rare. There are, however, various reasons for this. The inspection of the installation of furnaces in basements is efficiently looked after. Although living-room fireplaces are usual, yet these are mostly for only occasional use. Electric and gas ranges are the rule in all the better houses and gas is also much used in heating furnaces.

— *Cecil S. Burgess.*

## ONTARIO

Our last issue had scarcely gone to press when the proposed addition to postal facilities in Toronto was withdrawn from tendering. The plans were simply called in, with the enlightening explanation that no money had been provided in the estimates.

In addition, there have been facetious remarks by a columnist in one of the Toronto dailies about the somewhat leisurely progress on the Bank of Montreal, since the old *Mail* Building was wrecked. It has just been announced, however, that work will start in earnest this month.

One has to admire the stick-to-it-iveness of the Federal Government, which has produced yet another scheme for inducing industries and commercial concerns to expand their plants—presumably to take care of diminishing business. They will be allowed to deduct from their income taxes, over a period of three years, sums equal to ten per cent. of the cost of such extensions. Those of us who specialize on industrial work should clean up their seals and put a little light oil on the bearings. It can't do much harm, in any event.

Among the subjects to be dealt with at the annual meeting of the Toronto Chapter this month will be the future of the Chapter Exhibition. At the April luncheon, Mr. Martin Baldwin, Curator of the Art Gallery of Toronto, contributed some

very interesting comment on this year's show and a number of stimulating suggestions for the improvement of future efforts in this field. The fact that the attendance figures for the first exhibition in 1927 have not been approached since is sufficient to "give us pause".

A certain amount of publicity—for which the Public Relations Committee of the Ontario Association is not responsible—has come out of the Legislature's enquiry regarding the Mental Hospital at St. Thomas. The architect's fee has been made the subject of caustic comment by members who, apparently, have no conception of the work and responsibility involved. Of course, there is more than a suspicion that the whole rumpus is a political side-show; in which case the criticism takes on a more sinister aspect. Where ignorance may be, to a certain extent, pardonable, irresponsibility in public office most certainly is not.

— *Gladstone Evans.*

## QUEBEC

The committee in charge of the arrangements for the royal visit to Montreal in May has made a wise choice in electing Mr. Ernest Cormier, chairman of the Decoration Committee. This committee will have charge of arrangements for decorating the 20-odd-mile route over which the royal party will travel, and also such buildings and monuments as will be ornamented.

Other architectural members of the committee include J. Roxburgh Smith and Emile Lemieux, and associated with them are Edwin Holgate, R.C.A., and Professor J. B. Legace, so that one may expect something really worth while as a result of their joint efforts. McGill University grounds and buildings will be looked after by Professor Percy Nobbs, who is calling for the co-operation of the students of the School of Architecture.

On March 21st a successful and well-attended luncheon meeting of the Association members was held at the M.A.A.A. Building.

The speaker was Alderman J. Alex. Edmison, who spoke on some problems of the administration of the city of Montreal.

His forceful address was in the nature of a reply to an article which appeared recently in a Toronto paper, comparing the relative industrial progress of Toronto and Montreal.

An Arts and Crafts Fair will be held in the historic old barracks within the fortifications on St. Helen's Island this summer. It will be held under the auspices of the Montreal Tercentenary Commission with the co-operation of the Provincial Government, the City of Montreal, and the Canadian Handicrafts Guild, and will be open from June 9th to 25th, inclusive.

The fair will differ from the usual exhibition of handicrafts held each year, in that all types of articles which are to be on exhibit will actually be made at the fair. The old forge on the island is to be rebuilt, and there visitors will have the privilege of seeing master craftsmen in wrought iron at work.

The Canadian Handicrafts Guild, under the presidency of A. T. Galt Durnford, are determined to make this fair a great success and they have a strong and influential committee working with them, including P. Roy Wilson, Clarence Gagnon, and Professor L. B. Legace. The "setting" of the fair is almost an ideal one, and it should be the means of drawing

attention to the excellent restoration work that has been done to the fortifications and old buildings on the island during the last year or two. Mr. Frederick G. Todd, landscape architect, has done much in rendering the grounds of the island so attractive. Most of the work done was carried out by large numbers of Montreal unemployed men.

