

DISC 5

CRITTALL CATALOGUES SPANNING 100 YEARS



ALSO:

ADVERTISEMENTS AND CARICATURES FROM CRITTALL  
MAGAZINES FROM THE NINETEEN TWENTIES

# THE CRITTALL MANUFACTURING COMPANY LIMITED.

WROUGHT IRON

CASEMENTS

- MANUFACTURERS OF
- CRITTALL'S PATENT CASEMENTS •
  - CASEMENTS OF ALL DESCRIPTIONS FOR •  
• ECCLESIASTIC & DOMESTIC ARCHITECTURE •
  - SASHES OF ALL DESCRIPTIONS •
  - FRENCH CASEMENTS AND DOORS •
  - SASH & WINDOW FURNITURE •
  - LEAD GLAZING •
  - SKYLIGHTS AND GLASS ROOFS •
  - BUILDERS WROUGHT IRON WORK •
  - AIR-TIGHT MANHOLE COVERS •

Works,  
Bank Street Iron Works,  
Epsom, etc.

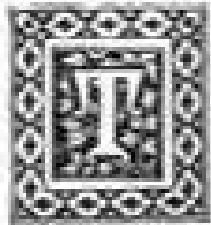
Telegraphic Address  
"Crittall Braintree"

London Office and Show Rooms,  
20, Baker Street,  
London, W.

Telegraphic Address  
"Crittall London."

# INTRODUCTION.

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THE CRITTALL MANUFACTURING COMPANY, LIMITED, in issuing this Catalogue, beg to draw attention to the fact that the whole of their Casements and Sashes are entirely Machine made. Their Shops are fitted up with the most Modern Machine Tools, and no expense has been spared to produce the Best Article in the Market.

Particular attention is drawn to their Patent Section (Patent No. 4544). During the last two years over 20 Tons of these Casements have been made, and have in every case given unqualified satisfaction.

For a thoroughly good Casement, absolutely Water Tight and showing the Smallest Obstruction to Sight of any Casement in the market, combined with excellent workmanship and a low price, Section No. 4, page 7. is particularly recommended.

On page 13 will be found four Church Casements. A large quantity of these have been made, and they can be used with every confidence that they will not *stick*, but will work smoothly.

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## TERMS.

**DELIVERY.** Prices include delivery in London.

**PACKING.** Packing Cases and Packing will be charged as low as possible, and two-thirds will be allowed for Cases if returned in good condition, Carriage Paid.

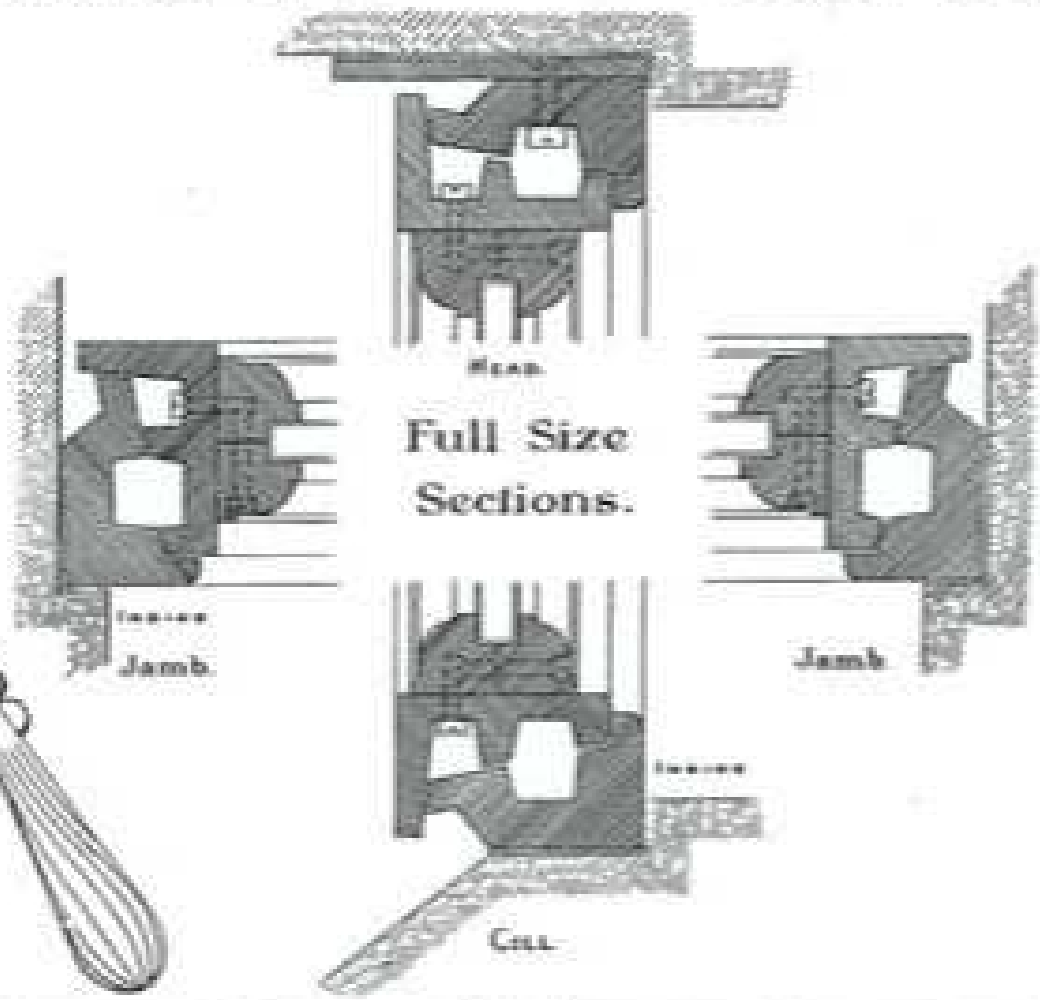
**FIXING.** Competent Fitters can be sent to fix Casements where required, at a nominal charge, and it is strongly recommended that this should be done, as the fixing by men unused to the work is usually the cause of Casements not working satisfactory.

**PAYMENT.** All Accounts are due the 10th of the month following date of delivery.

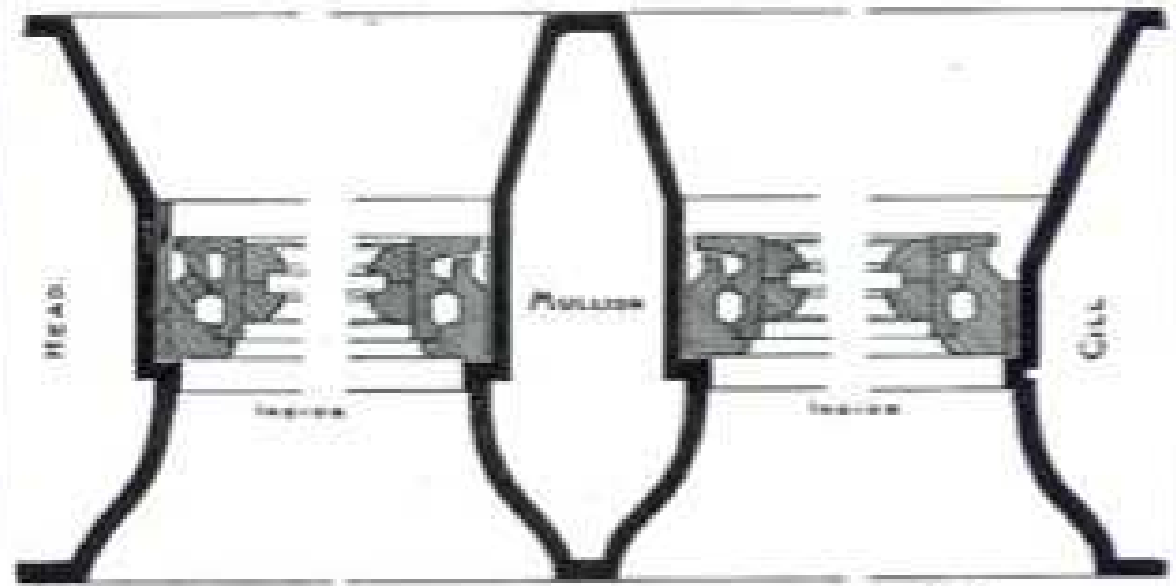
THE CRITTALL MANUFACTURING CO. LIM<sup>TD</sup>  
Braintree & London.

Casement N° 1.

Section N° 1.



Full Size Sections.



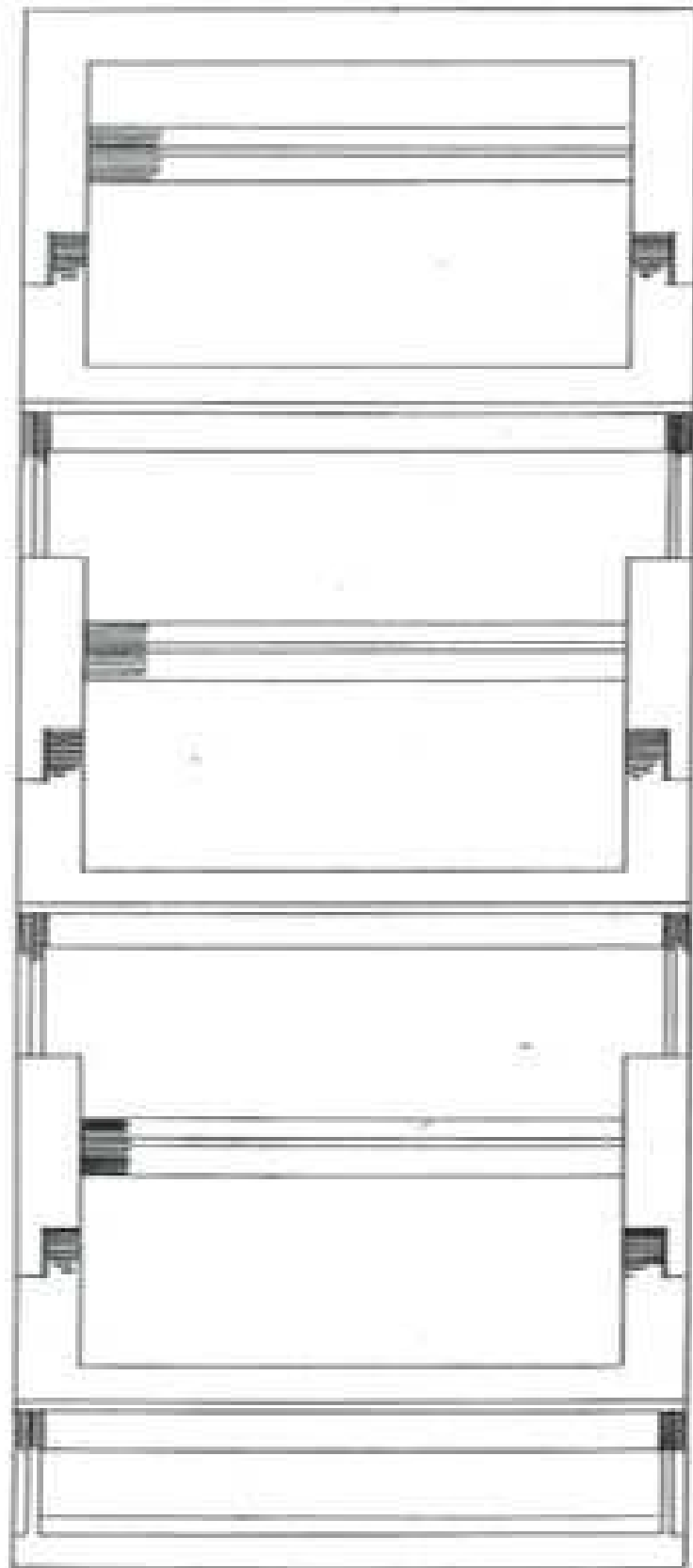
Sections Half Full Size Showing Stonework.



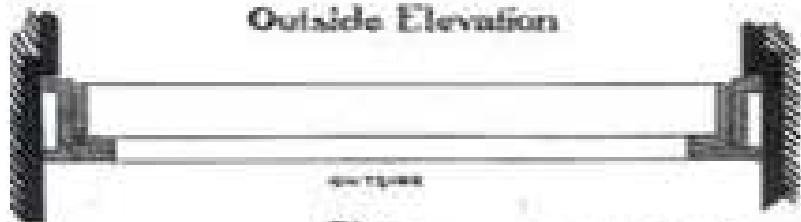


THE CRITTALL MANUFACTURING CO. LIM<sup>TD</sup>

Braintree & London.  
Louvre Casement N<sup>o</sup> 21.



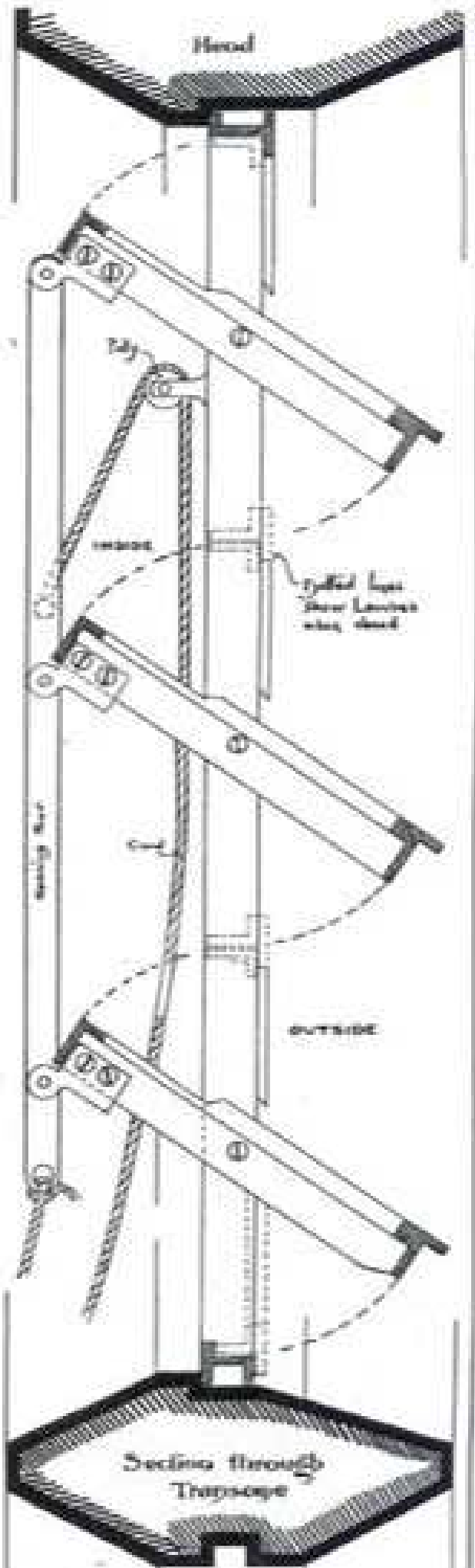
Outside Elevation



1/2" Scale

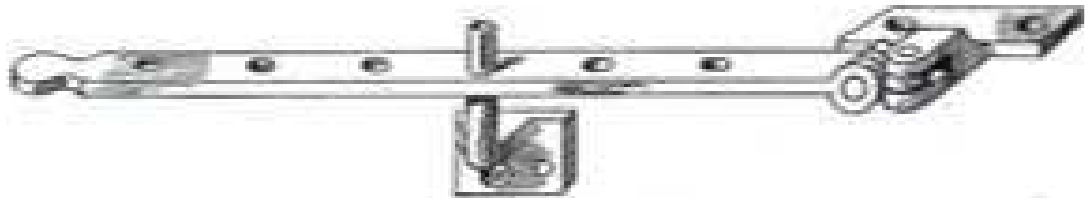
Plag.

Half Full Size

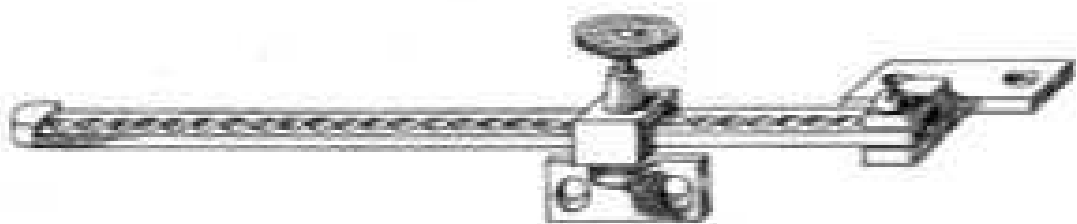


THE CRITTALL MANUFACTURING CO. LIM<sup>TD</sup>  
Braintree & London.

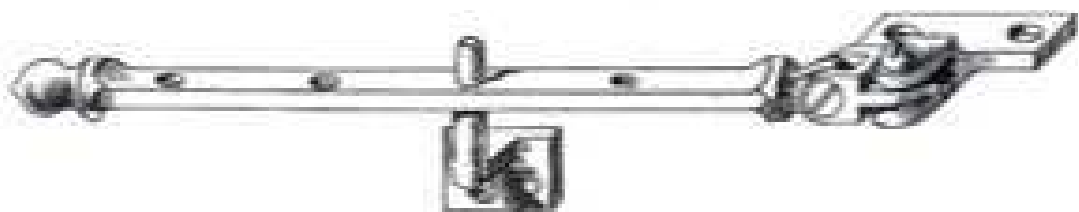
Casement Stays.



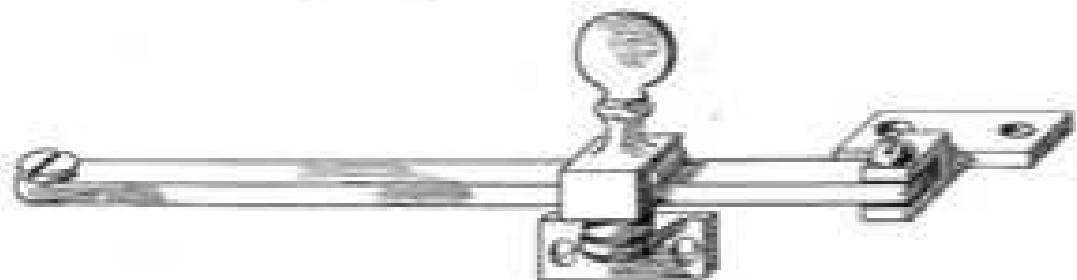
Malleable Iron Peg Stay N° 100.



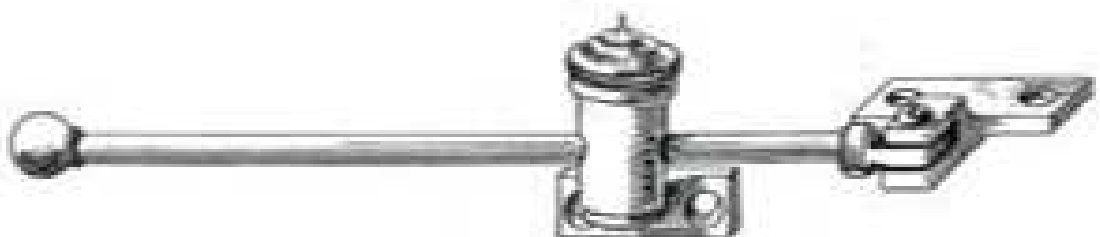
Iron & Brass Sliding Stay N° 101.



Gun-metal Peg Stay N° 102.



Gun-metal Sliding Stay N° 103.

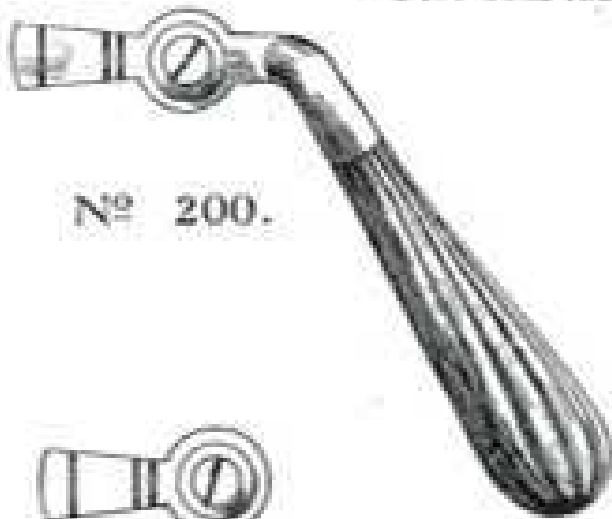


Gun metal Round Bar Sliding Stay N° 104.

THE CRITTALL MANUFACTURING CO. LIM<sup>TD</sup>

Braintree & London.

Casement Handles.



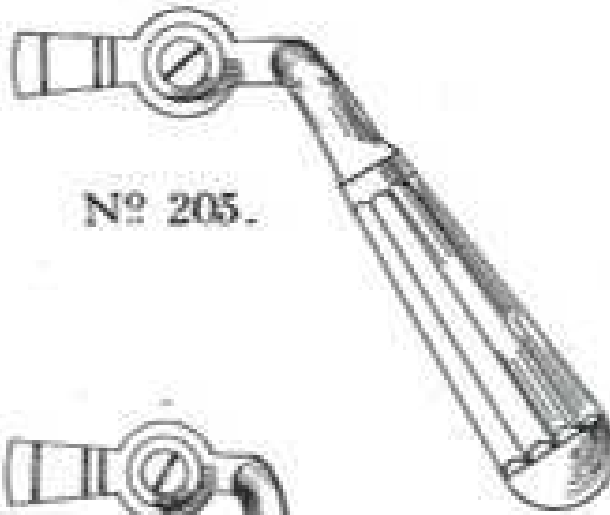
N<sup>o</sup> 200.



N<sup>o</sup> 201.



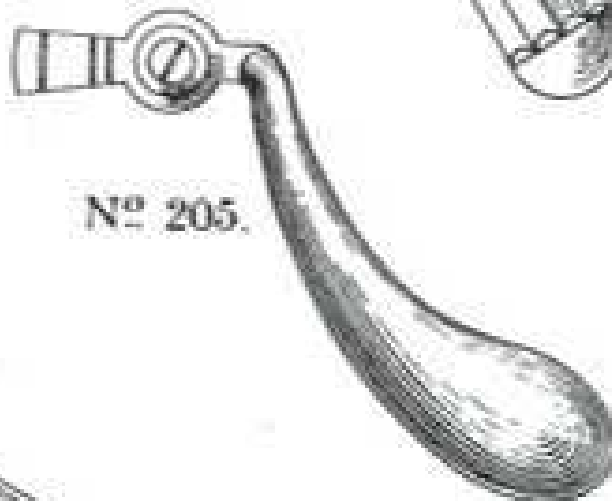
N<sup>o</sup> 202.



N<sup>o</sup> 203.



N<sup>o</sup> 204.



N<sup>o</sup> 205.



N<sup>o</sup> 206.



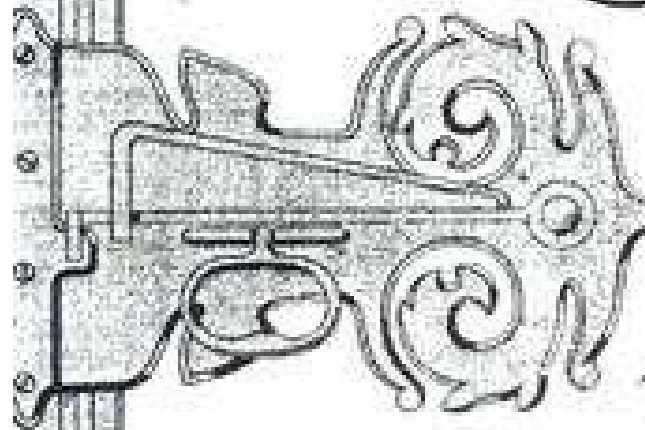
N<sup>o</sup> 207.

Nº 2

1893

# METAL CASEMENTS

Sashes &  
Doors:



THE Roofs &  
Skylights.

# CRITTALL

Manufacturing Co. Limited,

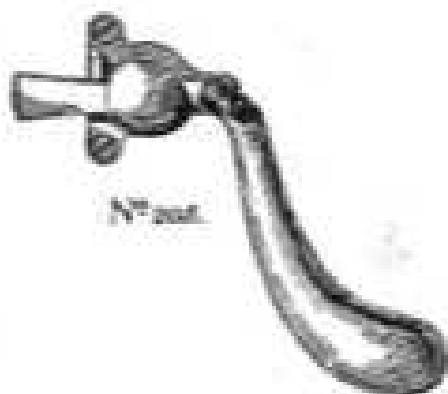
Bank Street Iron Works,

Braintree, Essex.

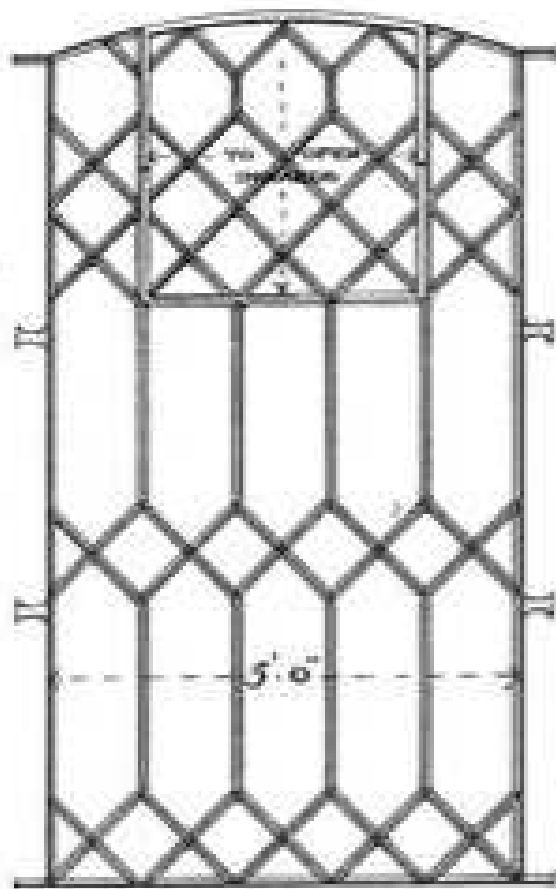
# THE CRITTALL MANUFACTURING COMPANY LIMITED.

: Braintree

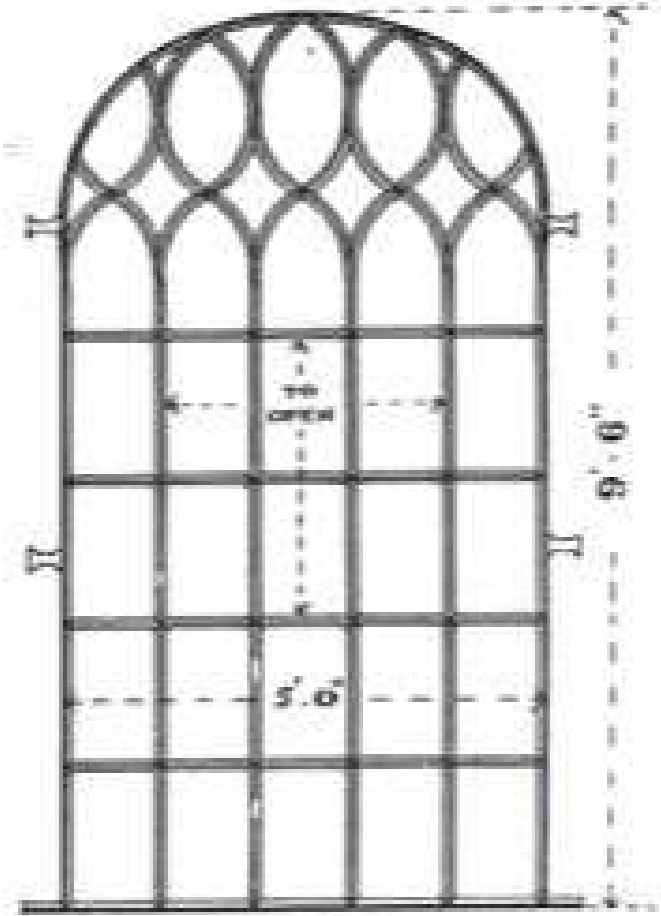
Essex :



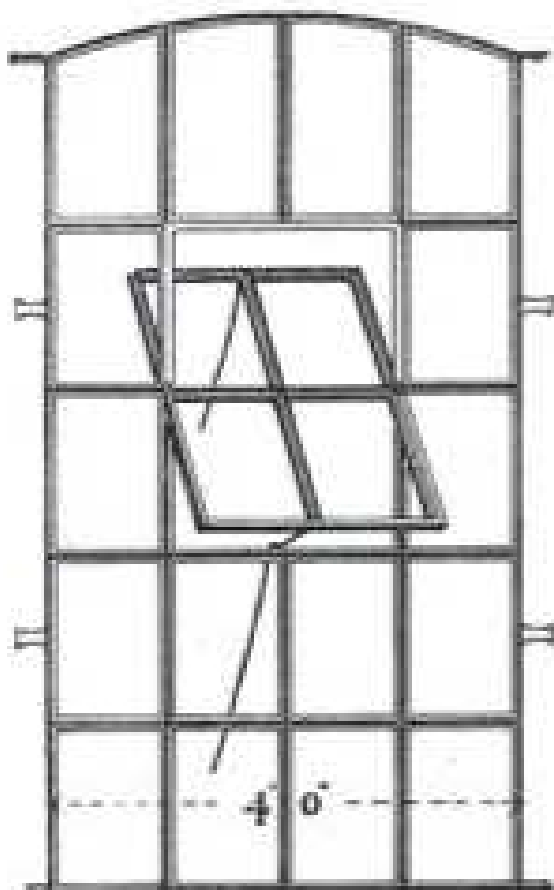
THE CRITTALL MANUFACTURING COMPANY, LIMITED,  
 : Braintree : Essex :  
 Wrought Iron Sashes.



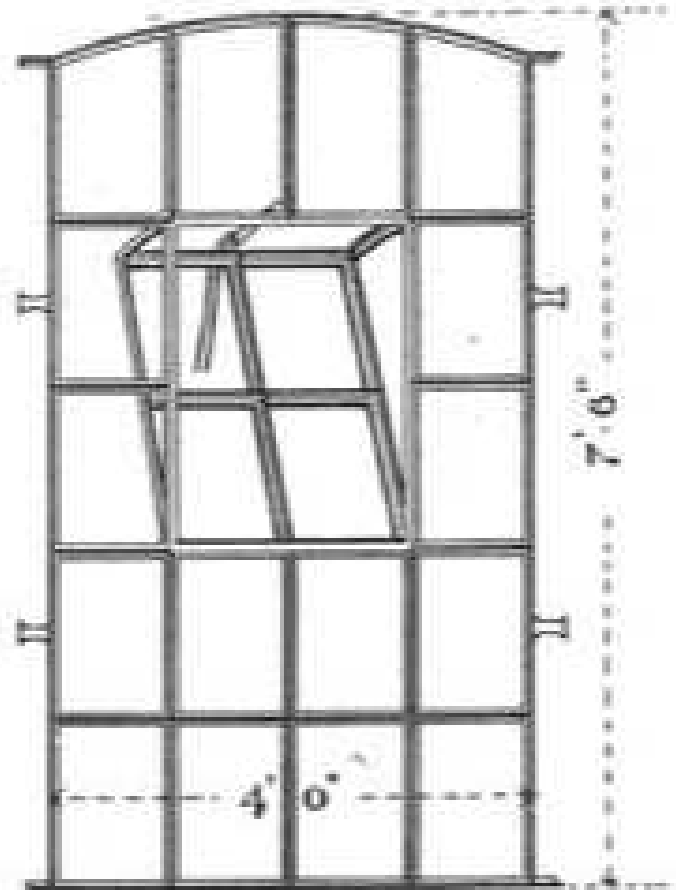
N<sup>o</sup> 305.



N<sup>o</sup> 304.



N<sup>o</sup> 302.



N<sup>o</sup> 303.



# *Catalogue No. 3*

1896



CATALOGUE  
1896

# CRITTALL

MANUFACTURING CO.

Specialities

CASEMENTS. Iron, Steel, Bronze.

SASHES. Wrot. Iron, Steel.

DOORS. Warehouse & Party Wall.

GEARING. All descriptions.

WROT. IRON. Gates, Grilles &c.

ROOFS · SKYLIGHTS · MANHOLE · COVERS

Manor Works  
BRAINTREE  
Essex

ARCHITECT  
DESIGN  
CAREFULLY  
CARRIED OUT



# THE CRITTALL MANUFACTURING COMPANY, LIMITED,

Manor Works, BRAINTREE, Essex.



## PATENT CONDENSATION CHANNELS.

### FOR CASEMENTS OR FIXED FRAMES.

These Channels are entirely new, and can be applied to either No. 1, 2 or 3 Sections.

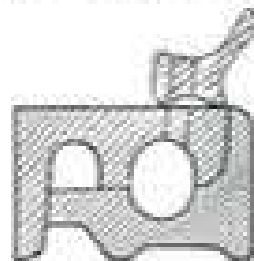
Particular attention is directed to these Channels; they are the only Rustless Channels that can be applied to the Casement, they are very neat, and entirely dispense with cutting the Channel for the Stay Bracket.

They are Solid Rolled in either Brass or Bronze, and can be applied to any of the above Sections at

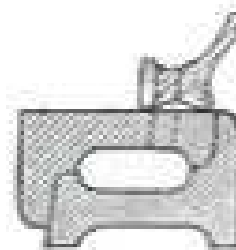
2/6 in Brass, and 3/- in Bronze, per Casement.

Also to the corresponding fixed Light Sections at the same price.

It will be seen from the accompanying Sections that the Condensed Water is carried into the Channel of the Casement Frame, and thence away.



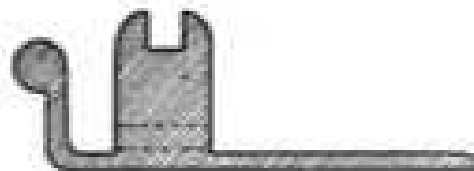
No. 2.



No. 4.

The above are very confidently recommended as the best Condensative Gutters in the market.

## CONDENSATION GUTTER FOR LEAD GLAZING.

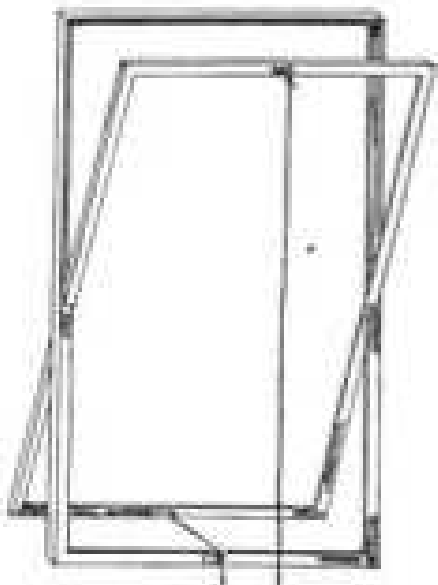


This forms a very good Gill and Condensation Gutter combined, for use where Iron Frames are not required.

PRICE: 1s. 9d. per Foot run.



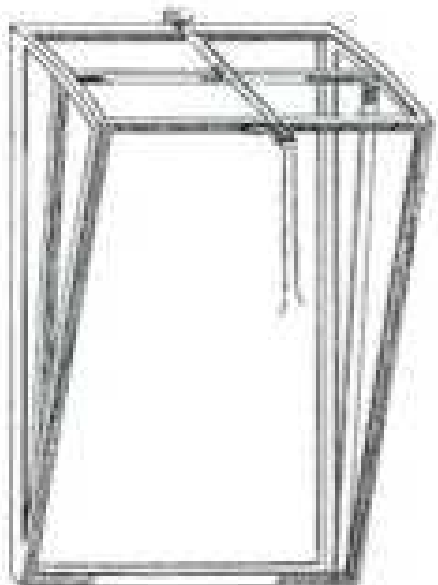
## CHURCH CASEMENTS.



No. 17 Centre Hinged.



No. 18 Side Hinged.

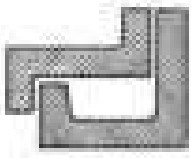


No. 19 Hinged.

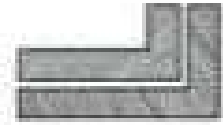


No. 20 Sliding Casement.

## VERTICAL CENTRE HUNG CASEMENTS.



Full Size Section  
No. 7.



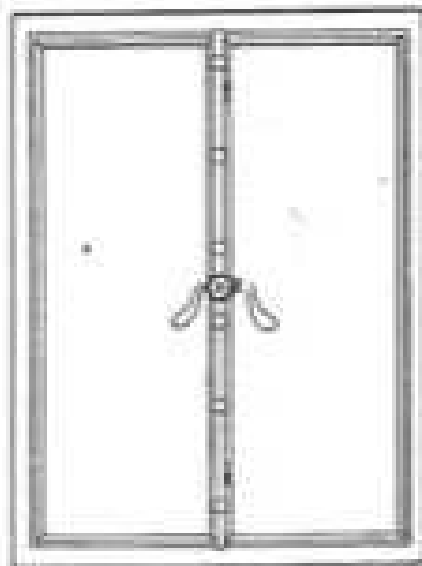
Full Size Section  
No. 9.

FOR DETAILS OF STONE WORK SEE PAGES 9, 10 & 11.

# LOUVRE FOLDING & FRENCH CASEMENTS.



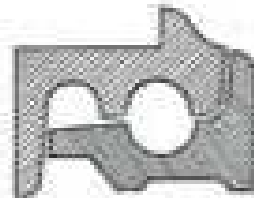
Louvre Casement.  
No. 25.



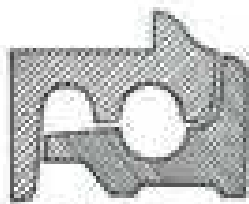
Double Folding Casement.



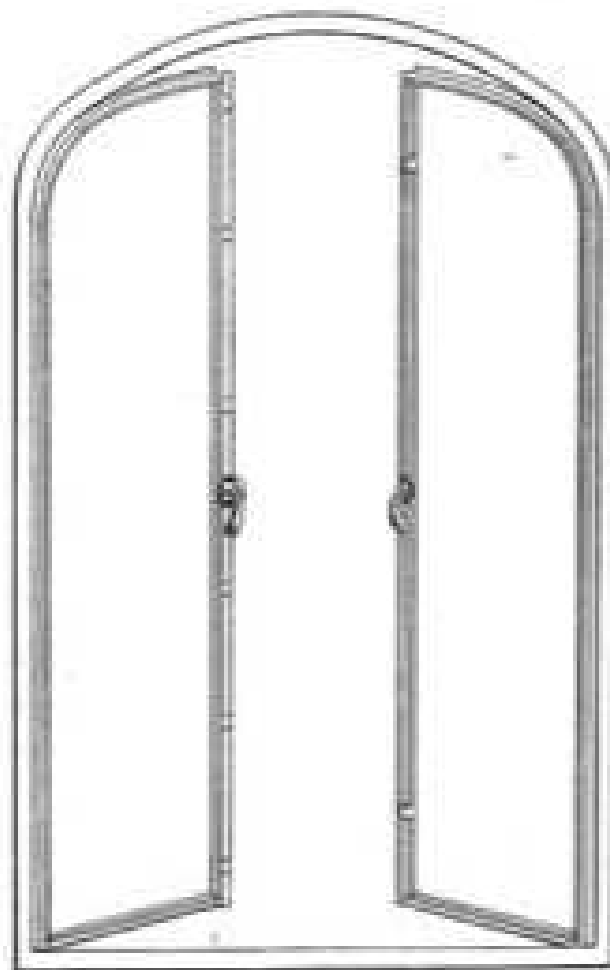
Louvre Casement.  
No. 26.



Full Size Section of Folding Casement.



Full Size Section  
of Folding Casement.



French Folding Door or Casement.



# SECTIONS OF IRON AND STEEL SASHES.

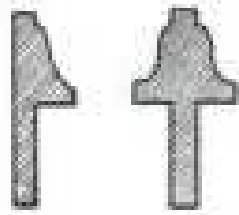


Fig. 25. Fig. 26.

Fig. 25. Fig. 26.



Marked Joint before being.

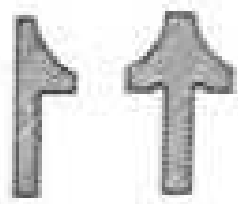
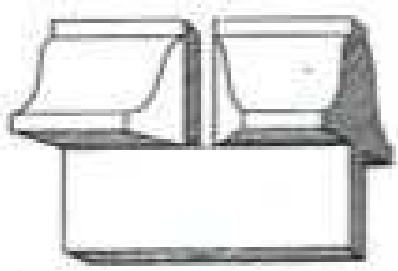


Fig. 27. Fig. 28.

Fig. 27. Fig. 28.

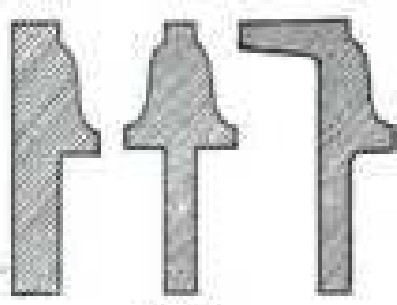
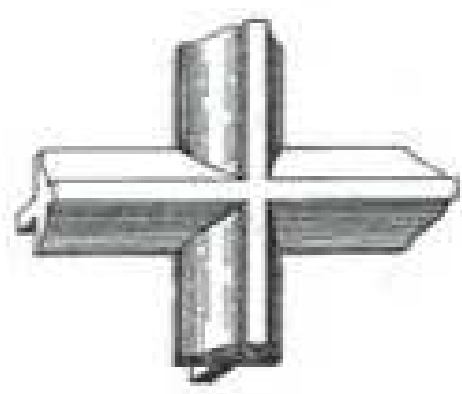


Fig. 29. Fig. 30.

Fig. 29. Fig. 30. Fig. 31.



Joint when fitted.

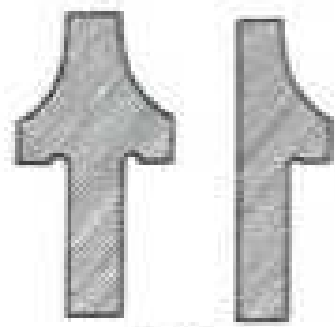
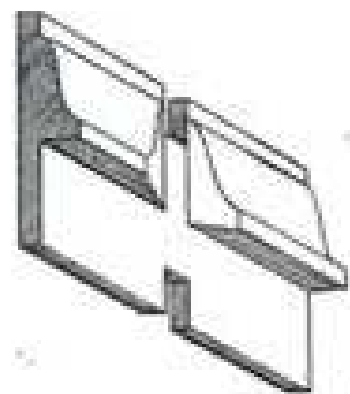


Fig. 32. Fig. 33.

Fig. 32. Fig. 33.



Section showing method of fitting Bar to meet Frame.

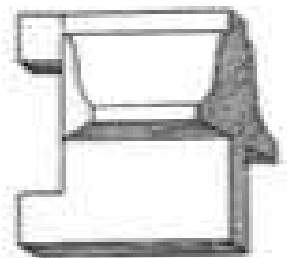


Fig. 34.

Fig. 35.

Fig. 36.

Fig. 37.

Fig. 38.

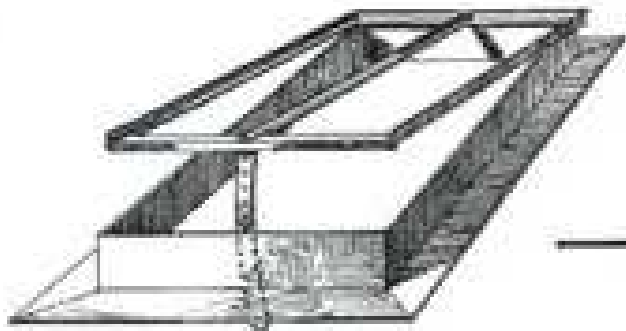


Fig. 34.

# THE CRITTALL MANUFACTURING CO. L<sup>D</sup>.

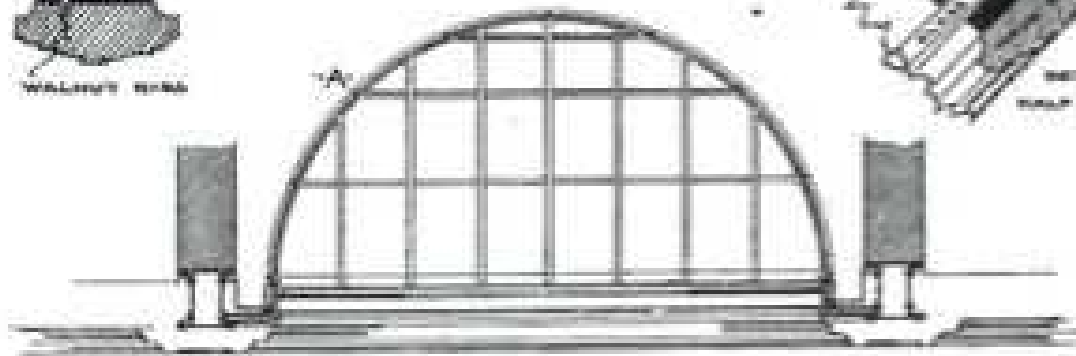
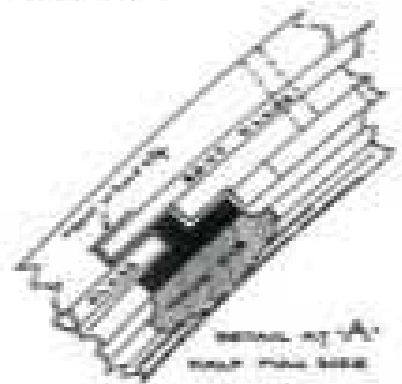
Brintree, Essex.

## Wrought Iron Skylights:

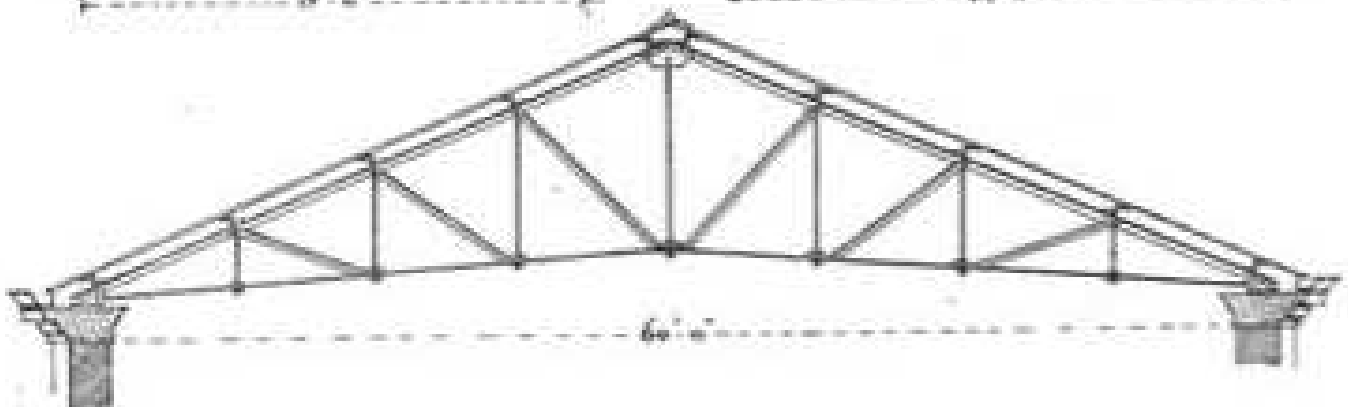
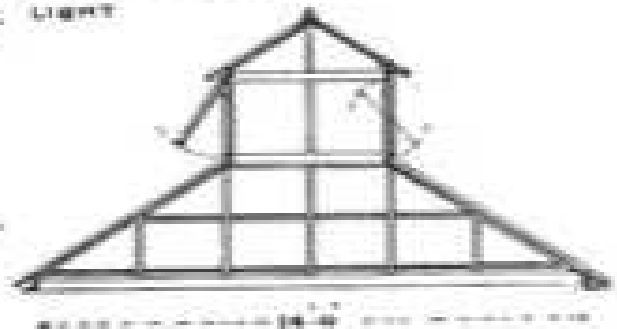
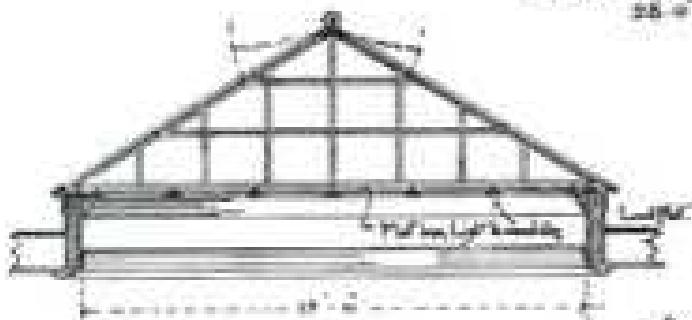


Section  $\frac{1}{8}$ " Full Size

## Wrought Iron Roofs

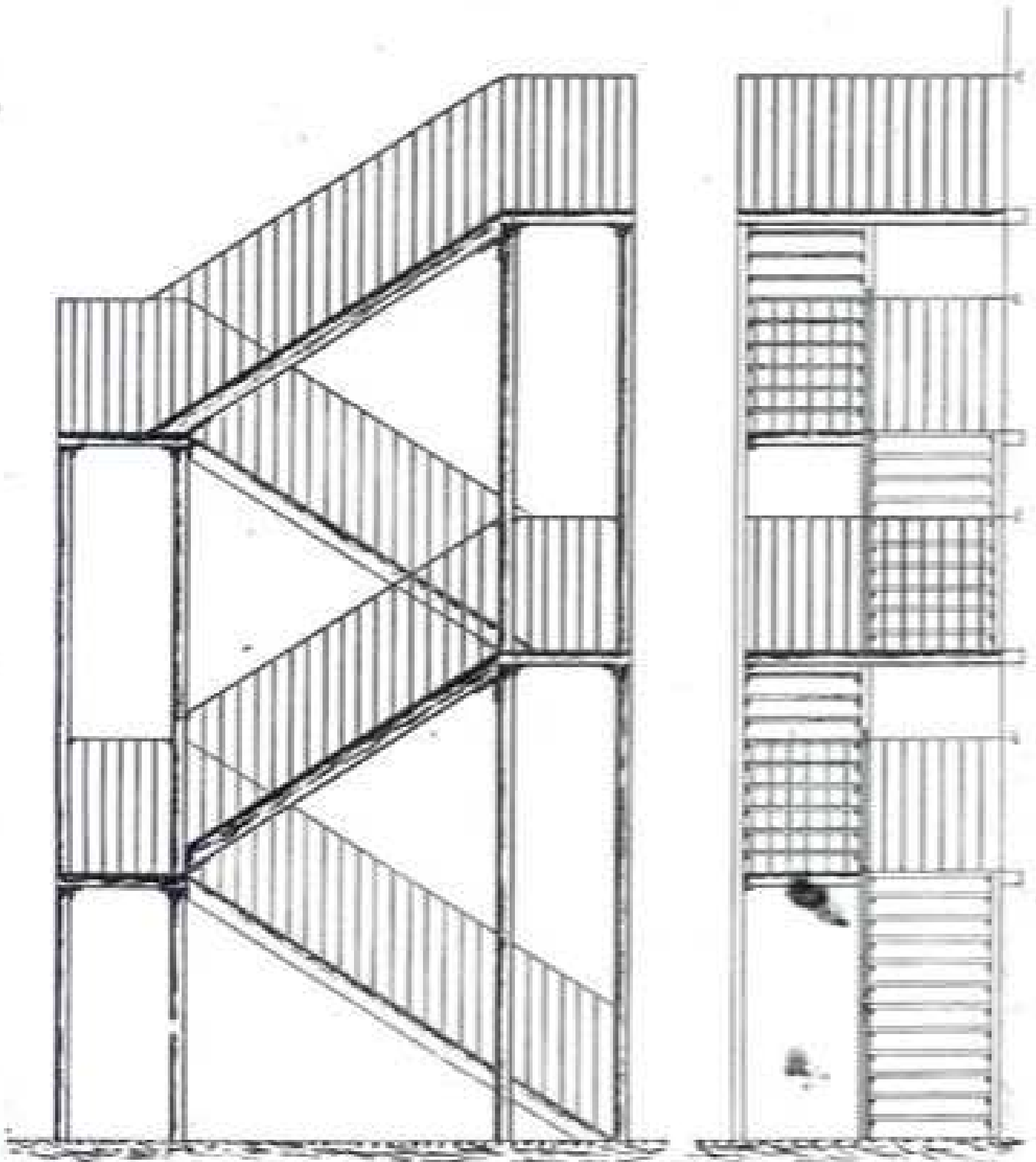


AREA  $\frac{1}{2} \pi r^2$  LIGHT



THE CRITTALL MANUFACTURING COMPANY, LIMITED.  
: Braintree : Essex :

: Staircases :



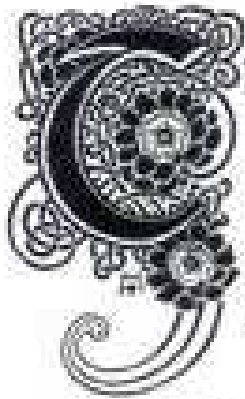
SEEK STAIRCASE SHOWN IN  
ST. MICHAEL'S HOSPITAL  
BRAintree

*Catalogue No. 4*

*1901*



# Introduction.



The Crittall Manufacturing Co. Ltd. have again the pleasure of presenting to Architects, Engineers, and others, their . . . . .

## NEW ILLUSTRATED and PRICED CATALOGUE,

which, although on the lines of its predecessors, has many new features, and whilst being of a larger and more comprehensive character, endeavours to present in an easy and concise manner as possible, the many specialities made by the Company.

The Catalogue is divided into various sections, and a full index will be found on the preceding page. A list of buildings where work is supplied is given at the commencement of each section.

**Special Notice** is respectfully drawn to the very great strides made in **Wrought Iron and Steel Roof Work** (pages 106 to 120), for the manufacture of which, and to meet the ever increasing demand, a new and complete plant has recently been laid down.

Also to the Co.'s system of **Dry Glazing**, which, although in use for many years, has not been illustrated in any previous catalogue. No special parana or woodwork of any kind is required, and it is unique in its easy application to wrought roof work and opening lights.

An entirely new and most important feature is the **New Patent Crittall "Safety" Casement**, which successfully combats the difficulty of cleaning Side Hung opening outwards Casements. Apart from its value in being a safe and easily cleaned casement, it has distinct advantages over any other reversible casement, inasmuch as it is entirely free from any weathering slips or other arrangements necessary where a casement opens inwards and outwards, as it reverses entirely from the outside, and the substance of both the inside and outside frames is left intact, making absolutely no difference to the weathering.

These "Safety" Kings are also made for wood casements, the fixing is simplicity itself, and no special preparation is required. They can be fixed to existing wood casements, or to our Nos. 2 or 3 sections Metal casements.

We also illustrate, for the first time, our **Armoured Fireproof Wood Doors**, which we now have greatly improved facilities for turning out promptly, and in the best possible manner.

The British Fire Prevention Committee's report of a recently tested Wrought Iron Door, and illustration of same (pages 100 and 101), should not be missed.

We have recently added considerably to our **Door-making Plant**, and promptness in delivery, and high class work can be absolutely relied upon.

We would also like to point out that in the whole of our manufactures (Casements, Doors, Roofs, Sashes, &c.), no punching or stamping of any kind is resorted to, nothing but the best, and most up-to-date high-class machinery being used, and we take this opportunity of cordially inviting any Architect or Engineer to inspect the Works at any time.





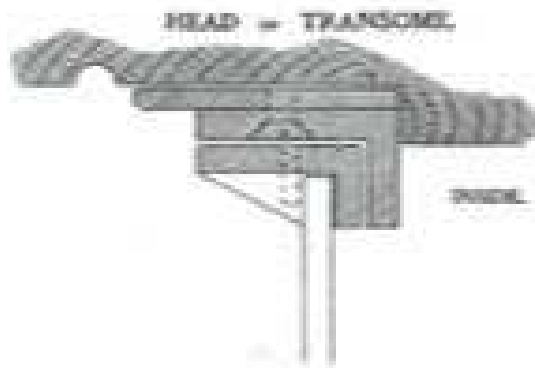
INSIDE ELEVATION  
SIDE HUNG.

No. 6 Section.  
FULL SIZE DETAILS

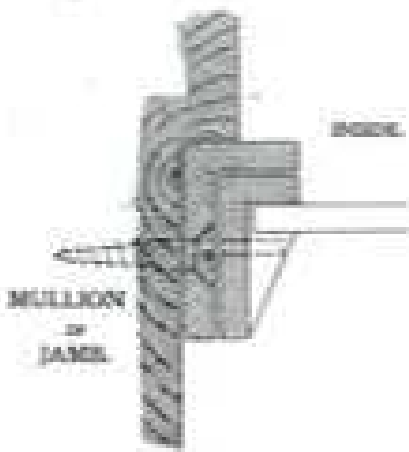
Side & Top Hung  
Casements.



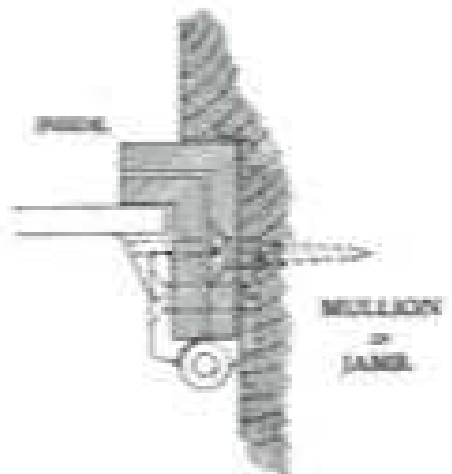
INSIDE ELEVATION  
TOP HUNG.



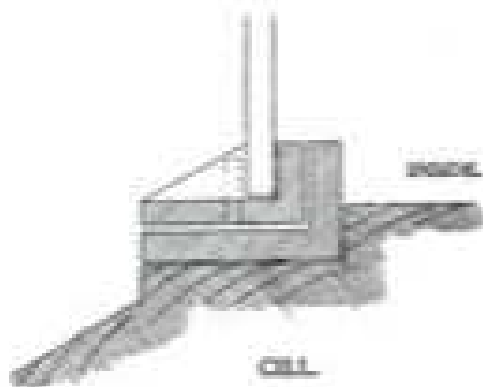
HEAD - TRANSOME



MULLION  
OF  
JAMB.



MULLION  
OF  
JAMB.

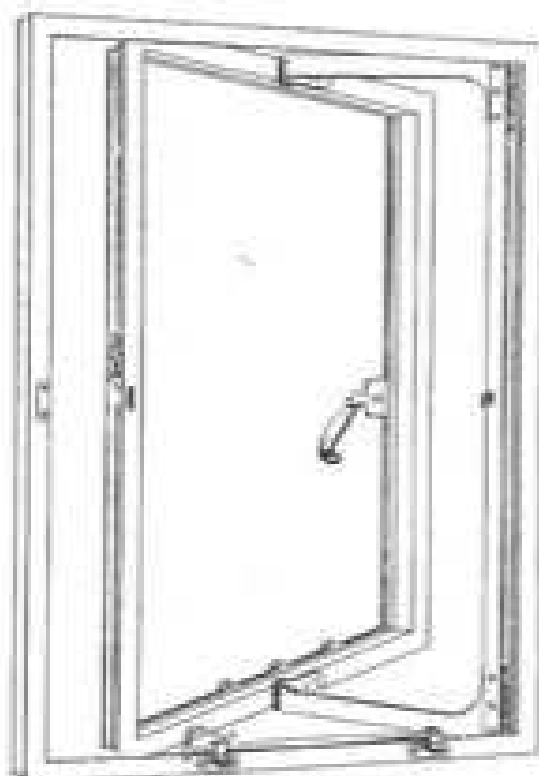


CELL



# The Crittall "Safety" Easement.

HUMPS Patent Application



INSIDE ELEVATION  
Showing Casement Tilted for Cleaning.



Section of Hinge "A"



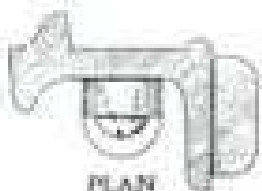
Section of Hinge "B"



Section of Hinge "C"

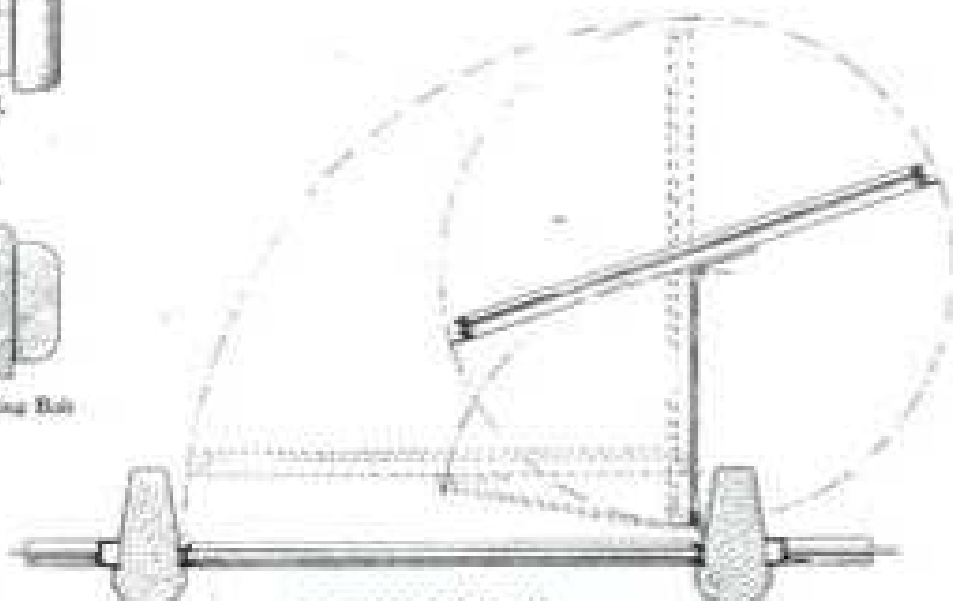


ELEVATION.



PLAN

Full-size Study of Sliding Bolt



SECTION ON PLAN

Showing Casement open for cleaning admitting Light.  
Dotted Lines parallel with Frame show Casement completely covered when outside is required to be cleaned.



Half full-size Hinge.

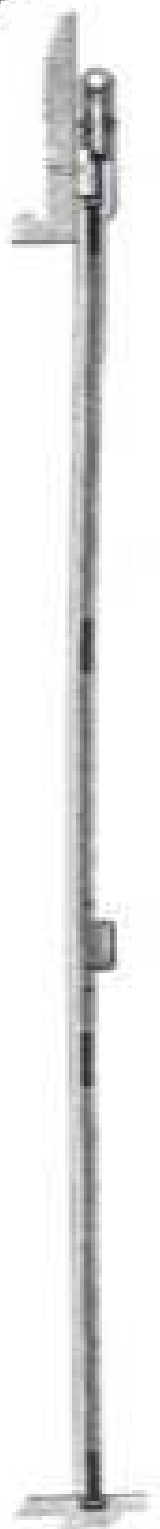
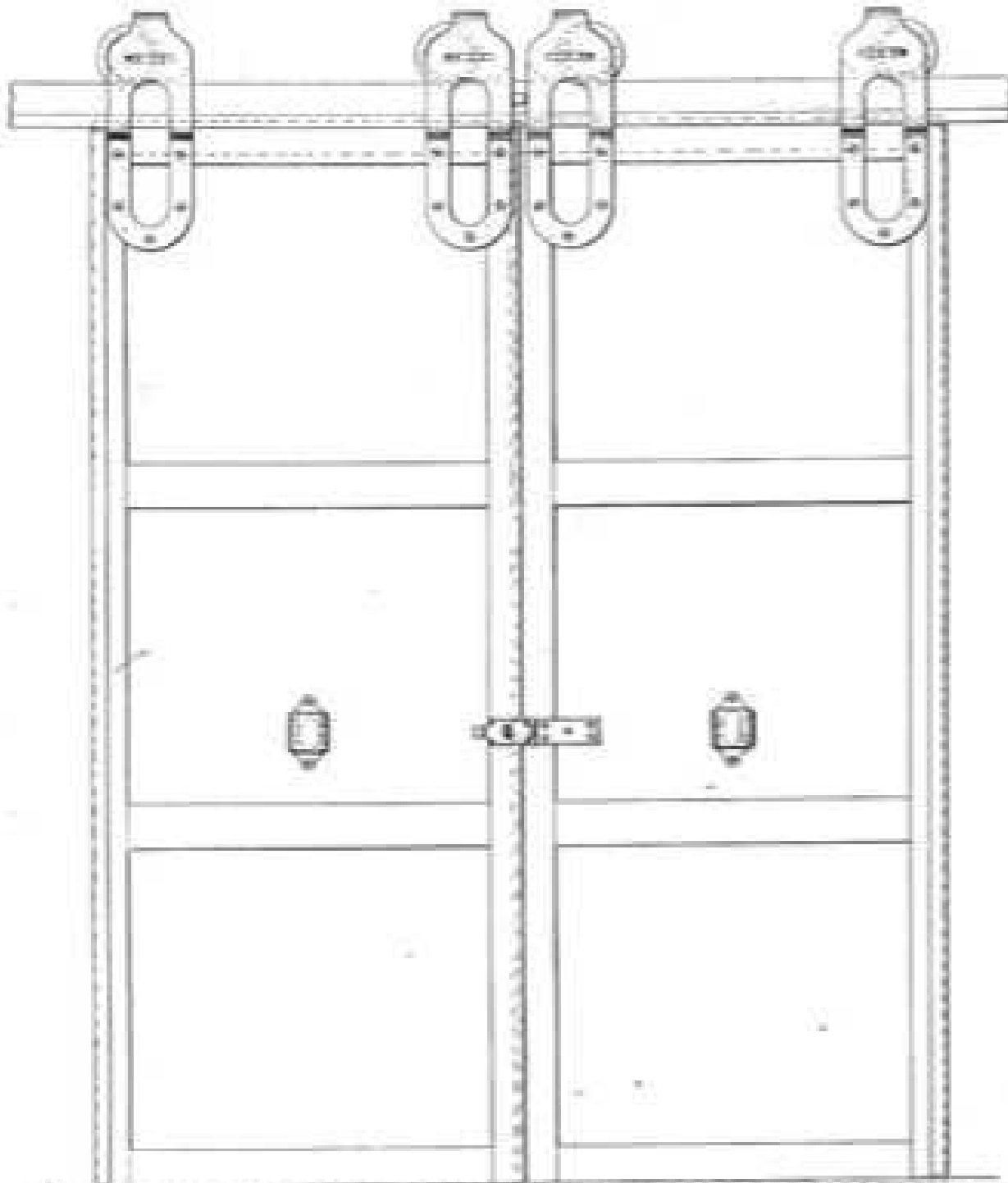


OUTSIDE ELEVATION.

Gun Metal  
AND  
Malleable Iron Handles  
AND  
Plates.



Double  
Sliding Doors.



Sectional  
Elevation.

No. 612A  
(not in 12 panels)

SECTION ON PLAN.

Scale—One Inch to the Foot.

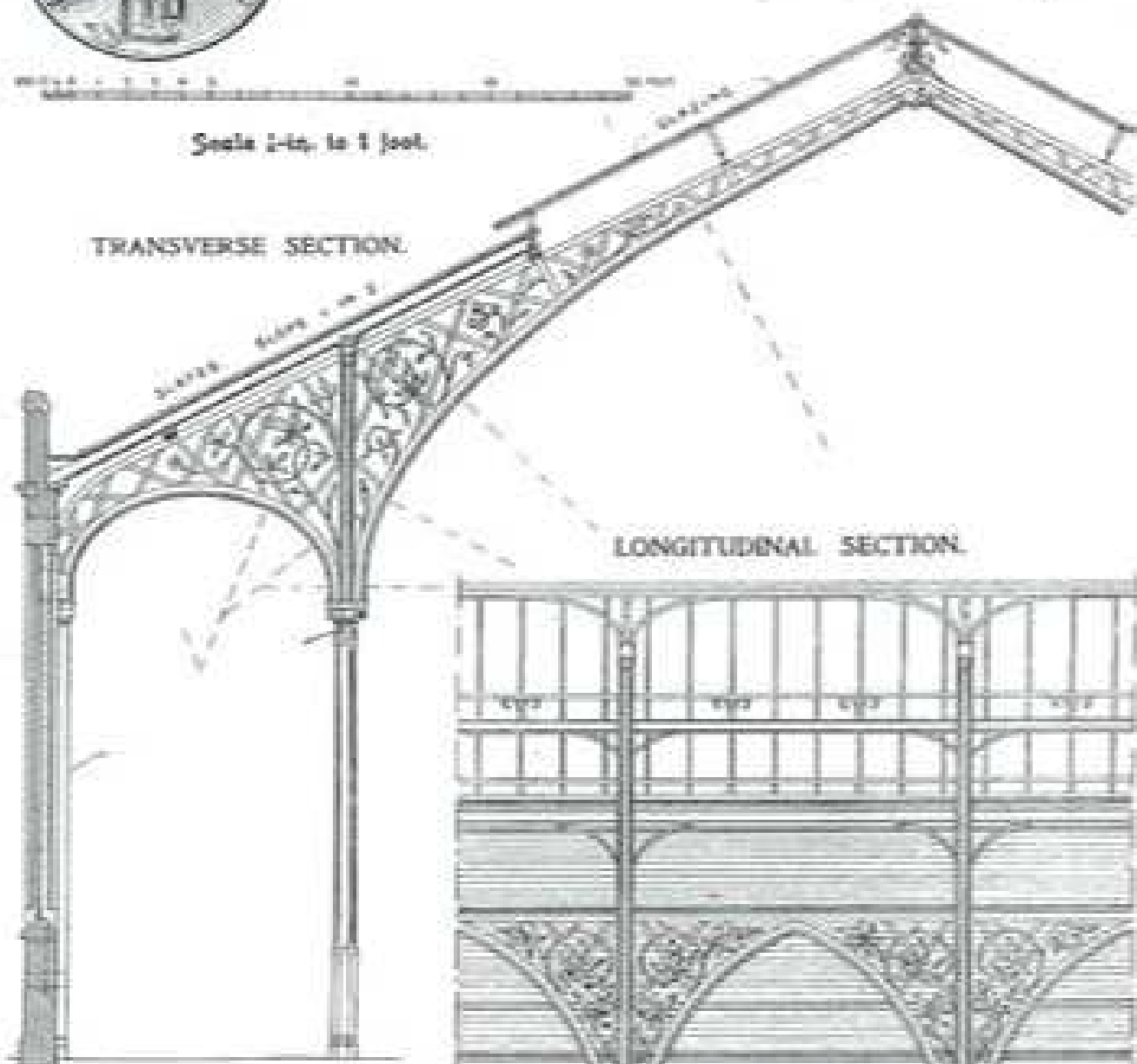


# Cantilever Roofing.

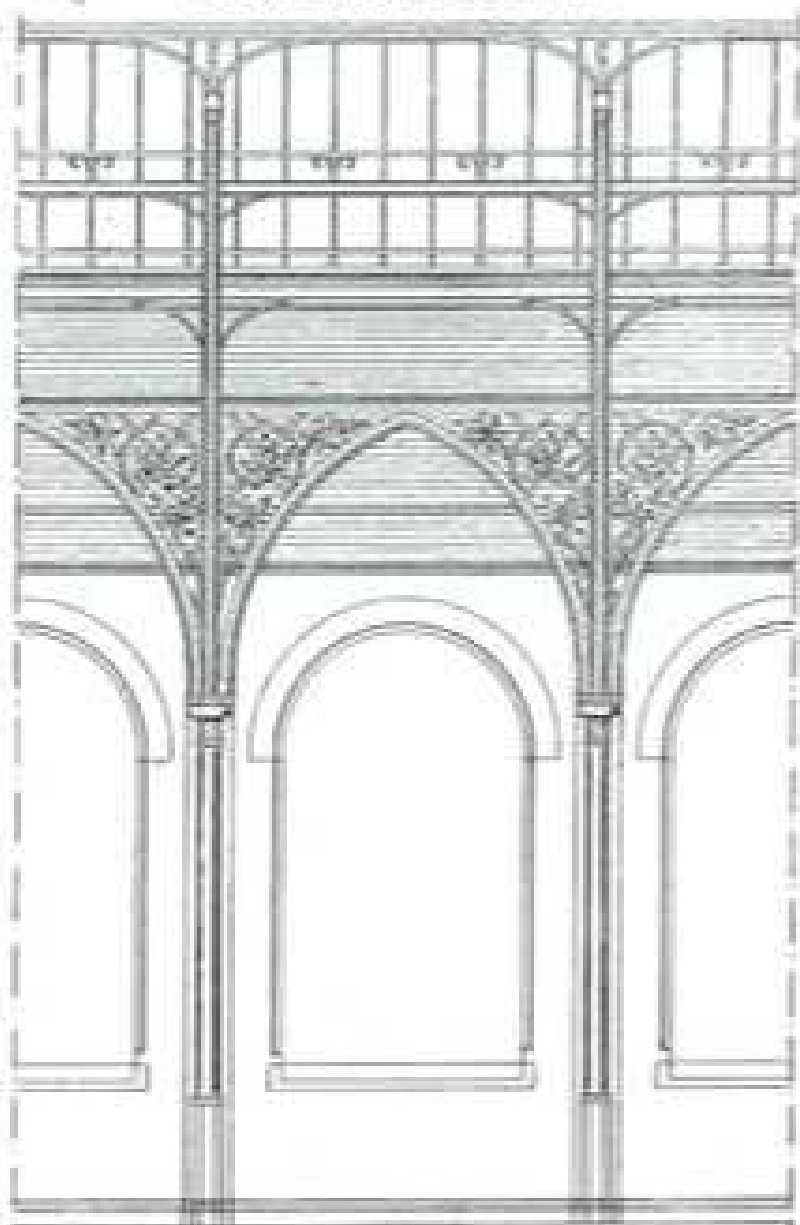


Scale 1/4-in. to 1 foot.

TRANSVERSE SECTION.

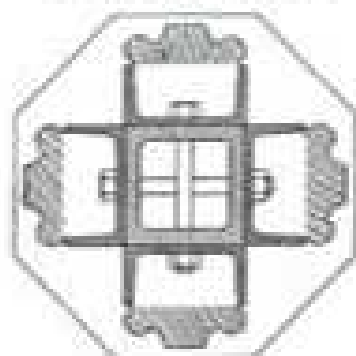


LONGITUDINAL SECTION.



PLAN AT SPRINGING.

Scale, 1/4-in. to 1 foot.



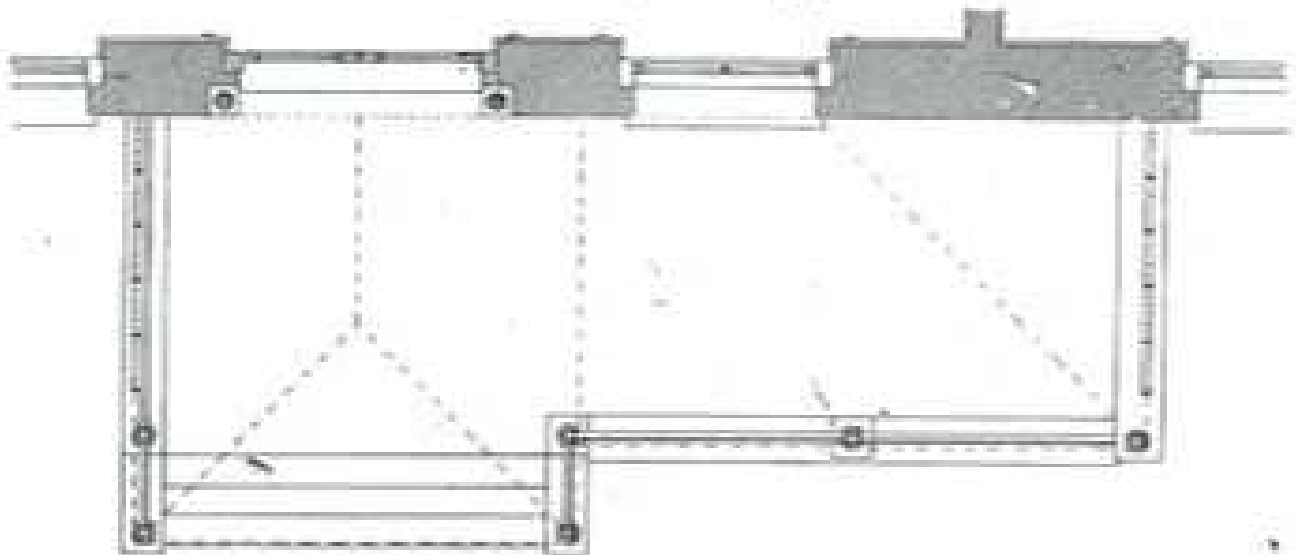
# Glazed Porch

... and ...

# Veranda.

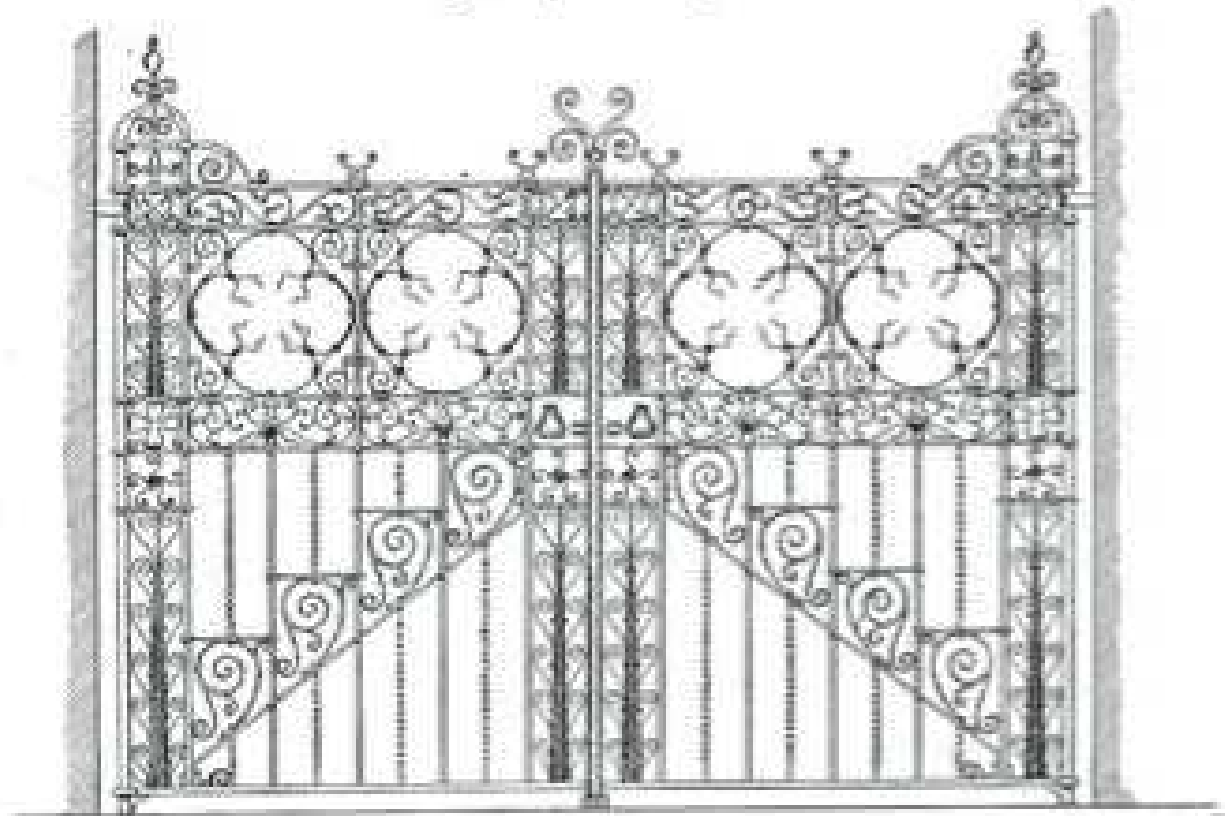


Plan: Scale  $\frac{1}{4}$ -in. to 1 foot.



# Wrought Iron Ornamental Gates.

Scale  $\frac{1}{4}$  inch = 1 foot.



No. 1



No. 2



No. 3

# Wrought Iron

## Church Door Hinges, Handles, & Handle Plates.



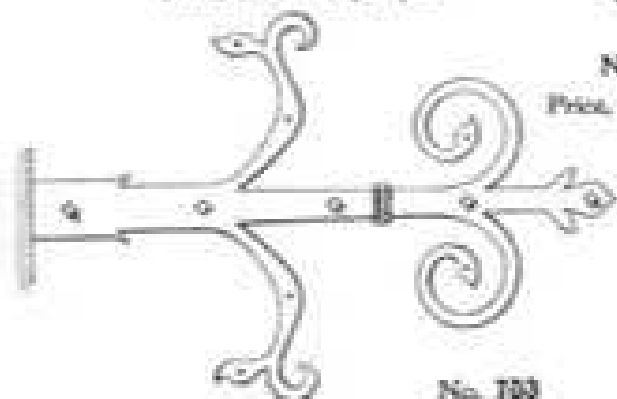
No. 700  
Price, £ 5 0 per pair



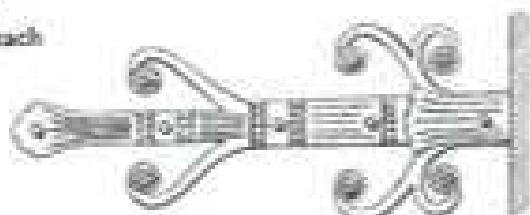
No. 801  
Price, 17 6 each



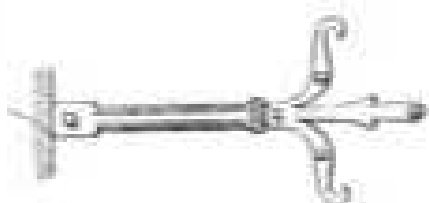
No. 702  
Price, £ 10 0 per pair



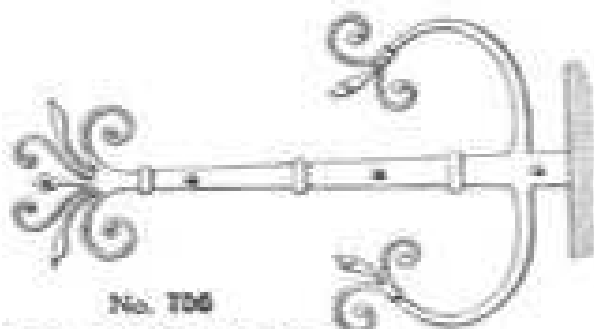
No. 703  
Price, £ 17 6 per pair



No. 704  
Price, £ 17 6 per pair



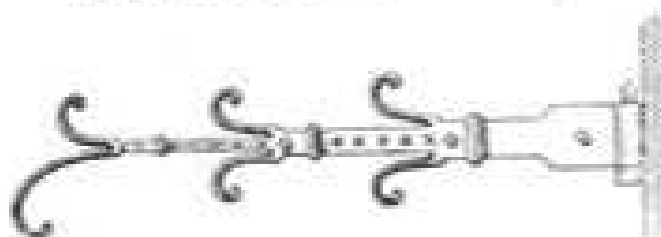
No. 705  
Price, £ 5 6 per pair



No. 706  
Price, £ 10 0 per pair



No. 707  
Price, £ 12 6 per pair



No. 708  
Price, £ 15 0 per pair

The Prices of Hinges include for plain Screws on opposite side of Door except for Nos. 705 and 708.  
The Prices of Handles and Plates include for plain Latch, etc., complete on opposite side of Door.



No. 809  
Price, 15- each



No. 810  
Price, £ 2 6 each



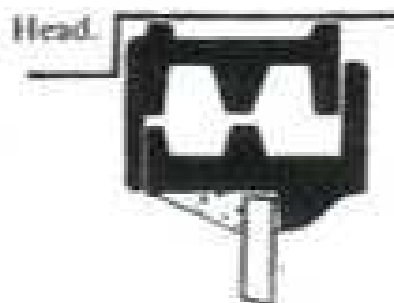
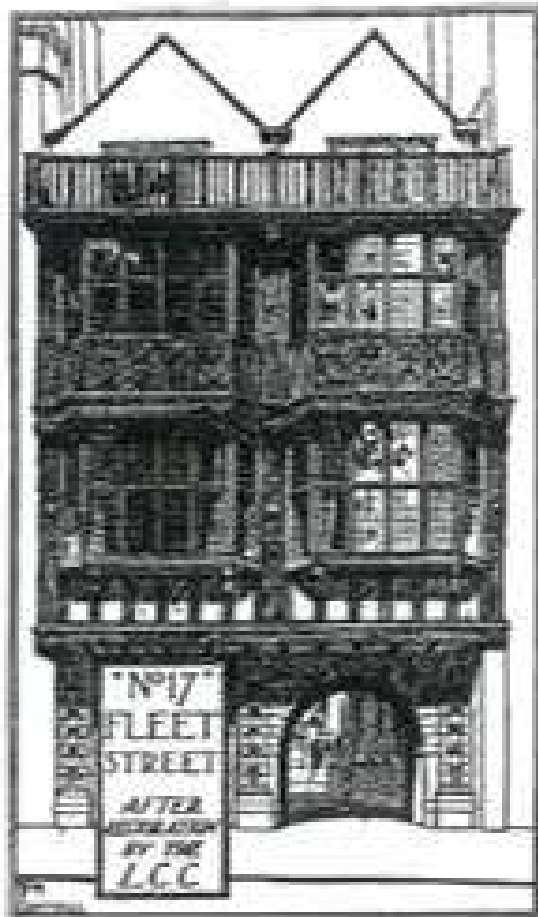
No. 811  
Price, 15- each

Scale—1-inch to 1-foot.



# Nº 9 SECTION CASEMENT

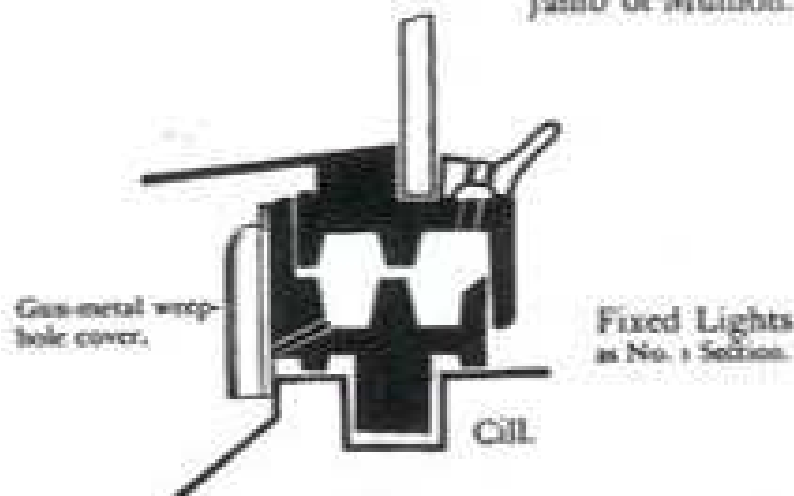
HUNG AT SIDE OR BOTTOM  
TO OPEN INWARDS



Jamb or Mullion.



Jamb or Mullion.



CRITTALL'S  
METAL  
WINDOWS.

ALL PREVIOUS LISTS WITHDRAWN

No 5

April, 1909

CATALOGUE OF  
METAL  
CASEMENTS  
& SASHES

MANUFACTURED BY THE  
**CRITTALL**  
MANUFACTURING CO. LD

11 & 12, FINSBURY SQUARE  
LONDON, E.C. : : : ENGLAND

BRANCHES:

DETROIT STEEL PRODUCTS CO.  
DETROIT, U.S.A.

