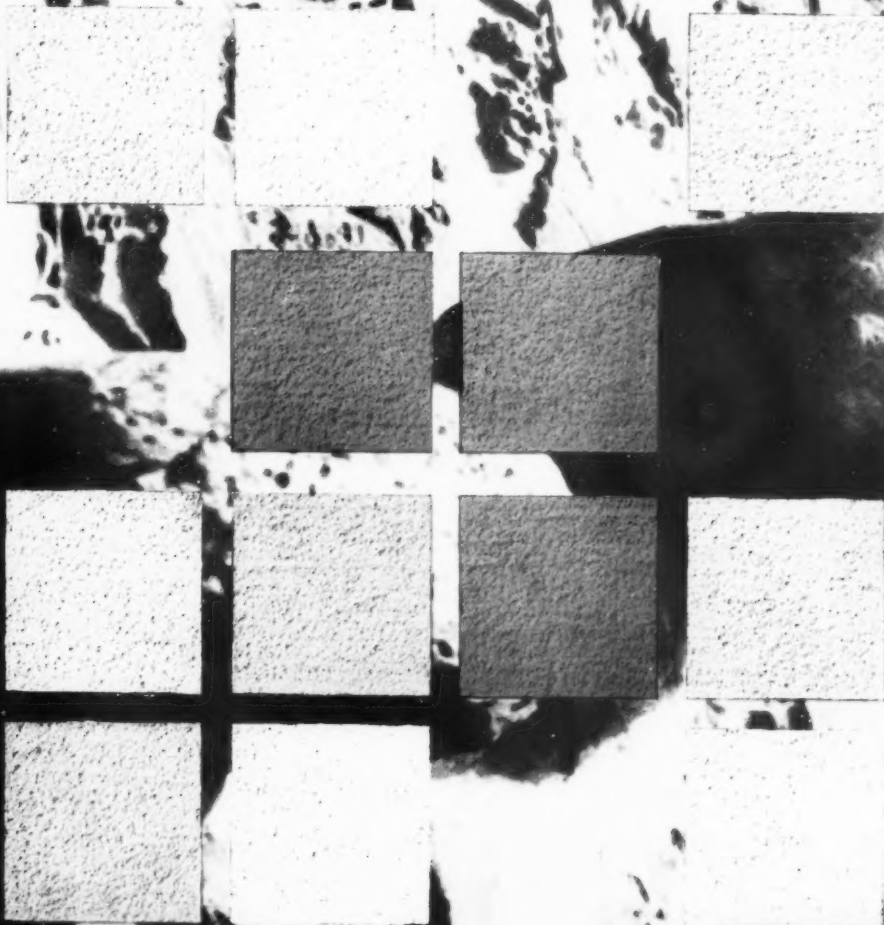


LINEAR.

The Architectural Journal for the
Architects.
See a Newspaper



Architectural Journal



Lineare Paint for use on all exterior surfaces



747

Two pairs of handwheel-operated geared shutters in a London store. The automatic fusible link release is to L.C.C. requirements.

AUTOMATIC OR NON-AUTOMATIC FIRE RESISTING SHUTTERS

for openings in party walls, staircases, and lift-shafts: manufactured to comply with the regulations of the Fire Offices' Committee and the London County Council.

MANUALLY OR ELECTRICALLY OPERATED

STEEL ROLLING SHUTTERS

for entrances to transit sheds, transport depots, garages, power stations, boiler houses, warehouses, hangars, and numerous other types of commercial and industrial premises.

Mather & Platt
LIMITED

PARK WORKS · MANCHESTER 10

Telephone: COLlyhurst 2321.

Telegrams: Sprinkler, Manchester.

For your information

TECHNICAL DATA in the field of **HEATING & AIR TREATMENT ENGINEERING**

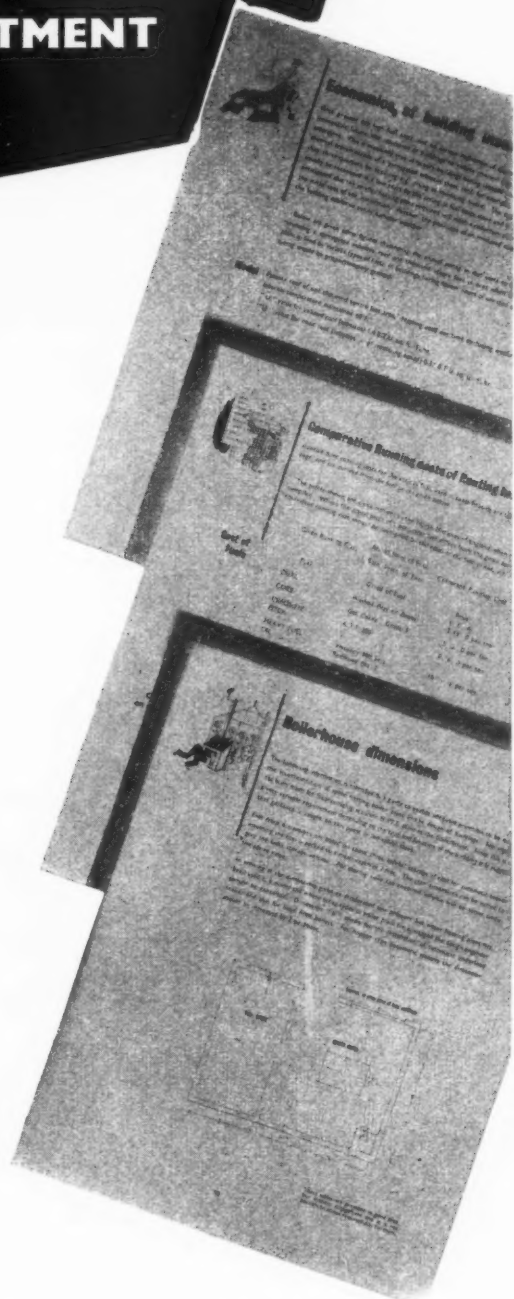
Some of the contents:

Heat transfer coefficients . . .
Natural air change rates . . .
Heat requirements of typical buildings . . .
Economics of building insulation . . .
Boilerhouse dimensions . . .
Chimney dimensions . . .
Water density—Variation with temperature . . .
Hot water service . . .
Velocity head for airflow . . .
Resistance to airflow in circular metal ducts.

You will find much of interest and importance in this Brightside publication. We shall be pleased to send you a copy.

BRIGHTSIDE

BRIGHTSIDE HEATING & ENGINEERING CO. LTD. SHEFFIELD
and at: BELFAST · BIRMINGHAM · BRADFORD · BRISTOL · EDINBURGH · GLASGOW
LIVERPOOL · LONDON · MANCHESTER · NEWCASTLE · PORTSMOUTH



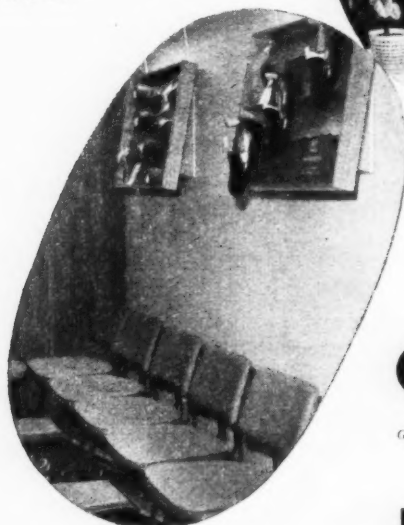


A single (and singular) design element unites a modern shoe shop, a luxury hotel, an American-style snack bar and a station waiting room. The link is wall covering made with Geon PVC.

Wherever Geon is used, as upholstery or wall covering, floor covering or curtaining, it contrasts, or harmonises, superbly with fabric, metal, wood, glass or stone.

PVC coated fabrics made with Geon PVC are available in a virtually unlimited range of colours . . . are scratch and stain resistant . . . can be cleaned with soap and water . . . last for years without loss of tone or texture.

For further information about Geon PVC write for Booklet No. 128.



1 The 'Wimpey' Lyons Corner House, London

2 The Dining Room, Green Park Hotel

3 The Ladies Waiting Room, Newcastle Station

4 The Dolcis Shoe Shop, Worthing

Leathercloth by Jas. Williamson and Sons Ltd. and Arlington Plastics Development Ltd. using Geon PVC



Geon is a reg'd trade mark

British Geon Limited

Sales and Technical Service Devonshire House Piccadilly London W1 MAYfair 6867



Every man with Evomastic is armed to defeat high costs

THIS BROCHURE TELLS YOU HOW AND WHY •

Here are basic technical and economic facts that every Builder and Architect should consider. Send for your copy of this comprehensive brochure today. It illustrates the versatility of Evomastics and explains why these modern gap and joint sealing compounds are technically better and so much cheaper to use. Simply attach your letter-head to this coupon and post now.



See Our Exhibit

Evomastic—the seal of certainty

Stand No. 259/260

A SUBSIDIARY OF



OF STAFFORD

EVOMASTICS LTD., COMMON ROAD, STAFFORD
TELEPHONE: STAFFORD 2241 (5 LINES)
LONDON OFFICE: 1 VICTORIA STREET, S.W.1. ABBey 4622

Pin business card here EVOMASTICS 1

NAME

ADDRESS

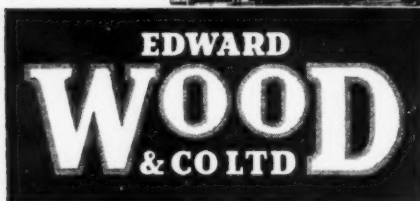
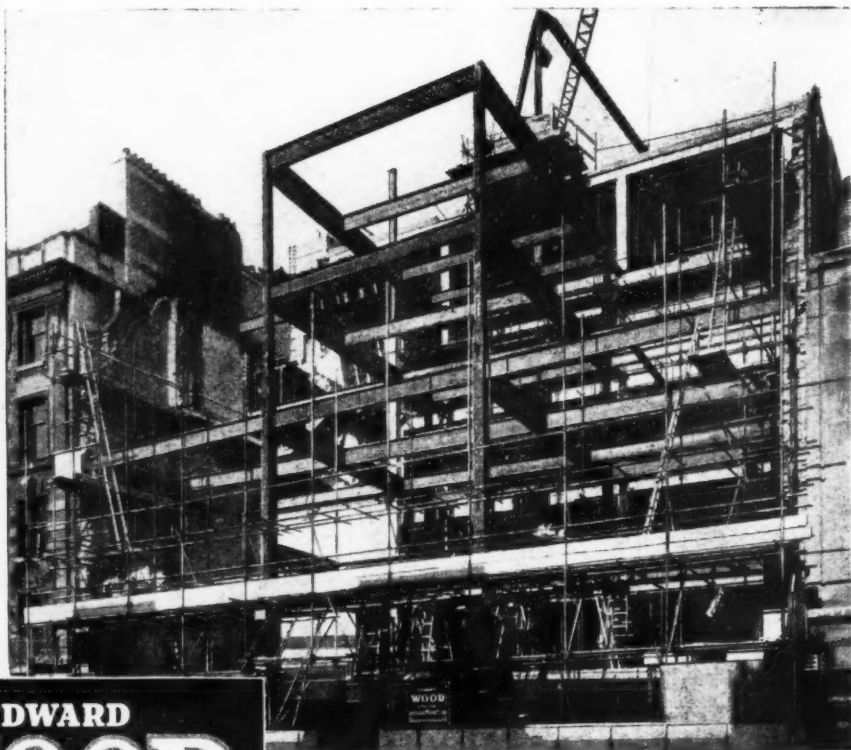
COMPANY

BUILDING MANUAL AND DETAILS
WILL BE SENT BY RETURN

Landmarks of the Future



Architect: G. S. Hay, A.R.I.B.A.
Architects' Dept.: C.W.S. Limited
Manchester.