The Town Planning Committee of the City Improvement League, of which Mr. P. E. Nobbs is chairman, has addressed a petition to the Board of Transport Commissioners at Ottawa. The committee ask for a hearing by the commission, that they may present their case regarding the work that is now going on in connection with the C.N.R. Terminal on Dorchester Street West. It is felt that the spending of so large a sum of money at this time is unwise and extravagant, and that in any case further study should be given to the whole question of Montreal terminals before proceeding further with the present project.

—Philip J. Turner.

## BOOK REVIEWS

### ROMANTICISM AND THE GOTHIC REVIVAL

By AGNES ADDISON

Published by Richard R. Smith, New York.

Price, \$2.50.

THE Gothic Revival is the skeleton in the cupboard of British Architecture. It is the skeleton as it were of a beautiful and fascinating aunt who was never quite "right", and who in her later years went quite potty. A whole literature has sprung up round her, most of it unintelligible and a great deal quite unreadable. One great book stands a cathedral among cusps and bosses. It is not the book we are reviewing, but Kenneth Clark's Gothic Revival. There you have the Gothic Revival treated as an interesting phenomenon with sympathy and understanding—and with humour. In point of style it is unsurpassed in architectural literature. Miss Addison writes with little sympathy or understanding, and less style. In her foreword she naively thanks an American professor of modern history "for suggesting the subject", and one has the horrid feeling that he might have suggested "Shakespeare's breakfast" or "Cancer" as alternative subjects for research. She begins her book with definitions.

We assume "steaky bacon" is a missprint on page 87 and "Walpole praised it highly for its purity of taste" is careless proof-reading. If Miss Addison had waited a few years until she had had time to study architecture in relation to her subject, she might have written a more interesting book. She might have realized then that the "great Scott" was great only in the amount of work which proceeded from his plan factory—that you don't compare the Houses of Parliament with the Taj Mahal and that the term "art architect" is a meaningless and stupid one. There are only two great American figures in the Gothic Revival in the United States. One was Richardson and the other Goodhue, but Richardson receives but a scant notice and Goodhue is mentioned only by name and does not appear at all in the index.

The Gothic Revival in North America should cover enough territory for anyone. It is a pity that Miss Addison went so far to rediscover Pugin while the hoary ruins in her own backyard remain unscratched. She might have discovered Goodhue. In his work there was indeed a "springing of seed" rather than a "rattling of bones", and Ruskin would have loved him. It is perhaps typical of the Romanticist that far away ivy should look greener than that at home—it certainly seemed so to Miss Addison.

We are obliged to her for her Bibliography.

## THE OLD WATER MILLS OF NORFOLK

By CLAUDE J. W. MESSENT, A.R.I.B.A.

A COLLECTION of sixty pen-and-ink drawings, with accompanying descriptive text. Many of the examples given are quite interesting, but the presentation does them a great deal less than justice. The technique of the drawings is scratchy and irritating, and the perspective not always above reproach. It is hard to believe that *all* the gables are lopsided. Perhaps some one will recognize the excellence of the material and treat it more adequately. It would be well worth doing.

—G. E.

*The Editor, Journal, R.A.I.C.*

Sir:—The article on "Organization for Housing," by Mr. A. S. Purvis, contains two assertions which should not be allowed to pass without comment.

The first is that the "market for Housing has been severely restricted because of the high cost of construction"; the second that the prospective home purchaser has to consider "the high rate of taxation on real estate and the possible loss of investment through inability to pay that taxation".

With regard to the first, what does Mr. Purvis mean by "high cost of construction"? High by comparison with what? Architects would also like to know just what costs he has in mind; because costs of building fall roughly into two groups—(a) rewards to men for various kinds of work, such as preparation of plans, manufacture of materials and actual construction; and (b) rewards to money invested.

That Mr. Purvis wants some—or all—of these costs reduced is evident from his later statement that the re-entry of private investment into residential construction depends on "low costs and on low taxes". It is a pity that he omitted to make clear what sort of costs ought to be reduced.

With regard to the second point—loss of property through inability to meet taxation—I suggest that the real trouble is inability to meet *fixed costs* out of *falling incomes*. (Incidentally, taxes are seldom the major item of these fixed costs, running a bad second to mortgage interest in most cases.)

The phenomenon which Mr. Purvis bewails as the "high cost of construction" is actually the *low level* of the would-be homeowner's *income*; and the drying up of investment is, in reality, the refusal of sensible men to borrow what they cannot be reasonably sure of paying back.