EXPANDED METAL AND  
FIRE-PROOFING CO.  
TORONTO, CANADA

AGENCIES:

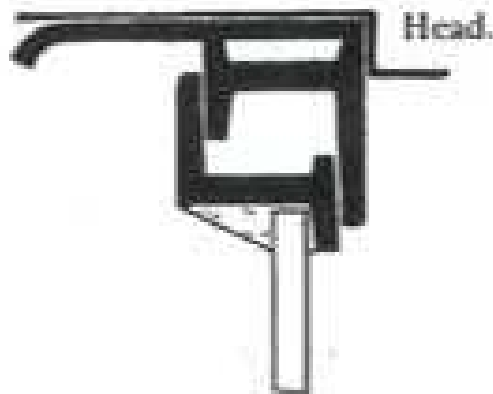
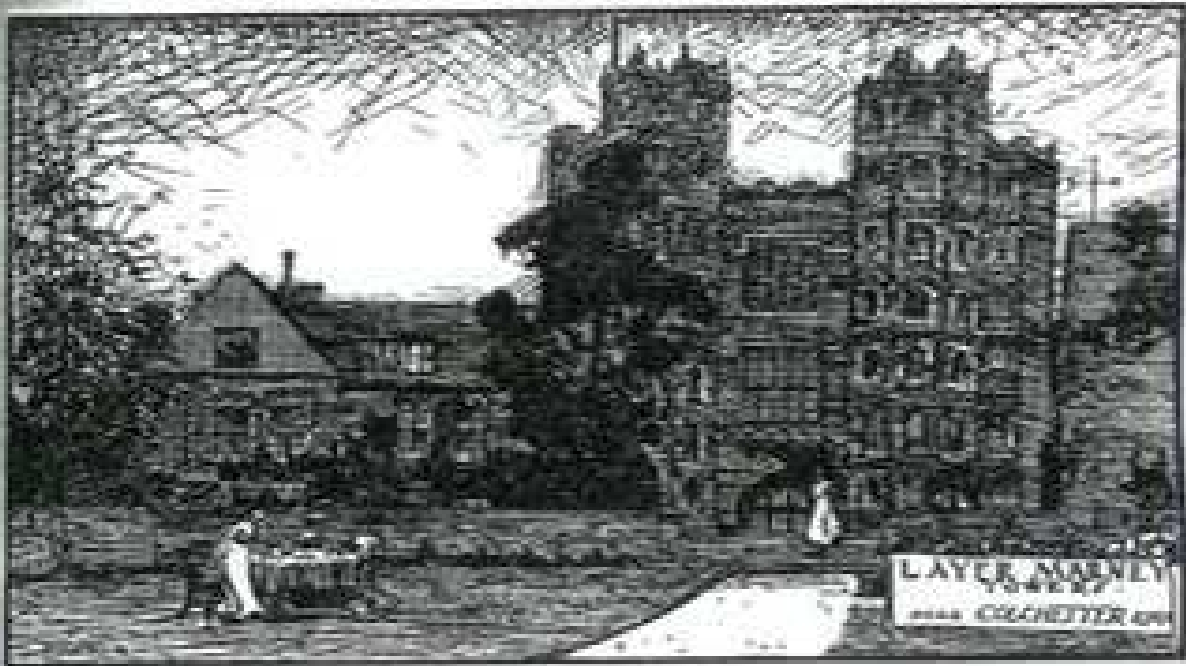
BUENOS AYRES : THE HAGUE  
SHANGHAI : SYDNEY

WORKS

BRAINTREE

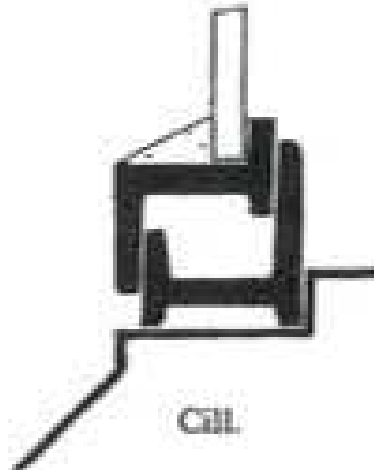
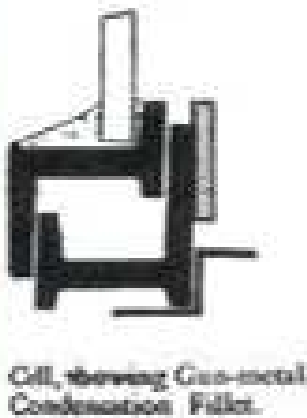
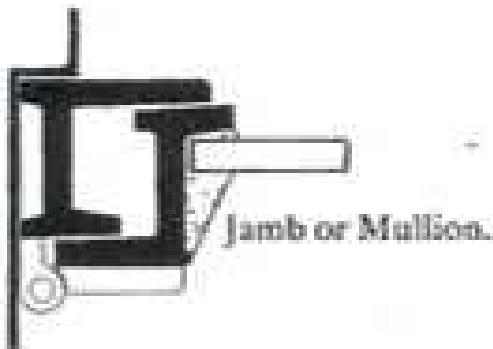
ESSEX

111

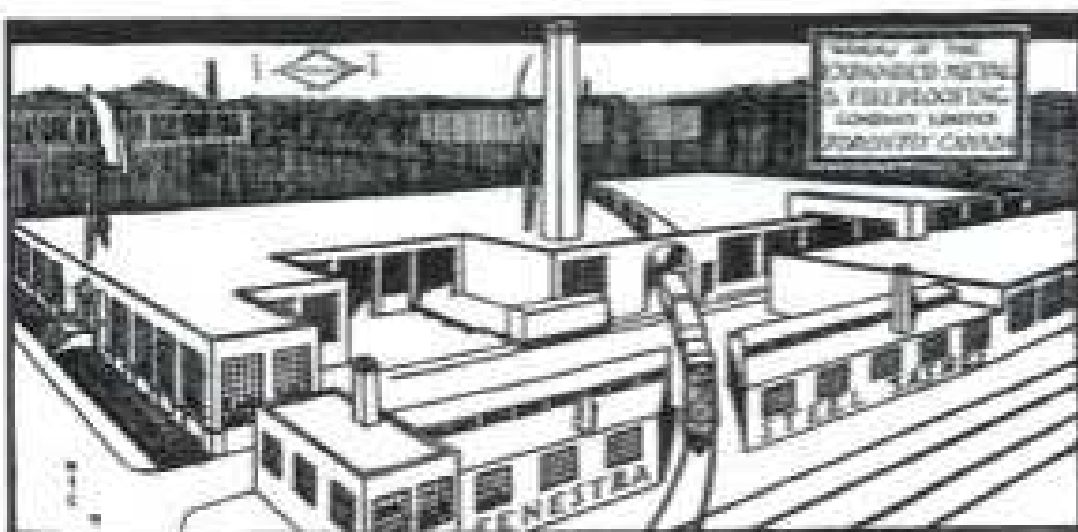
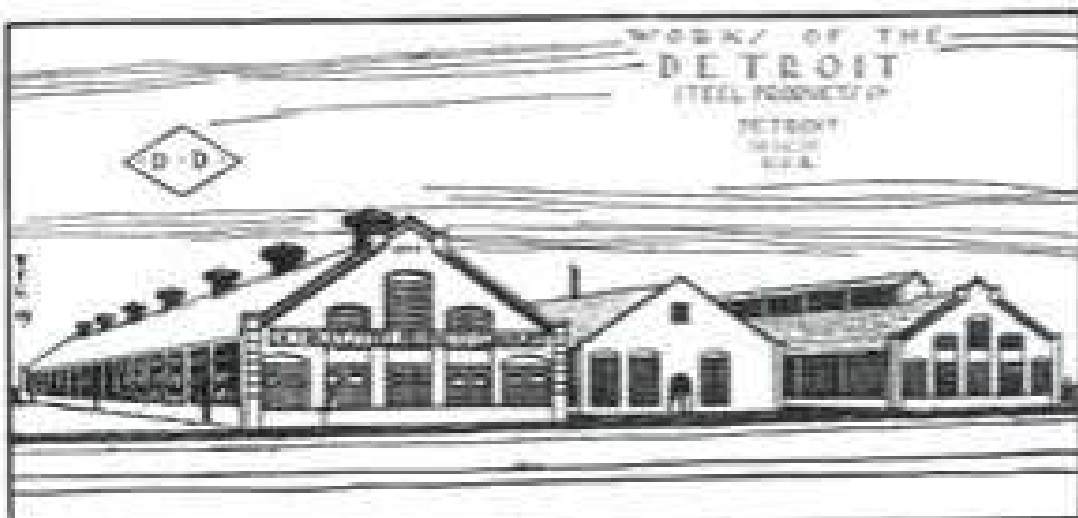
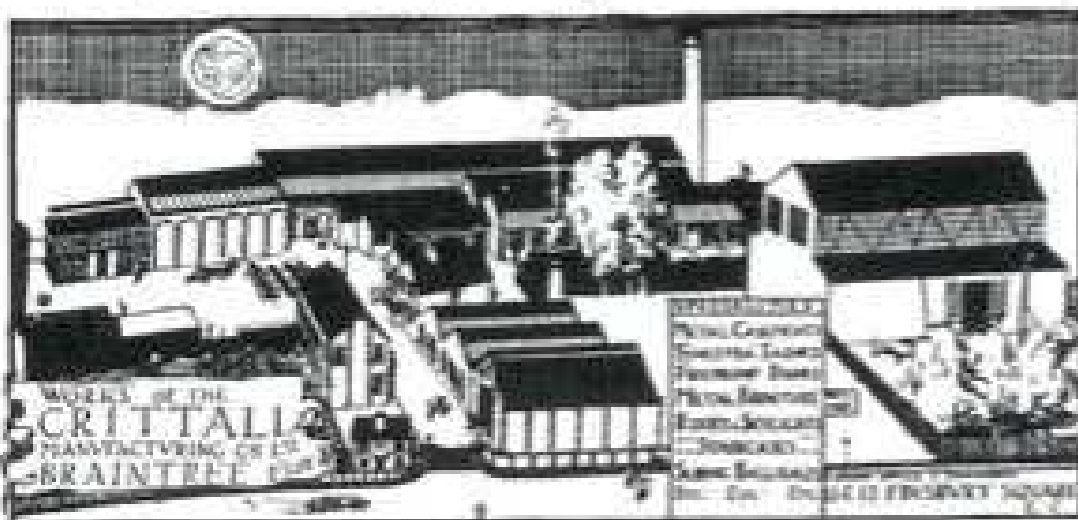


**LIST OF RESTORATIONS IN WHICH OUR CASEMENTS HAVE BEEN USED.**

- TOWER OF LONDON
- LAMBETH PALACE
- BISHOP'S PALACE, CANTERBURY
- NO. 11, FLEET STREET
- ST. MARTIN'S VICARAGE
- LEGG HOUSE
- FLETON HALL
- LAYER MARNEY TOWERS
- 47th, 48th, 49th



The firms represented on this page are the sole manufacturers of Patent "Fenestra" Sashes in England, United States of America, and Canada respectively.



# METAL FURNITURE

STEEL CLOTHES LOCKERS, CUPBOARDS, POLICY FILES, STORAGE BINS, RACKING & SHELVING OF EVERY DESCRIPTION

## *Locker Catalogue.*

We here illustrate several types of Metal Lockers, with which our separate catalogue deals more fully.

The advantages of metal as compared to wood for the storage of clothes, food, etc., are so obvious that it would be wasting space to enumerate them here. We make Lockers to any shape or dimension, but our Standard Locker—the result of several years experience in this class of work—will generally be found efficient.

## *Standard Dimensions.*

The dimensions of this locker are as follows:

|                 |   |      |  |
|-----------------|---|------|--|
| Height over all | : | 6ft. | (i) Entirely Sheet Steel. Type (1).                      |
| Width           | " | 1ft. | (ii) Part Sheet Steel and part Expanded Metal. Type (2). |
| Depth           | " | 1ft. | (iii) Entirely Expanded Metal. Type (3).                 |

Made of Pressed Steel Plates, Cold Rolled and Close Annealed.

## *Fittings.*

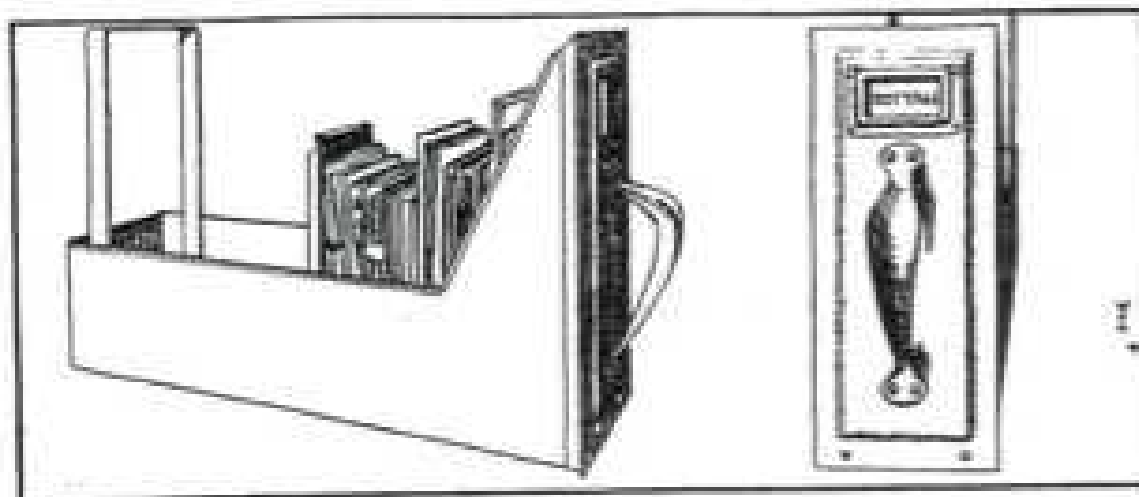
Doors fastened by Treble-Acting Espagnolette Bolt, secured by Yale Lock. Any number of lockers up to 1,000 can be mastered if required. Floors perforated to permit advantageous use of hot water pipes. Fitted with Shelf, Umbrella Clips, Detachable Drip-Pan, 3 Clothes Hooks, and Number Plate. Stove enamelled in special ovens producing a hard, smooth surface, which allows periodical washing without danger of rusting or warping.

Special fittings, fastenings, or finishes quoted for if desired.

Metal Lockers are a permanent investment. They are clean, compact, and sanitary; secure for fire, burglary, or vermin, and check the spreading of disease.

## *Policy Files.*

Besides the lockers mentioned above, we are manufacturers of every class of METAL STORAGE. The subject chosen for illustration is the Steel Policy File, made in two sizes, of best Steel Plates, bright Steel Slide Rods, Brass Handle, Finished Hard Stove Enamel.

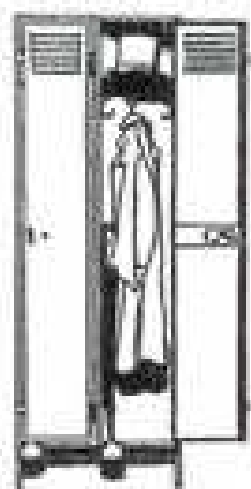


A complete installation of these Files, including a quantity of metal bookshelves, and hat and coat lockers, have recently been installed in the Union Assurance Company's New Premises, Royal Exchange, under the direction of the Architects, Messrs. Ernest George & Yeates, in conjunction with the Company's Surveyor.

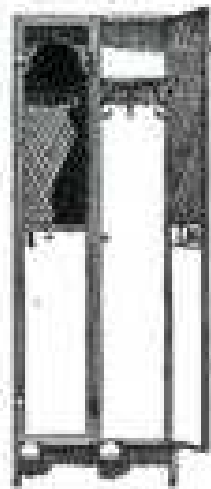
# METAL LOCKERS

For use in CLUB HOUSES, GYMNASIUMS, BANKS, BUSINESS PREMISES, STORES, CLOAK ROOMS, BARRACKS, POLICE STATIONS, WORKSHOPS, GENERATING STATIONS, etc., etc.

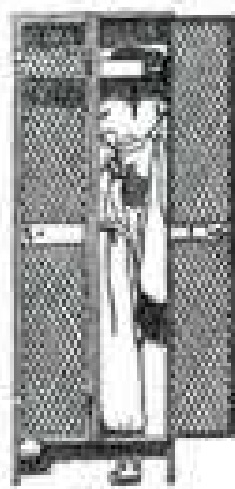
## STANDARD LOCKERS.



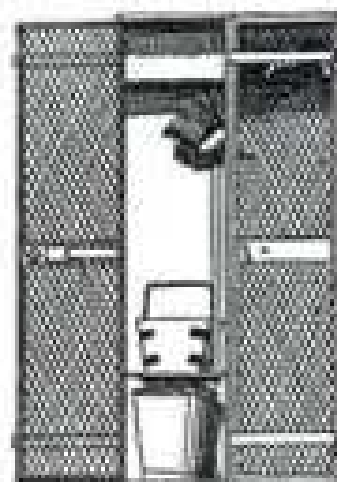
Type 1



Type 2

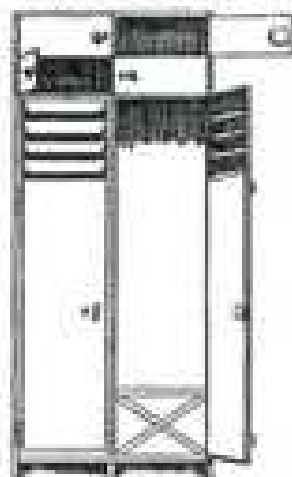


Type 3

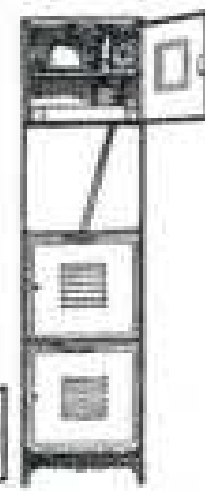
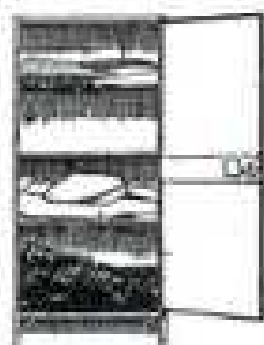


Housemaids' and  
Caretakers' Lockers.

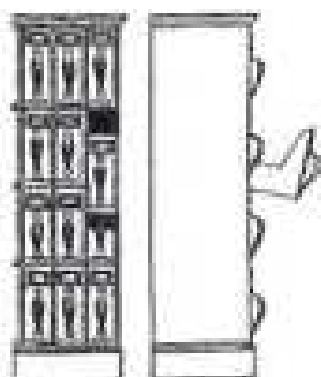
## VARIOUS TYPES FOR SPECIAL USE.



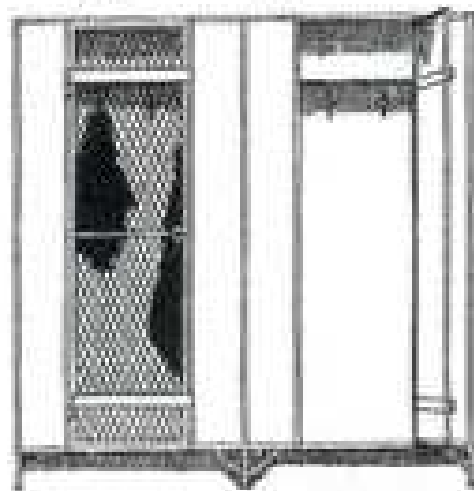
Telegraph or Telephone  
Operators' Lockers.



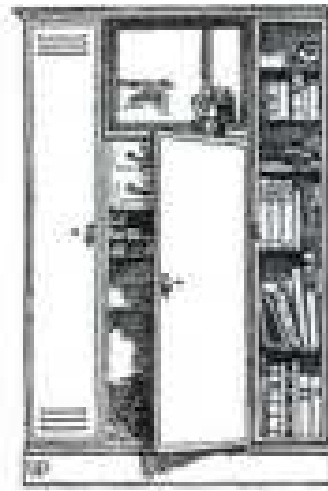
Police Lockers,  
as approved and supplied to Scotland Yard authorities.



Cabinet of Policy Files.



Office Fitments.



# CRITTALL METAL CASEMENTS

*For all classes of  
Buildings*



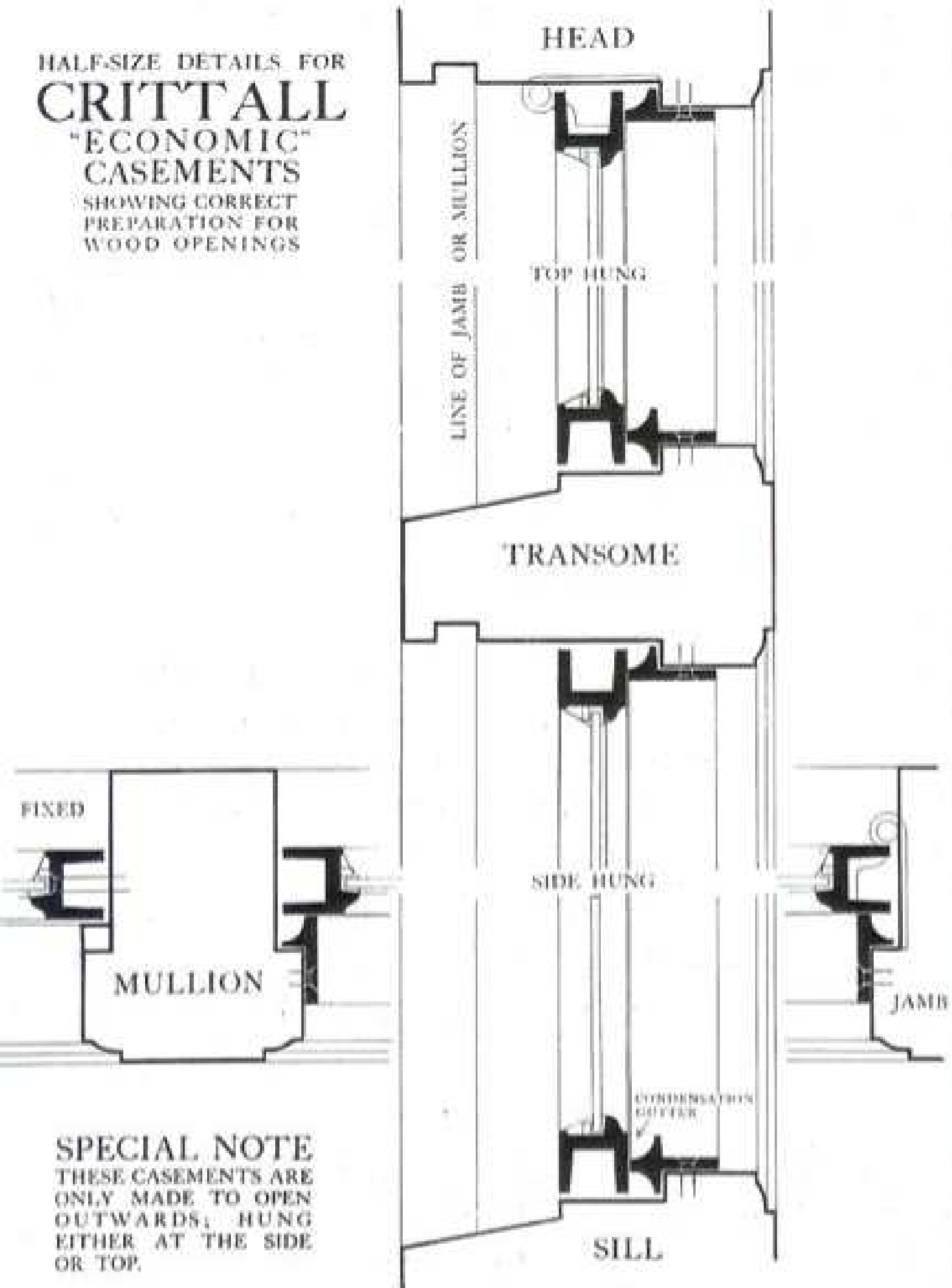
THE CRITTALL  
MANUFACTURING CO. LTD.

MANOR WORKS  
BRAINTREE, ENGLAND.

London Office 11 & 12, FINSBURY SQUARE, E.C.

No 61911

HALF-SIZE DETAILS FOR  
**CRITTALL**  
 "ECONOMIC"  
 CASEMENTS  
 SHOWING CORRECT  
 PREPARATION FOR  
 WOOD OPENINGS





## THE TOWER OF LONDON.



When first built, the Tower of London was equipped with metal windows. After 800 years constant service these are now being replaced by CRITTALL Metal Casements.



The launch of the "Crittall Universal Casement" was the most important step forward in the development of the steel casement window. For this reason Catalogue No.7 issued in 1912 follows in its entirety.



The following selection of pages from "Crittalls of Braintree 1849-1949" by P. E. Austin gives some background information on the product.

April, 1912

*The*  
**CRITTALL**  
**MFG. CO. LTD.**  
*· Braintree · Essex ·*

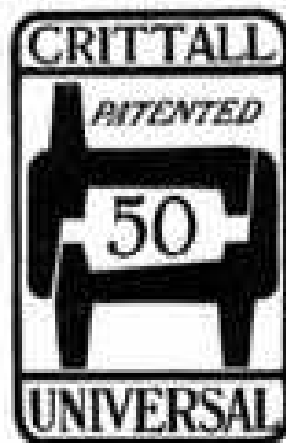
*London Office & Showrooms*  
*11 & 12, Fitzroy Square, E.C.*



Working Details  
for No. 50  
Universal Casements  
(Patented)

No. 50 SECTION  
"UNIVERSAL"  
CASEMENTS  
(PATENTED)

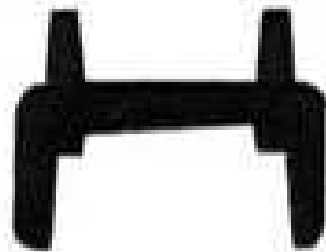
Full size details of all types of Ventilators  
Connections and Preparations of Work  
with illustrations of Fittings  
and Typical Buildings



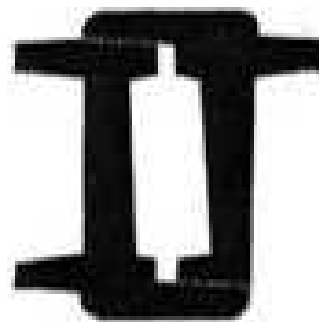
THE  
CRITTALL  
MANUFACTURING CO. LTD.

11 & 12, FINSBURY SQUARE,  
E.C.

AND AT BRAINTREE, ESSEX



THE UNIVERSAL SECTION  
(PATENTED)



ALTERNATIVE  
SHOWING INSIDE GLAZING

ALL CASEMENTS CAN BE  
MADE THUS WITHOUT ALTERATION  
TO PRICE OR DETAIL.

CRITTALL UNIVERSAL CASEMENTS (Patented)

## INTRODUCTION

**W**E have pleasure in placing before architects, engineers and others details of our "Universal" Casement embodied in this catalogue.

As will be seen, these contain many novel features and we have endeavoured to eliminate all the bad points which have prevented the more general use of steel in this department of building construction.

The form of section used is that of a joist, combining maximum strength with minimum weight, all superfluous mouldings or weather checks (many of which are practical only on paper) having been omitted.

All types of Casements are double weathered at all points, all weatherings being solid. No screwed-on fillets are used.

The Casements are made in three sizes of sections, to produce windows of any practical dimensions, the section used being determined by the size of the opening to be filled.

All Casements have the same appearance inside and out, and are suitable for  $3/8$  in. (one centimetre) outside rebate all round without using fillets or cutting away the preparation to clear fittings or hinges.

All Casements have the same sight, glass and rebate line.

Special attention is called to the fixing details shown on pages 26-28 by which it will be seen that this section can be suitably applied to all classes of masonry or woodwork.

The connection details shown on pages 24 and 25 show various methods of constructing composite openings of practically any size.

We are equipped with an extensive electro-plating plant for treating our products with our special Koperoid process—a substitute for solid bronze casements at a lower price.

These features are backed up and carried out by an up-to-date plant and thorough organization, and we feel confident that wherever used the Crittall "Universal" Casement will give complete satisfaction.

*April 1912.*

# SPECIFICATION FOR CRITTALL UNIVERSAL CASEMENTS (Patented)

**STEEL.** All the steel used in the manufacture of "Universal" Casements is best quality rolled steel produced from our own rolls, hydraulically straightened and free from hammer marks or other imperfections.

**SECTIONS.** All types of Casements provide DOUBLE WEATHERING at all points, *without the use of screwed-on fillets or strips.* All Casements have the same appearance inside and out, and have the same sight rebate and glass line throughout.

Made in 3 sizes to suit any size of opening.

**HINGES.** All hinges are of solid drawn gunmetal with hardened steel pins. For Vertical Centre Hung Casements, our special phosphor bronze frictionless self-centring ball bearing is used.

**PREPARATION OF WORK.** An outside rebate of  $\frac{1}{8}$  in. (1 Centimetre) is suitable for all types of Casements, whether opening inward or outward, no packing fillets being required to clear the rebates.

**JOINTS.** All joints of the Casement and frame and all brackets for fittings are welded solid, no brazing being used for any purpose.

**GLAZING.** Glass can be fixed either from the inside or outside without alteration in details. All glazing rebates are  $\frac{1}{8}$  in. deep (1 Centimetre).

**FITTINGS.** All fittings are of our own manufacture, and are interchangeable.

**GUARANTEE.** The Crittall "Universal" Casement (Patented) is guaranteed weather-tight in every position and exposed to full force of gales, this complete guarantee being only possible with solid Casements without screwed-on Weathering.

## CRITTALL UNIVERSAL CASEMENTS (Patented)

**T**HE standard finish of all types of Casements, "D," "C," and "B" qualities, is the application of one coat of Anti-rust Paint before the Casements are hung, and a final coat of Zinc Oxide on completion.

The "Universal" Casement is manufactured in four qualities, and below we give full particulars.

**"D" QUALITY.** Plain finished Steel Casement, fitted with plain iron fittings.

**"C" QUALITY.** Plain finished Steel Casement, fitted with plain gunmetal fittings.

**"B" QUALITY.** Best finished Casement, sand-blasted all over, and fitted with best polished gunmetal fittings.

**"A" QUALITY.** "Koperoid" Casement, sand-blasted all over, and finished with Crittall's "Koperoid" Process. Fitted with best polished gunmetal fittings. An excellent substitute for solid Gunmetal Casements.

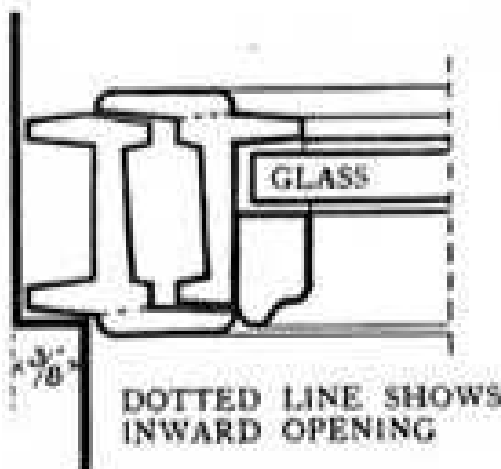
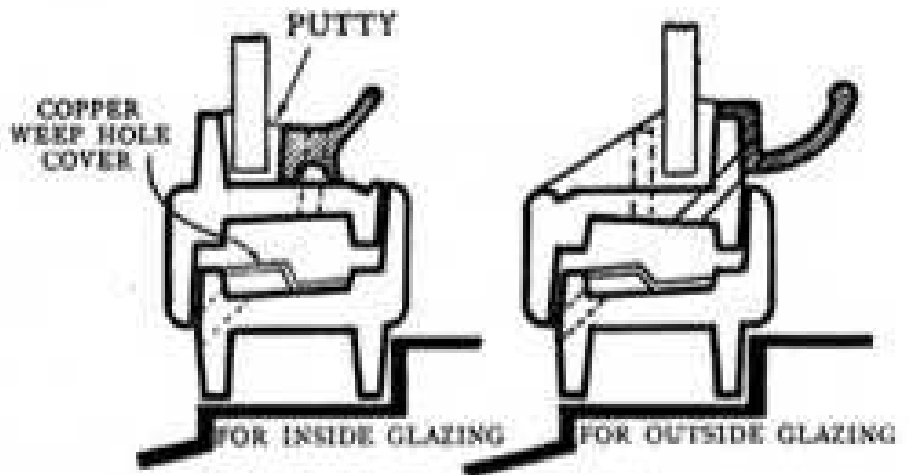
Side hung Casements, opening outward and inward, and vertical centre hung Casements, "B" and "A" qualities, are fitted with our two-point striking plate, which allows the Casement to be opened a short distance, more particularly for night ventilation. **SIDE HUNG and FOLDING CASEMENTS OPENING OUTWARD, "B" and "A" qualities, can be fitted with GUNMETAL NON-PROJECTING SLIDING STAY, instead of peg stay, without extra charge.**

For opening top hung, bottom hung and horizontal centre hung Casements, exceeding the size of 3ft.0x4ft.0, we strongly recommend the use of our Duplex Gearing (see page 38).



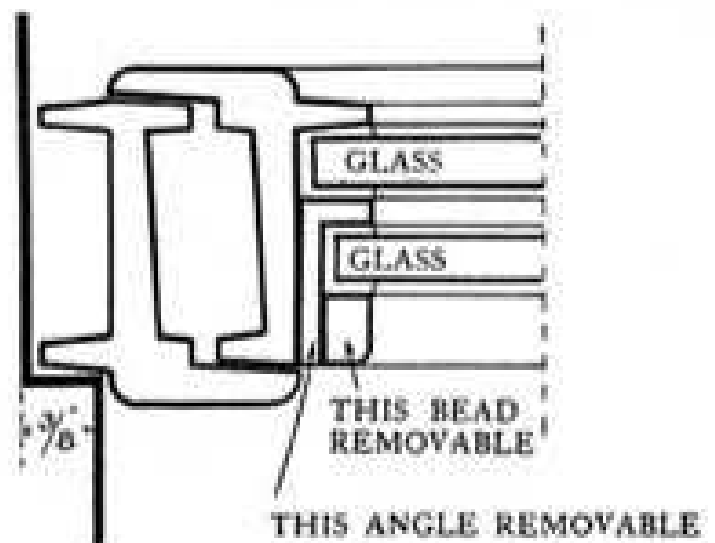
# EXTRAS

- (1) **TEE TRANSOME and MULLION**, for use in composite windows, including bolting together; rebate outside unless otherwise specified, from 1/6 per lineal foot. (See page 25).



- (2) **GLAZING BEADS**, always inside unless otherwise specified, from 4/- per pane.
- (3) **TEE GLAZING BARS**, with PATENT "FENESTRA" JOINTS, forming panes, from 9d. per pane.
- (4) **CIRCULAR-ON-PLAN Casements** from 10/- each.  
Fixed lights .. 5/- ..
- (5) **SHAPED or CIRCULAR HEADS**.  
Casements, from 10/- each.  
Fixed lights .. 5/- ..
- (6) **SADDLE BARS** for lead glazing, from 1/- each.
- (7) **SQUARE or ANGLE STEEL FILLETS** for grooved work, from 4/- per set. (See page 26).

- (8) **GUNMETAL CONDENSATION GUTTERS**, from 2/6 each.
- (9) **COPPER WEATHER BARS**, from 2/6 each.
- (10) **FIXING**, including necessary fixing materials and pointing up,  
Casements - from 3/6 each.  
Fixed lights - .. 2/6 ..  
Composite windows  
from 10/- ..



- (11) **DOUBLE GLAZING**, from 4/- per pane.
- (12) **Bonding fillets for plaster**.  
(See page 27).  
Design 5 - from 4/- per set.  
" 6 - " 7/6 " "
- (13) **TWO-POINT STRIKING PLATE** for "D" and "C" qualities, 1/6 each extra.

## CRITTALL UNIVERSAL CASEMENTS (Patented)

### MAXIMUM SIZES TO WHICH "UNIVERSAL" CASEMENTS CAN BE MADE WITHOUT REINFORCEMENT

Sizes of Casement to be arrived at by adding together twice the height and twice the width, e.g., one Casement 5ft.0 × 2ft.0 = 14.

#### SIDE HUNG CASEMENTS, OPENING OUTWARD OR INWARD

|               |   |   |    |                     |   |        |
|---------------|---|---|----|---------------------|---|--------|
| Small Section | - | - | 14 | Width not to exceed | - | 2ft. 0 |
| Medium "      | - | - | 17 | "                   | " | 2ft. 6 |
| Large "       | - | - | 22 | "                   | " | 3ft. 0 |

#### TOP HUNG CASEMENTS, OPENING OUTWARD. BOTTOM HUNG CASEMENTS, OPENING INWARD.

|               |   |   |    |                     |   |        |
|---------------|---|---|----|---------------------|---|--------|
| Small Section | - | - | 14 | Width not to exceed | - | 4ft. 0 |
| Medium "      | - | - | 17 | "                   | " | 5ft. 0 |
| Large "       | - | - | 21 | "                   | " | 6ft. 0 |

#### FOLDING CASEMENTS, OPENING OUTWARD OR INWARD.

|               |   |   |    |                     |   |        |
|---------------|---|---|----|---------------------|---|--------|
| Small Section | - | - | 18 | Width not to exceed | - | 4ft. 0 |
| Medium "      | - | - | 22 | "                   | " | 5ft. 0 |
| Large "       | - | - | 28 | "                   | " | 6ft. 0 |

#### VERTICAL CENTRE HUNG CASEMENTS. (Hung $\frac{1}{2}$ width).

|               |   |   |    |                     |   |        |
|---------------|---|---|----|---------------------|---|--------|
| Small Section | - | - | 16 | Width not to exceed | - | 3ft. 0 |
| Medium "      | - | - | 19 | "                   | " | 3ft. 6 |
| Large "       | - | - | 24 | "                   | " | 4ft. 6 |

#### HORIZONTAL CENTRE HUNG CASEMENTS. (Hung central).

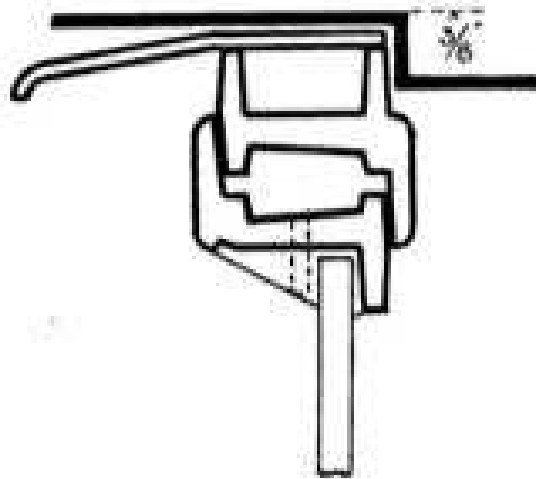
|               |   |   |    |                     |   |        |
|---------------|---|---|----|---------------------|---|--------|
| Small Section | - | - | 12 | Width not to exceed | - | 3ft. 0 |
| Medium "      | - | - | 15 | "                   | " | 3ft. 6 |
| Large "       | - | - | 18 | "                   | " | 4ft. 6 |

#### FIXED LIGHTS.

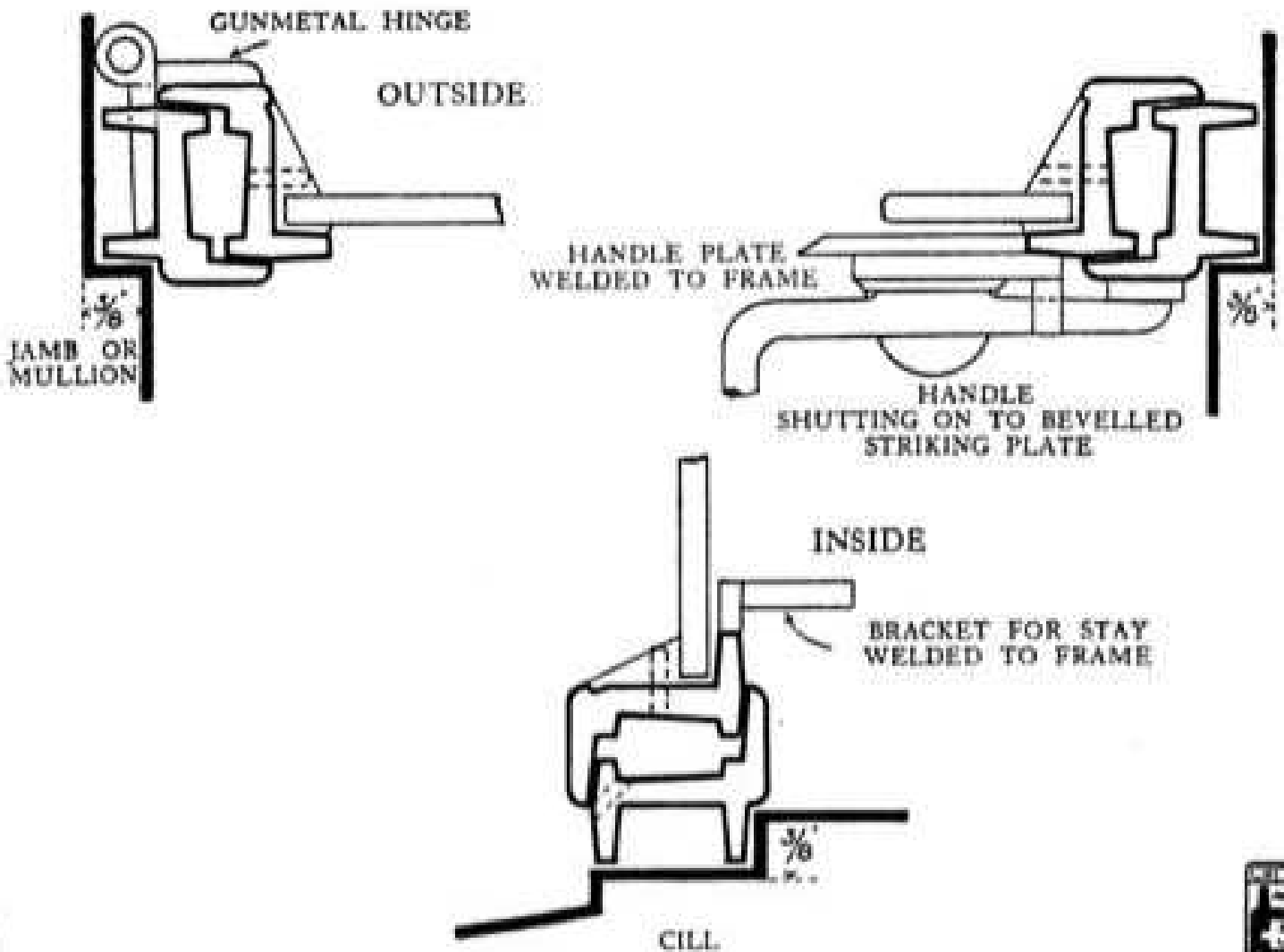
|               |   |   |   |  |                             |
|---------------|---|---|---|--|-----------------------------|
| Small Section | } | - | - |  | To match any size Casement. |
| Medium "      |   |   |   |  |                             |
| Large "       |   |   |   |  |                             |

In exceeding the above dimensions the Casements must be reinforced either with glazing bars or beads.

HEAD OR TRANSOME



## SIDE HUNG OPEN OUT

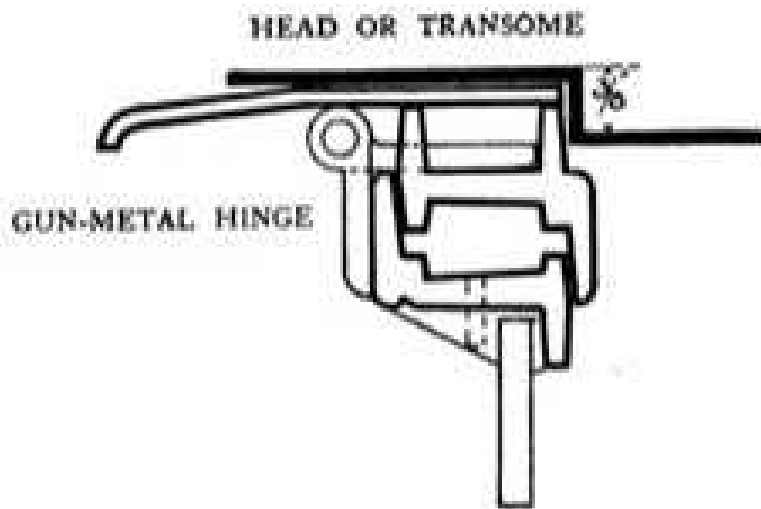


## CRITTALL UNIVERSAL CASEMENTS (Patented)

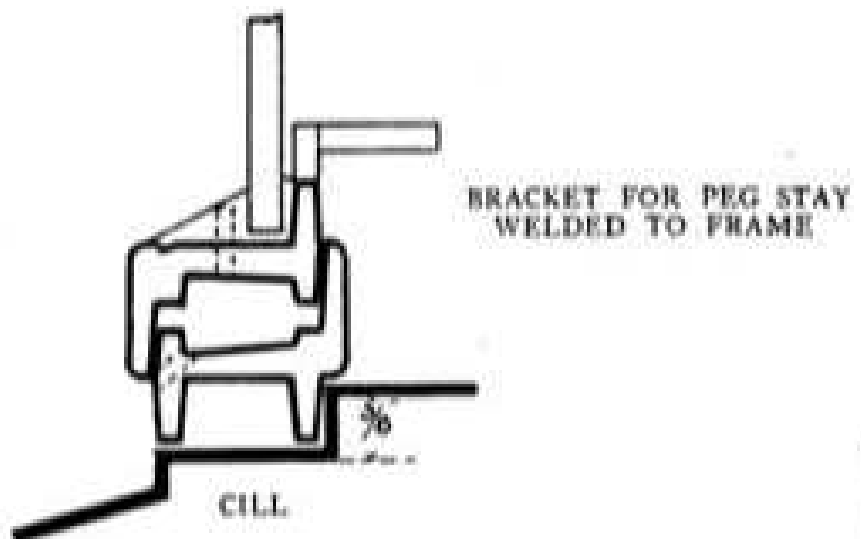
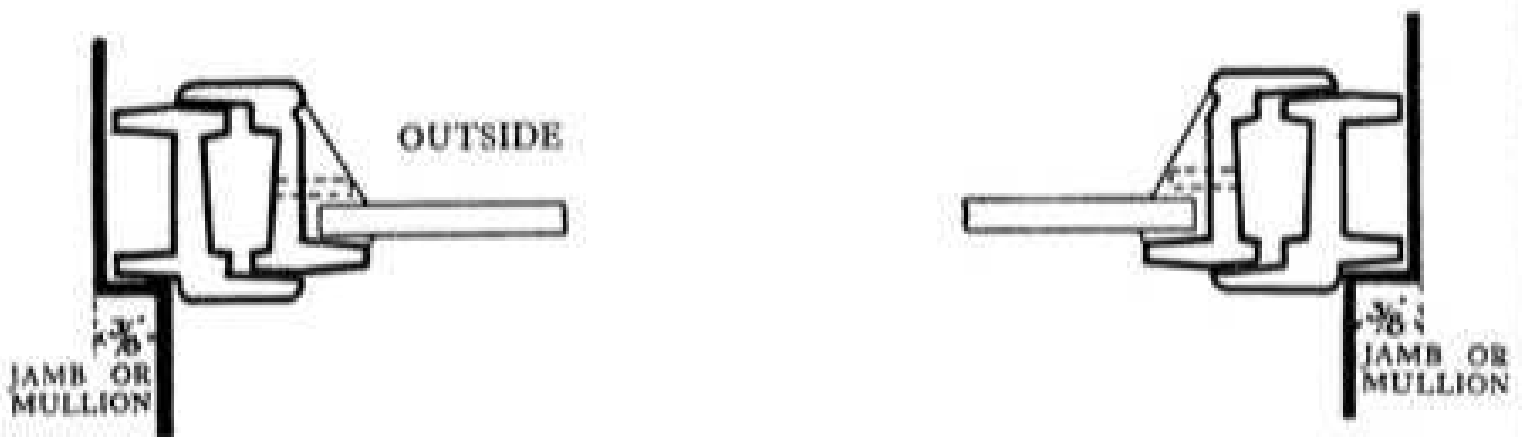
# SIDE HUNG OPEN OUT

Fitted with handle, plate and peg-stay. Casements 5ft.6 in height and over fitted with two-throw catch handle.

| Size of Section.   | Size not exceeding:<br>Height.    Width. | D    | C    | B    | A     |
|--------------------|--|------|------|------|-------|
| Small<br>Section.  | 2ft.0 × 2ft.0                            | 24/- | 29/- | 36/6 | 55/-  |
|                    | 3ft.0 × 2ft.0                            | 25/- | 30/- | 37/6 | 56/6  |
|                    | 4ft.0 × 2ft.0                            | 26/- | 31/- | 38/6 | 58/-  |
|                    | 5ft.0 × 2ft.0                            | 30/- | 35/- | 42/6 | 64/-  |
| Medium<br>Section. | 5ft.6 × 2ft.0                            | 44/- | 50/- | 60/- | 90/-  |
|                    | 6ft.0 × 2ft.0                            | 47/- | 53/- | 63/- | 95/-  |
|                    | 6ft.0 × 2ft.6<br>or<br>6ft.6 × 2ft.0     | 50/- | 56/- | 66/- | 100/- |
| Large<br>Section.  | 7ft.0 × 2ft.0                            | 60/- | 67/- | 80/- | 120/- |
|                    | 8ft.0 × 2ft.0                            | 66/- | 73/- | 88/6 | 132/6 |
|                    | 8ft.0 × 2ft.6                            | 69/- | 76/- | 92/6 | 139/- |
|                    | 8ft.0 × 3ft.0<br>or<br>9ft.0 × 2ft.0     | 72/6 | 80/- | 96/6 | 145/- |
|                    |  |      |      |      |       |



## TOP HUNG OPEN OUT



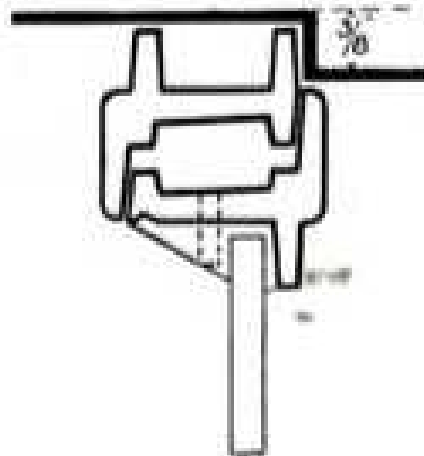
# CRITTALL UNIVERSAL CASEMENTS (Patented)

## TOP HUNG OPEN OUT

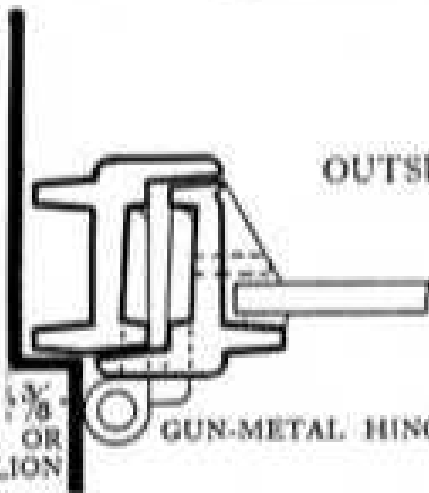
Fitted with peg stay or ~~iron~~ projecting sliding opener (suitable for Casements up to 2ft.6 wide) pulley, cleat and cords.

| Size of Section.   | Size not exceeding.<br>Height. Weight. | D    | C    | B    | A     |
|--------------------|--|------|------|------|-------|
| Small<br>Section.  | 2ft.0 × 2ft.0                          | 23/- | 27/- | 33/- | 49/6  |
|                    | 3ft.0 × 2ft.0                          | 24/- | 28/- | 34/- | 51/-  |
|                    | 3ft.0 × 3ft.0                          | 28/- | 32/- | 39/- | 58/6  |
|                    | 3ft.0 × 4ft.0                          | 33/6 | 37/6 | 45/- | 67/6  |
| Medium<br>Section. | 3ft.6 × 4ft.0                          | 37/- | 41/- | 49/- | 73/6  |
|                    | 3ft.6 × 4ft.6                          | 40/- | 44/- | 52/6 | 79/-  |
|                    | 3ft.6 × 5ft.0<br>or<br>4ft.0 × 4ft.6   | 43/- | 47/- | 56/- | 84/-  |
| Large<br>Section.  | 4ft.0 × 5ft.0                          | 47/- | 52/- | 62/- | 93/-  |
|                    | 4ft.0 × 5ft.6                          | 50/- | 55/- | 65/- | 97/6  |
|                    | 5ft.0 × 6ft.0                          | 56/- | 61/- | 72/- | 108/- |
|                    | 6ft.0 × 6ft.0                          | 62/6 | 67/6 | 80/- | 120/- |

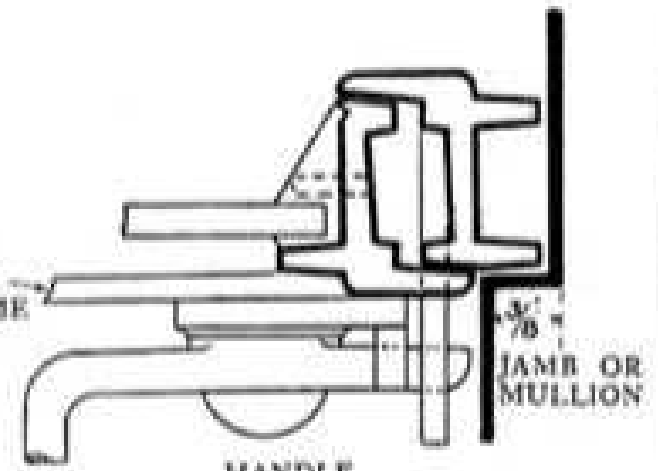
HEAD OR TRANSOME



# SIDE HUNG OPEN IN

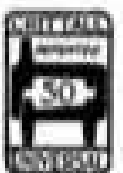
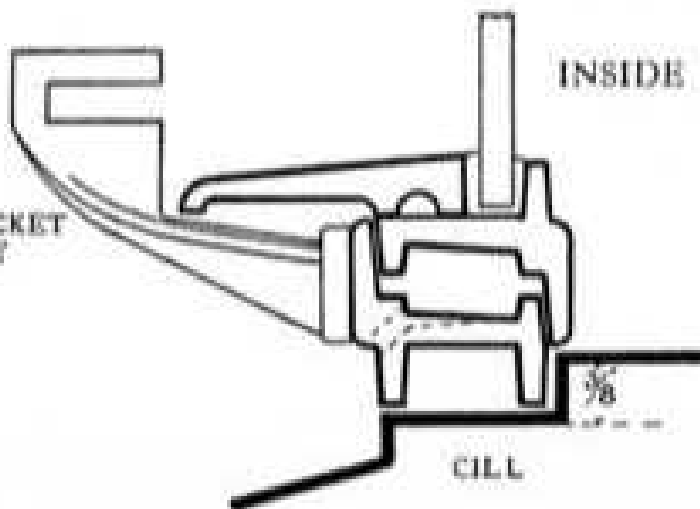


HANDLE PLATE  
WELDED TO FRAME



INSIDE

GUN METAL BRACKET  
FOR PEG STAY



# CRITTALL UNIVERSAL CASEMENTS (Patented)

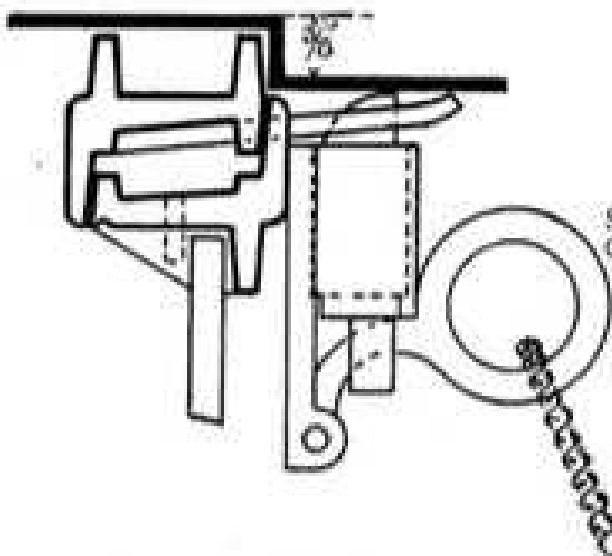
## SIDE HUNG OPEN IN

Fitted with handle, plate and peg-stay. Casements 5ft.6 in height and over fitted with two-throw catch handle.

| Size of Section.   | Size not exceeding:<br>Height. Width.    | D    | C    | H     | A     |
|--------------------|--|------|------|-------|-------|
| Small<br>Section.  | 2ft.0 × 2ft.0                            | 26/6 | 31/6 | 39/-  | 58/6  |
|                    | 3ft.0 × 2ft.0                            | 27/6 | 32/6 | 40/-  | 60/-  |
|                    | 4ft.0 × 2ft.0                            | 28/6 | 33/6 | 41/-  | 61/6  |
|                    | 5ft.0 × 2ft.0                            | 32/6 | 37/6 | 45/-  | 67/6  |
| Medium<br>Section. | 5ft.6 × 2ft.0                            | 46/6 | 52/6 | 62/6  | 94/-  |
|                    | 6ft.0 × 2ft.0                            | 49/6 | 55/6 | 65/6  | 98/6  |
|                    | 6ft.0 × 2ft.6 }<br>or<br>6ft.6 × 2ft.0 } | 52/6 | 58/6 | 68/6  | 103/- |
| Large<br>Section.  | 7ft.0 × 2ft.0                            | 64/- | 71/- | 84/-  | 126/- |
|                    | 8ft.0 × 2ft.0                            | 70/- | 77/- | 92/6  | 138/6 |
|                    | 8ft.0 × 2ft.6                            | 73/- | 80/- | 96/6  | 145/- |
|                    | 8ft.0 × 3ft.0 }<br>or<br>9ft.0 × 2ft.0 } | 76/6 | 84/- | 101/- | 151/- |

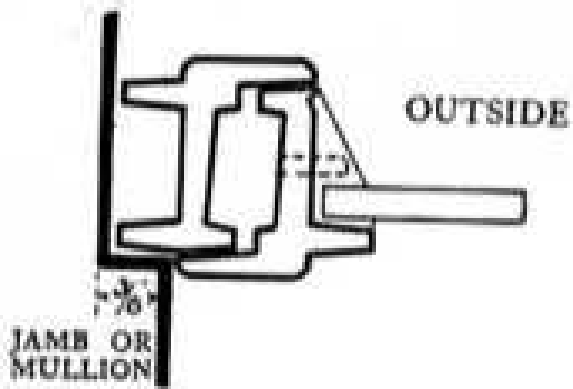


HEAD OR TRANSOME



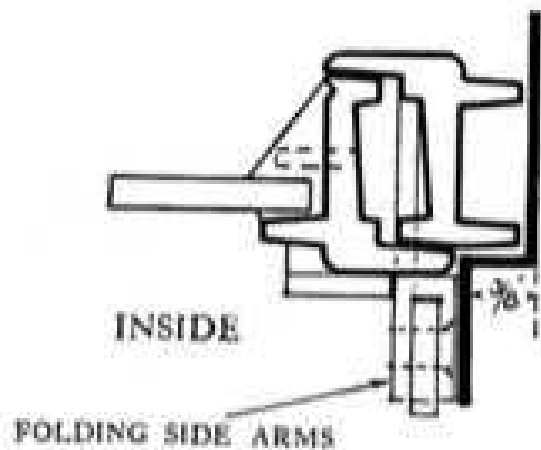
SPRING CATCH FOR CORDS OR LONGARM

# BOTTOM HUNG OPEN IN



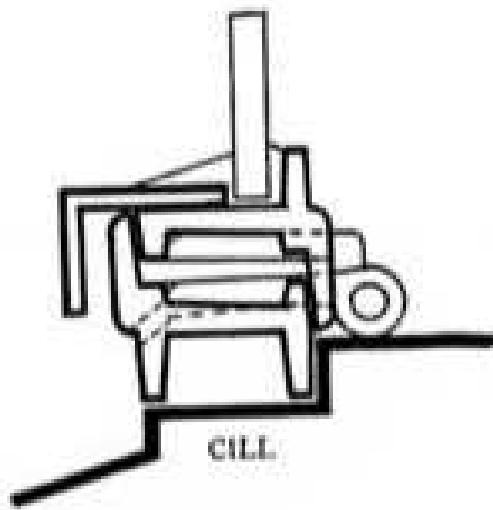
OUTSIDE

JAMB OR MULLION



INSIDE

FOLDING SIDE ARMS



CILL



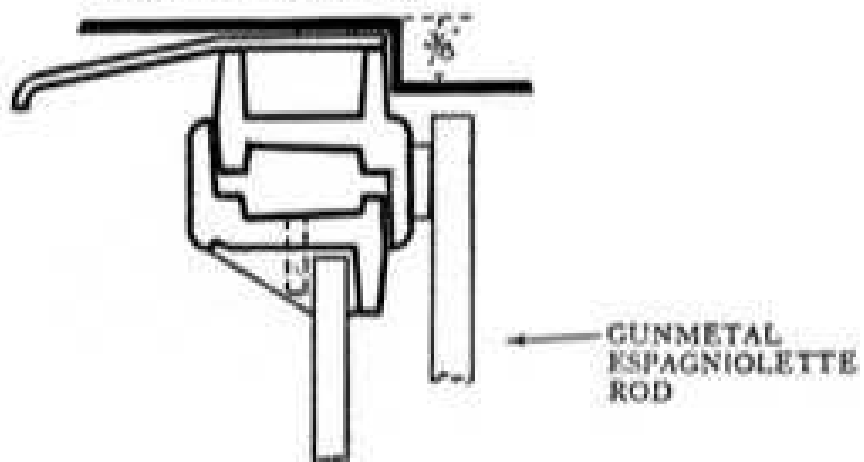
# CRITTALL UNIVERSAL CASEMENTS (Patented)

## BOTTOM HUNG OPEN IN

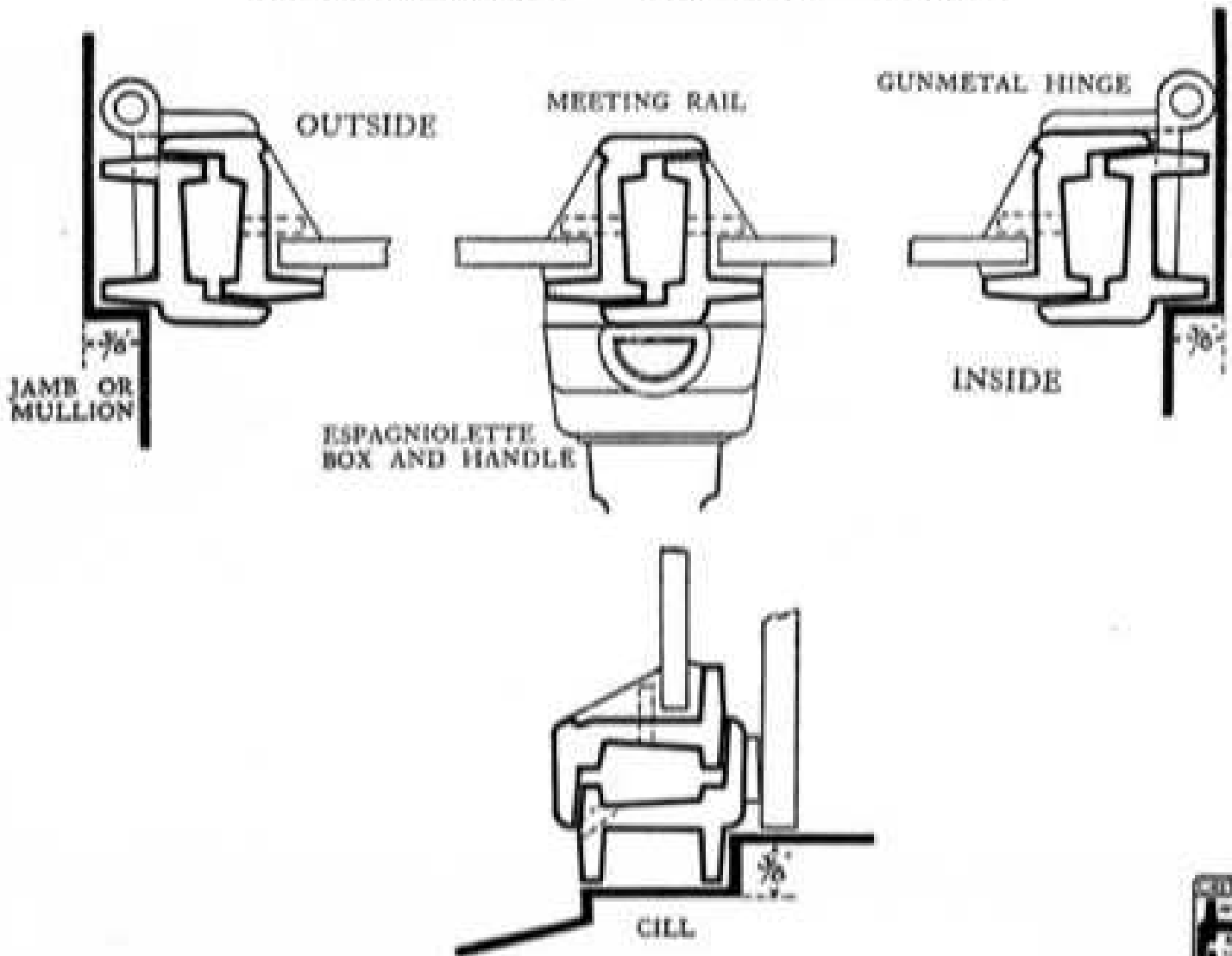
Fitted with spring catch for long arm, or with cleat and cords and folding side arms.

| Size of Section.   | Sizes not exceeding—<br>Height.      Width. | D    | C    | B    | A     |
|--------------------|---|------|------|------|-------|
| Small<br>Section.  | 2ft.0 × 2ft.0                               | 27/- | 32/- | 40/- | 60/-  |
|                    | 3ft.0 × 2ft.0                               | 28/- | 33/- | 41/- | 61/6  |
|                    | 3ft.0 × 3ft.0                               | 32/- | 37/- | 45/- | 67/6  |
|                    | 3ft.0 × 4ft.0                               | 36/- | 41/- | 49/- | 73/6  |
| Medium<br>Section. | 3ft.6 × 4ft.0                               | 43/- | 49/- | 59/- | 88/6  |
|                    | 3ft.6 × 4ft.6                               | 46/- | 52/- | 62/- | 93/-  |
|                    | 3ft.6 × 5ft.0<br>or<br>4ft.0 × 4ft.6        | 49/- | 55/- | 65/- | 97/6  |
| Large<br>Section.  | 4ft.0 × 5ft.0                               | 53/- | 59/- | 69/- | 103/6 |
|                    | 4ft.0 × 5ft.6                               | 56/- | 62/- | 72/6 | 109/- |
|                    | 5ft.0 × 6ft.0                               | 63/- | 69/- | 82/6 | 124/- |
|                    | 6ft.0 × 6ft.0                               | 70/- | 76/- | 92/6 | 139/- |

HEAD OR TRANSOME



## FOLDING OPEN OUT

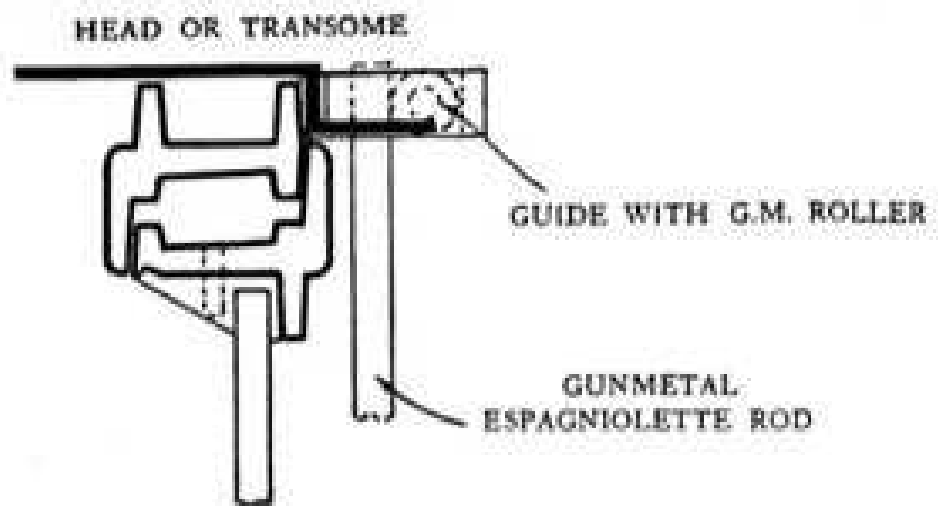


# CRITTALL UNIVERSAL CASEMENTS (Patented)

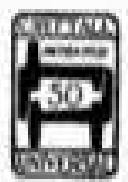
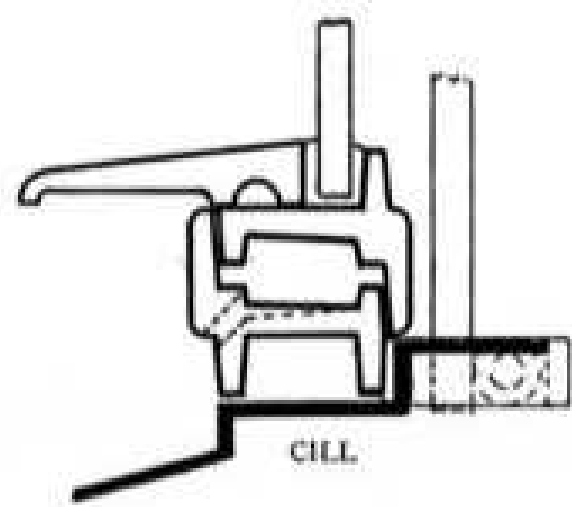
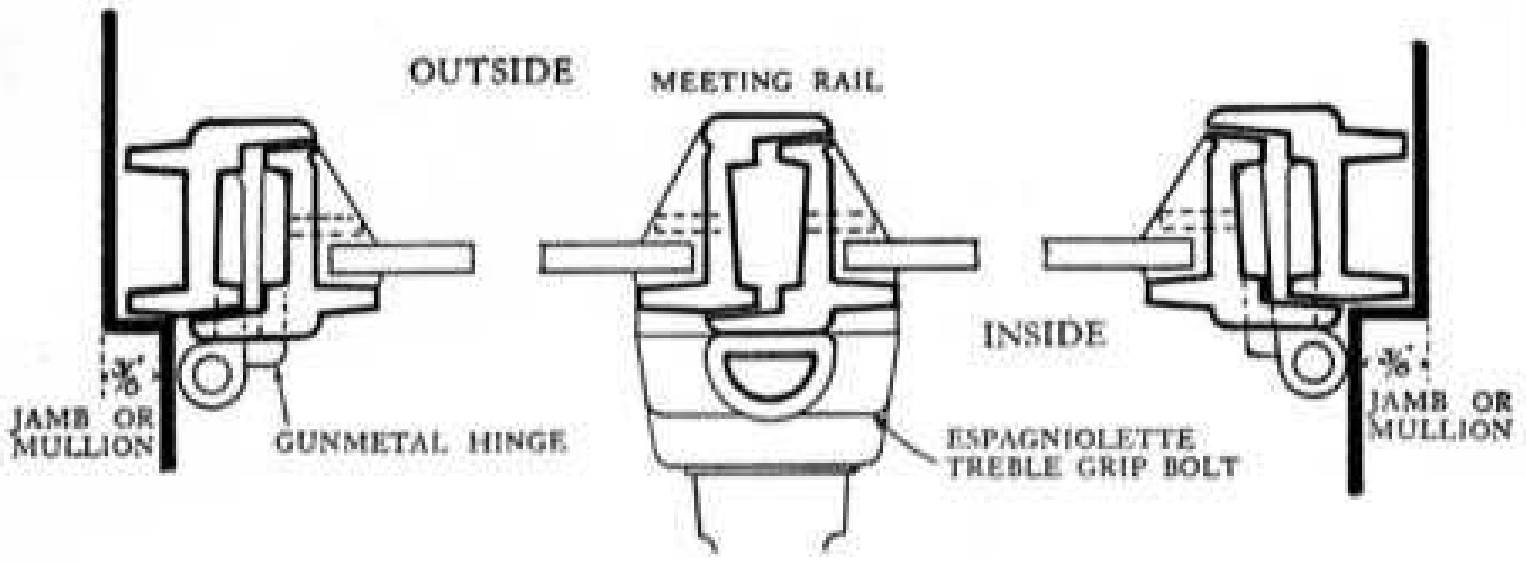
## FOLDING TO OPEN OUT

Fitted with espagnolette bolts and handles, and peg-stay to each leaf.

| Size of Section.   | Sizes not exceeding<br>Height. Width. | D     | C     | B     | A     |
|--------------------|---------------------------------------|-------|-------|-------|-------|
| Small<br>Section.  | 3ft.0 x 4ft.0                         | 65/-  | 75/-  | 90/-  | 135/- |
|                    | 4ft.0 x 4ft.0                         | 67/6  | 77/6  | 92/6  | 140/- |
|                    | 5ft.0 x 4ft.0                         | 72/6  | 82/6  | 97/6  | 147/6 |
| Medium<br>Section. | 5ft.6 x 4ft.0                         | 83/-  | 95/-  | 115/- | 172/6 |
|                    | 6ft.0 x 4ft.0                         | 88/-  | 100/- | 120/- | 180/- |
|                    | 6ft.0 x 5ft.0<br>or<br>7ft.0 x 4ft.0  | 98/-  | 110/- | 130/- | 195/- |
| Large<br>Section.  | 7ft.0 x 5ft.0                         | 108/6 | 122/6 | 148/- | 222/- |
|                    | 8ft.0 x 5ft.0                         | 118/6 | 132/6 | 158/- | 237/- |
|                    | 8ft.0 x 5ft.6                         | 123/6 | 137/6 | 163/- | 244/6 |
|                    | 8ft.0 x 6ft.0<br>or<br>9ft.0 x 5ft.0  | 128/6 | 142/6 | 168/- | 252/- |



# FOLDING OPEN IN



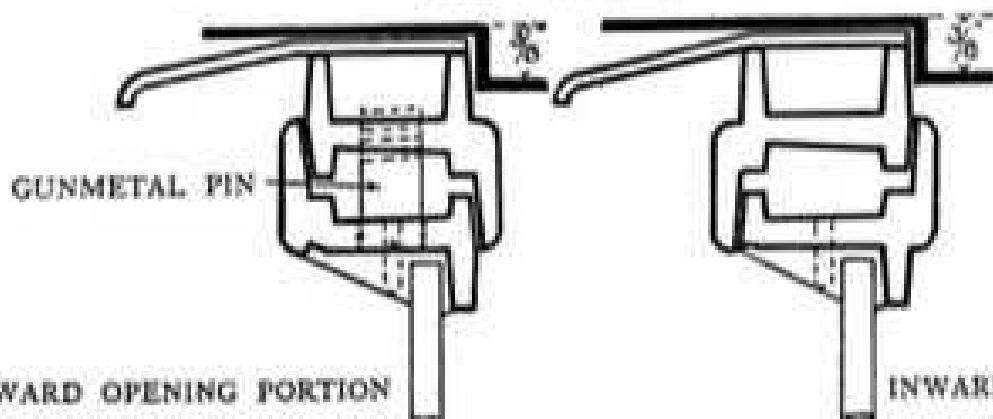
## CRITTALL UNIVERSAL CASEMENTS (Patented)

# FOLDING TO OPEN IN

Fitted with espagnolette bolts and handles, and peg-stay to each leaf.

| Size of Section.   | Size not exceeding:<br>Height.      Width. | D     | C     | B     | A     |
|--------------------|--|-------|-------|-------|-------|
| Small<br>Section.  | 3ft.0 × 4ft.0                              | 70/-  | 80/-  | 95/-  | 142/6 |
|                    | 4ft.0 × 4ft.0                              | 72/6  | 82/6  | 97/6  | 147/6 |
|                    | 5ft.0 × 4ft.0                              | 77/6  | 87/6  | 102/6 | 155/- |
| Medium<br>Section. | 5ft.6 × 4ft.0                              | 88/-  | 100/- | 120/- | 180/- |
|                    | 6ft.0 × 4ft.0                              | 93/-  | 105/- | 125/- | 187/6 |
|                    | 6ft.0 × 5ft.0 }<br>or<br>7ft.0 × 4ft.0 }   | 103/- | 115/- | 135/- | 202/6 |
| Large<br>Section.  | 7ft.0 × 5ft.0                              | 116/6 | 130/6 | 156/- | 234/- |
|                    | 8ft.0 × 5ft.0                              | 126/6 | 140/6 | 166/- | 249/- |
|                    | 8ft.0 × 5ft.6                              | 131/6 | 145/6 | 171/- | 256/6 |
|                    | 8ft.0 × 6ft.0 }<br>or<br>9ft.0 × 5ft.0 }   | 136/6 | 150/6 | 176/- | 264/- |

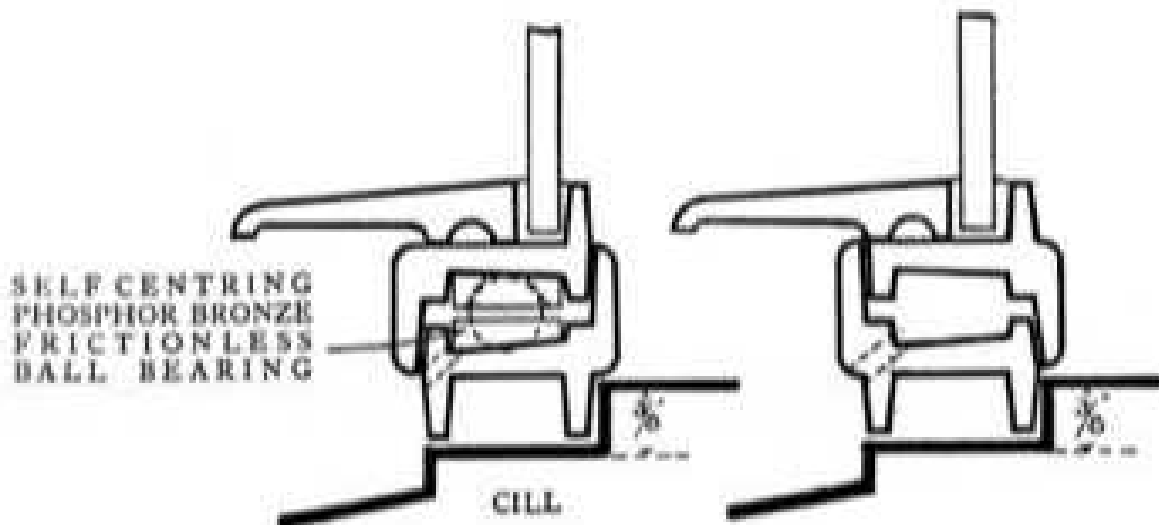
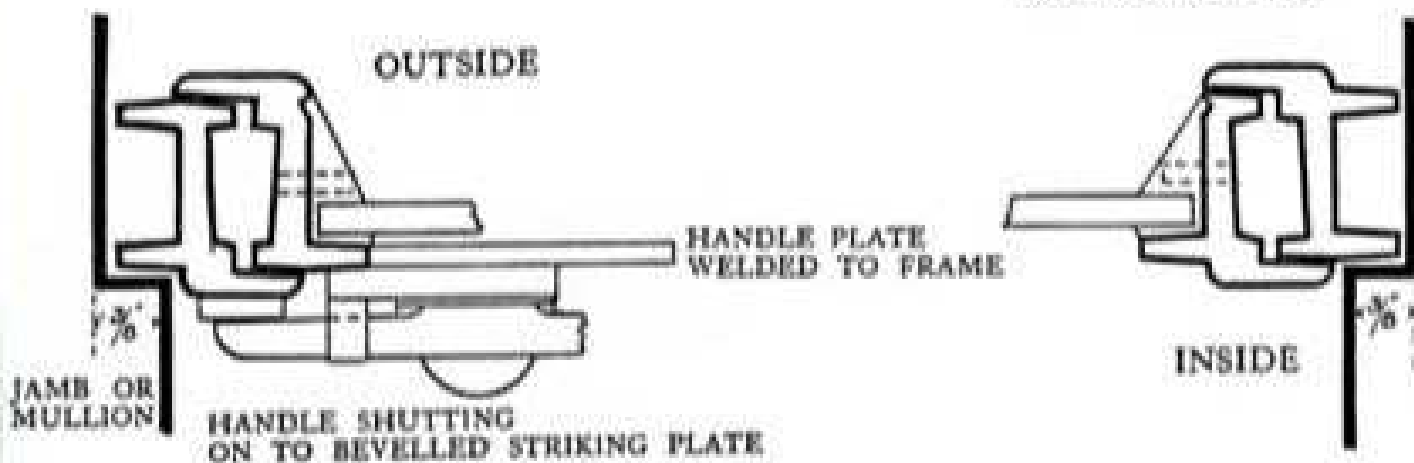
HEAD OR TRANSOME



# VERTICAL CENTRE HUNG

(Patented)

UNLESS OTHERWISE SPECIFIED ALL V.C.H. CASEMENTS ARE HUNG AT 75° THE WIDTH, THE LARGER PORTION OPENING OUT



# CRITTALL UNIVERSAL CASEMENTS (Patented)

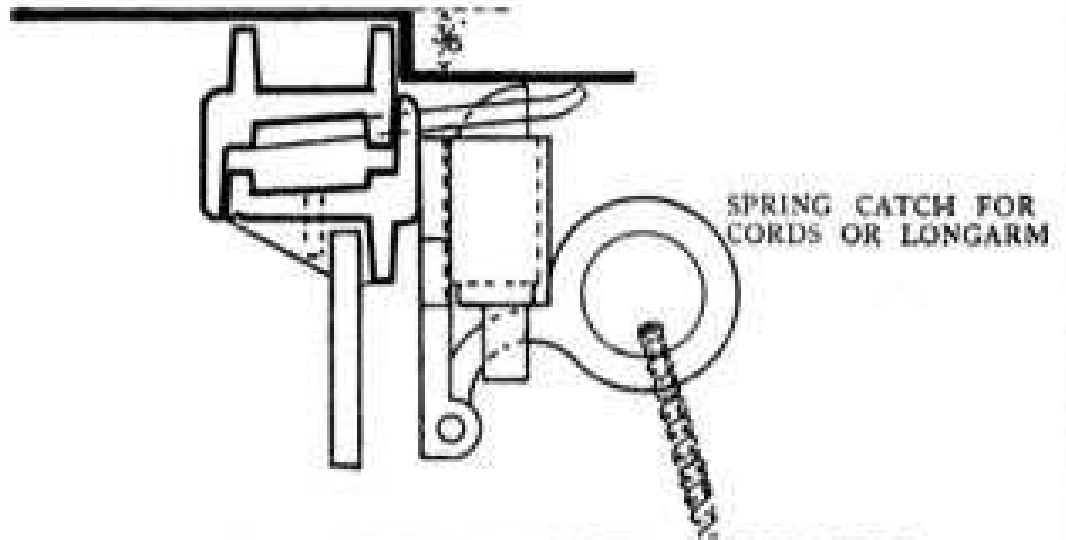
## VERTICAL CENTRE HUNG

Fitted with handle, plate and peg-stay. Casements 5ft.6 in height and over fitted with two-throw catch handle.

| Size of Section.   | Sizes not exceeding—<br>Height. Width. | D    | C     | B     | A     |
|--------------------|--|------|-------|-------|-------|
| Small<br>Section.  | 2ft.0 × 2ft.0                          | 38/- | 43/-  | 53/-  | 80/-  |
|                    | 3ft.0 × 2ft.0                          | 39/- | 44/-  | 54/-  | 81/-  |
|                    | 4ft.0 × 2ft.0                          | 40/- | 45/-  | 55/-  | 82/6  |
|                    | 5ft.0 × 2ft.0                          | 44/- | 49/-  | 59/-  | 88/6  |
|                    | 5ft.0 × 3ft.0<br>or<br>6ft.0 × 2ft.0   | 50/- | 55/-  | 65/-  | 97/6  |
| Medium<br>Section. | 6ft.0 × 2ft.6                          | 63/- | 69/-  | 83/-  | 124/6 |
|                    | 6ft.0 × 3ft.0                          | 66/- | 72/-  | 87/6  | 131/6 |
|                    | 6ft.0 × 3ft.6<br>or<br>7ft.0 × 2ft.6   | 69/- | 75/-  | 91/6  | 137/6 |
| Large<br>Section.  | 6ft.6 × 3ft.6                          | 76/- | 86/-  | 103/- | 154/6 |
|                    | 6ft.6 × 4ft.0                          | 79/6 | 89/6  | 107/- | 161/- |
|                    | 7ft.6 × 4ft.0                          | 86/6 | 96/6  | 115/- | 172/6 |
|                    | 7ft.6 × 4ft.6<br>or<br>8ft.0 × 4ft.0   | 90/- | 100/- | 119/- | 178/6 |

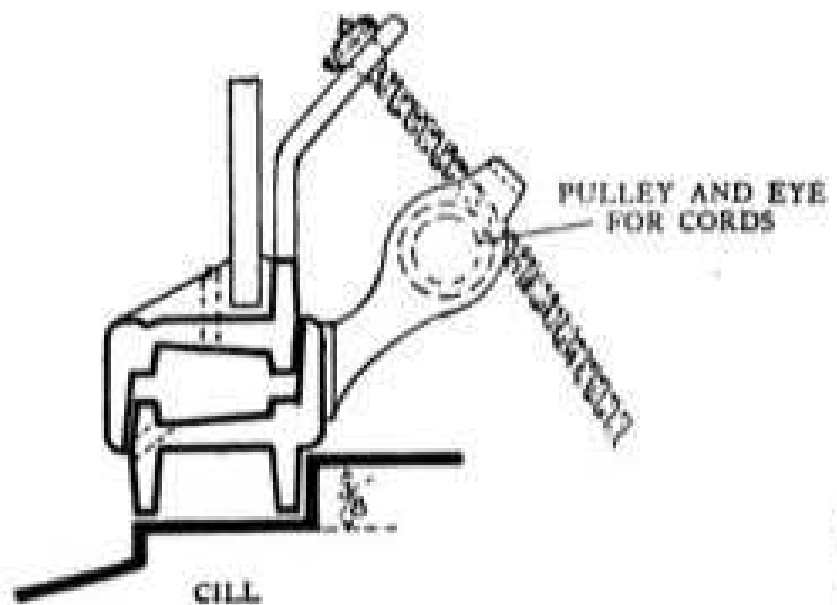
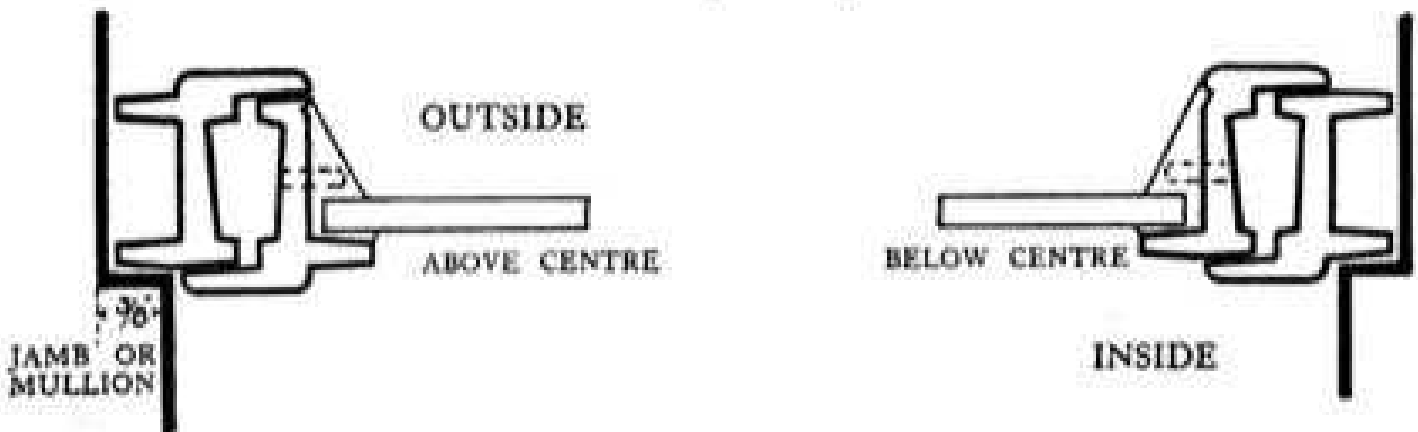


HEAD OR TRANSOME



# HORIZONTAL CENTRE HUNG

(Patented)



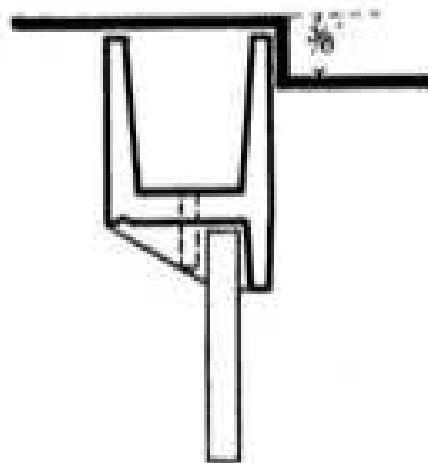
# CRITTALL UNIVERSAL CASEMENTS (Patented)

## HORIZONTAL CENTRE HUNG

Fitted with peg-stay or spring catch and cords.

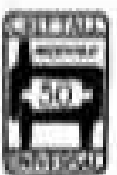
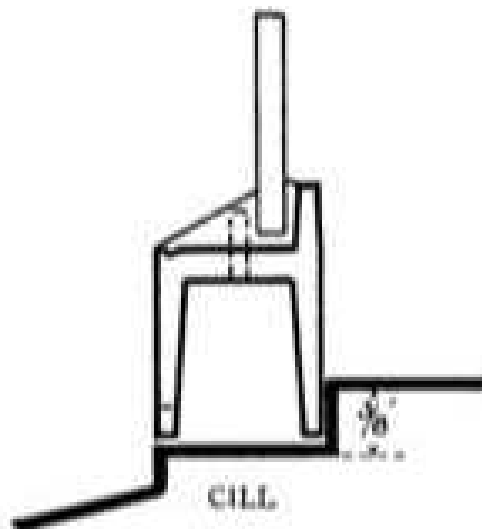
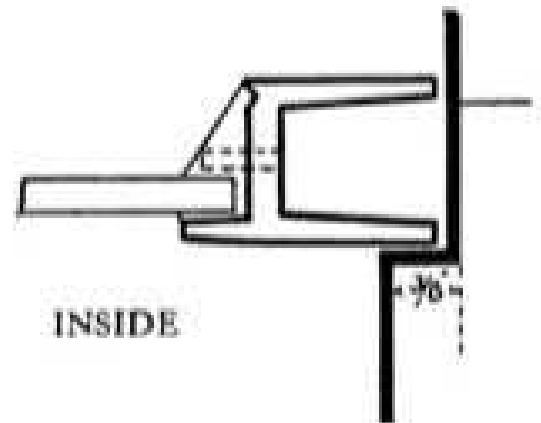
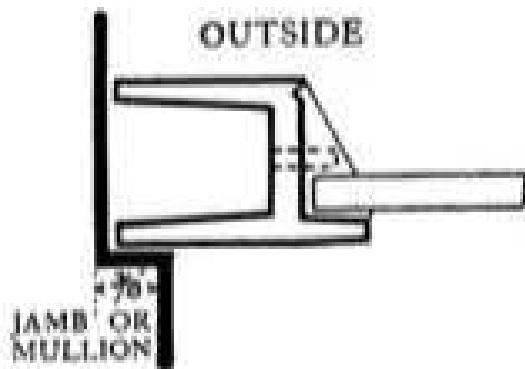
| Size of Section.   | Size not exceeding<br>Height. Width.     | D    | C    | B    | A     |
|--------------------|--|------|------|------|-------|
| Small<br>Section.  | 2ft.0 × 2ft.0                            | 31/- | 34/6 | 42/- | 63/-  |
|                    | 3ft.0 × 2ft.0                            | 32/- | 35/6 | 43/- | 64/6  |
|                    | 3ft.0 × 2ft.6                            | 34/- | 37/6 | 45/- | 67/6  |
|                    | 3ft.0 × 3ft.0                            | 36/- | 39/6 | 47/- | 70/6  |
| Medium<br>Section. | 4ft.0 × 2ft.6                            | 36/6 | 40/- | 47/6 | 71/6  |
|                    | 4ft.0 × 3ft.0                            | 39/6 | 43/- | 53/- | 79/6  |
|                    | 4ft.0 × 3ft.6 }<br>or<br>4ft.6 × 3ft.0 } | 42/6 | 46/- | 56/- | 84/-  |
|                    | 4ft.0 × 4ft.0                            | 49/6 | 53/6 | 63/6 | 95/6  |
| Large<br>Section.  | 4ft.6 × 4ft.0                            | 53/- | 57/- | 67/- | 100/- |
|                    | 4ft.6 × 4ft.6 }<br>or<br>5ft.0 × 4ft.0 } | 58/- | 62/- | 72/6 | 110/- |
|                    |  |      |      |      |       |

HEAD OR TRANSOME



## FIXED LIGHTS

OUTSIDE



# CRITTALL UNIVERSAL CASEMENTS (Patented)

## FIXED LIGHTS

to match sight, rebate and glass line with Casements.

| Size of Section.   | Sizes not exceeding.<br>Height. Width.   | D    | C    | B    | A    |
|--------------------|--|------|------|------|------|
| Small<br>Section.  | 2ft.0 × 2ft.0                            | 6/-  | 6/-  | 8/-  | 12/- |
|                    | 3ft.0 × 2ft.0                            | 7/-  | 7/-  | 9/-  | 13/6 |
|                    | 4ft.0 × 2ft.0                            | 8/-  | 8/-  | 10/- | 15/- |
|                    | 5ft.0 × 2ft.0                            | 10/- | 10/- | 11/- | 16/6 |
| Medium<br>Section. | 5ft.6 × 2ft.0                            | 12/- | 12/- | 15/6 | 23/6 |
|                    | 6ft.0 × 2ft.0                            | 13/6 | 13/6 | 17/- | 25/6 |
|                    | 6ft.0 × 2ft.6 }<br>or<br>6ft.6 × 2ft.0 } | 15/- | 15/- | 18/6 | 28/- |
|                    | 7ft.0 × 2ft.0                            | 17/- | 17/- | 22/- | 33/- |
| Large<br>Section.  | 8ft.0 × 2ft.0                            | 19/- | 19/- | 24/- | 36/- |
|                    | 8ft.0 × 2ft.6                            | 20/- | 20/- | 25/- | 37/6 |
|                    | 8ft.0 × 3ft.0 }<br>or<br>9ft.0 × 2ft.0 } | 21/- | 21/- | 26/- | 39/- |
|                    |  |      |      |      |      |
|                    |  |      |      |      |      |

# CASEMENT CONNECTIONS

The following details have been got out with a view to showing the various methods of making connections and constructing composite windows with our Casements.