**CONSTRUCTIONAL
ENGINEERS**

Deansgate, Manchester, is the site of this striking new building at present under construction for Co-operative Emporium Ltd. Bringing a new department store into the heart of Manchester's Shopping area, this will be another landmark with Steelwork by Edward Wood & Co. Limited.

Registered Office and Works:

OCEAN IRONWORKS · TRAFFORD PARK · MANCHESTER 17

London Office: 68 Victoria Street, S.W.1 Telephone: VICTORIA 1331/2

Technical Offices at Birmingham and Nottingham

An inexpensive and attractive alternative to Glazed Tiling

A glazed, easily cleaned wall surface is frequently required in canteens, schools, hospitals and many industries. Often, cost prohibits the use of glazed wall tiles and to this problem, **TYLEX** is the complete answer. **TYLEX** is applied like a paint, *with no joints to harbour dirt or bacteria* and is completely resistant to the effects of steam, grease, moisture and chemicals. It can be applied without preliminary sealing treatment to new or old wall surfaces and withstands frequent washing without losing its hard, brilliant glaze. The cost of **TYLEX** is comparable with that of a good quality paint. We shall be glad to send full details, together with a shade card showing the wide range of colours.

TRETOL LTD., THE HYDE, LONDON, N.W.9.
Telephone: Colindale 7223 (10 lines)

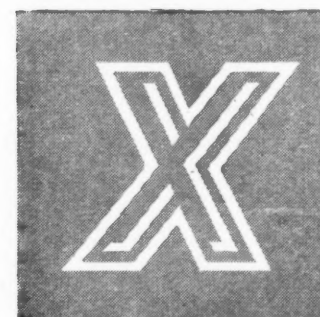
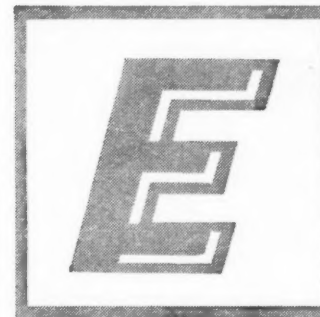
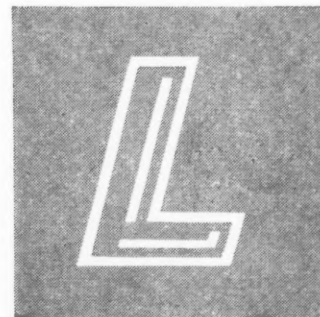
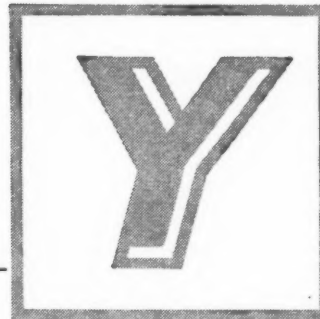
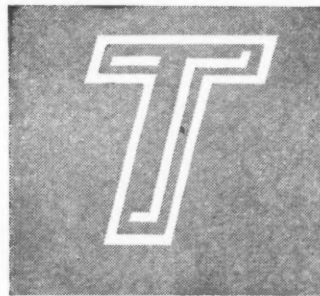
T Y L E X

The Tile-Like Finish for Walls



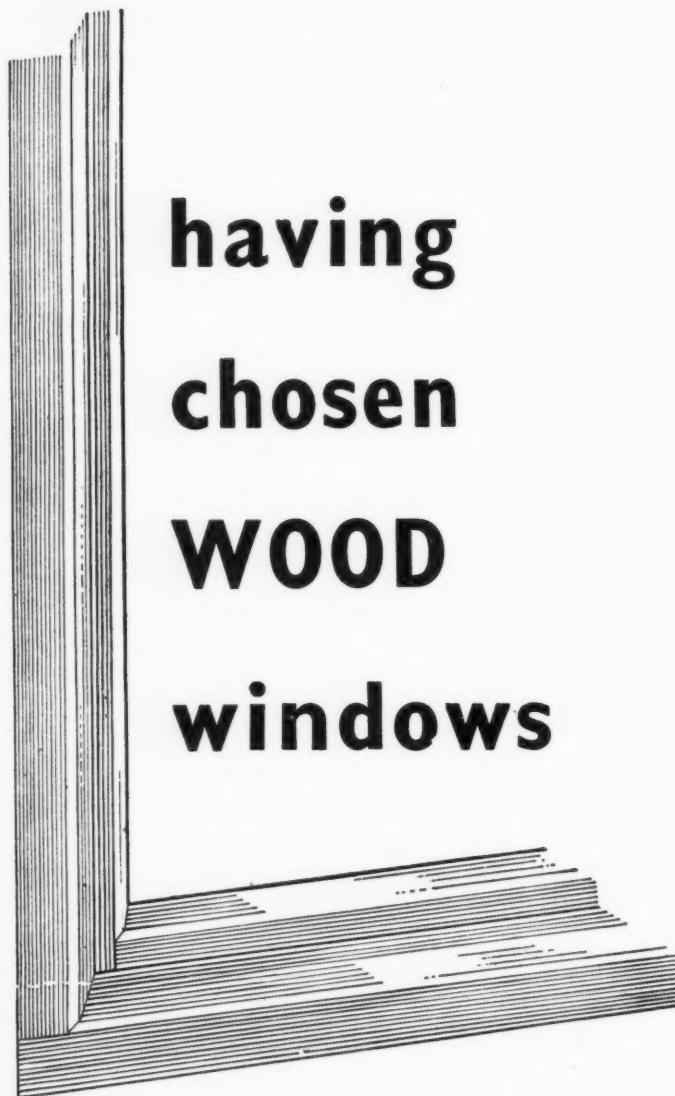
See Our Exhibit

Stand 153 Row H



For walls of hospital wards and corridors, sterilizing

rooms, kitchens, lavatories, bakeries, brewhouses, food factories, indoor swimming-baths, laundries, etc.



**having
chosen
WOOD
windows**

You are free to use—utmost flexibility in planning in the sure knowledge that WOOD is the ideal material for modern windows. With its friendly charm it combines adaptability with economic cost and maintenance. Its use minimises heat losses and sound transmission and reduces condensation.

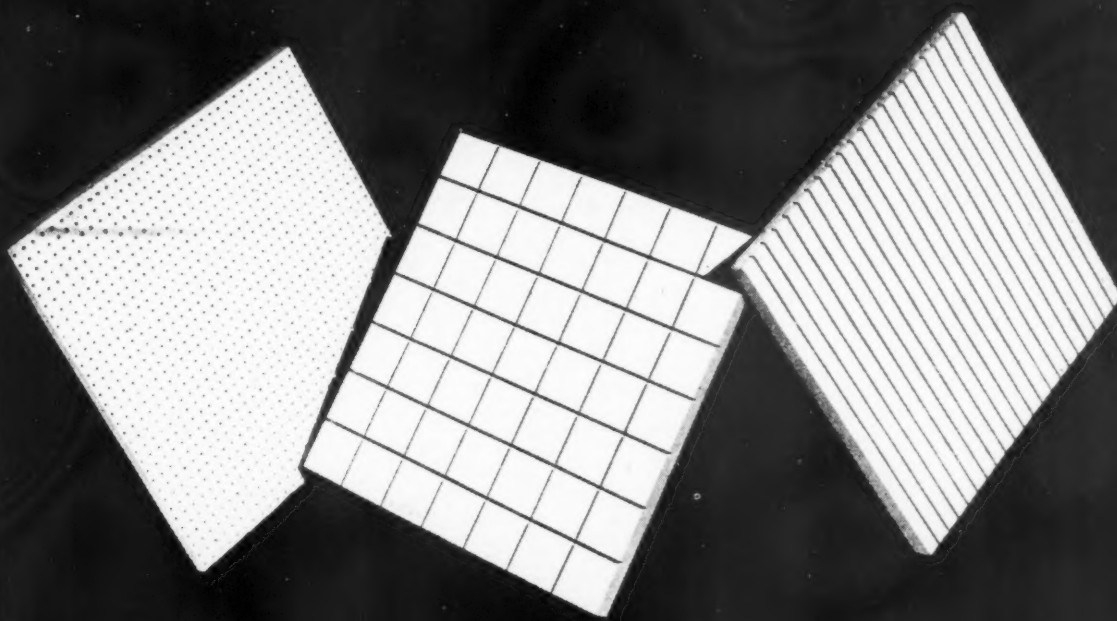
SHARP BROS. & KNIGHT LTD.



Head Office and Works :
BURTON-ON-TRENT

London Office : LION HOUSE,
RED LION STREET, RICHMOND, SURREY

NEW LOOK



in ACOUSTICS!

- ★ Swiss pressed wood-fibre Perforated, Rilled and Chequered acoustic tiles, (shown left, right and centre above).
- ★ Contemporary acoustic wall and ceiling treatments in new and decorative materials.
- ★ High acoustic efficiency, absorption co-efficients increasing progressively from 0.45 at 250 c.p.s. up to 0.90 at 4,000 c.p.s.
- ★ Low thermal conductivity (0.35 B.T.U./in./sq.ft./hr./°F diff.) thus providing valuable heat conservation at no extra cost.