Mr. Burgess, in the Alberta Notes of the same issue, put it this way: "... money economy cannot meet the situation and life economy is out of the picture." And the necessity of subsidized Housing conclusively supports his opinion. It is patently absurd that a nation which is capable of putting up the necessary houses should have to subsidize its people before they can live in them.

There is altogether too much publicity tending to throw the blame for the construction industry's troubles upon the industry itself (with "extravagant" municipal authorities as a sort of partner-in-crime); and it would be well for everyone in the industry to get the emphasis placed where it properly belongs before it is too late.

Yours,

Gladstone Evans.



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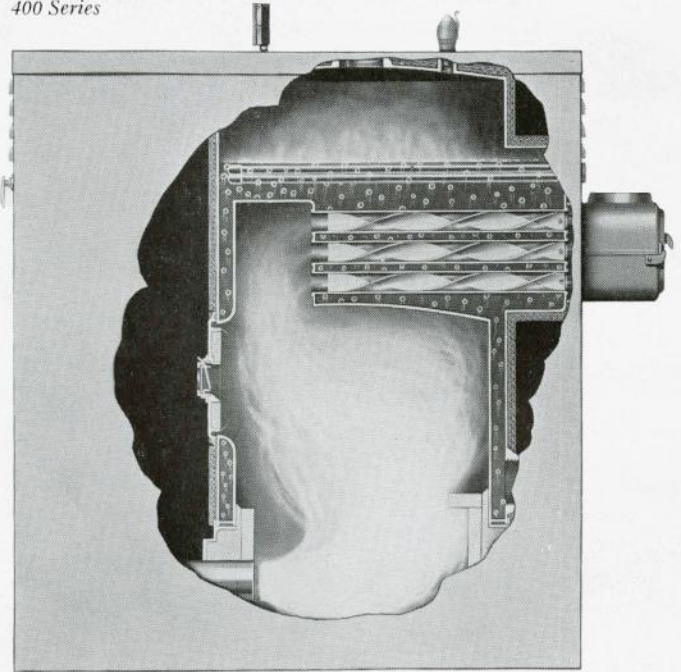
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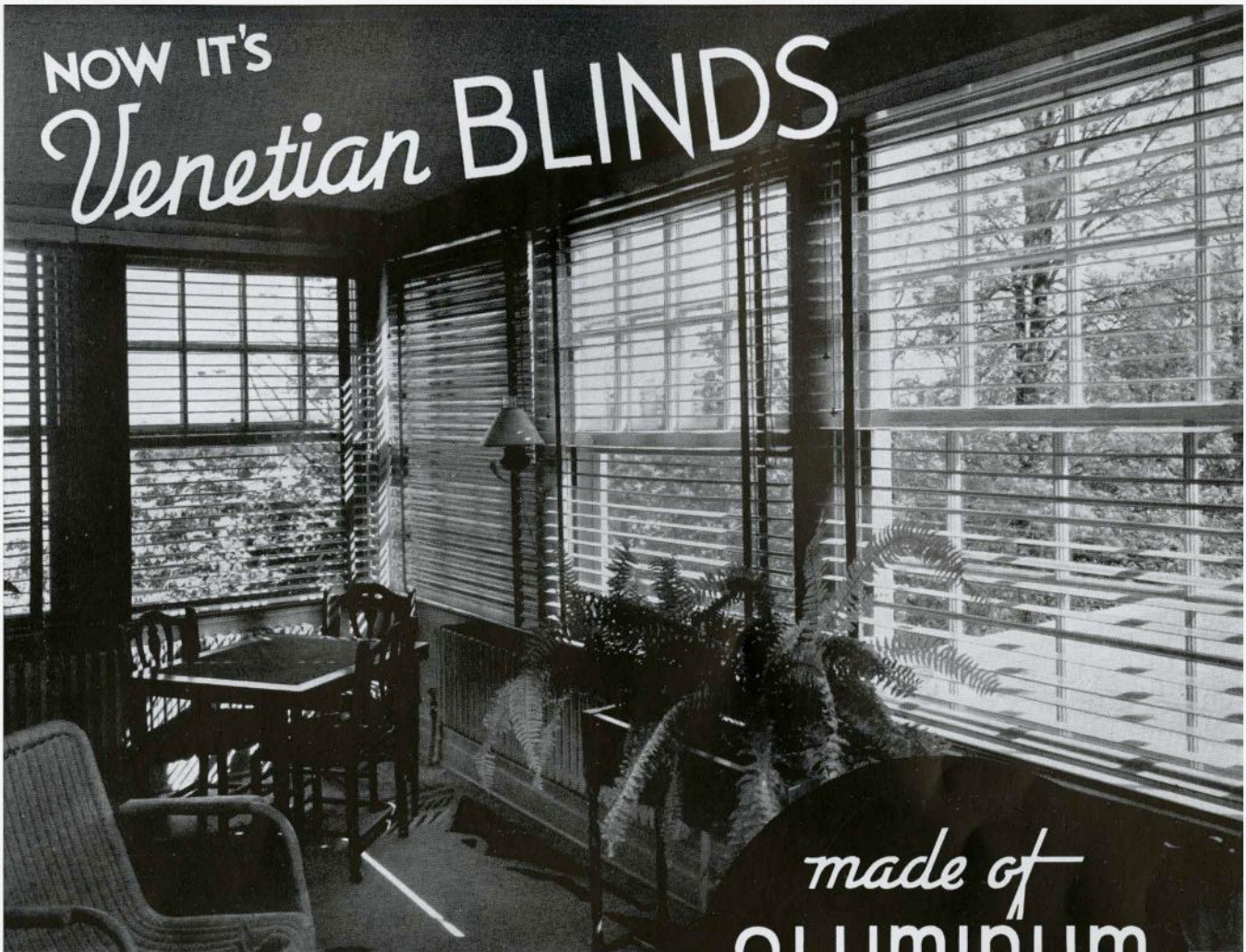
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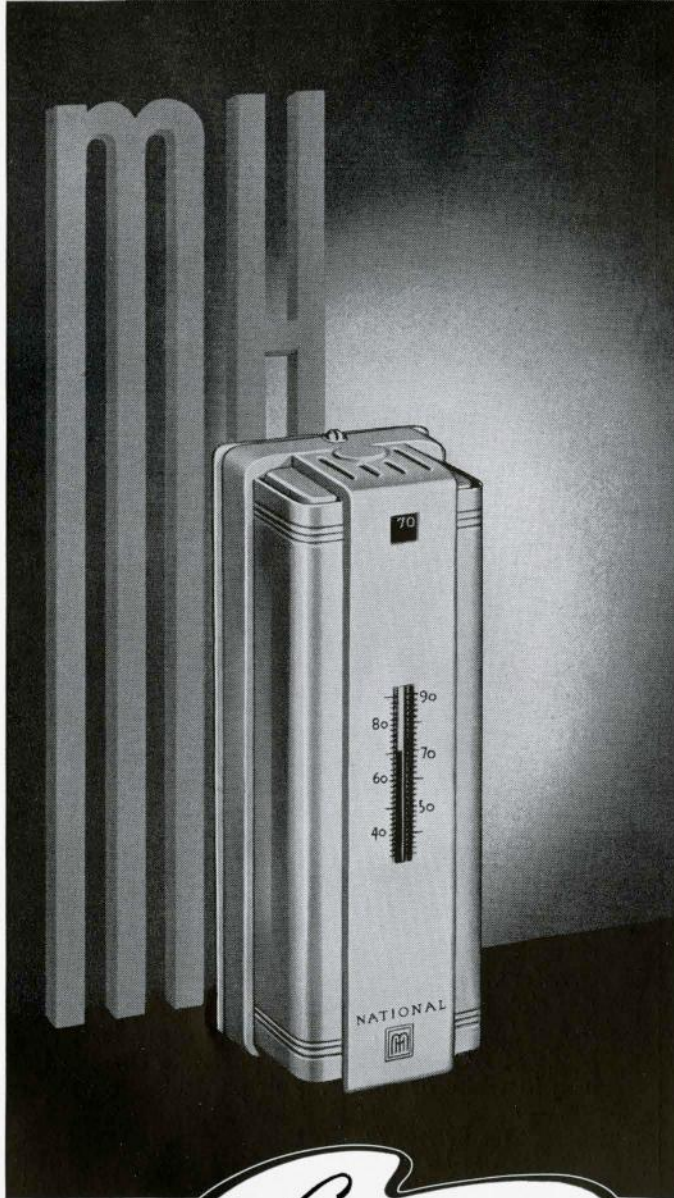
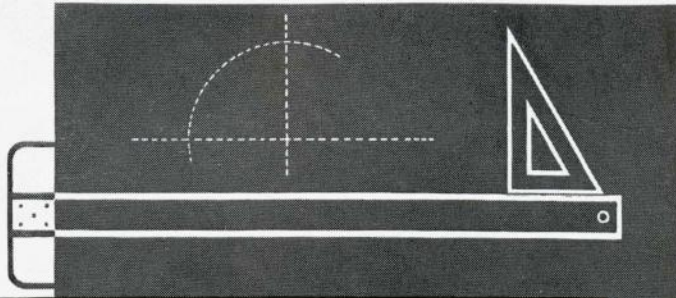
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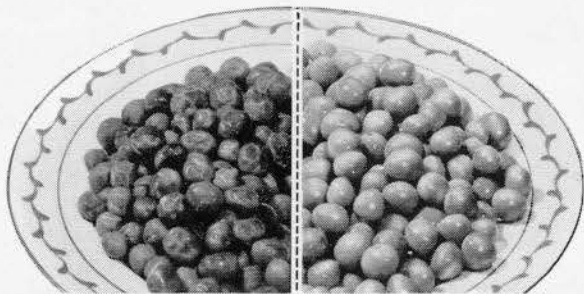
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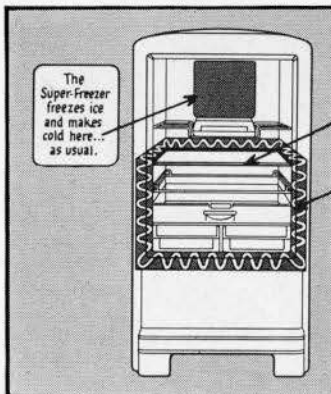
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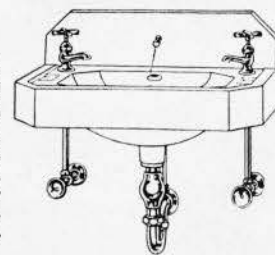