Detail "A" shows a joint between a fixed and opening portion giving an extremely small sight line at the meeting bar.

Detail "B" shows our Tee Construction for joining two separate units and can be used in conjunction with "A"; forming transome as "A" and mullion as "B"; or alternatively for a large fixed sash of the Tee Section with "Penestra" cross joints and putting separate casements into various panes, and for the fixed portions either glazing direct into the Tee or putting a separate fixed light frame if it is necessary that the whole should be of uniform sight line.

Detail "C" is used in conjunction with "B" where the Tee Section would not be sufficiently stiff.

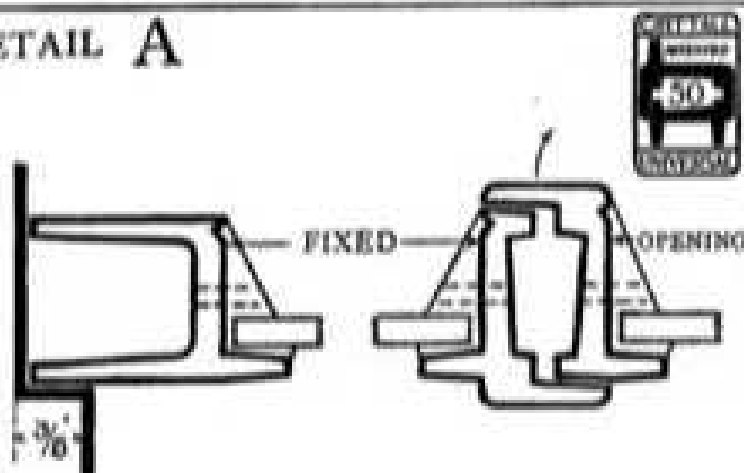
Notice should be taken of the countersunk bolts shown on these two details, which enable composite windows of any dimension to be sent in separate units and erected on site.

Detail "D" is a stiffer form of "C."

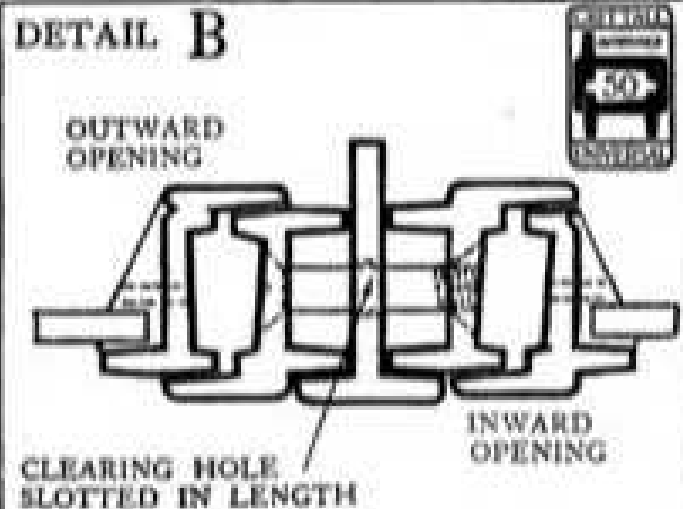
Detail "E" is used where a heavy effect is required or a particularly large opening is to be filled. The plain sunk panel shown can be elaborated by mouldings if preferred.

In composite openings the shorter connecting bar (transome or mullion) to be continuous, and if possible both transome and mullion should be run into the masonry, but if this is not convenient, cleats or dowels should be used. All details can be taken either as transome or mullion, and are applicable either in small, medium or large sections.

## DETAIL A



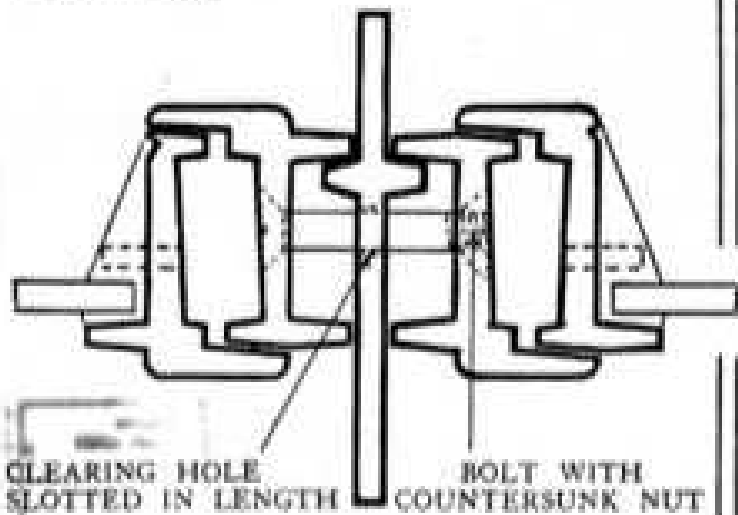
## DETAIL B



# CRITTALL No. 50 SECTION UNIVERSAL CASEMENTS

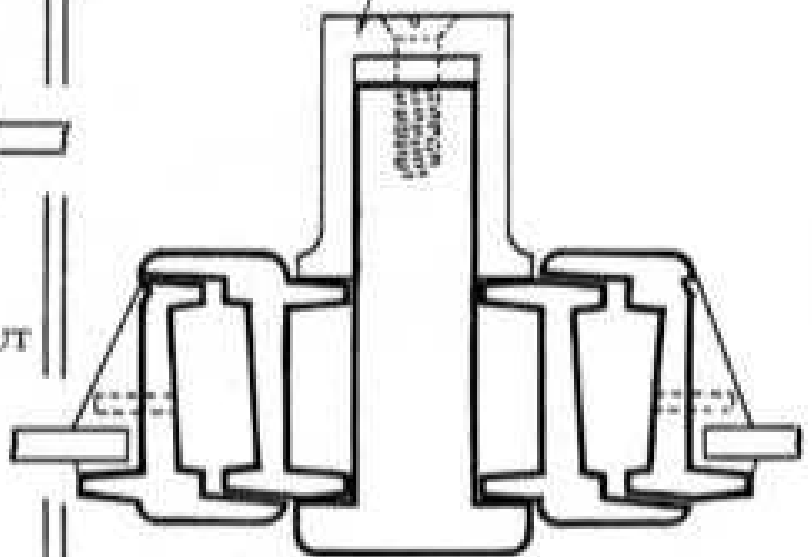
(Patented)

DETAIL C



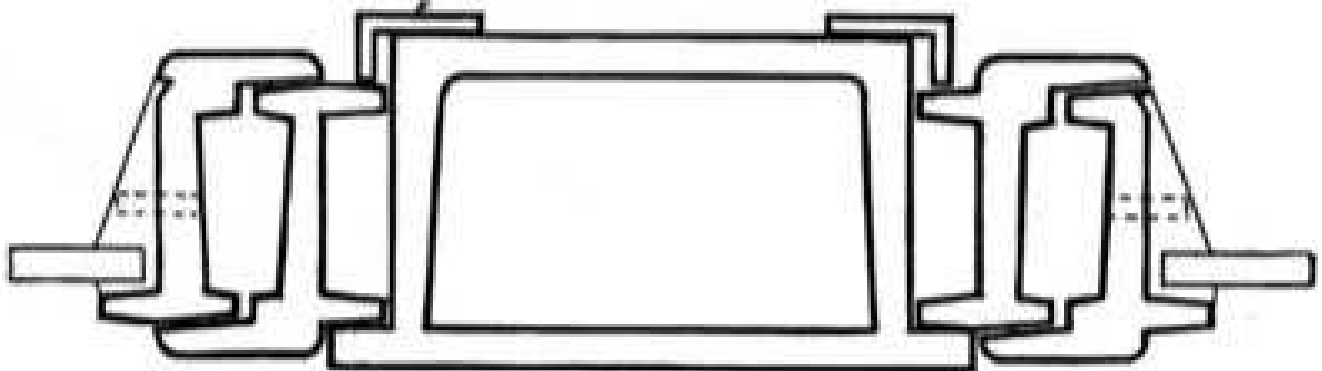
DETAIL D

GUNMETAL CLIP  $1\frac{1}{2}$  LONG  
SPACED NOT MORE THAN  
3'-0" APART.



DETAIL E

ANGLES REMOVABLE  
FOR FIXING CASEMENTS



THIS DETAIL CAN ALSO BE USED FOR FRAMING  
AND IS SPECIALLY SUITABLE FOR DEEP REBATES



## FIXING DETAILS & PREPARATION OF WORK

The following details show the Crittall Universal Casement applied to six different preparations of work covering the more usual practice in brick and concrete work.

As before mentioned, all Casements are designed to go into a  $\frac{3}{16}$  in. outside rebate all round whether opening outward or inward, providing where necessary, an efficient bond for plaster. Although drawn in the small section, all these details are applicable for medium or large sections: dotted lines show inward opening Casements.

In all cases, a "fall" is desirable at the sill immediately below the frame, the position being regulated by the size of the section used (see detail No. 1).

All dimensions should be given as indicated, the Crittall Manufacturing Co. Ltd. making the necessary allowance, and in ordering it is preferable to send a full size section of head, jamba and sill of opening.

## FIXING & GLAZING INSTRUCTIONS

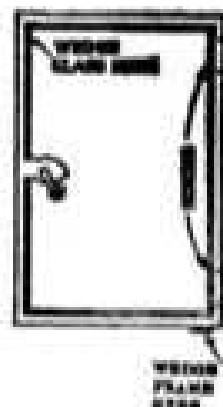
The erection, adjustment and glazing of metal Casements is of the utmost importance if satisfactory results are to be obtained. Wherever possible we prefer to undertake this ourselves and unless the following instructions are rigidly carried out we cannot hold ourselves responsible for the weathertightness of the Casements.

The erecting or fixing of Casements should be delayed until all heavier trades have left the site, and the openings are ready for glazing. Good work is often spoiled by unfair treatment at the hands of other trades, during the interval between erection and glazing. All frames should be set square in the opening on a flat sill, and if hung at the side, should be slightly wedged up under the hinge before screwing into position, otherwise trouble may be experienced in opening and closing when fixed. Casements should on no account be forced into an opening; if the opening is too small its dimensions should be increased. Lead or elm plugs are most suitable for fixing in stone or brickwork; lead should not be poured into the holes, nor should any plug be forced in, as the stonework may split. Pitch-pine or oak should never be used.

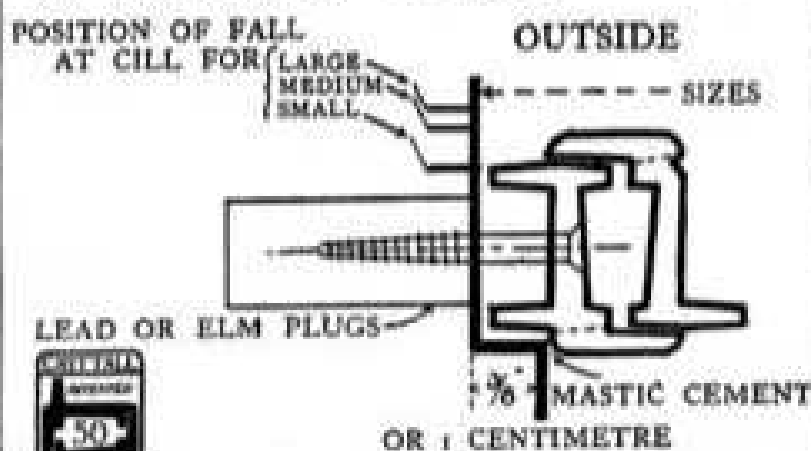
Fixing holes are drilled in the outer frame of all Casements; the position of plug holes can be marked off from these and then drilled by a mason. Fixing screws are sent with all Casements and care should be taken to tighten each screw uniformly in order to prevent distortion of the Casement. The fixed frame must be well bedded in mastic cement before fixing.

All glass should be well bedded in putty, both front and back, whether glazing heads are used or not.

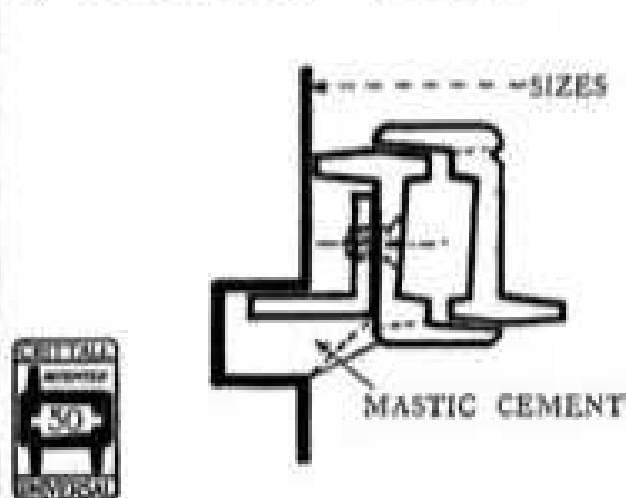
In glazing it is necessary to throw the weight of the glass on to the lower hinge corner; this can be done by small wood wedges, as shown in sketch.



### (1) REBATED WORK



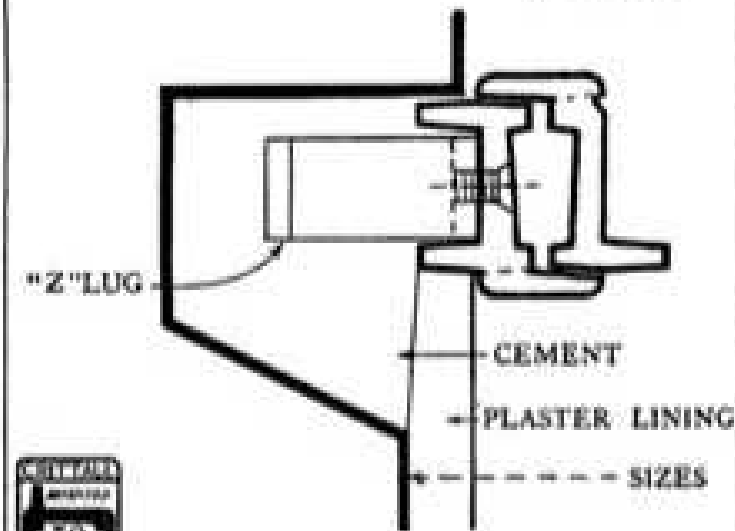
### (2) GROOVED WORK



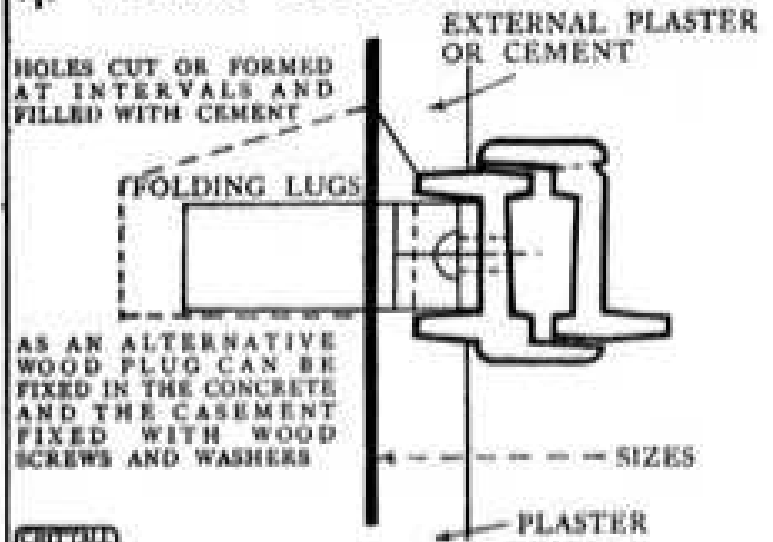
# CRITTALL No. 50 SECTION UNIVERSAL CASEMENTS

(Patented)

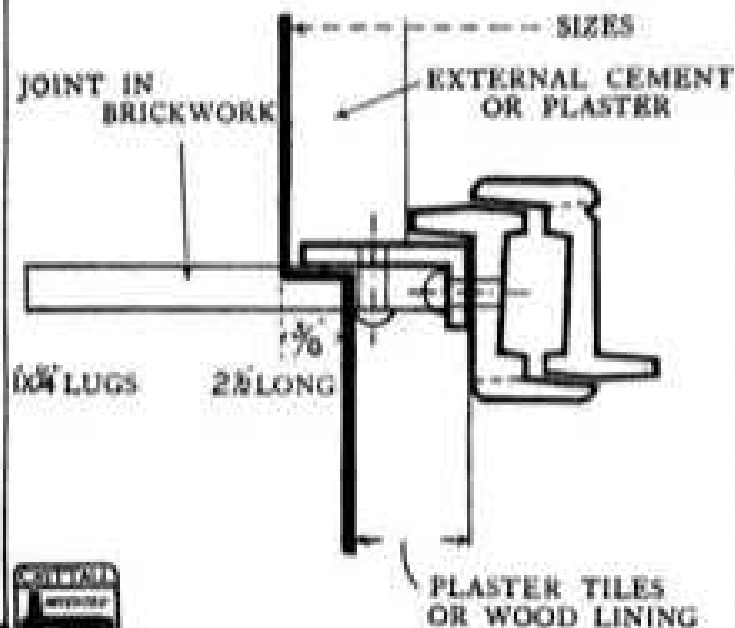
(3) REBATED CONCRETE  
OUTSIDE



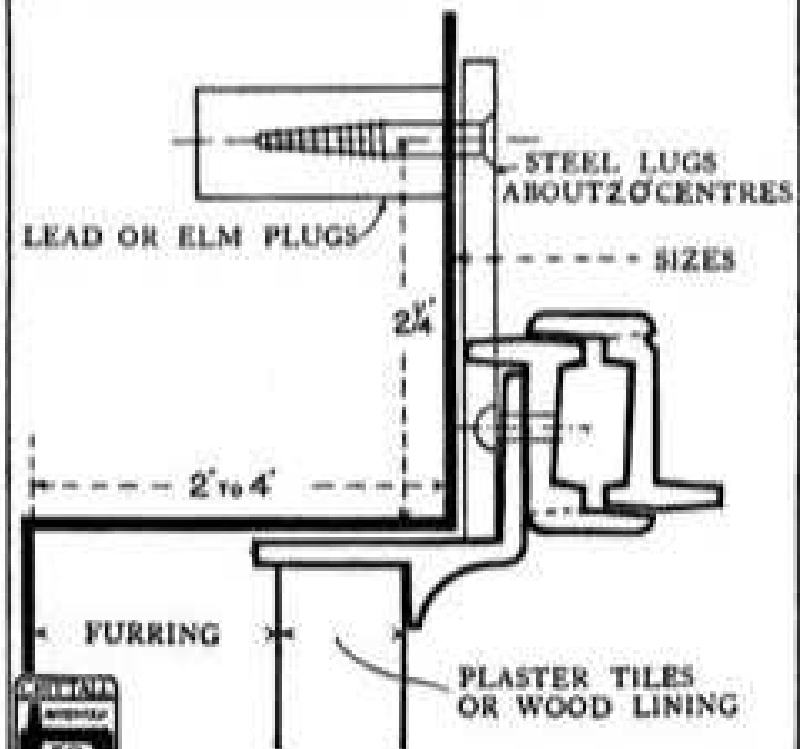
(4) FLUSH CONCRETE



(5) REBATED WORK  
WITH PLASTER

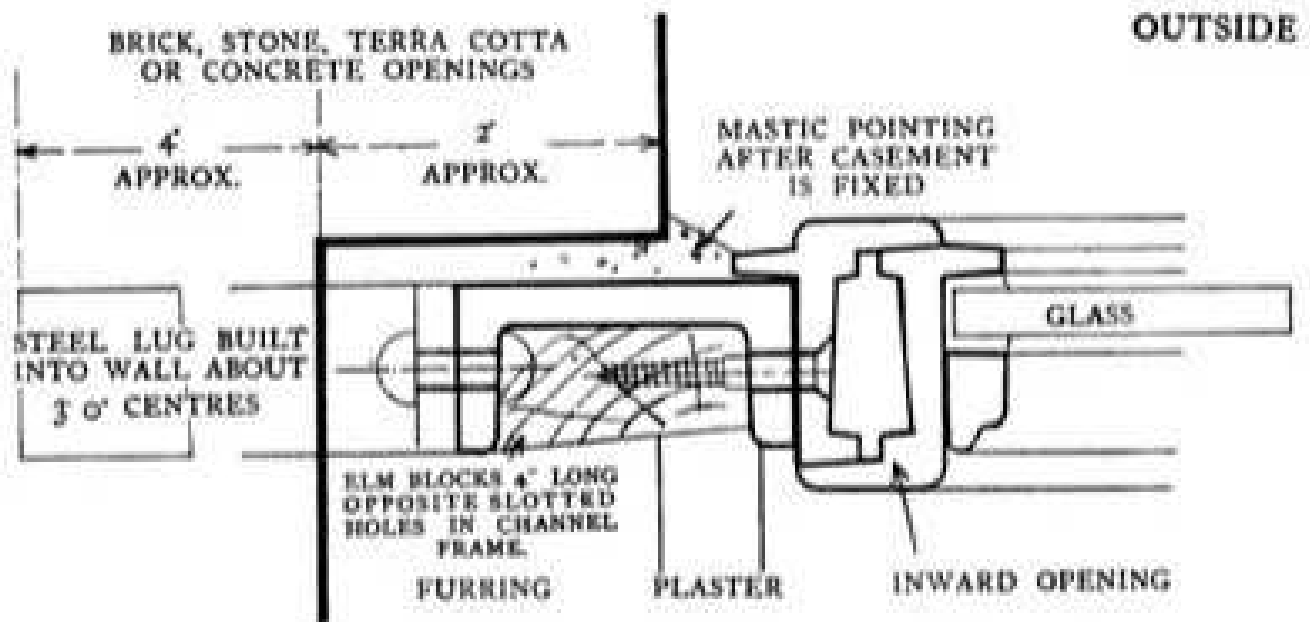


(6) FURRING DETAIL

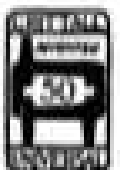
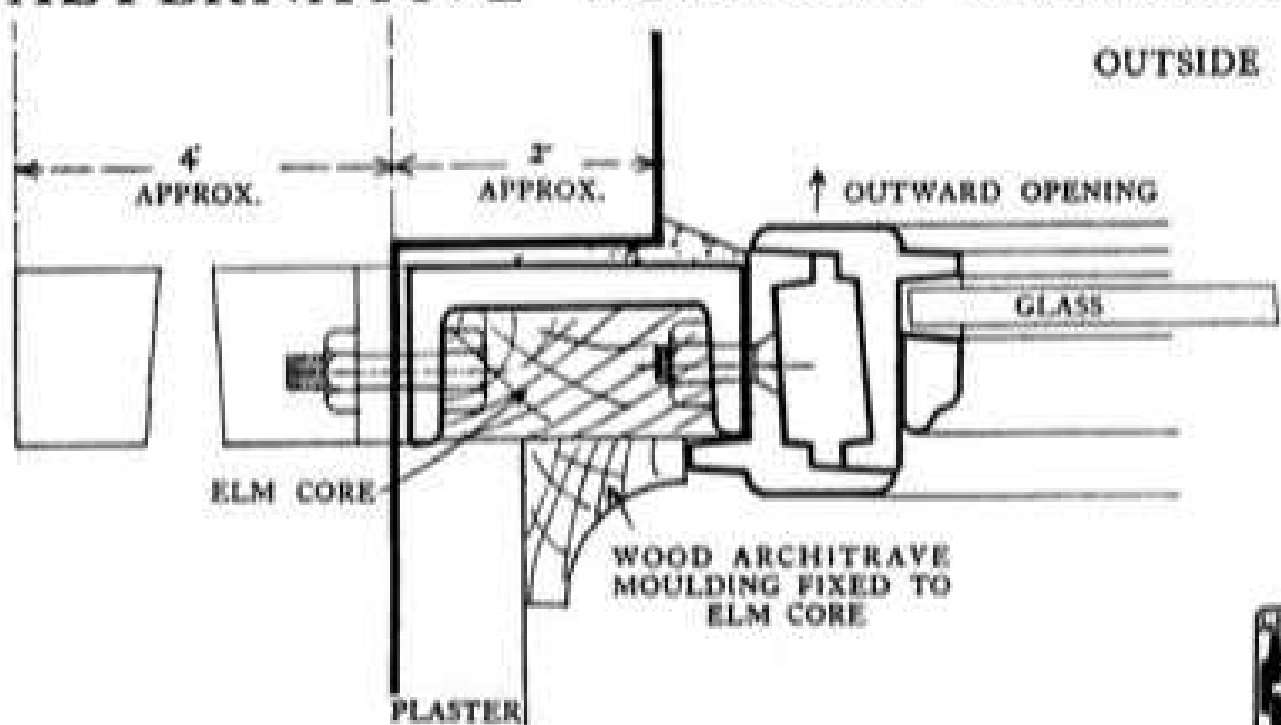




# SPECIAL DETAIL FOR INSTALLATION OF CRITTALL No. 50 SECTION UNIVERSAL CASEMENTS



## ALTERNATIVE WITHOUT FURRING



## CRITTALL UNIVERSAL CASEMENTS (Patented)

### SPECIAL DETAILS FOR INSTALLATION OF LARGE CASEMENTS

#### *Advantages.*

1. The brick, stone or concrete openings, including furring and plastering can be completed without waiting for Casements.
2. Material required involves no special sections, any small stock channel is suitable.
3. The detail covers inaccuracy in brickwork, concrete or other construction, so that no special accuracy is required to use Steel Casements. It also takes care of openings being out of plumb.
4. The detail forms a splendid key for plastering on the inside and pointing on the outside.
5. The detail gives the best possible fixing for the Casements themselves, and allows of adjustment to obtain the accurate "hang" of opening portions.

# CRITTALL "ECONOMIC" CASEMENTS

HUNG AT SIDE OR TOP TO OPEN OUT.

The "Economic" Casement is not meant to supersede the ordinary metal casement and frame, but is designed as a cheaper alternative to the "Universal" Section, for use in domestic buildings in conjunction with wood openings.

If properly fixed they are as weathertight as a self-contained casement, while the cost is little or no more than a wooden one, when such items as hinges, fittings and adjustment are taken into consideration.

## SPECIFICATION

**STEEL.** All steel used in the manufacture of "Economic" Casements is of the best quality, produced from our own rolls, hydraulically straightened and cleansed from rust and scale. All striking fillets are machined on the shutting edge.

**SECTIONS.** Made of "Flat Bar" Tee Section Nos. 27 and 30, or Moulded Channel Sections, Nos. 28 and 29. The striking fillets are moulded to break the joint in the rebate, and a double moulding is provided at cill to collect condensation.

**HINGES.** All hinges of solid drawn gunmetal with hardened steel pins.

**PREPARATION OF WORK.** Openings should be prepared as for Universal Casements— $\frac{1}{8}$  in. outside rebate all round.

It is preferable that the cill and transome should be of some good hardwood, while bass, whitewood, or pine can be used for jambs and mullions.

**JOINTS.** All joints and brackets for fittings are welded solid, no brazing being used for any purpose.

**FITTINGS.** Side hung casements are fitted with ornamental handle-plate and peg stay. Top hung casements are fitted with peg stay or lever opener for cords.

**GUARANTEE.** If properly fixed in well seasoned wood openings the Crittall "Economic" Casement will be guaranteed absolutely weathertight in all but the most exposed positions.

# SECTION No. 27

Tee Section without striking fillets.

## PRICES.

|                              | "D" Quality. | "C" Quality. |
|------------------------------|--------------|--------------|
| <b>SIDE HUNG.</b>            |              |              |
| Under 3ft.6 × 2ft.0 - -      | 12/6         | 18/-         |
| Over 3ft.6 × 2ft.0 - -       | 16/-         | 22/-         |
| <b>TOP HUNG.</b>             |              |              |
| Under 3ft.6 × 2ft.0 - -      | 12/6         | 16/-         |
| Over 3ft.6 × 2ft.0 - -       | 16/-         | 19/6         |
| <b>FIXED LIGHTS to match</b> |              |              |
| Under 3ft.6 × 2ft.0 - -      | 6/6          | 6/6          |
| Over 3ft.6 × 2ft.0 - -       | 8/6          | 8/6          |

# SECTION No. 28

Moulded section without striking fillets.

|                             |      |      |
|-----------------------------|------|------|
| <b>SIDE HUNG.</b>           |      |      |
| Under 3ft.6 × 2ft.0 - -     | 11/6 | 17/- |
| Over 3ft.6 × 2ft.0 - -      | 15/- | 21/- |
| <b>TOP HUNG.</b>            |      |      |
| Under 3ft.6 × 2ft.0 - -     | 11/6 | 15/- |
| Over 3ft.6 × 2ft.0 - -      | 15/- | 18/6 |
| <b>FIXED LIGHT to match</b> |      |      |
| Under 3ft.6 × 2ft.0 - -     | 6/6  | 6/6  |
| Over 3ft.6 × 2ft.0 - -      | 8/6  | 8/6  |

# SECTION No. 29

Moulded section with moulded striking fillets.

|                             |      |      |
|-----------------------------|------|------|
| <b>SIDE HUNG.</b>           |      |      |
| Under 3ft.6 × 2ft.0 - -     | 14/- | 20/- |
| Over 3ft.6 × 2ft.0 - -      | 20/- | 25/- |
| <b>TOP HUNG.</b>            |      |      |
| Under 3ft.6 × 2ft.0 - -     | 14/- | 17/6 |
| Over 3ft.6 × 2ft.0 - -      | 20/- | 23/6 |
| <b>FIXED LIGHT to match</b> |      |      |
| Under 3ft.6 × 2ft.0 - -     | 9/-  | 9/-  |
| Over 3ft.6 × 2ft.0 - -      | 11/- | 11/- |

# SECTION No. 30

Tee section with moulded striking fillets.

## PRICES.

|                             | " D " Quality. | " C " Quality. |
|-----------------------------|----------------|----------------|
| <b>SIDE HUNG.</b>           |                |                |
| Under 3ft.6 x 2ft.0 - -     | 15/-           | 21/-           |
| Over 3ft.6 x 2ft.0 - -      | 21/-           | 26/-           |
| <b>TOP HUNG.</b>            |                |                |
| Under 3ft.6 x 2ft.0 - -     | 15/-           | 18/6           |
| Over 3ft.6 x 2ft.0 - -      | 21/-           | 24/6           |
| <b>FIXED LIGHT to match</b> |                |                |
| Under 3ft.6 x 2ft.0 - -     | 9/-            | 9/-            |
| Over 3ft.6 x 2ft.0 - -      | 11/-           | 11/-           |

## EXTRAS

For all types of " Economic " Casements.

TEE GLAZING BARS with PATENT FENESTRA JOINTS, forming panes, from 1/- per pane.

PROJECTING HINGES, (enabling cleaning to be done from inside) at 5/- per pair.

CIRCULAR on PLAN. - Casements - from 5/- each.  
Fixed Lights - " 3/6 "

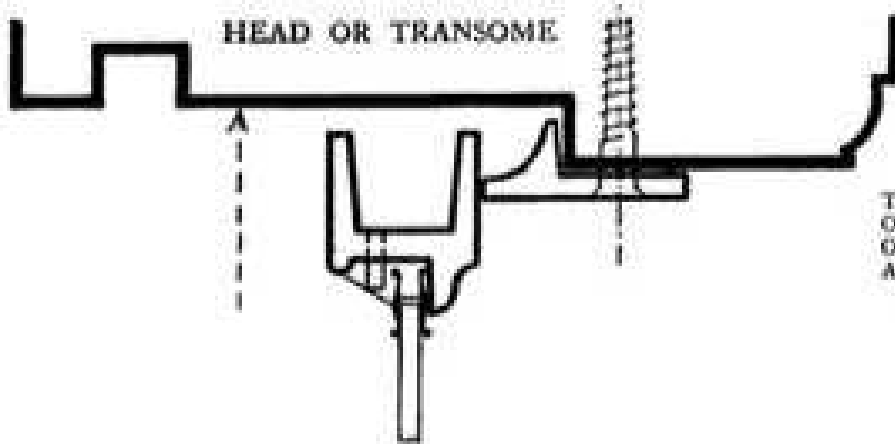
SHAPED or CIRCULAR HEADS Casements - from 5/- each.  
Fixed Lights - " 3/6 "

SADDLE BARS for lead glazing from 1/- each.

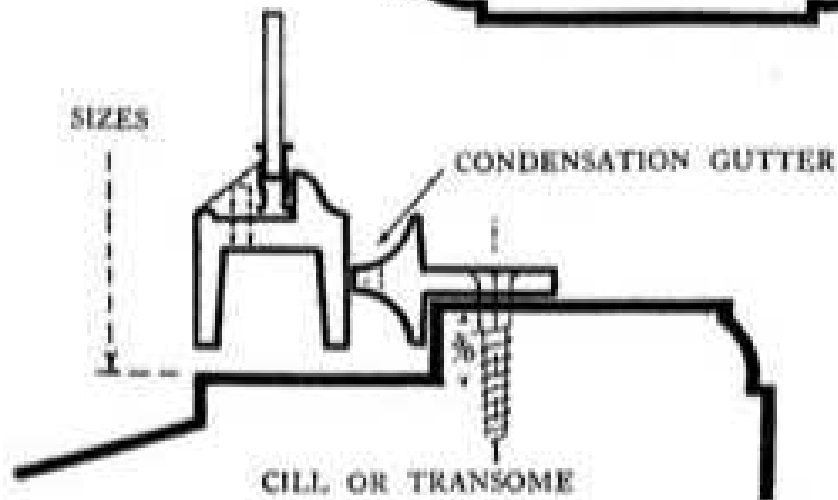
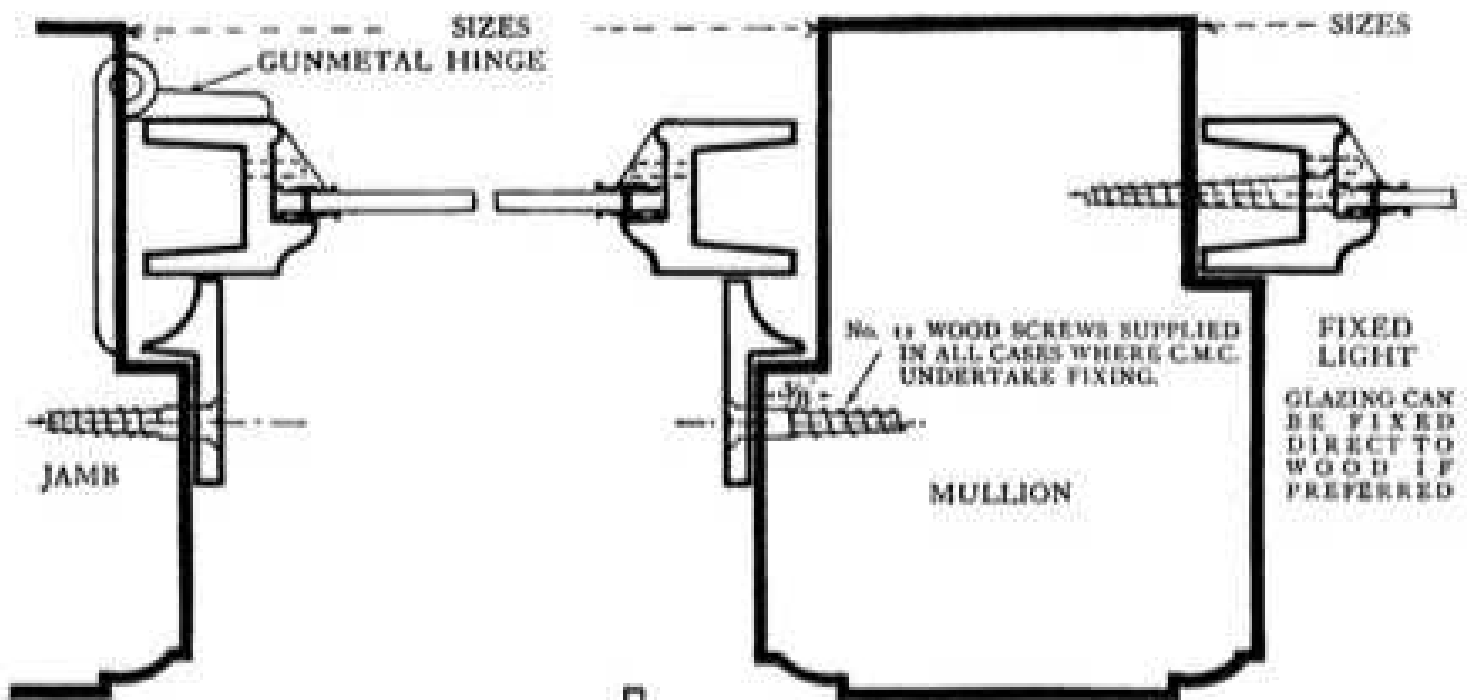
CASEMENTS prepared for hanging to stonework, at 5/- each extra.

# CRITTALL "ECONOMIC" CASEMENTS

No. 29 SECTION

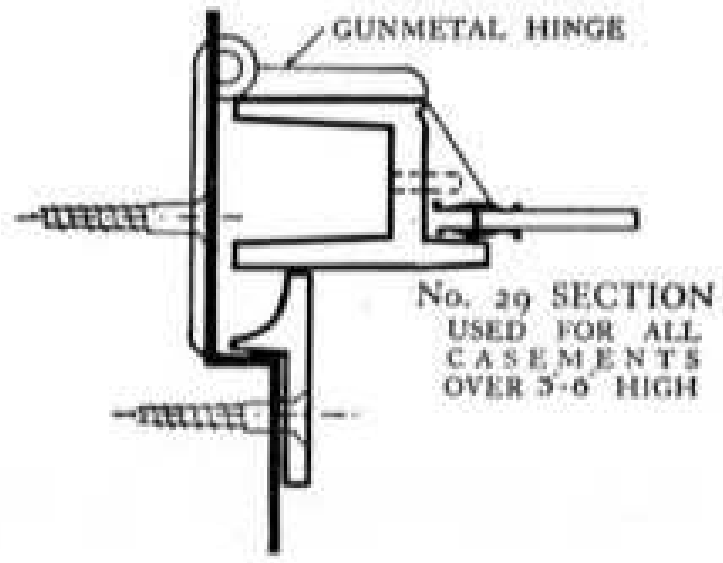
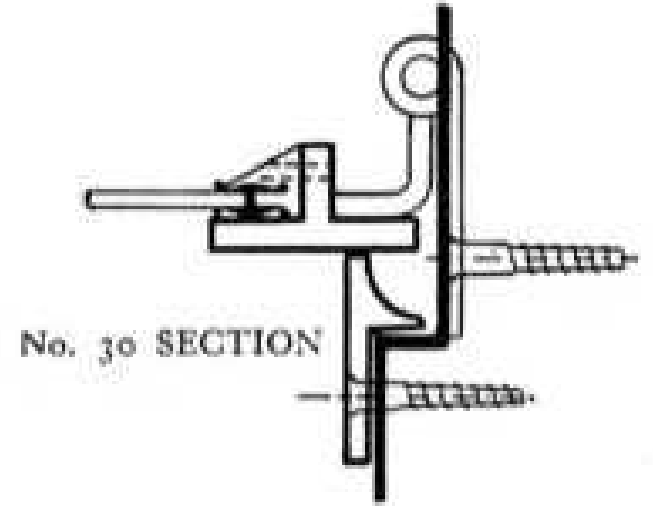
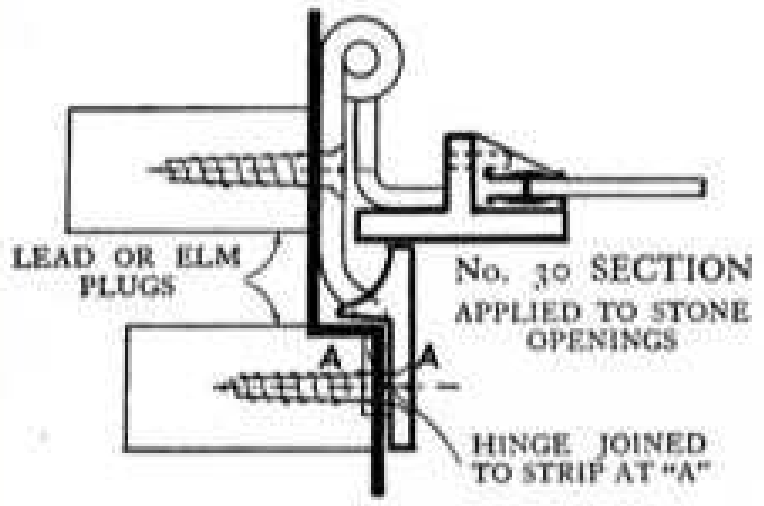
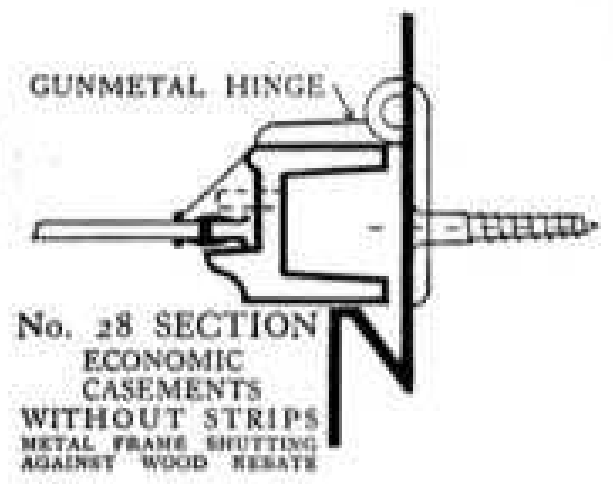
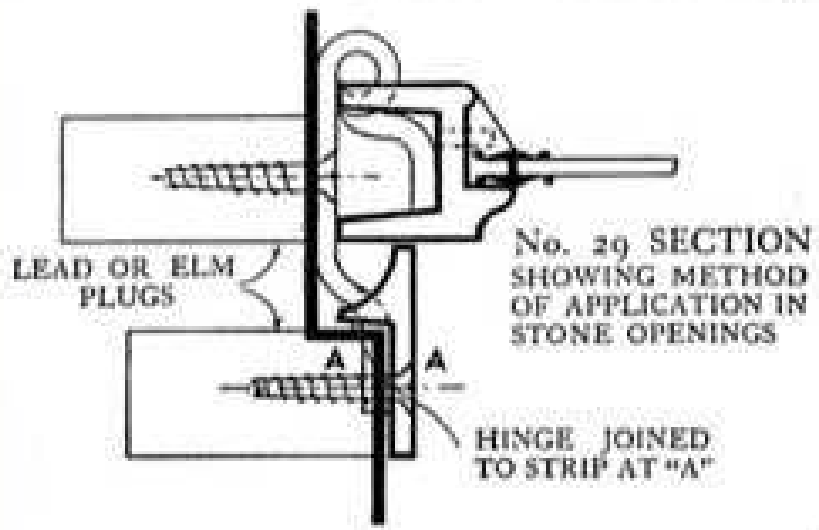


**NOTE**  
 THESE CASEMENTS ARE ONLY MADE TO OPEN OUTWARDS HUNG EITHER AT THE SIDE OR TOP



# CRITTALL "ECONOMIC" CASEMENTS

ALTERNATIVE DETAILS, SECTIONS Nos. 28-30.



## FIXING INSTRUCTIONS.

Before fixing the butts, the frame must be wedged up at least  $\frac{1}{4}$  in. at the cill in order to obtain a satisfactory result.

The butts must be sunk flush with jambs, the end of the butt coming in line with the rebate; then fix the strip on the closing side, and fasten the casement to this by turning the handle. When this is done it is an easy matter to fix the remaining three fillets, keeping them well up to the casement.

It is desirable to paint the underside of the strips before fixing, to make a good joint with the wood-work.



# FITTINGS

The fittings used on Crittall Casements are of the highest quality, being entirely of our own manufacture, and combining great strength with simplicity of design.

We have recently installed an up-to-date foundry for the production of high-class gunmetal castings, and by this means only are we able to guarantee the quality of material and workmanship.

It should be specially noticed that all brackets and plates for fittings are of mild steel and are welded to the casement.

All fittings are interchangeable and are sent loose for assembling after the Casement is erected and glazed. This eliminates theft or injury before the building is occupied.

## HANDLES & HANDLE PLATES

Each of these patterns is made in two sizes so that the appearance of the fitting shall be in proportion to the size of the window.

The plates to which they are attached are of solid steel, and are welded to the casement.

The bevelled striking plate permits the nose of the handle to draw the opening frame tightly to the fixed one by means of a cam action. It is always supplied in gunmetal so that friction shall not cause rusting.

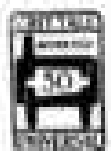
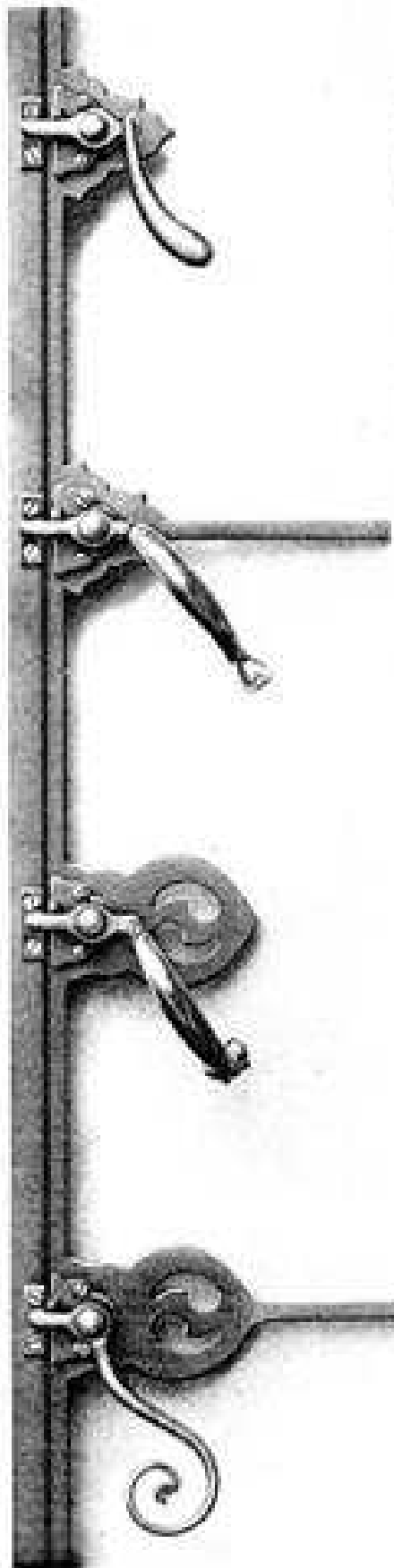
Handles can be supplied on either plate.

HANDLE  
No. 205  
PLATE  
No. 225

HANDLE  
No. 208  
PLATE  
No. 225

HANDLE  
No. 206  
PLATE  
No. 229

HANDLE  
No. 207  
PLATE  
No. 229





# ESPAGNIOLETTE FITTINGS

For use with inward or outward opening folding casements or French windows.

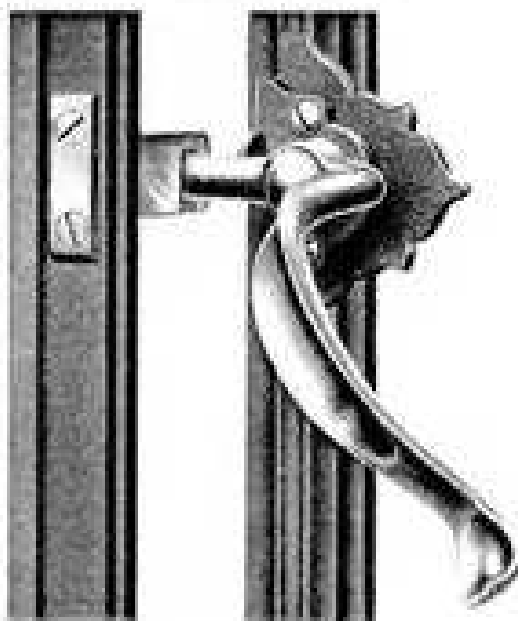
Simple in operation and appearance, this fitting gives a minimum projection on the sight line at the meeting style.

Besides engaging with the fixed frame at top and bottom, the bolt locks the second closing leaf at two intermediate points, ensuring contact even in the highest casements.

The first closing leaf can be locked independently of the other leaf if desired, and when applied to inward opening casements a special roller guide is used at head and cill to assist the drawing together of the two leaves (see page 16).



## CRITTALL THREE-POINT STRIKING PLATE



This fitting can be attached to any of our casements, either outward or inward opening, vertical centre hung or folding, for giving a small amount of ventilation without rattling.

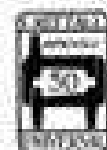
It has no unsightly internal projection, and is always made in gunmetal to avoid rusting.

Although shown in conjunction with Handle No. 208, it can be used with any of our other standard patterns.

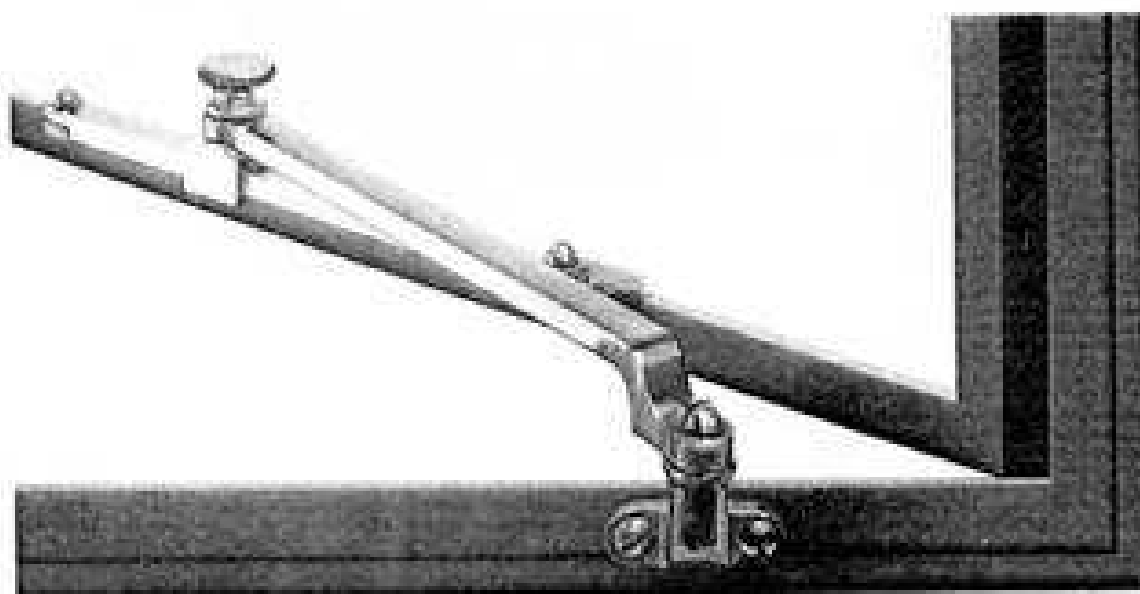
# STAY FITTINGS

The peg-stay No. 107 is supplied in all lengths from 6in. to 2ft. to suit any size of window, the design being the same for inward or outward opening casements.

The non-projecting stay No. 108 is specially adapted for use with internal screens or shutters, and permits a variable adjustment of opening.



PEG-STAY No. 107



NON-PROJECTING SLIDING STAY, No. 108.

# CRITTALL DUPLEX GEARING

For use with "Universal" No. 50  
Section Casements.

This type of Gear is specially designed  
not to interfere with internal blinds  
or shutters, and can be operated by gear  
box fastened to the jamb.

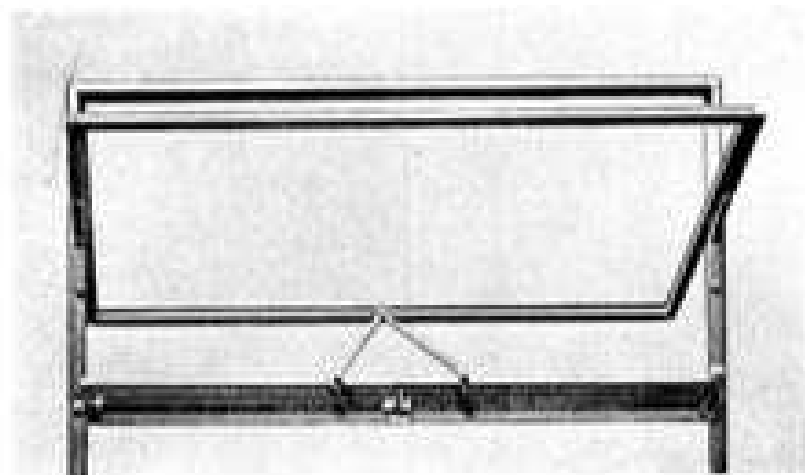
We have a special plant for cutting  
the square thread on the rods, which  
is of double pitch, combining rigidity  
with quick action.

This gear is supplied either in iron or  
gun-metal. Prices on application.

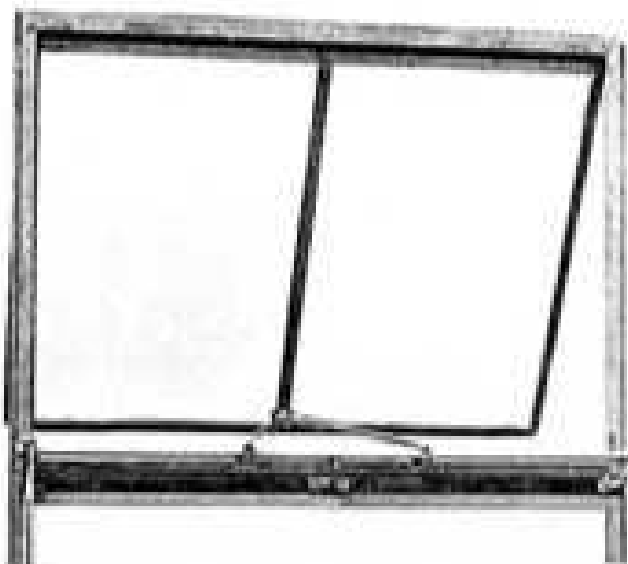
For long ranges of opening lights, and  
for ventilators in inaccessible positions,  
special gear will be used.



**BOTTOM HUNG**  
Operated with gear box.



**HORIZONTAL CENTRE HUNG.**  
Operated by cords.



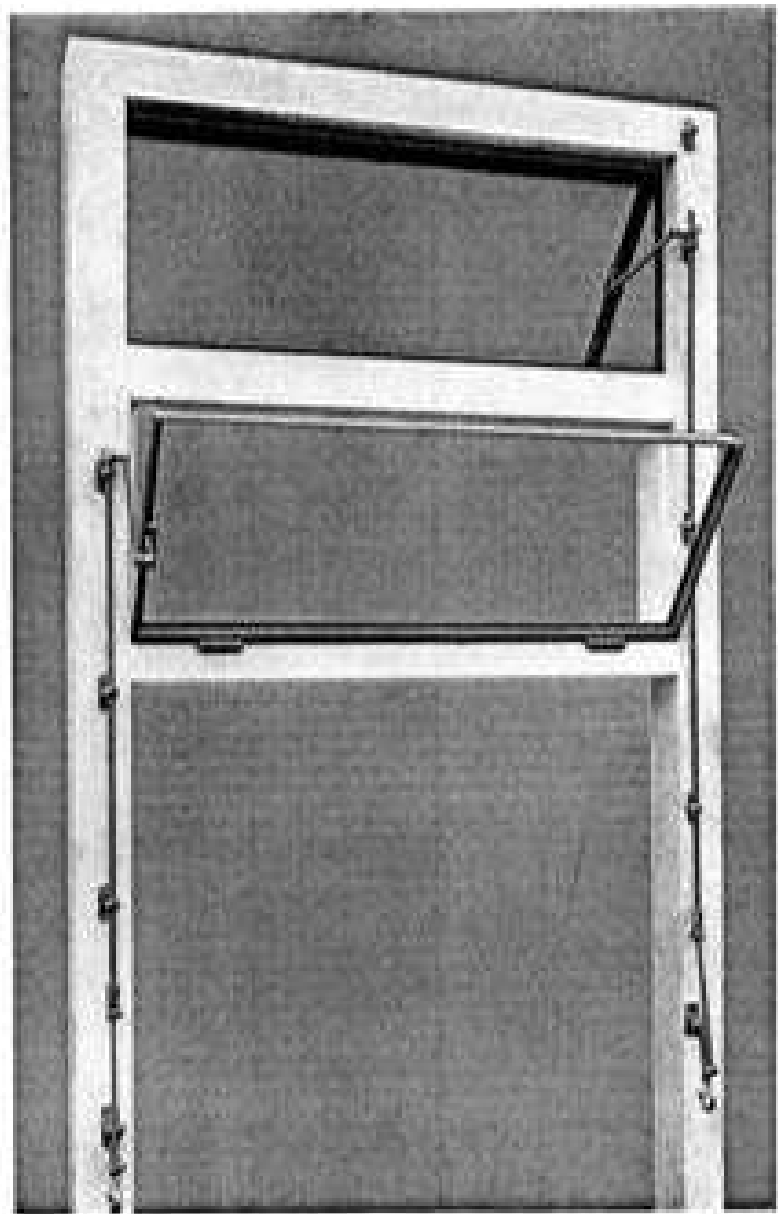
**TOP HUNG.** Operated by cords.



## CRITTALL ROD GEARING

As an alternative to the Duplex Screw Gear, shown on the opposite page, we recommend the use of this type of gear for small single top or bottom hung lights, where the use of cords is undesirable or the Duplex Gear too costly.

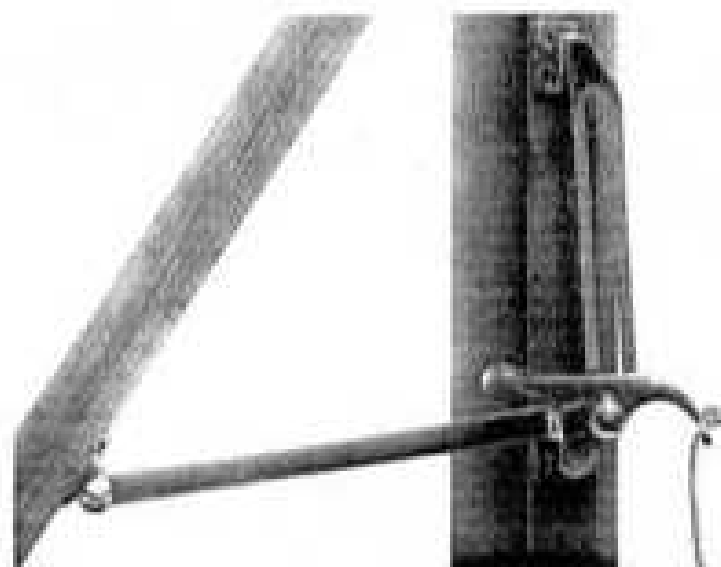
As will be seen there is no projection to foul internal blinds, the gearing being fitted direct to the wood jambs or mullions.



## NON-PROJECTING SLIDING OPENER

This fitting is supplied with all Crittall No 50 Top Hung Universal Casements, where internal blinds prevent the use of the ordinary peg stay.

NOTE.—The above types of gear are suitable only for small size Ventilators. For large Ventilator the Duplex or similar gear should be used.





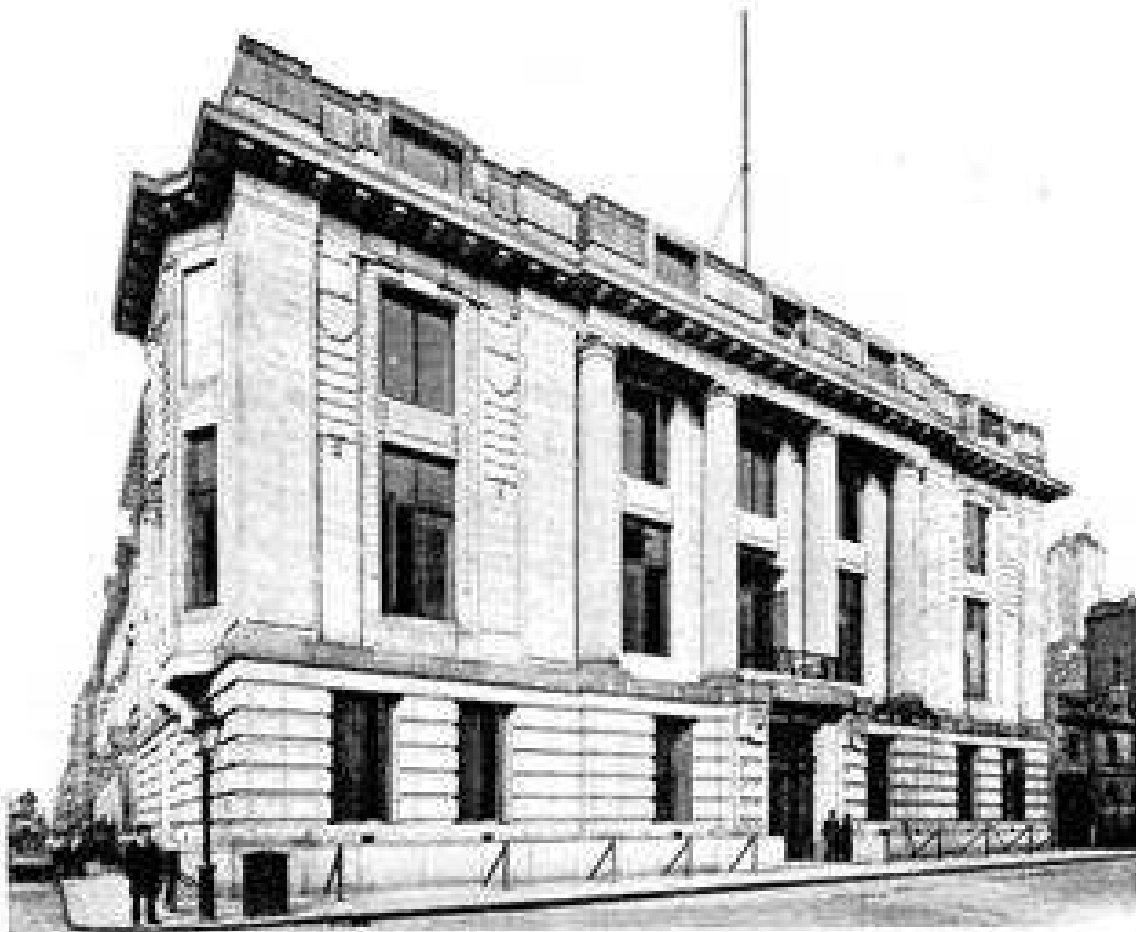
MESSE<sup>S</sup>. WILLIAM WHITELEY'S STORES, BAYSWATER, LONDON. *Architects: JOHN BELCHER, R.A. and J. JOASS.*  
General elevation showing large openings completely filled with Crittall Solid Steel Casements with ornamental mullions and transoms. All the windows and mullions on the first floor are treated with our special Koperoid Process.



**NEW OFFICES OF CANADIAN PACIFIC RAILWAY,**  
TORONTO, ONT.

*Architects:*  
**DARLING & PEARMAN**

The highest building in the British Empire, equipped throughout with Crittall Universal Casements.



**ROYAL SOCIETY OF MEDICINE,** *Architects: JOHN BELCHER, R.A., & J. JOYNS.*  
**HENRIETTA STREET, LONDON.** The large opening casements which appear as side hung are really vertical centre hung (patented Universal Section) to allow cleaning from the inside.



**THE PEACE PALACE, THE HAGUE, HOLLAND.** *Architect: J. M. COENIGHEM.*  
*Architect: J. A. G. VAN DER STEEN.*  
 A very fine example of Crittall Koperoid Universal Casements and Leaded Lights used in stone mullioned openings.



OFFICE OF THE ANGLO-AMERICAN  
OIL Co., WATERLOO, S.W. *ARCHIT. ERNEST RÜTZE*  
Casements divided into panes with Fenestra  
glazing bars.



No. 17, FLEET STREET. As restored by  
L.C.C. The casements for the restoration of  
this historic building were supplied by The  
Critall Manufacturing Co. Ltd.



CORDWAINERS' HALL, CANNON STREET,  
E.C. *ARCHIT. R. CHATFIELD CLARKE.*



LEATHERSELLERS' HALL, BISHOPSGATE,  
E.C. *ARCHIT. R. CHATFIELD CLARKE.*

Two fine city buildings equipped with Critall Universal Casements.





DUNCHURCH LODGE, NEAR RUGBY.

*Architect: GILBERT FAZEN.*



INGLEBY, HARROW.

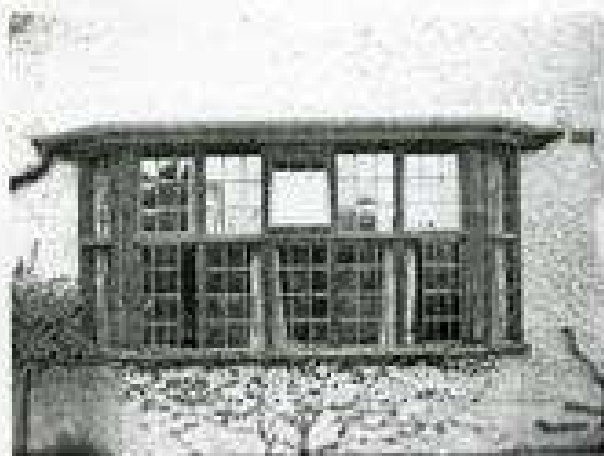
*Architect: ARNOLD MITCHELL.*

The graceful lines of the Crittall Universal Cement specially recommend it in high class domestic architecture.

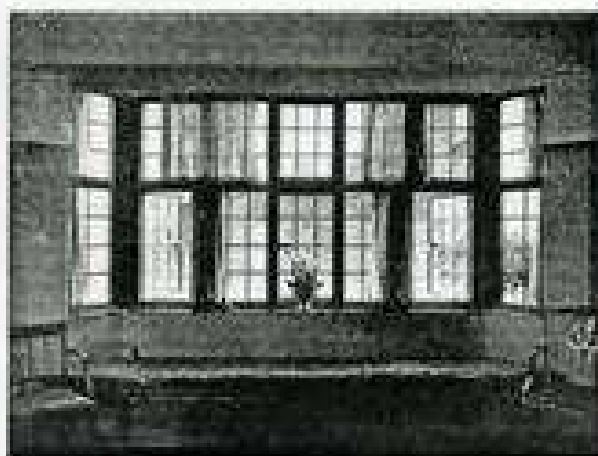


PRIVATE RESIDENCE, CHELMSFORD.  
A characteristic installation of Crittall Economic Casements.

*Architect: G. H. R. GURNELL.*



Exterior view of bay window in above residence.



Interior view of bay window, showing application of casement curtains.



MOTOR GARAGE AT THE STABLES OF THE ROYAL PALACE, THE HAGUE,  
 HOLLAND, FOR H.M. QUEEN WILHELMINA. DESIGNED BY SCHALTKEMA.  
 An elegant little installation of Fenestra windows. The glazing bars in the wood doors  
 are also Fenestra.



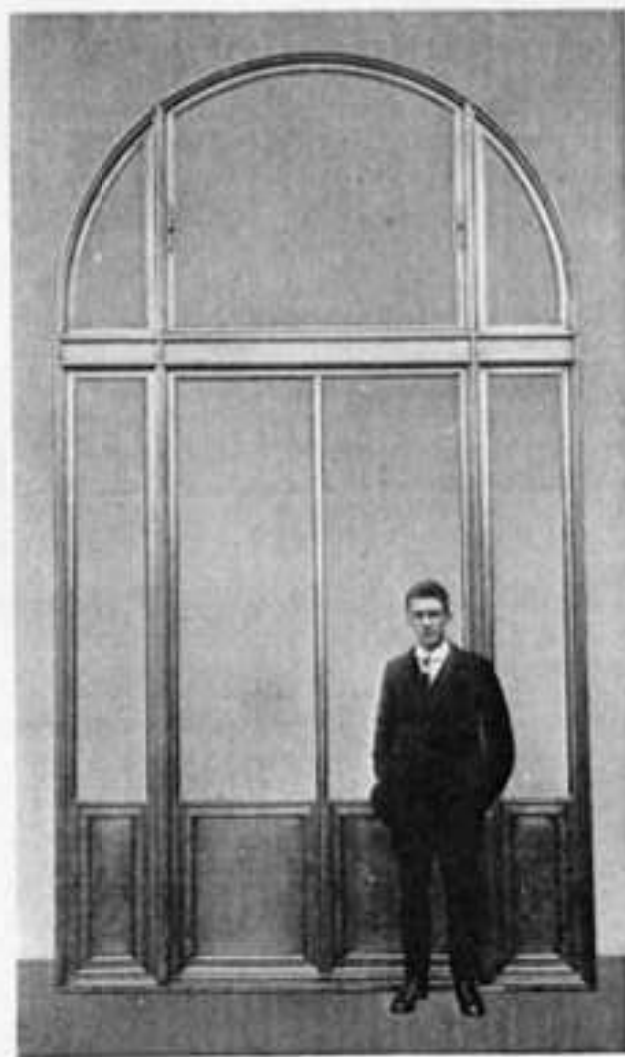
PORTION OF EXTENSION TO HARROD'S STORES, LONDON. DESIGNED BY  
 A. W. STUBBS.  
 Crittall steel windows with ornamental steel panelled transoms and mullions (see  
 detail E, page 25).



THE NEW SESSIONS HOUSE, OLD BAILEY, E.C. — ARCHITECT: THOMAS S. W. BOUNTFORD.  
Solid bronze casements throughout, supplied by The Crittall Manufacturing Co. Ltd.



**CIRCULAR CORNER: WHITELEY'S STORES**  
 Windows the same as on the front elevation, but circular on plan. Note the fire-resisting electro glass secured to the casements with solid metal glazing beads.



One of the large ornamental steel folding doors and casements for the main facade of the Peace Palace, The Hague. Solid steel throughout treated with our Koperoid Process.

## TERMS

**PACKING** *charged extra, but credited in full, when returned, carriage paid, and in good condition, to our Works.*

**DELIVERY** *included in Railway Company's limits, to any part of the United Kingdom, except in the case of very small orders.*

**FIXING.** *In all cases where fixing is done by us, it is understood that the necessary ladders or scaffolding are to be provided free of charge for the use of our men.*

**PAYMENT.** *Prices subject to alteration without notice.*

*All Accounts are due for payment on the 10th of the month following date of delivery.*

*On orders where prices include fixing, 80% of the value of the goods delivered to be paid for in cash on delivery, the balance on the 10th of the month following completion.*

No. 50 SECTION  
"UNIVERSAL"  
CASEMENTS  
(PATENTED)

Full size details of all types of Ventilators  
Connections and Preparations of Work  
with illustrations of Fittings  
and Typical Buildings



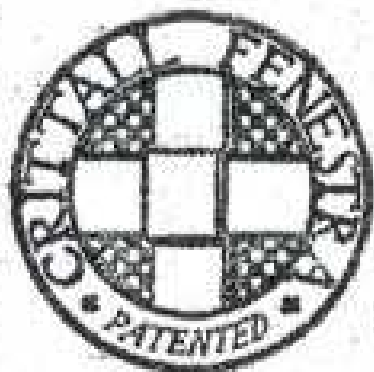
THE  
CRITTALL  
MANUFACTURING CO. LTD.

11 & 12, FINSBURY SQUARE,  
E.C.

AND AT BRAINTREE, ESSEX



# METAL WINDOWS



THE  
**CRITTALL**  
MANUFACTURING CO. LTD.  

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**BRAINTREE, ENGLAND.**

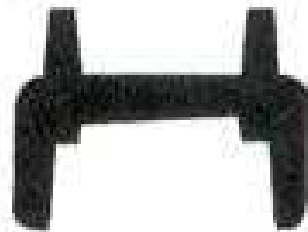
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*London Office & Showrooms:*  
11 & 12, FINSBURY SQUARE, E.C.

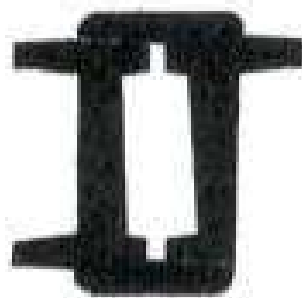
CATALOGUE No. 9

1912





THE UNIVERSAL SECTION  
(PATENTED)

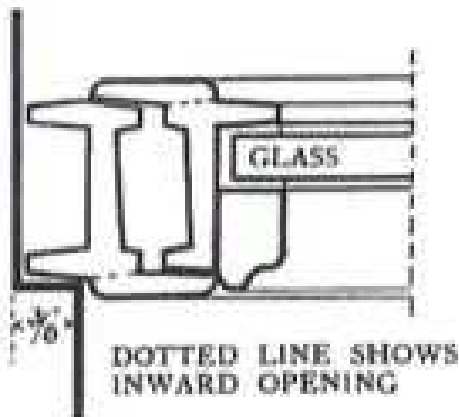
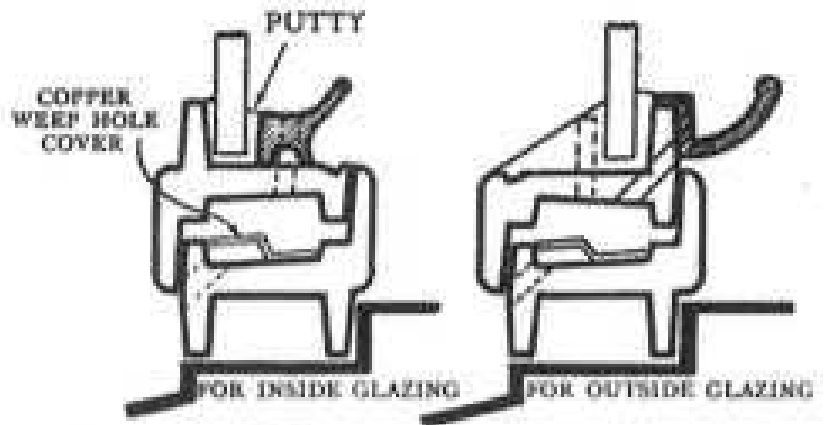


ALTERNATIVE  
SHOWING INSIDE GLAZING

ALL CASEMENTS CAN BE  
MADE THUS WITHOUT ALTERATION  
TO PRICE OR DETAIL.

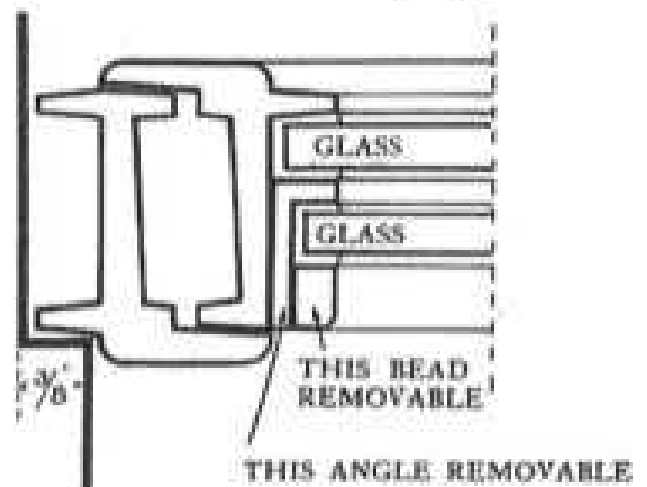
# EXTRAS

- (1) TEE TRANSOME and MULLION, for use in composite windows, including bolting together; rebate outside unless otherwise specified, from 1/6 per lineal foot. (See page 25).



- (2) GLAZING BEADS, always inside unless otherwise specified, from 4/- per pane.
- (3) TEE GLAZING BARS, with PATENT "FENESTRA" JOINTS, forming panes, from 9d. per pane.
- (4) CIRCULAR-ON-PLAN Casements from 10/- each. Fixed lights " 5/- "
- (5) SHAPED or CIRCULAR HEADS. Casements, from 10/- each. Fixed lights " 5/- "
- (6) SADDLE BARS for lead glazing, from 1/- each.
- (7) SQUARE or ANGLE STEEL FILLETS for grooved work, from 4/- per set. (See page 26).

- (8) GUNMETAL CONDENSATION GUTTERS, from 2/6 each.
- (9) COPPER WEATHER BARS, from 2/6 each.
- (10) FIXING, including necessary fixing materials and pointing up, Casements - from 3/6 each. Fixed lights - " 2/6 " Composite windows from 10/- "



- (11) DOUBLE GLAZING, from 4/- per pane.
- (12) Bonding fillets for plaster. (See page 27). Design 5 - from 4/- per set. " 6 - " 7/6 " "
- (13) TWO-POINT STRIKING PLATE for "D" and "C" qualities, 1/6 each extra.

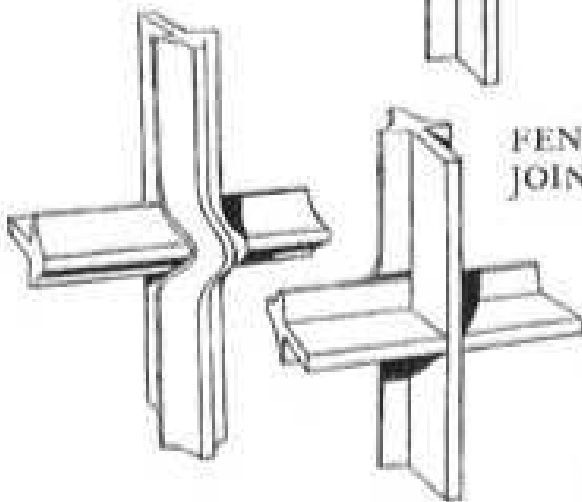
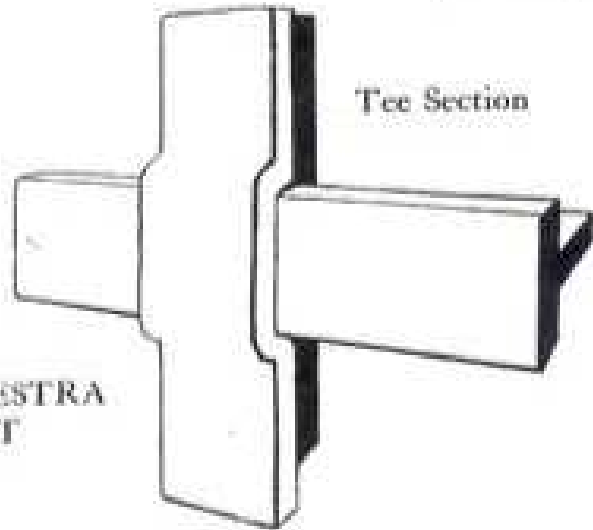
# THE FENESTRA JOINT

(Patented)

Moulded Section.



Tee Section



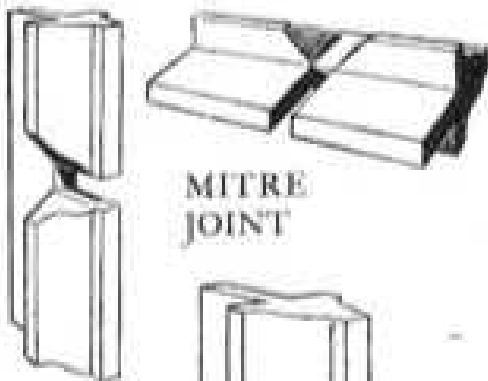
FENESTRA JOINT

## PROCESS

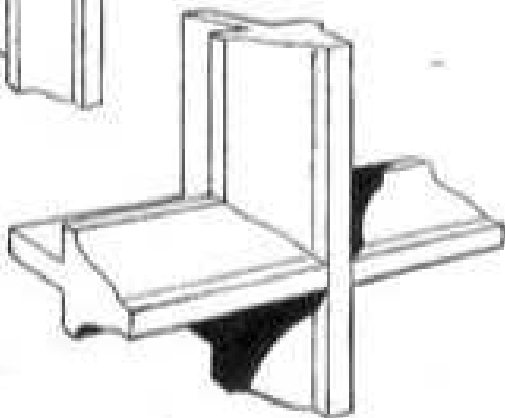
We draw particular attention to the method of making the Fenestra in comparison with the old mitre joint.

A slot is first punched in the web of the vertical bar just wide enough to allow the web of the horizontal bar to pass. The head of the vertical bar is then pressed so that its inner surface corresponds with the outer surface of the horizontal bar. At the same time the locking wing is opened to such a distance as to clear the horizontal bar.

The horizontal bar has only a small notch which acts as a lock against any side movement. To assemble this joint the horizontal bar is slipped *through* the vertical, and the locking wing is driven home by a power press which practically makes the joint a solid one and prevents the rusting troubles so often experienced by water being secreted in the crevices of a badly fitted mitred joint.



MITRE JOINT



## Report of Official Tests made by the Authorities at the Royal Arsenal, Woolwich, of Patent "FENESTRA" Joint Sashes.

**T**EST of 1½in. "FENESTRA" JOINT SASHES supplied by The Crittall Manufacturing Company Limited, to ascertain whether they would resist wind pressure equal to static load of 30lbs. per square foot. The panes were 2ft.1in. × 1ft.6in.

The two sashes tested were glazed and placed in a horizontal position, with supports at points of fixing.

**LARGE SASH**—9ft.5½ × 10ft.4½ = 99½ft. super.  
 Weight (glazed) . . . . . 367 lbs.  
 Weight of sand spread evenly over surface . . . . . 2418 lbs.  
 Total load . . . . . 2985 lbs.  
 Maximum deflection . . . . . 1½in.  
 Set after removal of sand . . . . . ½in.  
 No glass was broken.

**SMALL SASH**—10ft.6½ × 7ft.7½ = 80ft. super.  
 Weight (glazed) . . . . . 416 lbs.  
 Weight of sand, spread evenly over surface . . . . . 1984 lbs.  
 Total load . . . . . 2400 lbs.  
 Maximum deflection . . . . . 1½in.  
This Sash was further loaded with loads of sand, bringing the total load to 30lbs. per square foot.  
 Maximum deflection . . . . . 1½in.  
 Set after removal of sand . . . . . ½in.  
 No glass was broken.

A quantity of the above Sashes (1½in. Fenestra) were selected for use in the New Shrinking Pits Building, by the authorities at the Royal Arsenal, Woolwich, as a result of the above tests.

## Report of Tests made at the National Physical Laboratory (Teddington) of "FENESTRA" & MITRE CROSS JOINTS Showing relative strengths.

| Load in Tons. | 1½" Fenestra. | 1 × 1" Tee Fenestra. | 1½" Mitre Joint. | 1½" Mitre Joint. | 1½" Fenestra. | 2" Mitre Joint. | 1½" Fenestra. |
|---------------|---------------|----------------------|------------------|------------------|---------------|-----------------|---------------|
| 0             |               |                      | PERMANENT        | DEFLECTION       | IN INCHES.    |                 |               |
| 1             |               |                      |                  |                  |               |                 |               |
| 2             | 01            |                      |                  |                  |               |                 |               |
| 3             |               | 02                   |                  |                  |               |                 |               |
| 4             |               |                      | 05               |                  |               |                 |               |
| 5             |               |                      |                  | 06               | 03            |                 |               |
| 6             |               |                      |                  |                  |               | 04              |               |
| 7             |               |                      |                  |                  |               |                 | 02            |

The frames were supported at all four corners and loaded in the middle, the long and thin web always being at the bottom. The supports were 22 inches apart.

▲  
**THE  
COTTAGE  
WINDOW** ▲



# THE COTTAGE WINDOW

Notes in reference to the use of  
standard metal windows.

illustrated by  
H.M. Bateman.

THE  
CRITTALL

MANUFACTURING COMPANY LTD:

BRAINTREE. ENGLAND.

LONDON OFFICE, 246 HIGH HOLBORN, W.C.1.

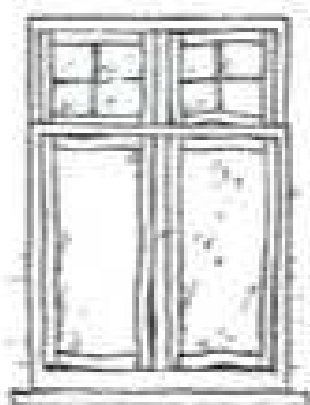
AUGUST, 1938.



*Exaggerated Individualism.*



*If each Battery Commander had been responsible for the design of his own ammunition.*



*Adjustments with plane or chisel are required.*

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STATIONERS  
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*Dear Sirs,*

*We have pleasure in enclosing Rough Proofs of*

Cottage Window Booklet,

*which please carefully revise, and clearly mark the  
necessary corrections on one proof, and return to us with  
the original copy, at the same time stating the quantity  
we are to print.*

*Yours truly,*

SILK & TERRY LTD.

Messrs The Crittall Manufacturing Co., Ltd.

Prainthee,

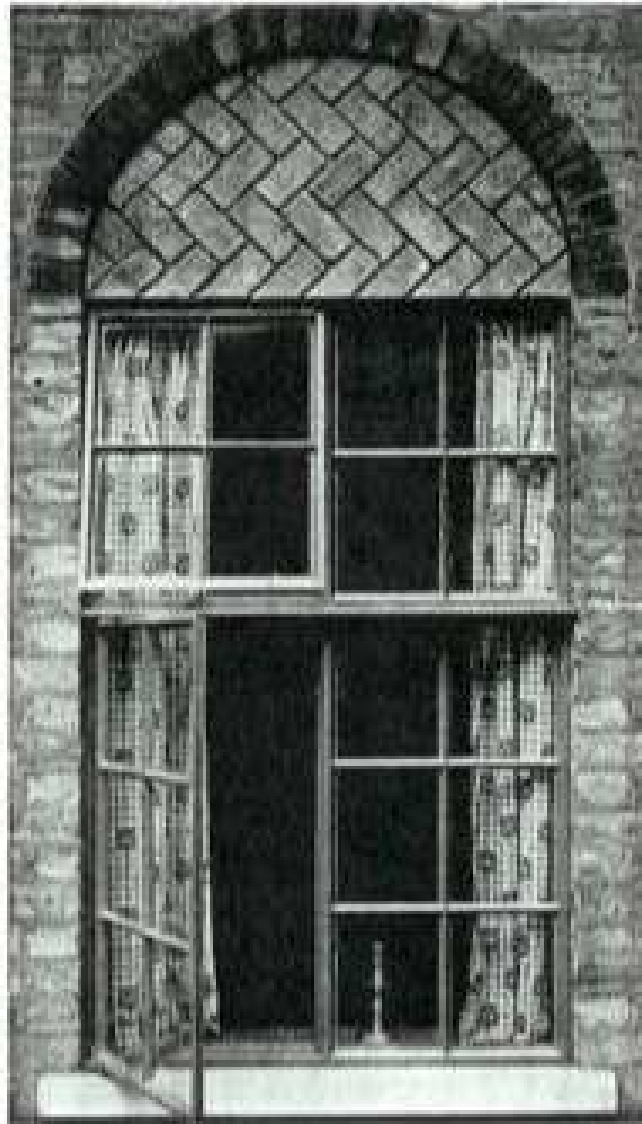




# CRITTALL

## METAL WINDOWS

STANDARD  
METAL WINDOWS  
Page 1



Exterior View of Typical Standard Metal Window,  
Combined Types C2 & K2.