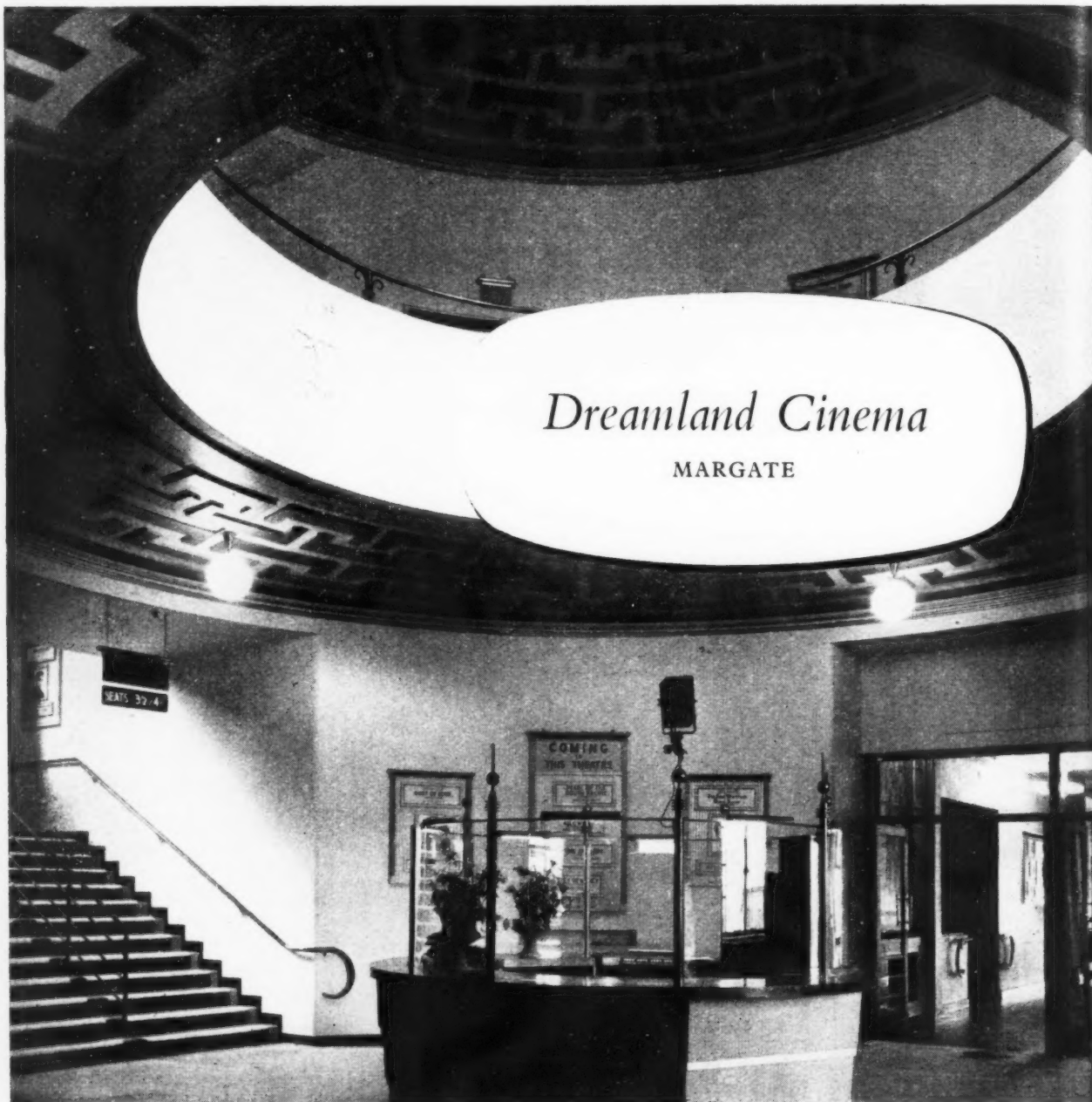
Surveys, estimates, designs & specifications without obligation

HERMESEAL

HERMESEAL ACOUSTICS LIMITED

HEAD OFFICE: 4 PARK LANE, LONDON, W.1. Telephone: GROsvenor 4324 (5 lines).





Contractor: P.C.S. Ltd.

WHETHER a building is designed in traditional or contemporary style, Robbialac Colorizer Paints allow the architect almost unlimited scope for the imaginative use of colour. With their unrivalled range of 999 colours in Super Gloss Enamel and 99 colours in Emulsion Paint, they combine unique colour flexibility with a quality of finish that provides complete protection for all paintable surfaces both inside and outside the building.



The Architectural Bureau

of Jenson & Nicholson Ltd. offers a complete colour advisory service and, if required, full on-site co-operation, to architects and their contractors. A technical brochure is available on request.

ROBBIALAC *Colorizer* **PAINTS**
TRADE MARK

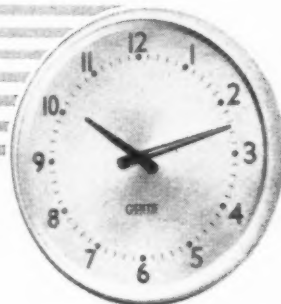
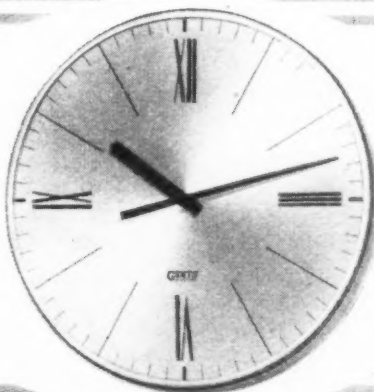
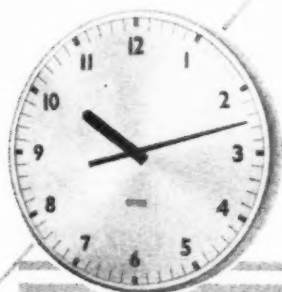
SUPER GLOSS ENAMEL EMULSION PAINT
Suede Finish Eggshell Enamel

JENSON & NICHOLSON LTD · DEPT. A711, 36 ST. JAMES'S STREET · LONDON SW1 · HYDE PARK 6060

Selected by The Council of Industrial Design

for display in

THE DESIGN CENTRE



These three models have been specially designed *exclusively* for this Company by Jack Howe, F.R.I.B.A., F.S.I.A. They are available in both 9" and 12" dial size and will be appreciated for their suitability where clocks of modern design are required. All models are available for Synchronous or Master Clock operation.

GENTS'
OF LEICESTER

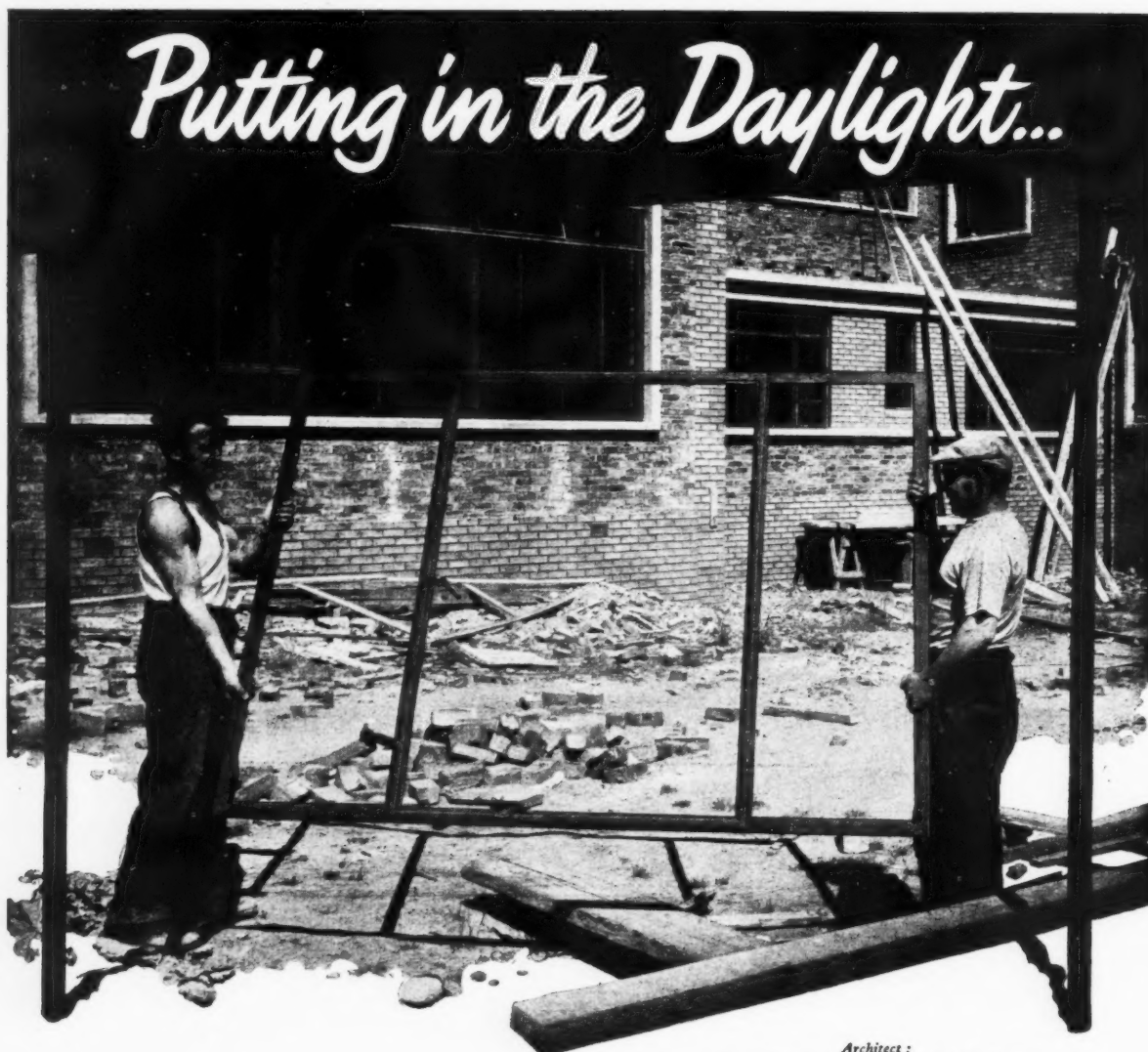
ELECTRIC CLOCKS



For further details write for our illustrated leaflet "Time for Business".
GENT & COMPANY LIMITED • FARADAY WORKS • LEICESTER
London Office & Showrooms: 47 Victoria St., London S.W.1.