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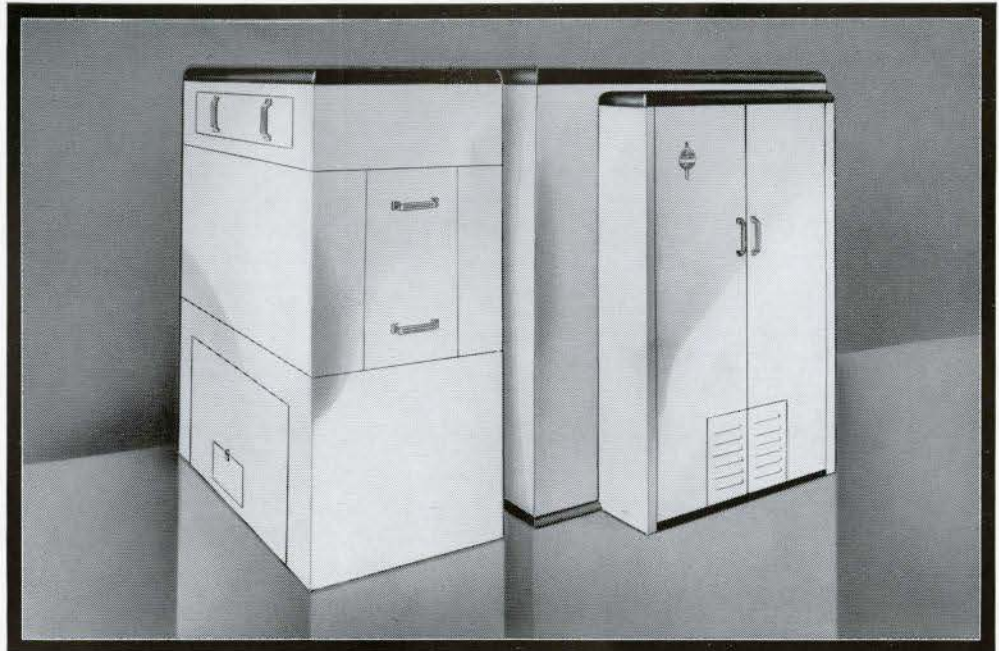