No 14, 1921

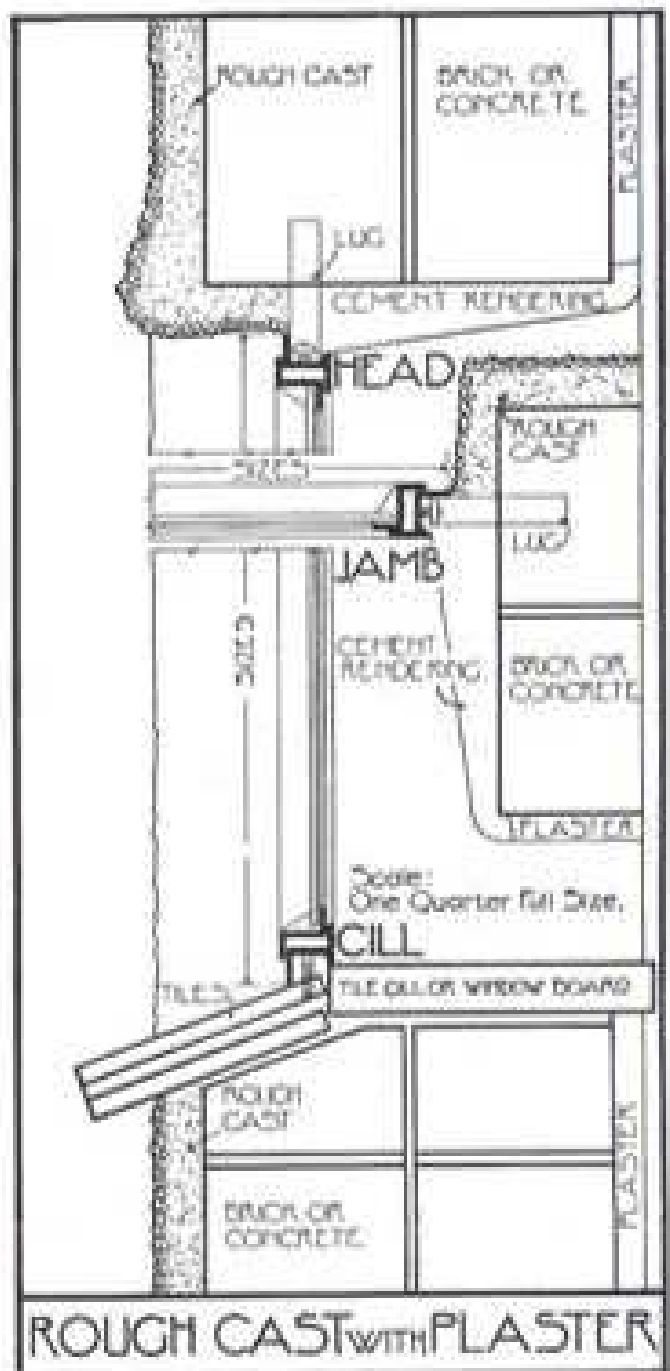
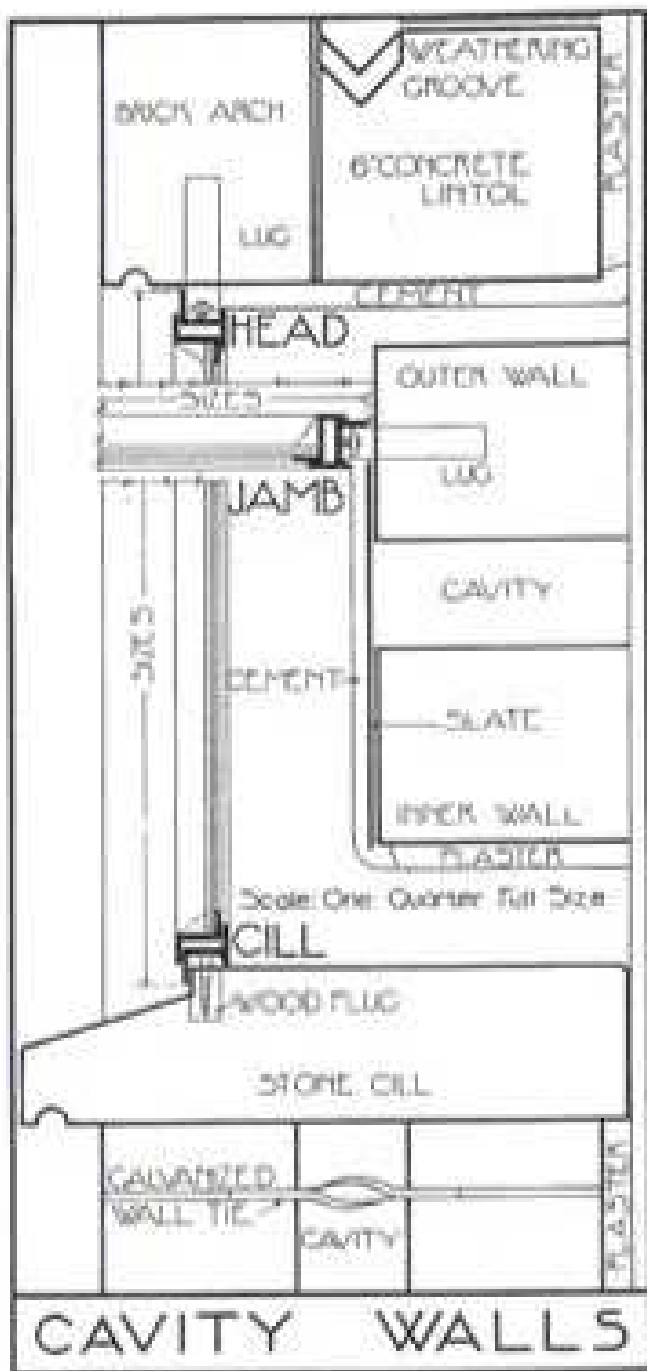
WORKS:  
BRAINTREE, ENGLAND.  
TELEGRAMS: "CRITTALL, BRAINTREE."  
TELEPHONE: BRAINTREE, 743.

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TELEGRAMS: "CRITTALLS, WESTCENT, LONDON."  
TELEPHONE: 405 & 407, HOLBORN.

# CRITTALL

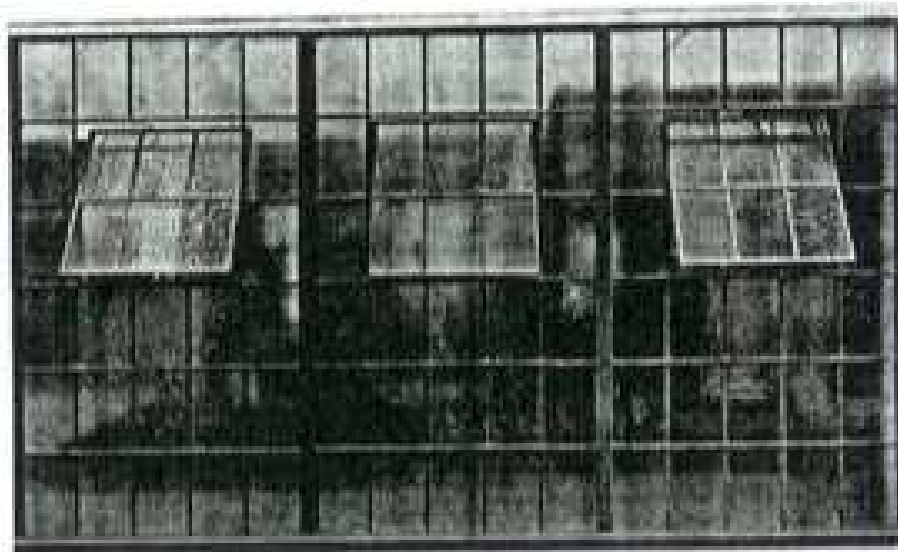
## METAL WINDOWS

STANDARD  
METAL WINDOWS  
Page 9



# CRITTALL METAL WINDOWS

FENESTRA  
STANDARD SASHES  
PAGE 1.



Exterior view of three SS 56 Standard Fenestra Sashes  
coupled with tee Mullions.

WORKS  
BRAintree, ENGLAND.  
TELEGRAMS: "CRITTALL, BRAINTREE."  
TELEPHONE: BRAINTREE 100.

LONDON OFFICE & SHOWROOMS /  
246, HIGH HOLBORN, W.C.1.  
TELEGRAMS: "CRITTALLS, WESTEND, LONDON."  
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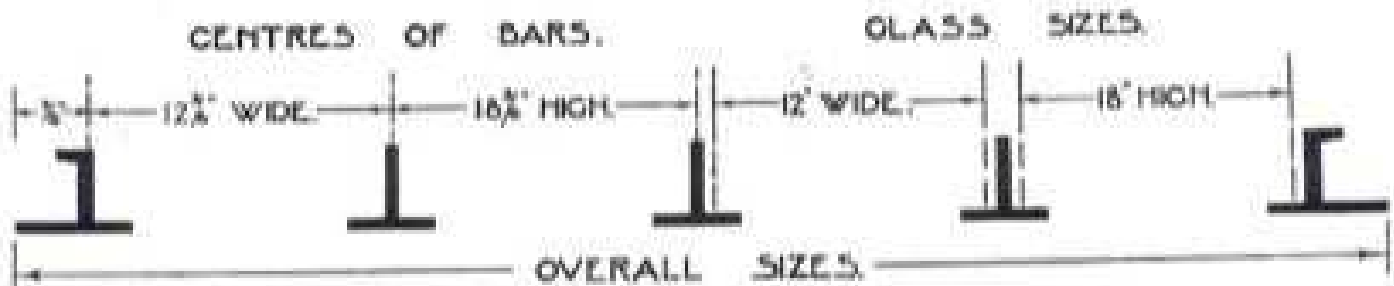
*Catalogue No. 16. Issued January 1921. This Catalogue cancels all previous lists of Steel Sashes.*

No 16. 1921

# CRITTALL METAL WINDOWS

## STANDARD STOCK SIZES

The sizes given are overall dimensions of the window, and allowance must be added for going into openings.



OVERALL SIZES.  
For size of ventilator frames see page 14  
Within Face-Work prices

|                             |             |                             |             |                             |             |
|-----------------------------|-------------|-----------------------------|-------------|-----------------------------|-------------|
| <p>55F32<br/>9-00sq ft</p>  | <p>5532</p> | <p>55F42<br/>12-00sq ft</p> | <p>5542</p> | <p>55F52<br/>15-00sq ft</p> | <p>5552</p> |
| <p>55F33<br/>12-00sq ft</p> | <p>5533</p> | <p>55F43<br/>15-00sq ft</p> | <p>5543</p> | <p>55F53<br/>18-00sq ft</p> | <p>5553</p> |
| <p>55F34<br/>15-00sq ft</p> | <p>5534</p> | <p>55F44<br/>18-00sq ft</p> | <p>5544</p> | <p>55F54<br/>21-00sq ft</p> | <p>5554</p> |
| <p>55F35<br/>18-00sq ft</p> | <p>5535</p> | <p>55F45<br/>21-00sq ft</p> | <p>5545</p> | <p>55F55<br/>24-00sq ft</p> | <p>5555</p> |

HORIZONTAL CENTRE HUNG VENTILATORS.

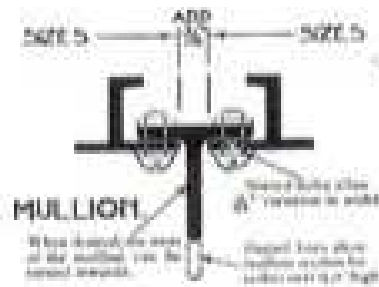
Glazing clips are included in the price of fixed lights.

# CRITTALL

## METAL WINDOWS

FENESTRA  
STANDARD SASHES  
PAGE 7.

### COUPLING DETAILS



Two or more units of Standard Fenestra Sashes may be combined in the same opening by joining them with our Standard Tee Mullion or Transome as shown above.

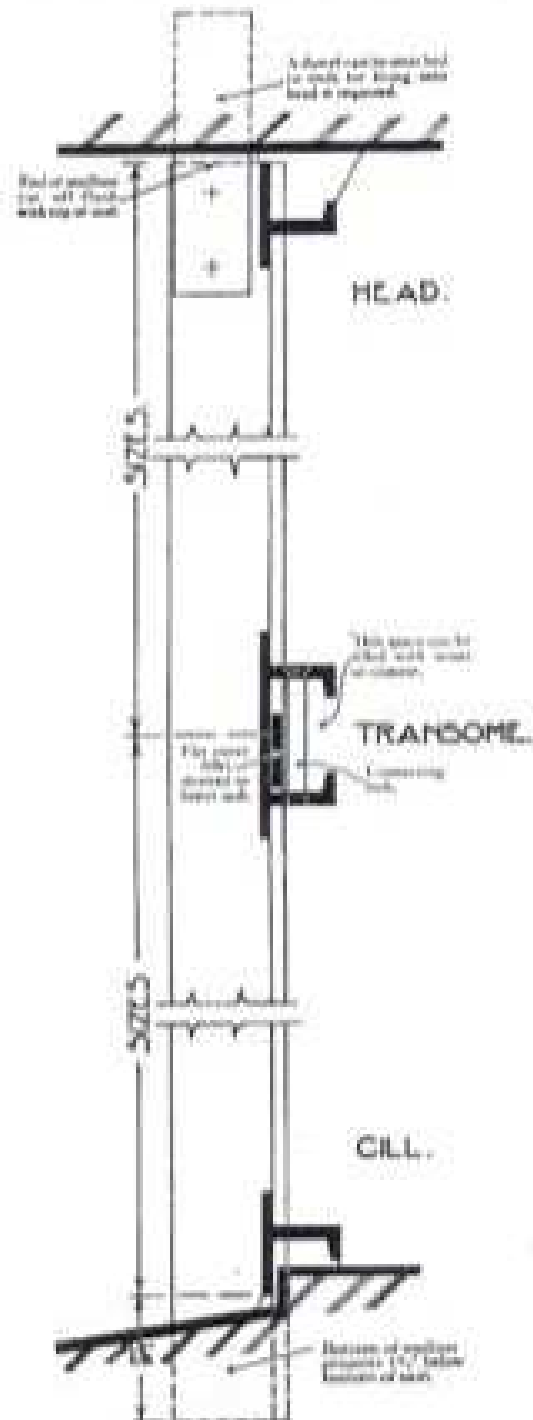
The Mullions are punched with SLOTTED holes, which allow a slight variation in the overall width of the completed window.

All Mullions are provided to project 1/4 in. into the sill.

They are cut off flush at the top, but a dowel can be fixed for building into the head where the construction of the lintol allows for this.

In openings where both mullions and transomes occur, the mullions run the full height of the opening, an extra deep section being used for the purpose.

In calculating the sizes of combined windows, 1/4 in. must be added for each mullion and nothing for each transome.



No 20

# STANDARD METAL WINDOWS

SMW



CRITTALL

Windows from Stock  
All the qualities of the Best Metal Casement  
To replace the unsatisfactory Wooden Windows  
At Less Cost

**THE CRITTALL MANUFACTURING CO. LTD.**

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HOLBORN 316 & 327 MUSEUM 2668  
CRITHAM CO., WESTCENT, LONDON.

CATALOGUE NT20 CANCELS ALL PREVIOUS SMW CATALOGUES JAN. 1922.

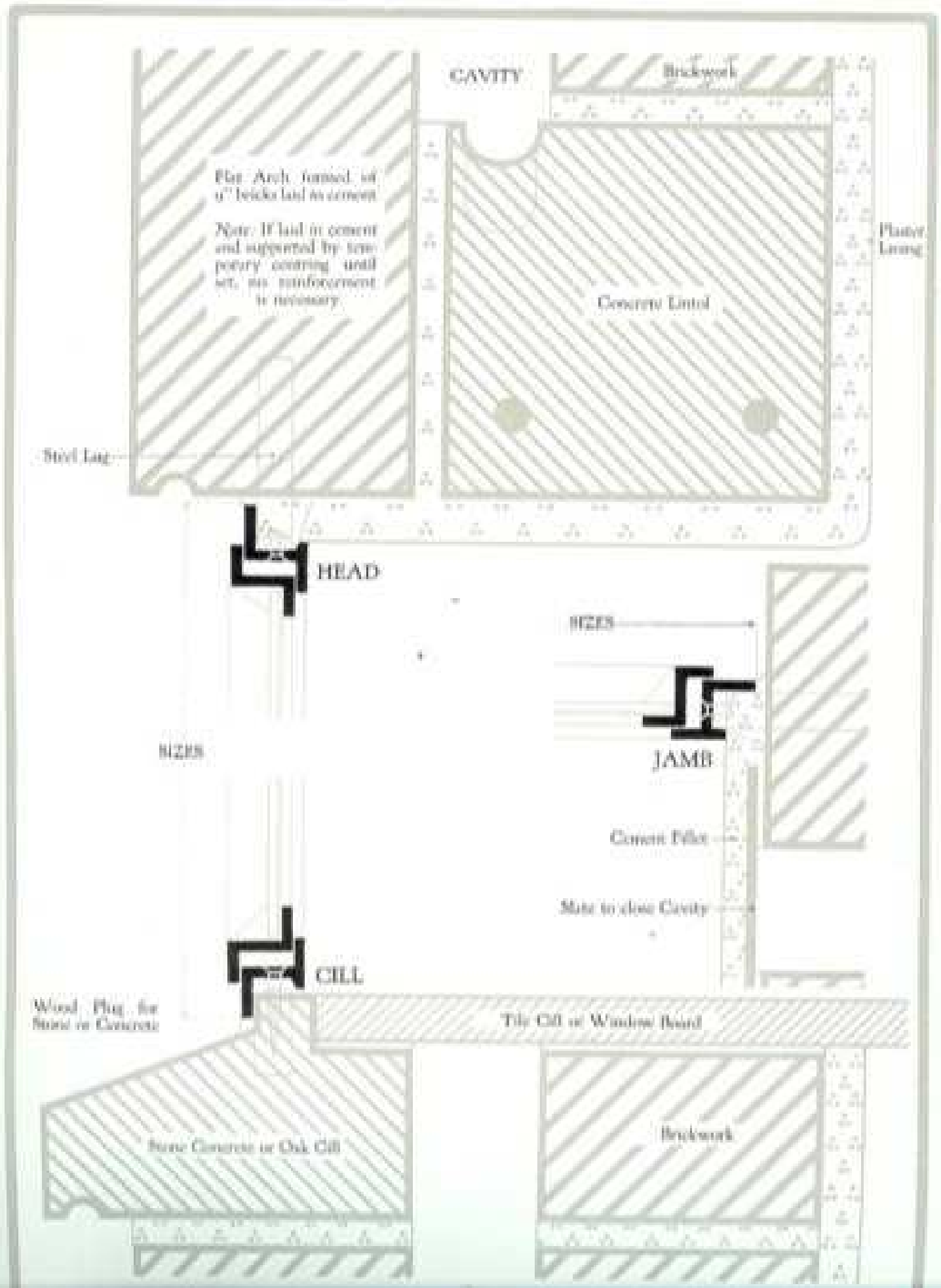


Cottages at Braintree.

*Cavity Walls, Concrete Blocks (Detail No. 4).*

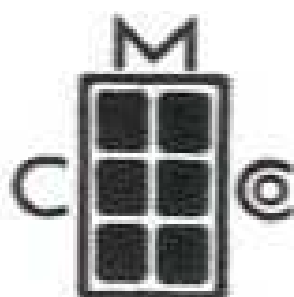
Architect: C. H. B. QUENNEL

# FIXING DETAIL Number 4





# DIFFERENT WINDOWS

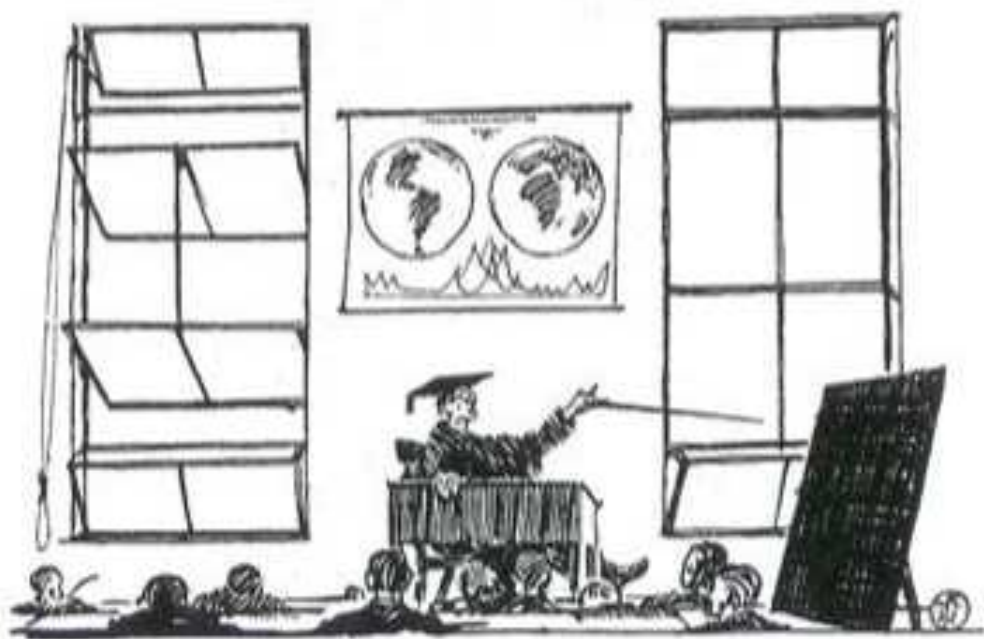


FEBRUARY 1922

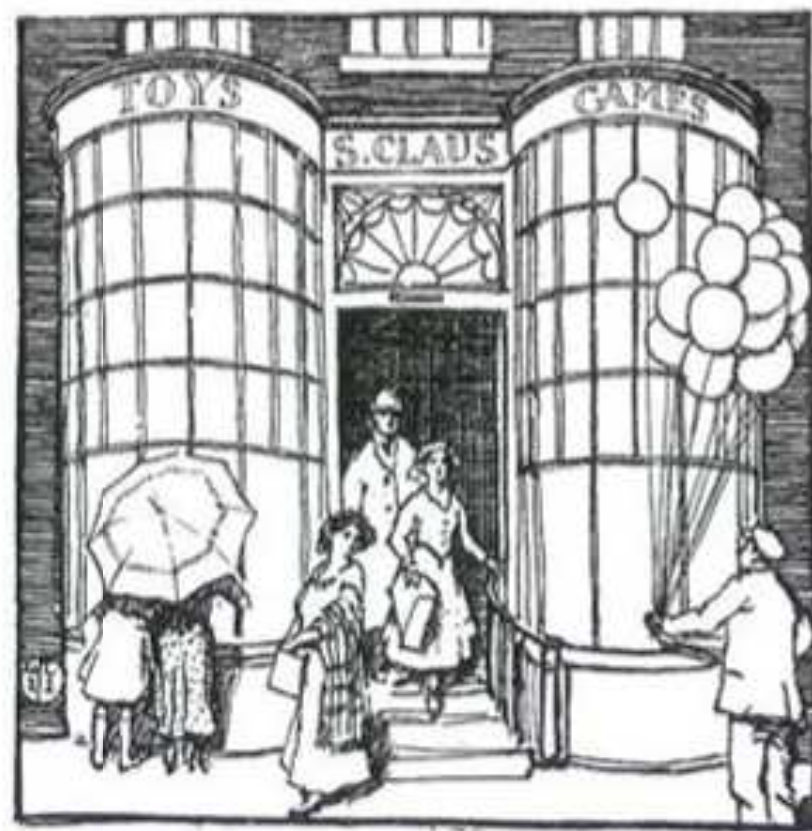
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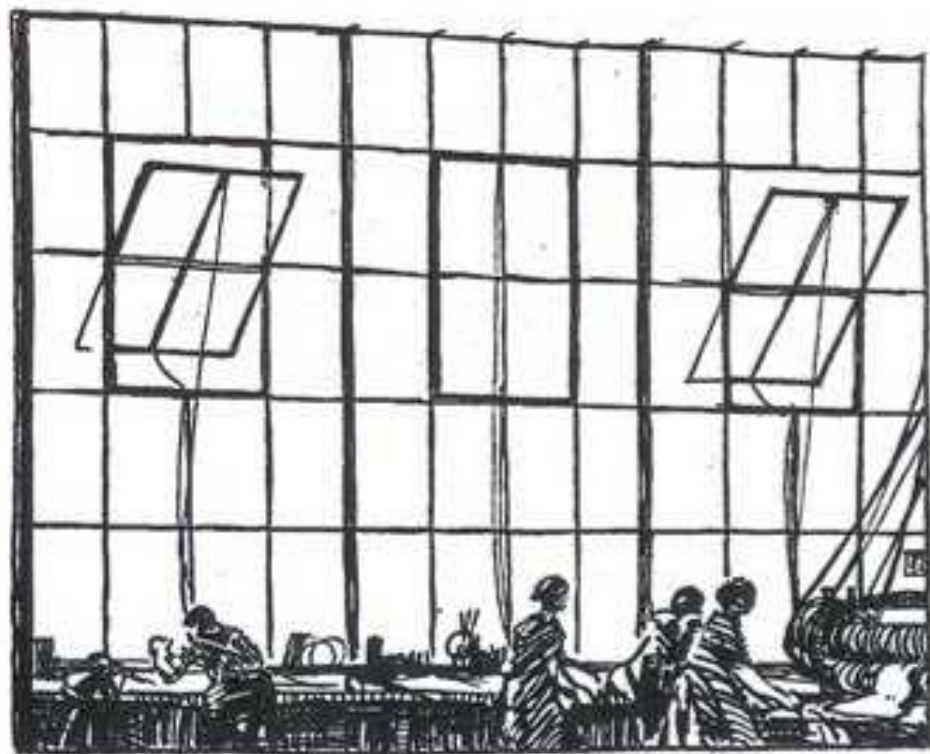
LONDON OFFICE & SHOWROOMS  
246 HIGH HOLBORN, W.C.1.  
HOLBORN 326 & 327 MUSEUM 3669  
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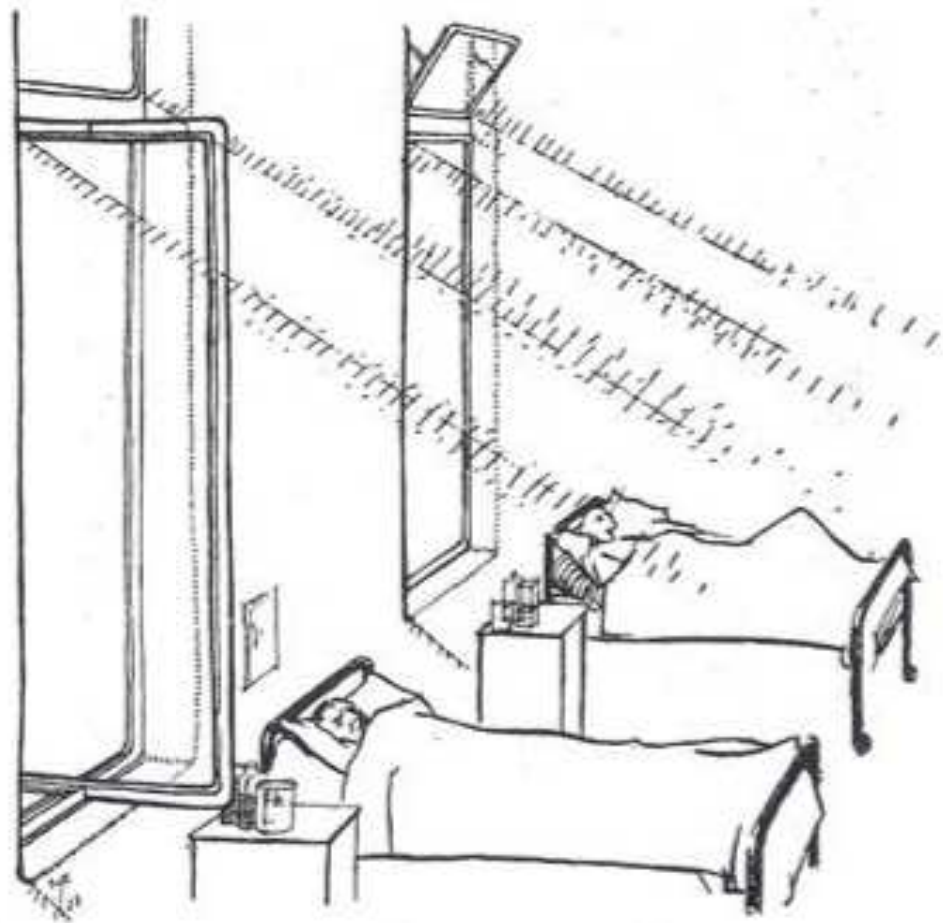
THE SCHOOL WINDOW



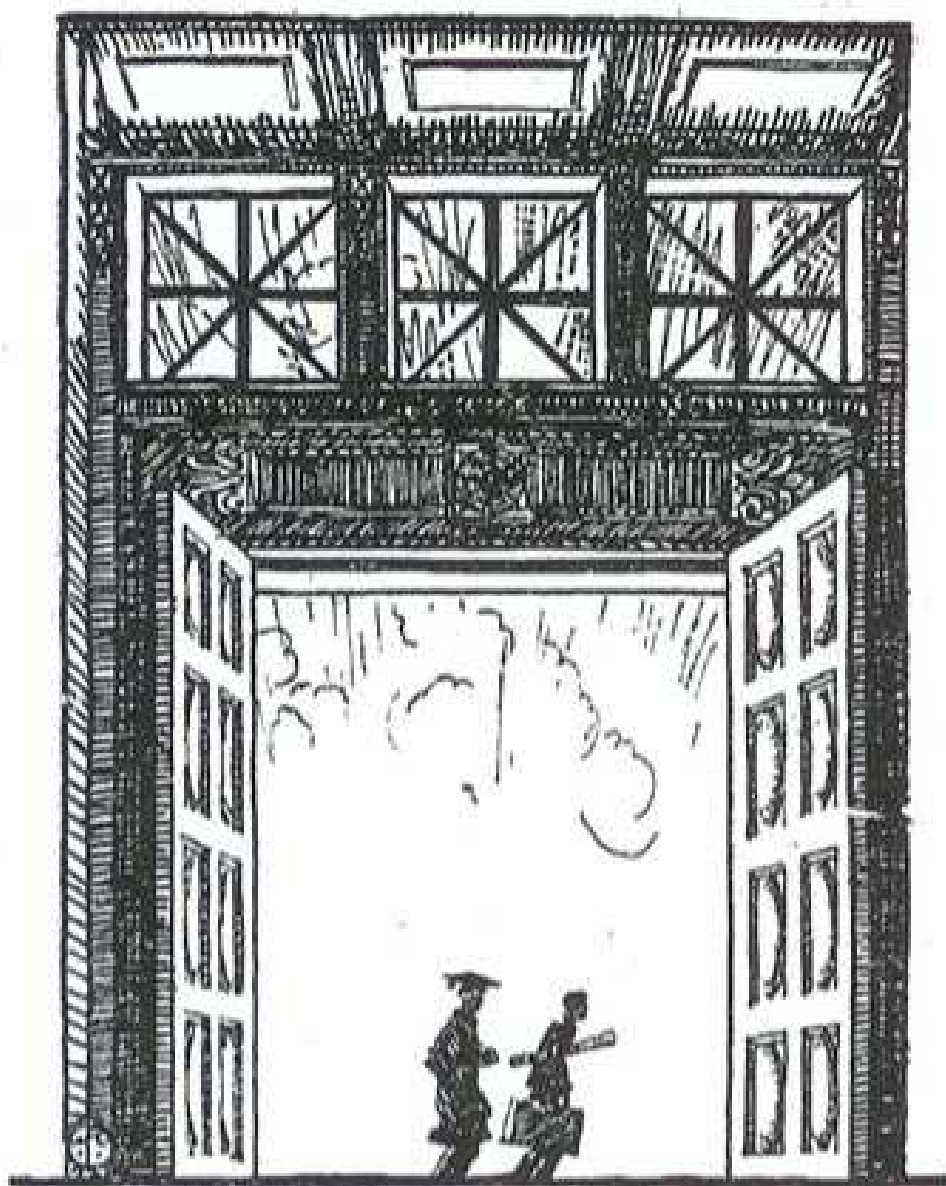
THE SHOP WINDOW



THE FACTORY WINDOW

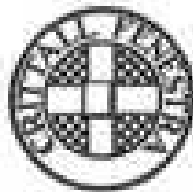


THE HOSPITAL WINDOW



**BRONZE WINDOWS AND DOORS**

# METAL WINDOWS



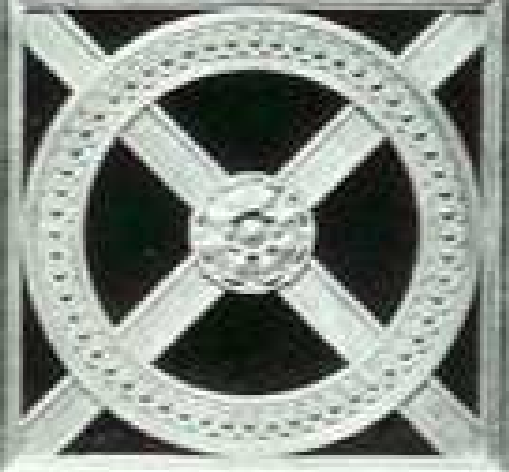
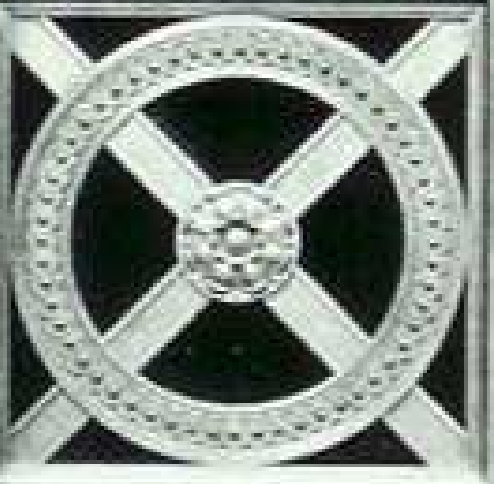
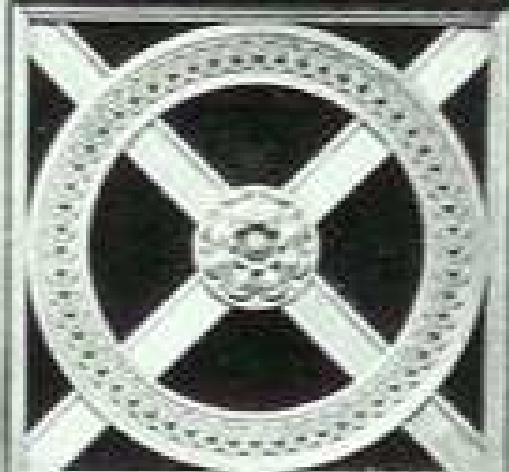
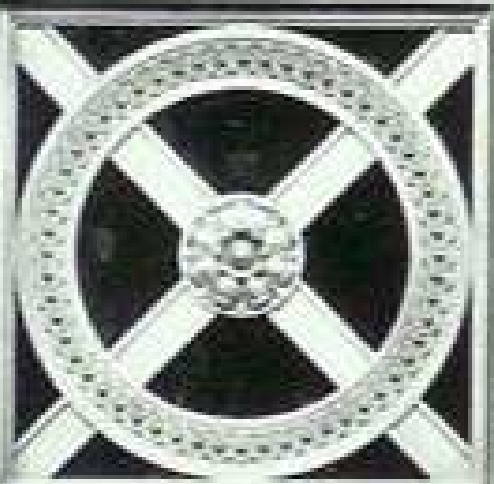
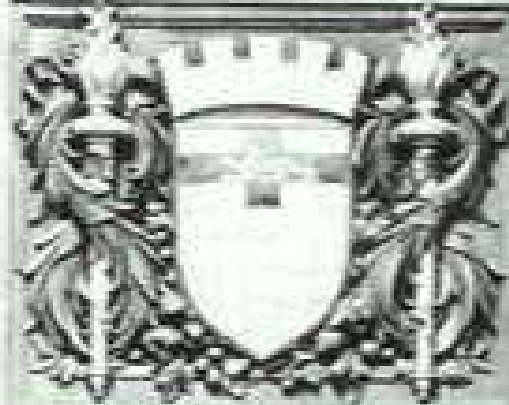
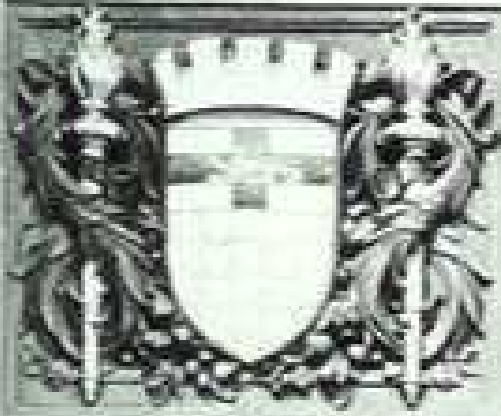
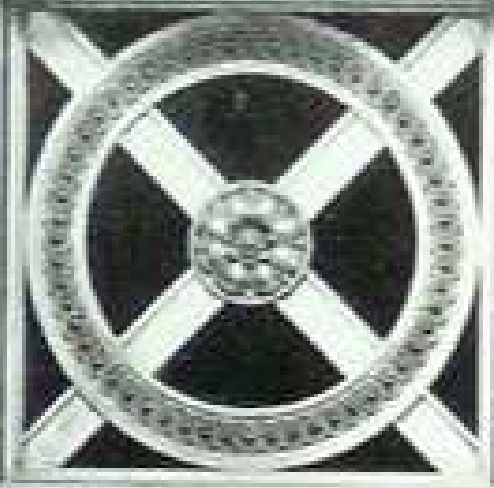
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No 23 1922



## BRONZE DOORS

For the New County Hall, London.  
Executed under design of the Architect  
Ralph Knott



Detail of Cast Bronze enriched central bronze of  
Doors to Members' Entrance



Detail of Bronze Panel showing Cast Enrichment of  
Doors to Main Entrance, Bedford Road

**CFB**

**CRITALL-FREEMAN BRONZE LTD**  
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From Models by George Alexander



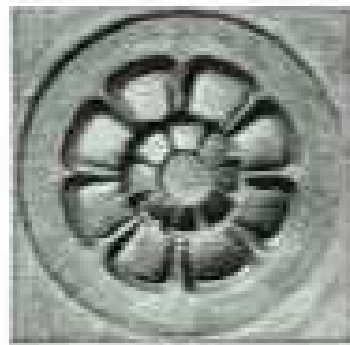
1758  
12" x 42"



1779  
42" x 2"



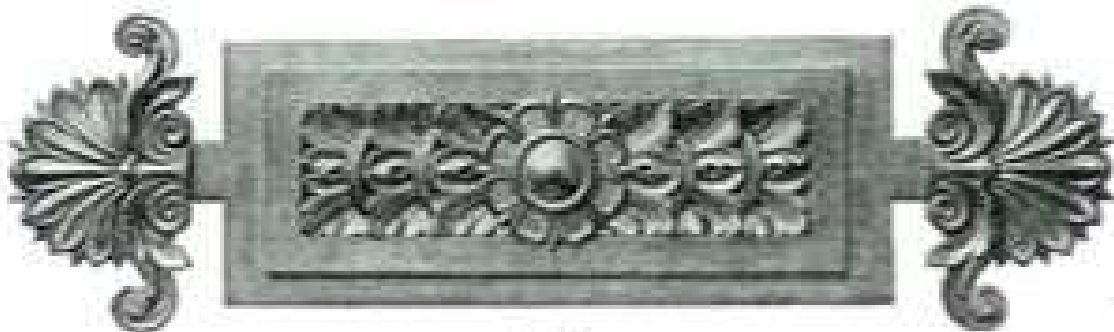
1780  
42" x 42"



1776  
8" x 8"



1783  
42" x 2"



1781  
42" x 42"

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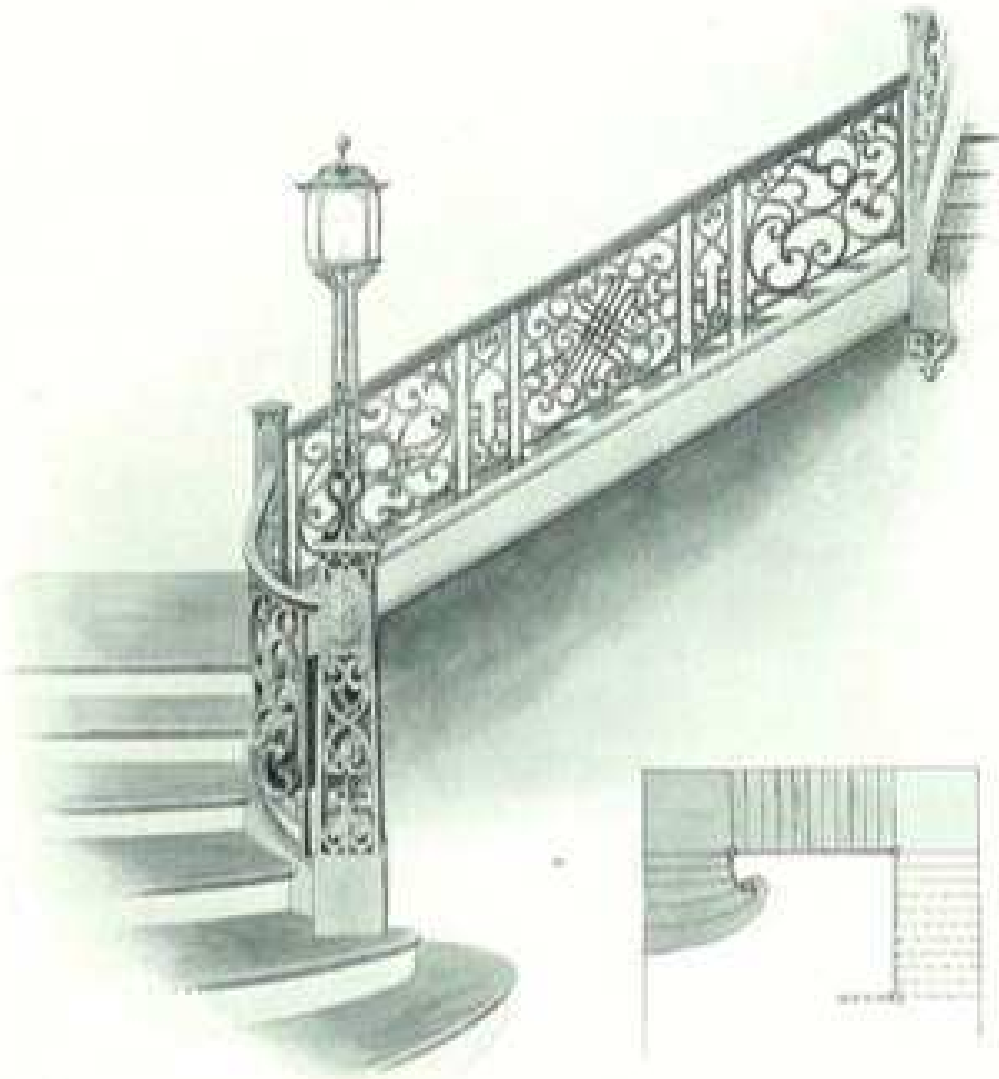
TELEGRAMS :  
"CRITMANGO, LONDON."



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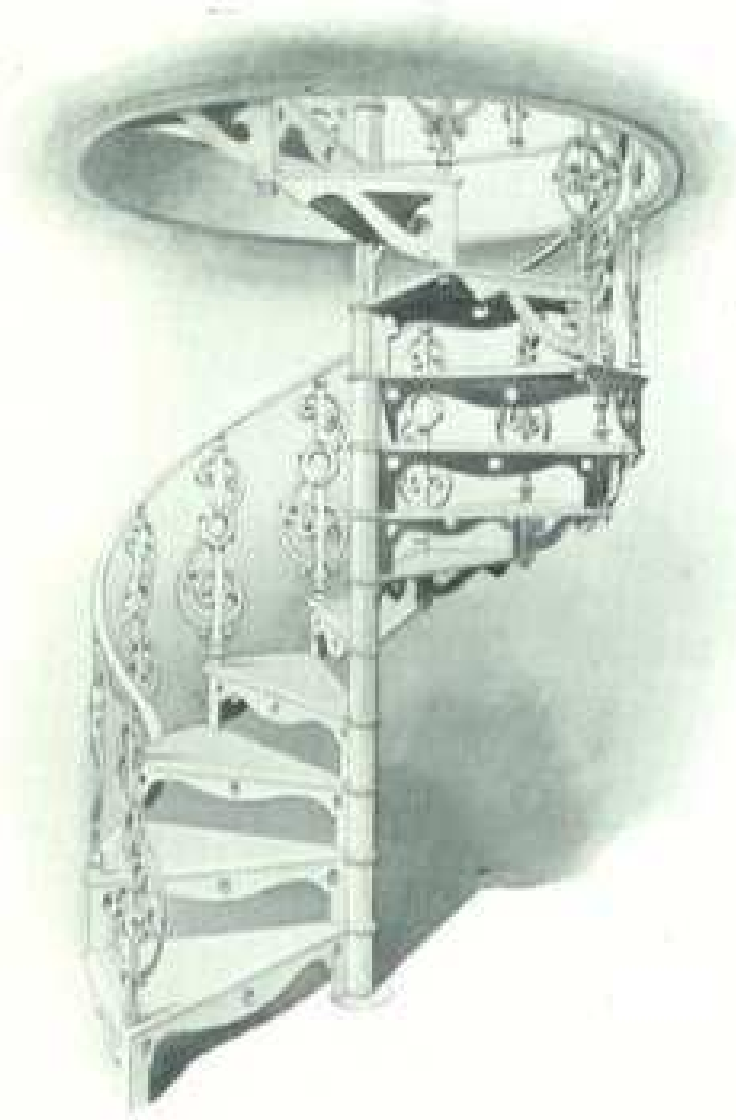
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**No. 3 PATTERN SPIRAL STAIRCASE.**

Circular staircases of similar construction to last, but treads 2' 6" radius, and of more elaborate design.

Solid or part open risers, as illustrated on page 6, supplied if desired.

**PRICES**

With cast iron treads and balusters.

|                               | £ | s. | d. |
|-------------------------------|---|----|----|
| 3' 6" diameter, per foot high | 0 | 17 | 0  |
| 4' 0"     "           "     " | 0 | 18 | 6  |
| 4' 6"     "           "     " | 1 | 0  | 0  |
| 5' 0"     "           "     " | 1 | 3  | 0  |

Including double tread landing at top.

Prices for ornamental W. I. balusters to any design on application.

Fixing extra.

52

**CRITTALL**  
**METAL**  
**WINDOWS**

**VOL. I**  
**NO. I**



CRITTALL METAL WINDOWS



HOUSES AT WALTON-ON-THAMES

Messrs. E. Wright & Son, Builders, Walton-on-Thames



CRITTALL METAL WINDOWS



HOUSE AT FETCHAM PARK, LEATHERHEAD,  
SURREY

A. Jessop Hardwick, Esq., Architect, Kingston

# DAYLIGHT!



THROUGH  
**CRITTALL**  
METAL WINDOWS

## EASY CLEANING



## BAY WINDOWS



## LARDER WINDOW



## WINDOW COMFORT





# FRENCH DOORS



# LEAD GLAZING



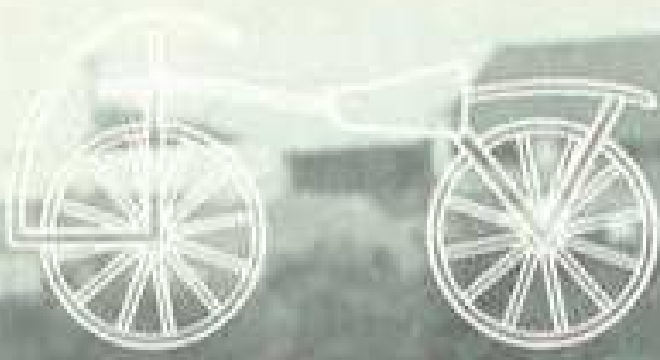


**One thing . . . .**



**. . . . and another . . . .**

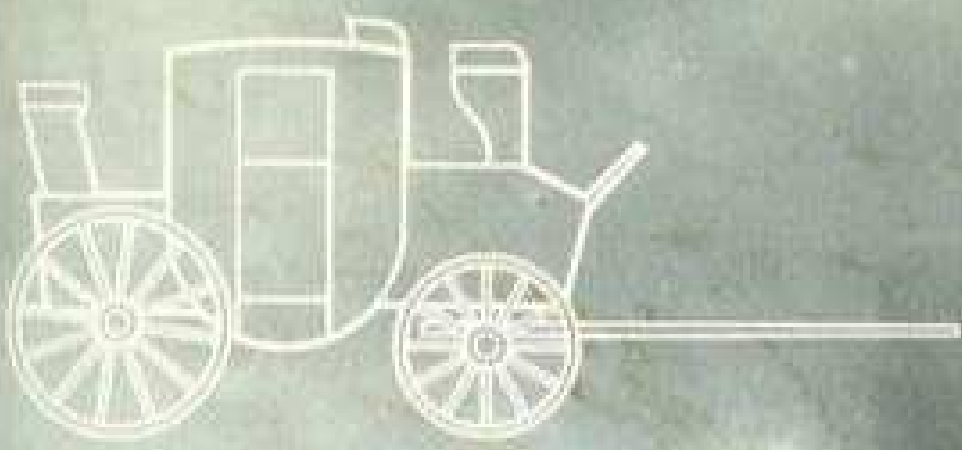
4/1-198



**One thing . . . . .**



**. . . . and another . . . . .**



**One thing . . . .**



**. . . . and another . . . .**

श्री/२५॥

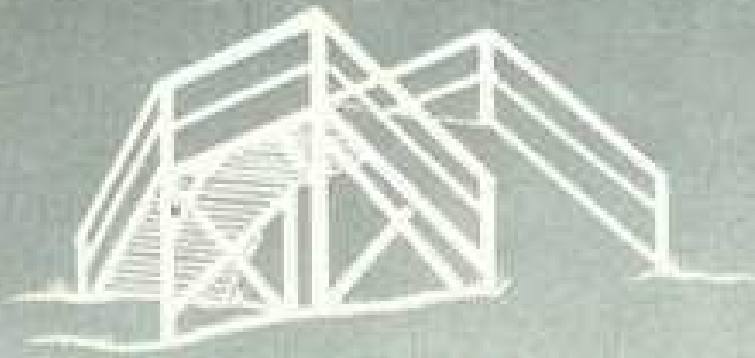


One thing . . .

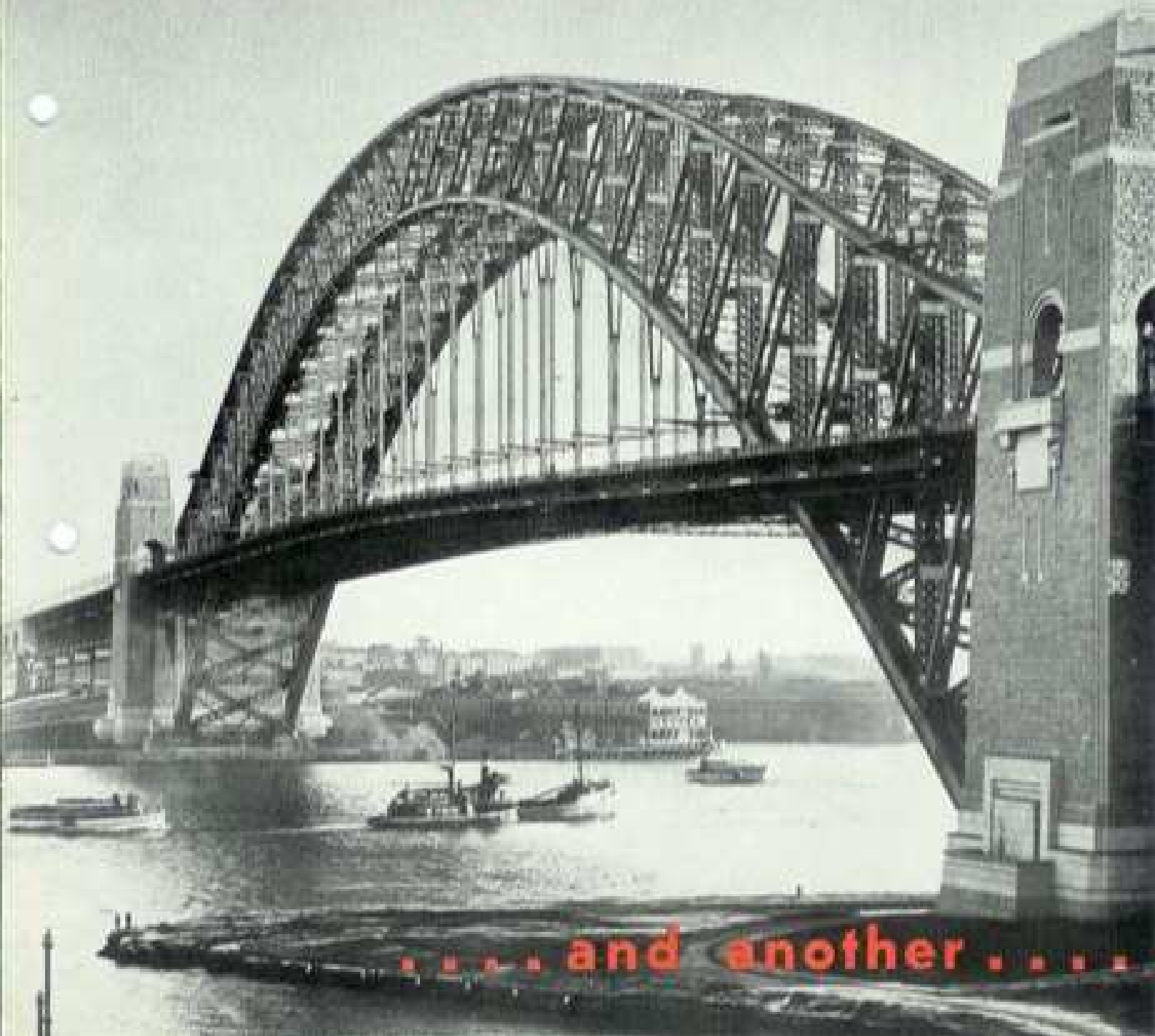


. . . and another . . .





**One thing . . . .**



**. . . . and another . . . .**

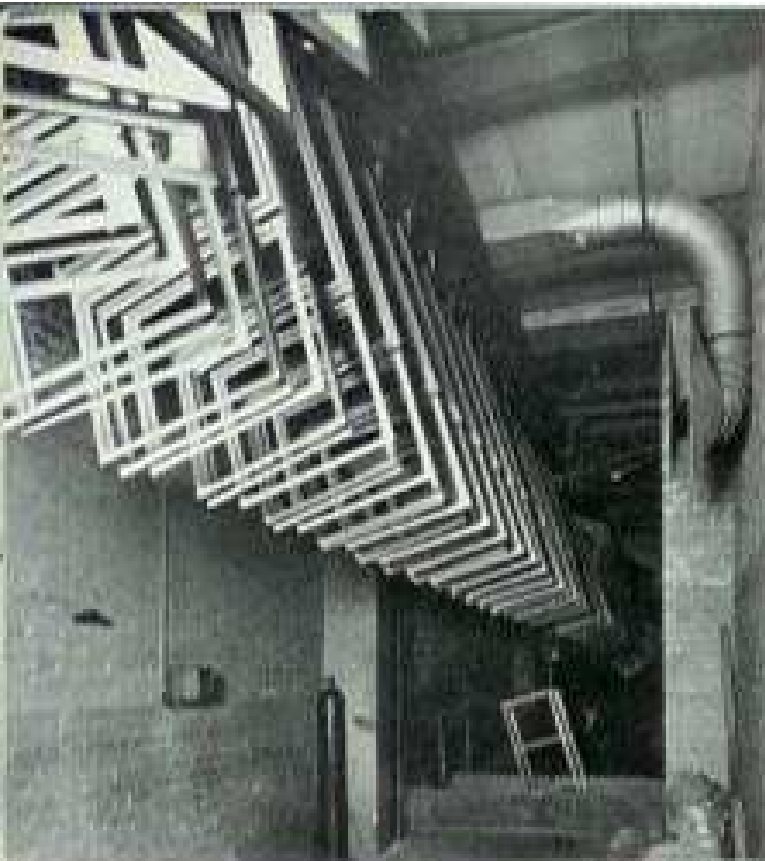
**— here**



**and in  
more than**

**a million  
others**





**. . . from the**



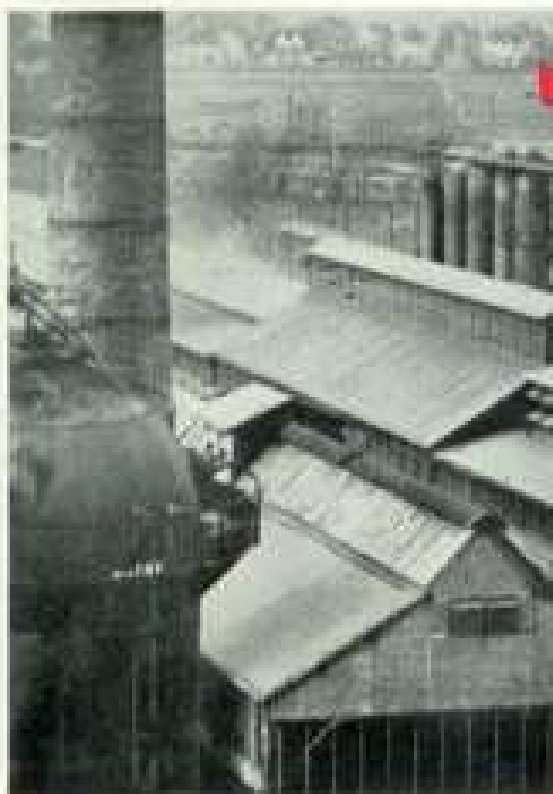
**raw material**

**onwards, an entirely British Product**

**This means over 3,000  
Crittall workmen con-  
tinuously employed**

Issued by  
The Crittall Manufacturing Co. Ltd.

# CRITTALL INDUSTRIAL SASH



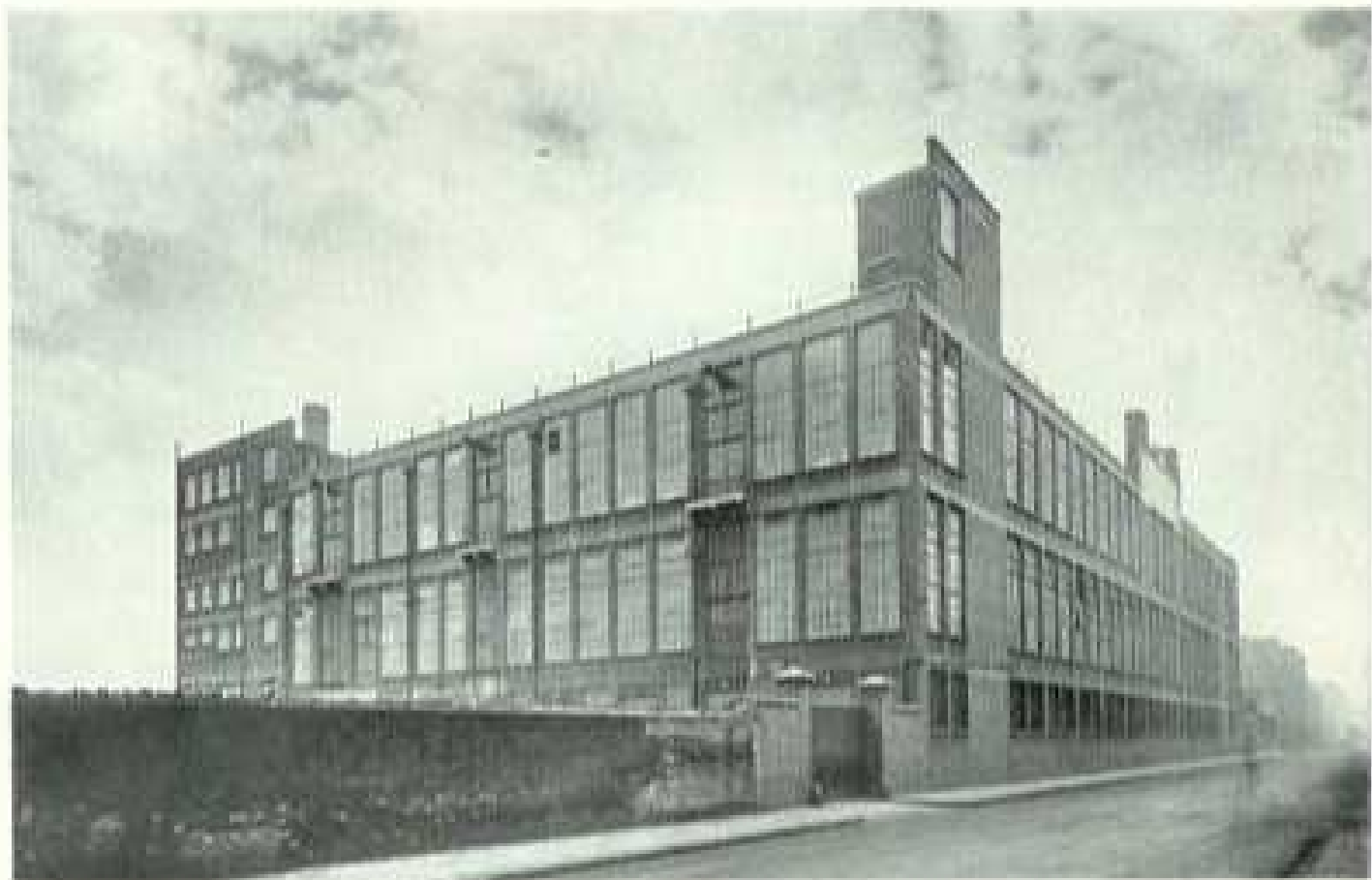
No. 83

83



Darlington Rolling Mills Co. Ltd., Darlington

Messrs. Bradshaw, Cass & Hope, Architects



Sanders Bros. (Stores) Ltd., Limehouse

Messrs Higgins and Thomason, Architects

# FITTINGS



SPRING CATCH FOR  
CORD OR LONG-ARM



RING CENTRE



HANDLE

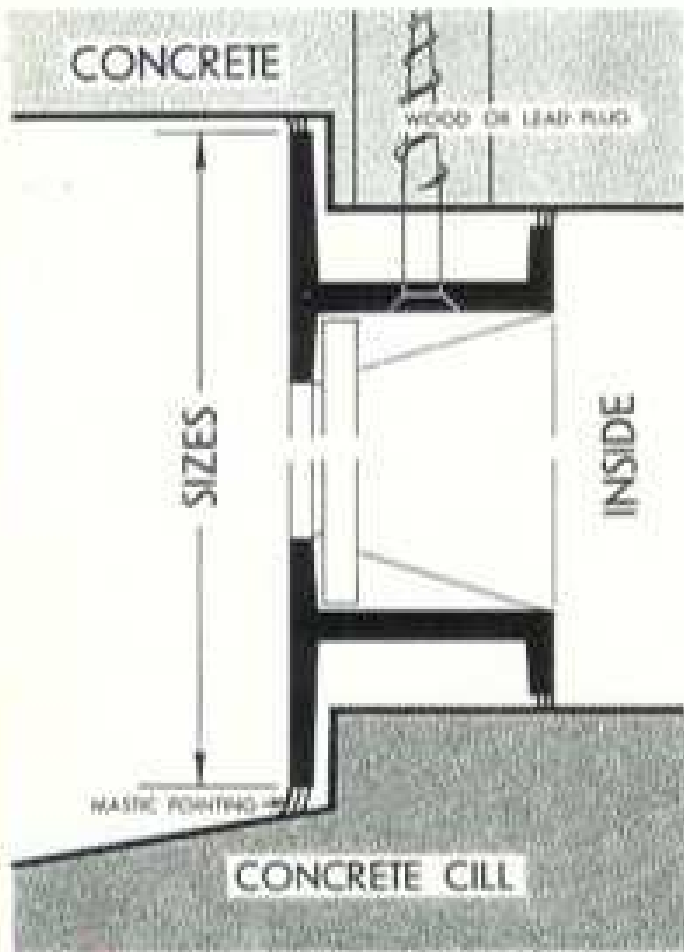


CILL CATCH  
FOR HAND

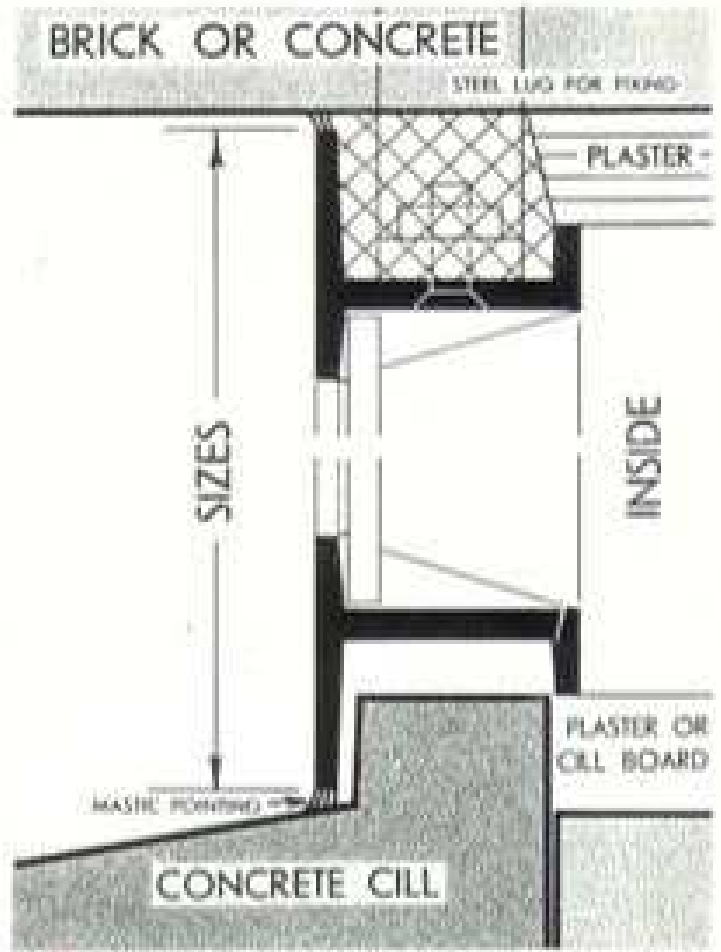


PEG-STAY

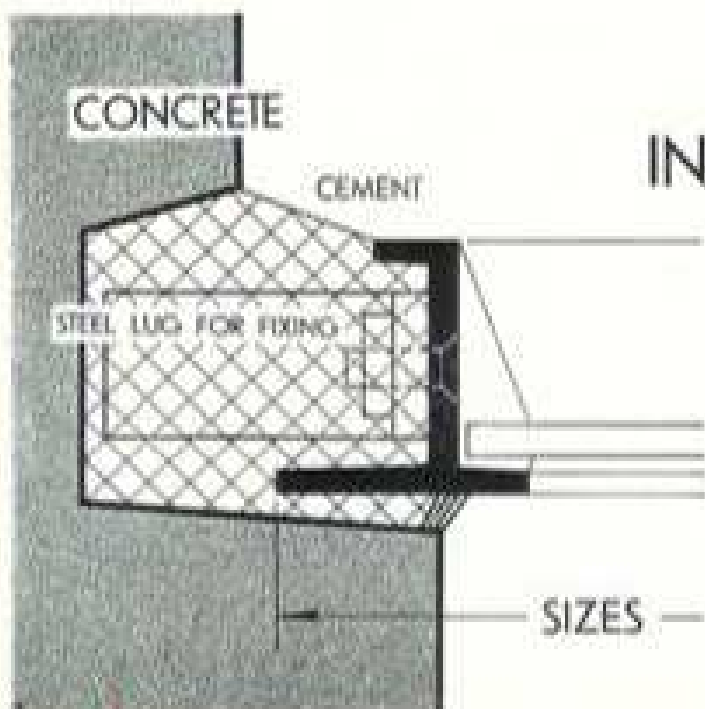
# FIXING



1

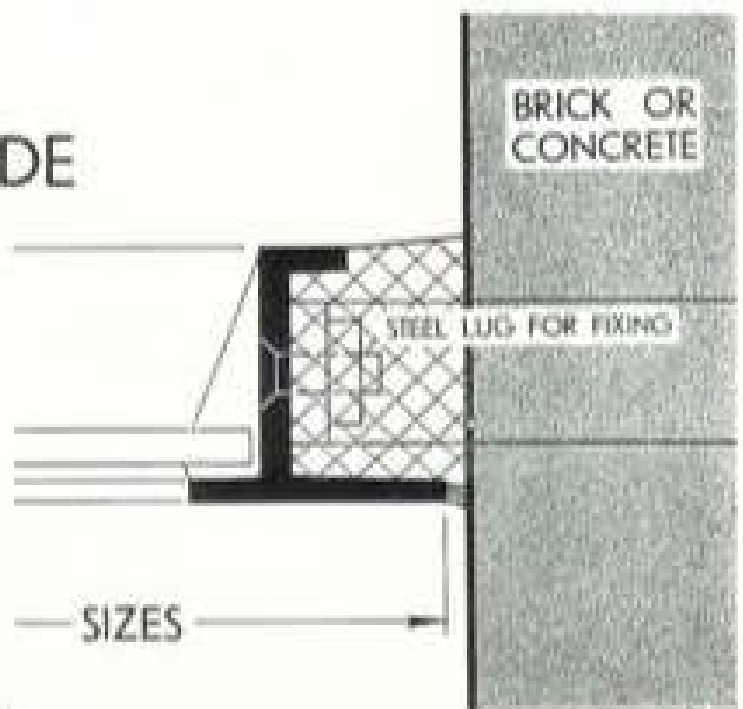


2



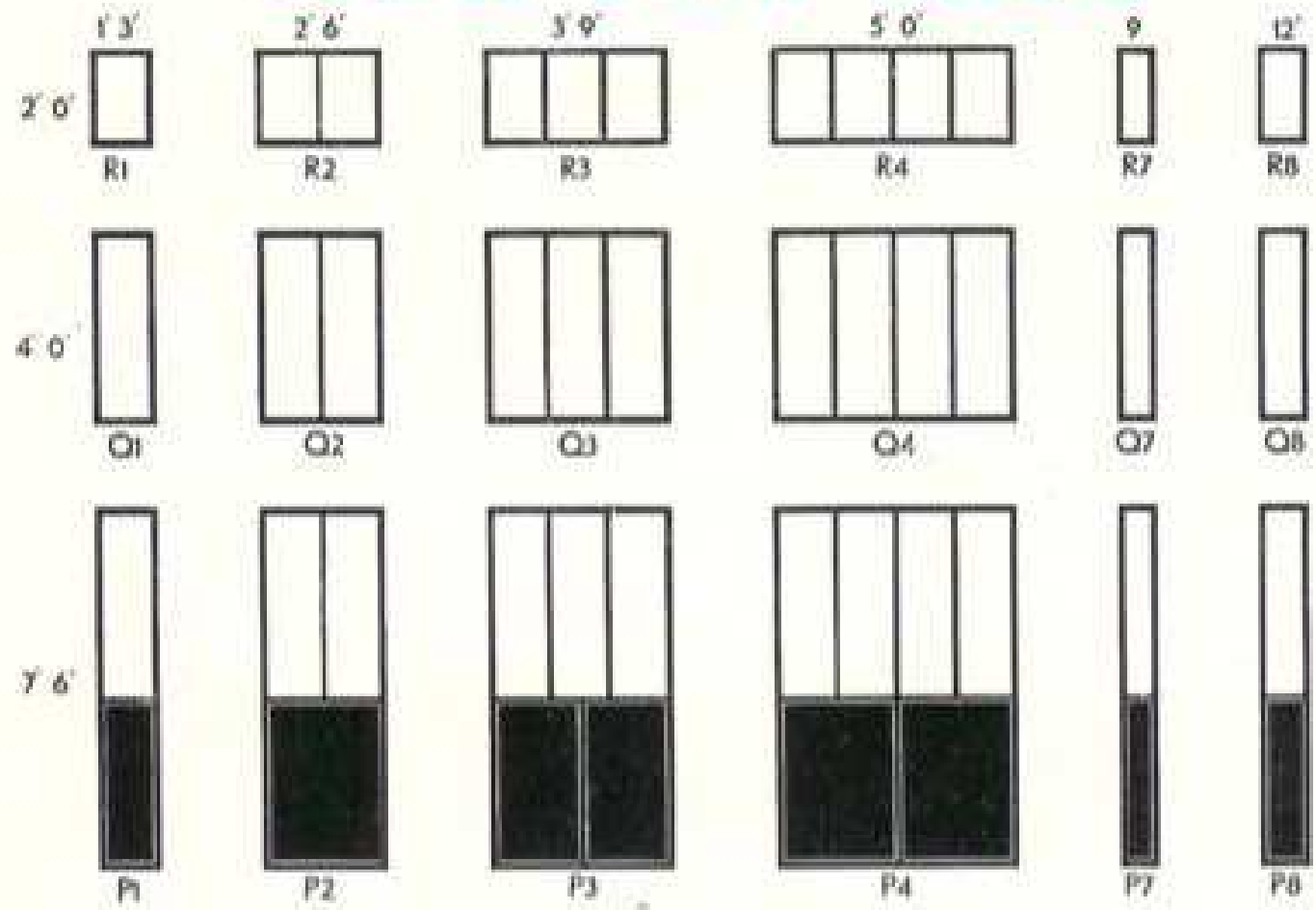
3

INSIDE



4

# STANDARD OFFICE PANEL UNITS



## GLASS SIZES

| TYPE | PIECES | HEIGHT | WIDTH | TYPE | PIECES | HEIGHT | WIDTH |
|------|--------|--------|-------|------|--------|--------|-------|
| R1   | 1      | 22½"   | 13½"  | Q4   | 4      | 46½"   | 14½"  |
| R2   | 2      | 22½"   | 14½"  | Q7   | 1      | 46½"   | 7½"   |
| R3   | 3      | 22½"   | 14½"  | Q8   | 1      | 46½"   | 10½"  |
| R4   | 4      | 22½"   | 14½"  | P1   | 1      | 46½"   | 13½"  |
| R7   | 1      | 22½"   | 7½"   | P2   | 2      | 46½"   | 14½"  |
| R8   | 1      | 22½"   | 10½"  | P3   | 3      | 46½"   | 14½"  |
| Q1   | 1      | 46½"   | 13½"  | P4   | 4      | 46½"   | 14½"  |
| Q2   | 2      | 46½"   | 14½"  | P7   | 1      | 46½"   | 7½"   |
| Q3   | 3      | 46½"   | 14½"  | P8   | 1      | 46½"   | 10½"  |

DOOR: TYPE P5 2 PIECES 45½" x 12½"

P5  
DOOR UNIT

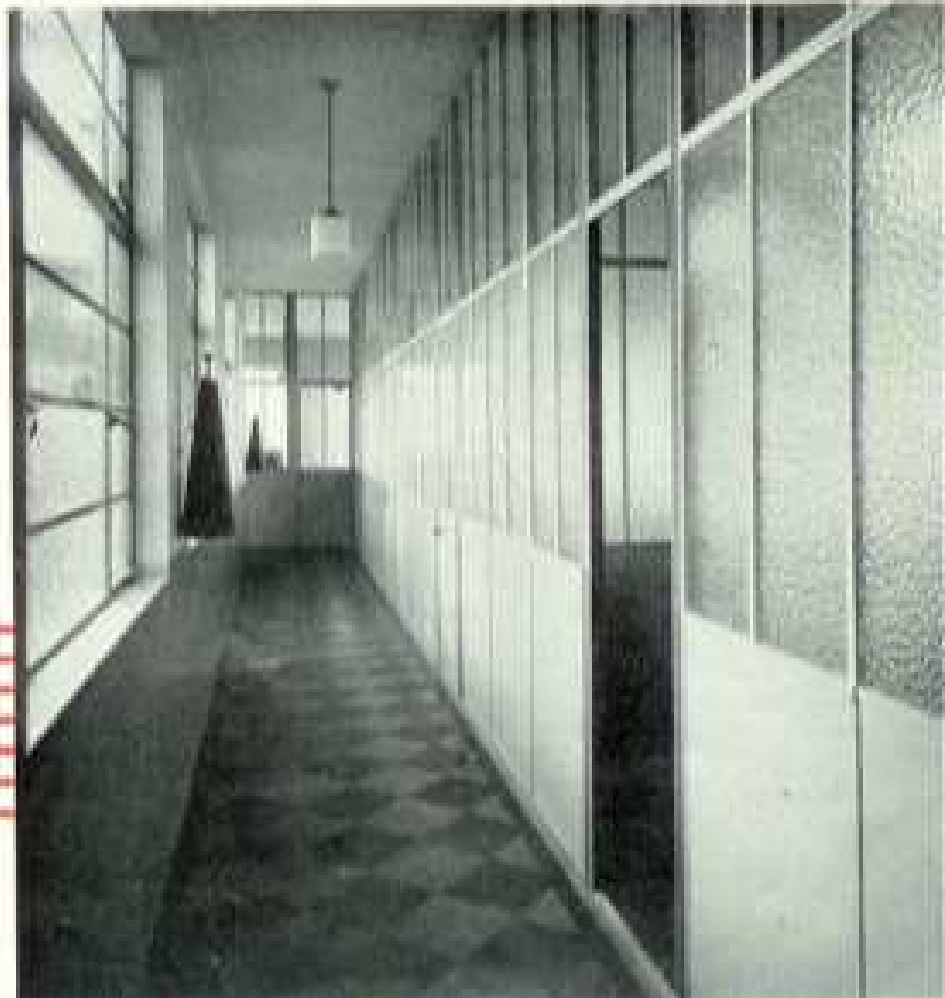
For all positions where internal subdivision is required. They are inexpensive, easily erected and dismantled and conserve the maximum of daylight.

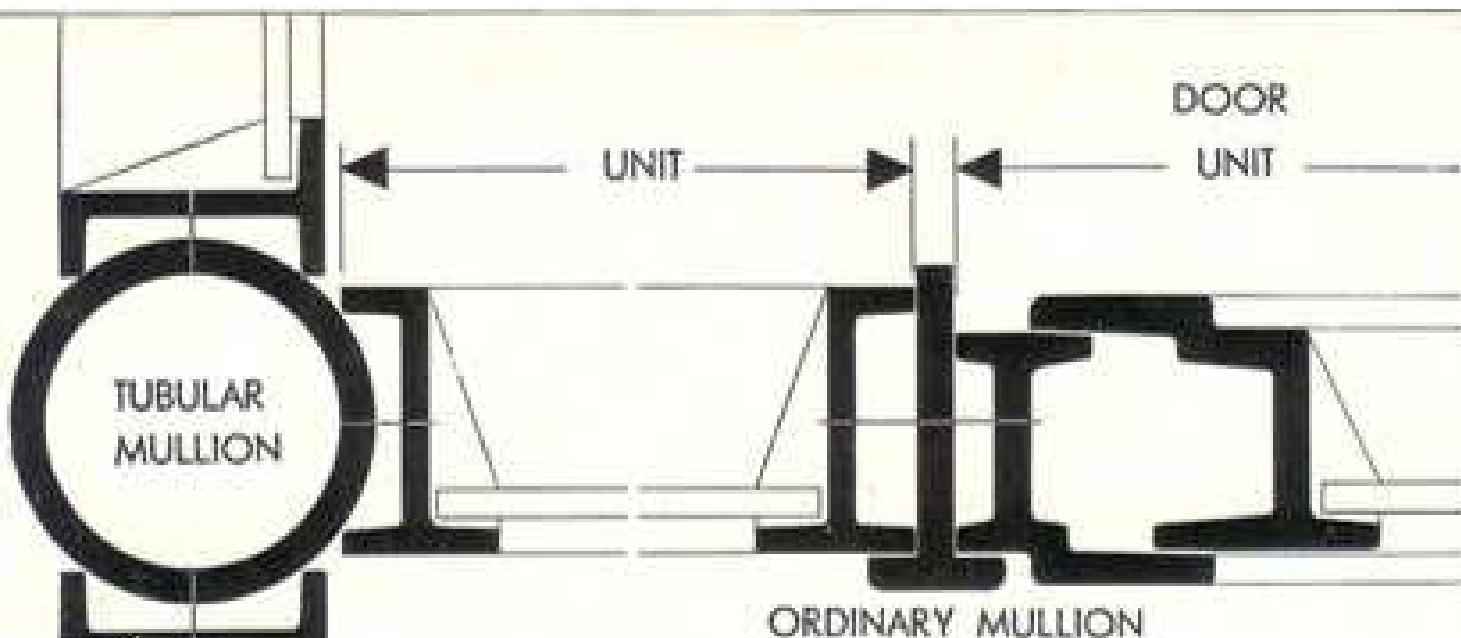
THE CRITTALL MANUFACTURING COMPANY LIMITED  
MANOR WORKS, BRAINTREE, BRAINTREE 106 : 210, HIGH HOLBORN, W.C.1. HOLBORN 4412





EXAMPLES OF THE SUBDIVISION OF LARGE  
FLOOR SPACES IN  
OFFICE BUILDINGS





Brief specification of standard panel units.

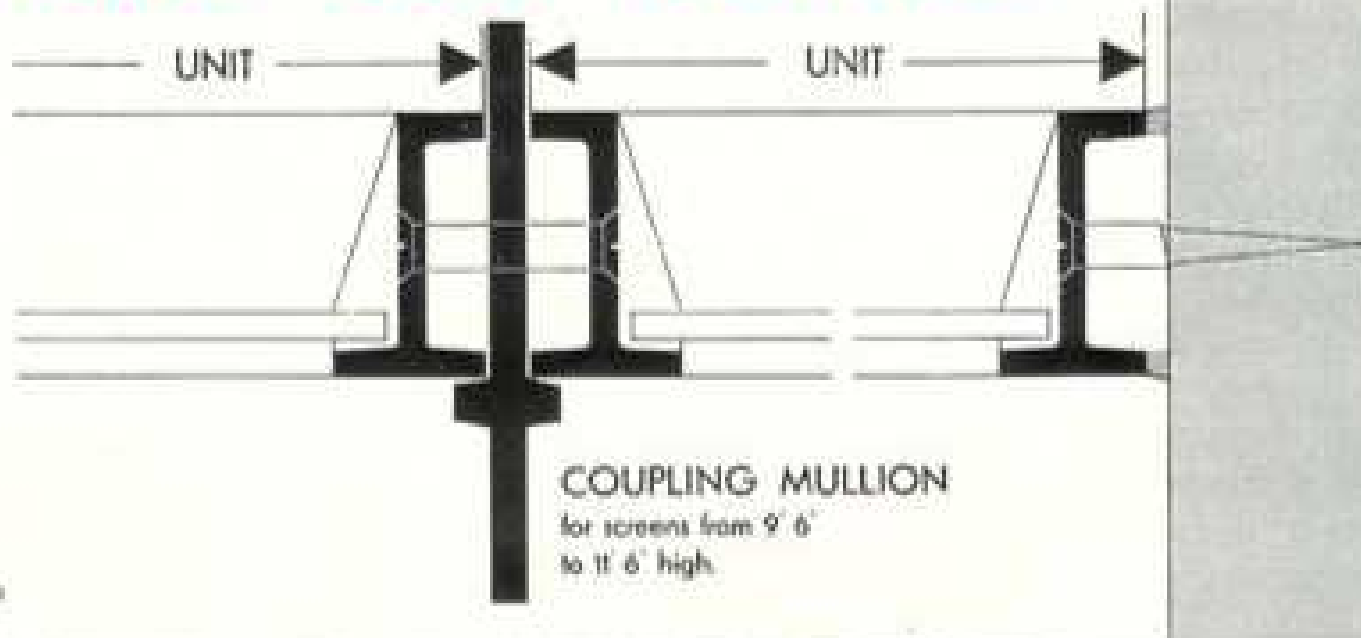
Frames of channel and tee sections as shown, with solid 16 B.W.G. plates welded into the lower part. Upper panes prepared for putty glazing, spring clips being supplied.

Tubular mullions are supplied for all corner connections and at unenclosed ends of screens.

The Standard door unit is of Crittall universal sections, and has both fixed and opening frames: it is hung to open inwards or outwards, and provided with substantial mortice lock and lever handles to operate from both sides.

All frames are ready drilled for countersunk fixing-screws which are included in each consignment.

## FULL SIZE DETAILS





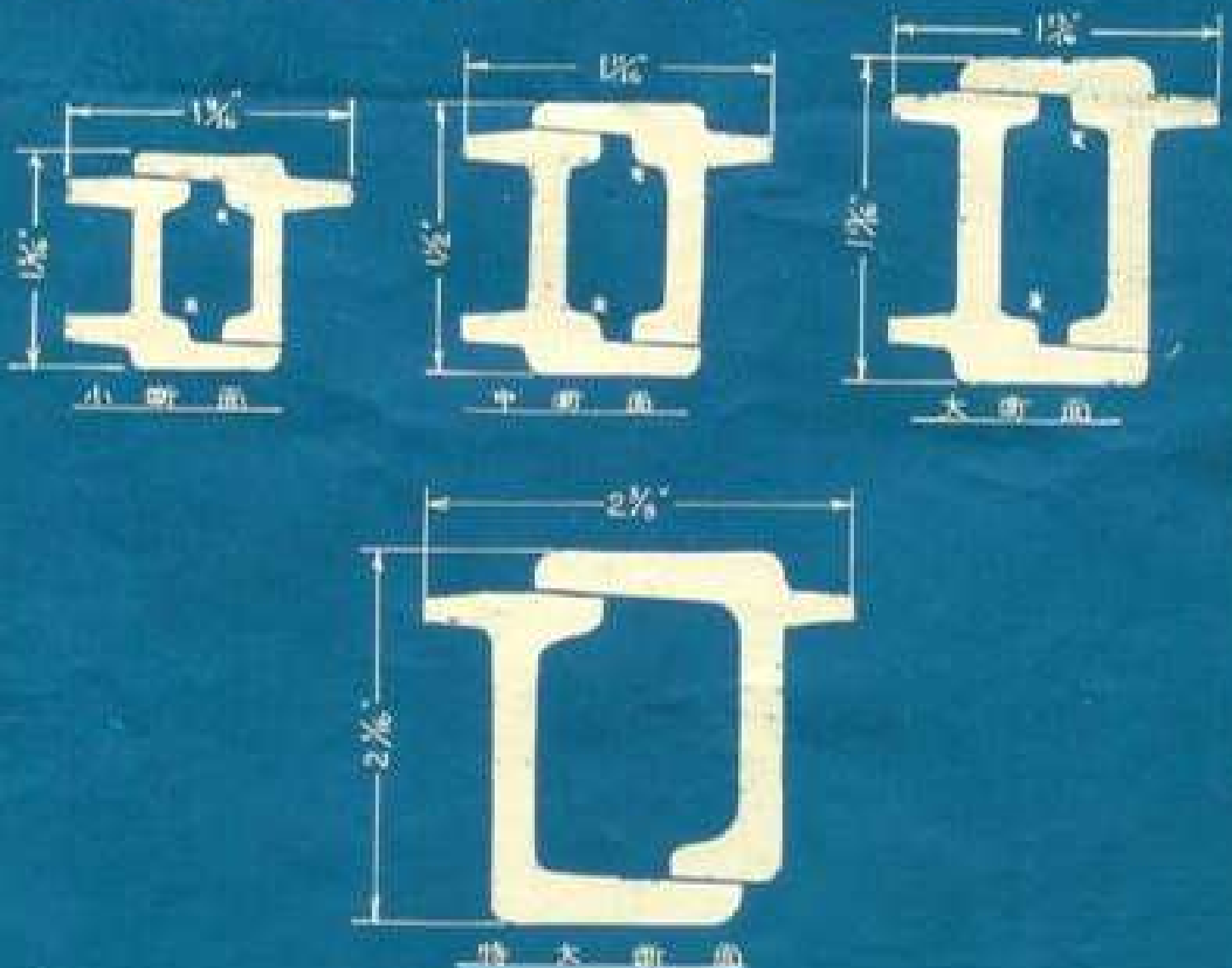
英 國

クリットル

スチール・サッシ

## クリットル・スチール・サッシェ

クリットル・スチール・サッシェはユニバーサル・セクションの下図に示す断面を有す。断面の等長ハスチール部分の図に示す如く突起部を有す。スチール・サッシェの生命は角の部分に在り。且ツ用所何レの場合も、美觀を保ち、其の上防雨防風之の隙を尚ホ其の断面ニハ大・中・小・特大の四種アリテ設計ノ如何、硝子ノ大小、依テ適當ニ組合ハス。工型断面ニプレートノビス止メシタル如キ結息ノ構造ニ非ズ。ツ材料ノ下図に如キ板條ト断面ノサッシェ・バーヨロールスレ而シテ其ノサッシェ・バー、廣ハ極テ滑ラカニ建テ付ケ、正確ニシテ一枚ノ依テ入レル隙間モ生ジナイ。硝子ノ嵌メ方ハ次ノ頁ニ見ル如ク、パテ製ビード・木製ビードノ三種類アリ。中横ハ丁字型ニシテ次ノ頁ニ示ス如ク横板が堅横ヲ貫テ離カナルトモ、堪且出ヅル事ナク、絶対防雨構造ナリ。日本橋ノ住友銀行東京支店ハ此ノクリットル・スチール・サッシェヲ用ヒ、故ク大震災ニ遭遇シ今日尚ホ何等ノタルヒノ害ニ生ジテ居ナイハ、萬人ノ知テ居ル處デアレ。

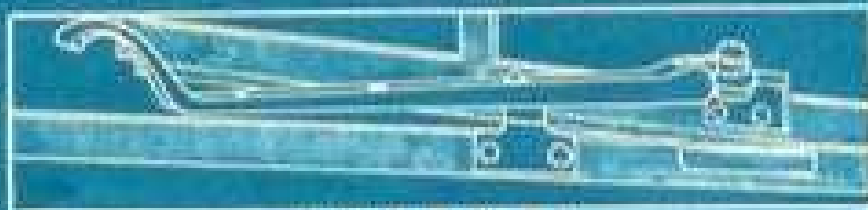


# 附属金具類

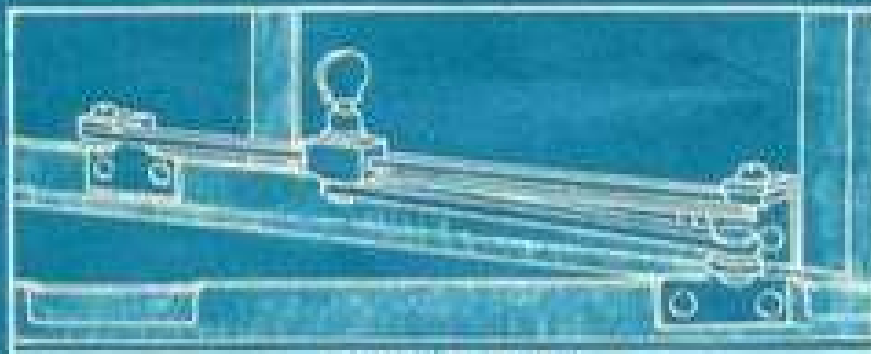
(把手)



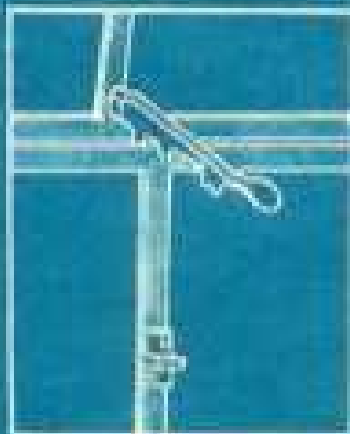
左、把手ハ、熊手型ニナリテ居リ半分  
用ケタル時外部ヨリ、強風、煽ラレ  
ル事ナク且ツ之ヲ調節スル事ヲ得  
把手ノ中ニハ「スプリング」ガ在リ堅クナ  
タル時ハ上ノ「オイル」ノ穴ヨリ油ヲ注ギ  
込ム事ヲ得



(突出調整器)



(突出調整器)



(突出棒)



(カーテン掛サ)

左ノカーテン「フック」ハ取  
外シガ出来棧ノ腐カ  
ラウ隅マデ掃除スレ事  
ヲ得

VENTANAS PATENTADAS  
"UNIVERSAL"  
DE CRITTALL



*Crittall*  
UNIVERSAL

*Crittall*  
UNIVERSAL

MOORE Y TUDOR

138 CALLE MAIPU 148

BUENOS AIRES

VENTANAS PATENTADAS  
"UNIVERSAL"  
DE CRITTALL



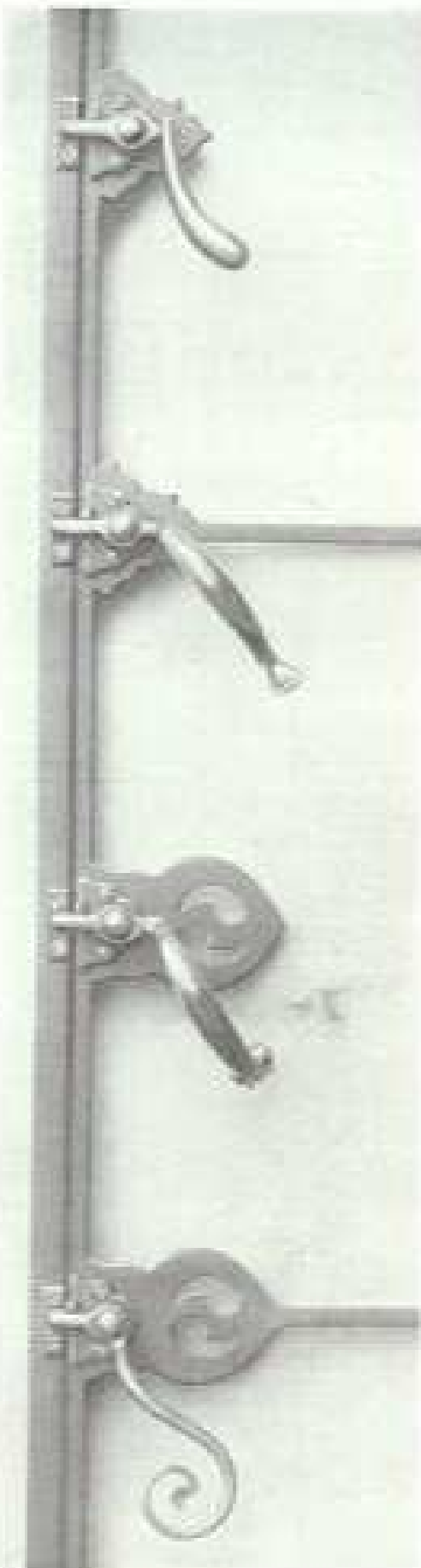
*Unicos Importadores*

**MOORE Y TUDOR**

138, MAIPU, 144, BUENOS AIRES

*Unicos concesionarios de*

**"The Crittall Manufacturing Co. Ltd."**  
INGLATERRA



## HERRAJES

Los herrajes usados en las ventanas de Crittall son de la más alta calidad, siendo enteramente de nuestra fabricación, y unen una resistencia ámplia á sencillez de dibujo.