Also at: BELFAST • BIRMINGHAM • BRISTOL • EDINBURGH • GLASGOW • NEWCASTLE

Other Products include: TIME RECORDERS • WATCHMAN'S CLOCKS • PROGRAMME INSTRUMENTS • LUMINOUS CALL SYSTEMS
TOWER CLOCKS • FIRE ALARM SYSTEMS • STAFF LOCATION SYSTEMS • BELL AND INDICATOR SYSTEMS • ETC.

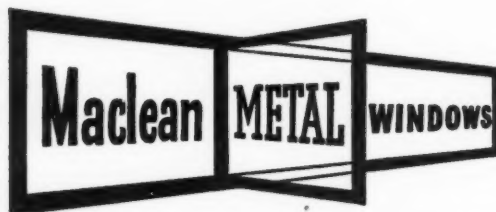


Architect :
Joseph Wilson, F.R.I.B.A., F.R.I.A.S., Glasgow

FOXBAR PRIMARY SCHOOL No. 1 PAISLEY

There goes another Maclean Metal Window straight from the Hamilton factory to the site, ready to offer the maximum protection against the worst of weather, take fullest advantage of the fine days. Throughout the seasons they

keep their shape and form, protected from rust by their electro-galvanised coating, which is applied in the largest Electro Galvanising Plant in Britain, plus two coats of paint each stoved on separately.



OF HAMILTON

MACLEAN & CO. (Metal Windows) LTD. CADZOW WORKS, LOW WATERS ROAD, HAMILTON, Lanarkshire. Hamilton 1410-4

ABERDEEN
13, Bridge Street.
Tel: Aberdeen 52331.

EDINBURGH
7, Albany Street.
Tel: Waverley 2190.

NEWCASTLE
14a, Pilgrim Street.
Tel: Newcastle 27776.

BELFAST
32, Ann Street.
Tel: Belfast 32003.

SHEFFIELD
Trinity Works, Eyre Street.
Tel: Sheffield 20162.

LIVERPOOL
39, Gardners Row, Bevington Bush.
Tel: North 0491.

LONDON
36, High Holborn.
Tel: Holborn 2462.

BIRMINGHAM
Selly Oak.
Tel: Selly Oak 1188.

DERBY
Friargate Works.
Tel: Derby 48227.



Prefabricated components make PLYMAX cubicles

simple to specify

easy to erect

W.C. Compartments • Showers • Cubicles in

PLYMAX

THE **VENESTA** METAL FACED PLYWOOD

...and a specialised PLYMAX for a specialised job

LEAD PLYMAX for X-Ray protection

High quality lead sheet cemented between plywood — Lead Plymax — offers an easy method of providing X-Ray protection. This particular form of PLYMAX is fully detailed in a booklet available on request.

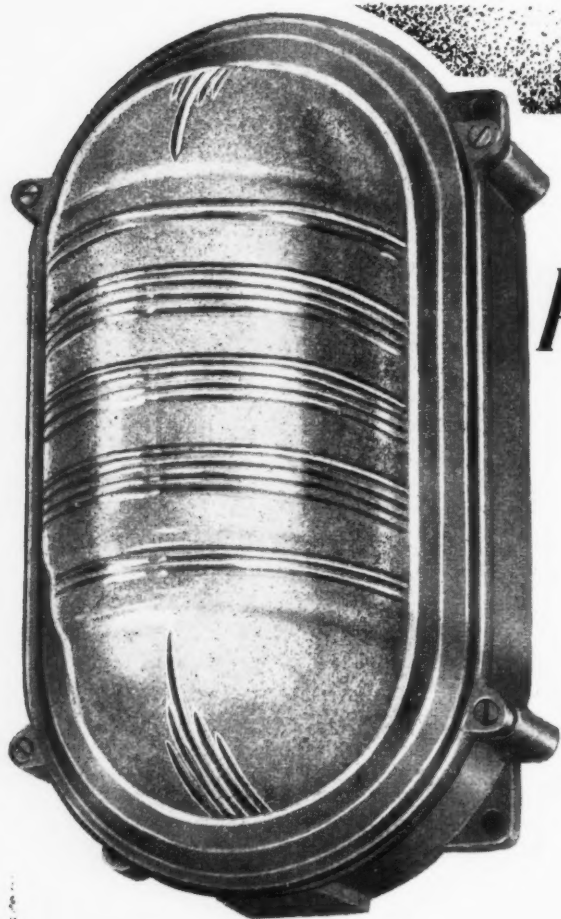
The architect who decides on PLYMAX cubicles does more than save himself needless work on the drawing board; he saves time and labour on the site. They arrive prefabricated, ready for immediate erection. They are rigid and light in weight and easy to handle. They are simple to clean and offer a good surface for paint or cellulose. Samples of PLYMAX, together with full details, will be sent on request.

VENESTA LIMITED

Plywood Division, Vintry House,
Queen Street Place, London EC4 Tel: Central 3040

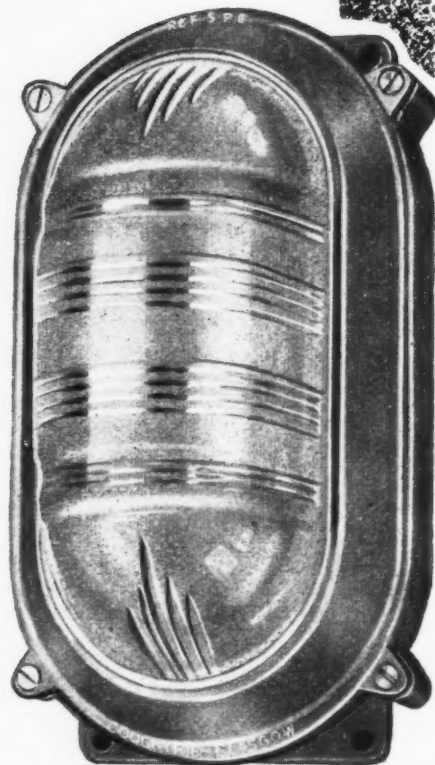


PRISMATIC FITTINGS



List No. SP. 10
100/150 Watt.

*Stocked by all
leading Electrical
Wholesalers*



List No. SP. 6
60/100 Watt.

CATALOGUE AVAILABLE ON REQUEST

MANUFACTURED AT HILLINGTON, GLASGOW, S.W.2
by J. & G. COUGHTRIE Ltd.



*Above: Bishops Bridge Road Flats.
Architects: Drake and Lasdun, A./F.R.I.B.A.*

Top: L.C.C. Flats, Roehampton Lane. Architects Dept., L.C.C.

*Centre: National Dock Labour Board Offices.
Architect: Frederick Gibberd, C.B.E., F.R.I.B.A., M.T.P.I.*

*Bottom: L.C.C. Primary School Paddington.
Architects: Drake and Lasdun, A./F.R.I.B.A.*

The Modular Concrete Co. Ltd., are specialists in the production and erection of reinforced concrete construction, both precast and in situ, as well as precast columns, beams, floor and roof units, stairflights, and landings. The exposed aggregates used for external cladding and wall units offer a very considerable range of colour and finish. They are drawn from practically every county in Great Britain.

THE MODULAR CONCRETE CO LTD

Pre-cast Concrete Specialists

STAINES ROAD, BEDFONT, MIDDLESEX

Telephone: Ashford (Middlesex) 2601 & 3827

GYPROC supplied the

roof lining answer to this insulation

problem with . . .

Visit us at the
**BUILDING
EXHIBITION
OLYMPIA**
Stand 32 Row B

GYPSTELE



The many advantages of the GYPSTELE System incorporating Gyproc Plasterboard Panels can be summarised in six main features.

1. Improved thermal insulation with fuel saving.
2. Fire Protection Class 1 flame spread.
3. Simplicity of erection.
4. Increased light reflection.
5. Lightweight "dry" construction.
6. Completely adaptable to individual requirements. The system is worth studying in all its aspects, particularly for use in factories, offices, schools and hospitals.

Write for Information Sheets A22.E1 and A22.E2 for full information.

Insulating Gypstele Roof Lining at The Preconomy Co. Ltd., Priestscic Road, Sutton-in-Ashfield, Notts.

Contractors: E. H. Smith (Westhaven) Ltd., Birmingham 7

GYPROC PRODUCTS LIMITED

Head Office: Singlewell Road, Gravesend, Kent. Gravesend 4251/4

Glasgow Office: Gyproc Wharf, Shieldhall, Glasgow S.W.1. Govan 2141/3

Midland Sales Office: 11 Musters Road, West Bridgford, Nottingham. Nottingham 82101

London Office: Bath House, 82 Piccadilly, London W.1. Grosvenor 4617/9

S/GS2



TWO NEW
NATURAL COLOURED FACING BRICKS
produced by
THE IBSTOCK BRICK & TILE CO. LTD.

In order to meet the demand for a reasonably priced *natural coloured* sandfaced brick, we are now producing two new bricks in this field

IBSTOCK Buff-Multi Sandfaced Brick

This is a natural coloured buff/brown multi coloured brick, similar in colour to our buff - multi rustic but with a sandfaced finish.

IBSTOCK Old English Sandfaced Brick

This is also a natural coloured sandfaced brick ranging in shade from a red-brown, a salmon-brown and a pale brown with a slightly roughened sandfaced texture.

Prompt delivery from stock can be arranged at present of either type in $2\frac{5}{8}$ " and $2\frac{7}{8}$ " sizes.

Send for samples and full particulars.