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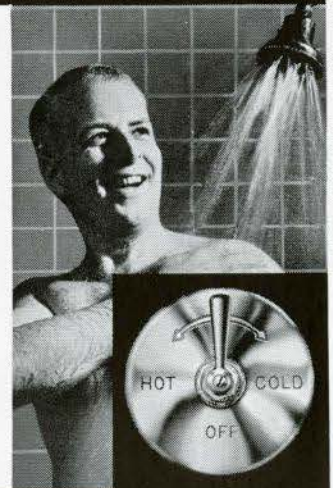
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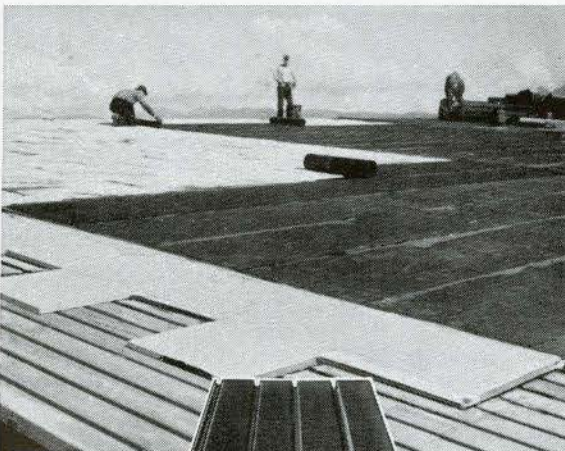
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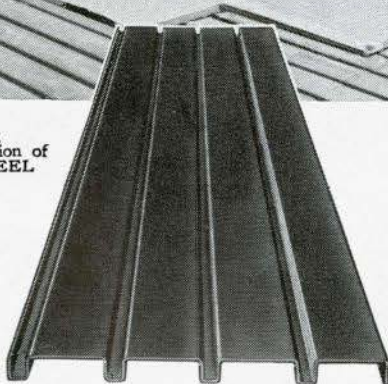
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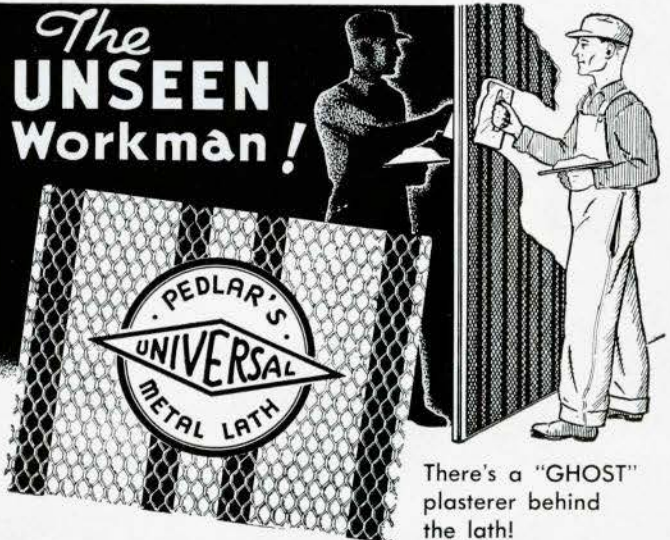
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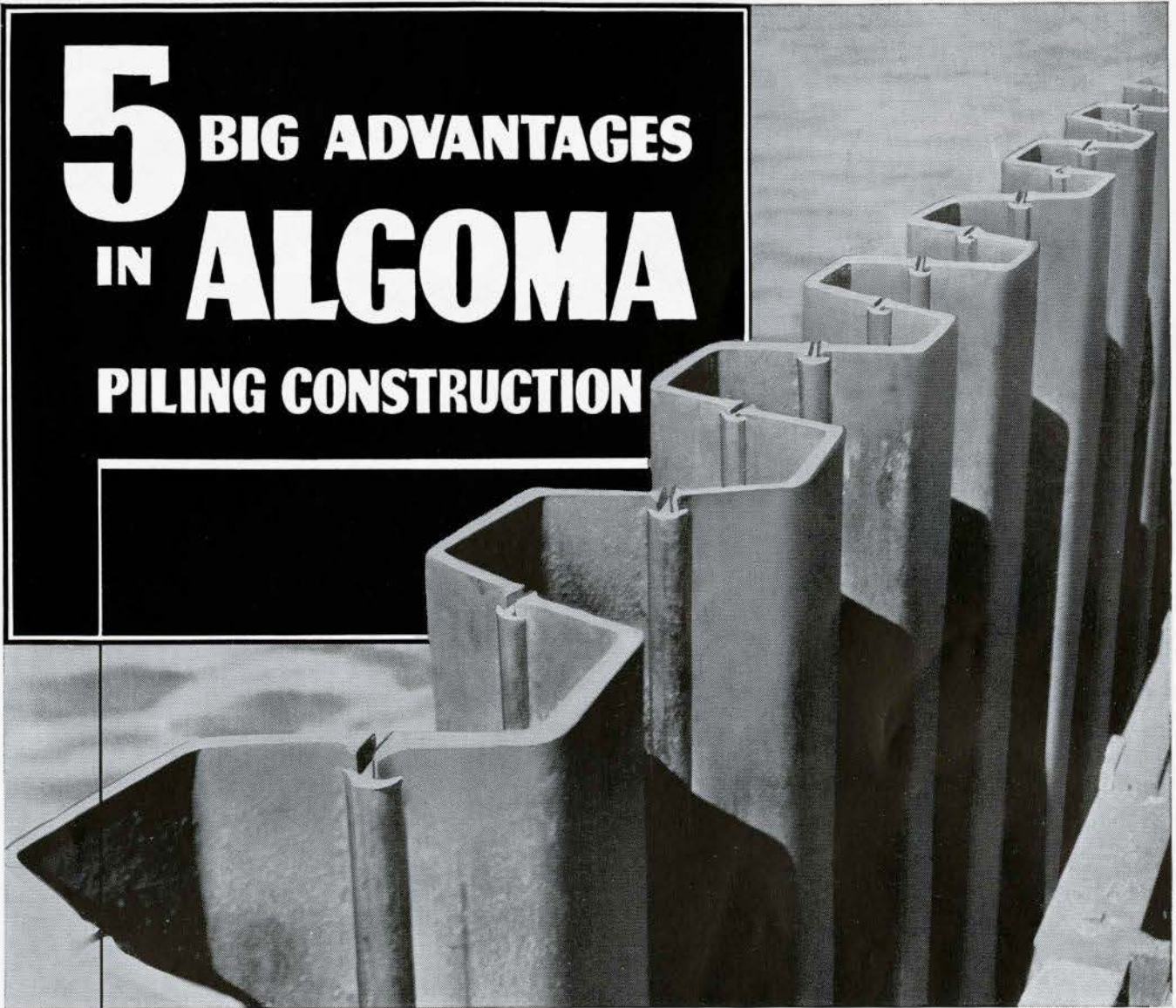