Hemos recientemente instalado un taller moderno de fundición para la producción de modelos de bronce-cañon, y por consiguiente podemos garantizar la calidad del material y mano de obra.

Debe observarse que todos los brazos y chapas para herrajes son de acero dulce, y estan unidas de martillo á la ventana.

Todos los herrajes son intercambiables y se envian sueltos para ser colocados una vez instalada la ventana con sus vidrios. Con esto se evita robo ó daño antes de habilitarse el edificio.

## MANIJAS Y CHAPAS

Cada uno de estos modelos está fabricado en dos tamaños para que el aspecto del herraje sea proporcionado al tamaño de la ventana.

Las chapas á que estan asegurados son de acero sólido, y estan unidas de martillo á la ventana.

La chapa biselada permite que el cierre de la manija ajuste la hoja al marco fijo por un movimiento de levador. La chapa mencionada es de bronce-cañon de modo que la fricción no cause su oxidación.

Las manijas pueden colocarse en cualquiera de las chapas.





# CRITTALL TROPICAL STANDARD WINDOWS AND DOORS

---

THE designs in this booklet are based upon the sizes of windows and doors now in general use in tropical countries and have been adopted by us as standard products.

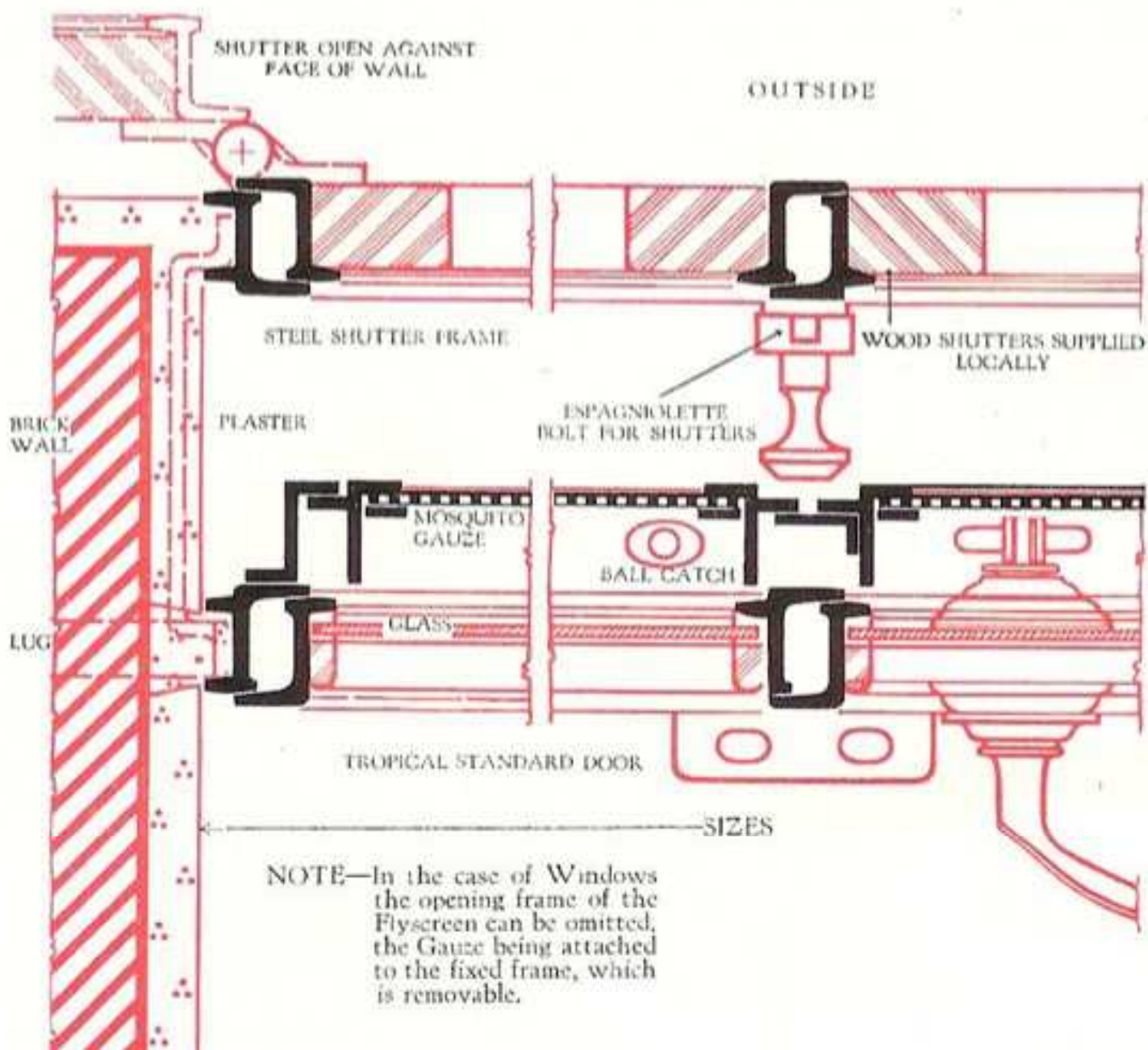
**STEEL.** Tropical conditions make the Steel Casement Window essential. It does not warp, twist, expand or contract as does the wood window; it is unaffected by white ant; its fittings do not work loose; the ventilators never refuse to function. These advantages mean a long life of efficient service at a minimum cost of upkeep.

**PRICE.** By means of standardization we have been able to reduce the cost of these Metal Windows so as to compare favourably with that of the wood window. In order to obtain the benefit of the low cost of production through standardization, it is necessary for the window openings to be formed to take the standard sizes which are shown, otherwise the cost is largely increased.

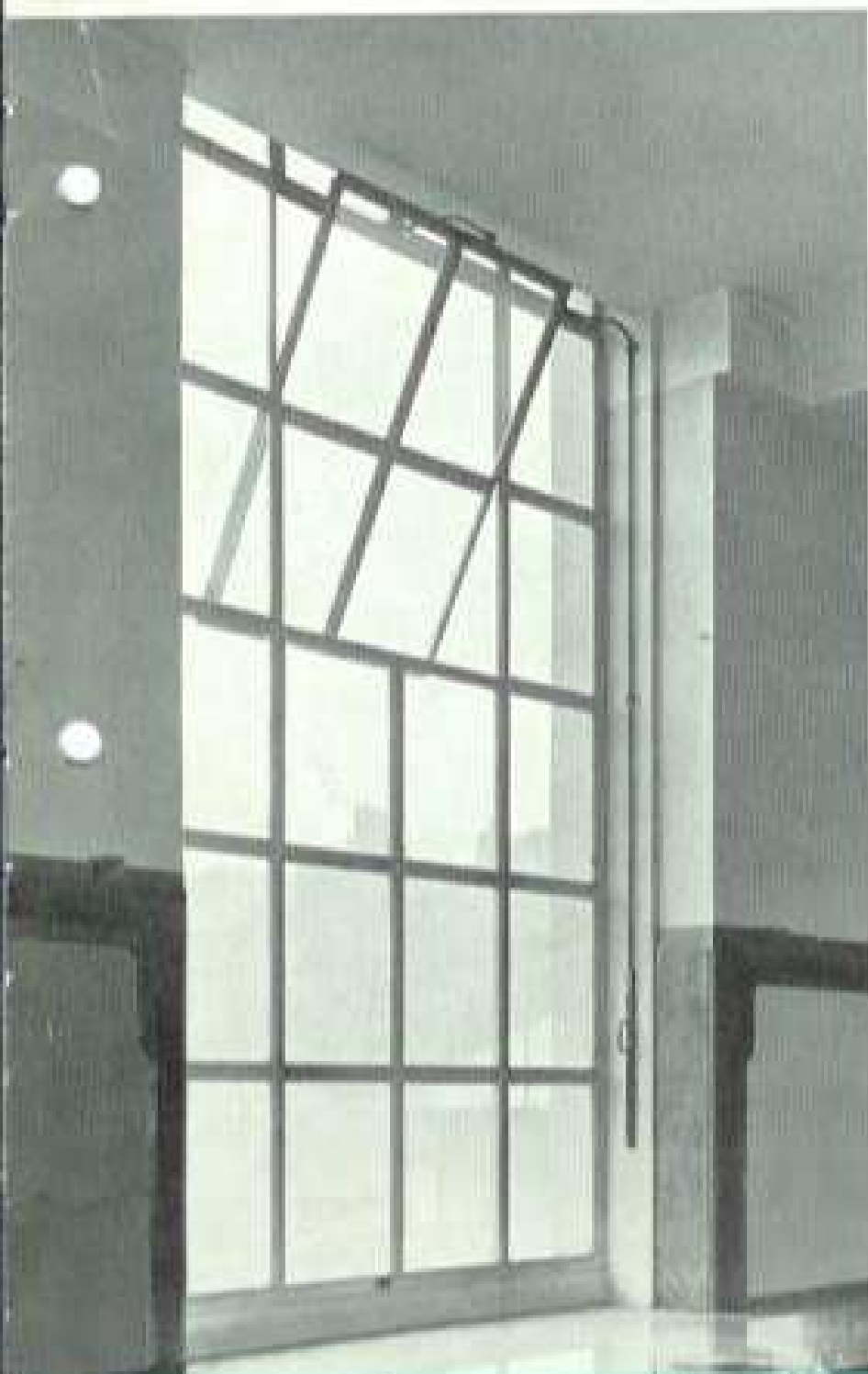
Prices quoted include all fittings and fixing lugs, which fact should be borne in mind when comparing the cost with that of wood windows.

THE  
CRITTALL  
MANUFACTURING CO. LTD.  
BRAINTREE, ENGLAND  
HEAD OFFICE AND LONDON SHOWROOMS  
210 HIGH HOLBORN, LONDON, W.C.1

# FLYSCREENS & SHUTTERS



# CRITTALL WINDOWS



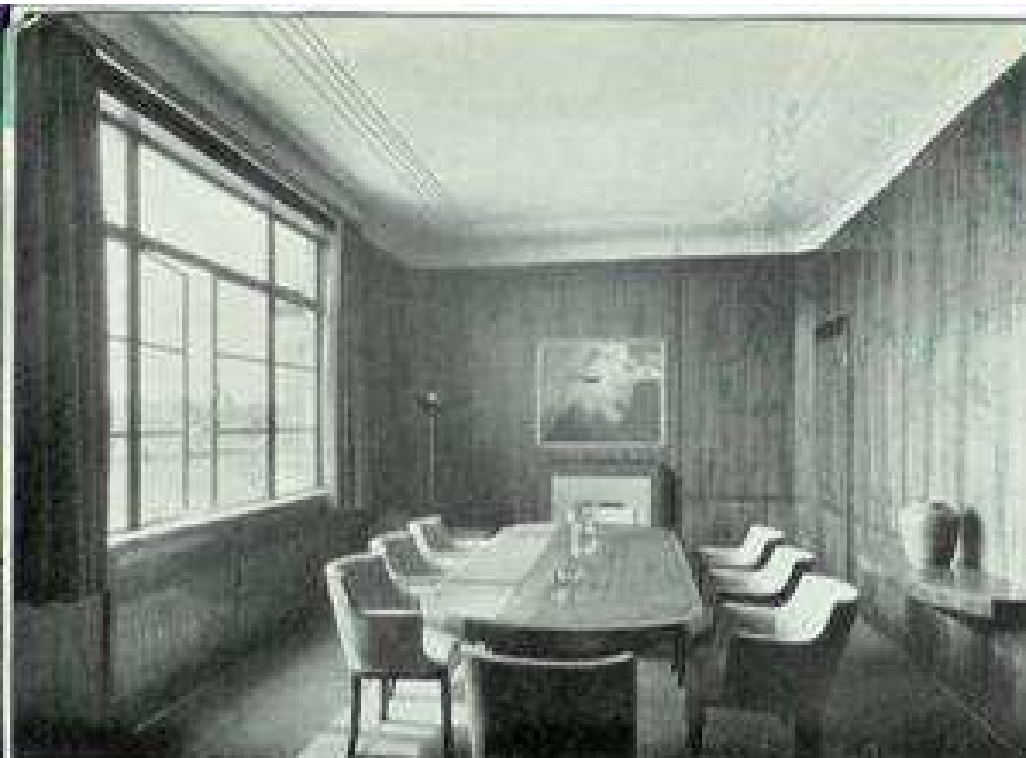
## OPERATED BY ARENS CONTROL

The Arens Control is a means of operating ventilators that are out of reach, without spoiling the appearance of the window with unsightly rods, levers, or cords. The Control is neat, and compared with other kinds of gear, inconspicuous.

THE CRITTALL MANFG. CO. LTD

210, HIGH HOLBORN,  
LONDON, W.C.1  
PHONE: HOLBORN 6612.

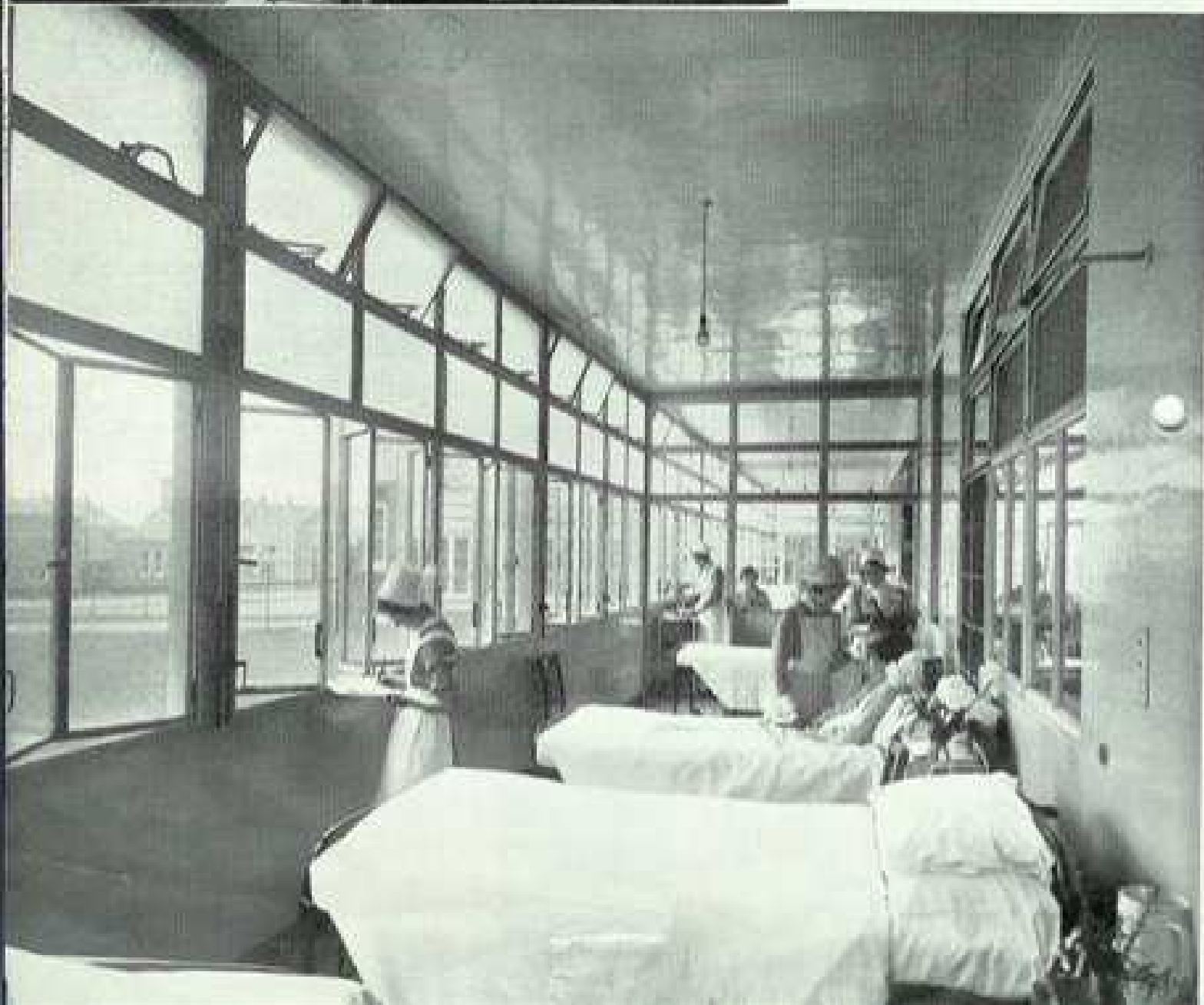
No. 91A



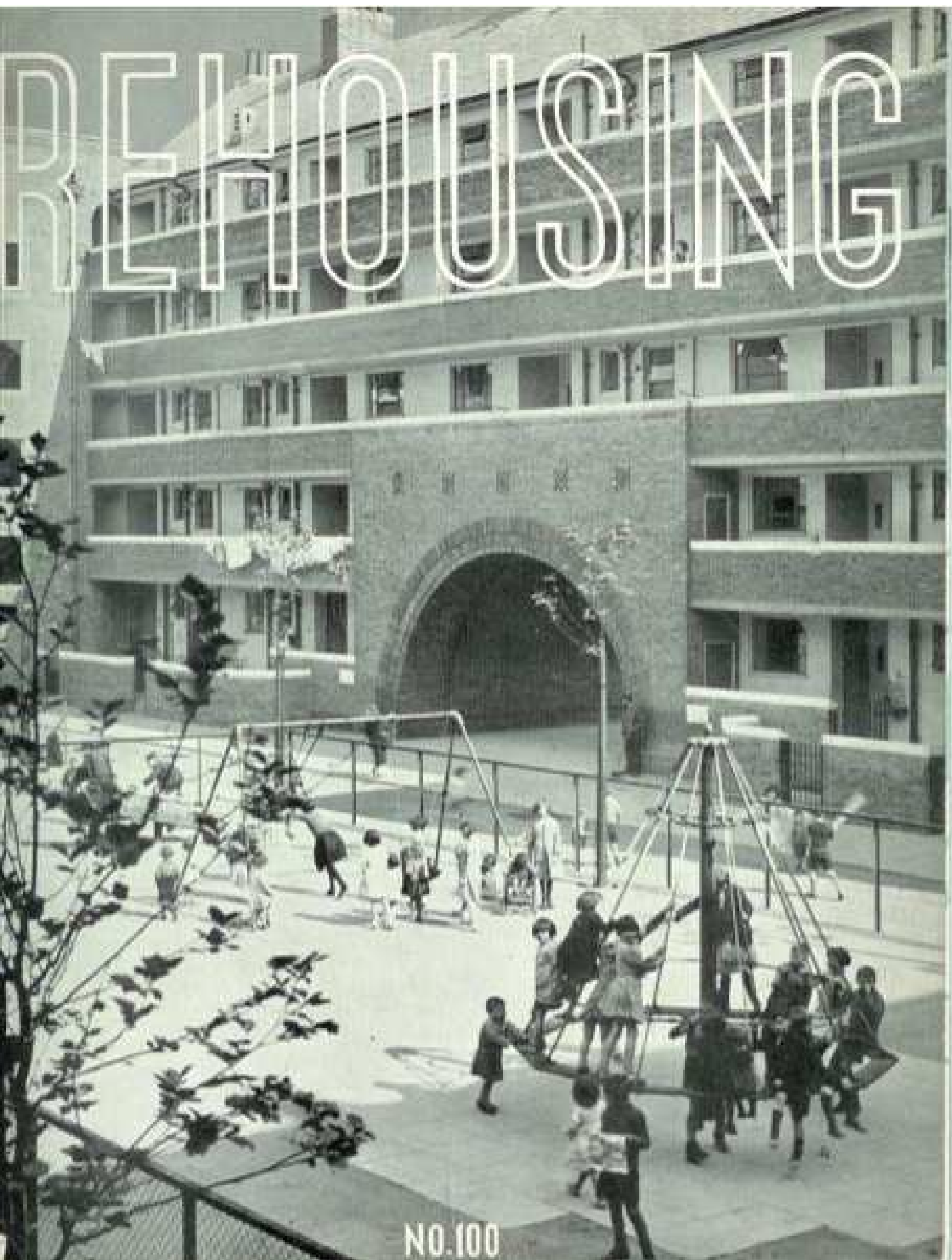
de Havilland Aircraft Co., Ltd.,  
Hatfield Aerodrome, Herts.  
James M. Munro & Sons  
— Architects.

Below :  
Leicester Royal Infirmary,  
Pick, Everard, Keay & Gimson  
— Architects.

(Each set of two ventilators is  
operated from one screw ge  
box.)



# REHOUSING



NO. 100



## BRIGHTON

Part of the Manor Farm Estate at Kemp Town.  
David Edwards, M.Arch.C.E., F.S.A.  
Architect.



## MARGATE

Typical "horizontal" rehousing by the Margate Corporation.

E. A. Borg, M.Arch.C.E., M.I.M.  
& Civ. E., M.Inst., W.E.  
Boro' Engineer & Surveyor



## DARTFORD

Part of a scheme of 160 houses.

N. L. Kerr, B.Sc., A.M.I.M.C.E.  
Boro' Engineer & Surveyor  
Borough of Dartford.





## NORTH KENSINGTON

Princess Alice House

For the Kensington Housing Trust,

Hendry and Schooling  
Architects.



RITTALL WINDOWS

# THE COMET • HATFIELD • HERTFORDSHIRE



E. B. HUSMAN, ARCHITECT.

## CRITTALL SLIDING- FOLDING WINDOWS

Besides the sliding folding windows in the Saloon Lounge, there are folding "universal" casements in the Restaurant, first floor Sitting-room and Saloon Bar, seventeen 2 ft. dia. domed lantern lights in flat roofs, and Crittall Standard metal windows elsewhere, including the tower. The continuous heads and cills are of Clipsham stone and all windows are painted pastel blue.

THE CRITTALL MANUFACTURING COMPANY LIMITED  
HEAD OFFICE: 210 HIGH HOLBORN LONDON W.C.1





## THE COMET · HATFIELD · HERTS

E. B. MUSMAN, ARCHITECT

While the tracks of the sliding folding windows at head and sill are curved-on-plan, the folding leaves are straight, so that they may occupy the minimum of space when opened and folded

The upper illustration shows the Sitting-room windows slightly opened; below are those of the Saloon Lounge fully closed. This photograph is reproduced by courtesy of the R.I.B.A. Journal.



THE CRITTALL MANUFACTURING COMPANY LIMITED  
HEAD OFFICE: 210 HIGH HOLBORN LONDON W.C.1

DEPARTMENTAL MEMORANDUM.

|  |            |   |
|--|------------|---|
| From<br>SALES MANAGER,<br>LONDON OFFICE. | SR/CMR/LS. | Date 9th March, 1937.   |
| To Mr. E.T. Gilbert - London.            |            | Illustration Sheet II.850.<br>Subject "The Comet", Hatfield, Herts. |

Attached is Illustration Sheet II.850, "The Comet", Hatfield. This job has been extensively written up in the Architectural papers, and appears to be one of the most important "public houses" recently completed.

Our window order included four different products, the most interesting item being the 7ft. high sliding folding windows in the Saloon Lounge on the ground floor.

The head tracks for these, being curved-on-plan, are not of standard construction as shown on leaflet R.I.S.U., but are made up of channels, angles and bent plates, the whole of the tracks being fixed into the concrete lintels, so that only the actual window sections project into the sight, and line through with the ordinary casements in adjacent openings. An interesting point of construction is that while the windows generally are of medium section, the one central meeting rail is of large section, to permit proper sliding together of the leaves at the angle necessitated by the curvature of the track. This feature has been perpetuated merely for the sake of appearance, in the meeting rail of the middle pair of folding casements in the room above.

Though the leaves are rather tall and the job is somewhat unusual, the windows are functioning quite satisfactorily. Further copies of the sheet can be obtained from Publicity Department in the usual way.

*CR.*

Sent to: Recipients of Representatives' Bulletin.

CRITTALL  
SUB-LIGHT



## WINDOWS FOR FLATS

Crittall Standard Windows incorporating a fixed light at the cill are now available in most of the normal types. The main advantages of the "sub-light" are that it enables windows of greater light area to be used in flats, without the inconvenience of a low ventilator cill. With sub-lights furniture may stand in front of windows without interfering with access to the window fittings, while the danger of anything falling out is reduced to the minimum.



When sub-light windows are used not only can furniture be placed immediately below them without hindering the opening and closing of the casement, but the sill itself becomes a useful place on which flowers, etc., can be placed without danger of being blown over: a space which would otherwise be wasted.



The sub-light window shown here is fitted with projecting hinges which allow the casement to open right back against the wall. It is also supplied with a Crittall rolled steel sill.

# CRITTALL

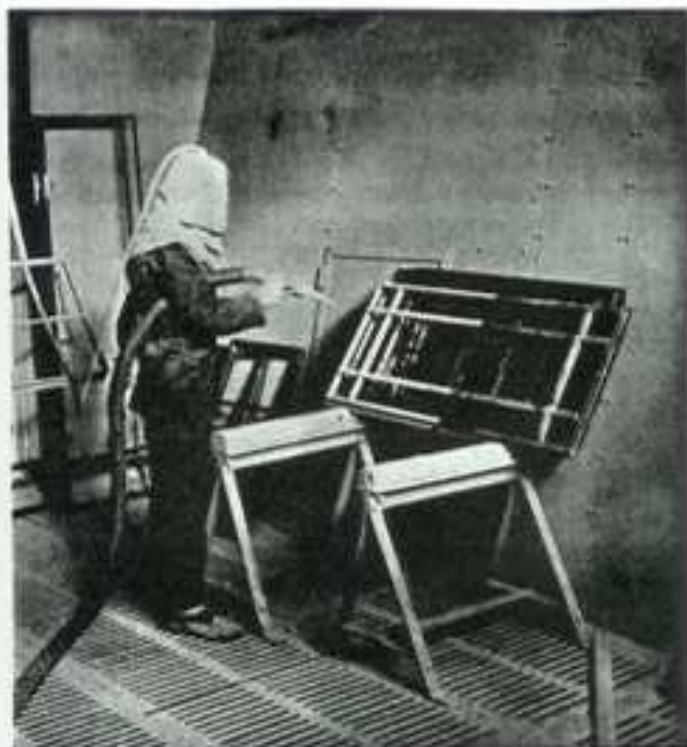


NO. 89A

# ZINCSPRÄ

*MS*

# THE ZINCSPRÄ PROCESS APPLIED TO CRITTALL WINDOWS



IN THE SANDBLASTING ROOM AT  
THE CRITTALL BRAINTREE WORKS

Where buildings have to face the worst kind of weather, considerable saving in maintenance can be effected by using Crittall metal windows and doors treated with Zincsprä. The process provides the metal frames with a complete coat of zinc; and the paint that is applied above this needs renewing much less often than is necessary for external painting in the ordinary way.



The process consists in first thoroughly cleansing the metal by means of sandblasting and then applying the zinc in the form of vapour. Zinc wire fed into a 'pistol' by a small air-driven turbine is liquified by

an oxy-coal-gas flame and passes through an atomiser to emerge as zinc vapour. On touching the cold steel it immediately solidifies and forms an impervious coating of zinc. This adheres permanently to the keyed surface prepared by sandblasting and in its turn provides an excellent surface for painting.

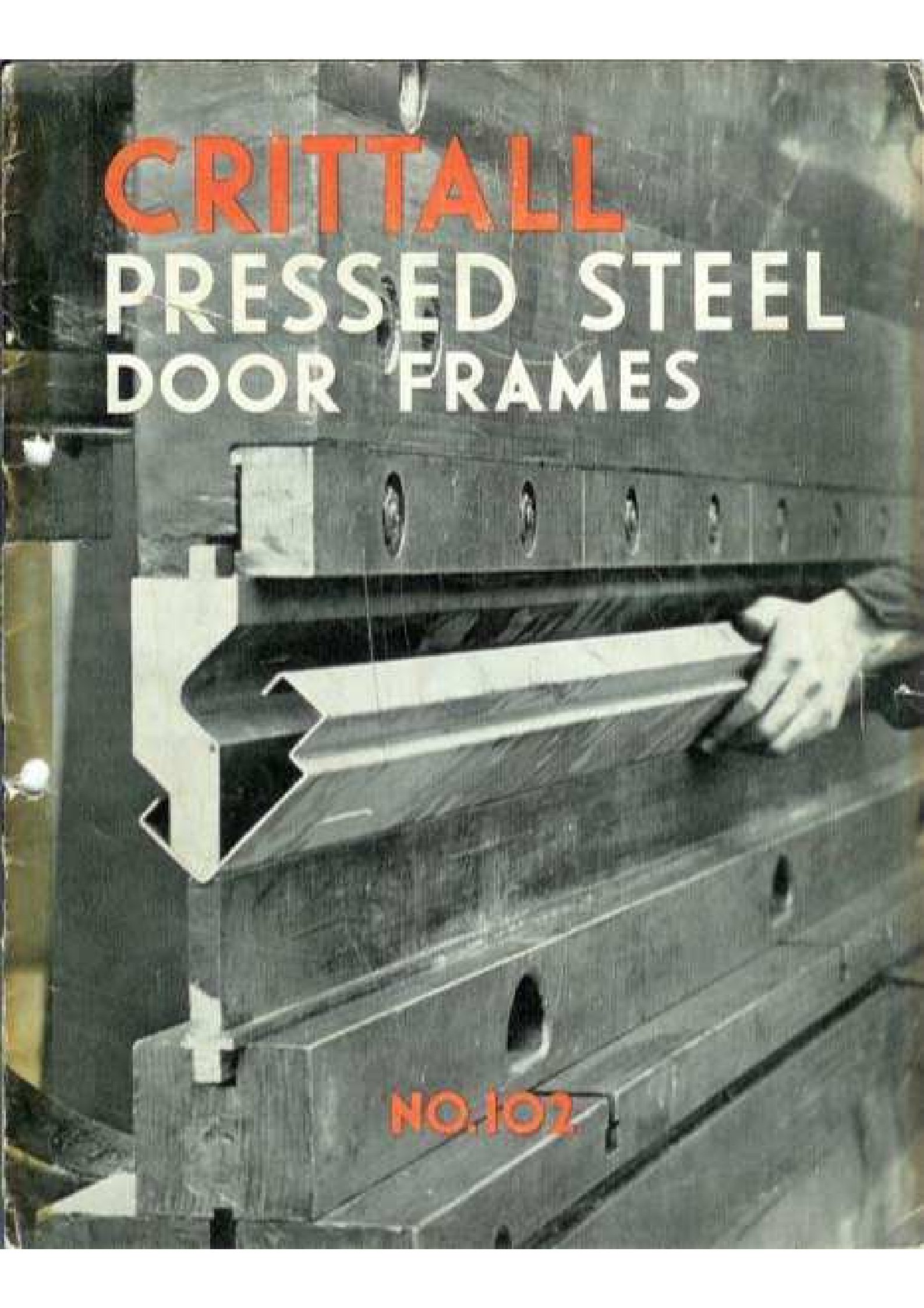


ZINC WIRE IS FED INTO A  
"PISTOL" AND ATOMISED



THE "ZINCSPRA" SHOP AT THE  
CRITTALL BRAINTREE WORKS





**CRITTALL**  
**PRESSED STEEL**  
**DOOR FRAMES**

**NO. 102**

# SPECIFICATION

Frames are constructed of best quality 16g. C.R.C.A. British steel, and corners are welded.

Hinges, two to each frame are of loose pin type, and are rust proofed.

Three corrugated adjustable fixing lugs are supplied to each jamb.

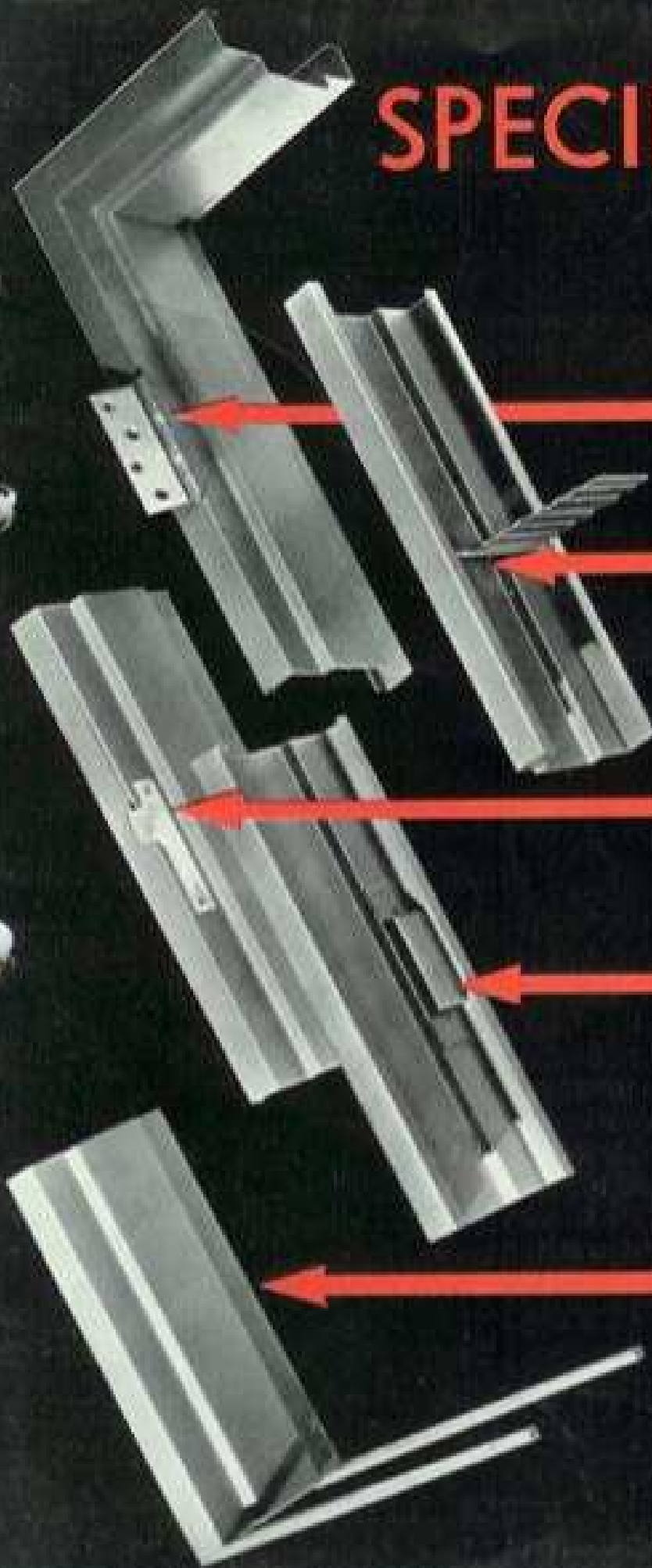
One brass striking plate blank is provided to each frame (blank to be slotted by lock maker).

Mortar guard of mild steel.

Two rubber buffers are provided in the rebate on the lock side.

Two  $\frac{5}{16}$ " sq. base ties are supplied at cill welded to jambs.

Finished one coat priming paint sprayed on and stoved.





*Con 4/11 18-321*

**SIZES OF STANDARD  
TYPES WITH AND  
WITHOUT GLAZING  
BARS**

# **CRITTALL WINDOWS**

**WIDER FRAME TYPES  
DOORS AND ALL  
WOOD SURROUND  
SIZES**

*Branch Office:—*

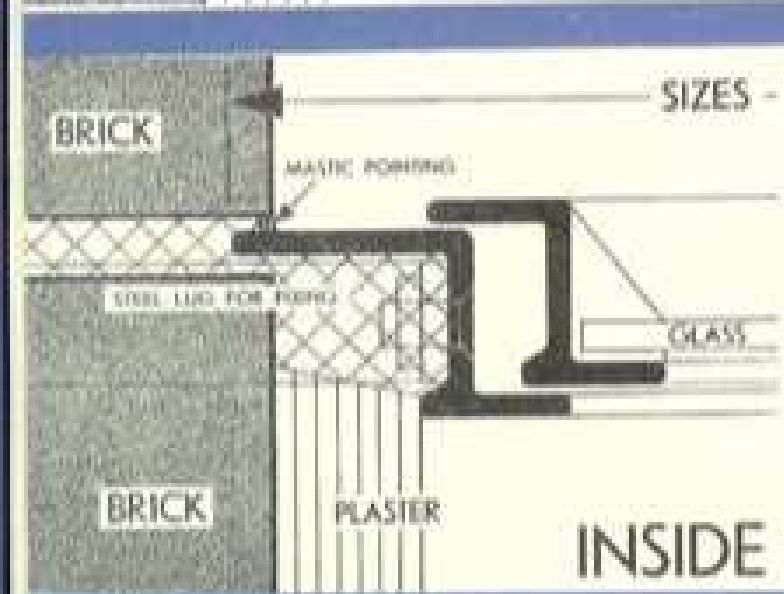
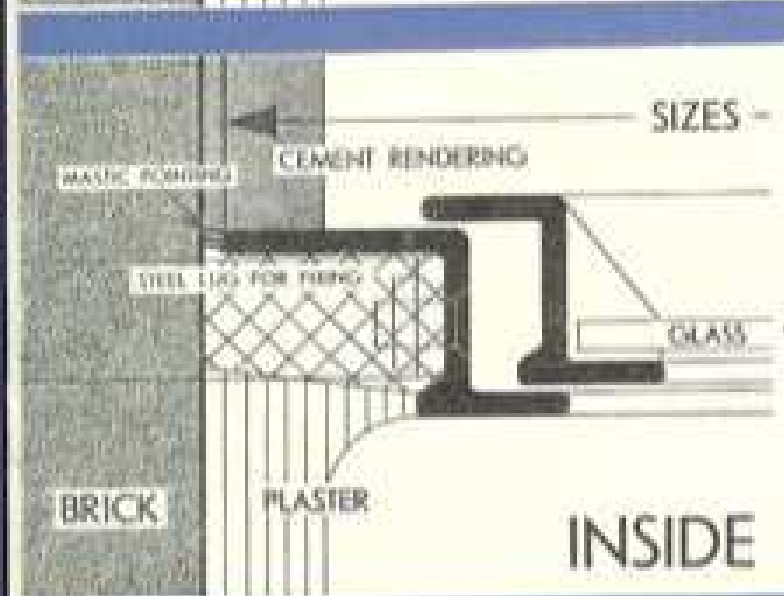
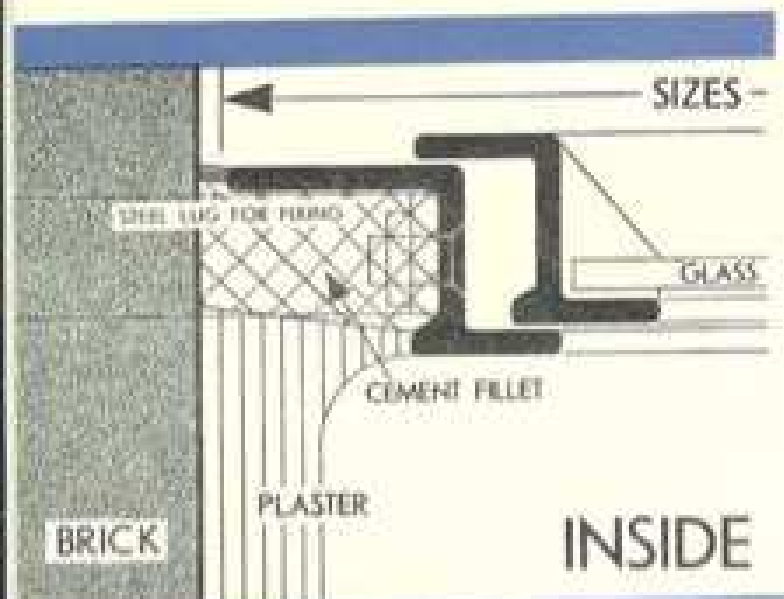
**EVINGTON VALLEY ROAD  
LEICESTER**

*Telephone:— Leicester 2446*

**THE CRITTALL MANUFACTURING COMPANY LTD.  
HEAD OFFICE: 210 HIGH HOLBORN, LONDON, W.C.1**

**No. 99<sub>M</sub>**

# WIDER FRAMES



When Crittall windows are required to fix direct to brickwork, and when a rather heavier appearance is required than is provided by standard sections, an alternative frame section can be supplied. This provides a total width of frame of approximately 2" and increases the standard dimension of each unit or combination of units by 1" in height and width. When ordering Crittall windows with wider frame section use the prefix "W" before the standard symbol letters given on pages 2, 3, 4, 5, 6, 7 and 8 thus WD1, WD2, WD1H, WND2, ecc.

The wider frame section is especially useful when houses are treated with rough cast on the outside.

The full size details on this page show three different methods of application of wider frame to masonry.

When wider frame units are coupled to form composite windows, the mullion and transome details remain exactly as for ordinary frame composite windows; see page 8.



**CRITTALL**  
**A.R.P.**

THE CRITTALL MANUFACTURING COMPANY LIMITED  
HEAD OFFICE : 210 HIGH HOLBORN, LONDON, W.C.1

No. 109<sub>A</sub>

109A

# CRITTALL

## A.R.P. PRODUCTS



Crittall Gas-Proof Door fitted at the St. Martins Street Library, for the City of Westminster.

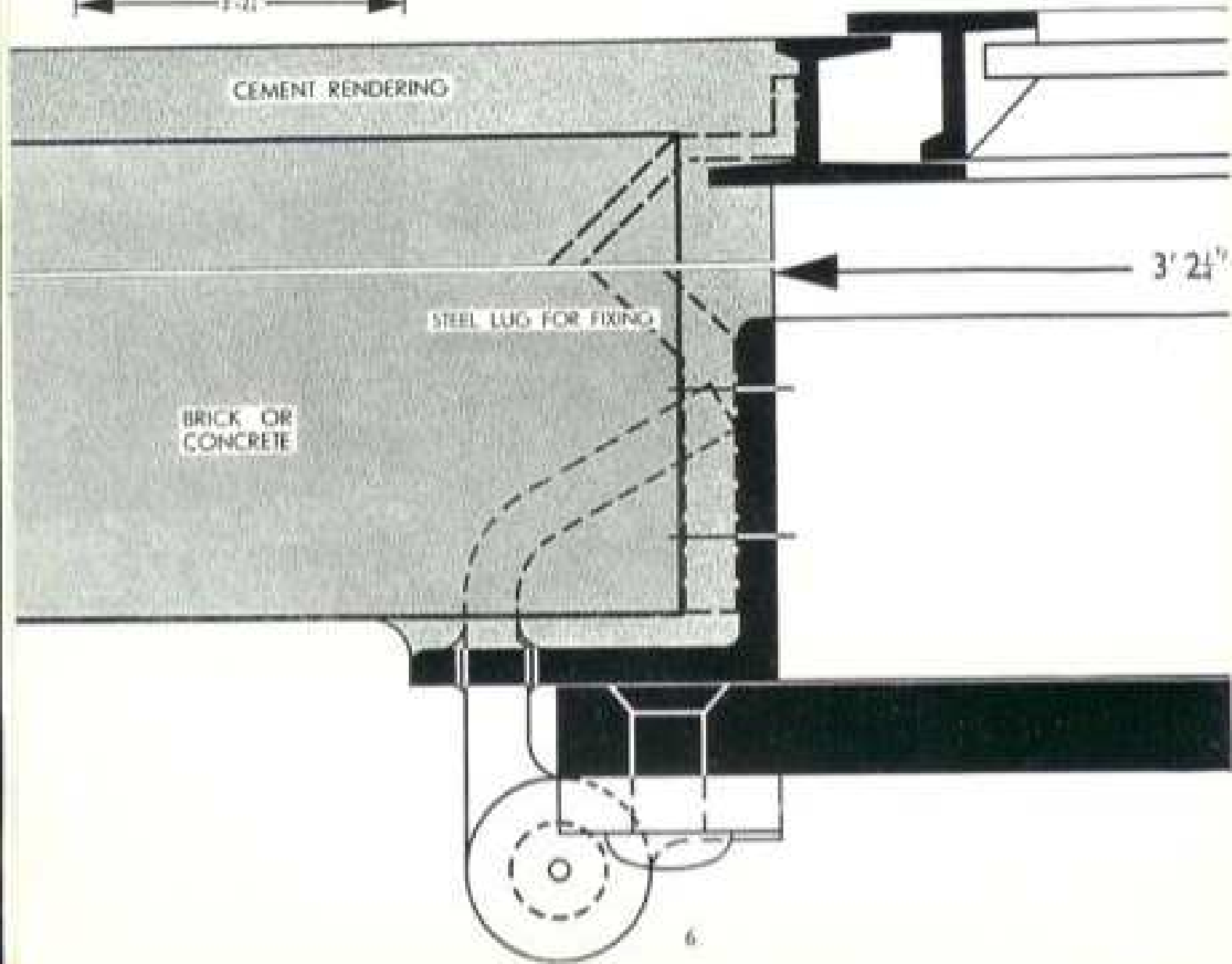
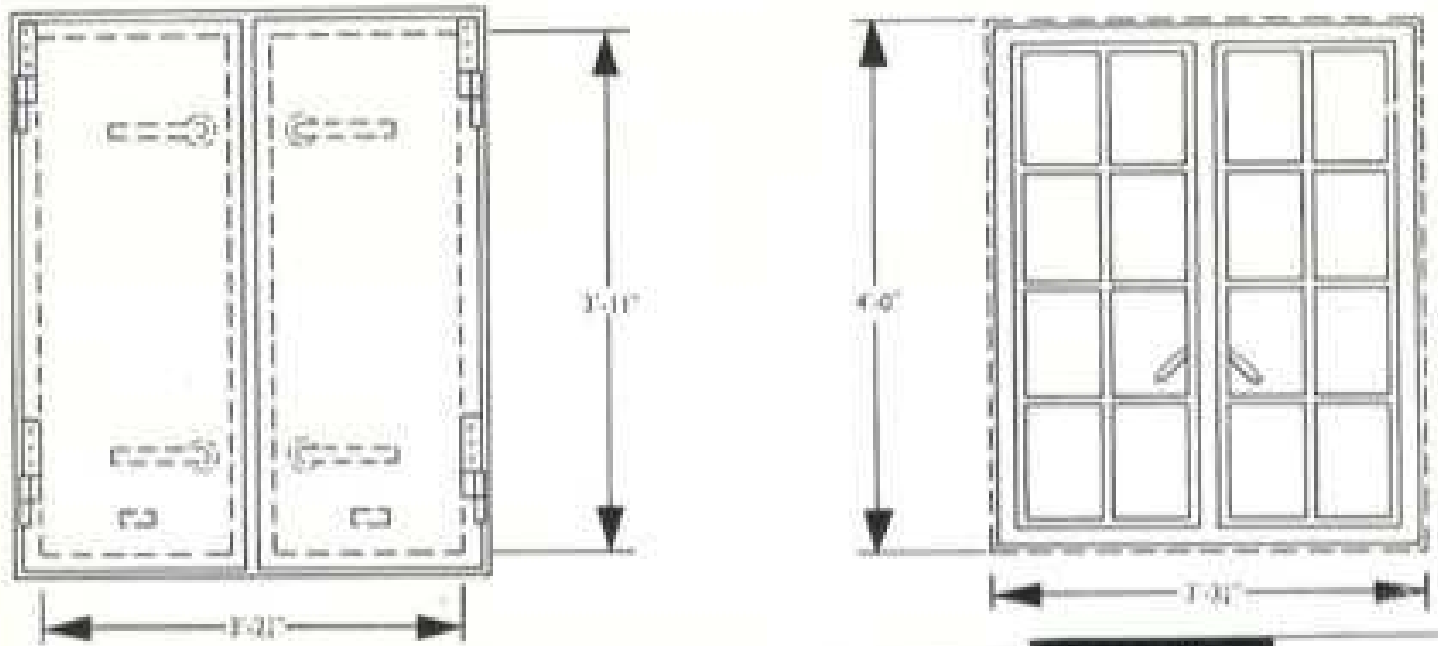
In case of lighting failure luminous paint has been used to mark the corners and fittings of the door, and as a background for closing instructions.

In all Crittall A.R.P. windows, doors and shutters the final gas seal is effected by means of "Densyl" sealing medium which is kept in a container, and should not be used until an emergency arises. It does not deteriorate with age; the application is simple and quick and, in the event of contamination, the material may be instantly removed with a dry cloth and a further application effected within a few minutes. The sealing medium imposes no undue strain on any portion of the door, which

handles as easily as an ordinary door.

Even more than in the case of ordinary metal windows, the efficiency of Crittall A.R.P. products in operation depends largely on expert fixing; whenever possible this work should be entrusted to the makers; we shall be pleased to quote extra prices for all necessary glass, glazing and fixing.

# CRITTALL GAS-PROOF AND



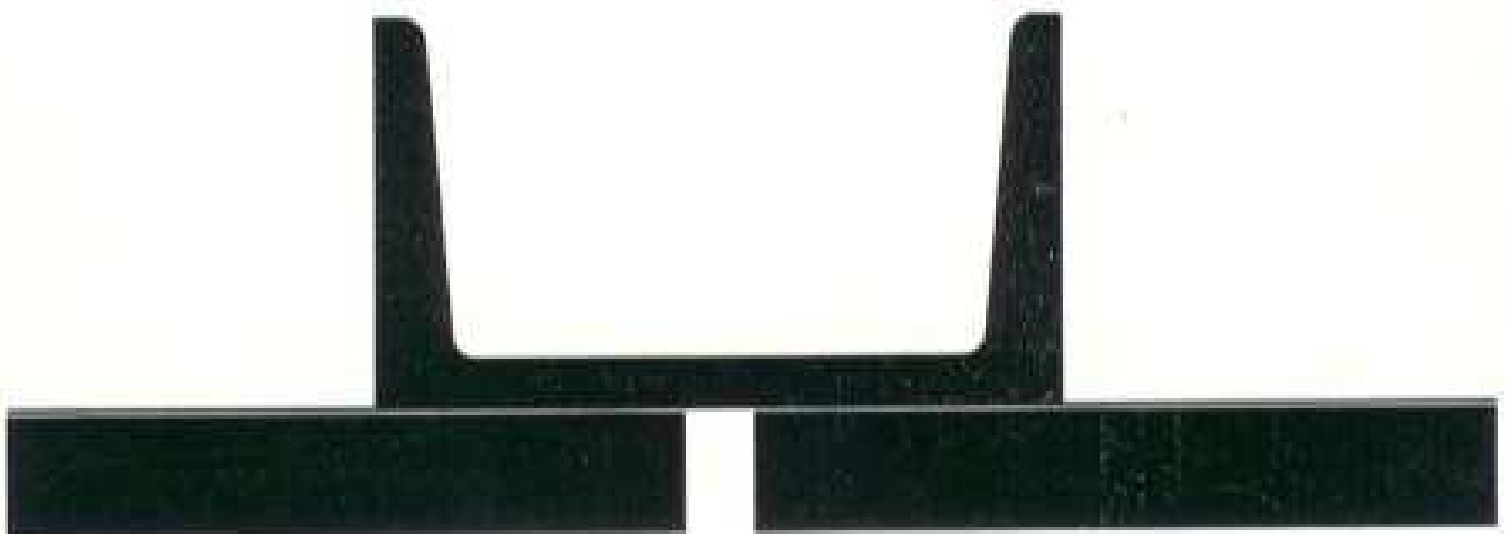
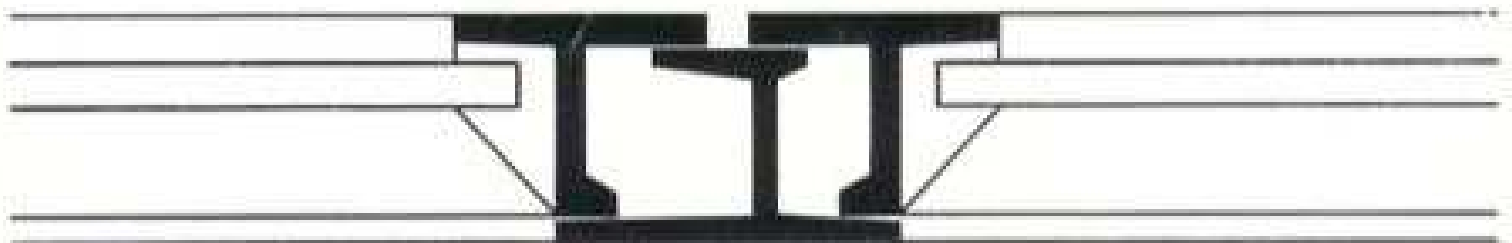
# SPLINTER-RESISTING SHUTTER

Both side hung and folding shutters with fixed meeting rail can be supplied in varying heights and widths. For positions where external shutters cannot be fitted, Crittall shutters can be fitted internally. The tube containing the sealing medium is kept in a box provided on the inside of the shutter for this purpose until an emergency arises so that there is assurance that it will be in good condition.

The hinges are so designed that the shutter can be lifted off in the event of debris holding the shutter closed.

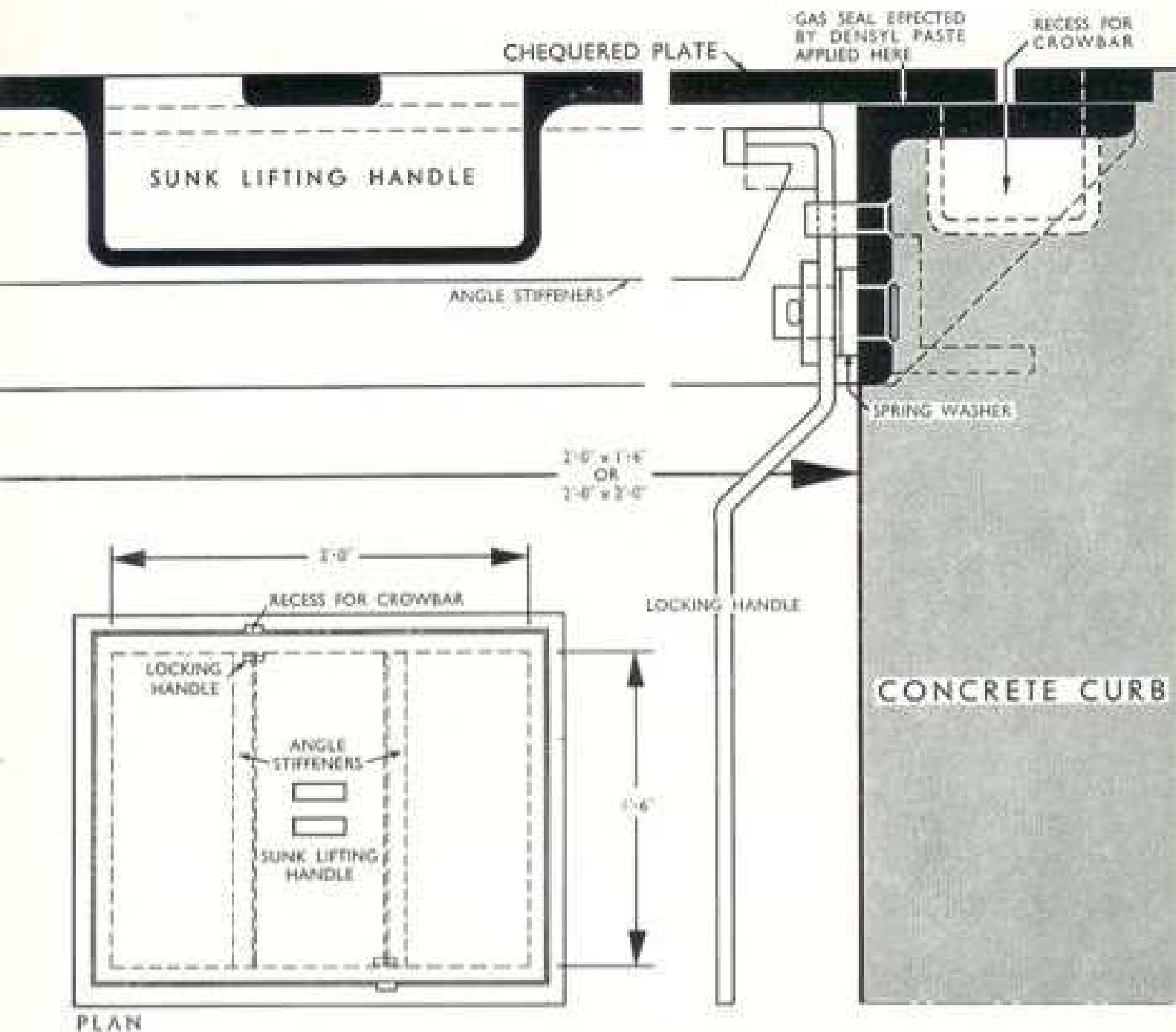
An ideal combination for new installations consists of the Crittall gas-proof and splinter-resisting shutter fitted in conjunction with Crittall inward opening standard windows, which may be left opened, in times of emergency, against the inside wall to avoid glass breakage through blast pressure.

Similar gas-proof and splinter-resisting shutters can also be supplied in sizes suitable for most existing openings.



OUTSIDE

# CRITTALL GAS-PROOF MANHOLE COVER



PLAN

This gas-proof manhole cover is designed for use as an alternative means of escape from basement and other kinds of underground A.R.P. shelters. It is made in two sizes, clear openings being 1' 6" x 2' 0" or 2' 0" x 2' 0".

The cover is of 1/4" chequered steel plate fitting into a stout angle frame with flat surround in which there are two recesses provided for insertion of crowbars, should rescue from outside become necessary. Although in this way they can be forced, the two locking handles are designed to withstand all ordinary attempts at illegal entry.

The splayed heads of the handles serve to break the adhesion of the Densyl gas seal when escape from inside is unaided, and no great weight of debris has fallen above. They also serve to lift the cover 1/2" if in normal use some ventilation is required otherwise than by leaving the cover open and unsecured.

CRITTALL UNIVERSAL SECTION WINDOWS





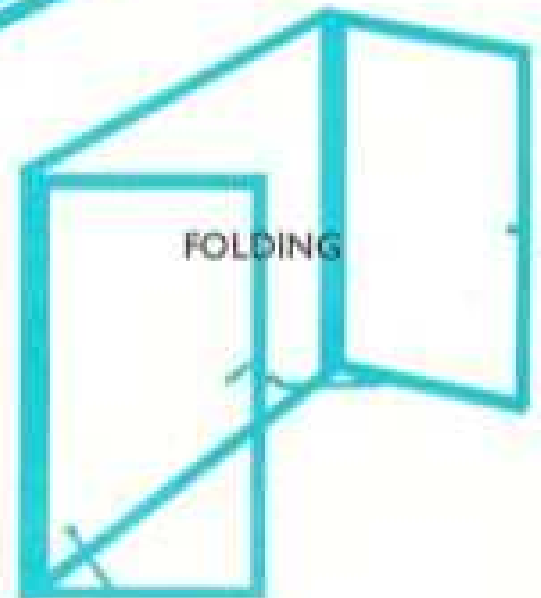
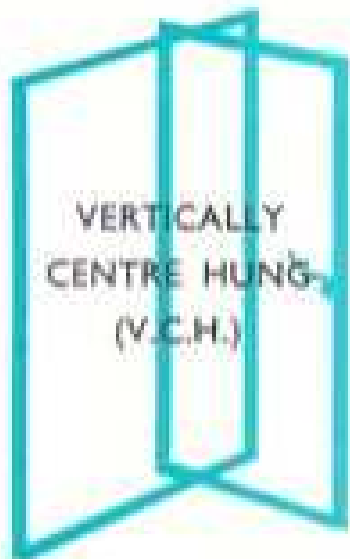
# MAXIMUM SIZES

| TYPE OF VENTILATOR                                     | SMALL SECTION             | MEDIUM SECTION                                    |
|--|---------------------------|---|
| SIDE-HUNG<br>OPEN OUT OR OPEN IN                       | H 5-0' 14'<br>W 3-0'      | H 6-6' 17'<br>W 2-6'                              |
| VERTICALLY-CENTRE-HUNG                                 | H 5-0' 16'<br>W 3-0'      | H 6-6' 19 <sup>1</sup> / <sub>2</sub> '<br>W 3-9' |
| TOP HUNG OR<br>HORIZONTALLY-CENTRE-HUNG                | H 4-0' 14'<br>W 4-0'      | H 5-0' 17'<br>W 3-0'                              |
| BOTTOM HUNG<br>WITH OR WITHOUT HOPPER CHEEKS           | H 4-0' 14'<br>W 4-0'      | H 5-0' 17'<br>W 3-0'                              |
| FOLDING<br>OPEN OUT OR OPEN IN                         | HEIGHT 4-6'<br>WIDTH 4-0' | HEIGHT 6-0'<br>WIDTH 4-6'                         |
| FOLDING WITH FIXED MEETING<br>RAIL—OPEN IN OR OPEN OUT | HEIGHT 4-6'<br>WIDTH 4-0' | HEIGHT 6-0'<br>WIDTH 5-0'                         |
| FOLDING DOORS<br>OPEN OUT OR OPEN IN                   |                           | HEIGHT 7-0'<br>WIDTH 5-0'                         |
| SINGLE DOOR<br>OPEN OUT OR OPEN IN                     |                           | HEIGHT 7-6'<br>WIDTH 2-6'                         |
| FOLDING V.C.H. WITHOUT<br>FIXED MEETING RAIL           | HEIGHT 4-6'<br>WIDTH 5-0' | HEIGHT 6-0'<br>WIDTH 6-0'                         |
| FOLDING V.C.H. WITH<br>FIXED MEETING RAIL              | HEIGHT 4-6'<br>WIDTH 6-0' | HEIGHT 6-0'<br>WIDTH 7-6'                         |
| BALANCE WINDOW   | HEIGHT 5-6'<br>WIDTH 2-6' | HEIGHT 7-0'<br>WIDTH 3-6'                         |
| BALANCE WINDOW<br>WITH FIXED MEETING RAIL              | HEIGHT 5-0'<br>WIDTH 3-6' | HEIGHT 7-0'<br>WIDTH 4-6'                         |
| TWO TOP-HUNG OR BOTTOM-<br>HUNG WITH OR WITHOUT F.M.R. | HEIGHT 3-6'<br>WIDTH 6-0' | HEIGHT 4-0'<br>WIDTH 7-6'                         |
| SLIDING-FOLDING WIDTH<br>20' MAX. 4 LEAVES EACH WAY    |                           | H 6-0' EACH<br>W 3-0' LEAF                        |

WHERE VENTILATORS ARE REQUIRED IN SIZES LARGER THAN THOSE SHOWN THE MAKERS SHOULD BE CONSULTED

Large figures given with the first four types are maximum perimeters

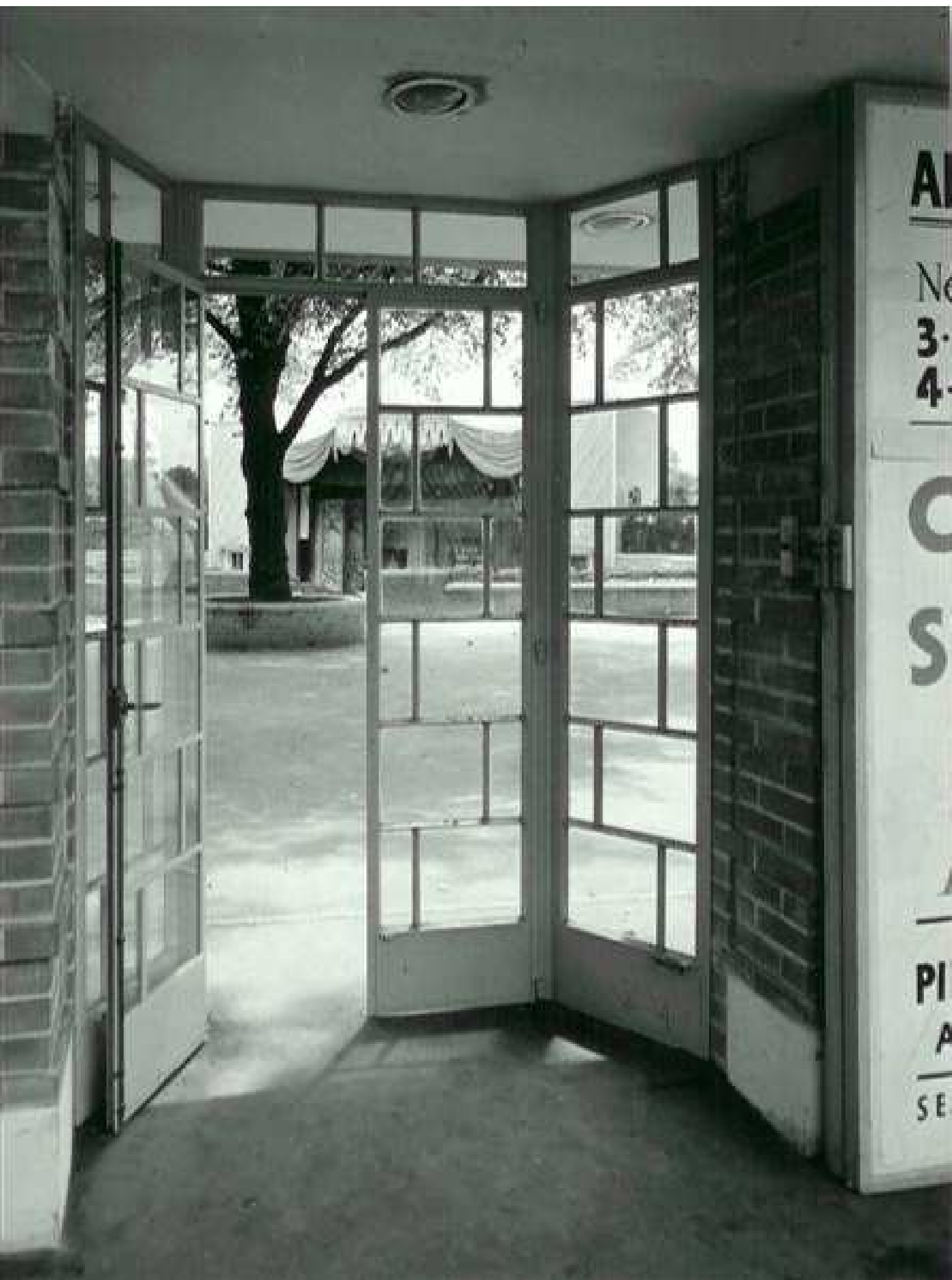
# VENTILATOR TYPES



# CRITTALL WINDOWS IN THE FESTIVAL YEAR



at the South Bank, Lansbury Neighbourhood, and Battersea













TERRACE  
TEA  
SHOP











WINE & SPIRITS

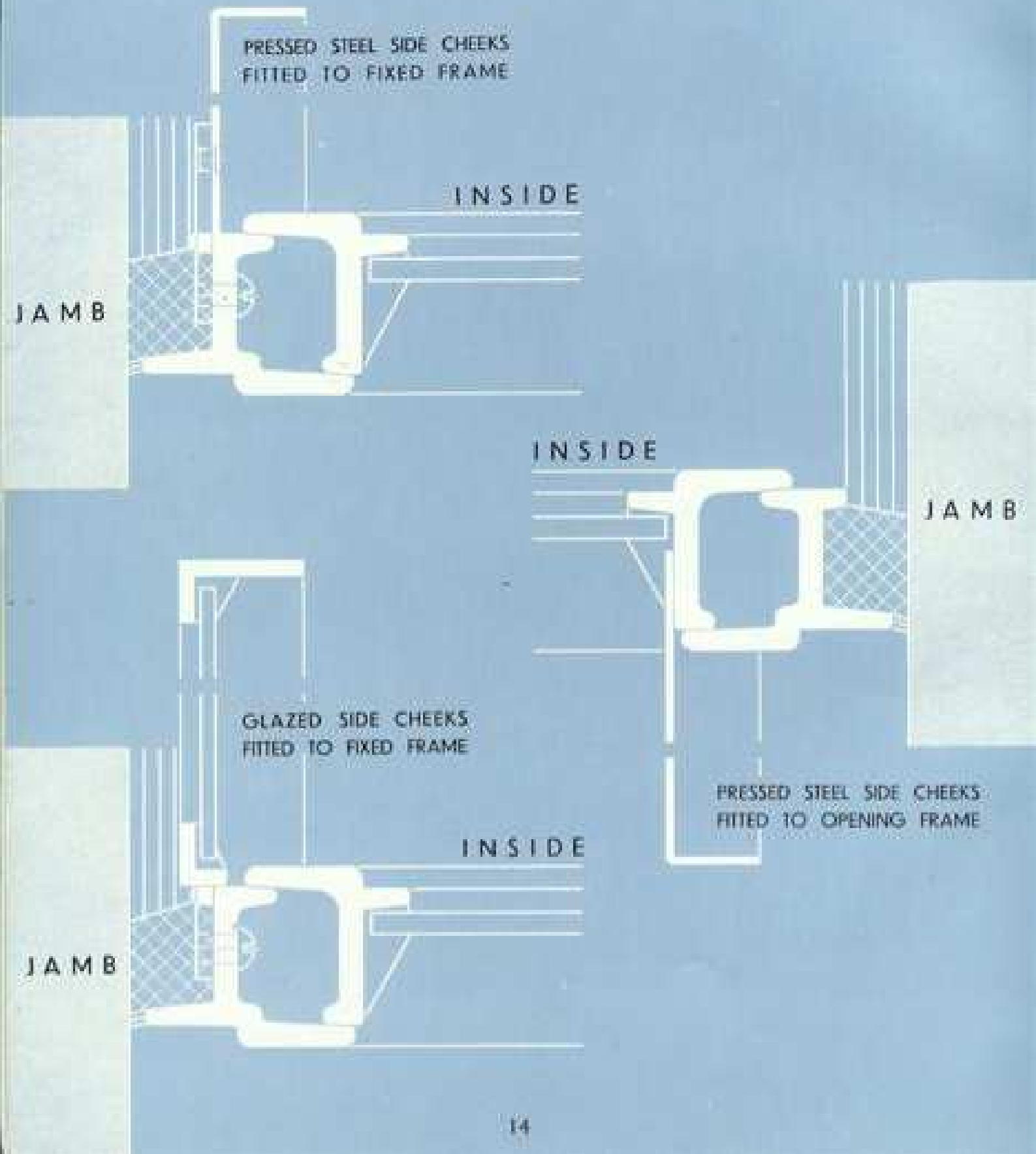
# CRITTALL WINDOWS



## FOR SCHOOLS

No 135

# HOPPER VENTILATORS



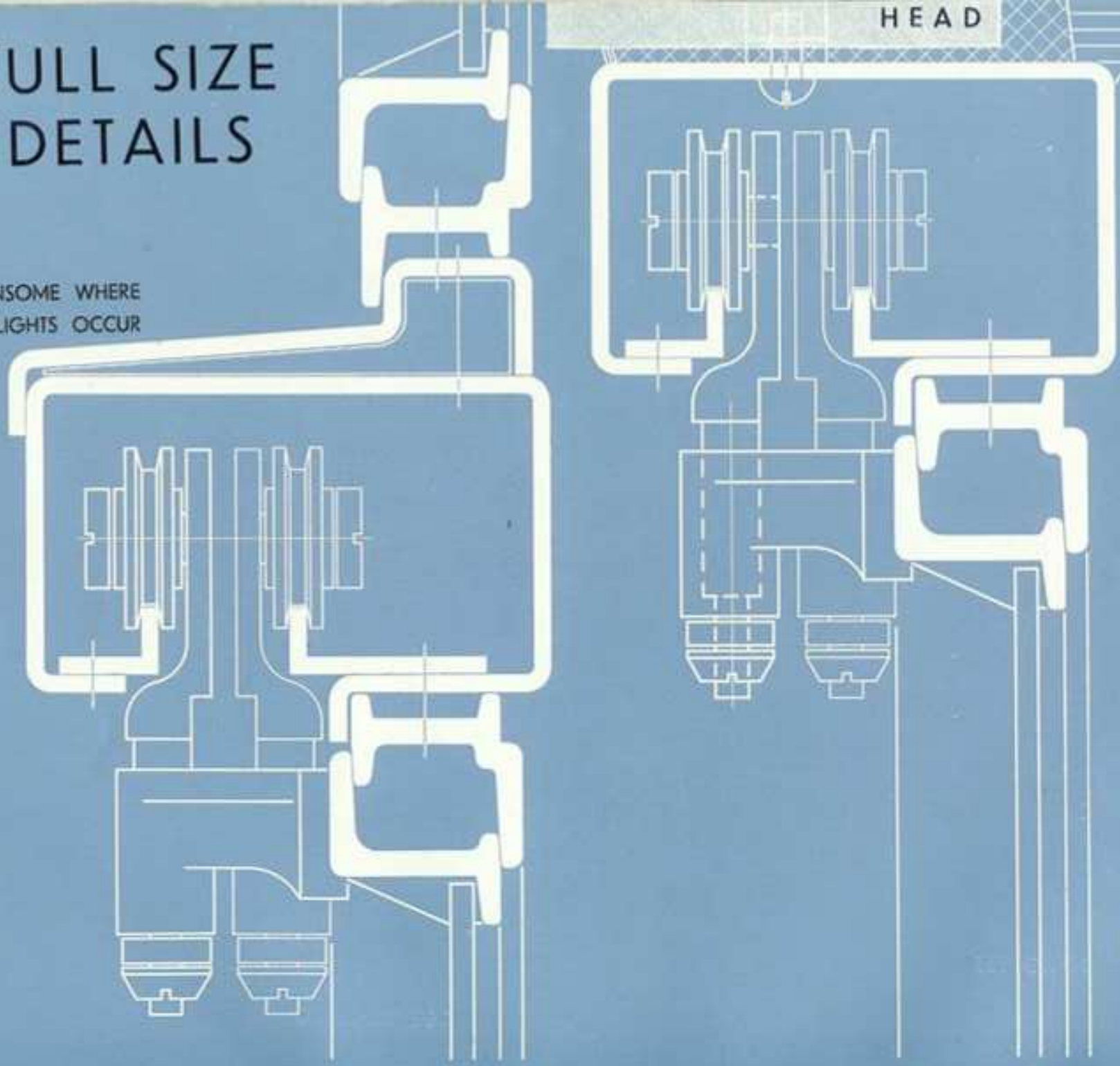


# FULL SIZE DETAILS

HEAD

PLASTER

TRANSOME WHERE  
FANLIGHTS OCCUR

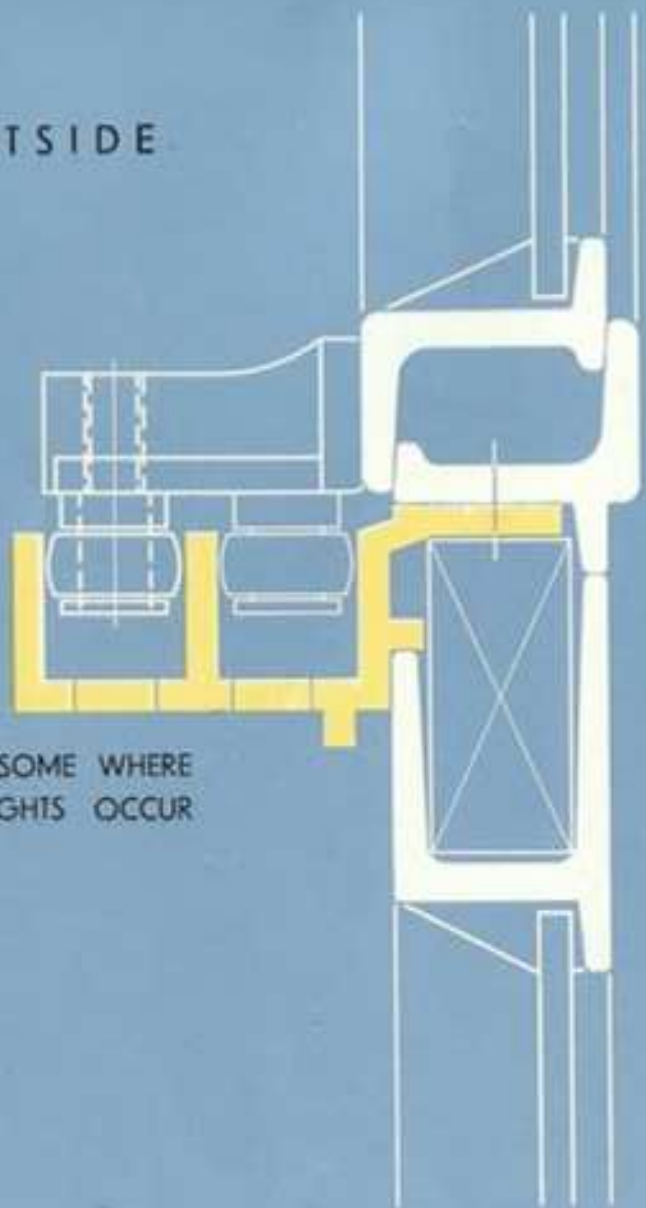


# CRITTALL SLIDING-

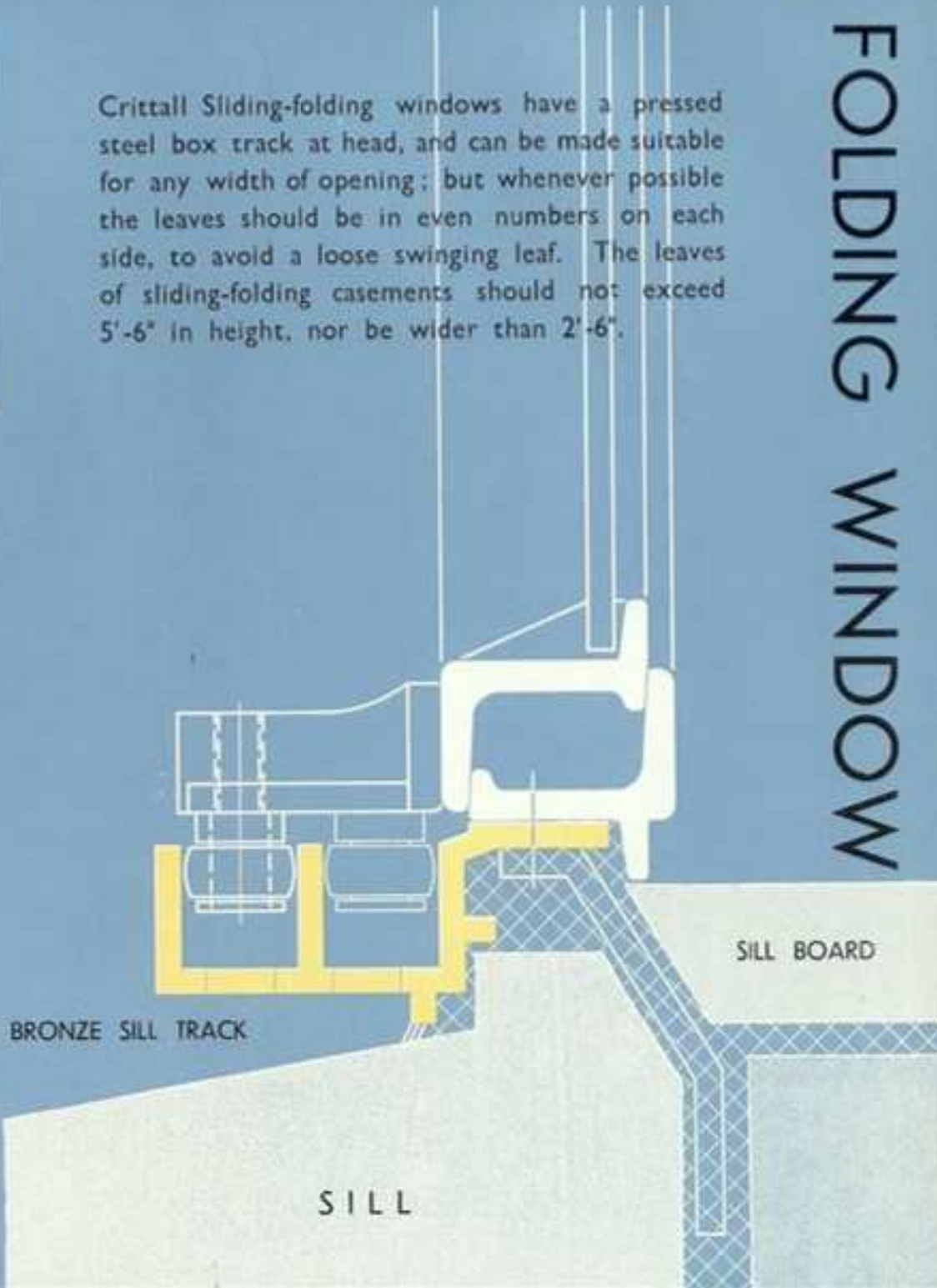
# FOLDING WINDOW

Crittall Sliding-folding windows have a pressed steel box track at head, and can be made suitable for any width of opening; but whenever possible the leaves should be in even numbers on each side, to avoid a loose swinging leaf. The leaves of sliding-folding casements should not exceed 5'-6" in height, nor be wider than 2'-6".

OUTSIDE



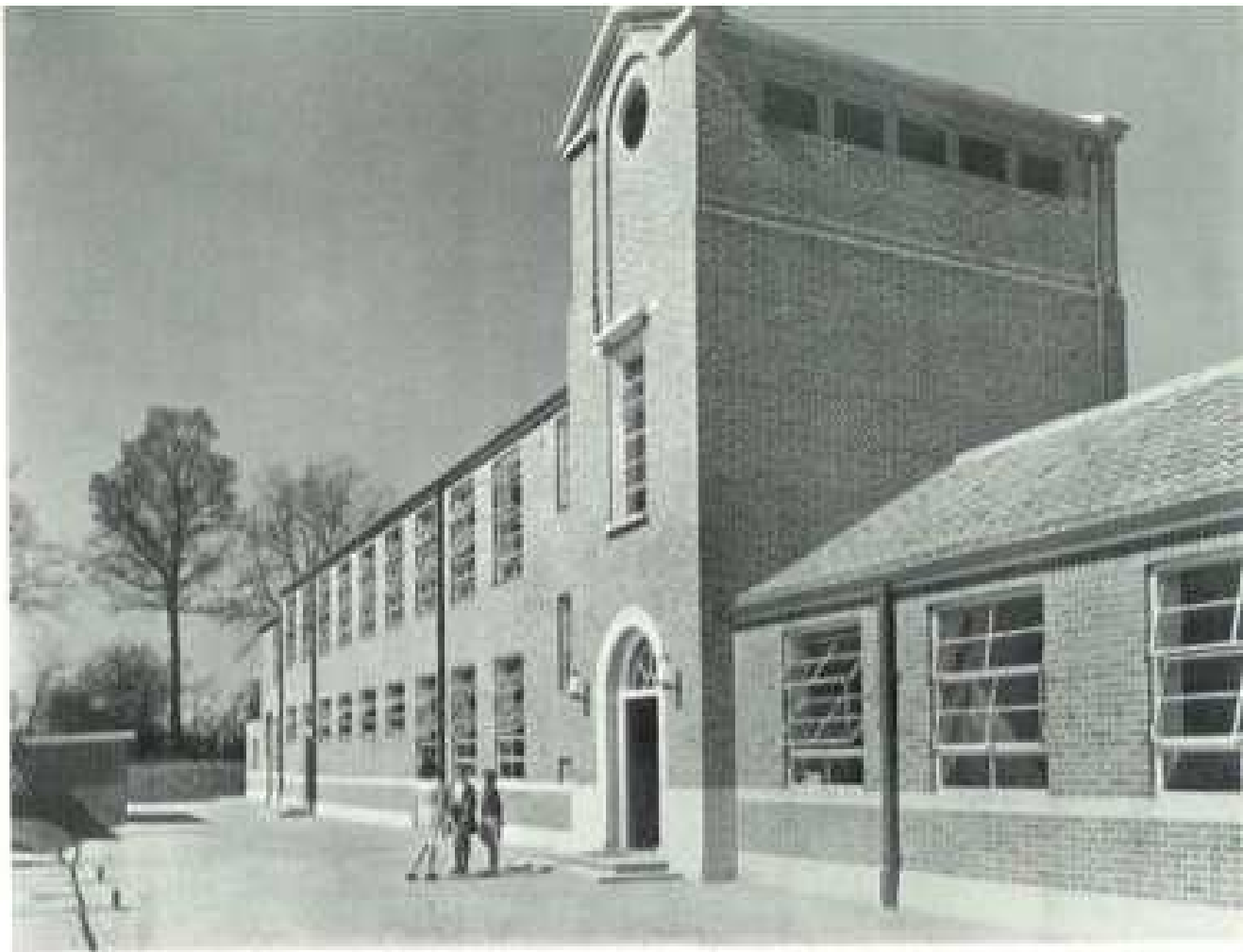
TRANSOME WHERE  
SIBILIGHTS OCCUR



BRONZE SILL TRACK

SILL BOARD

SILL



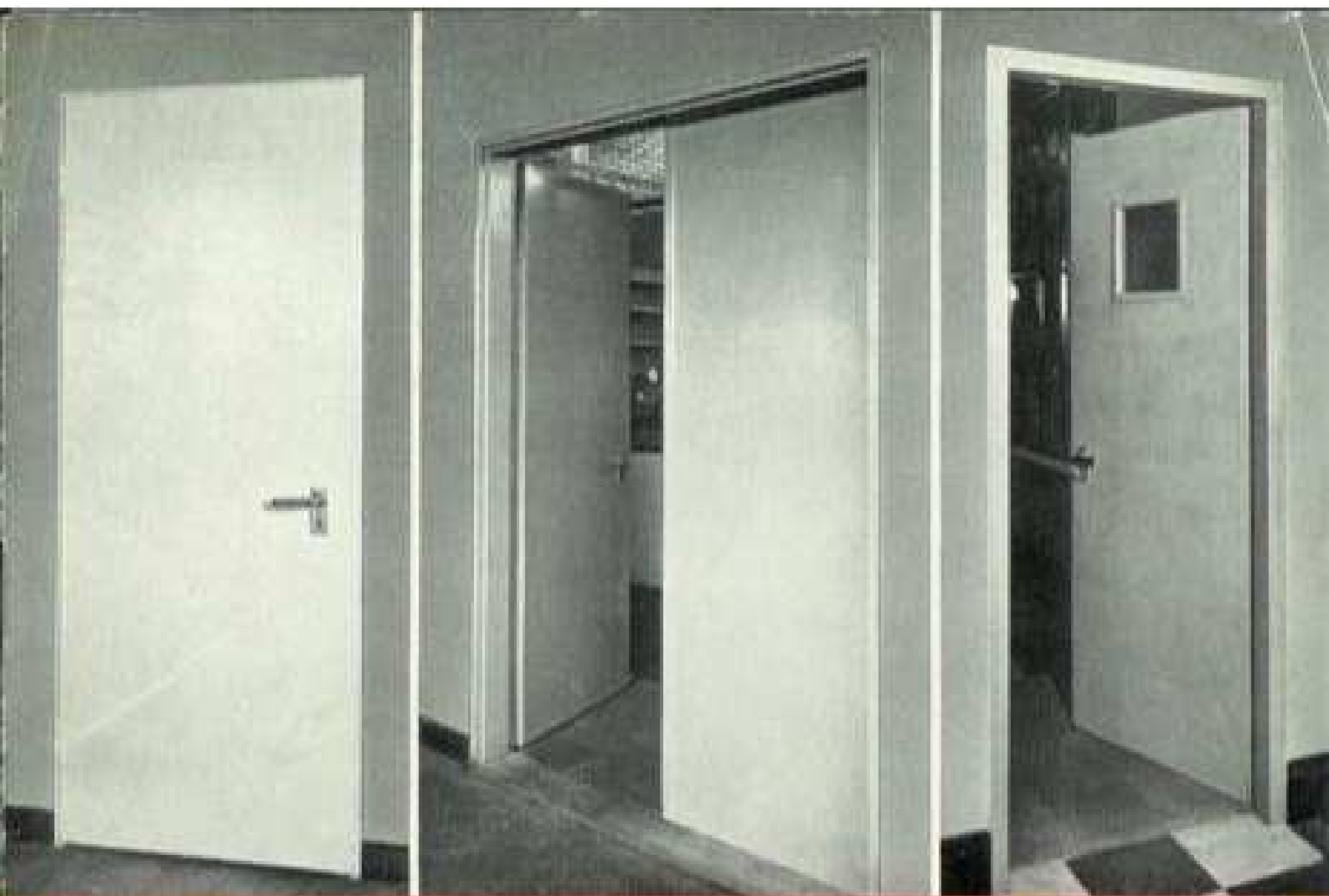
## SCHOOL AT CROXLEY GREEN HERTFORDSHIRE

W. FRASER GRANGER, F.R.I.B.A. *Architect*

Typical classroom windows consist of Crittall balance windows with fixed sublights and a bottom-hung hopper vent at sill, fitted with steel plate side-checks. The single-hand balance window catch dispenses with cords or gear, although the upper ventilators are out of reach.