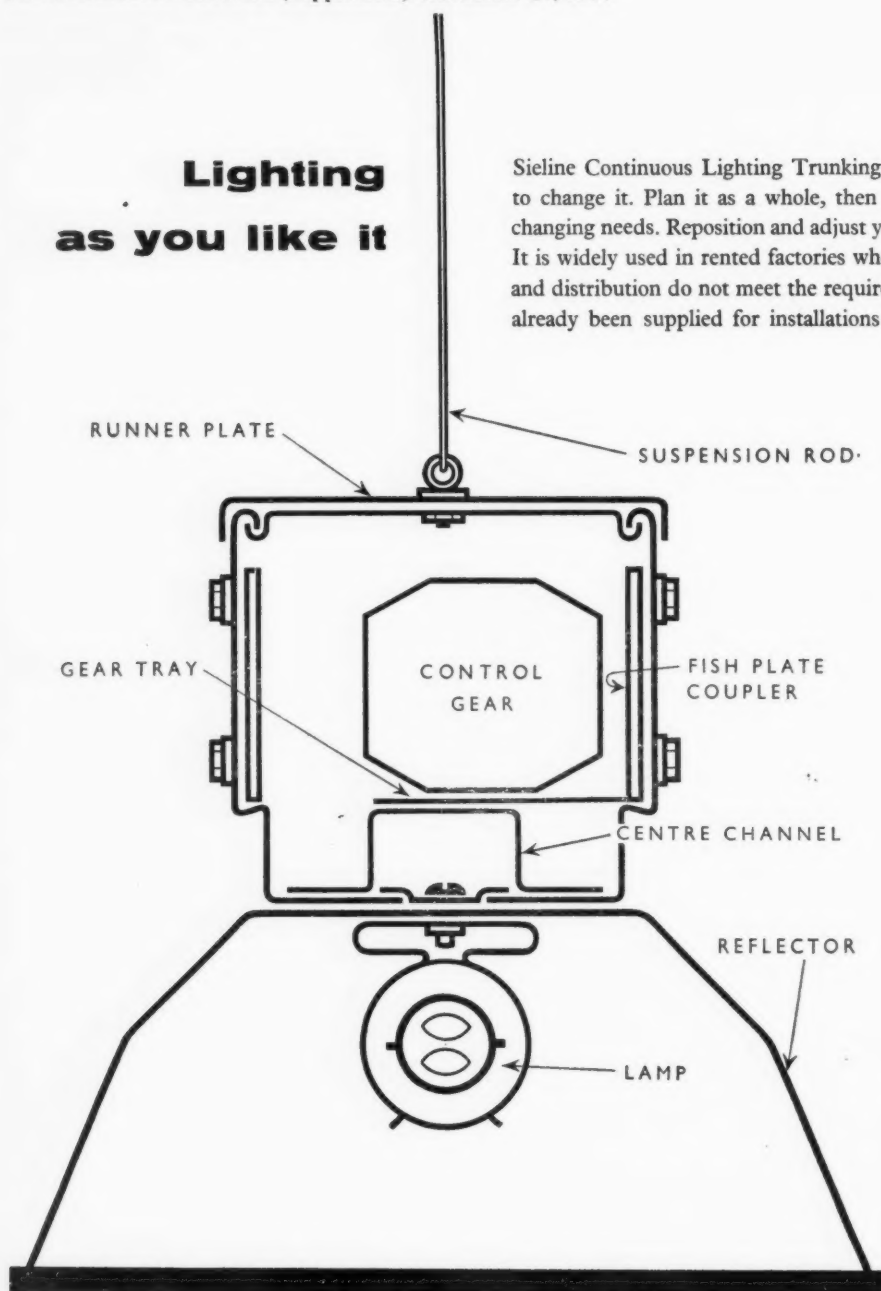
Ibstock

FACING BRICKS

THE IBSTOCK BRICK & TILE COMPANY LTD., Ibstock, near Leicester Phone : Ibstock 591 (3 lines)
London : L.M.R. Goods Depot, Wright's Lane, Kensington, W.8 Phone : Western 1281 (2 Lines)

Lighting as you like it

Sieline Continuous Lighting Trunking is permanent—until you want to change it. Plan it as a whole, then alter it piecemeal to suit your changing needs. Reposition and adjust your lighting as often as you like. It is widely used in rented factories where the standard lighting power and distribution do not meet the requirements of the tenant, and it has already been supplied for installations costing from £20 to £20,000.

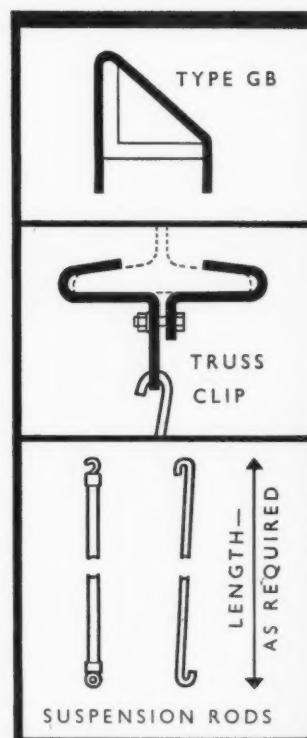


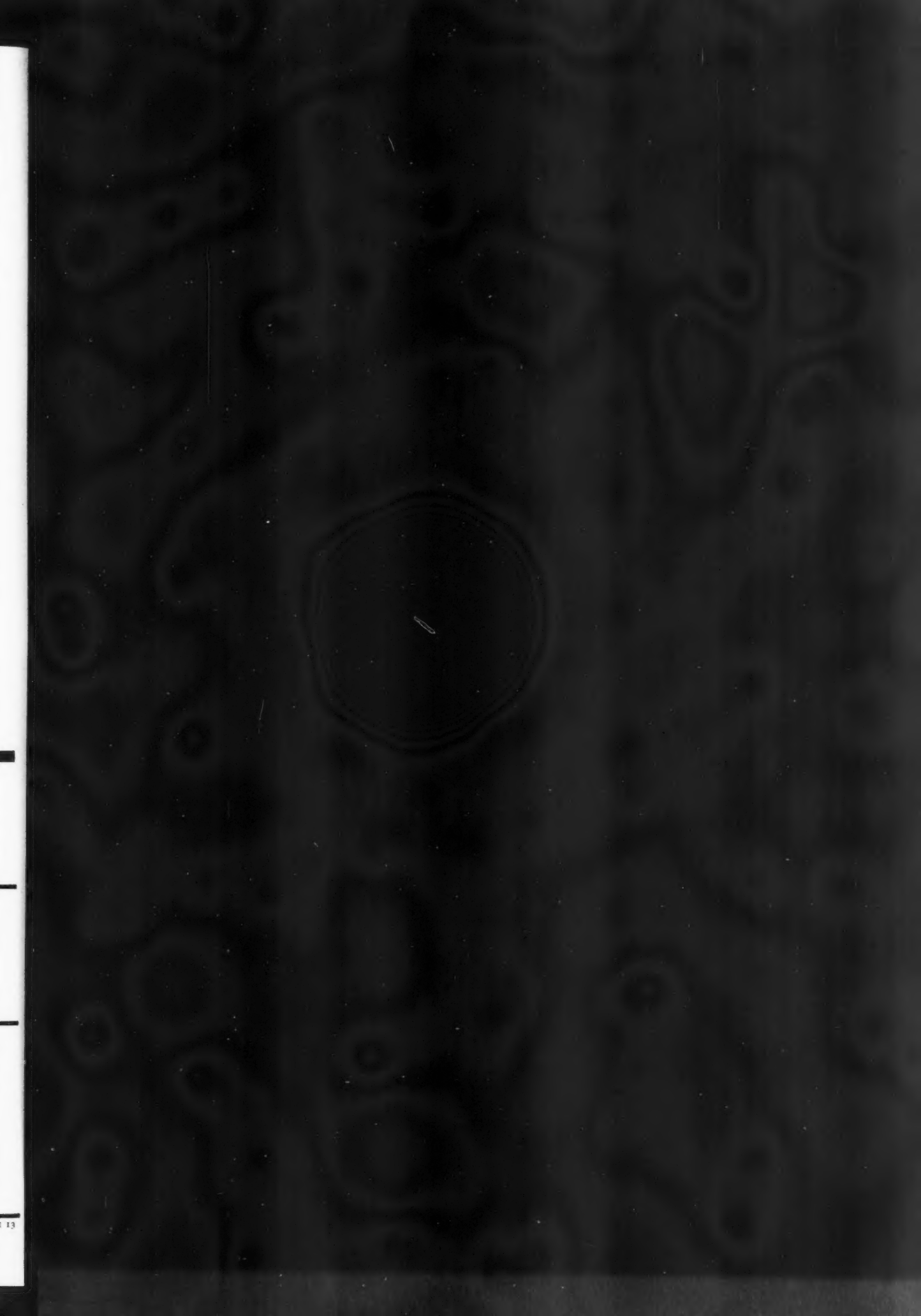
The trunking is delivered in an advanced state of assembly for easy erection. Control gear and lighting units can be spaced at any intervals. A complete range of suspensions (specimens illustrated) provides for erection under any type of roof. If you would like complete information about Sieline Continuous Lighting Trunking, write for leaflet F.22 or get in touch with your local Siemens Ediswan lighting engineer for advice—no obligation.

SIELINE continuous lighting trunking



SIEMENS EDISON SWAN LIMITED *An A.E.I. Company*
Lamps & Lighting Division: 38/39 Upper Thames Street, London, E.C.4
Telephone: CENtral 2332. Telegrams: Sieswan Westcent London





HIGGS ^{AND} HILL
LIMITED

LONDON

LEEDS

COVENTRY

JAMAICA, B.W. I.

Architects are invited to write for the
"SMITHSON HANDBOOK OF PAINTS & PAINTING PRACTICE"

Smithson

HARD GLOSS PAINT

THOMAS SMITH & SON LIMITED

238-240 WHITECHAPEL RD., LONDON, E.1.

TELEPHONE: BISHOPSGATE 3717-8-9

MAKERS OF FINE PAINTS & ENAMELS SINCE 1790



one-third

**OF THE HEAT-LOSS FROM A HOUSE
IS THROUGH THE WALLS**

Did you know that no less than one-third of the heat-loss from a house is through the walls? Timber frame walling with brick or other facing has a substantially better insulation value than that recommended by the Ministry of Works Housing Manual. In fact this method of construction would cut heat-loss through the walls of the average British house by nearly two-thirds! This means higher heat conservation, lower fuel bills, fewer frozen pipes and a warmer house.

Better Insulation—Fuel Saved—Greater Comfort

Timber frame construction makes possible new standards of insulation for the nation's homes. Household fuel bills can be cut by 10%—17% using economical, quickly-erected timber frame walling, with either brick, board or stucco facing.