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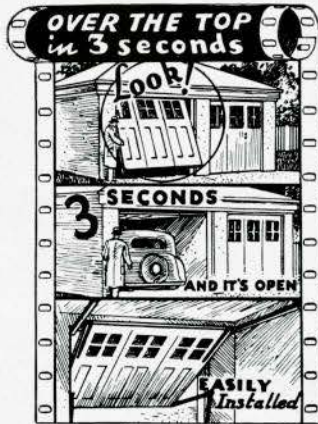
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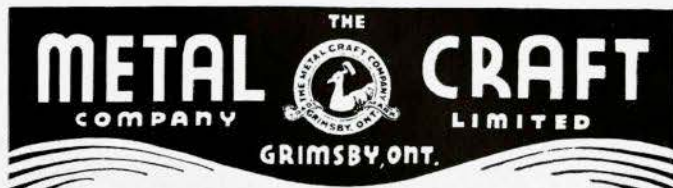
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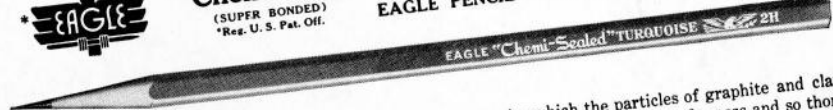
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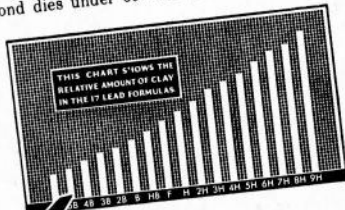


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