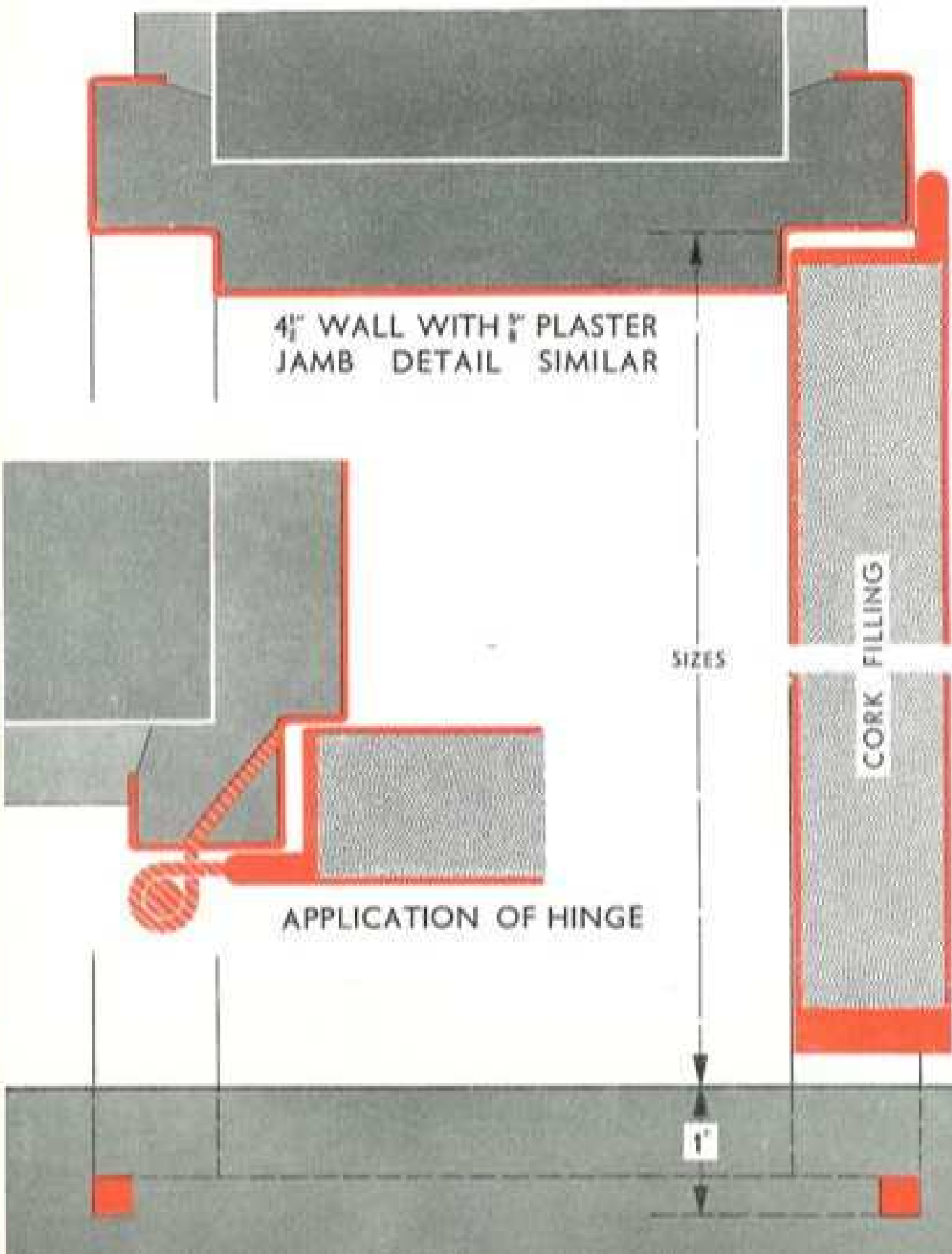


CRITTALL  
PRESSED STEEL DOORS  
IN PRESSED STEEL  
OR ANGLE FRAMES

THE CRITTALL MANUFACTURING COMPANY LIMITED

**NO. 103.**

# SIZES AND PROFILES



Nov. 1957.

CRITTALL

FENESTRA WALL

237

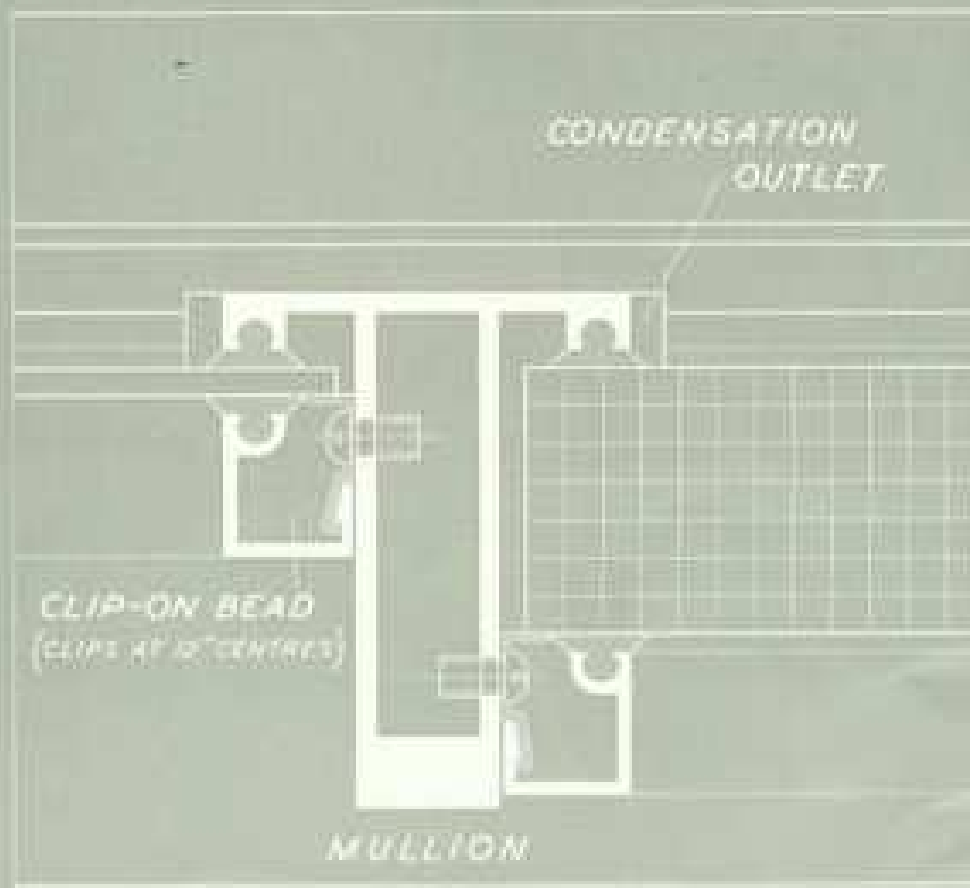
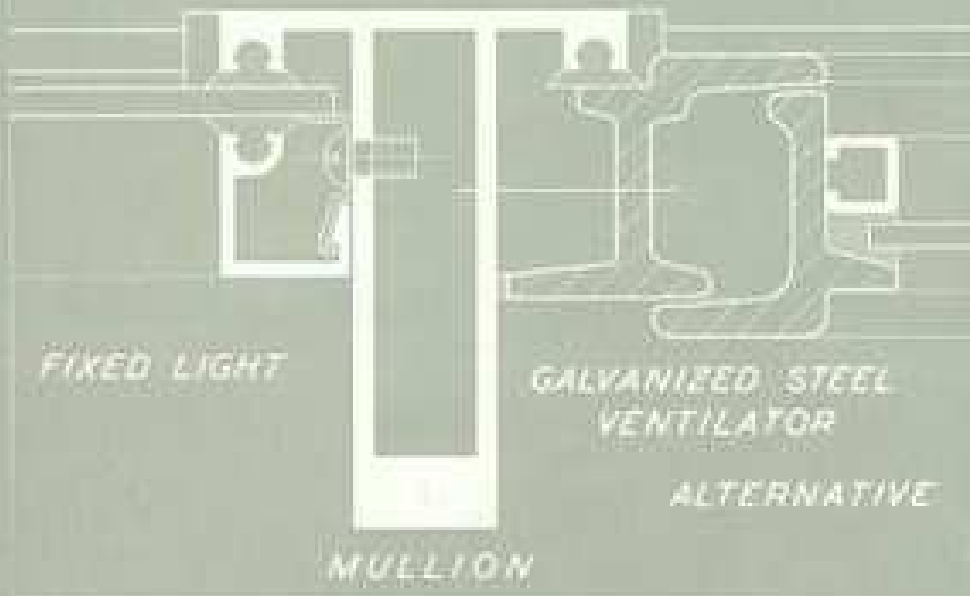
Catalogue N° 199

# HORIZONTAL DETAILS

JAMB

MULLION

FULL SIZE



LEAD SETTING BLOCKS UNDER  
INFILLING PANELS

HORIZONTAL MEMBER

ALUMINIUM CASTING  
AT JOINTS IN MAIN  
HORIZONTAL MEMBERS

FOR FURTHER DETAILS OF  
STUB COLUMN SEE PAGE 12

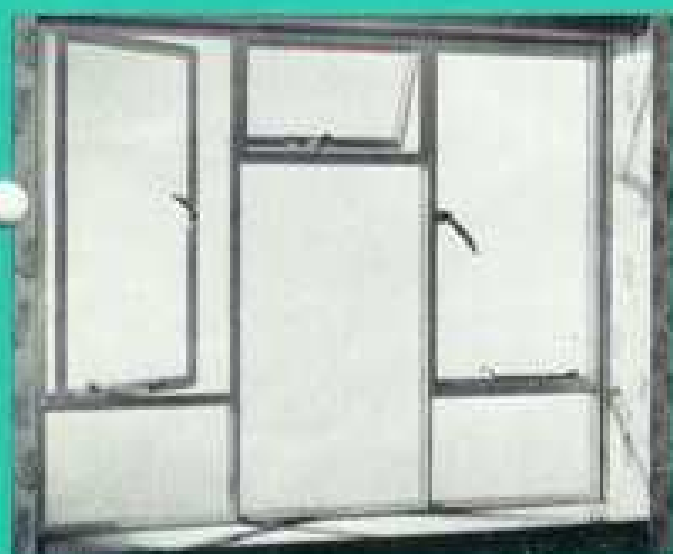
SOFFIT PLATE

GLASS IN FIXED LIGHT



# CRITTALL SMW

## GLAZE-IN OPEN-OUT



INSIDE



OUTSIDE

The replacement of a broken pane of glass in a high block of flats is one of the many problems which the modern architect must consider in the design stage.

**IT CAN ONLY BE DONE ECONOMICALLY AND CONVENIENTLY FROM INSIDE THE BUILDING.**

Reversible and Side projected windows are a partial answer to this problem, but the use of these types may not always be practical or desirable.

**WE HAVE THEREFORE DESIGNED A SOLID UNIT CONSTRUCTION WHEREBY THE COMPLETE RANGE OF STANDARD METAL WINDOWS CAN BE OFFERED TO GLAZE FROM THE INSIDE OF THE BUILDING. THE COST IS ONLY FRACTIONALLY MORE THAN THE NORMAL GLAZE-OUT RANGE OF STANDARDS.**

For the full range of Standard Metal Window types please see Crittall Catalogue No. 166B. When ordering prefix IG/ (In-glazed) should be quoted before the normal S.M.W. type reference i.e. IG/D2, IG/ND4F/S etc.

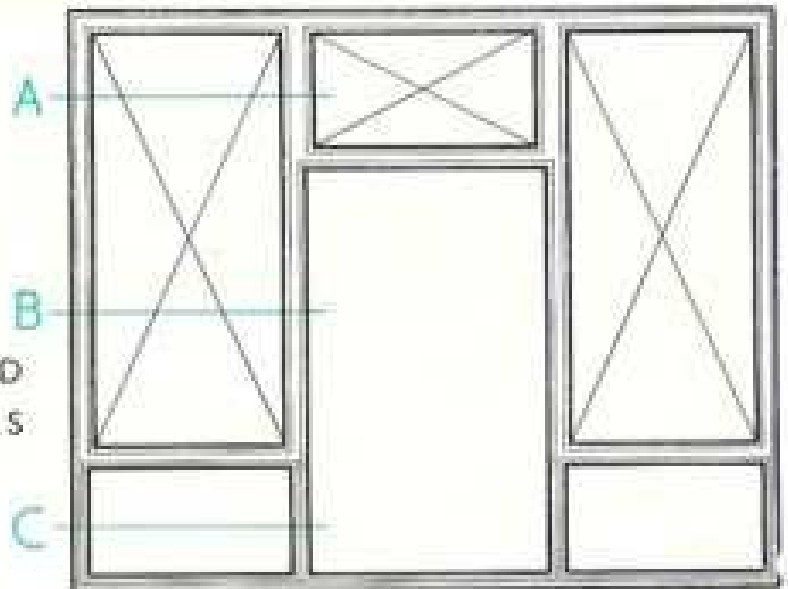
**THE CRITTALL MANUFACTURING COMPANY LIMITED**  
**BRAINTREE, ESSEX**      **210 HIGH HOLBORN, W.C.1**

# CRITTALL

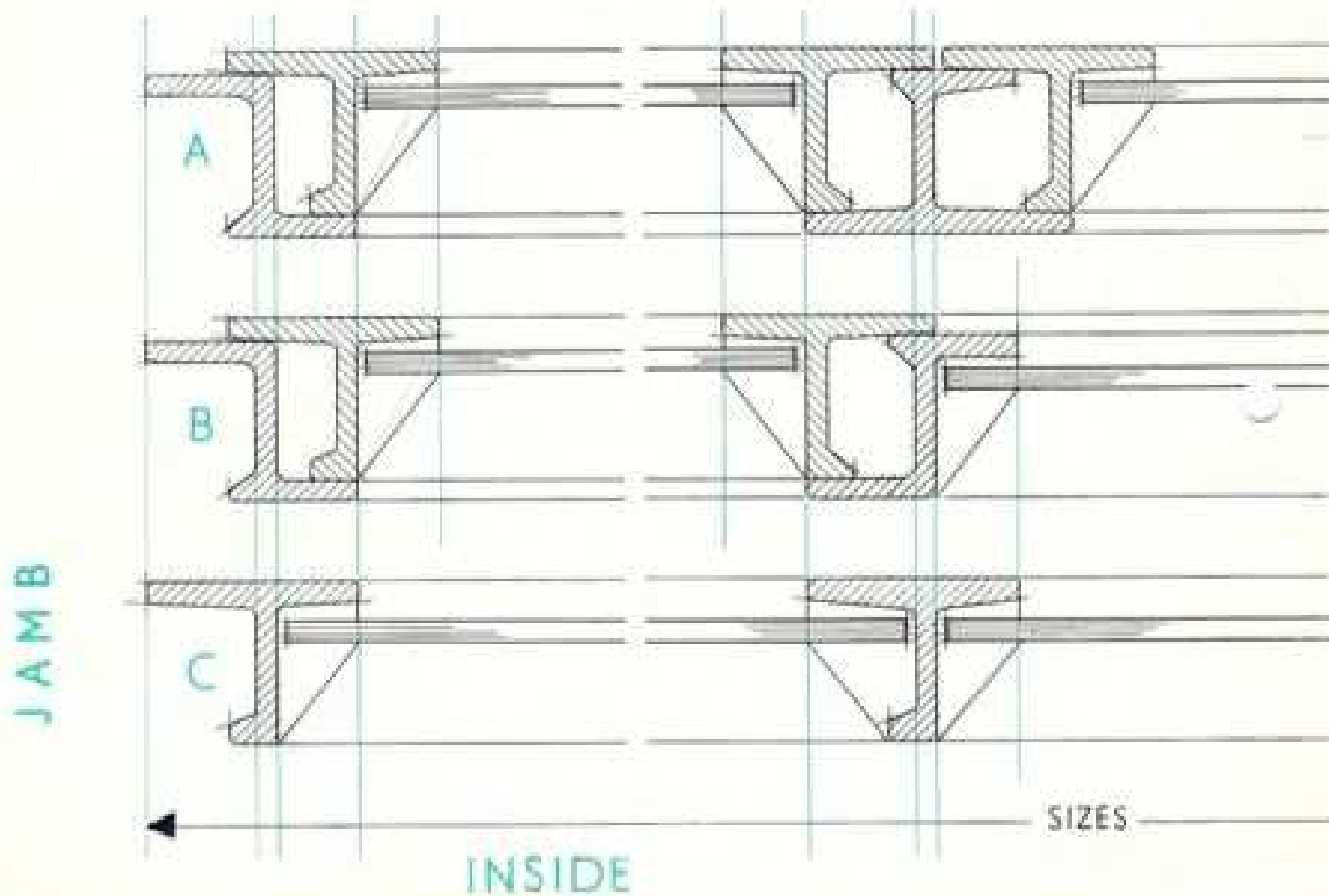
## STANDARD METAL WINDOWS

### GLAZE-IN

TYPICAL ELEVATION AND  
FULL SIZE DETAILS



TYPE IG/ND4F/S



MARK I

# A NEW **DOUBLE** **HUNG** SASH

*IN EXTRUDED ALUMINIUM ALLOY*

The vertical double-hung sash type of window projects neither inwards nor outwards, and therefore lends itself most easily to the application of shutters, screens and curtains.

To these advantages there is to be added to-day the fact that the use of aluminium alloy, by its light weight ensures to this type of window a much greater efficiency than was ever possible before.

The sash detailed in this leaflet is a complementary product to the Mark II Sash described in our Leaflet No. 184. The main difference between the two is in the method used to counterbalance the leaves. The Mark II has "Unique" spring balances, and is restricted to rather small sizes. The Mark I sash fitted with counterbalance weights, can be made up to 8-ft. high and 5-ft. wide.

Notable features are the ease with which it is opened and closed and its quietness in operation. It is completely weatherstripped. Sash leaves can be made either in one large pane or divided into small panes by glazing bars.

The upper leaf is operated by a handle in a slide at convenient height: the lower leaf has two sash lifts. At the meeting rail there is a cam sash fastener.

Finish is natural (mill finish), the edges of frames which abut against masonry being lacquered for protection. It is recommended that coating with lanoline by the manufacturer should be included in the specification, to avoid adherence of mortar and other substances detrimental to the aluminium; this can be rubbed off with a damp cloth immediately before painting or when danger of contamination is past.

THE CRITTALL MANUFACTURING CO. LTD., BRAINTREE



HEAD

ADJUSTABLE FIXING STRAP

FULL SIZE DETAILS

INSIDE

PLASTER

SPRING GUIDE AND WEATHER STRIPPING

CAST IRON BALANCE WEIGHT

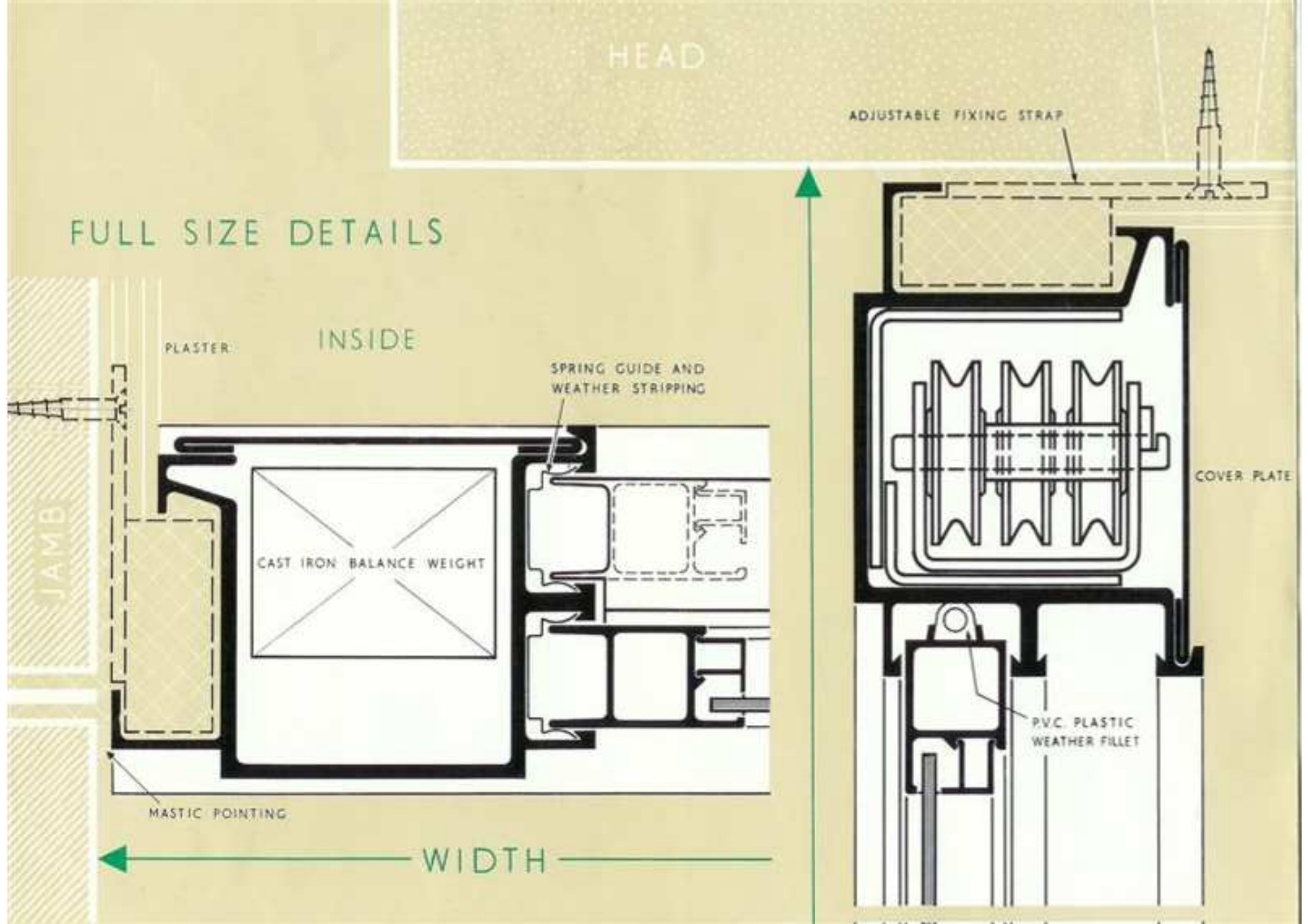
COVER PLATE

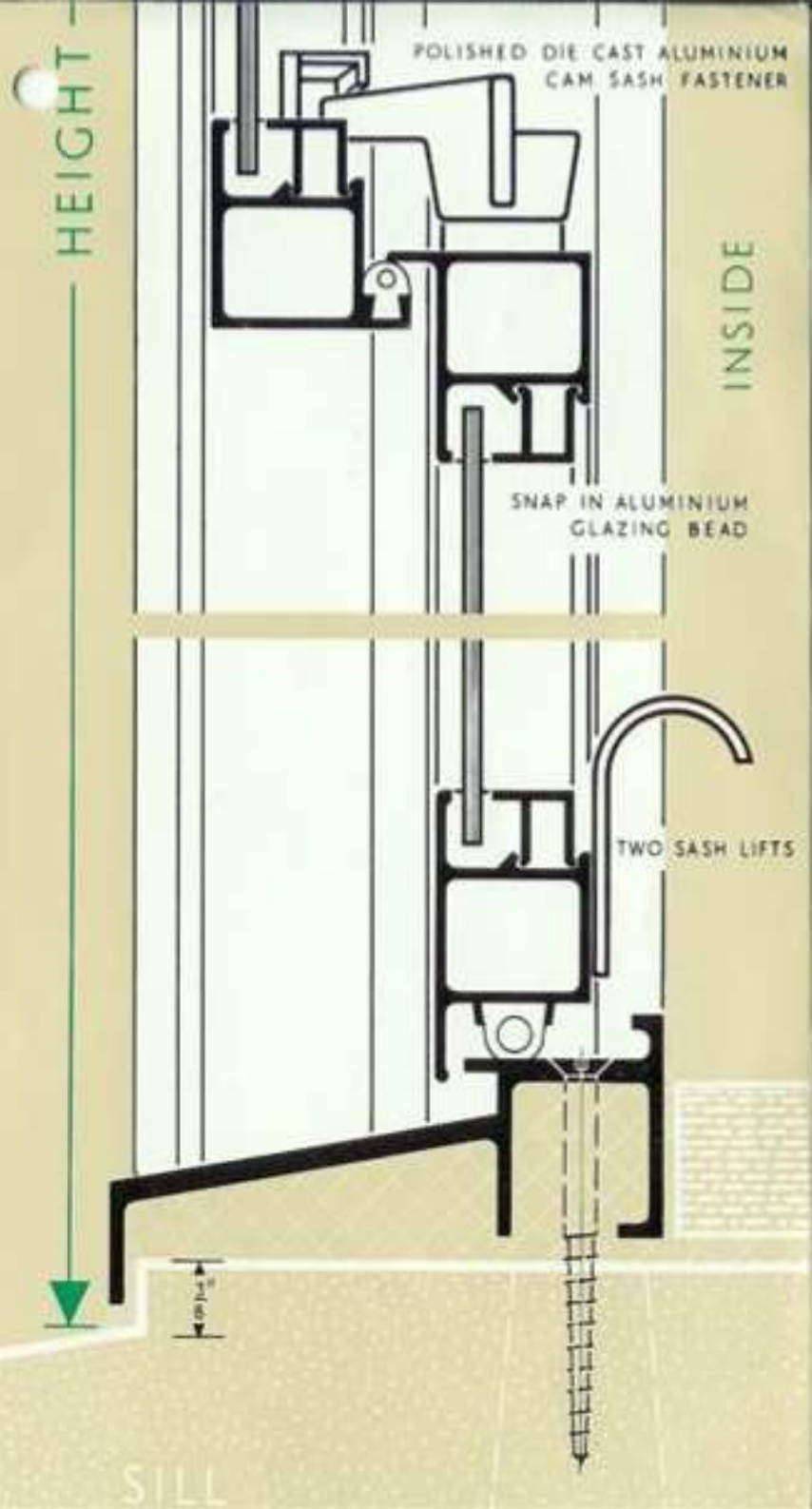
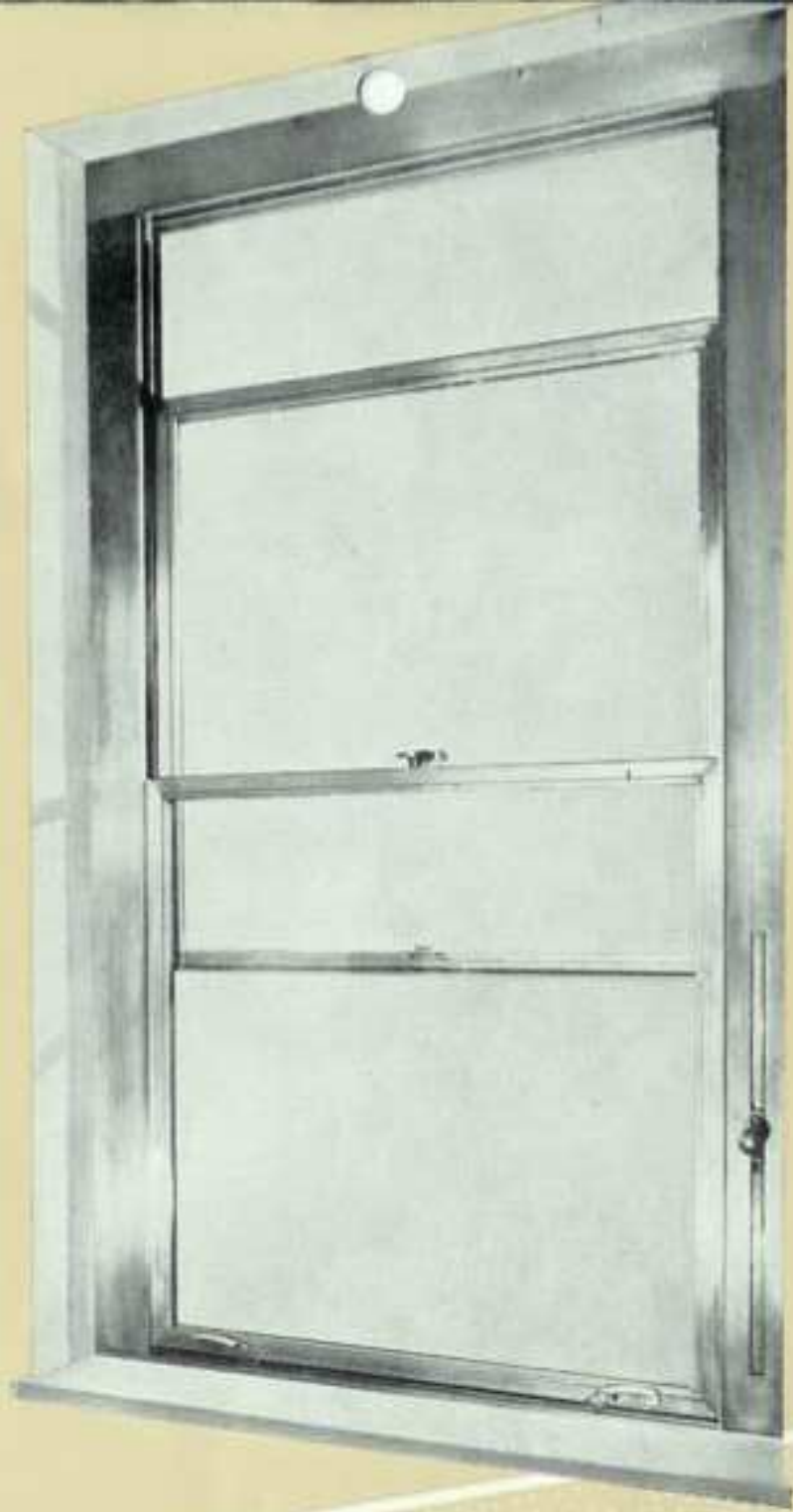
P.V.C. PLASTIC WEATHER FILLET

MASTIC POINTING

WIDTH

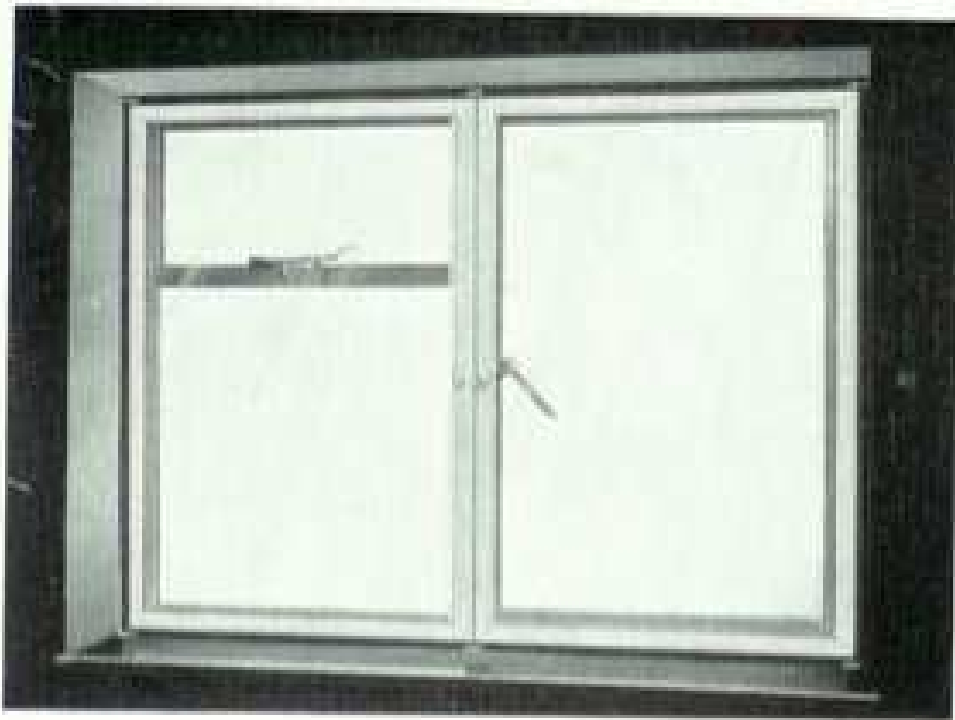
JAMB





# THE CRITTALL CAMPAIGNER

## STORM SASH



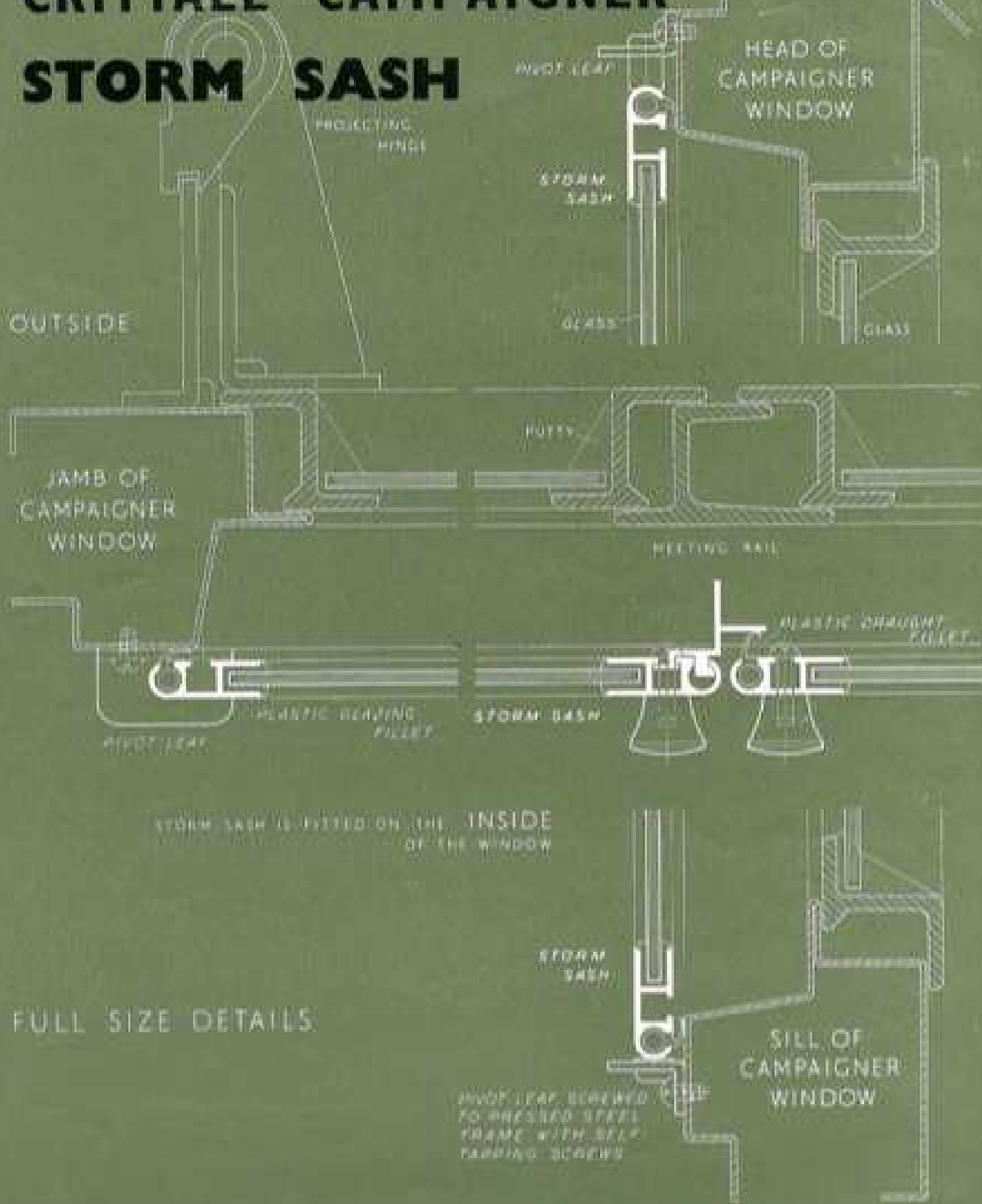
In countries where extremes of climate are experienced the "Storm-sash" has for long been used to provide the effect of double windows in winter. It consists of a light glazed panel which can easily be removed and stored away during the summer, when it is sometimes replaced by a flyscreen.

In this country the need is not so much to keep out the weather as to prevent internal heat loss; and with this in view we have designed this "Storm-sash" range, which can be applied to all types and sizes of "Campaigner" windows illustrated in Crittall leaflet No. 215. The single and double storm-sash units can be used in combination to make up all window widths, and are supplied with the glass already secured in place by plastic fillets. The light aluminium alloy frames have ordinary mill finish, and are fitted with plastic weather strips all round. They are pivoted on steel brackets screwed to the pressed steel window frame. Spring clips are provided to hold them in the closed position. The pivots are so arranged that the storm-sash can easily be lifted off and stored when not required.

THE CRITTALL MANUFACTURING COMPANY LIMITED  
BRAINTREE ESSEX

LEAFLET 215 A

# CRITTALL CAMPAIGNER STORM SASH



FULL SIZE DETAILS

# THE CRITTALL CONTINENTAL WINDOW

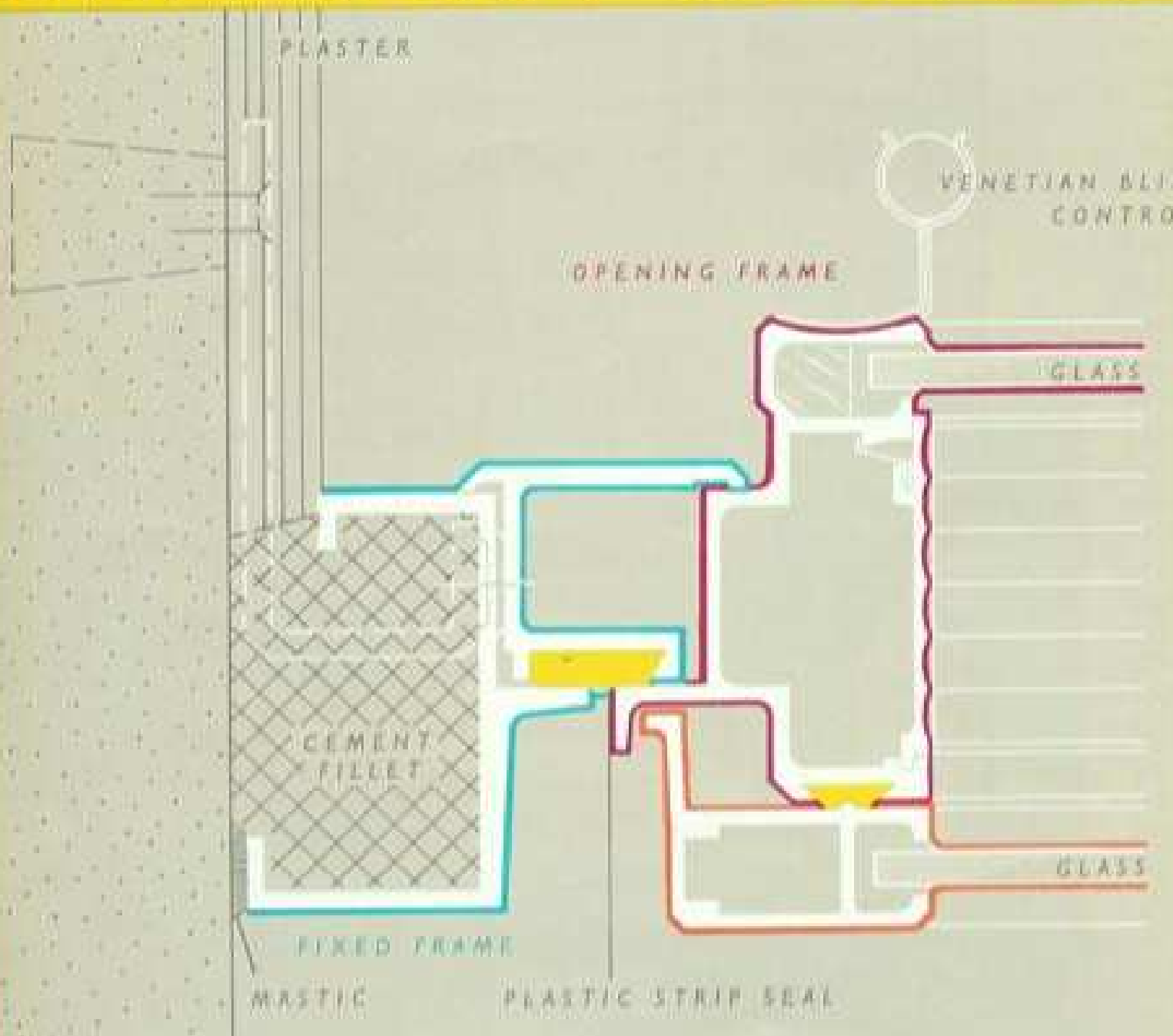


A new type of window: made of aluminium, reversible, completely weatherstripped, and fitted with venetian blind between double glazing:

THE CRITTALL MANUFACTURING COMPANY LIMITED • BRAINTREE ENGLAND  
LONDON OFFICE AND SHOWROOM, 210 HIGH HOLBORN, LONDON W.C.1



# CRITTALL CONTIN

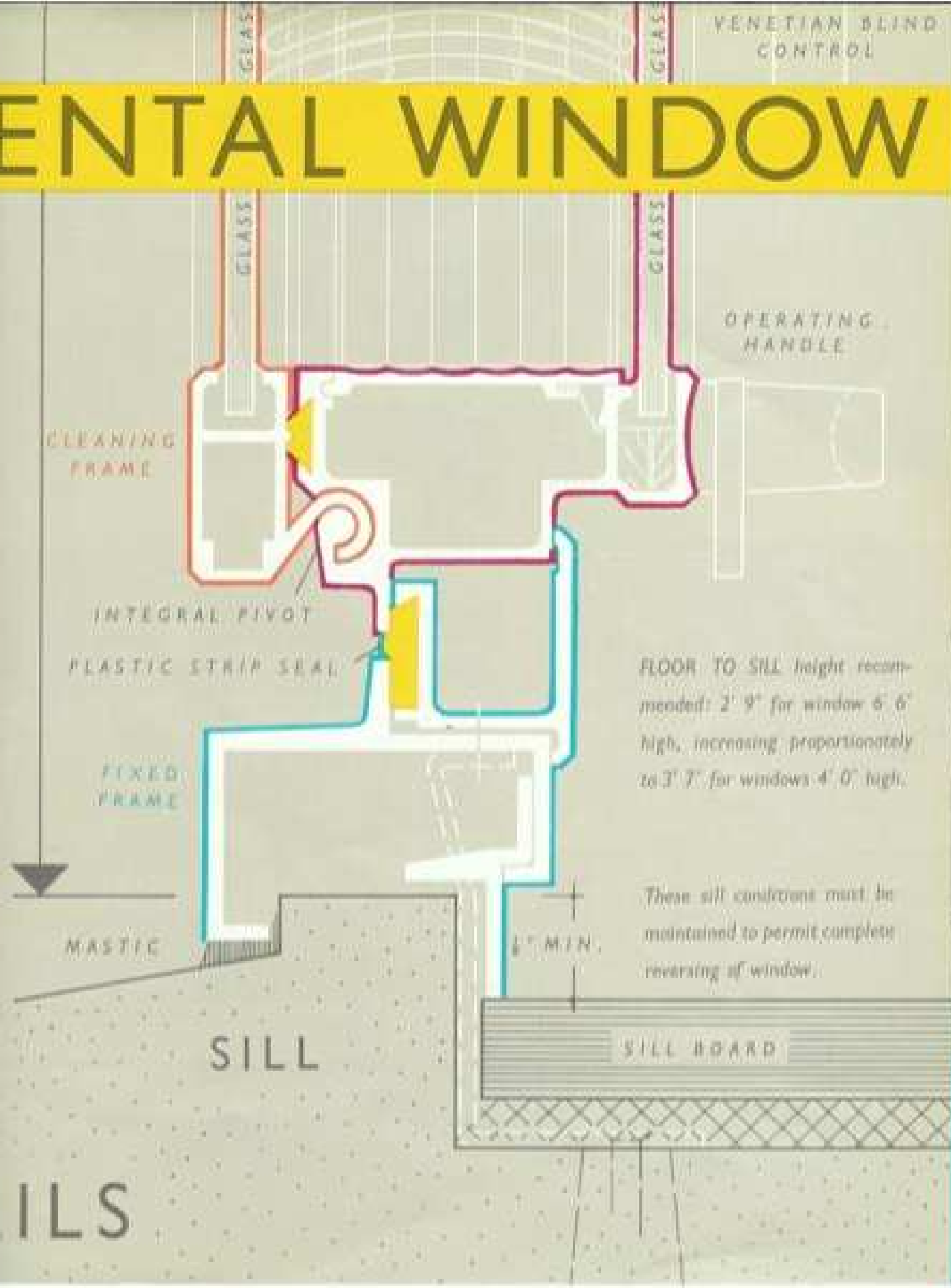


JAMB BELOW PIVOT

FULL SIZE DET

VENETIAN BLIND CONTROL

# INTERNAL WINDOW



CLEANING FRAME

INTEGRAL PIVOT

PLASTIC STRIP SEAL

FIXED FRAME

MASTIC

SILL

OPERATING HANDLE

FLOOR TO SILL height recommended: 2' 9" for window 6' 6" high, increasing proportionately to 3' 7" for windows 4' 0" high.

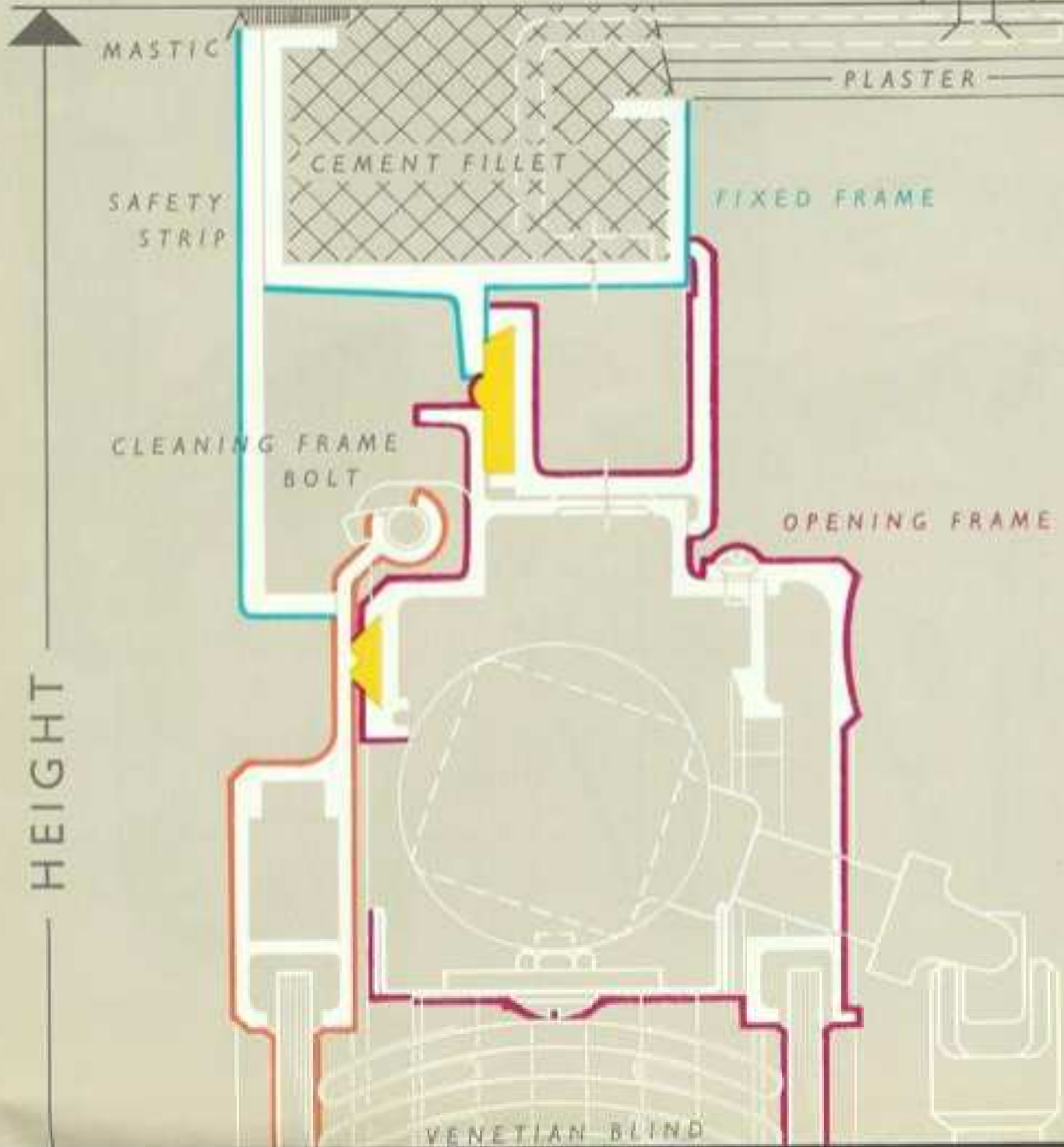
These sill conditions must be maintained to permit complete reversing of window.

6" MIN.

SILL BOARD

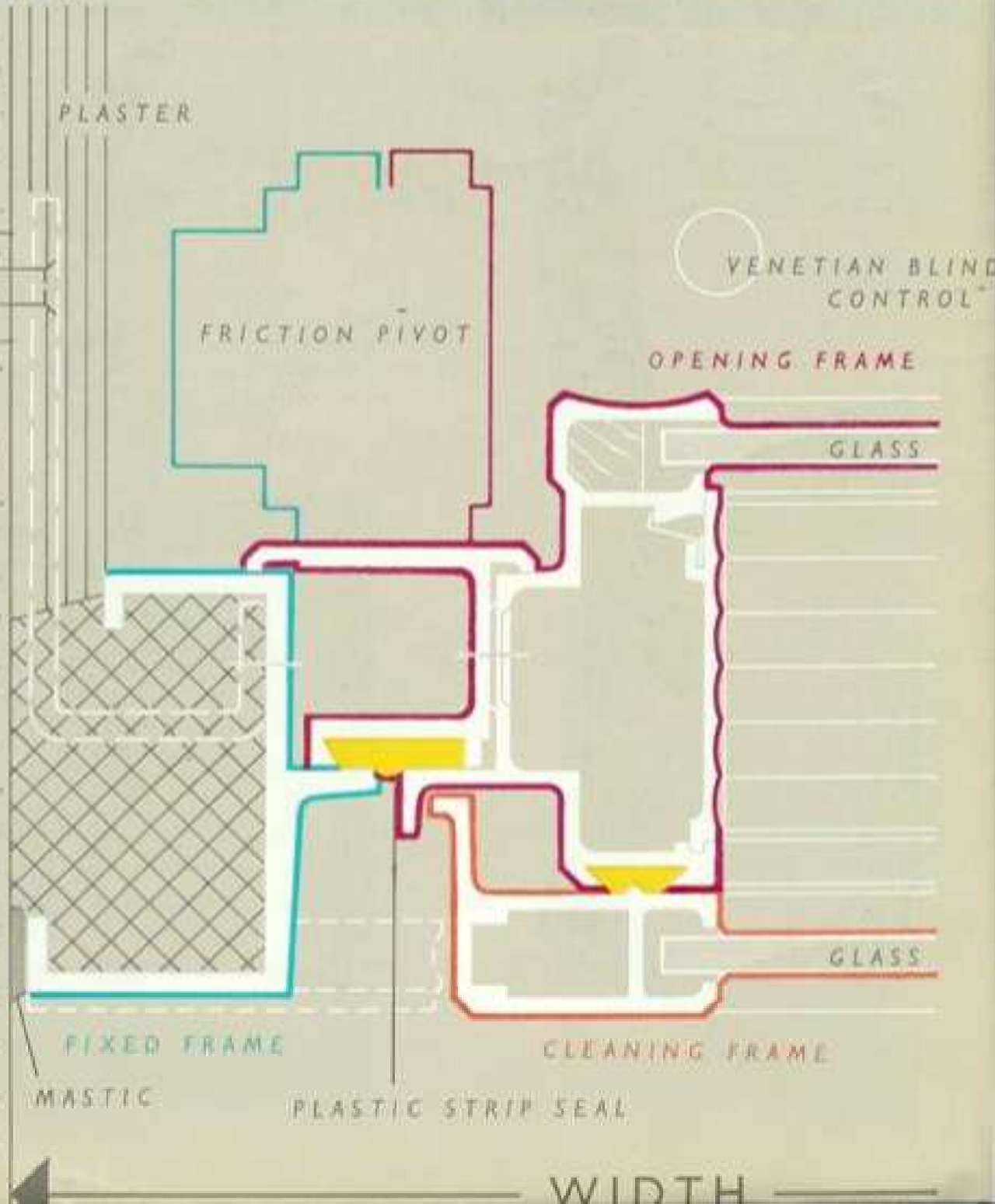
AILS

# HEAD





# JAMB ABOVE PIVOT





Operating the venetian blind — this can be done when the window is either open or shut. Single control raises, lowers and tilts the slats.

**A recent improvement:** the control rod for the venetian blind is now concealed within the window frame.



Opening the window for ventilation, or preparatory to reversal for cleaning. Friction pivots hold window in any required position.



The window completely reversed: cleaning outside face of outer glass.



Outer glass and frame held by side stays: cleaning inside face of inner glass. Inside of outer glass is also cleaned from this position.

# CRITTALL



## “AWNING” AND PROJECTED WINDOWS

For schools, multi-storey flats, and industrial buildings. Projected-out ventilators form a weather-protecting canopy, and projected-in ventilators deflect air upwards and shed rain to the outside.

THE CRITTALL MANUFACTURING COMPANY LIMITED  
BRAINTREE, ESSEX - 210 HIGH HOLBORN, LONDON, W.C.1

No. 173 N

# CRITTALL PROJECTED AND AWNING WINDOWS

ALL  $\frac{673 \text{ mm}}{2'-2\frac{1}{2}"} \text{ WIDE}$

ALL  $\frac{815 \text{ mm}}{2'-8\frac{1}{2}"} \text{ WIDE}$

ALL  $\frac{987 \text{ mm}}{3'-2\frac{1}{2}"} \text{ WIDE}$

ALL  $\frac{1,301 \text{ mm}}{4'-3\frac{1}{2}"} \text{ WIDE}$

1'-8"  
311 mm



PW2A



PW32A



PW3A



PW4A

1'-8"  
311 mm

3'-2"  
977 mm



PW22A



PW22T



PW322A



PW322T



PW32A



PW32T



PW42A



PW42T

3'-2"  
977 mm

4'-8"  
1,449 mm



PW23F



PW23A



PW23T



PW33F



PW33A



PW33T



PW43F



PW43A



PW43T



PW43F



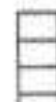
PW43A



PW43T

4'-8"  
1,449 mm

6'-3"  
1,911 mm



PW24F



PW24A



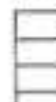
PW24T



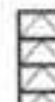
PW24TB



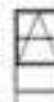
PW24TT



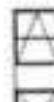
PW34F



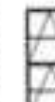
PW34A



PW34T



PW34TB



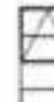
PW34TT



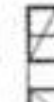
PW44F



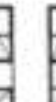
PW44A



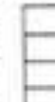
PW44T



PW44TB



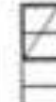
PW44TT



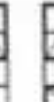
PW44F



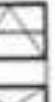
PW44A



PW44T



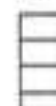
PW44TB



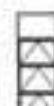
PW44TT

6'-3"  
1,911 mm

7'-9"  
2,378 mm



PW25F



PW25A



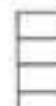
PW25T



PW25TB



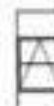
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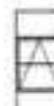
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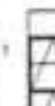
PW35A



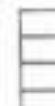
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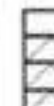
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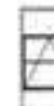
PW35TT



PW45F



PW45A



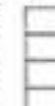
PW45T



PW45TB



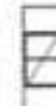
PW45TT



PW45F



PW45A



PW45T



PW45TB



PW45TT

7'-9"  
2,378 mm

9'-4"  
2,844 mm



PW26F



PW26T



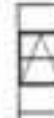
PW26TB



PW36F



PW36T



PW36TB



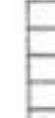
PW46F



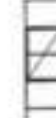
PW46T



PW46TB



PW46F



PW46T



PW46TB

9'-4"  
2,844 mm



AWNING



PROJECTED OUT AND IN

Crittall projected and awning windows are made from mild rolled steel sections welded at the corners. The ventilators are balanced on steel arms that are braced within the vertical members of the frames; spring-loaded brass shoes are fitted which slide in the channel of the fixed frame. Awning ('A' types) windows have the ventilators linked on the inside for simultaneous operation. 'TT' types have a horizontal fixed meeting rail incorporated between adjacent ventilators. All types can be coupled together with standard mullions to form larger composite windows; full size sections are shown on page 4.

Projected windows are fitted with a brass lever handle at sill

and a finger pull-ring at head of projected-out ventilators. Projected-in ventilators are supplied with a brass lever handle at the top. Alternative fittings for opening by long arm can be supplied where the ventilators are out of reach of hand. Awning windows have a brass handle and pull-eye fitted on the lower ventilator.

Windows are prepared for glazing from outside with putty. Holes for springs are already drilled where necessary. Windows can be supplied either hot-dip galvanized, or paint-dipped one coat anti-rust primer. Horizontal glazing bars can be omitted if so specified.

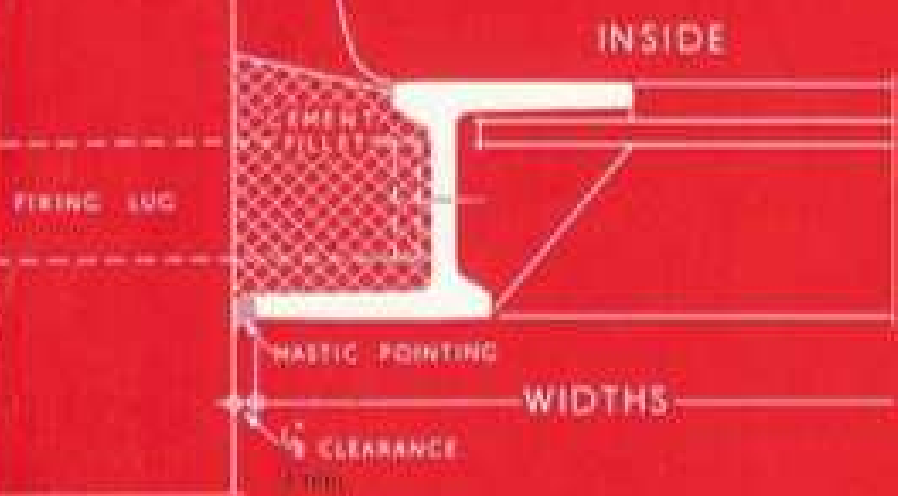
## GLASS PANE SIZES

|                 |             | Overall Window Width |                 |                  |                   | Overall Window Width |                 |                  |                   |                    |
|-----------------|-------------|----------------------|-----------------|------------------|-------------------|----------------------|-----------------|------------------|-------------------|--------------------|
|                 |             | 2'-2"<br>673 mm      | 2'-8"<br>815 mm | 3'-2"<br>987 mm  | 4'-3"<br>1,301 mm | 2'-10"<br>673 mm     | 3'-8"<br>815 mm | 3'-10"<br>892 mm | 4'-3"<br>1,301 mm | 4'-10"<br>1,400 mm |
| PROJECTED TYPES | Fixed Panel | 16"                  | 23"             | 29"              | 36"               | 49"                  | 56"             | 62"              | 69"               | 75"                |
|                 | Large Yarn  | 17"                  | 24"             | 30"              | 37"               | 50"                  | 57"             | 63"              | 70"               | 76"                |
|                 | Small Yarn  | 16"                  | 23"             | 29"              | 36"               | 49"                  | 56"             | 62"              | 69"               | 75"                |
|                 | Fixed Panel | 16"                  | 23"             | 29"              | 36"               | 49"                  | 56"             | 62"              | 69"               | 75"                |
|                 |             | Overall Window Width |                 |                  |                   | Overall Window Width |                 |                  |                   |                    |
|                 |             | 2'-10"<br>673 mm     | 3'-8"<br>815 mm | 3'-10"<br>892 mm | 4'-3"<br>1,301 mm | Overall Window Width |                 |                  |                   |                    |
|                 |             | Overall Window Width |                 |                  |                   | Overall Window Width |                 |                  |                   |                    |
|                 |             | 2'-10"<br>673 mm     | 3'-8"<br>815 mm | 3'-10"<br>892 mm | 4'-3"<br>1,301 mm | Overall Window Width |                 |                  |                   |                    |
|                 |             | Overall Window Width |                 |                  |                   | Overall Window Width |                 |                  |                   |                    |
|                 |             | 2'-10"<br>673 mm     | 3'-8"<br>815 mm | 3'-10"<br>892 mm | 4'-3"<br>1,301 mm | Overall Window Width |                 |                  |                   |                    |
|                 |             | Overall Window Width |                 |                  |                   | Overall Window Width |                 |                  |                   |                    |
|                 |             | 2'-10"<br>673 mm     | 3'-8"<br>815 mm | 3'-10"<br>892 mm | 4'-3"<br>1,301 mm | Overall Window Width |                 |                  |                   |                    |
|                 |             | Overall Window Width |                 |                  |                   | Overall Window Width |                 |                  |                   |                    |
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|                 |             | Overall Window Width |                 |                  |                   | Overall Window Width |                 |                  |                   |                    |
|                 |             | 2'-10"<br>673 mm     | 3'-8"<br>815 mm | 3'-10"<br>892 mm | 4'-3"<br>1,301 mm | Overall Window Width |                 |                  |                   |                    |
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|                 |             | Overall Window Width |                 |                  |                   | Overall Window Width |                 |                  |                   |                    |
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|                 |             | Overall Window Width |                 |                  |                   | Overall Window Width |                 |                  |                   |                    |
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|                 |             | Overall Window Width |                 |                  |                   | Overall Window Width |                 |                  |                   |                    |
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|                 |             | Overall Window Width |                 |                  |                   | Overall Window Width |                 |                  |                   |                    |
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|                 |             | 2'-10"<br>673 mm     | 3'-8"<br>815 mm | 3'-10"<br>892 mm | 4'-3"<br>1,301 mm | Overall Window Width |                 |                  |                   |                    |
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|                 |             | Overall Window Width |                 |                  |                   | Overall Window Width |                 |                  |                   |                    |
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|                 |             | Overall Window Width |                 |                  |                   | Overall Window Width |                 |                  |                   |                    |
|                 |             | 2'-10"<br>673 mm     | 3'-8"<br>815 mm | 3'-10"<br>892 mm | 4'-3"<br>1,301 mm | Overall Window Width |                 |                  |                   |                    |
|                 |             | Overall Window Width |                 |                  |                   | Overall Window Width |                 |                  |                   |                    |
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|                 |             | 2'-10"<br>673 mm     | 3'-8"<br>815 mm | 3'-10"<br>892 mm | 4'-3"<br>1,301 mm | Overall Window Width |                 |                  |                   |                    |
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|                 |             | Overall Window Width |                 |                  |                   | Overall Window Width |                 |                  |                   |                    |
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|                 |             | Overall Window Width |                 |                  |                   | Overall Window Width |                 |                  |                   |                    |
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|                 |             | Overall Window Width |                 |                  |                   | Overall Window Width |                 |                  |                   |                    |
|                 |             |                      |                 |                  |                   |                      |                 |                  |                   |                    |

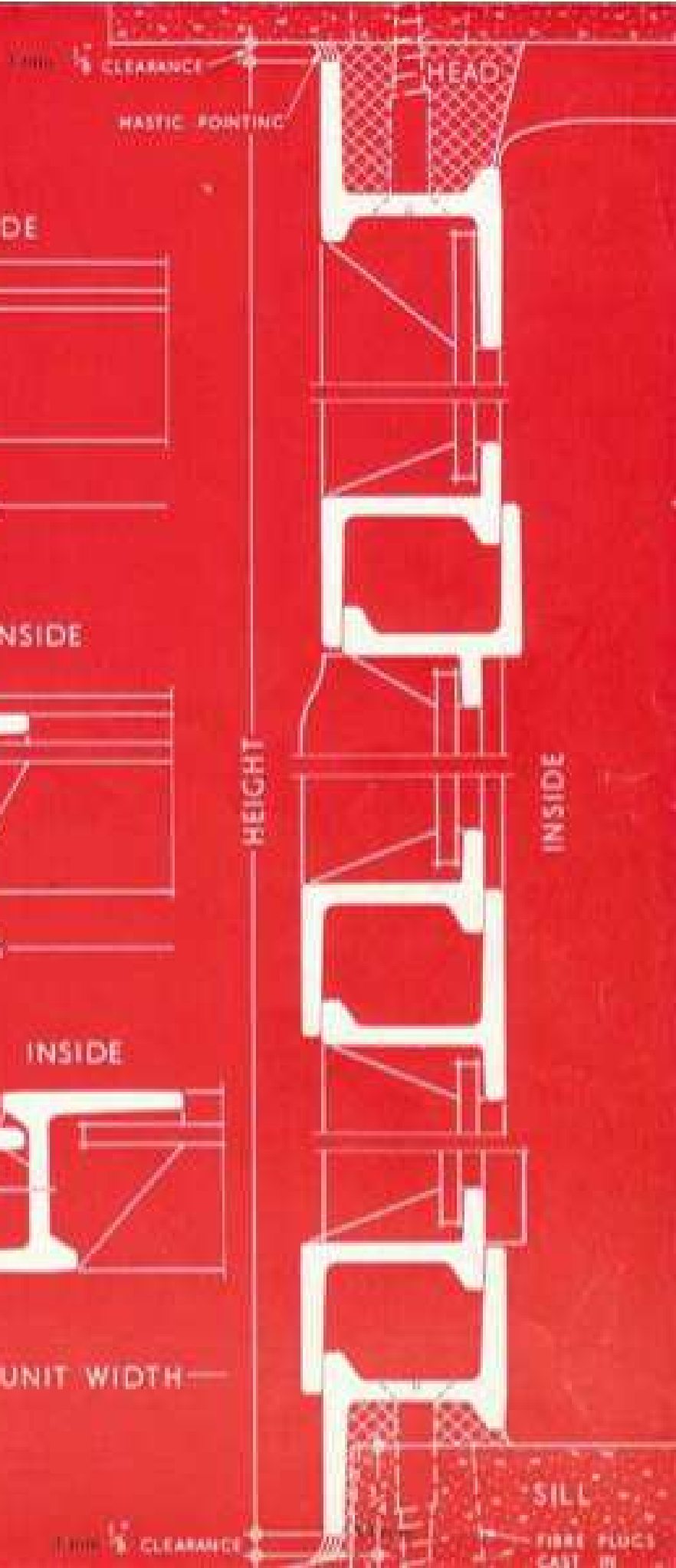
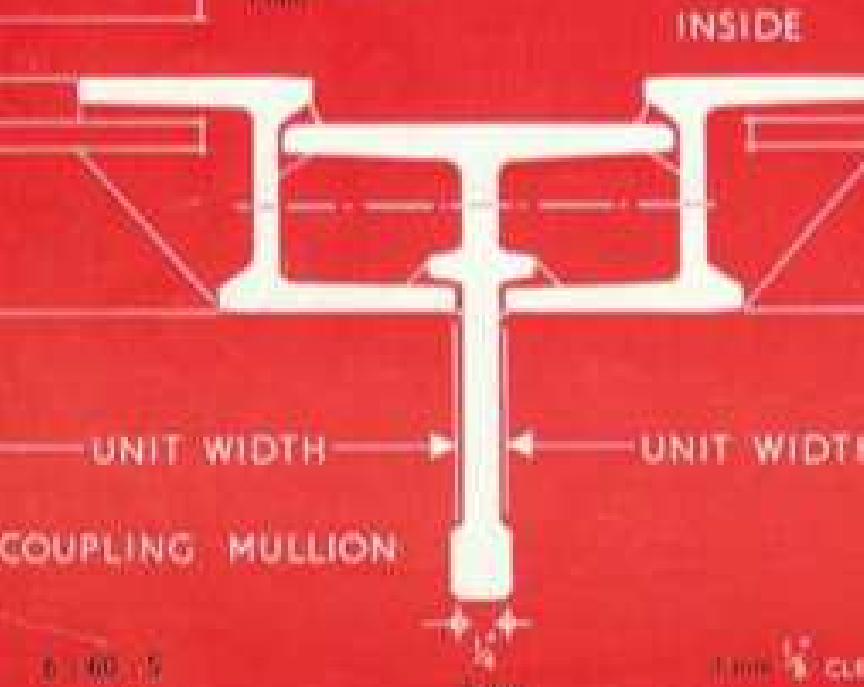


# FULL SIZE DETAILS

JAMB



JAMB





**CRITTALL**

*Fenestra*  
**LOUVRE**

2726

# CRITTALL

## *Fenestra* LOUVRE

### STANDARD HEIGHTS

|        |          |        |          |         |           |
|--------|----------|--------|----------|---------|-----------|
| 1' 0"  | 2 BLADES | 2' 10" | 6 BLADES | *5' 1½" | 11 BLADES |
| 1' 5½" | 3        | 3' 3¼" | 7        | *5' 7"  | 12        |
| 1' 11" | 4        | 3' 9"  | 8        | *6' 0½" | 13        |
| 2' 4½" | 5        | 4' 2½" | 9        | *6' 6"  | 14        |
|        |          | 4' 8"  | 10       |         |           |

\*Starred types are normally fitted with two operating handles, which can also be supplied as an extra to 8, 9 and 10 blade units.

#### INSTRUCTIONS FOR FIXING

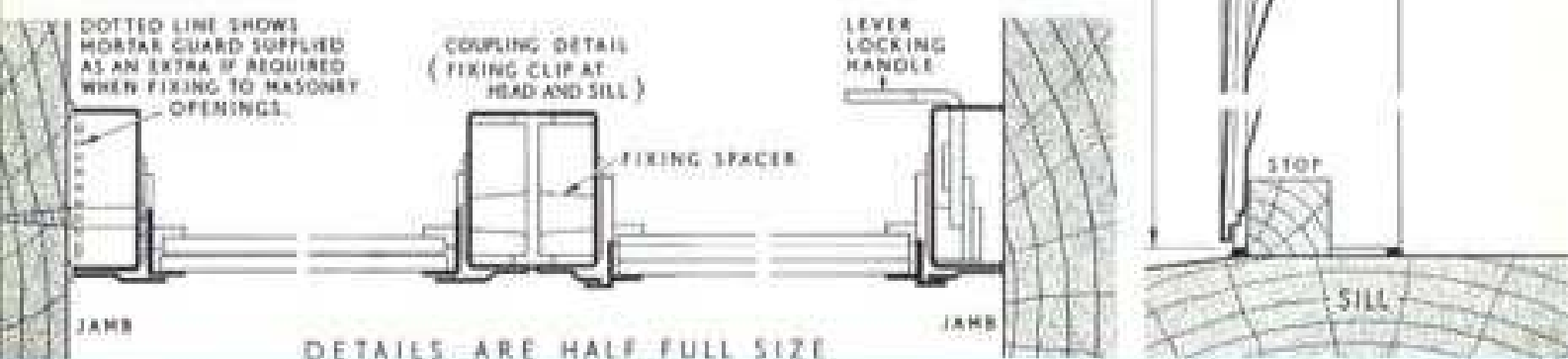
Fix handle side first. It should be truly upright and firmly secured to the side of the opening. (handle should be inside). Now fix the opposite side with one screw in the top-hole, loose enough to allow the bottom part to be moved for alignment. Now put the glass blades into position, sliding them between the bearers of each side. Close the louvers and position the unfastened side until all the louvers lie snug and tight across the window. Now secure the opposite side, making sure to tighten the top screw. Cut top and bottom stops to fit accurately between the sides and screw them into position, just touching against the louvers when they are closed. It is best to use a mastic caulking material under the bottom stop before fixing.

#### MULLIONED OPENINGS

The outer mulls are fixed as above. Then strike a line at head and sill which will give the position of the fixing clips at the top and bottom of mullions. Now screw the fixing clips into position. Screw the mullion fixing spacers into the handle channel; put this channel into position against the fixing clips at head and sill, apply the non-handled channel and screw together.

#### GLASS

Glass louvre blades should not be less than 3/16" thick (or 32 oz. glass); bearers will accept glass up to 1/4" in thickness. Glass blades, 32 oz. or 3/16", should not exceed 30" in length. Glass blades 1/4" thick should not exceed 30" in length. The bearers are positioned to give a gap of 1/2" with the standard 6" wide blades. In the interests of safety it is best to have the wire ground.



MADE BY THE CRITTALL MANUFACTURING COMPANY LIMITED  
BRAINTREE ENGLAND AND OBTAINABLE THROUGH



شريكك خيرتالك بصرقاهبيت المنكلى القامريبالسكاف

# شركة كريتان الصناعاتية المحدودة

٢١. هكاي هولبورث . لندن . انجلترا

الفرع والوصلات في : افريقيا الغربية . اسبانيا . الامريكيتين الوسطى والبحرية . المسابح  
المديرو . السودان . العراق . اندونيسيا . استراليا . الهند . بورما . بورنيو  
تيجانيقا . جزاشرقيي . جنوب افريقيا . جنوب روديسيا . فلسطين . قبرص . كوستاريكا  
كينيا واولندا . مصر . نيبالاند . نيوزيلندا . سورياولبنان . سيشون .

الوكلاء . والمستودعون الوحيدون

## شركة سودان مركنتايل (المخرطوم) ليمتد

صندوق البريد ٩٧ المخرطوم . السودان



سكناني

حائط خشب لا يوجد منع  
الفتحات

مفتوح

تعمير خشبي  
تسمح للعلاج  
وتشورده مغلياً

شفاة لمنع مياه الطرد

الداخل

تفصيل  
بالحجم الطبيعي

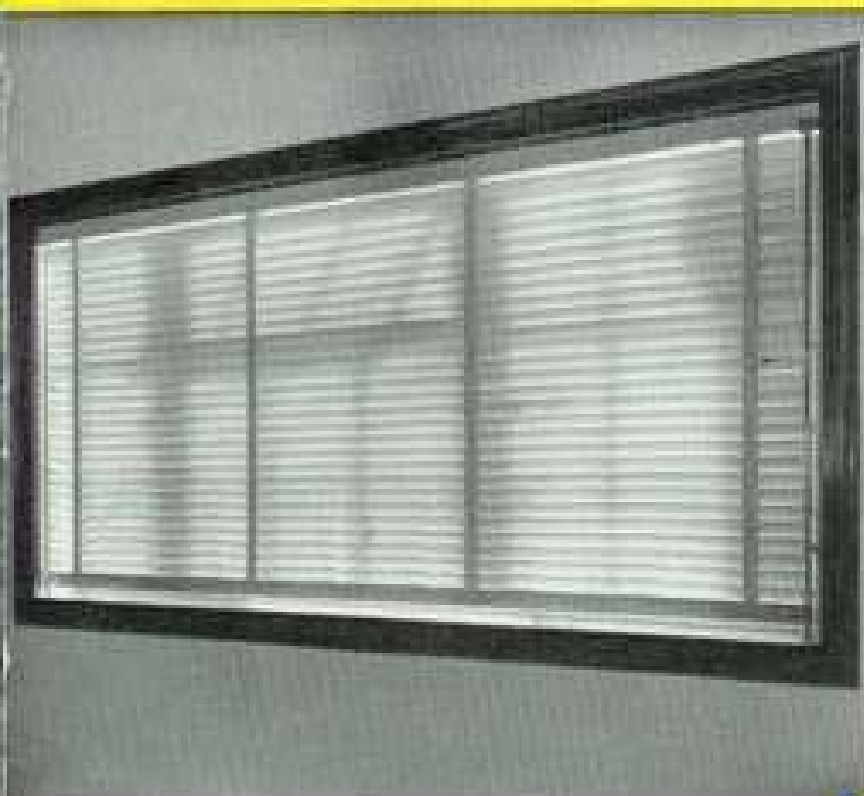
مفتوح

حائط خشب لا يوجد  
مع الفتحات

مفتوح

# CRITTALL **Solomatic**

## Venetian blinds



- \* ONE SINGLE CONTROL (single strap, double strap or gear) tilts the slats as well as raising and lowering the blind.
- \* NO CORDS to dangle, tangle, wear or pile at the sill.
- \* UNEVEN LOWERING IS IMPOSSIBLE.
- \* NO TROUBLES WITH CORDLOCK RELEASE & ENGAGEMENT. All three types of operator are self-locking.
- \* ELIMINATION OF 'FLUTTER' & SWAY. A double-cross web ladder tape prevents 'flutter'. Guide channels are available for the prevention of sway.
- \* ROBUST ALL-METAL MECHANISM assures long life.

NEW • ELEGANT • EFFICIENT

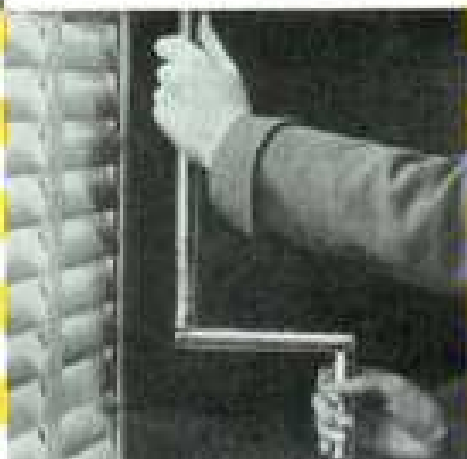


FIG. 1

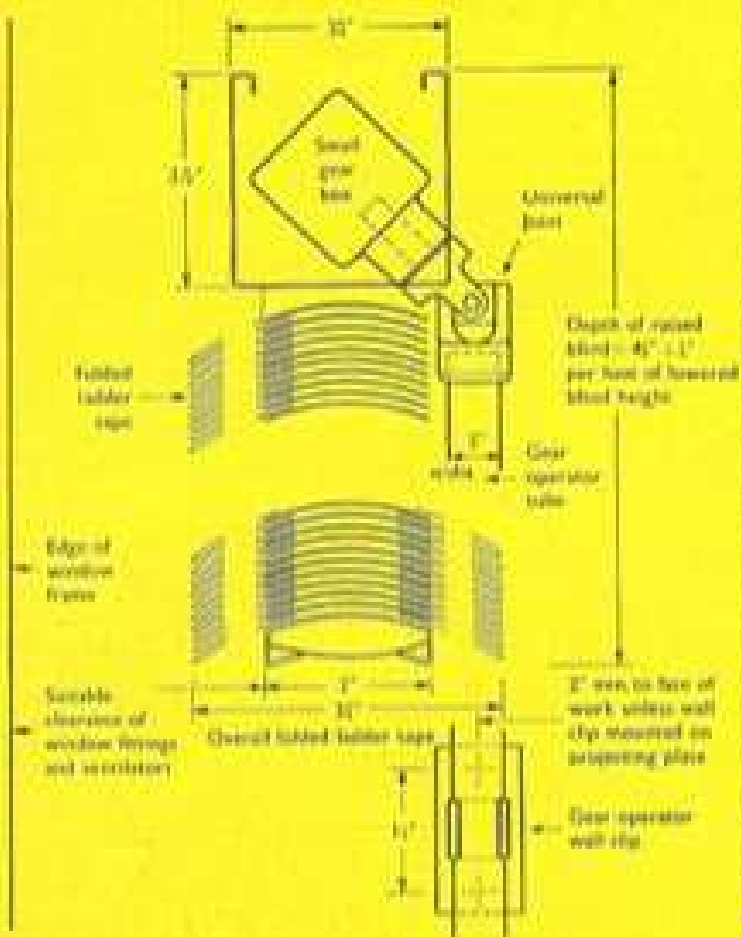


FIG. 2

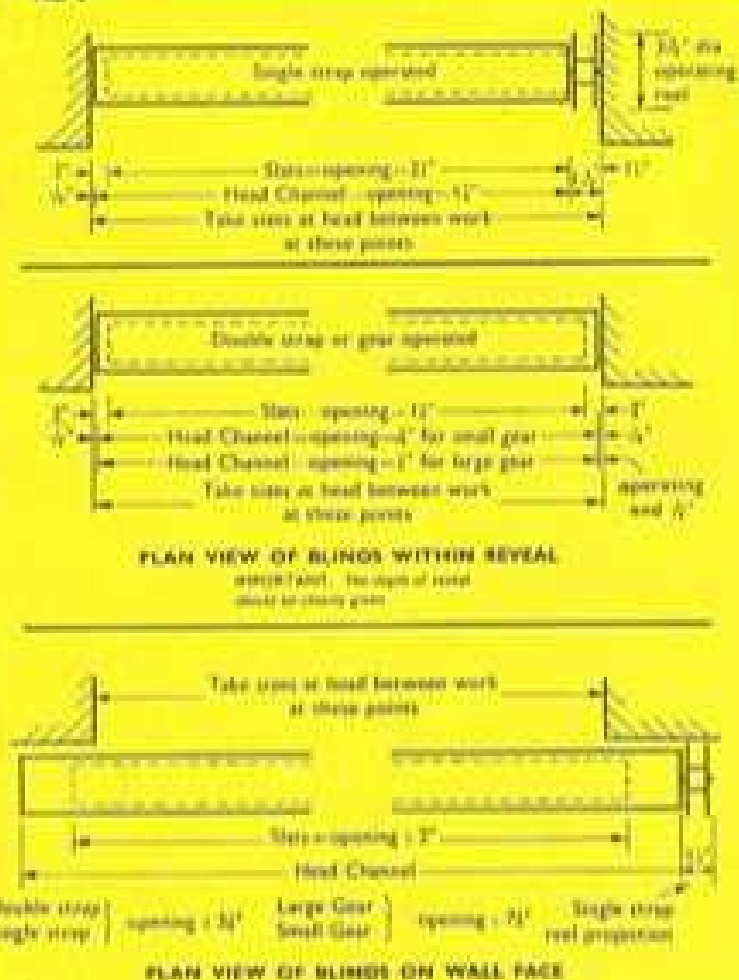
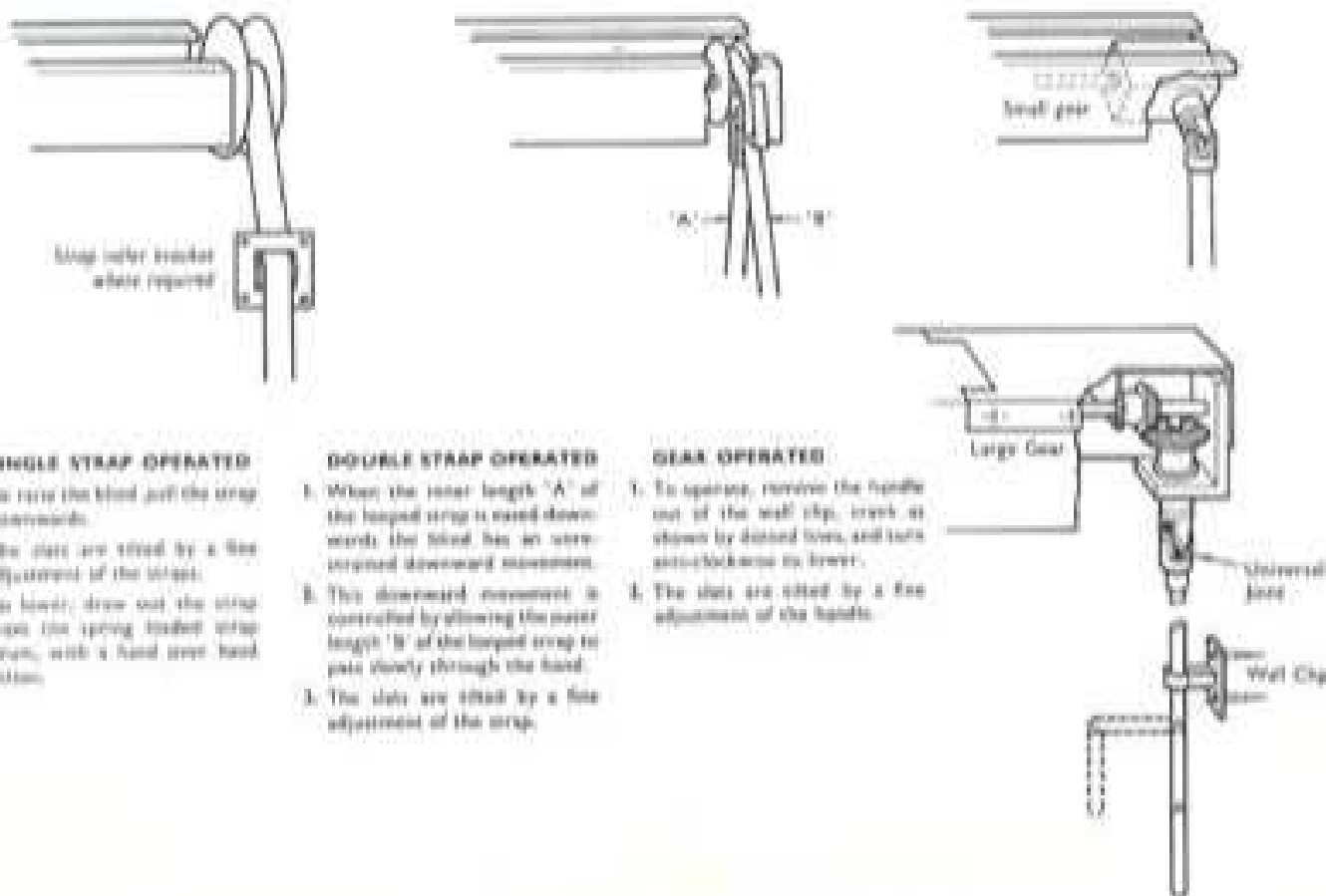


FIG. 3



**SINGLE STRAP OPERATED**

1. To raise the blind pull the strap downwards.
2. The slats are tilted by a fine adjustment of the straps.
3. To lower, draw out the strap from the spring loaded strap drum, with a hand over hand action.

**DOUBLE STRAP OPERATED**

1. When the inner length 'A' of the looped strap is used downwards the blind has an unopposed downward movement.
2. This downward movement is controlled by allowing the inner length 'B' of the looped strap to pass slowly through the hand.
3. The slats are tilted by a fine adjustment of the strap.

**GEAR OPERATED**

1. To operate, remove the handle out of the wall clip, crank as shown by dotted lines, and turn anticlockwise to lower.
2. The slats are tilted by a fine adjustment of the handle.



**CRITTALL**  
**R C A**  
**CASEMENT**  
**FITTINGS**

*Made in aluminium for use with aluminium casements, and in bronze for use with steel universal casements*



DESIGNED BY THE ROYAL COLLEGE OF ART  
SCHOOL OF INDUSTRIAL DESIGN (ENGINEERING),  
UNDER MR. F. G. ASHFORD

**THE CRITTALL MANUFACTURING COMPANY LIMITED**  
BRAintree, ESSEX

210 HIGH HOLBORN, LONDON, W.C.1

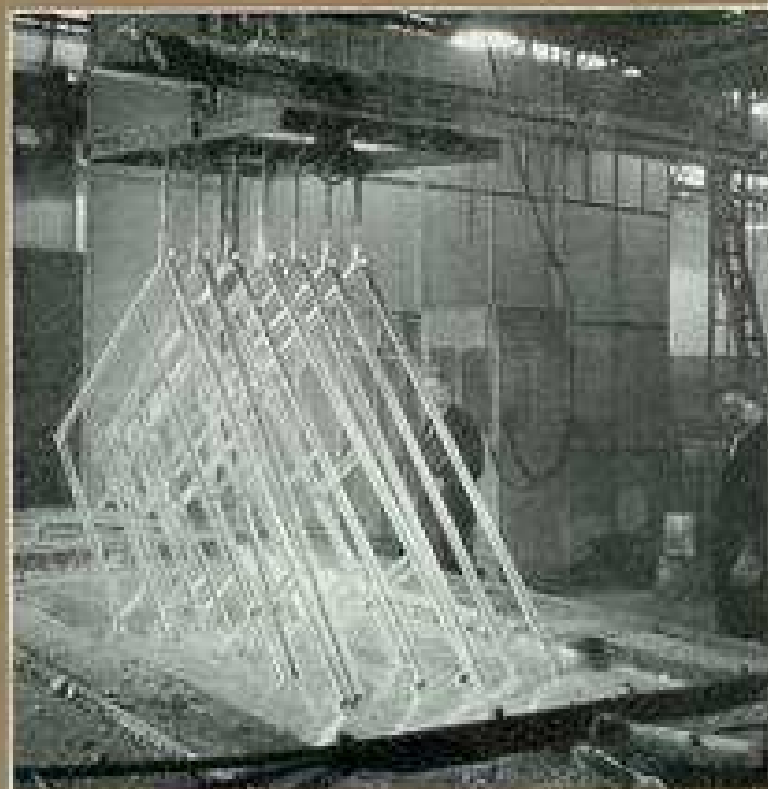
# CRITTALL



## BRIGHT GALVANIZING

After the 'hot-dip' in spelter, Crittall galvanized windows are now treated with a chromate passivation process, which will, besides preserving the bright appearance for many months, provide a far better key for eventual painting.

Surplus spelter drops being removed



Window frames emerging from spelter bath

This treatment supersedes the earlier method of providing a key by etching in phosphate solution, as when this was done a white deposit sometimes became evident after prolonged exposure, causing superficial disfigurement, and affecting to some degree the adhesion of paint.