Timber Frame Construction answers the need for Better, Warmer Housing at lower cost

More houses . . . faster completion . . . higher standards of warmth and comfort . . . and at lower cost! Britain's housing programmes badly need every one of these features today. *Timber Frame Construction makes them all practical possibilities.*

CONSULT T.D.A.

for full information on the advantages of timber frame construction.

THIS WINTER avoid
setbacks to drain laying plans
by specifying **KEY** pipes

Key Pitch Fibre drainage pipes can be laid in all weathers. There are no hold-ups for frost, snow or rain because the simple system of jointing requires no cement or other sealing compounds. Precision-machined taper joints are tapped into place giving a perfect fit, so that the drain can be tested immediately on completion and the trench back-filled right away.

Plan now for this winter with Key Pitch Fibre pipes. They ensure that your building schedules do not fall behind while drain laying waits for the 'right' weather.

*Visit our stand at the
Building Exhibition, Olympia,
H.144, Grand Hall, Ground Floor*



Get to know more about
KEY Pitch Fibre Pipes

TGA KD9 A

Smooth bore and clean joints

Key Pitch Fibre pipes have precision-machined taper joints which require no mortar or compounds. Combined with their smooth bore, this means a high flow factor, with no problems of root growth.



No cracking through settlement

The resilience of pitch fibre pipes ensures that no cracking occurs under normal conditions of earth settlement. This also means that bedding concrete is unnecessary.



Resistant to corrosion

Key pipes are vacuum-impregnated with pitch and are non-porous and resistant to normal effluent corrosives throughout their thickness.

Maximum loan period

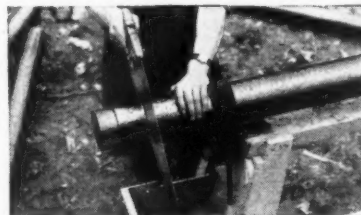
The 30-year loan period applies to all Key Drain pipes. Pitch fibre pipes have been used with notable success in the United States for over 50 years.



A piece of heavy timber is placed against the coupling and a length knocked home.



The precision-machined taper joints require no mortar or jointing compounds.



Short lengths of pipe can be cut with a coarse toothed handsaw.



A special hand lathe is used for cutting joints on short lengths.

SPEEDING THE JOB - CUTTING THE COST

500 feet an hour is a modest rate for laying Key pipes. The simple system of jointing also ensures that the pipe can be laid in all weathers. Because there is no cement to dry out, the completed drain can be tested immediately and the trench back-filled without delay. When contracts must be carried out to a tight schedule these advantages are well worth bearing in mind. On a cost plus labour basis, pitch fibre pipes are cheaper per installed foot run than other drainage systems.

Also **KEY** Underfloor Ducting and Cable Conduit

**THOROUGHLY
TESTED AND
APPROVED**

British Standard

Key pipes exceed the requirements of BS 2760/56 for Pitch-impregnated Fibre Drain and Sewer Pipes. This standard was approved by the Bituminous Products Industry Standards Committee consisting of representatives of Government departments and professional bodies, including the following:

Royal Institute of British Architects
Ministry of Housing & Local Government
Ministry of Works
Institution of Civil Engineers
Royal Institute of Chartered Surveyors
D.S.I.R.—Building Research Station
Institution of Public Health Engineers
London County Council

Ministry of Health Model Bye Laws

Pitch fibre pipes are deemed to comply with M.O.H. Bye Law requirements.

Building Research Station Report

Key Pipes were tested by this body and given a favourable report.

Other approving bodies
Federation Civil Engineering Contractors.

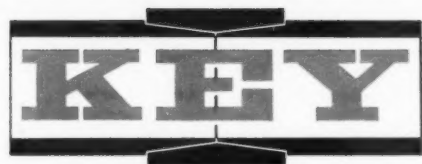
National Federation of Building Trade Employers.

Royal Society for the Promotion of Health.

Many local authorities have installed KEY pipes

Test Results

Key pipes have been subjected to detailed physical tests.



PITCH FIBRE PIPES

The world's finest and most modern drainage system

A PRODUCT OF **KEY ENGINEERING COMPANY LIMITED**
Larkfield, Nr. Maidstone, Kent. Telephone: Maidstone 7461 & 7233



what do you know

about



Is it wadding, heavy felt, floss?

All three — and much more !
'Fibroceta' can be made as a thick, rigid felt
... or as light as swansdown.

Is it easy to handle?

Very : cohesive — no 'whiskering' — no
dust. No damage to skin. And, of course,
Bonded 'Fibroceta' is light.

Is it easy to work?

Exceptionally easy (and pleasant !): as a
thermal and sound insulant it is supplied in
roll or sheet form in widths up to 76".
And all Bonded 'Fibroceta' is *eminently suitable*
for R.F. welding.

Is it heavy or light?
Other good qualities?

Very light.

It is an excellent sound and thermal insulant.
It's not expensive. It is clean, rot-proof, stable
under vibration, flexible. In fact — the very
characteristics you have been looking for
are probably inherent in Bonded 'Fibroceta'!

know more about

versatile



Continual development and experimental
research is proceeding on Bonded 'Fibroceta': we shall
be glad to co-operate with you in supplying your specific needs.

YOUR ENQUIRIES WELCOMED AT

Courtaulds Limited

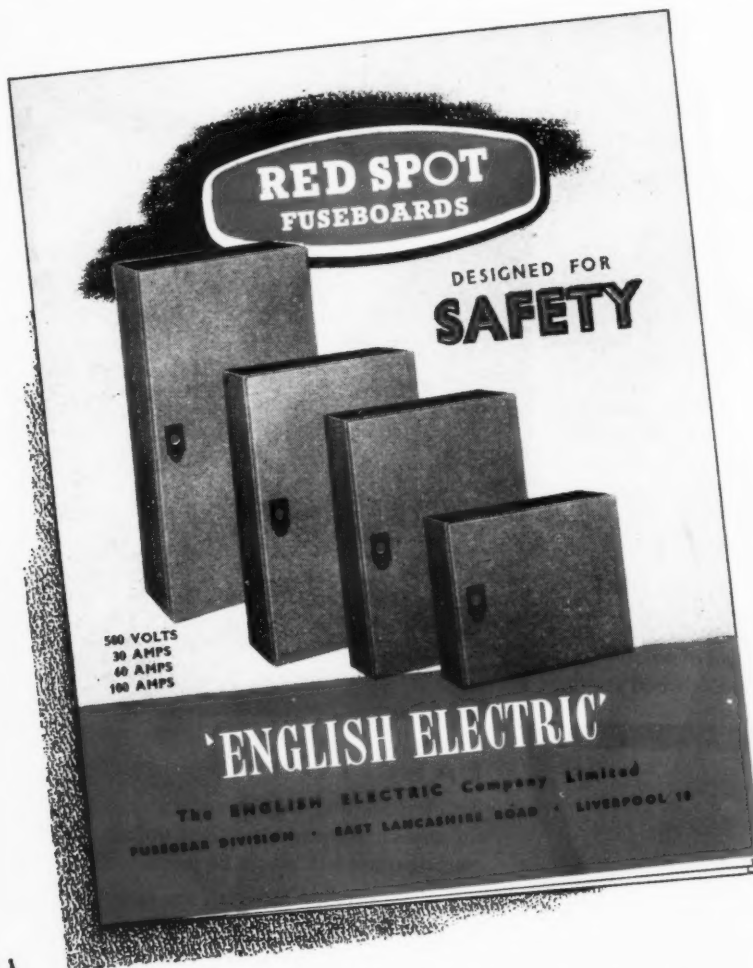
'Fibroceta' Courtaulds Acetate Staple

ACETATE DIVISION, POLESHILL ROAD, COVENTRY. TELEPHONE: COVENTRY 88771

72-2

A NEW DESIGN

providing greater safety to operating personnel is described in this publication



Have you received your copy?

If not, write for Publication FG/133 to:
The ENGLISH ELECTRIC Company Limited,
Fusegear Division,
East Lancashire Road, Liverpool 10.

Stocks of 30, 60 and 100 amp.
sizes are now available.

'ENGLISH ELECTRIC'

fusegear

THE ENGLISH ELECTRIC COMPANY LIMITED, MARCONI HOUSE, STRAND, LONDON, W.C.2
WORKS: STAFFORD • PRESTON • RUGBY • BRADFORD • LIVERPOOL • ACCRINGTON
FG. 28A F7

Plan with **PANAX** MELAMINE SURFACE PLASTIC

DECORATIVE-DURABLE

with endless possibilities for surface application

CUTS COSTS

PANAX, while being more heat resistant, more flexible than otherwise comparable laminates, is highly competitive in cost.

PANAX is ivory-hard, micro-smooth, non-absorbent, and of high dimensional stability. It is proof against heat up to 320° F.; resistant to oil, water, mild acids and alkalis; stain resistant and easily kept bright and clean.

Satin finish in a wide range of colours and attractive designs, including wood grains.

EASY TO FIX

with impact adhesives. An adhesive suitable for any surface and conditions under consideration will gladly be recommended.

A variety of fixing materials are also available, including slotted extruded aluminium sections, wood quadrants, covings, dado mouldings and flat cover strip in finishes to match PANAX Panels.

specify ..



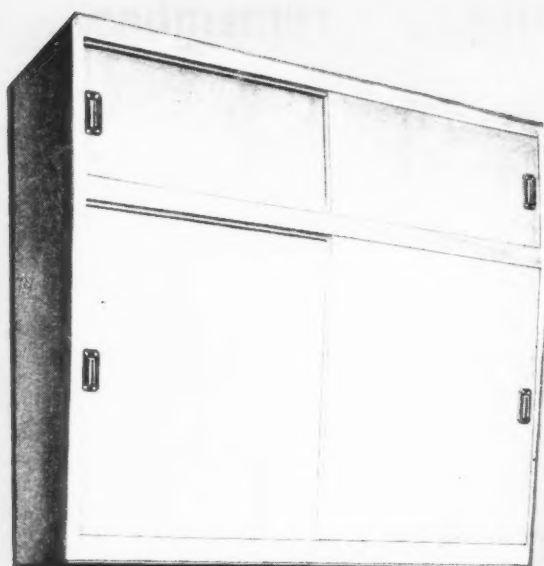
MELAMINE SURFACE PLASTIC

FOR SHOPS, SHIPS, HOMES,
HOTELS, HOSPITALS,
RESTAURANTS, CAFES,
CANTEENS, CLINICS,
CINEMAS, COACHES, ETC.

SAMPLES AND INFORMATION FREELY AVAILABLE ON REQUEST TO:-

NORTH BRITISH PLASTICS LIMITED Blaydon, Co. Durham. Phone: Blaydon 346/9. Telegrams Panax, Blaydon-on-Tyne.





- Kingston improved 'Scandinavian' Kitchen Fitments will ease the problem of planning restricted kitchen space.
- They have been developed as a result of considerable experience in the manufacture of first quality joinery and create a perfect blend of contemporary design and traditional craftsmanship.
- They have a large cubic capacity of storage space.
- Space saving sliding doors are incorporated in both floor and wall units.
- The wall units have a receding front providing maximum access to the working top of the floor units.

Illustrated brochure on request.

KINGSTON

New Design

SCANDINAVIAN KITCHEN FITMENTS

offer these advantages



- **Framing:** Flush plywood ends on stout framing, the plywood being applied under pressure using Urea Resin adhesive.
- **Doors:** All doors are of $\frac{3}{4}$ " solid blockboard, with blemish free flush faces. They have solid tongued runners at the base and hardwood guides at the top.
- **Shelves:** The floor unit shelves consist of a framing, jointed at angles, covered on one face with plywood, glued and pinned securely in position. The wall unit shelf is of solid timber.
- **Drawers:** These consist of solid 1" parana pine fronts dovetailed to solid timber sides and back. The drawer bottom is of 5 mm. plywood which is grooved into the front.

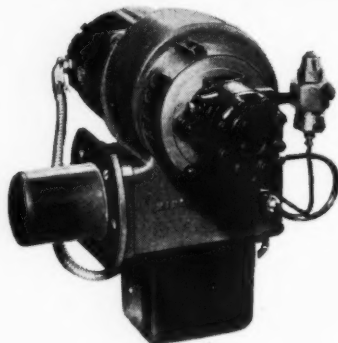
When installing oil burning ... remember...

IT TAKES

ONLY

EIGHT HOURS

WITH



Type Minor Special—
40,000 to 160,000 B.T.U's. per hour

Please write for details of our complete range of burners for Domestic or Industrial use, burning Gas Oil (35 secs.) or heavier oil (200 secs.) Over 10,000 are now in use.

CTC can convert most solid fuel boilers to oil burning in one working day. And remember only CTC oil burners have these advantages:—

HIGH PRESSURE adjustable up to 300 lbs. p.s.i., ensuring complete atomisation and better combustion.

NO VARIATION of pressure or flame.

JETS GUARANTEED for capacity ± 5 per cent. with spray angles, accuracy within 5 deg.

EASY INSTALLATION with oil storage above or below ground.

MODELS for 40,000 up to 3,000,000 B.T.U's. per hour.



HEAT LTD

17, SLOANE STREET,
LONDON, S.W.1

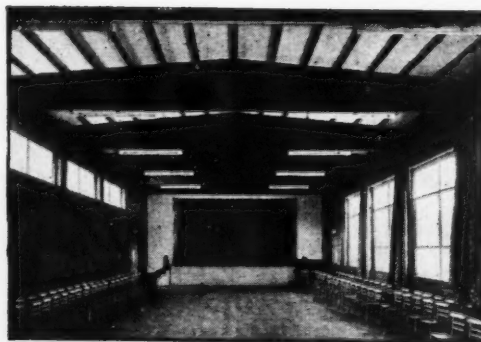
Tel.: BELgravia 3478/8286

Preformed

TIMBER ROOF TRUSSES



100 FEET
CLEAR SPAN



A NEW, PATENTED FORM OF ROOF TRUSS SUITABLE FOR SPANS OF APPROXIMATELY 35 FT. PARTICULARLY SUITABLE FOR SCHOOLS, PUBLIC HALLS, ETC., WHERE EXTERNAL APPEARANCE AS WELL AS STRUCTURAL STRENGTH IS OF IMPORTANCE.

SEND FOR FULL DETAILS AND DESCRIPTIVE LEAFLET.

CW.2723

WILLIAM KAY [BOLTON] LIMITED, BARK STREET., BOLTON, LANCASHIRE. TEL 3925/6/7.

THE WAY TO BUILD

Building today is not the hit-and-miss rule of thumb business it used to be. Instead of months on an open site at the mercy of wind and weather, the building worker now achieves a "roofed-in" building in a few days. This is possible using large timber-framed components which have been pre-assembled in the factory using modern machine techniques. Medway unit systems of construction provide attractive buildings more economically as well as more quickly.

Medway systems are adaptable for every type of single storey structure including :
SCHOOLS · CANTEENS · SOCIAL HALLS · LIBRARIES
FACTORY BUILDINGS · OFFICES · SHOPS
HOSPITALS and HEALTH CENTRES · SPORTS PAVILIONS
HOSTELS · COMMUNITY CENTRES, ETC.



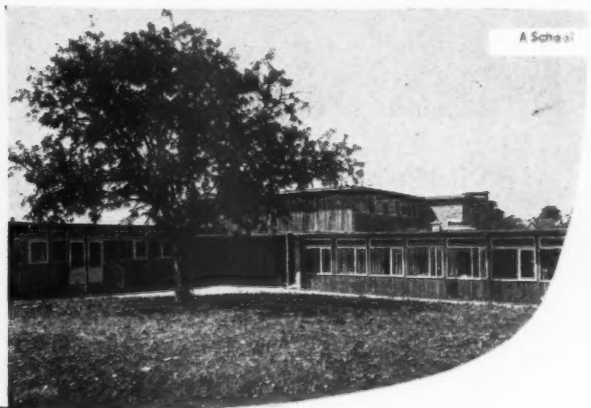
Office accommodation



Sports Pavilion



Research laboratory



A School

MEDWAY TIMBER BUILDINGS

MEDWAY BUILDINGS & SUPPLIES LTD
Telephone

PHOENIX WHARF, ROCHESTER, KENT
STROOD 7521

AP 22

For a better job every time—

Ease of cleaning, attractive colourful patterns make hard wearing WARERITE Plastics ideal for counters, shelves, table tops, kitchen fitments and other surfaces, in shops, showrooms, restaurants, hotels and bars.

The country-wide WARERITE Specialist Service provides prompt and expert fabrication and veneering of WARERITE Plastics.



◀ In the A.B.C. Empire Restaurant, Victoria, S.W.I., WARERITE Birdseye Maple has been used for the flush doors, canopy, wall panelling, counter front and pillars.

Hygienic, easily cleaned and hard-wearing WARERITE Plastics need no painting and so reduce maintenance costs to a minimum.

Counter fitments : Sumerling & Co. Ltd.

**Veneering and Fabrication :
A WARERITE SPECIALIST.**

▶ The walls of the branch of Boots Pure Drug Co. Ltd., at King Edward Street, Hull, are panelled in WARERITE Veneered Plywood in Green Finaweave pattern. Stylised lion motifs designed by the architects in metallic foil were incorporated in the WARERITE. WARERITE Yellow Finaweave pattern was used for panelling the staircase.

**Design: The Architects Dept.,
Boots Pure Drug Co. Ltd.
Chief Architect,
C. St. C. Oakes, F.R.I.B.A.
Contractors : Spooners (Hull)
Ltd.**

**Veneering and Fabrication :
A WARERITE SPECIALIST.**



call in your **WARERITE** Specialist



◀ This public bar in the Bull and Star Hotel, Putney High Street, London, has a Red Relief WARERITE top. WARERITE Plastics were used extensively in the modernisation of this hotel.

Designer and Contractor:
Druce & Co. Ltd., Baker Street, W.1.

Veneering and Fabrication:
A WARERITE SPECIALIST.

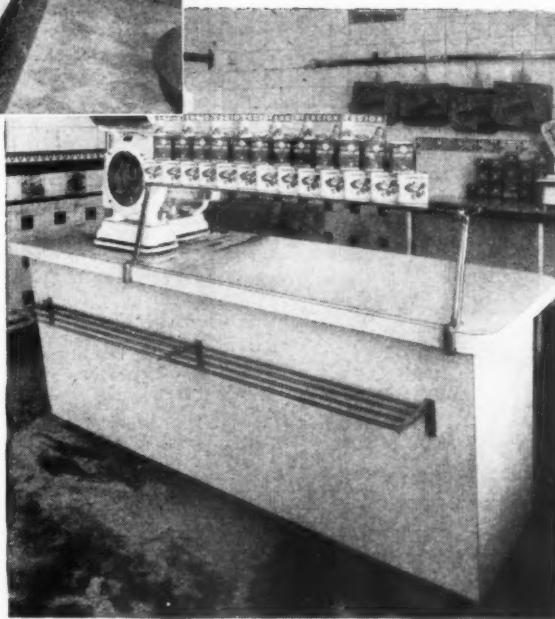
▶ This, and several other fitments in the Butcher's shop of A. E. Fisher (Luton) Ltd., are surfaced with WARERITE Plastics. Ease of cleaning, resistance to staining and hard wear make WARERITE Plastics ideal for the hygienic handling of food.

Installation: Messrs. F. C. H. Jarvis, Harpenden, Herts.

Veneering and Fabrication: A WARERITE SPECIALIST.

WARERITE Specialist Service

WARERITE Specialists supply sheet and cut sizes of WARERITE from stock. They also supply ready-to-fix bar, shop counter, and kitchen fitment tops, etc., expertly fabricated in WARERITE Veneered Plywood. Write to Bakelite Limited for colour booklet and details of the WARERITE Specialist Service.



YOUR LOCAL WARERITE SPECIALIST
IS INCLUDED IN THE LIST OVERLEAF

WARERITE *Plastics with the lovelier patterns*

REGD.