The high degree of protection afforded by Crittall galvanizing is the result of constant research and experience gained over the past thirteen years. The hot-dip galvanizing plants installed in the factories at Braintree and Wicham are operated under the most rigid supervision. Galvanizing is to the high standards specified by BS729 (Part 1).

THE CRITTALL MANUFACTURING COMPANY LIMITED  
BRAINTREE-ESSEX, 210 HIGH HOLBORN, LONDON, W.C.1.

July, 1962 No. 373

71611

# CRITTALL WINDOWS

**FOR MULTI-STOREY BUILDINGS**

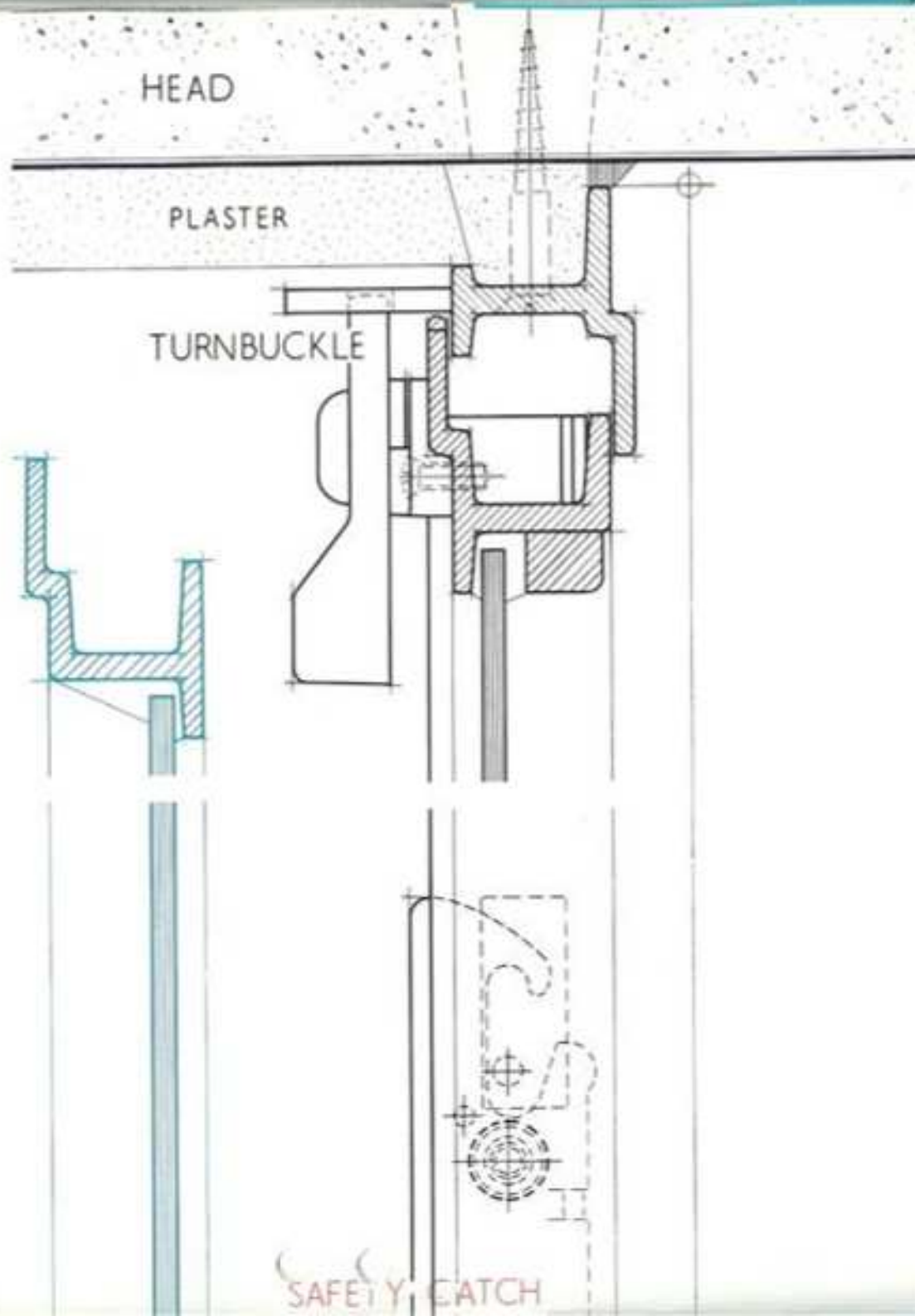
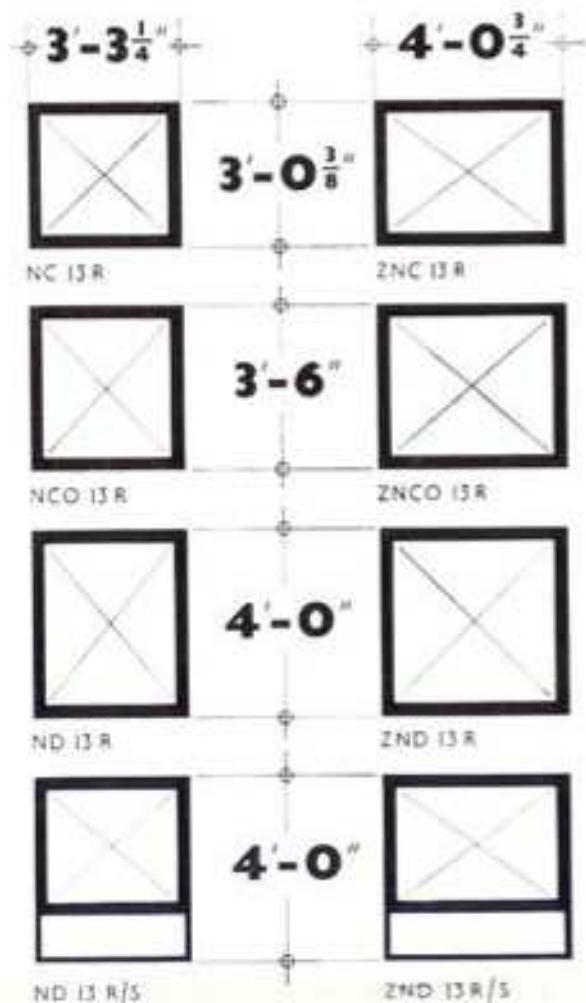


**REVERSIBLE WINDOWS · SIDE PROJECTED WINDOWS · GLAZED-IN S.M.W.**

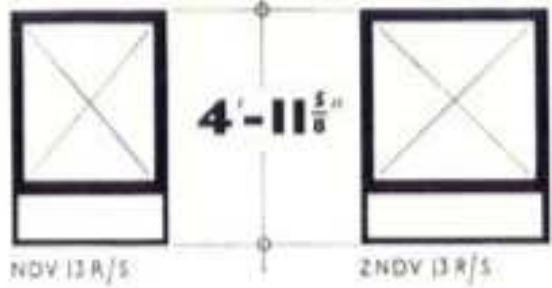
**THE CRITTALL MANUFACTURING COMPANY LIMITED**  
BRAintree, ESSEX  
210 HIGH HOLBORN, LONDON, W.C.1

# CRITTALL

## REVERSIBLE WINDOW

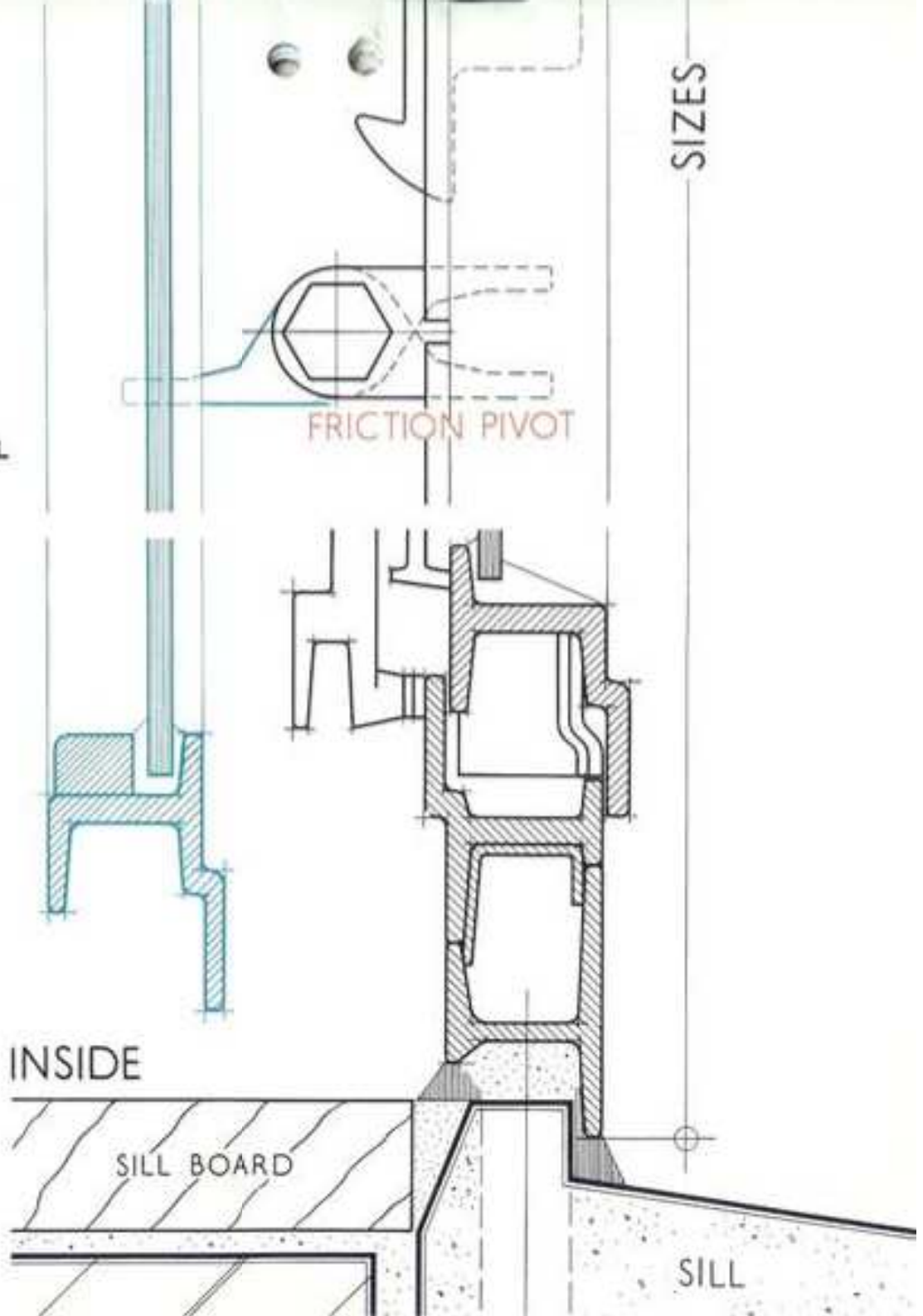
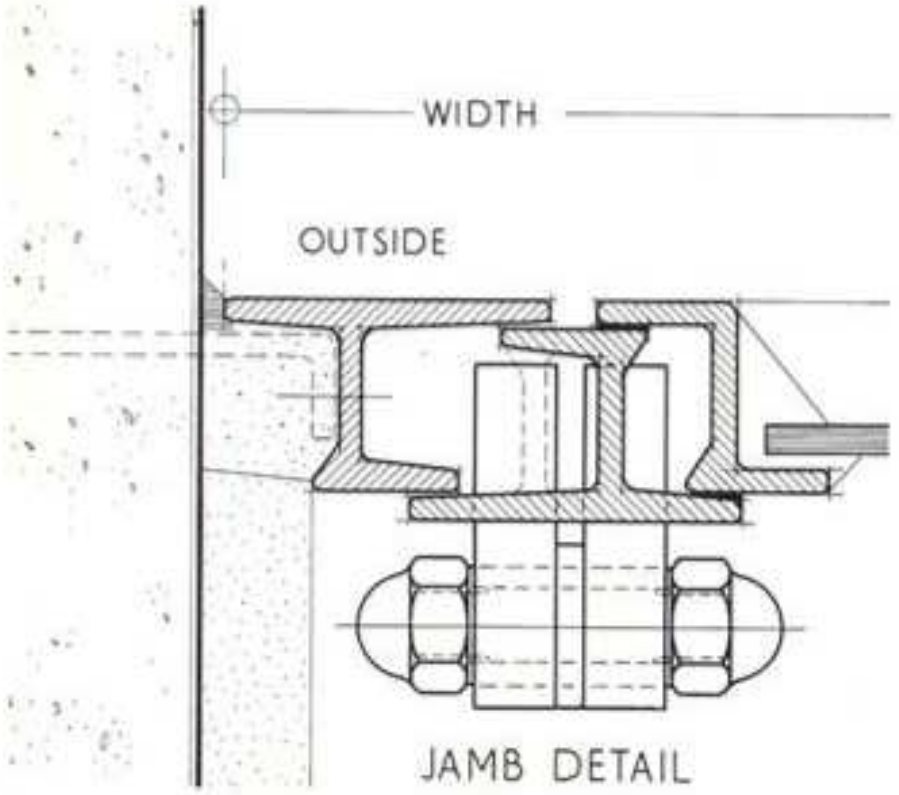






# FULL SIZE DETAILS

FOR GLASS SIZES SEE PAGE 5  
 FOR LUG POSITIONS SEE LOOSE SHEET 259L

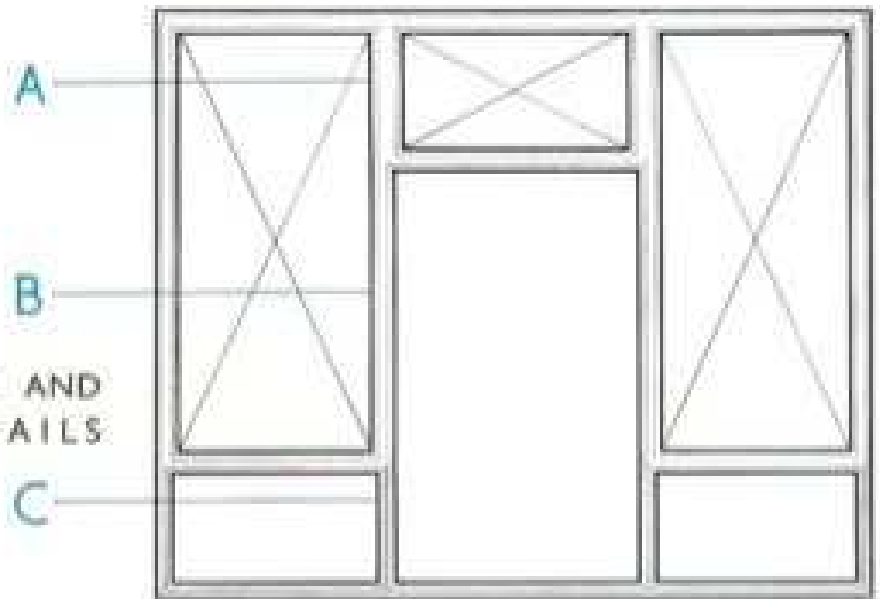




# SMW

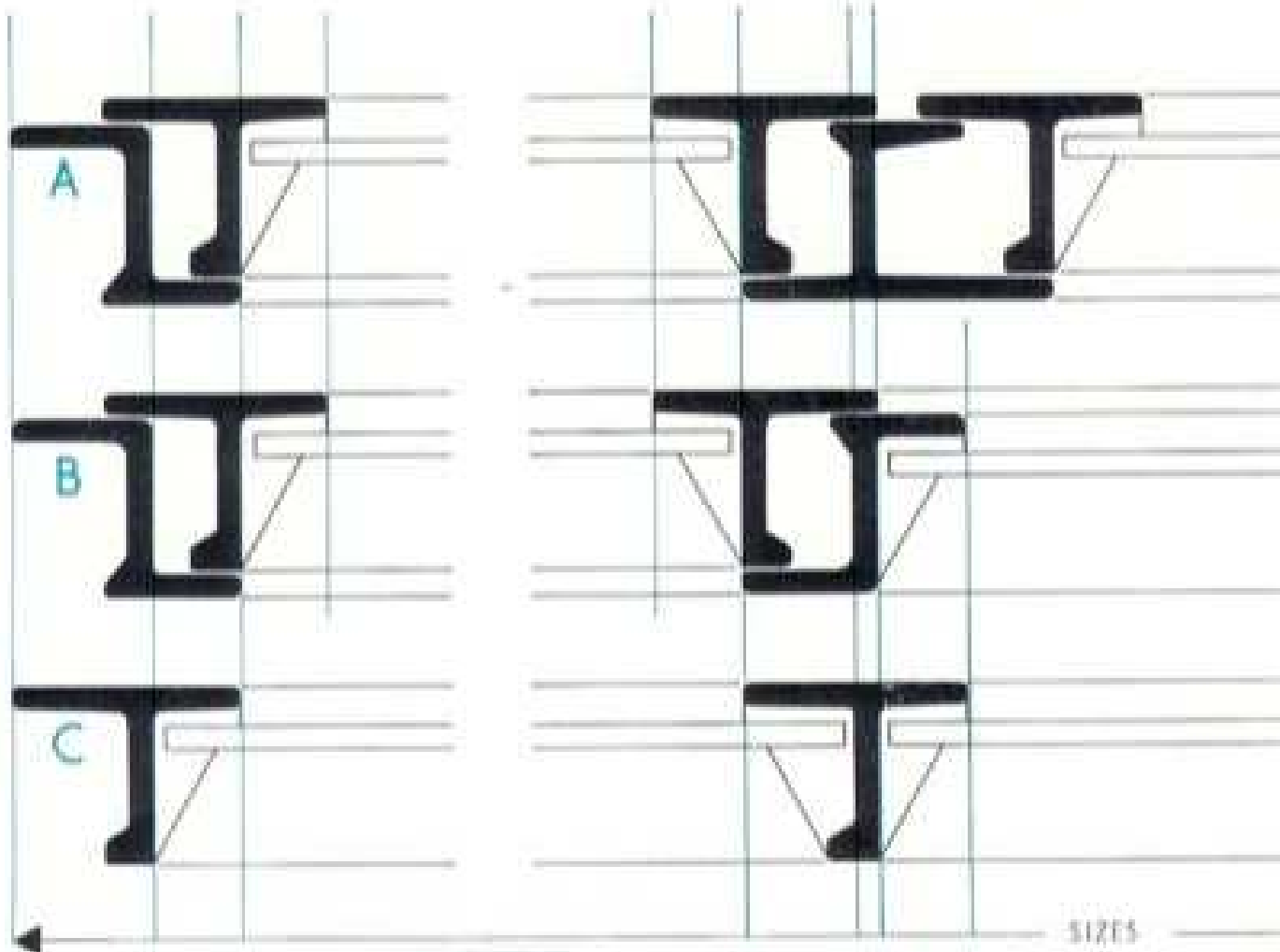
## OPEN OUT

TYPICAL ELEVATION AND  
FULL SIZE DETAILS



TYPE IG/ND41/S

JAMB



INSIDE

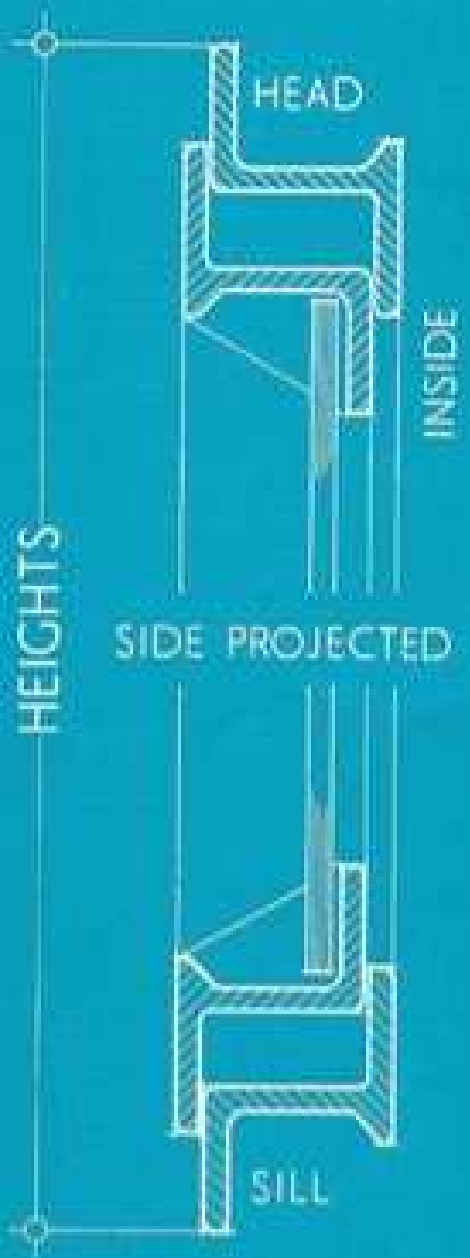
SIZES

SWINGING LEAF  
FULLY OPENED

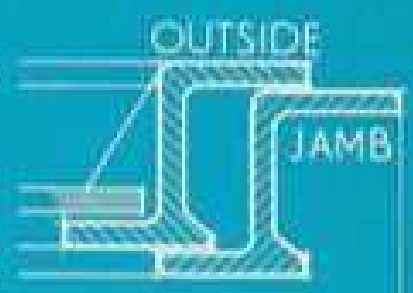
### FULL SIZE DETAILS

PIVOTED ARM  
FULLY CONCEALED  
WHEN CLOSED

SPRING SLIDING BRUSH



GLASS SIZES ETC  
OVERLEAF



WIDTHS

# CRITTALL

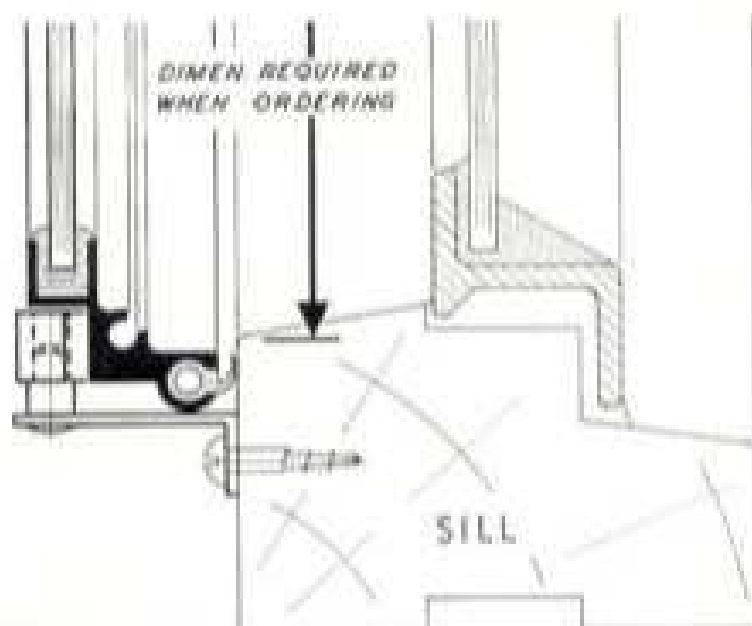
## WINTER SASH



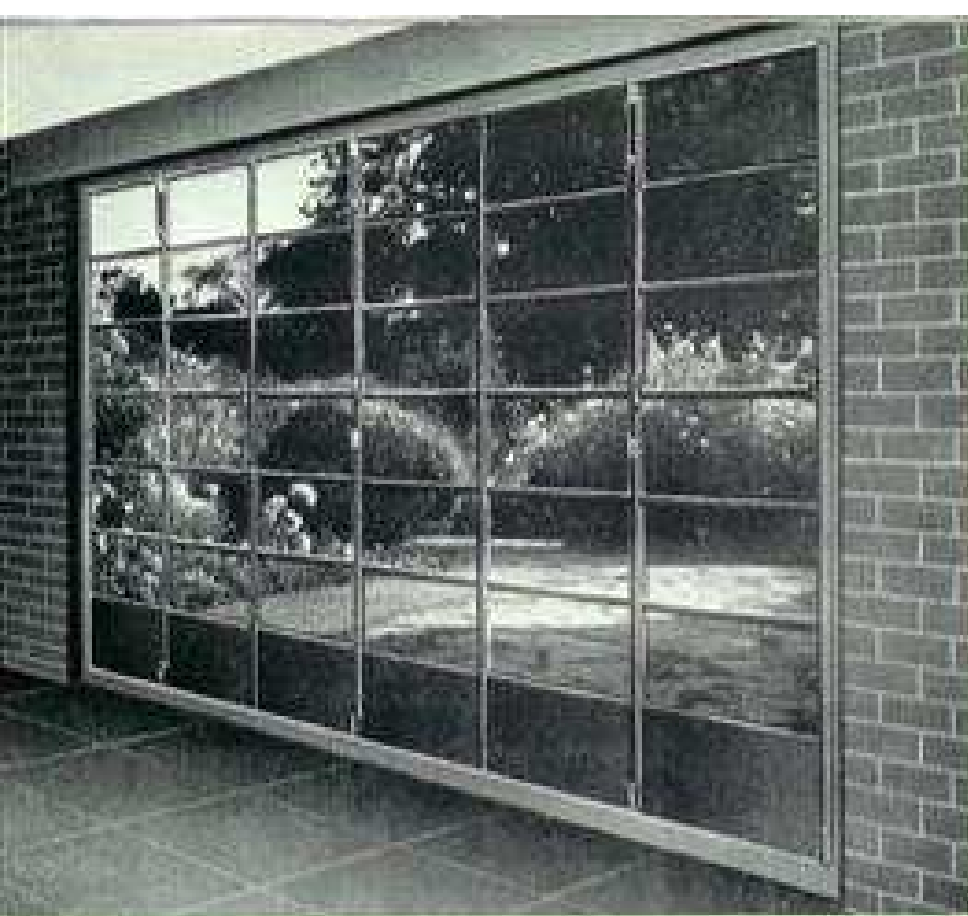
However efficient the heating system may be, there are times in the winter—especially in the upper floors of a high building—when condensation mist forms on the window panes, and the colder air in their immediate vicinity

reduces the overall comfort in the room. An inexpensive remedy for this state of affairs can be provided by fitting Crittall Winter Sash, consisting of aluminium framed, weather-stripped, glazed Units. These open inwards, for cleaning and for ventilation when required; and when the winter is over can be lifted off their pivots, and stored away in the cartons in which they are delivered. For full particulars please send for leaflet No. 264.

Shown here applied to Crittall S.M.W. in standard wood surrounds, winter sash can in fact be applied to any new or existing window where there is a flat unobstructed surround of 1" minimum at head and jambs and 1½" at sill; against this surface the plastic weather-strip will seat snugly when the winter sash is fitted. If the window area is large it may be necessary to divide the winter sash into units, with meeting rails.

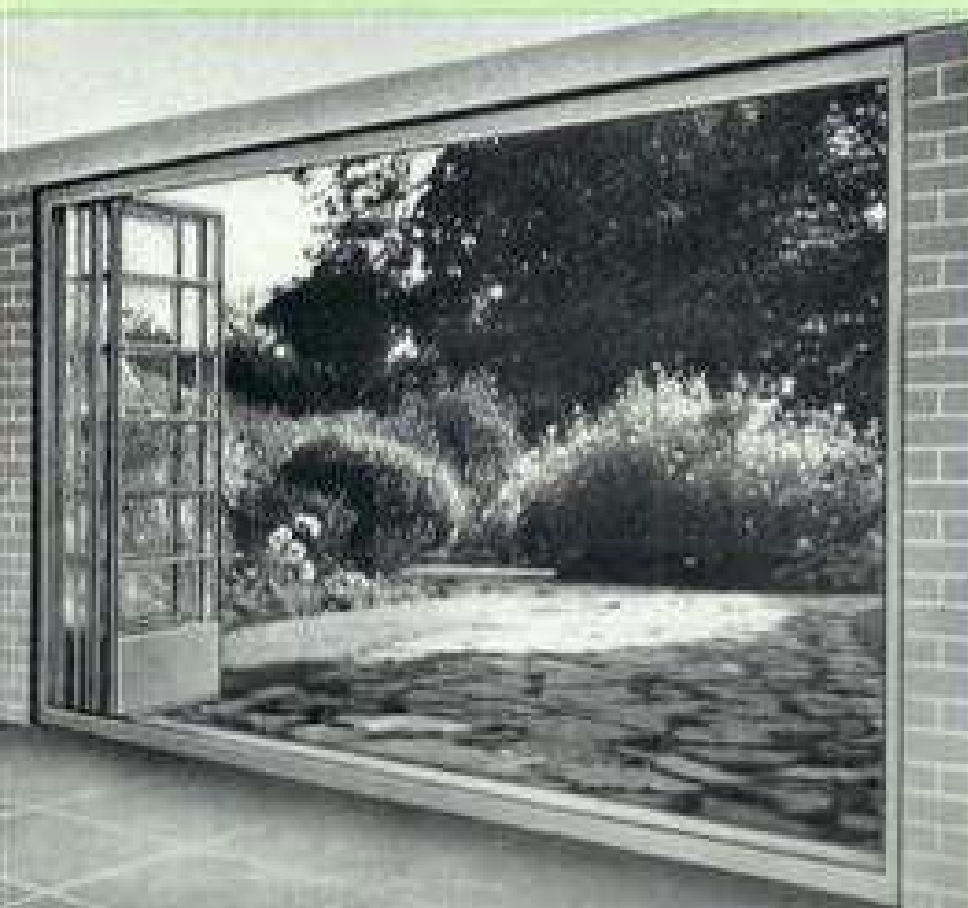


FULL SIZE



# **VERANDAH SCREENS**

**SLIDING AND FOLDING**



ALL  
TRADE  
CRITICAL

No. 210A

# CRITTALL VERANDAH SCREENS

Verandah Screens may be required in a building where standard metal windows are fitted, and the similarity of pane size and proportion is an advantage.

$6' - 5\frac{3}{8}"$   
1.961m

$9' - 5\frac{9}{16}"$   
2.884m

$8' - 0\frac{3}{8}"$   
2.442m

$11' - 10\frac{1}{8}"$   
3.607m

$3' - 4\frac{3}{8}"$   
1.025m



PVS43



PVS63



ZPVS43



ZPVS63

$4' - 4"$   
1.321m



PVS44



PVS64



ZPVS44



ZPVS64

$5' - 3\frac{1}{8}"$   
1.616m



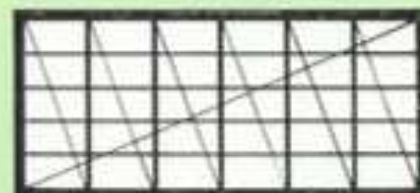
PVS45



PVS65



ZPVS45



ZPVS65

$7' - 1\frac{13}{16}"$   
2.183m



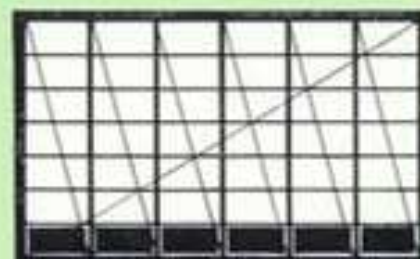
PVS47



PVS67



ZPVS47



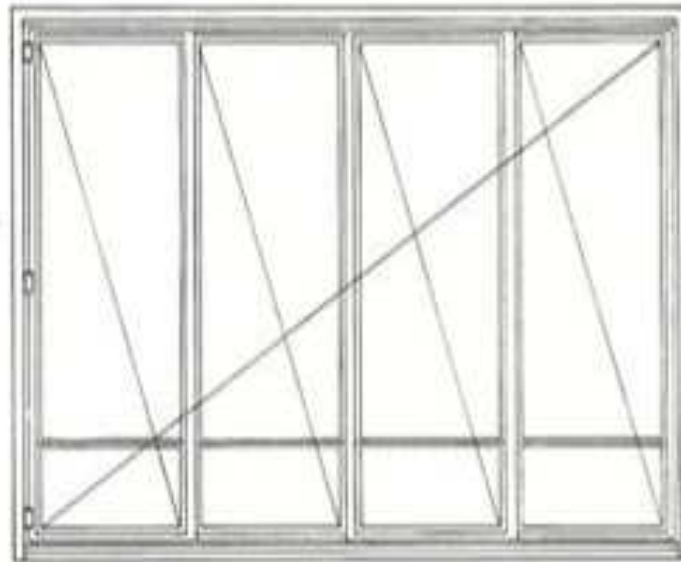
ZPVS67

WINDOWS  
DOORS



U - 316  
1.959m

5' - 3 1/8"  
1.616m



TYPE NPVS 45 WINDOW



OUTSIDE ELEVATIONS

U - 316  
1.959m

7' - 1 1/8"  
2.183m



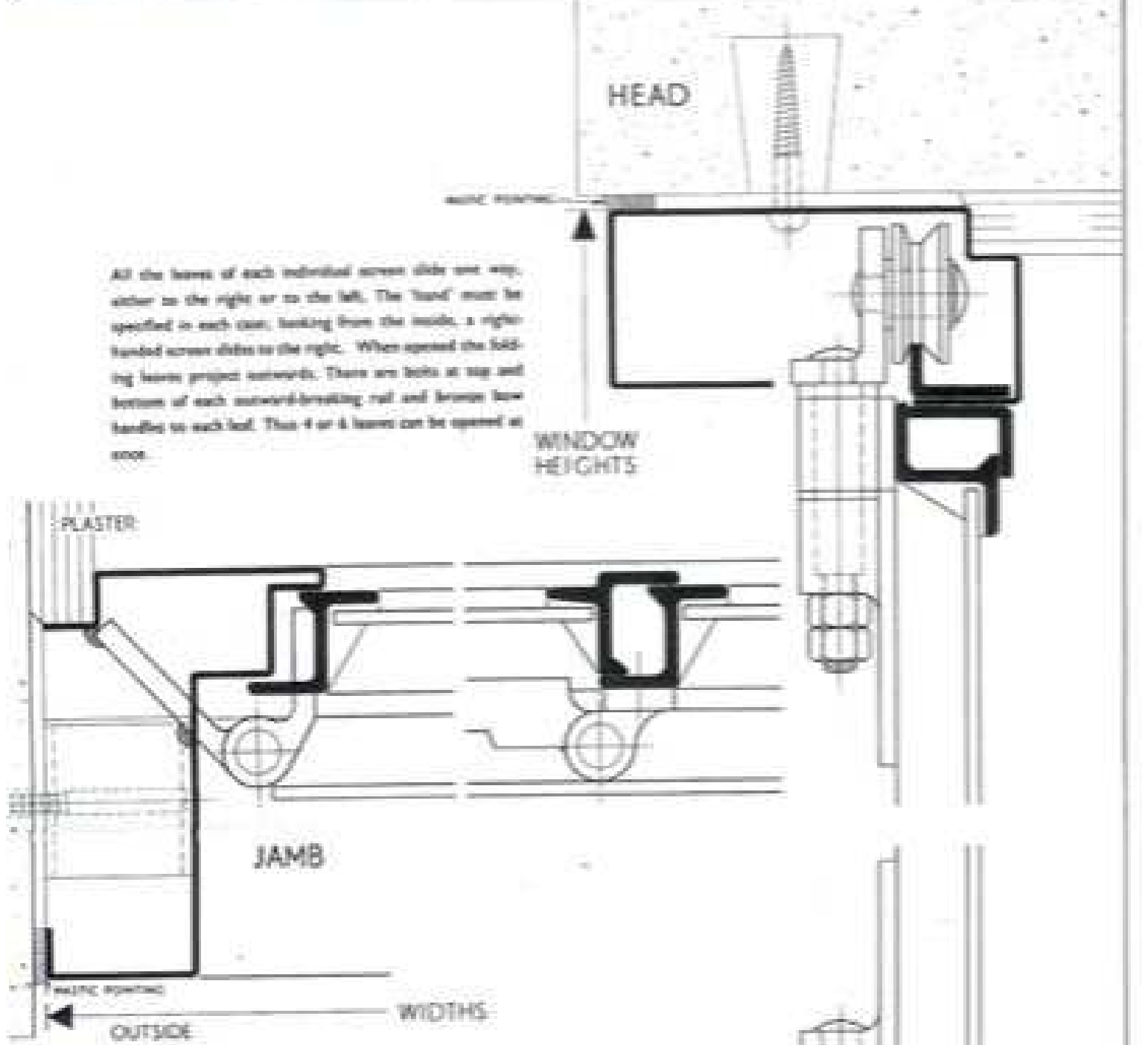
TYPE NPVS 47 DOOR



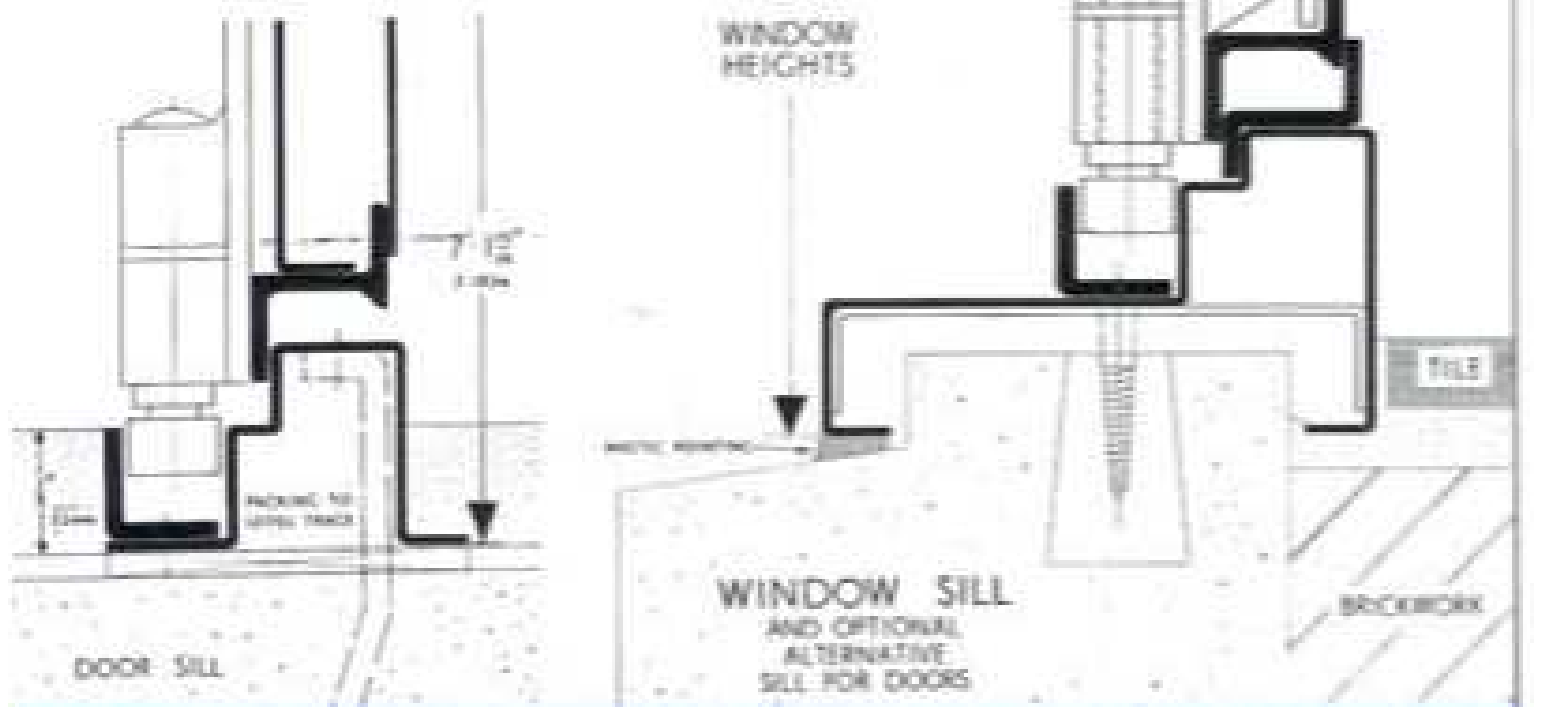
All the horizontal glazing bars in types 3' 4 3/8" and 4' 4" in height may be omitted if required, and those in types 5' 3 1/8" in height and the doors may have three of the horizontal glazing bars omitted, as shown on the right. If the bars are removed the letter 'N' should be included in the type symbol, thus NPVS44, ZNPVS63 etc.

GLASS SIZES: For types 6' 5 3/8" and 9' 5 3/8" wide each pane is 11 3/8" high by 17 1/8" wide, and in types 8' 0 3/8" and 11' 10 1/8" wide each pane is 11 3/8" high by 21 3/8" wide. If horizontal bars are omitted, the widths are as given above, but heights are: as for two panes 23" high, as for three panes 34 1/2" high and as for four panes 46" high.

All the leaves of each individual screen slide one way, either to the right or to the left. The "hand" must be specified in each case; looking from the inside, a right-handed screen slides to the right. When opened the folding leaves project outwards. There are bolts at top and bottom of each outward-projecting rail and bronze low handles on each leaf. Thus 4 or 6 leaves can be opened at once.



## FULL SIZE DETAILS



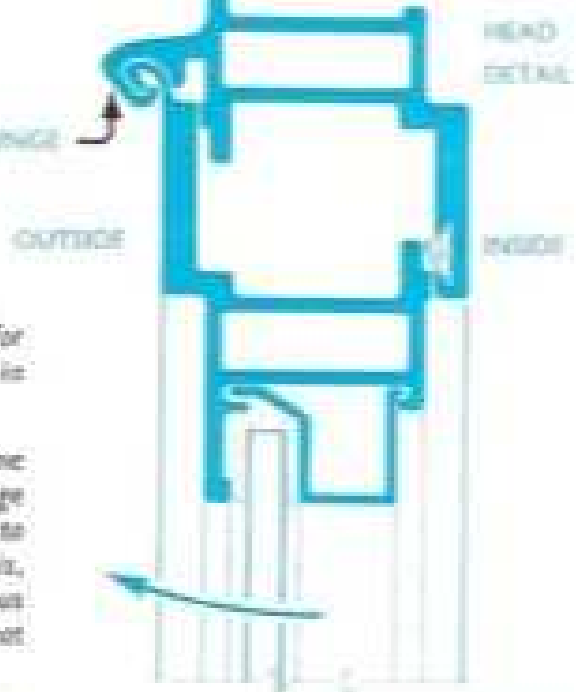
## CONTINUOUS INTEGRAL HINGES

★ CONTINUOUS INTEGRAL HINGE



FOR TOP-HUNG VENTILATORS.

★ CONTINUOUS INTEGRAL HINGE



FULL SIZE DETAIL

Crittall continuous integral hinges are available for top- and bottom-hung ventilators constructed in weatherstripped aluminium section.

This advanced method of hinging the opening frame to the fixed frame is achieved by extruding the hinge with the frame and fitting special nylon end plugs to prevent lateral movement of the ventilator. There is, therefore, no leaf, and the hinges become continuous and integral with the window itself, giving a neat streamlined appearance.

A much greater bearing surface than in orthodox hinges is given, and an even distribution of the weight of the opening frame over its total length.

The ventilator opening is limited to 90° and the swinging frame cannot become detached.

FOR BOTTOM-HUNG USE OVER

**THE CRITTALL MANUFACTURING COMPANY LIMITED**  
BRAINTREE - ESSEX, 210 HIGH HOLBORN, LONDON, W.C.1

March, 1962



No. 272



the  
**weatherstripped**

reversible  
window

Registered  
Design



The **CRITTALL**

Manufacturing  
Company Ltd

No. 304 MAY 1964

BRAINTREE

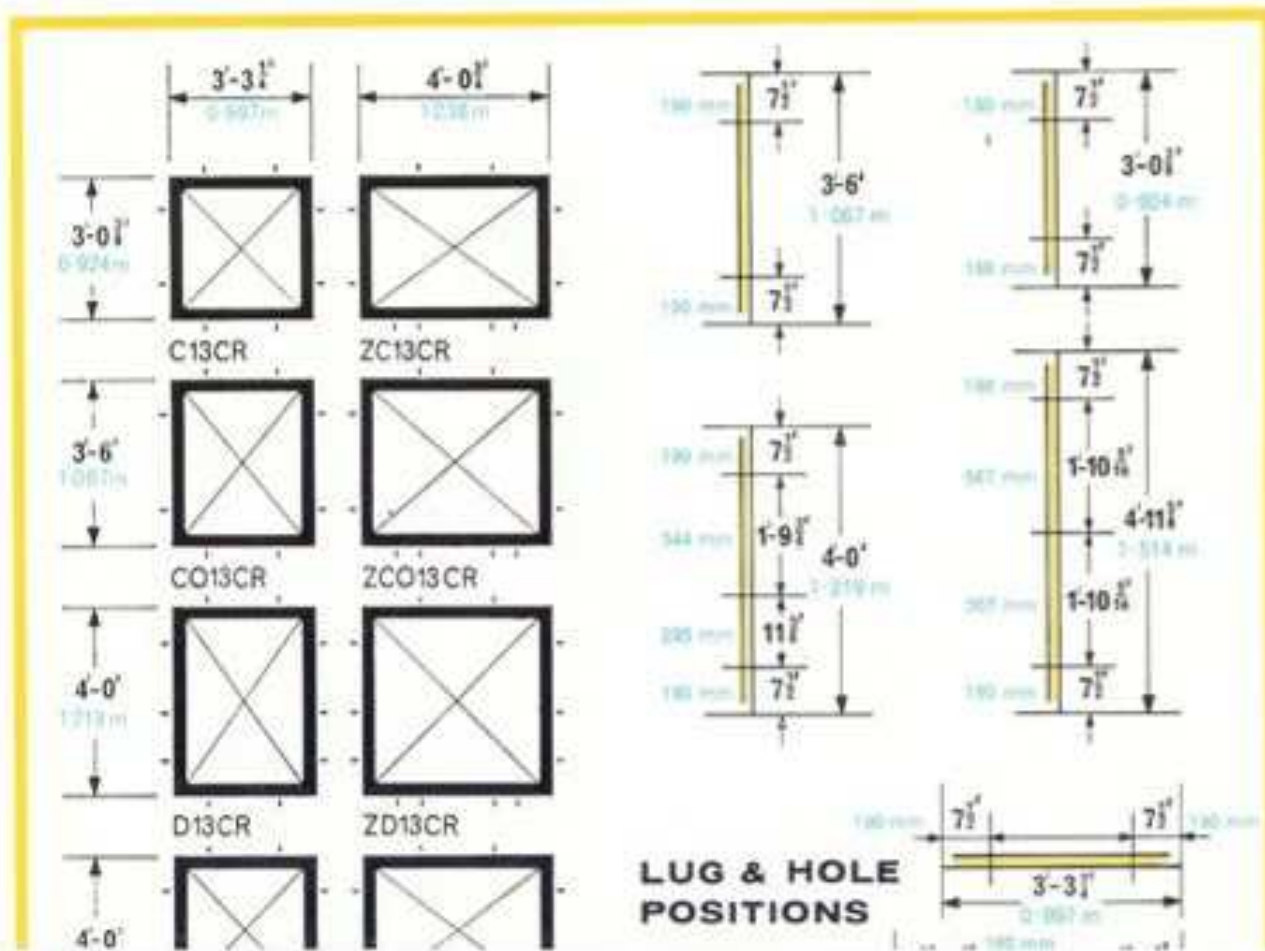
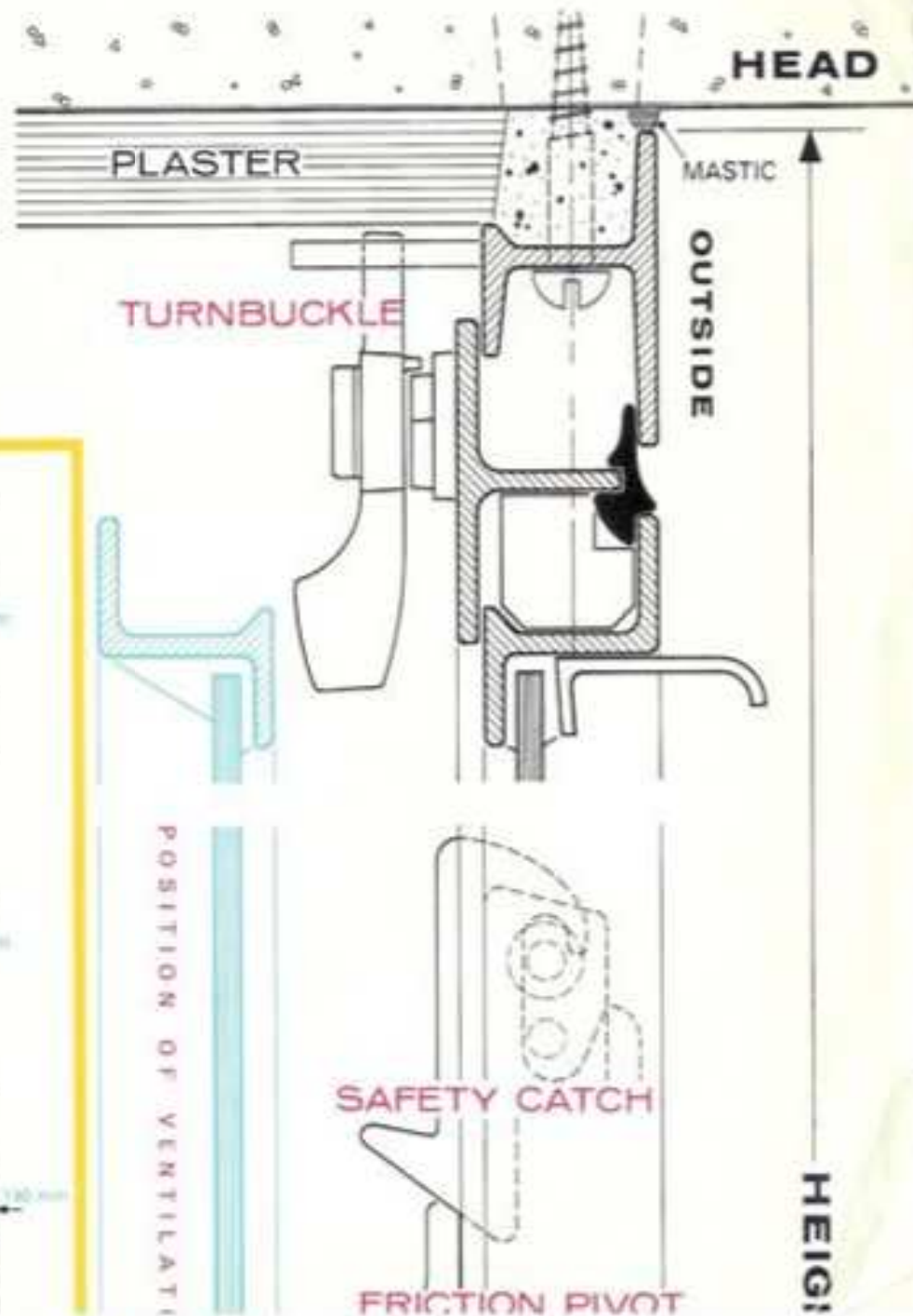
ESSEX

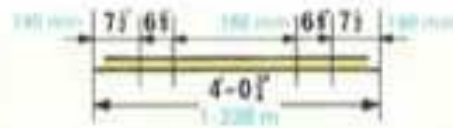
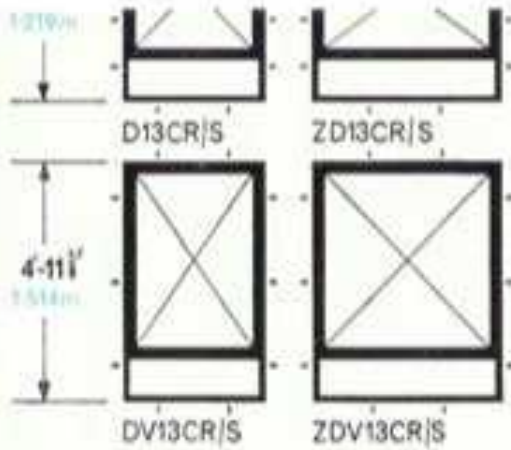
London Office & Showroom: 210 High Holborn WC1

# CRITTALL

## weatherstripped

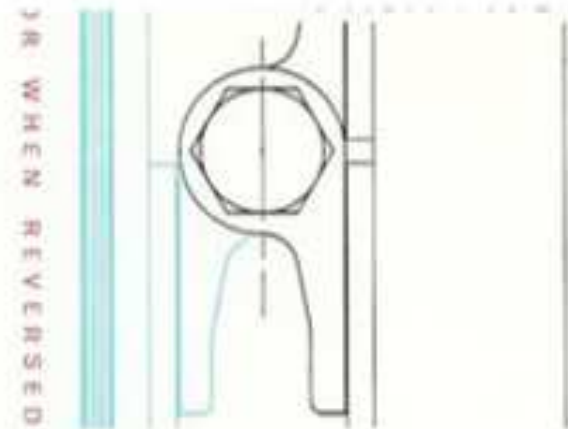
reversible window





*N.B. There is not a fixing lug or screw for every hole in a frame.*

*The elevations above show the lugs required for each window size, the height and width diagrams show the position of the holes for the lugs, and in addition, the holes required to take the bolts when windows are coupled together to form composites.*



**FULL SIZE DETAILS**

OUTSIDE

WIDTH

WATERPROOF CEMENT FILLET

JAMB DETAIL

NEOPRENE WEATHERSTRIPPING

SILL BOARD

OUTSIDE

SILL

IT



**CRITTALL**

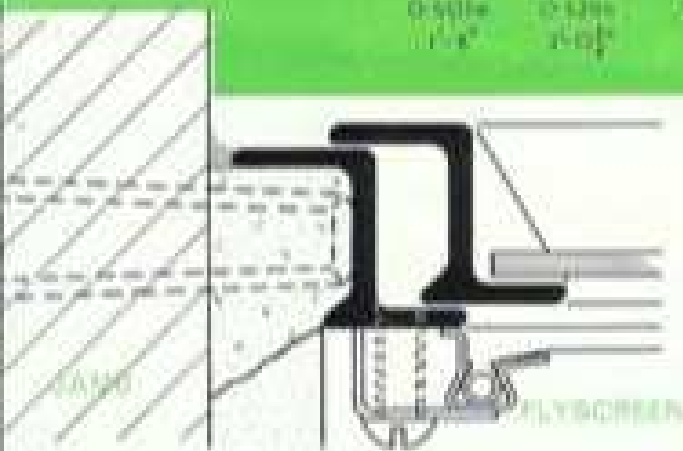
Inward Opening, Standard Windows

for the Arab World

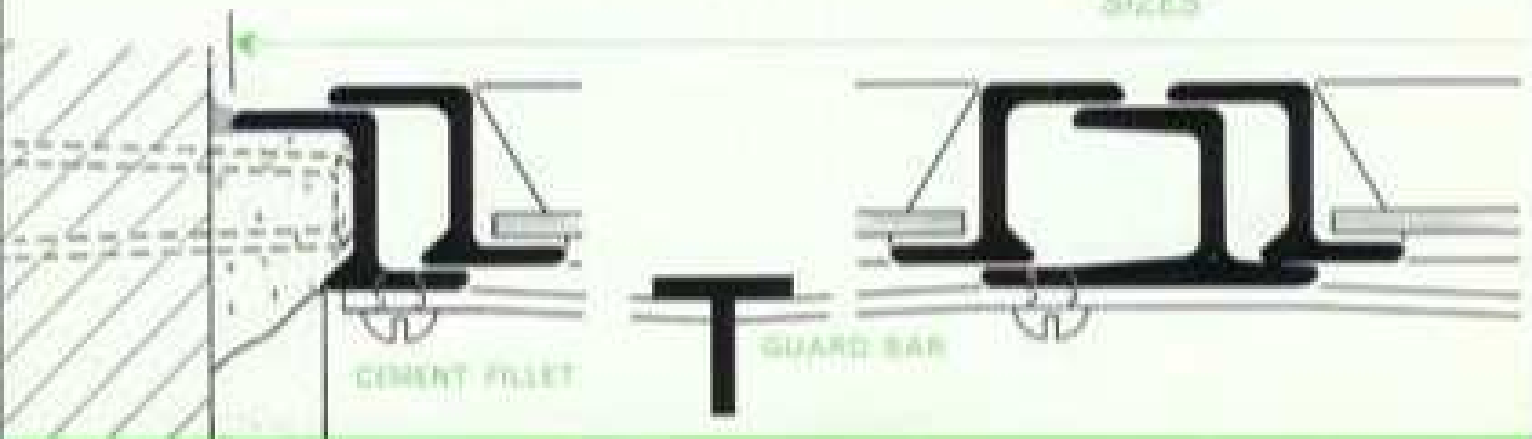
THE CRITTALL MANUFACTURING CO LTD : BRAINTREE ENGLAND

# CRITTALL 'ME' STANDARD WINDOWS

|               |  |  |  |  |  |  |
|---------------|--|--|--|--|--|--|
| 0 270h<br>11' |  |  |  |  |  |  |
| 0 360h<br>14' |  |  |  |  |  |  |
| 0 450h<br>17' |  |  |  |  |  |  |
| 0 540h<br>20' |  |  |  |  |  |  |
| 0 630h<br>23' |  |  |  |  |  |  |
| 0 720h<br>26' |  |  |  |  |  |  |

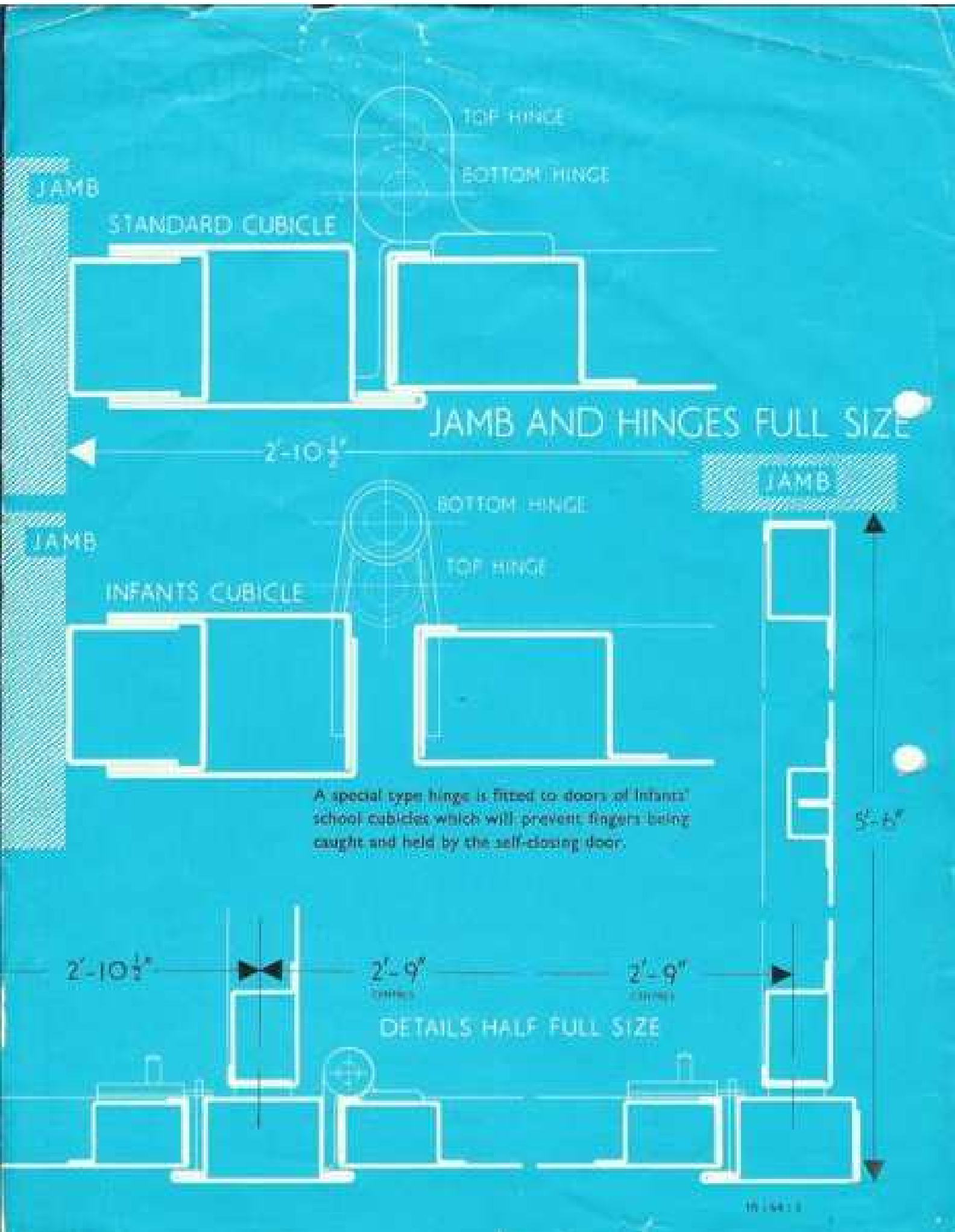


SIZES



HORIZONTAL SECTION



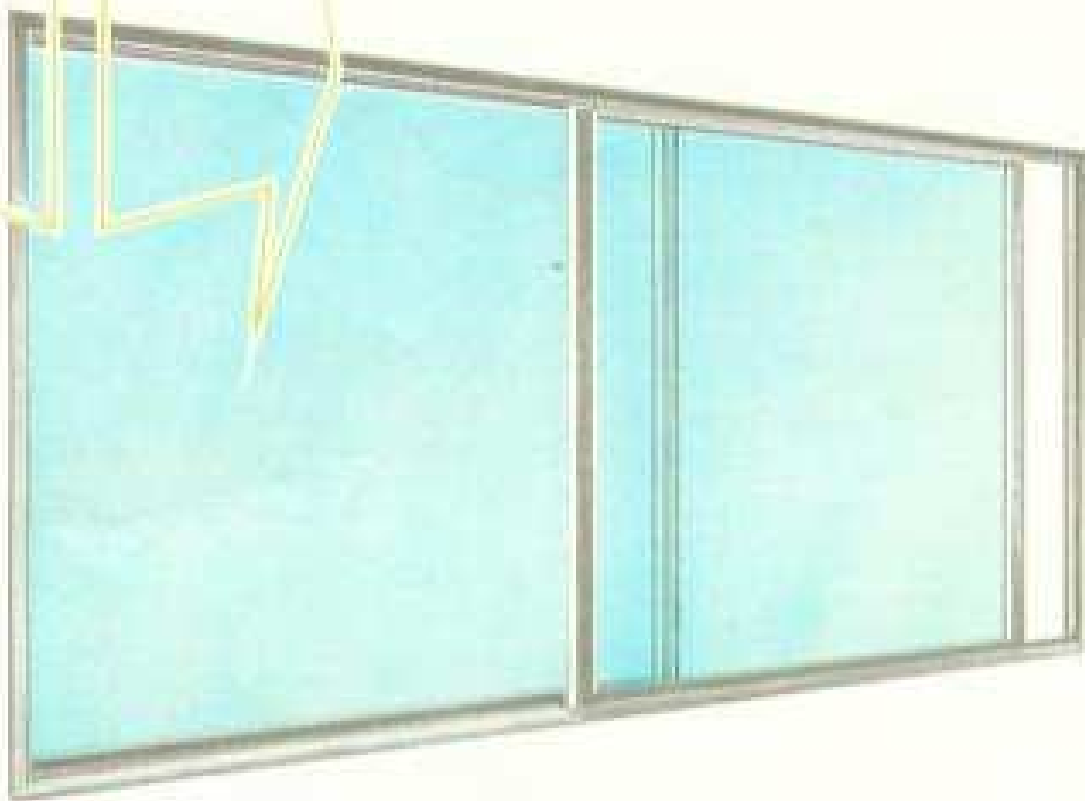


5/B(31)

Reprinted September 1983

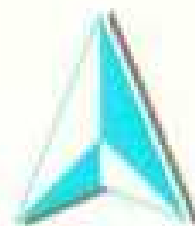
# CRITTALL

## ALUMINIUM HORIZONTAL SLIDING WINDOW



THE CRITTALL MANUFACTURING COMPANY LIMITED

No. 280



Sliding windows are particularly useful in buildings where windows look upon balconies and verandahs, or are required to be in positions where projection would be inconvenient or dangerous.

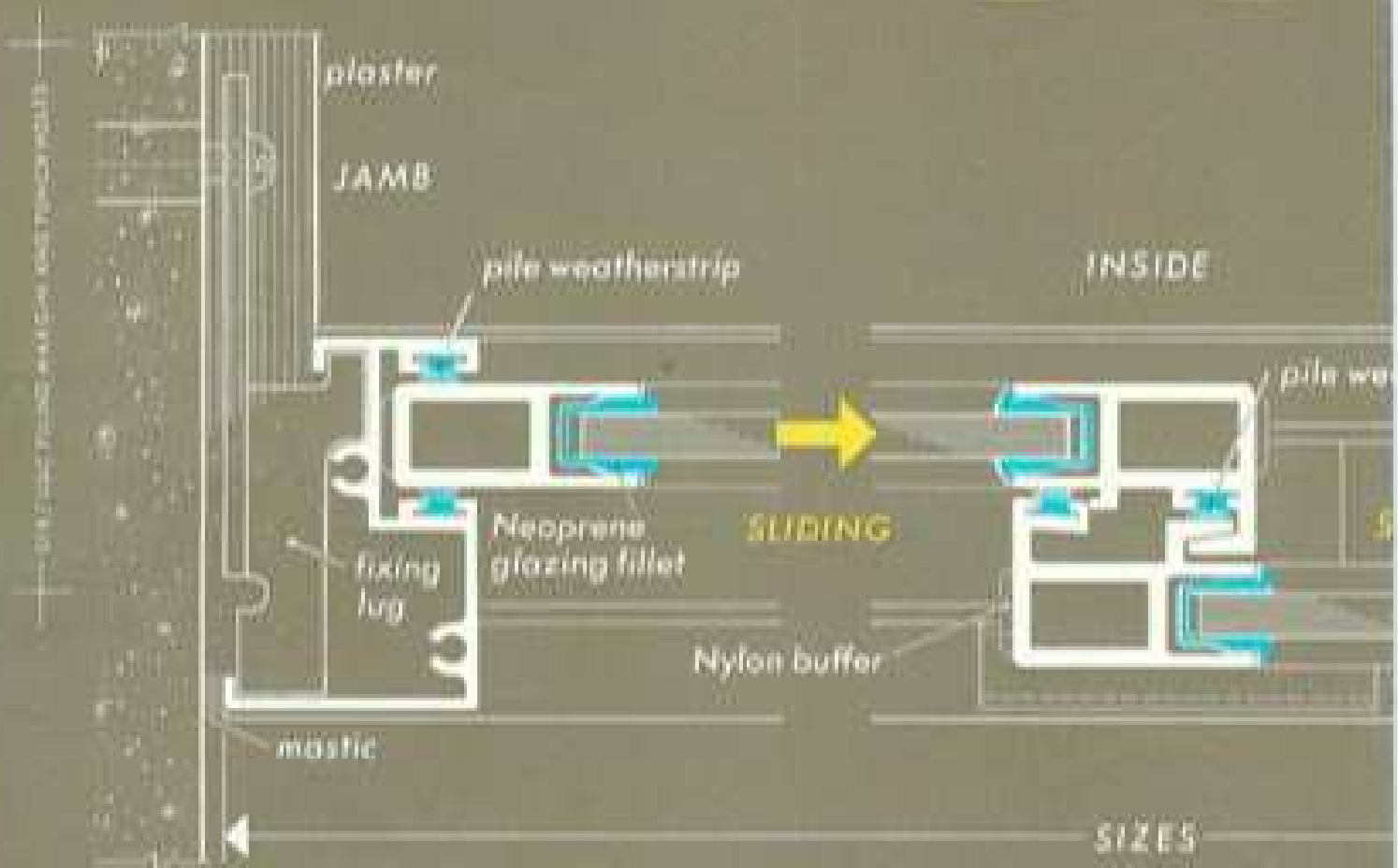
The modern emphasis on large window openings has led to the development of the Crittall 55 Horizontal Sliding Window.

Nylon wheels contained in the sill sections ensure easy and smooth mobility of the large sliding leaves.

With both leaves movable cleaning is a simple procedure.

As designs are being continually developed, specifications are liable to modification.

# 55 SL



Crittall 55 Horizontal Sliding Windows can be made to any size not exceeding 10 ft (3.048m) wide and 5 ft (1.524m) high.

Pivoted catches secure the leaves in the closed position.

The windows are supplied complete, already glazed.



# ALUMINIUM HORIZONTAL SLIDING WINDOW

FULL SIZE DETAILS

INSIDE

HEAD

plaster

mafic

fixing lug

pile weatherstrip

Neoprene glazing fillet

glass

sliding

JAMB

SIZES

weatherstrip

SLIDING

pile weatherstrip

Nylon buffer

sliding

Nylon wheel

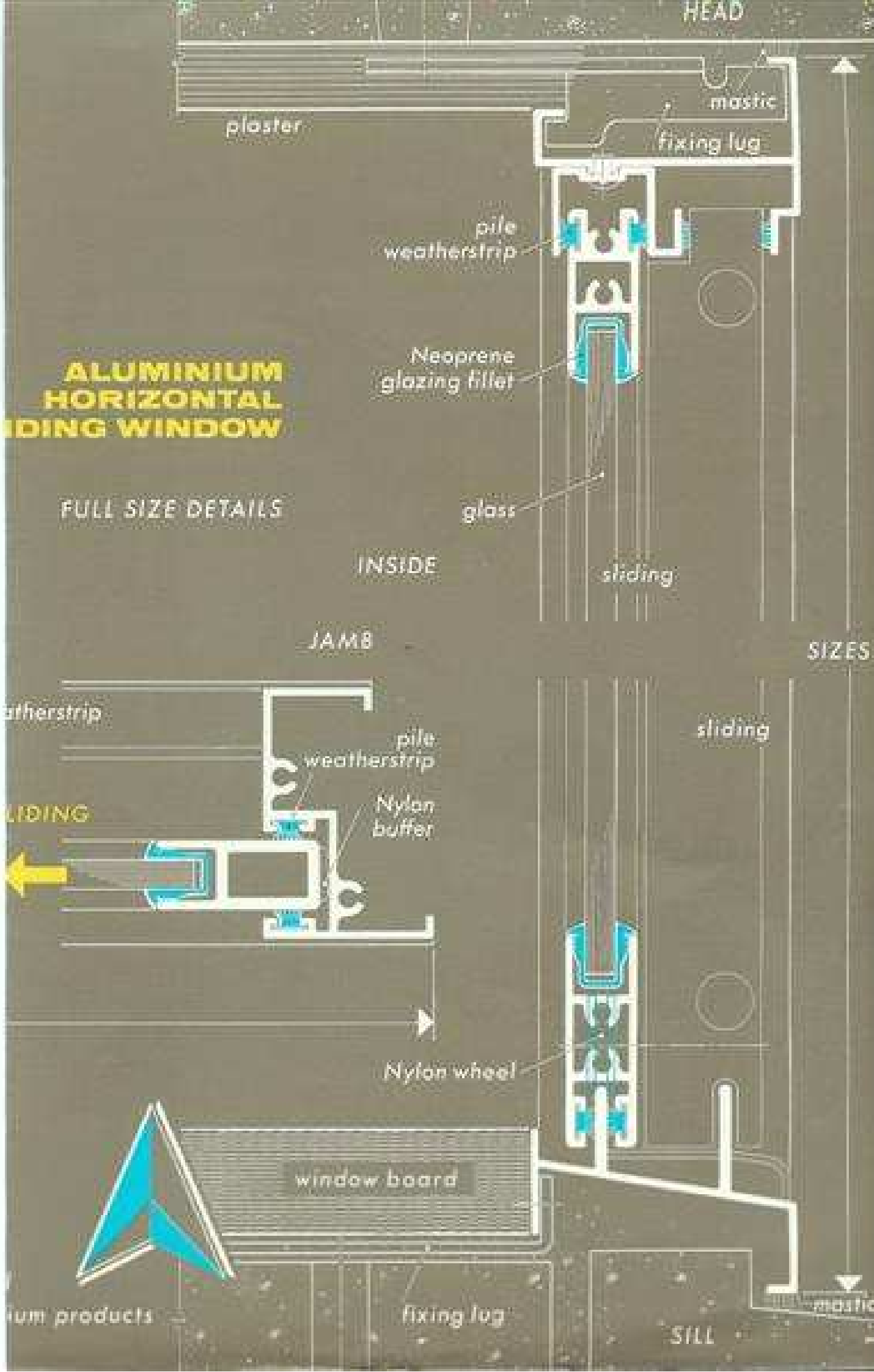
window board

fixing lug

SILL

mafic

um products



SFB (31)

January 1965

Leaflet No 315

# CRITTALL

ALUMINIUM  
CASEMENTS



**'B' and 'D' RANGES FOR DOUBLE-GLAZING**

The CRITTALL Manufacturing Co Limited

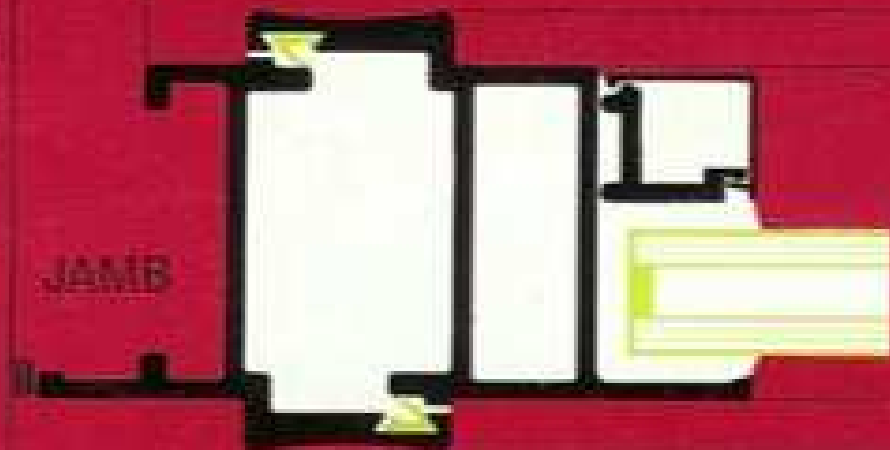
WALTON ROAD

London Office: 5, Stowmarket

110, Park Road, W.C.1



horizontal sections



JAMB

full size details  
B RANGE

OUTSIDE

WIDTHS

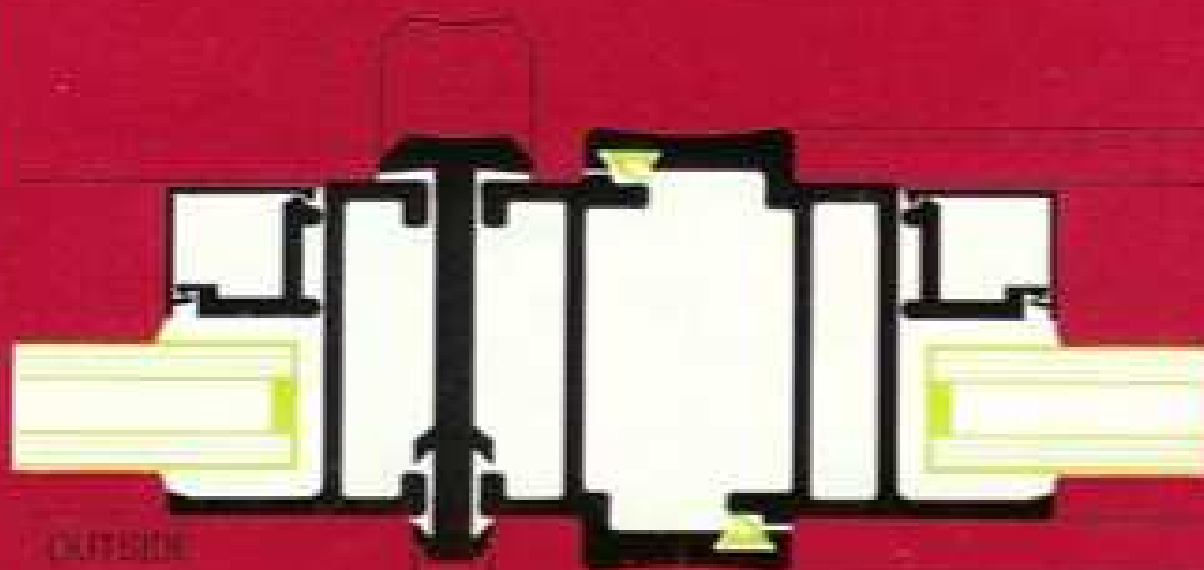
FOR FULL-SIZE DETAILS OF  
F RANGE  
SEE LEAFLET No. 317



OUTSIDE

200MM COULDER with Locking Knob

TRANS



OUTSIDE

MULLION

ALTERNATIVE 29 Mullion  
setting in OUTSIDE

## full size details D RANGE

'D' range is an alternative to 'B', shown generally in this leaflet, for use when either larger ventilators, or thicker double-glass units are needed.

The coupling bars shown below are used exclusively in the 'D' range and their alternative use is determined by the size and sub-division of the opening to be filled.

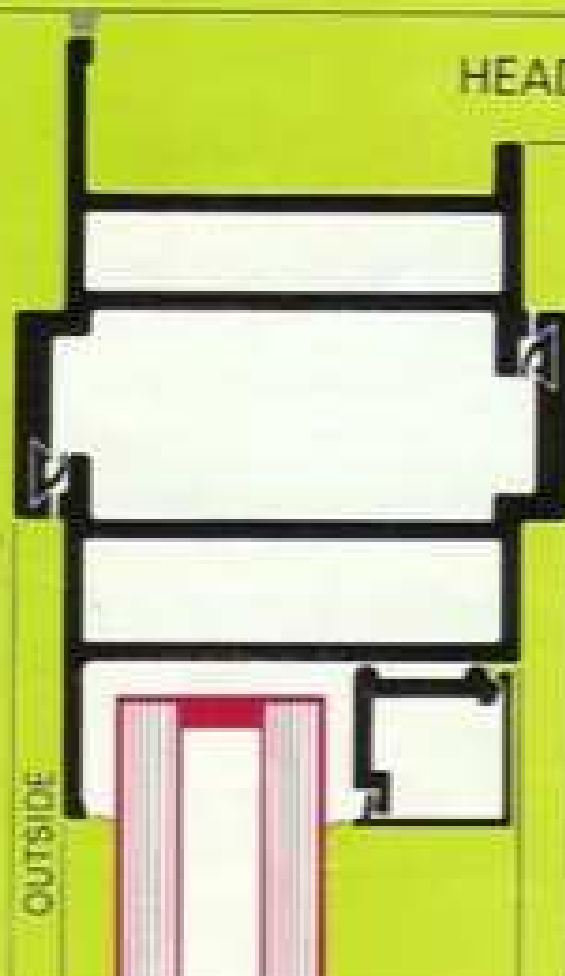
OUTSIDE

HEAD



OUTSIDE

HEAD





**CRITTALL**

*POSITIVELY RUSTPROOFED*

**STANDARD WINDOWS**

**No. 236B**

*August, 1963*

STB(31)

December 1964

Reprinted May, 1968

Leaflet No 313

The adaptability of aluminium coupled with careful design and modern production methods have resulted in this up-to-date economic window

the **'Essex'** double-hung sash

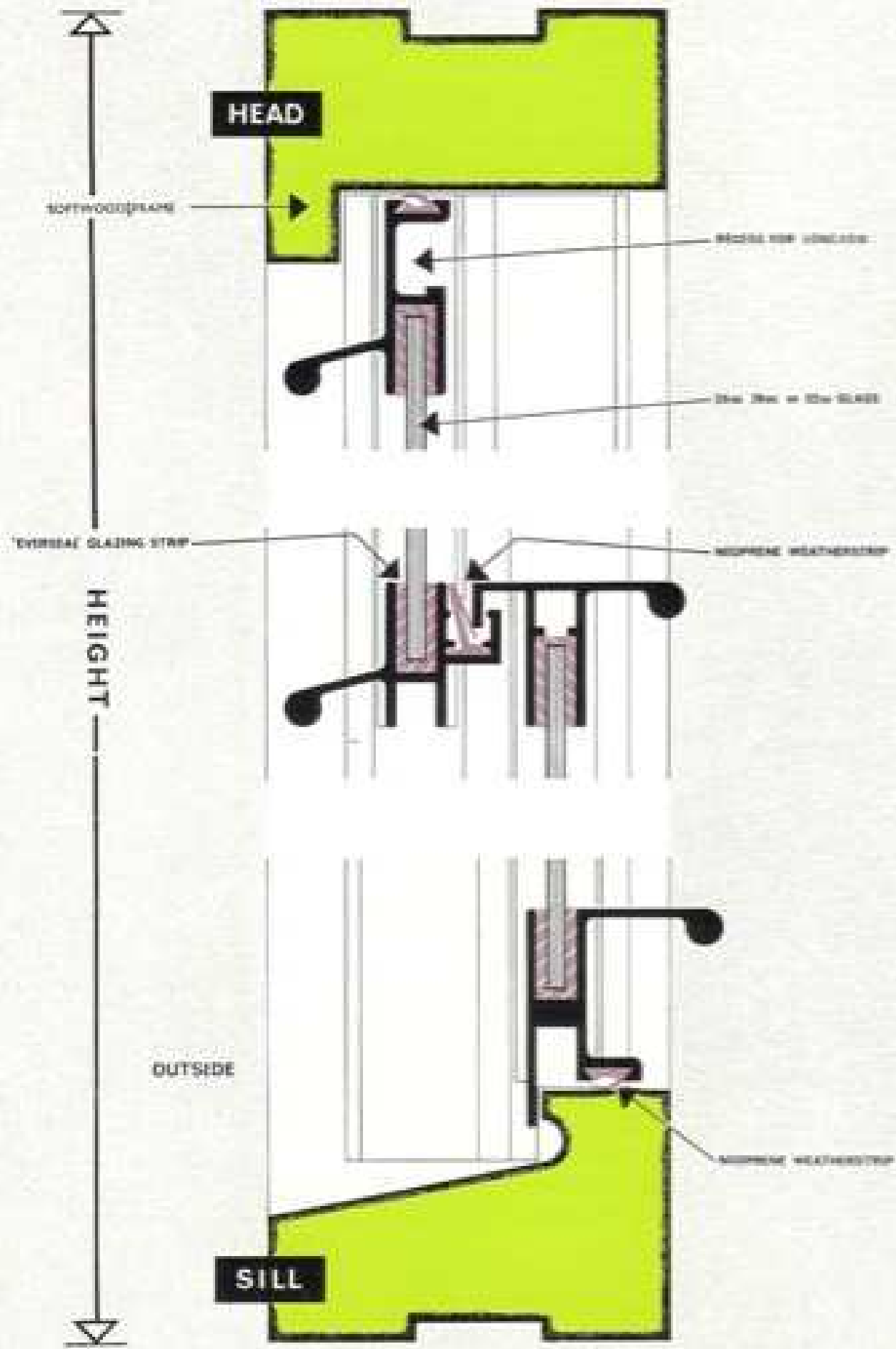
CRITTALL 



The CRITTALL Manufacturing Co Ltd

Braintree Essex

London Office & Showroom 211 High Holborn WC1



# Crittall-Hope

MIDDLE EAST

WINDOWS



**Crittall-Hope Export**

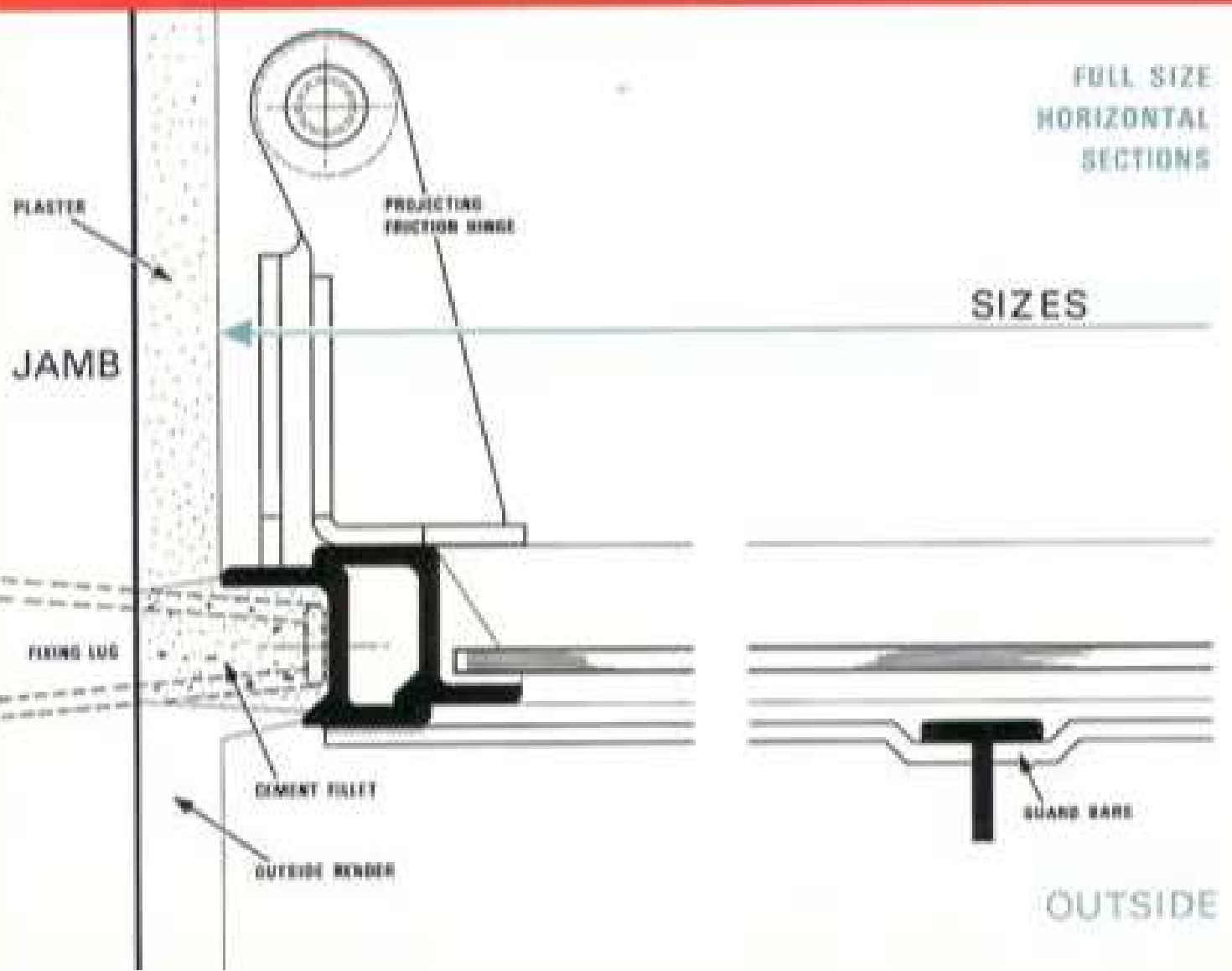
215 High Holborn, London, W.C.1, England  
Phone: Holborn 6731, Glass Crittall-Hope London, Telex: 301889



# Crittall-Hope STANDARD WINDOWS

|                  | 1'-8"<br>0' 500m | 2'-0"<br>0' 600m | 3'-3"<br>0' 900m | 4'-0"<br>1' 200m | 4'-10"<br>1' 400m | 6'-0"<br>1' 800m |
|------------------|------------------|------------------|------------------|------------------|-------------------|------------------|
| 11"<br>0' 270m   |                  |                  |                  |                  |                   |                  |
| 2'-0"<br>0' 600m |                  |                  |                  |                  |                   |                  |
| 2'-0"<br>0' 600m |                  |                  |                  |                  |                   |                  |
| 3'-0"<br>0' 900m |                  |                  |                  |                  |                   |                  |
| 4'-0"<br>1' 200m |                  |                  |                  |                  |                   |                  |

GLASS SIZES ARE SHOWN ON PAGES 6 & 7



# MIDDLE EAST TYPES

6-63



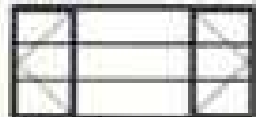
HC 11 ME



HC 12 ME



HC 13 ME



HC 14 ME



HC 15 ME

KEY TO TYPE SYMBOLS

Bottom Hung



OPENING INWARDS

Side Hung



## Crittall-Hope Middle East Windows

All windows constructed from British rolled steel and available in the standard sizes shown.

### OPENING PARTS:

Ventilators open inwards. Side hung types are hung on either close up or projecting friction hinges which hold the window open in any position and obviate the need for a stay. Bottom hung ventilators are fitted with side arms.

### GLAZING:

All types are prepared for glazing from the inside with metallic putty. Glass and putty are not supplied unless specially ordered.

### FITTINGS:

Bottom hung ventilators have non-ferrous spring catch at head. Side hung types have non-ferrous handle.

### GUARD BARS:

All windows can be fitted with external guard bars at extra cost (see photograph on left).

### FINISH:

Windows and doors are fully rustproofed by the hot-dip galvanising process and despatched unpainted.

### HANDING:

Single side hung windows can be supplied either left 'hand' or right 'hand', the 'hand' being the side on which the hinges are fitted, looking from inside.

Gauze flyscreens are available at extra cost.

The letter 'N' should be used in the type notations, in place of the letter 'H', when glazing bars are NOT required.

Please quote the number of this Catalogue (102) with all enquiries connected with the products shown. Specifications are subject to alteration without notice.



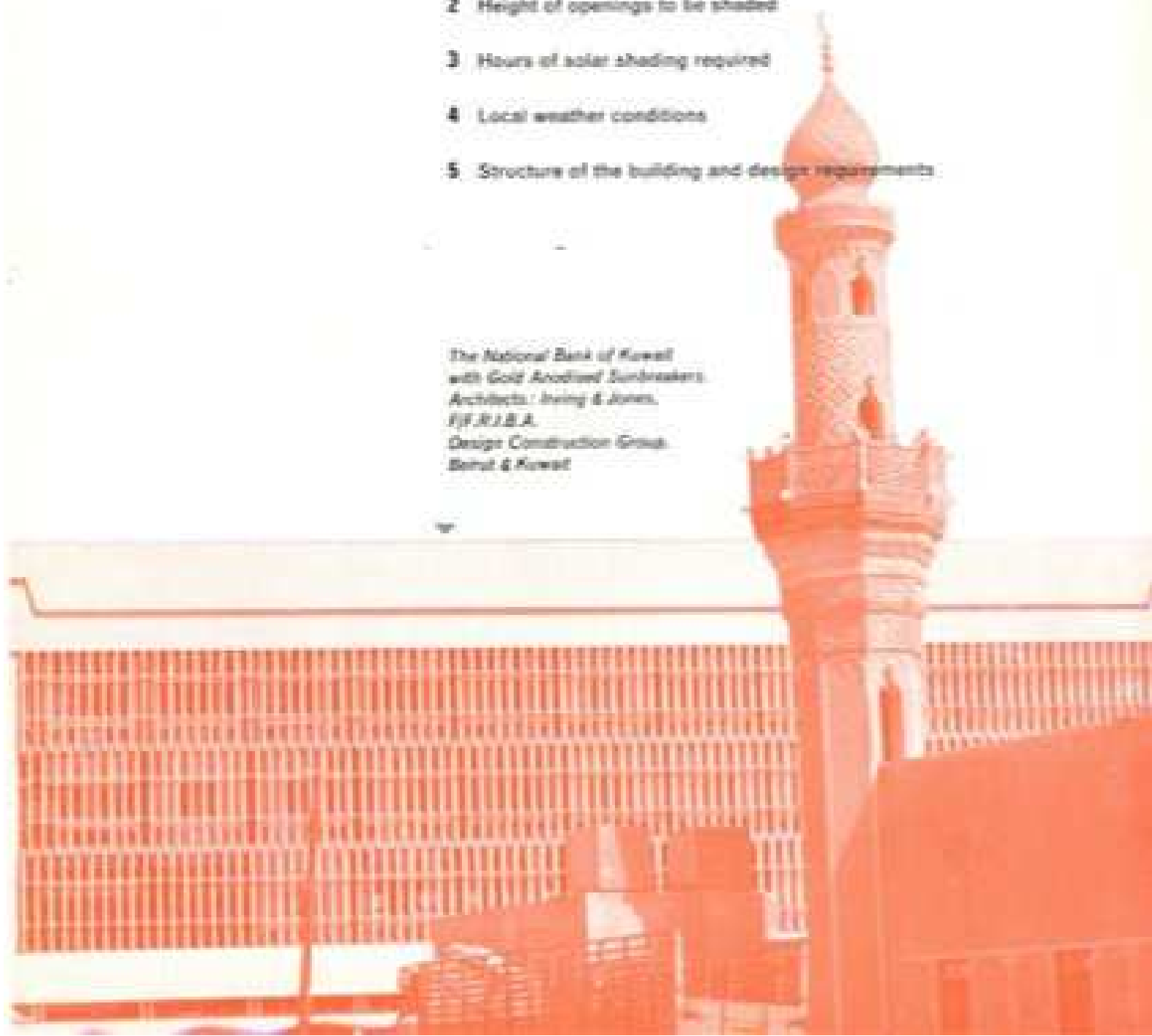
# Crittall-Hope

## SUNBREAKERS COLOUR ANODISED

Great variety can be given to the appearance of any building by the use of sunbreakers. Additionally, considerable economy can be achieved in air conditioning costs. Sunbreakers, which are supplied either natural finish or colour anodised, are available in a variety of profiles and can be installed to run either vertically or horizontally. The blades can be fixed or movable, the latter being either by manual or gear operation. Careful consideration at design stage should be given to the following points:—

- 1 Orientation of building to the sun
- 2 Height of openings to be shaded
- 3 Hours of solar shading required
- 4 Local weather conditions
- 5 Structure of the building and design requirements

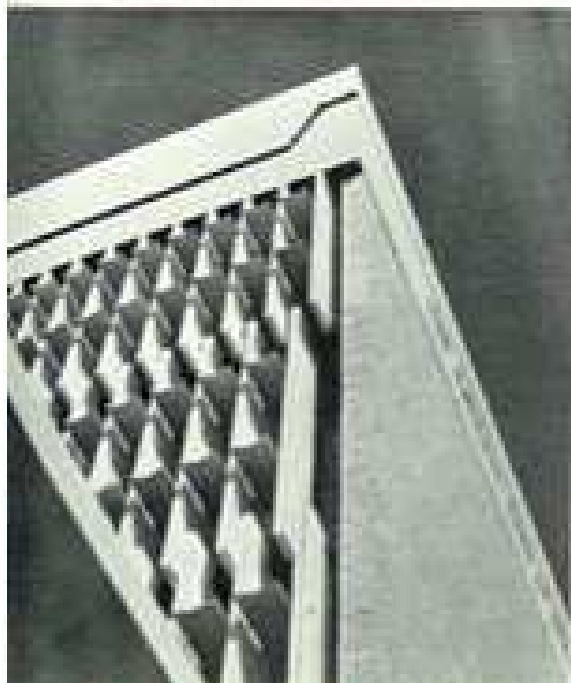
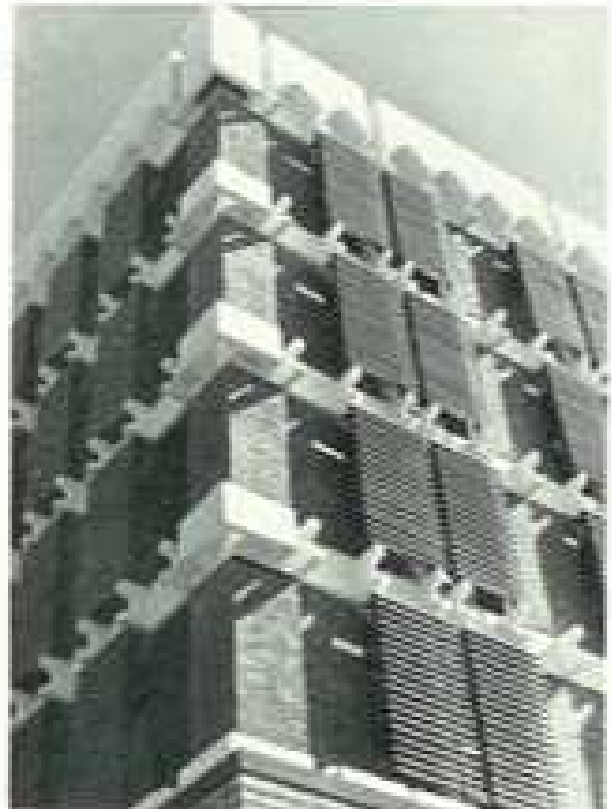
*The National Bank of Kuwait  
with Gold Anodised Sunbreakers.  
Architects: Irving & Jones,  
R.F.R.I.B.A.  
Design Construction Group,  
Beirut & Kuwait*



# EXAMPLES OF STANDARD PROFILES



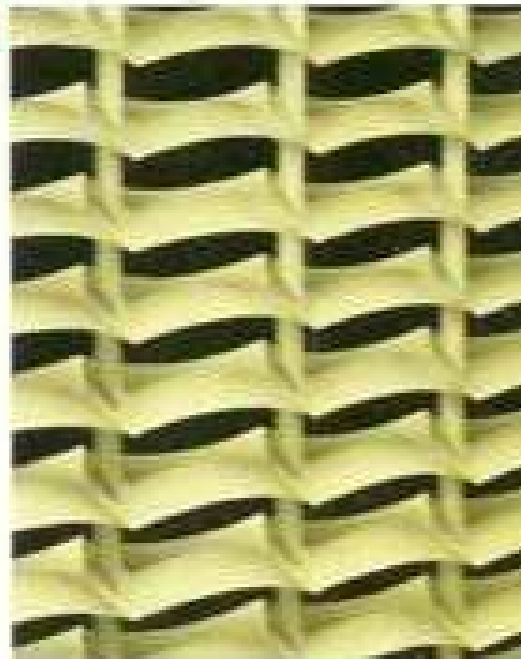
*Gold Anodized Sunbreakers form an integral part of the Zahra & Ghuraim Commercial Building, Kuwait.*  
 Architects: Irving & Jones, I/J R.I.B.A.  
 Design Construction Group, Beirut & Kuwait



← A close-up of the Sunbreakers installed in the National Bank of Kuwait.

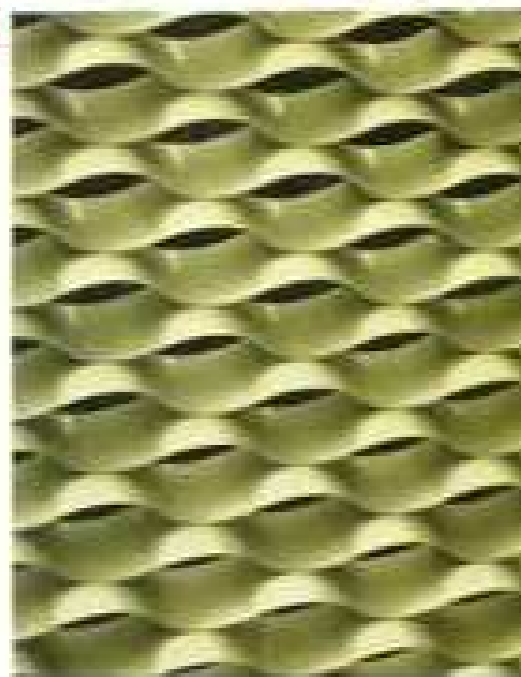
# SOLAR GRILLES

**SG 1**



**SG 2**

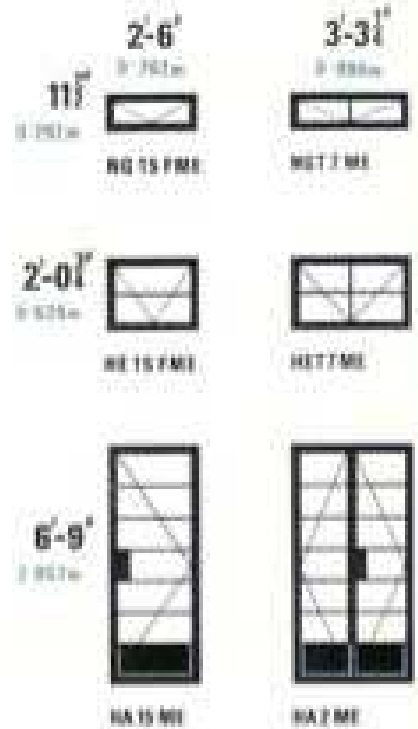
Critical-Hope Solar Grilles provide both decoration for either new or existing buildings and solar protection. Like sunbreakers, they offer considerable savings in air conditioning costs. Solar grilles are made of aluminium and are usually colour anodised. The examples on the right illustrate three of the many distinctive designs which are available. Estimates, scale drawings and subsequent production of clients' own designs are features of our design service.



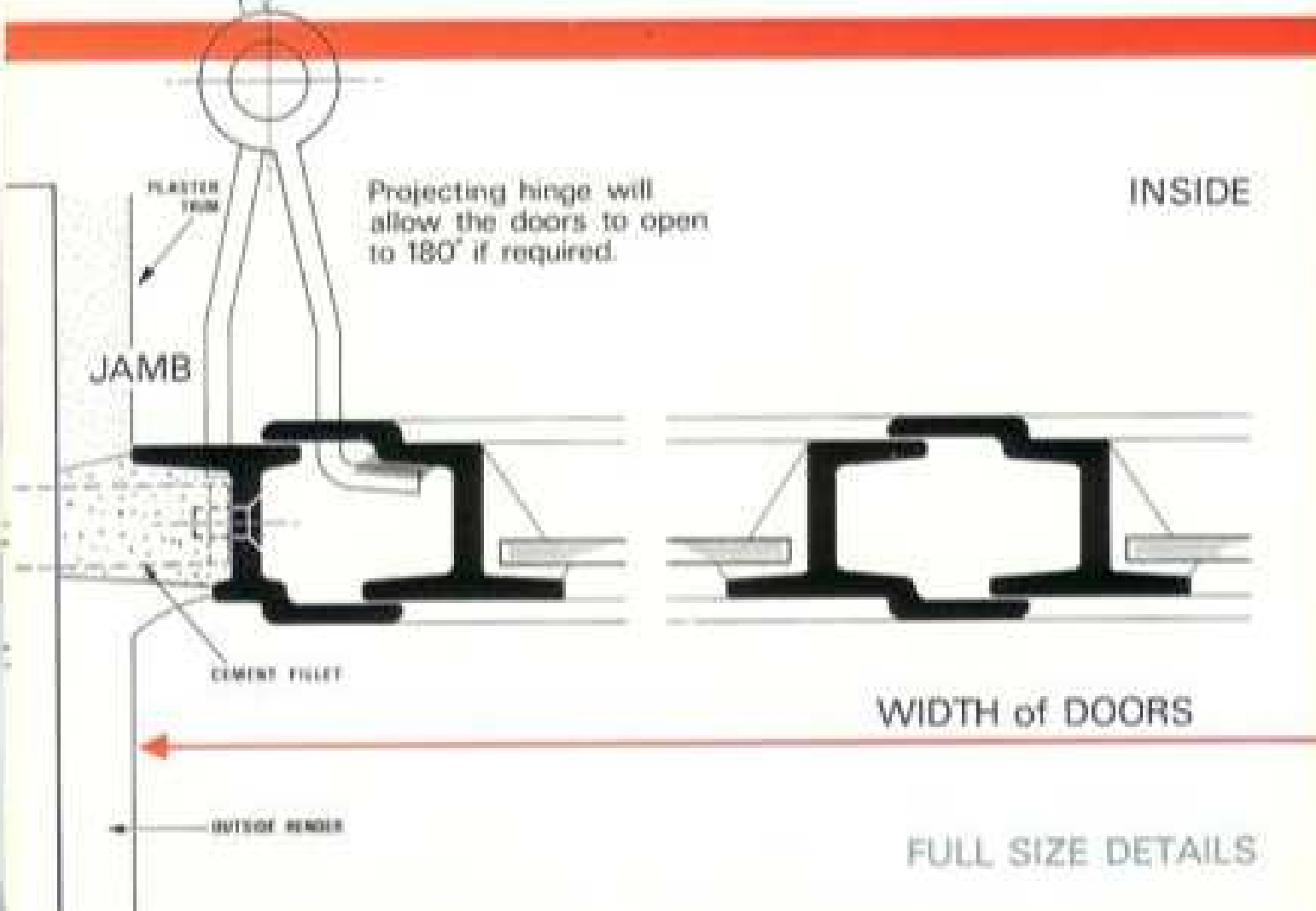
**SG 6**



# Crittall-Hope STANDARD INWARD OPENING

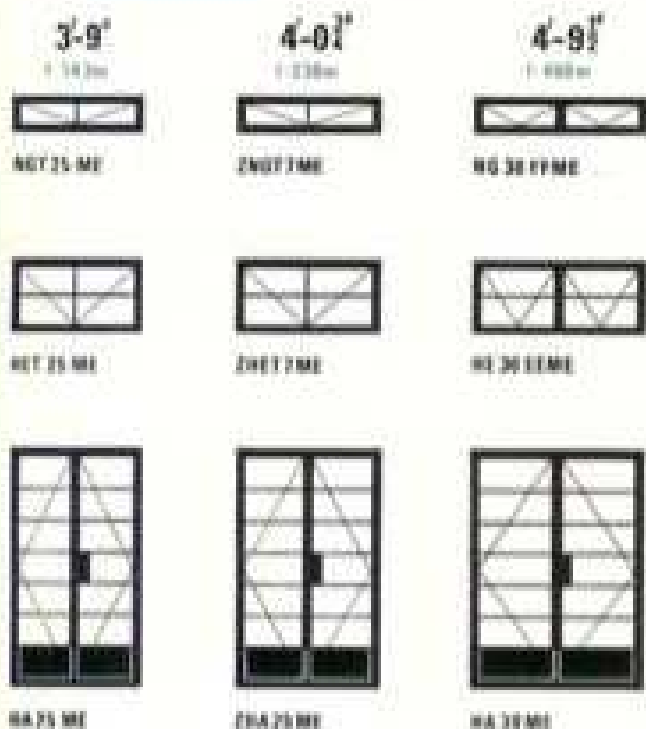


THE TYPE NOTATIONS FOR 7'-0" (2.133 m) DOORS HAVE A LETTER 'S' INSERTED - i.e. HSA 15 ME.



FULL SIZE DETAILS

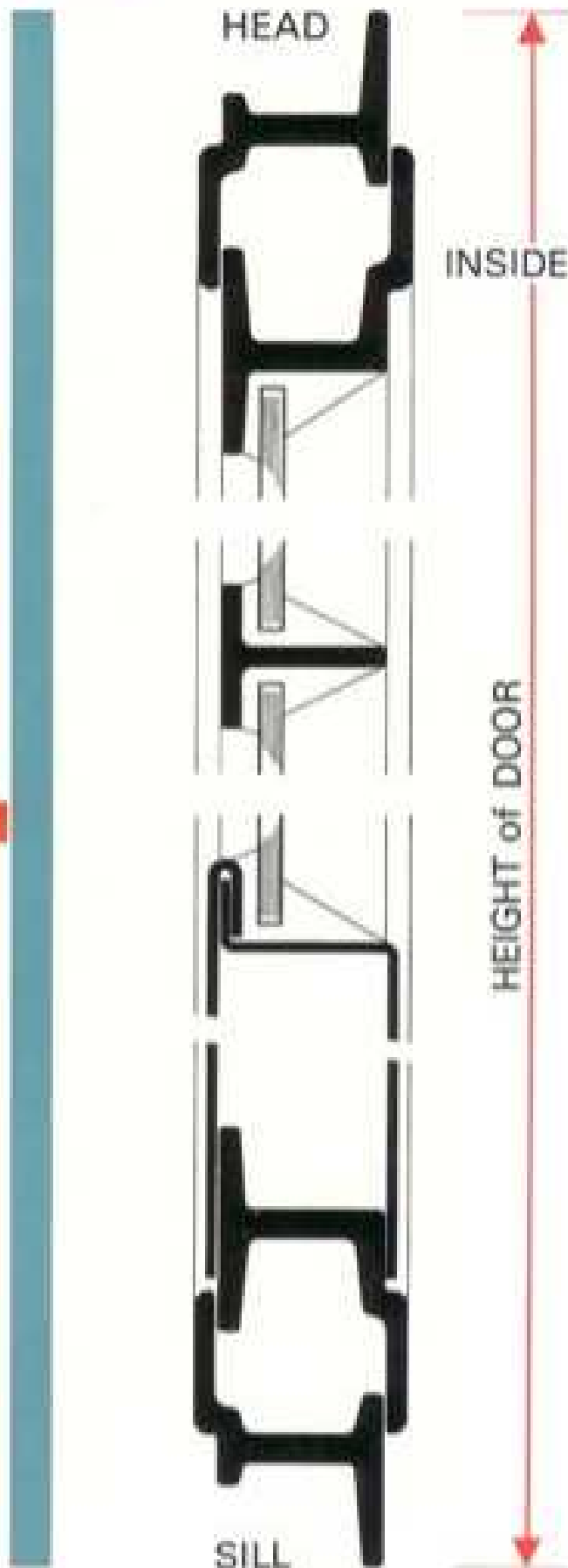
# MIDDLE EAST TYPE DOORS



INSIDE ELEVATIONS

GLASS SIZES ARE SHOWN ON PAGE 7

Standard Middle East Doors are of heavier sections than the windows and are included in the range. Bottom hung fanlights can be coupled to the doors by standard transoms and can, if required, be fitted with guard bars at extra cost. All doors are supplied to open inwards (unless otherwise stipulated on order). Double doors are fitted with bolts at top and bottom of one leaf and a mortice lock, two keys and lever handles on the other. Single doors are fitted with mortice lock, two keys and lever handles. If required a vertical bar can be introduced into the door leaf to give added security (see photograph).



# CRITTALL

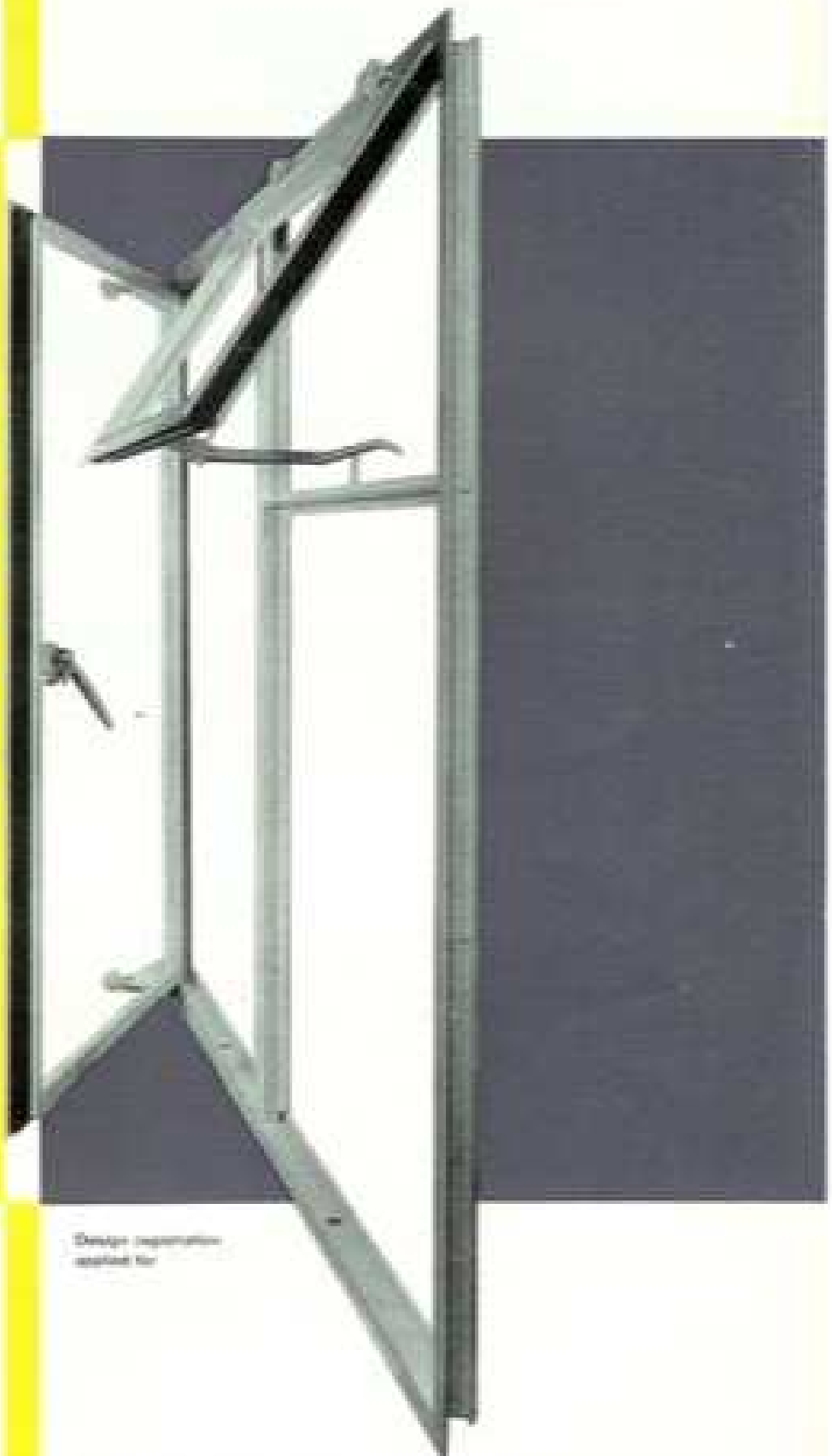
STANDARD METAL WINDOW

SFB(31)042  
APRIL 1981  
Leaflet No. 294

## weatherstripped

The growing demand for thermal insulation in contemporary building construction has given rise to the need for the provision of weatherstripping for all types of windows.

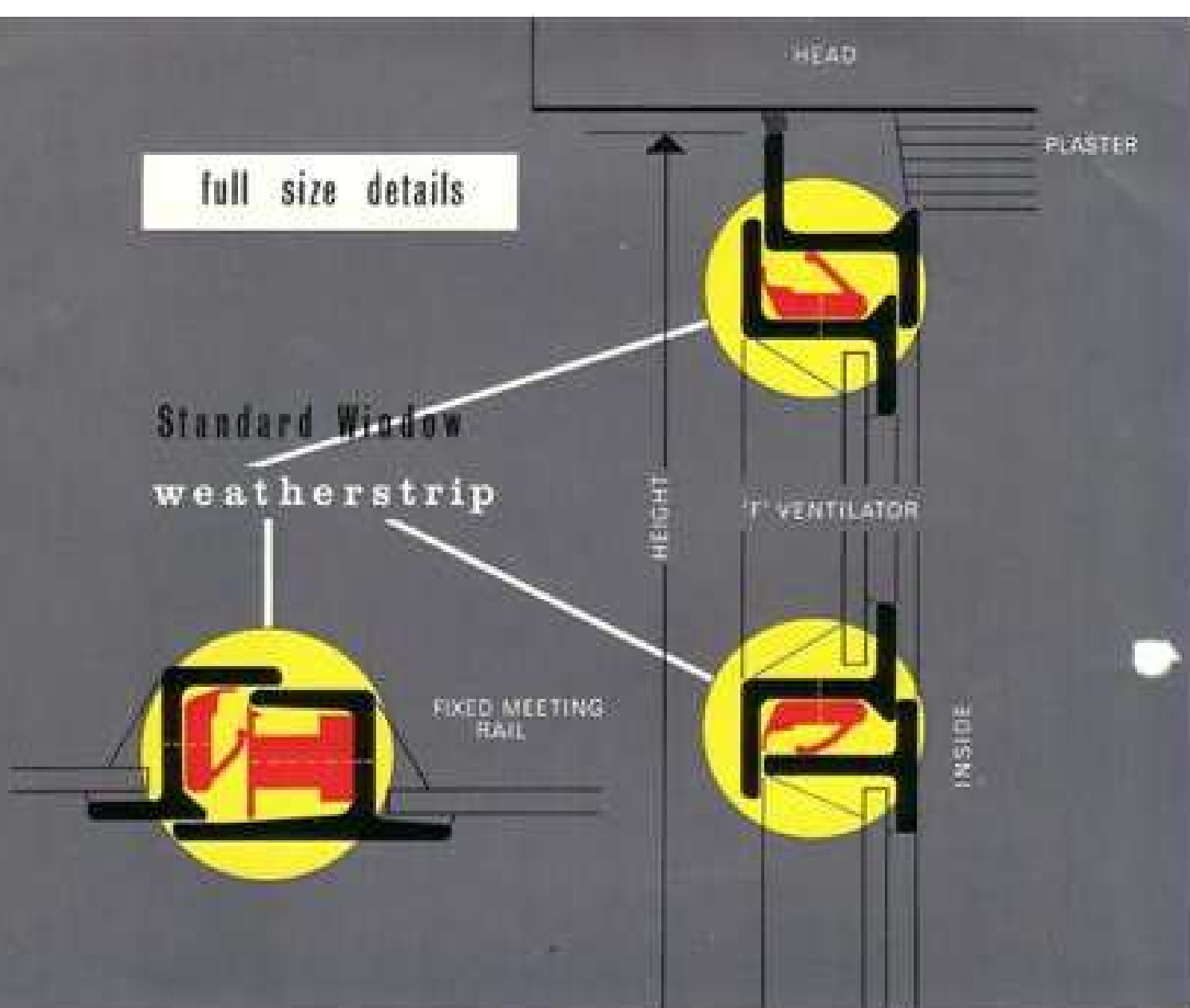
An effective method of applying such a detail to side-hung and top-hung ventilators in our standard outward-opening range of windows has now been evolved, details of which are illustrated in this leaflet.



Design information  
applied to

the CRITTALL Manufacturing Co Ltd BRAINTREE ESSEX  
London Office 210 High Holborn W.C.1





It should not normally be necessary to remove the weatherstripping after the window has been installed; but it is desirable that great care should be taken to keep the wings of the weatherstripping free from paint during the painting of the windows.

It is, however, a feature of this new design that the weatherstripping can be removed and replaced should this ever become necessary.

**The CRITTALL Manufacturing Co Ltd**

BRAINTREE ESSEX

London Office: 210 High Holborn W.C.1

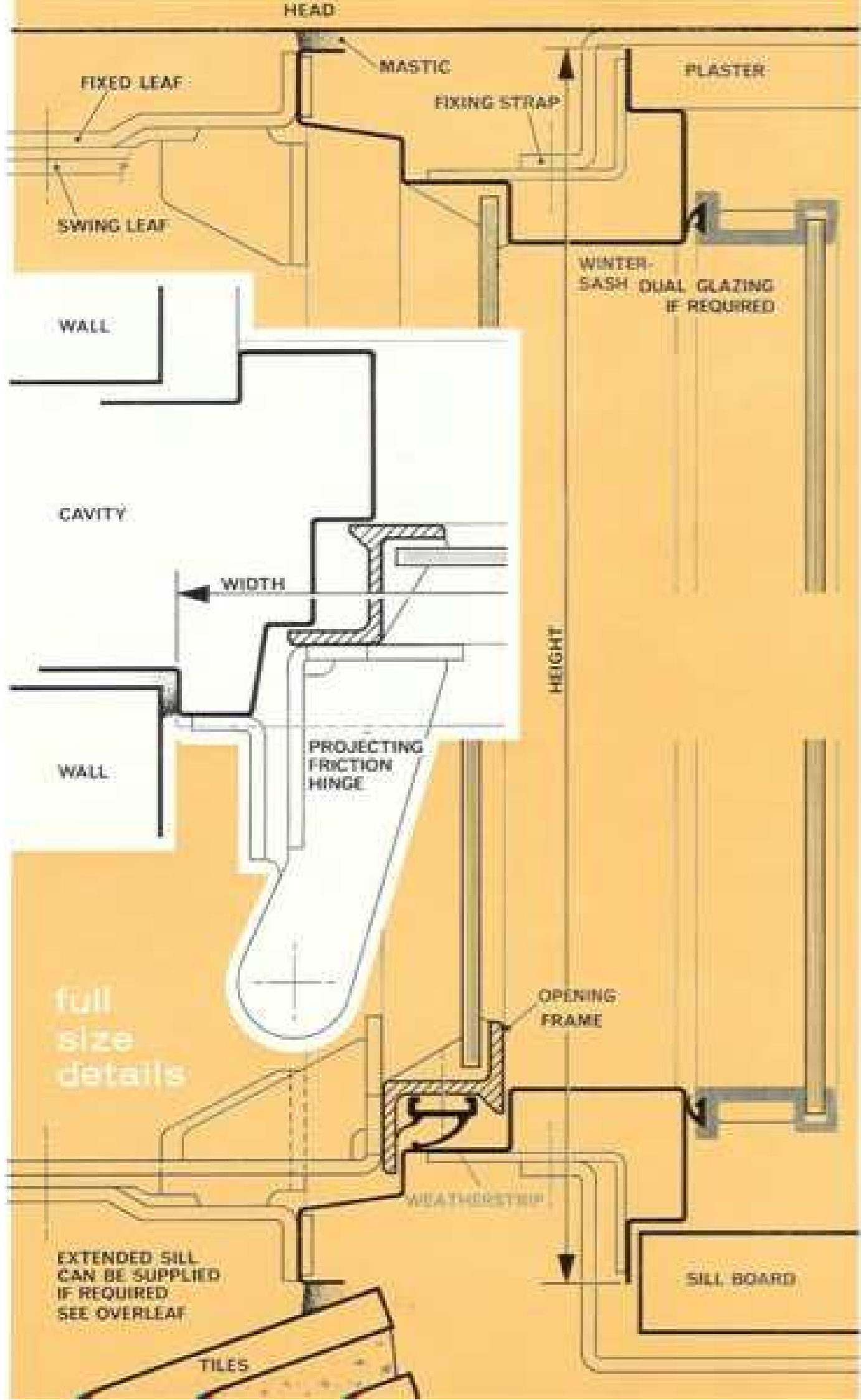
# CRITTALL

## CAVITY CLOSER

### standard windows

# 30





full size details

EXTENDED SILL CAN BE SUPPLIED IF REQUIRED SEE OVERLEAF

# CRITTALL

SfB (31)

weatherstripped

DUALGLASS  
DUALGLASS

reversible window

Registered design.



For extra thermal and acoustic insulation Crittall weatherstripped reversible standard windows (as detailed in leaflet No. 304) are now available with this aluminum dual-glass unit. This is weatherstripped and is pre-glazed at the factory. Both faces of each sheet of glass can, of course, be cleaned from inside. The dualglass unit is applied only to the area of the ventilators and cannot be used where these glass-in.

the **CRITTALL** manufacturing co Ltd

BRAINTREE

ESSEX

London Office & Showroom: 210 High Holborn WC1

No.  
**305**

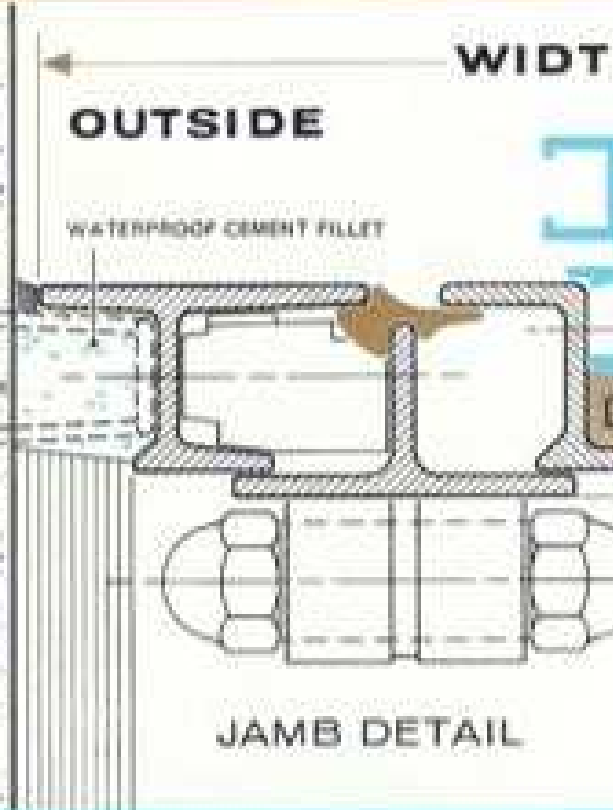
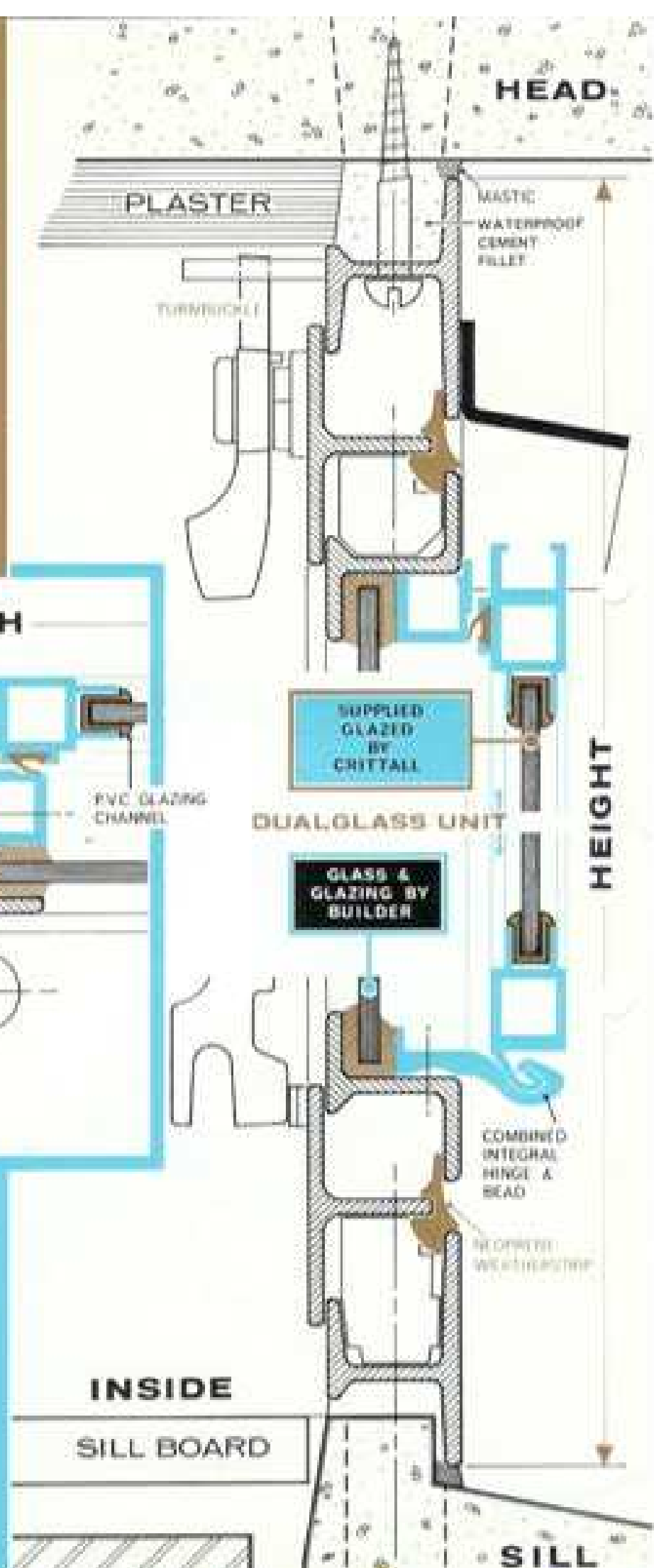
April 1966

# CRITTALL

weatherstripped

## DUALGLASS DUALGLASS

reversible window



As a safety precaution the dual-glass unit cannot be opened for cleaning until the window has been fully reversed.

The aluminum dual-glass unit should not be applied until after the steel reversible window has been painted. The glass, supplied by builders to the reversible window, is meanwhile held in position by the aluminum head at head and a temporary clip at sill.

**full  
size  
details**

SIB(31)

April 1966

Leaflet No. 348

A new CRITTALL factory-glazed Double-

Hung Sash. Efficient operation at low cost is achieved

by careful design and choice of materials

the '**Suffolk**' double-hung sash

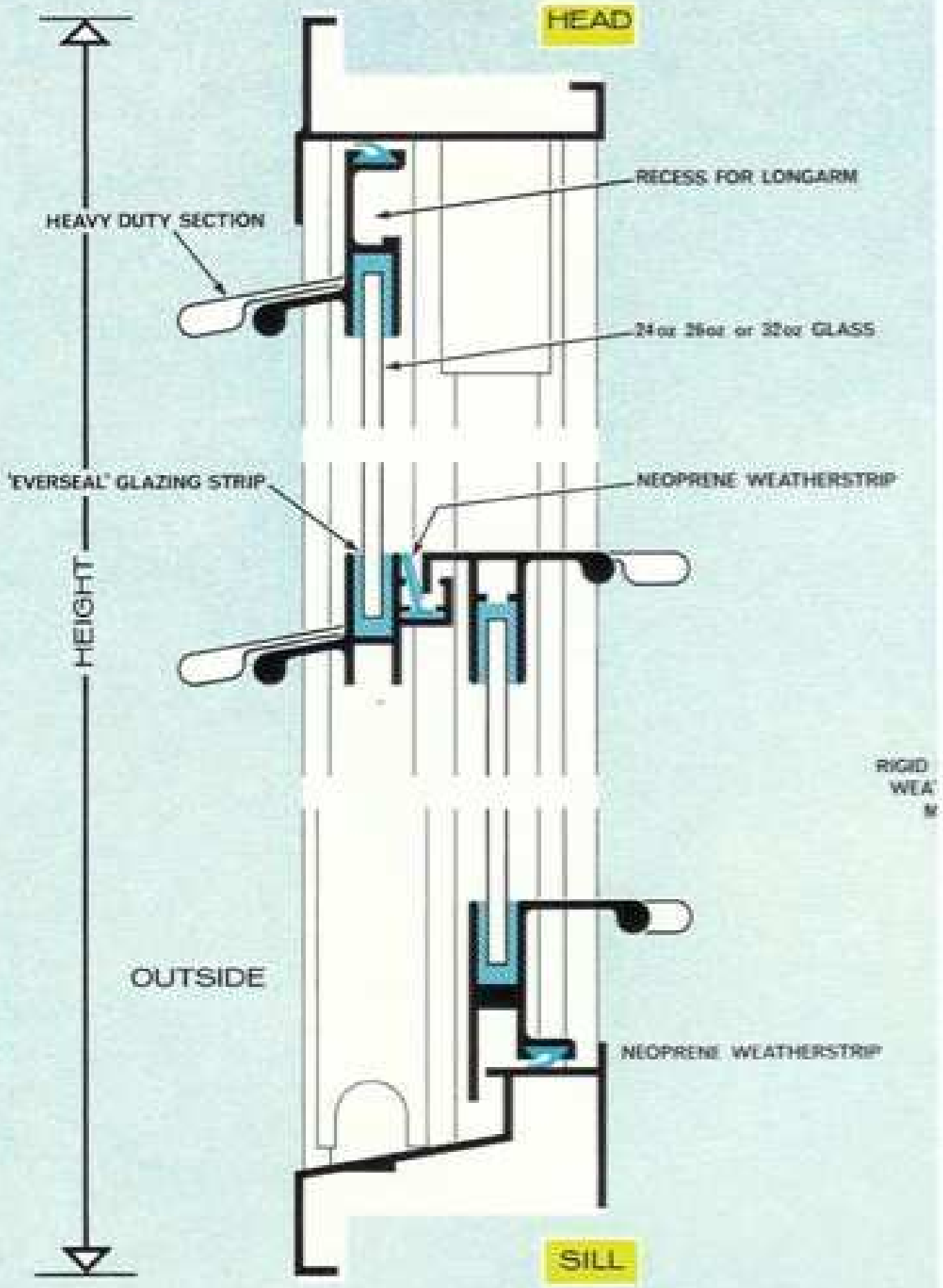
# CRITTALL



The CRITTALL Manufacturing Co Ltd

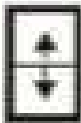

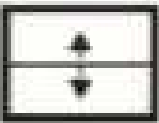

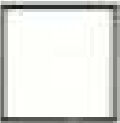
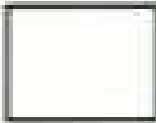
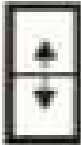

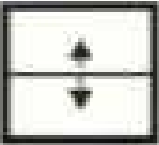
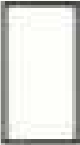
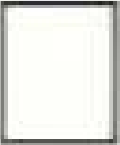

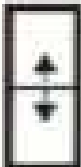

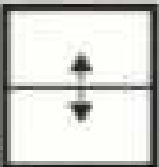
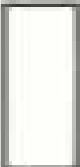


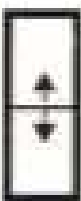

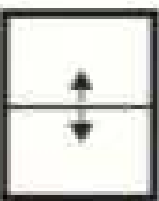
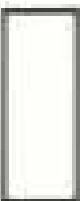


Braintree Essex

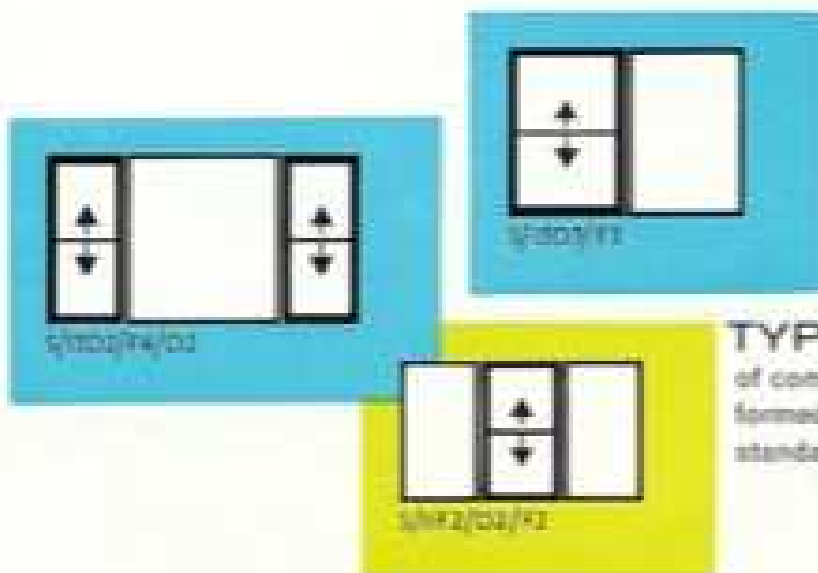
London Office & Showroom 211 Regent Palace WC1



# RANGE of STANDARD TYPES

SIZES ARE GIVEN OVERALL ALUMINIUM

|                                 | 2'-0"  | 3'-0"  | 4'-0"  | 2'-0"  | 3'-0"  | 4'-0"  |
|---------------------------------|--|--|--|--|--|--|
| 2'-11 $\frac{1}{2}$ "<br>0-908m | <br>1/908   | <br>1/908   | <br>1/904   | <br>1/912   | <br>1/912   | <br>1/914   |
| 3'-7 $\frac{1}{2}$ "<br>1-111m  | <br>1/902   | <br>1/902   | <br>1/904   | <br>1/912   | <br>1/912   | <br>1/914   |
| 4'-3 $\frac{1}{2}$ "<br>1-314m  | <br>1/902   | <br>1/902   | <br>1/904   | <br>1/912   | <br>1/912   | <br>1/914   |
| 4'-11 $\frac{1}{2}$ "<br>1-517m | <br>1/902 | <br>1/902 | <br>1/904 | <br>1/912 | <br>1/912 | <br>1/914 |
|                                 | 4'-11 $\frac{1}{2}$ "<br>0-603m  | 3'-11 $\frac{1}{2}$ "<br>0-908m  | 3'-11 $\frac{1}{2}$ "<br>1-213m  | 4'-11 $\frac{1}{2}$ "<br>0-603m  | 3'-11 $\frac{1}{2}$ "<br>0-908m  | 3'-11 $\frac{1}{2}$ "<br>1-213m  |



**TYPICAL EXAMPLES**  
of composite windows  
formed from types in the  
standard range above

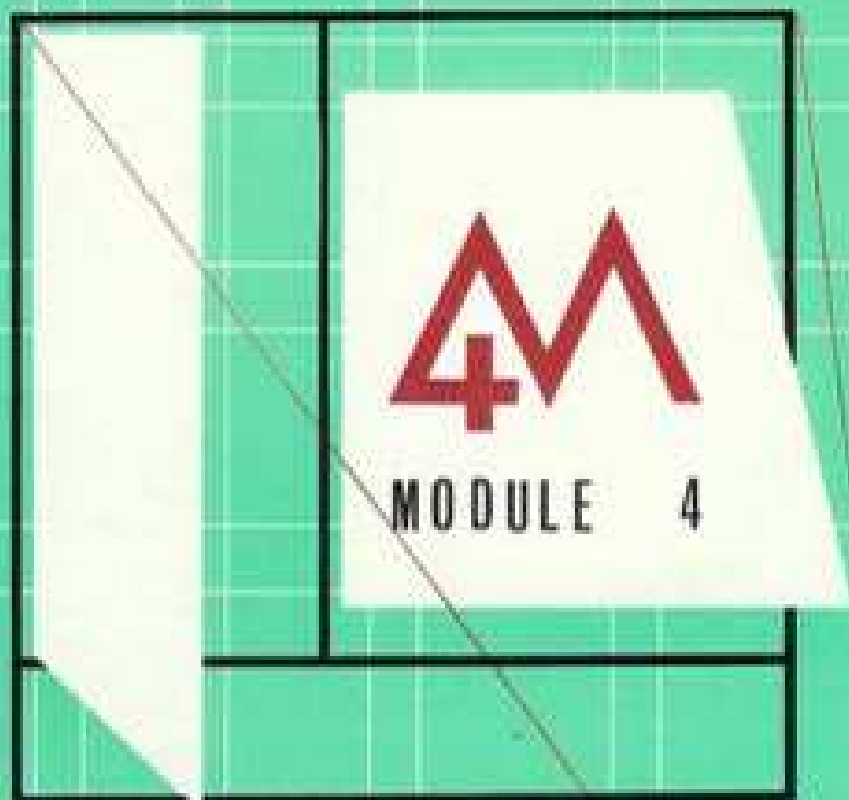


SFB(31)

JUNE 1966

Leaflet No. 318

# CRITTALL



15CPS5

available

**weatherstripped**

The CRITTALL Manufacturing Co. Ltd. BRANDBRIDGE ROAD

LONDON OFFICE: 4, SHAWTON; 214, HIGH HOLBORN, W.C1

1

2

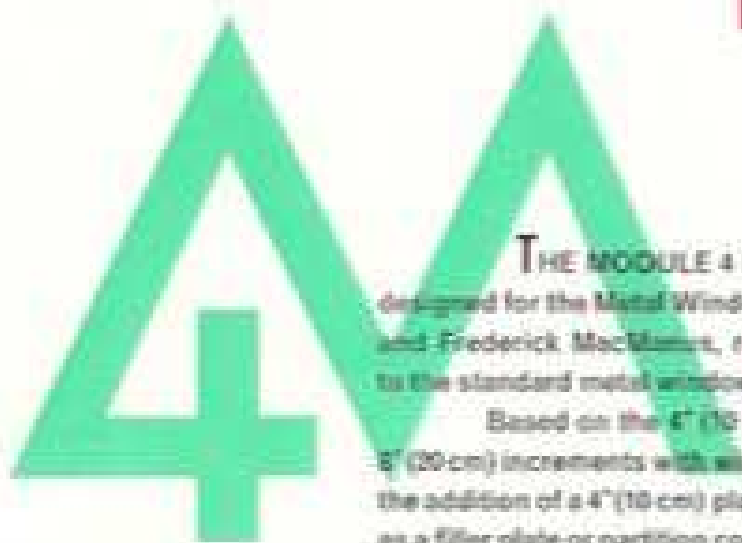
3

4

5

6

## Introduction



**THE MODULE 4 RANGE** of windows, which has been designed for the Metal Window Association by Edward Armstrong and Frederick MacMunn, represents the most radical alteration to the standard metal window since it was first introduced.

Based on the 4" (10 cm) module, heights are generally in 6" (20 cm) increments with widths in increments of 1ft. (30 cm) but by the addition of a 4" (10 cm) plate mullion, included in the range to act as a filler plate or partition cover, 4" (10 cm) flexibility can be attained.

Module 4 conforms to the 1962 R.I.B.A. Council Recommendation on the use of the 4" (10 cm) module for industrially produced building components, as described in R.I.B.A. Industry Note 3 and to DC1 and DC2.

When coupled by steel mullions and transoms, the units can be combined into an almost infinite variety of composites, all of which will fit into modular openings.

The increased height of buildings where high winds are met at upper levels and the consequent increase in heat loss has made provision of weatherstripping imperative.

All reversible windows in the Module 4 Range have weatherstripping fitted as standard. It is available as an optional extra to side hung and top hung casements and doors.

Other special features of the new range are the permanent and adjustable metal ventilators nominally 4" (10 cm) high for use at the head of either fixed or opening windows; the provision of an 8" (20 cm) high solid panel in place of a glazed lock rail on all doors and improved fittings including an economic opener for high level top hung ventilators.

SfB(31)

MARCH 1987

ISSN 0011-3178

new suite of sections

**CRITTALL**

purpose made

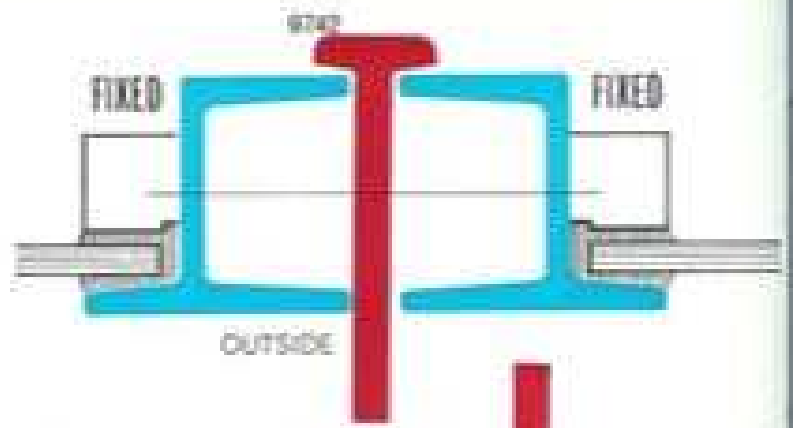
**'W' TWENTY**

C A S E M E N T S

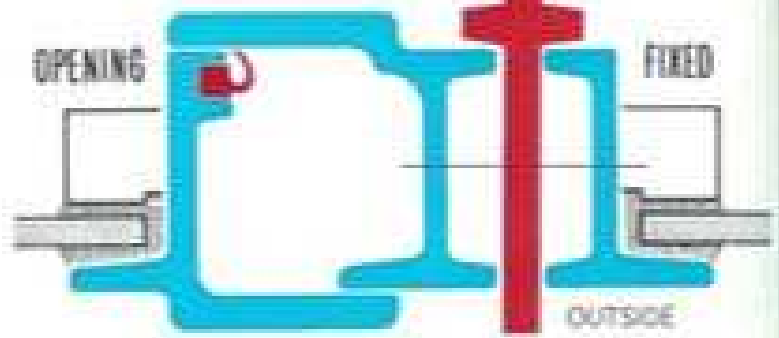
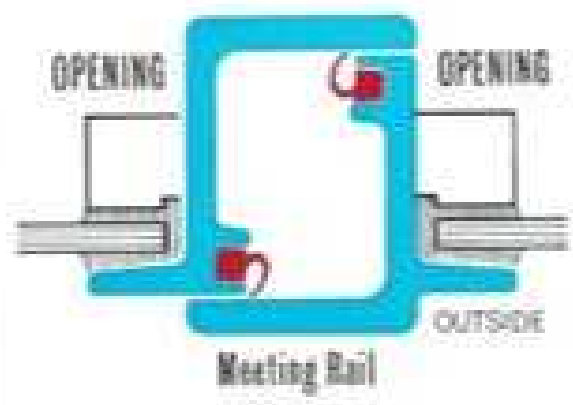
**20**

**WEATHERSTRIPPED**

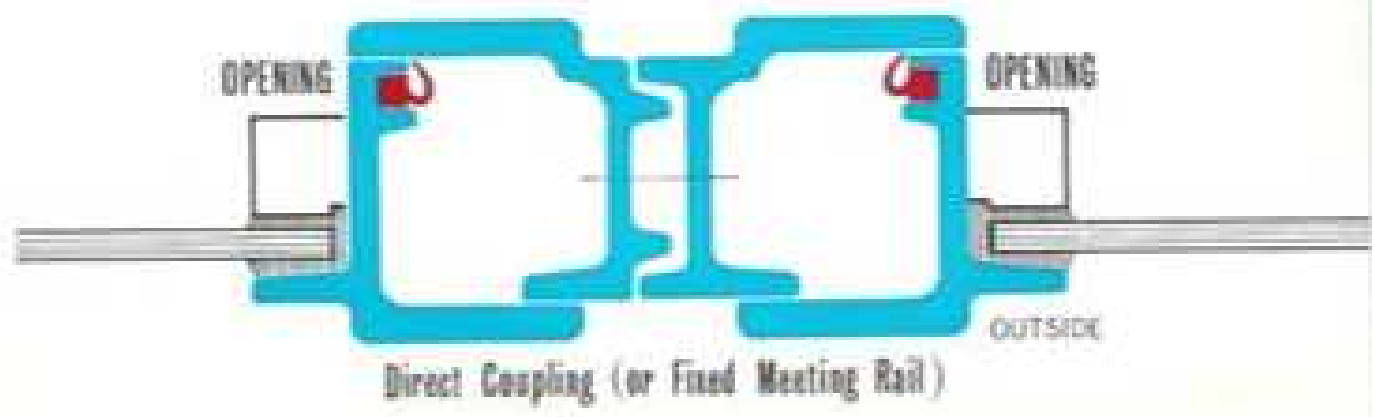
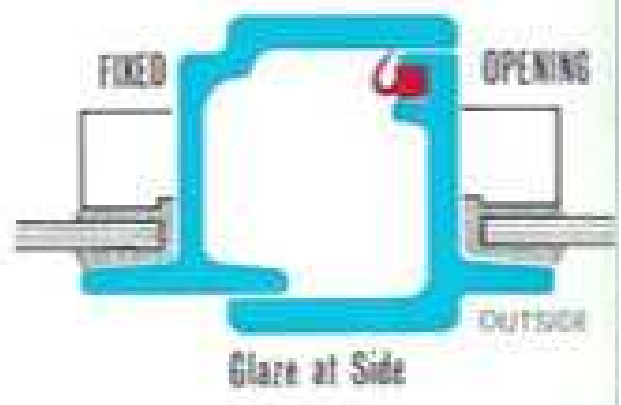
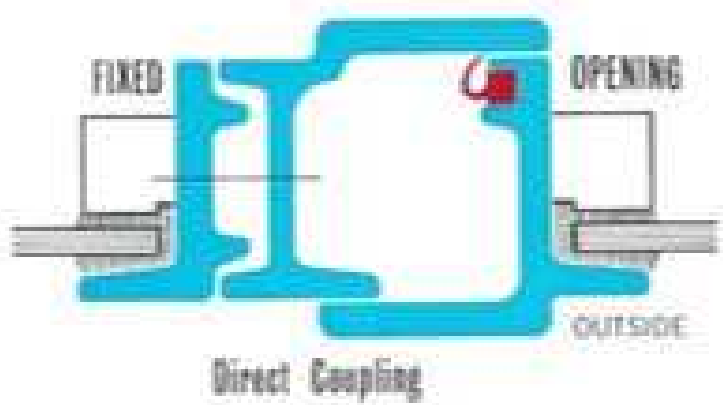




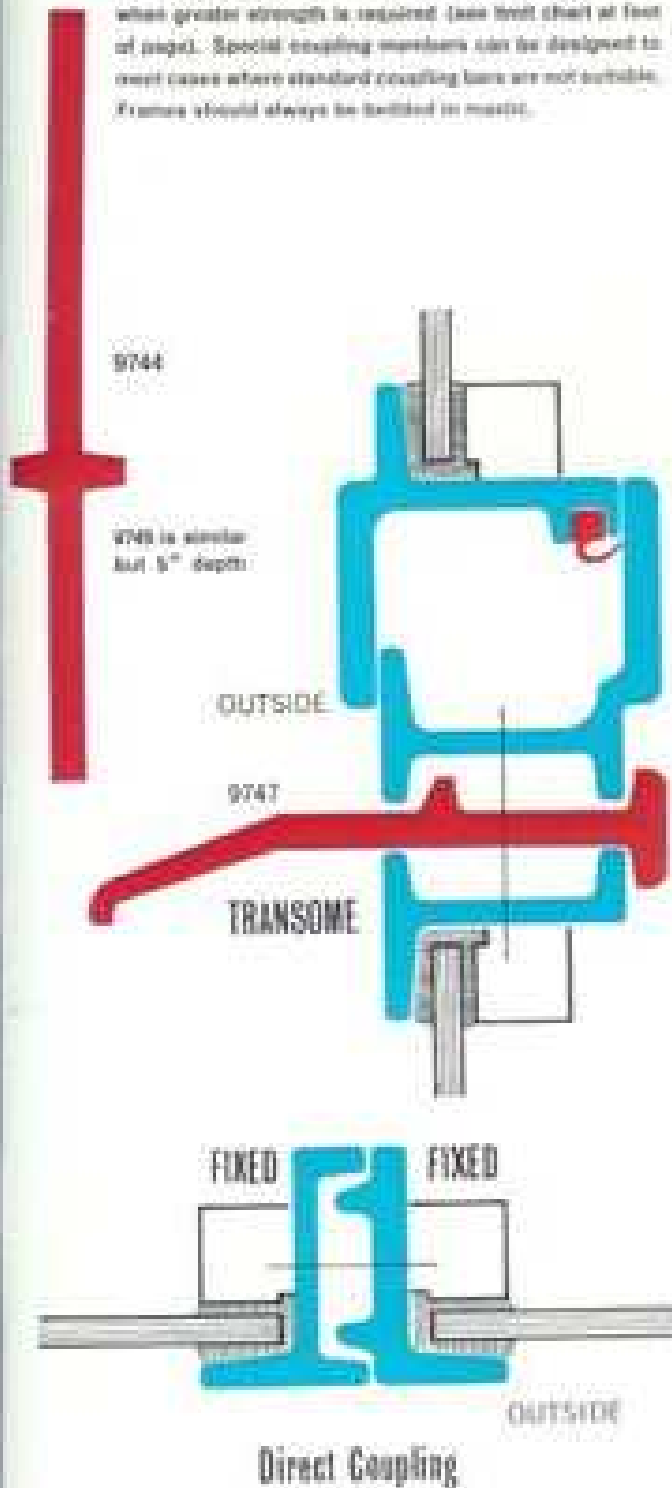
full size coupling details



the **CRITTALL** 'W' TWENTY



Composite windows can be formed by joining frames with direct coupling, or the use of mullion or transome bars when greater strength is required (see next chart at foot of page). Special coupling members can be designed to meet cases where standard coupling bars are not suitable. Frames should always be built in mastic.



### SPANS OF STANDARD COUPLING BARS

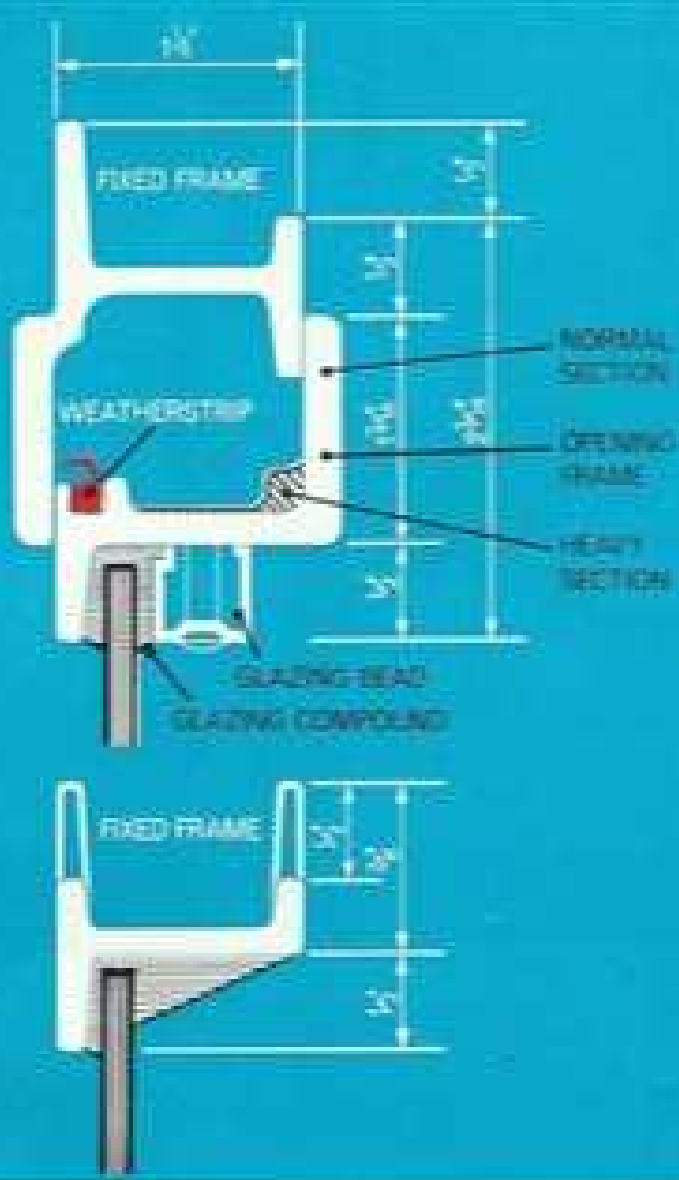
| LENGTH OF COUPLING BARS | MAXIMUM BAR CENTRES |       |        |        |        |
|-------------------------|---------------------|-------|--------|--------|--------|
|                         | 9742                | 9743  | 9744   | 9745   | 9747   |
| 7' 0"                   | 7' 0"               |       |        |        |        |
| 8' 0"                   | 8' 0"               |       |        |        |        |
| 9' 0"                   | 9' 0"               |       |        |        | 8' 0"  |
| 10' 0"                  |                     | 4' 0" | 10' 0" |        | 9' 0"  |
| 11' 0"                  |                     | 5' 0" | 11' 0" |        | 10' 0" |
| 12' 0"                  |                     |       | 12' 0" | 10' 0" |        |
| 13' 0"                  |                     |       |        | 11' 0" |        |
| 14' 0"                  |                     |       |        | 12' 0" |        |

The figures stated above are calculated at 15 lbs. per sq. ft. wind pressure.

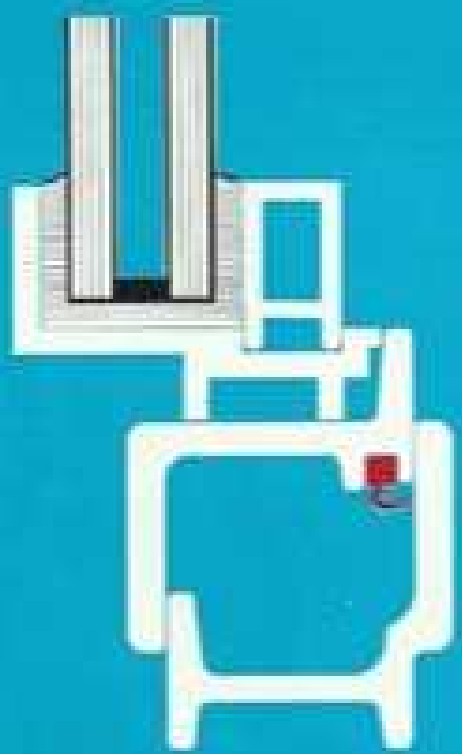
The increased height of modern buildings has raised problems in metal window design, particularly in regard to wind pressures and their effects upon heat conservation. To solve this problem it has been found necessary to design a new suite of casement sections in steel so that in the windows made from it, in addition to the normal metal-to-metal contact, the inner frames can have weatherstripping applied to increase thermal insulation and to provide greater protection from the weather.

This weatherstripping is achieved by the insertion of a flexible Neoprene strip fitted into a groove incorporated in the opening frame sections, thus providing an effective weathering seal between fixed and opening frames when the windows are closed.

This new suite of sections covers the whole range of windows which have hitherto been made from medium or large casement sections including screw-in construction.



**FULL SIZE DETAILS**

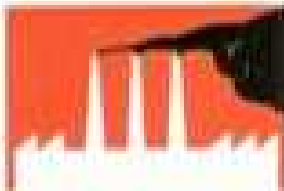
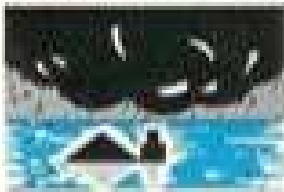


**DOUBLE GLAZING**

Where double glazing is called for, it is possible to accommodate outer glass units up to 1/2" in total thickness within the normal glazing rebate. If, however, units of a greater thickness are required, these must be recessed in a subsidiary frame built as that illustrated.

SfB(41)

Leaflet No 3088  
FEBRUARY 1967



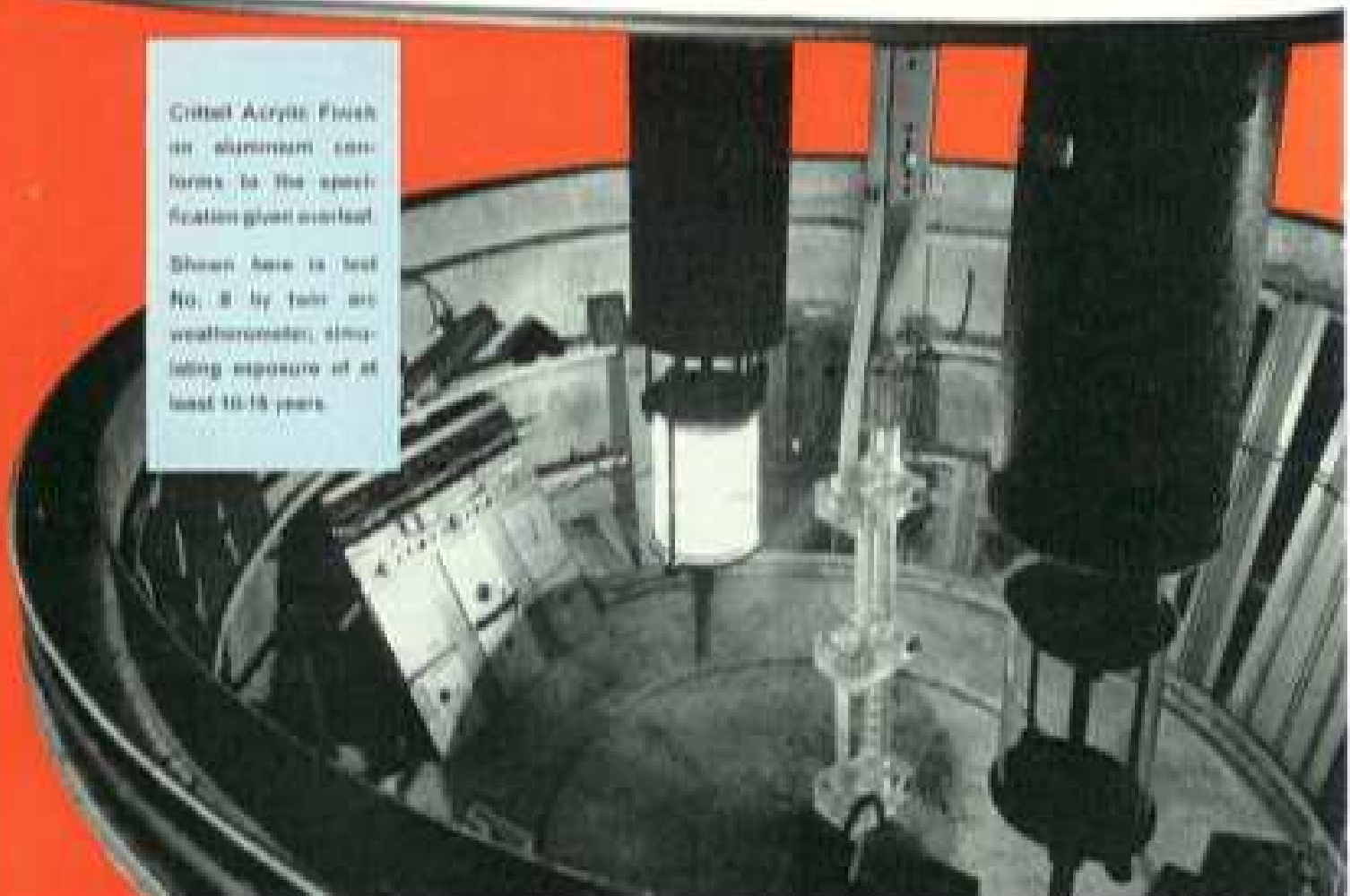
**CRITTALL Acrylic Finish** is bonded to aluminium. It will not crack or craze and has successfully undergone many severe laboratory tests which included conditions equivalent to those illustrated on the left.

In cases of wilful damage with a sharp edged instrument, the finish will not suffer corrosion creep and the affected part can be made good.

# CRITTALL ACRYLIC FINISH

Crittall Acrylic Finish on aluminium conforms to the specification given overleaf.

Shown here is test No. 8 by test are weatherometer, simulating exposure of at least 10-15 years.



# CRITTALL ACRYLIC FINISH

## what the customer should know

The idea behind the Crittall Acrylic Finished aluminium window is to give the customer a window that will not need site painting and will be easy to maintain for many years to come.

The windows are carefully packed and supplied with a thin layer of wax on the significant surfaces. This is to protect them during site handling and installation.

After they have been fixed and glazed they should be cleaned with plain white spirit and finally washed down with a mild detergent such as a 5% solution of Teepol in water. If lumps of plaster or dirt appear to be stuck on the finished surfaces simply soak them with white spirit and scrape them off with a piece of wood. Do not use abrasive cloths, sand paper or a knife, or any kind of metal object.

Things do not stick easily to the Acrylic Finish, particularly when it has a coating of wax. In this respect glaziers must be careful that where putties and mastics are to be applied the area is well cleaned before glazing and note the following recommendation:—

**BEDDING & GLAZING**—Use only non-setting compounds with setting blocks and spacers in suitable material.

**POINTING**—Use only suitable non-setting pointing compounds.

**STRIKE OFF WITH WOOD OR PLASTICS TOOL—USE NO SHARP METAL EDGES.**

For maintenance, simply wash the frame at the same time as washing the glass with either just soap and water or mild detergent as mentioned above. Do not use abrasive powders.

To get the best value out of these windows, particular care should be taken in the site handling and installation. The contractor is responsible for taking charge of the windows delivered by our lorry and it is just a question of storing them in such a way as to prevent mechanical and abrasive damage during site storage, handling and fixing. If there is no mechanical damage the windows will clean up quite easily as the finish is extremely resistant to atmospheric deterioration.

If damaged after delivery this finish has the advantage that site repairs are possible in a way that is not possible with anodised aluminium.

Nevertheless always avoid scraping and scrubbing as no repair is quite as good as the original coat, which has been stored at high temperature.



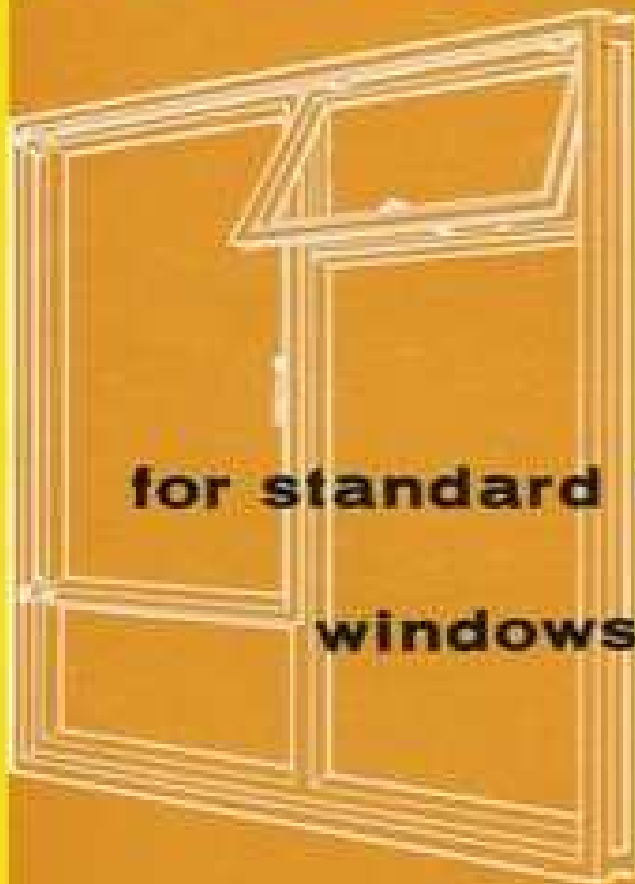
SIB (31)

October 1987

Leaflet No. 307A

# CRITTALL

## Standard Wood Surrounds

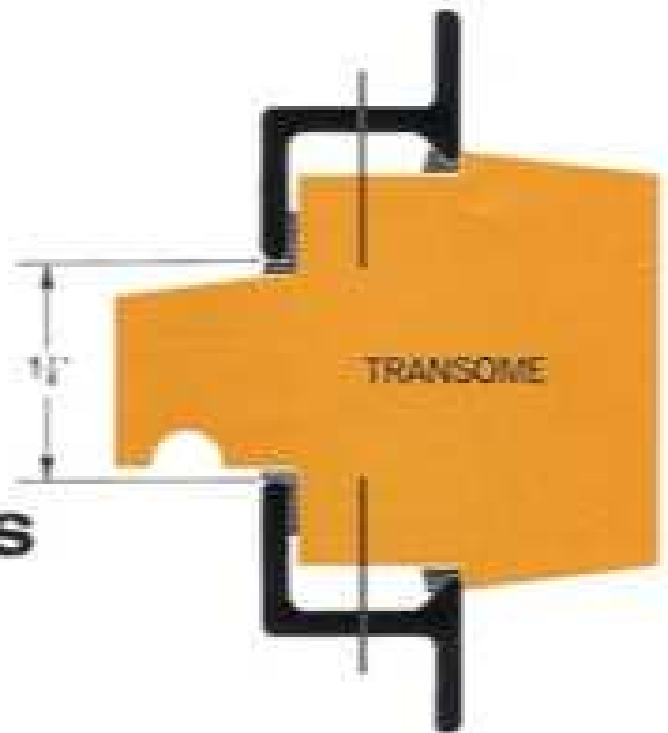


for standard metal  
windows

# TRANSOME

# MULLIONS

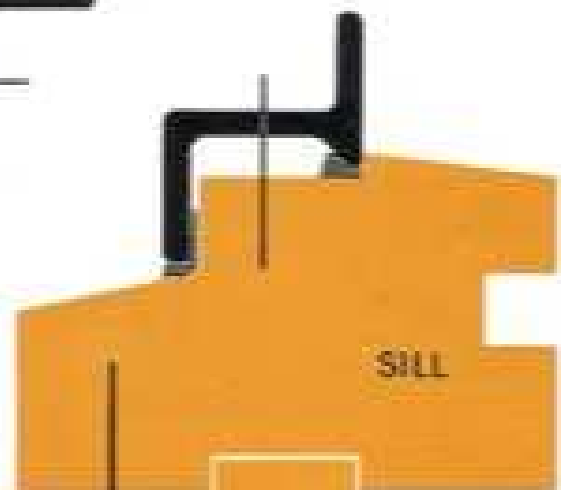
# and SUBSILLS



A subsill in softwood can be supplied to the profile shown below. When ordered this is sent loose.



# 3'x2' PROFILE



fixing screws Not supplied by CRITTALL

This subsill increases the height of the window by 1 1/2".

SfB (35)

October 1967

Leaflet No. 356

# CRITTALL

# RTS

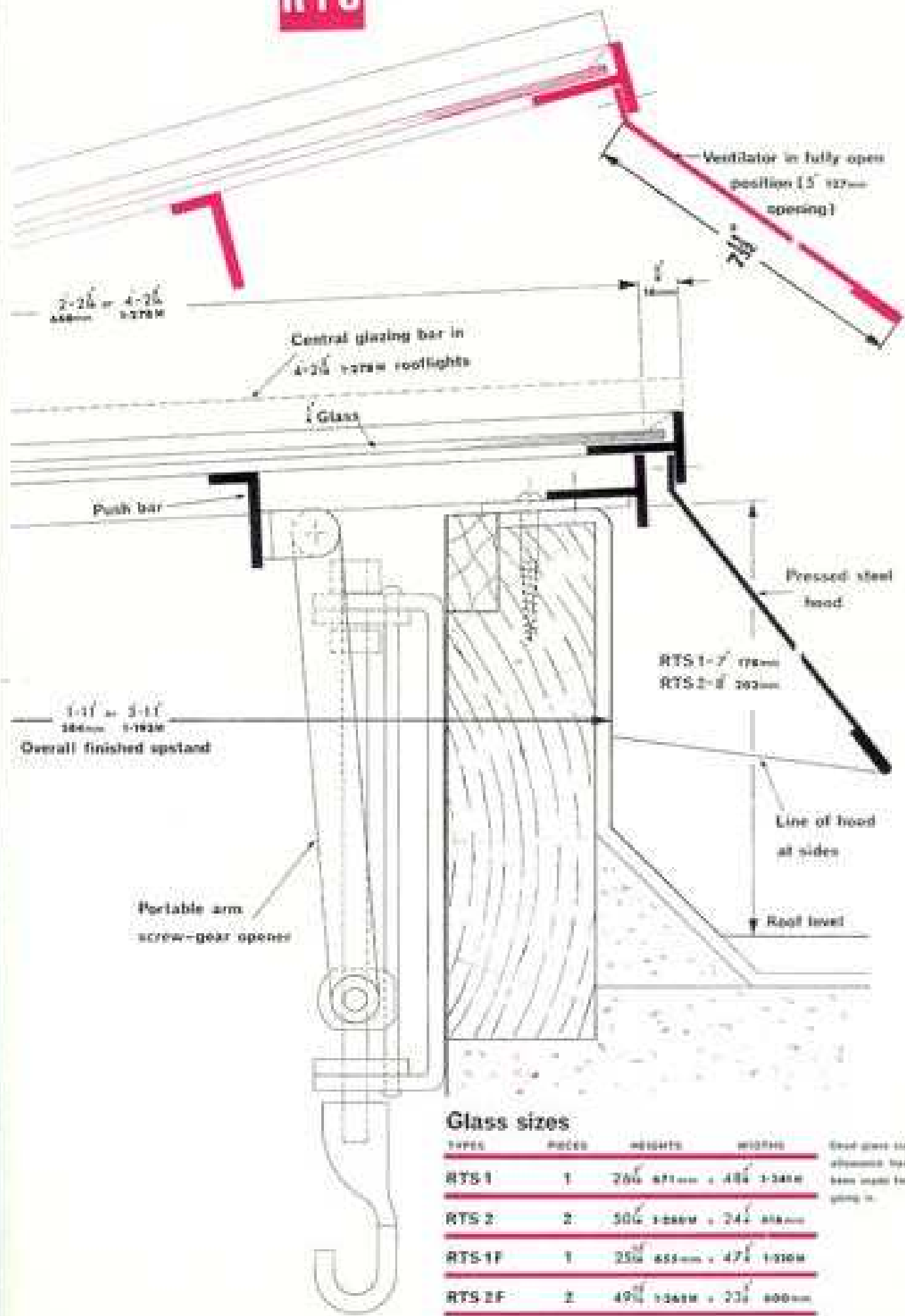
rooflights



**CRITTALL**



rooflights half full size details



**Glass sizes**

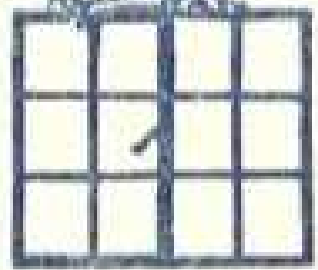
| TYPE   | PIECES | HEIGHT         | WIDTH          |
|--------|--------|----------------|----------------|
| RTS 1  | 1      | 26 1/2" 671mm  | 48 1/2" 1240mm |
| RTS 2  | 2      | 30 1/2" 768mm  | 34 1/2" 875mm  |
| RTS 1F | 1      | 25 1/2" 653mm  | 47 1/2" 1200mm |
| RTS 2F | 2      | 49 1/2" 1250mm | 33 1/2" 850mm  |

Best glass sizes obtained by use must be given.



**THE**  
**CRITTALL**  
**MAGAZINE**

**THREEPENCE**



**VOLUME 2**  
**NUMBER 8**

**SEPTEMBER**

**1926**

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- Motor Cycling Overalls, Double Texture... 1/0 0
- Motor Cycling Overalls, Lightning Fastener... 1/4 0
- Motor Cycling Jackets, Double Texture... 2/0 0
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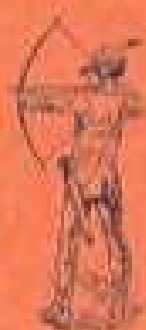
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Do you eat Sausages ?  
Have you seen them made ?  
Do you know what is in them ?

# SILVER END FARM SAUSAGES

ARE

## Made from Prime Pork

*Young Gentleman and Flapper Pigs—not Elderly Matrons)*

BRED, FED & KILLED AT SILVER END

Come and visit the Pigs !  
They will be pleased to see you !  
Come and see the Sausages made !

---

Silver End Development Co., Ltd.

# Evening Wear



*Dinner Suits, 75/- up to 168/-  
Patent Oxford Dress Shoes, 8/11  
Dress Shirts, 8/11, 10/6  
Bosws, Socks, Etc., for  
Dress Wear*

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NEW SHOWROOMS WITH  
INCREASED ACCOMMODATION

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AT

## Hutley's

SHOPS FOR MEN

Market Place,  
Braintree.

High Street  
Witham

# SIMPLE, CLEAN & EFFICIENT

SILENT PATTERN.

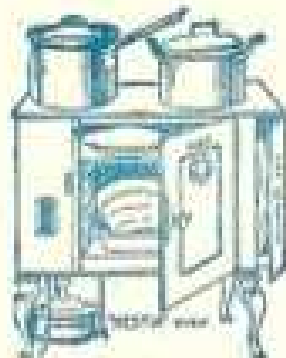
ROARER PATTERN.

## THE PRIMUS



Intense heat without smoke, smell, or noise.

12/6, 14/9, 18/6.



HESTIA OVENS.

Used in conjunction with the Primus Stove, complete with Baking Pan.

Prices from 35/6.



Ideal for outdoor use, camping, etc.

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IRONMONGERS, BANK STREET, BRAINTREE

### BRAINTREE & WEST ESSEX CO-OPERATIVE SOCIETY Ltd.

During the year 1924 we returned £3,300 in Profits to our Members.

We paid 39 death claims under our Free Life Assurance Scheme, totalling £301.

Would the private shop-keeper do anything like this for YOU? By paying 1s. you are entitled to all the privileges of membership.

We still have some Watches and Clocks bought before the McKenna Duties were re-imposed, BUT our pre-duty stock will not last very long.

Every Watch and Clock is Guaranteed

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Family Grocer and  
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THE NOTED SHOP FOR DANISH BACON

10 Braintree Road, WITHAM

Telephone No. 10

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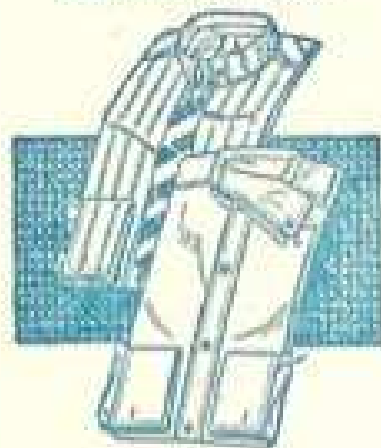
FAMILY BUTCHER

Prime Pickled Tongues, Dairy Fed Pork  
Sausages a Speciality

HIGH STREET, WITHAM

# TUNIC SHIRTS

ESTABLISHED 1871.



Phone 87.

In ideal washing cloths of superior quality, double cuffs, full cut & well made, guaranteed fast colours, sizes 13½ to 17, at **4/11½, 5/6, 6/6, 7/6, 8/6, 9/6**

Collars to match if desired.

SEE THE WINDOWS AT

## C. J. TOWNROW'S

51-53 HIGH STREET, BRAINTREE

ESTABLISHED  
Over 50 Years.



TELEPHONE  
No. 71

"Many husbands and sons take their dinners to the shop or works in summer. What can be more suitable than the hygienic sausages, the constituent parts of which are protected from contamination by the skins?" but be sure they are made by

## H. O. COOK BRAINTREE

Noted for "**Pure Pork Products**," including **Home-cured Cooked** and **Potted Ham, Pork Pies**, etc., at lowest possible prices.

Factory, London Road. Inspection invited.

## A. MAYO

GRAZIER AND BUTCHER

### Railway Street, BRAINTREE

Best home-killed Prime Ox Beef and Southdown Mutton.

Dairy-fed Pork and Sausages a speciality.

Facilities waited on for Orders daily.

CALL AT

### F. JOYCE'S, Fairfield Road

FOR ALL

High-Class Confectionery  
Cigarettes and Tobacco  
Ices a speciality

If at noon you're feeling for from well,  
And would take a horrid interest in digest,  
Though you've winded awfully over night,  
A Phoenix Ice will put you right.

Applications for Advert. Space should be addressed to THE EDITOR, MANOR WORKS, BRAINTREE.

THE SILVER END  
DEVELOPMENT CO., LTD.

HAVE NOW OPENED A

BRANCH ESTABLISHMENT

at

COGGESHALL ROAD,  
BRAINTREE.

(ADJOINING THE WORKS ENTRANCE)

for the sale of

Silver End Products.

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*BREAD at 8d. per Quartern ! ! !*

and all kinds of Fancy Cakes,

CREAM, at 4d., 8d., 1s. 3d., and 1s. 6d. per carton, from our Red Polled Cows,

EGGS AND TABLE POULTRY, at lowest market prices.

PORK AND PORK PRODUCTS, including the famous

*SILVER END SAUSAGES*

*1/8 per lb.*

These can also be obtained from Mr. CURRIE, 9 & 10, SPRINGFIELD ROAD,  
CHELMSFORD.

# THE NEW TEA SHOP

*at SILVER END will be Open Early  
in SEPTEMBER*

*Practically everything will be Home-made.*



Come and have a . . .

Good Cup of Tea,  
Home-Made Cakes  
Fruit Salad and

Silver End Cream

## The SILVER END STORES

CAN NOW SUPPLY YOU WITH

SPRING CHICKENS

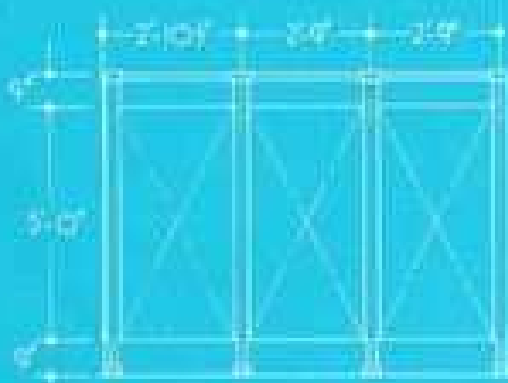
MILK-FED AND HOME-BRED at 1/6 PER LB.

 *Send your orders on before they are all sold*

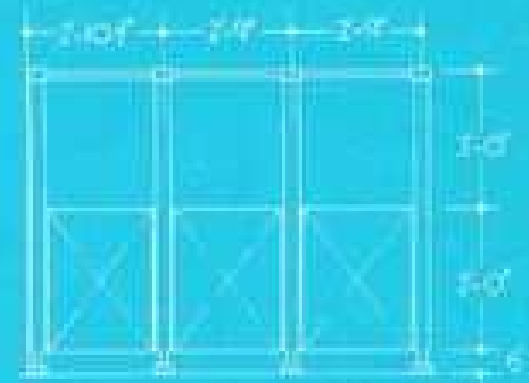


# CRITTALL STANDARD LAVATORY CUBICLES

Made in two types: Standard, for adult use, and in smaller size for use in infants' schools. Details of hinges are shown overleaf.



STANDARD TYPE



TYPE FOR USE IN INFANTS' SCHOOLS

Crittall proved steel lavatory cubicles are 2' 9" wide and 3' 6" deep and can be arranged in rows of as many as required. They can be supplied to be fixed between walls, or with returned ends. Standard type doors are hung on self-opening pivots ensuring that they remain open when vacant, and are each fitted with lock, coat rack and toilet roll holder. Infants' school type doors have self-closing 'lift off' pivots, and have small low handles and rubber stop buffer on the inside, and wash cubicle has toilet roll holder. Crittall lavatory cubicles are galvanneal and are despatched unpainted and unassembled.

**THE CRITTALL MANUFACTURING COMPANY LIMITED**  
**BRAINTREE · ESSEX · 210 HIGH HOLBORN, LONDON, W.C.1**