LOOK FOR THE NAME OF YOUR GET TO KNOW HIM—HE WILL

WARERITE Specialists will supply all types of WARERITE -

BEDFORDSHIRE

BEDFORD

JOHN P. WHITE & SONS,
LTD., The Pyghtle Works,
Tel: 3231-2

DUNSTABLE

GIBBS & DANDY LTD.,
4/10 Church Street, Tel: 21

LUTON

GIBBS & DANDY LTD.,
34 George Street, Tel: 4110

BERKSHIRE

BRACKNELL

BAILEY & WHITES
(BRACKNELL) LTD.,
Easthampstead Rd., Tel: 650

READING

WM. RIDLEY & SONS,
Abbey Wall, Abbey Street,
Tel: 54266

BUCKINGHAMSHIRE

BLETCHLEY

A. R. & W. CLEAVER LTD.,
Buckingham Road, Tel: 595

HIGH WYCOMBE

MODERN VENEERING
CO. LTD., Coronation Road,
Cressex Estate, Tel: 2542

HIGH WYCOMBE

WILLIAM SYRED & SON
LTD., Bellfield Rd., Tel: 2584-5

SLOUGH

MILLER, MORRIS &
BROOKER LTD.,
50/65 Uxbridge Rd., Tel: 24021

CAMBRIDGESHIRE

CAMBRIDGE

CYRIL RIDGEON & SON
LTD., Tenison Rd., Tel: 3241

MARCH

CYRIL RIDGEON & SON
LTD., 22 Broad St., Tel: 2230

CHESHIRE

NANTWICH

JAMES ROWLINSON &
SONS (WILLASTON) LTD.,
Victoria Sawmills, Willaston,
near Nantwich,
Tel: Crewe 7287-7433

CUMBERLAND

CARLISLE

HENRY MOAT & SON LTD.,
67/69 Lowther Road, Tel: 25426

DERBYSHIRE

CHESTERFIELD

ARNOLD LAVER & CO.
LTD., West Bars,
Tel: 2509, 3346

DERBY

BUXTON DAWSON LTD.,
206/208 London Rd., Tel: 47441

DEVON

EXETER

ROWE BROS. & CO. LTD.,
Victoria House, 33 Queen St.,
Tel: 74134

NEWTON ABBOT

FABRICATED MICAS
LTD., Hopkins Lane, Tel: 2135

PLYMOUTH

J. F. HUSSELL & CO. LTD.,
Addison Road, Sherwell,
Tel: 63196

DURHAM

DARLINGTON

HENRY MOAT & SON LTD.,
11/15 High Northgate, Tel: 4099

GATESHEAD

THE BUSHBOARD CO.
LTD., Princesway, Team Valley,
Tel: Low Fell 75338

STOCKTON-ON-TEES

HENRY MOAT & SON LTD.,
13/15 Bridge Road, Tel: 66184

SUNDERLAND

HENRY MOAT & SON LTD.,
High Street West, Tel: 2276

ESSEX

CHELMSFORD

JOHN SADD & SONS LTD.,
Baddow Row, Tel: 3411

CLACTON-ON-SEA

JOHN SADD & SONS LTD.,
Station Works, Tel: 1096

HORNCHURCH

JOHN SADD & SONS LTD.,
Sutton's Lane, Tel: 4850

ILFORD

GEORGE E. GRAY LTD.,
Joinant House, Eastern Avenue,
Tel: V.A.L. 2211, 8844

MALDON

JOHN SADD & SONS LTD.,
Station Wharf, Tel: 131

SOUTHEND

JOHN SADD & SONS LTD.,
Grainger Road, Tel: 66607

WESTCLIFF

C. A. STANFORD & CO.
LTD., 551 London Road,
Tel: Southend 49887/8/9

WICKFORD

JOHN SADD & SONS LTD.,
Jersey Gardens, Tel: 3054

GLOUCESTERSHIRE

BRISTOL, 1

ROWE BROS. & CO. LTD.,
39/45 Victoria Street, Tel: 27791

BRISTOL, 4

CHANNEL PLASTICS
LTD., Flowers Hill, Brislington,
Tel: 70205

BRISTOL, 5

JOHN BLAND & CO. LTD.,
69 Stapleton Road, Tel: 58434

GLOUCESTER

WM. T. NICHOLLS LTD.,
St. Paul's Road, Tel: 22215

HAMPSHIRE

BOURNEMOUTH

D. H. RIDOUT & SON LTD.,
12 Stedman Road, Southbourne,
Tel: Southbourne 45505

PORTSMOUTH

BAILEY & WHITES LTD.,
Commercial Road, Tel: 2107

SOUTHAMPTON

MITCHELL & SON
(MILLBROOK) LTD.,
Manor Industrial Estate,
Millbrook, Tel: 73279

HERTFORDSHIRE

BARNET

J. H. TRIPP LTD.,
Church Hill Road, Tel: 2462

HODDESDON

J. H. TRIPP LTD.,
Brocket Road, Tel: 2526

SAWBRIDGEWORTH

W. LAWRENCE & SON
LTD., Tel: 2171

WARE

J. H. TRIPP LTD.,
Star Street, Tel: 526

KENT

ASHFORD

ALFRED OLBY LTD.,
5 High Street, Tel: 1300

BECKENHAM

C. BREWER & SONS LTD.,
86/90 High Street,
Tel: BEC. 0166

BROMLEY

C. BREWER & SONS LTD.,
9 London Road,
Tel: RAV. 7211

CANTERBURY

ALFRED OLBY LTD.,
Castle Street, Tel: 5027

CHATHAM

C. BREWER & SONS LTD.,
17 New Road, Tel: 45679

DARTFORD

C. BREWER & SONS LTD.,
78/80 East Hill, Tel: 4447

DOVER

ALFRED OLBY LTD.,
Worthington St., Tel: 1571/2

FOLKESTONE

ALFRED OLBY LTD.,
15/25 Dover Road, Tel: 3134

MARGATE

ALFRED OLBY LTD.,
King Street, Tel: Thanet 21471

RAMSGATE

ALFRED OLBY LTD.,
25/29 King Street,
Tel: Thanet 51561

SEVENOAKS

PLASTICS MARKETING
CO. LTD., Buckhurst Avenue,
Tel: 2660

TUNBRIDGE WELLS

C. BREWER & SONS LTD.,
86/90 Calverley Road, Tel: 3489

LANCASHIRE

LIVERPOOL, 1

WM. EVANS & CO.
(DISTRIBUTORS) LTD.,
17 Stanley Street,
Tel: Central 5171/2/3

LIVERPOOL, 1

VOGUE PLASTICS LTD.,
62 Stanley St., Tel: Central 1377

LIVERPOOL, 8

W. F. HOLLWAY & BROS.,
42 Grafton St., Tel: Royal 5315

MANCHESTER, 1

PLASTICS (MANCHESTER)
LTD., 11 Whitworth Street,
Tel: Central 7081/2, 1000

MANCHESTER, 15

WM. EVANS & CO.
(DISTRIBUTORS) LTD.,
Castlefield, Chester Road,
Tel: Blackfriars 0834-7344

PRESTON

JAMES WATT & F. H.
HEATON LTD., Paley Road,
Tel: 4091

SALFORD, 3

MALLINSON BROS. LTD.,
Brown Street, Off Worsley
Street, Tel: Blackfriars 1474

LONDON — NORTH

N.1

THE NORCROSS PANEL
PLYWOOD CO. LTD.,
17a Balfe St., Tel: TER 6864

N.1

ALLIED MANUFACTURING
CO. (LONDON) LTD.,
48/50 Islington Park Street,
Tel: CAN 3456, 4596, 6984

N.6

THE BUSHBOARD CO.
LTD., 34/35 Holmesdale Road,
Tel: MOU. 4454

N.7

SMITH & SON (STOKE
NEWINGTON) LTD., 164
Holloway Rd., Tel: NOR. 1629

N.14

J. H. TRIPP LTD.,
Winchmore Hill Road,
Southgate, Tel: PAL. 7177

N.16

SMITH & SON (STOKE
NEWINGTON) LTD.,
Anvil House, Mathian Road,
Tel: CLI. 1200

N.17

BROADWAY NANKIVELL
& CO. LTD., 575/9 High Road,
Tottenham, Tel: TOT. 9231

N.19

W. FAYERS & SONS LTD.,
293 Hornsey Rd., Tel: ARC. 1505

N.21

SMITH & SON (STOKE
NEWINGTON) LTD., 721
Green Lanes, Tel: LAB. 1159

N.21

J. H. TRIPP LTD.,
27 The Green, Winchmore Hill,
Tel: PAL. 9787

N.22

J. H. TRIPP LTD.,
Valorem House, High Road,
Wood Green, Tel: BOW. 2214

LONDON — NORTH WEST

N.W.1

PERMATOPS LTD.,
Clifton House, Euston Road,
Tel: EUS. 7465

LONDON — EAST

E.2

SMITH & SON (HACKNEY)
LTD., 430 Hackney Road,
Tel: SHO. 7842

E.11

DECRA PLASTICS LTD.,
Napier Works, 9a Napier Road,
Tel: MAR. 5433

LONDON — EAST CENTRAL

E.C.1

WM. EVANS & CO.
(LONDON) LTD., Friendly
House, 21 Chiswell Street,
Tel: MET. 9011/6

LONDON — SOUTH WEST

S.W.17

HENRY CORNER
(BALHAM) LTD., 308 Balham
High Road, Tel: BAL. 6586

S.W.19

CROMAR WHITE LTD.,
Durnsford Road, Wimbledon,
Tel: WIM. 2894

LOCAL WARERITE SPECIALIST ADVISE AND ASSIST YOU

topped fitments, ready to fix, from drawings or templates

LONDON — WEST

W. N. FROY & SONS LTD.,
Brunswick Works, King St.,
Tel: RIV. 4101

LONDON — GREATER

GEORGE E. GRAY LTD.,
Joinant House, Eastern Avenue,
Ilford, Essex,
Tel: VAL. 2211, 8844

W. LAWRENCE & SON LTD.,
Sawbridgeworth, Herts.
Tel: 2171

MORGAN & SON LTD.,
730 London Road, Hounslow,
Middlesex, Tel: HOU. 4422
PLASTICS MARKETING CO. LTD.,
Buckhurst Avenue,
Sevenoaks, Kent, Tel: 2660
STANTONS, Canal Bridge,
Byfleet Road, New Haw,
Weybridge, Surrey, Tel: 4740

MIDDLESEX

ENFIELD BUILDERS MERCHANTS LTD.,
217 Baker St., Tel: ENF. 0988

HAYES MORGAN & SON LTD.,
Clayton Road, Tel: 1625

HOUNSLOW MORGAN & SON LTD.,
730 London Rd, Tel: HOU. 4422

NORTHOLT WEST MIDDLESEX BUILDERS MERCHANTS,
Mandeville Road,
Tel: WAX. 3221

STAINES MORGAN & SON LTD.,
Market Square, Tel: 6-7

WEST DRAYTON V.C. PANELS LTD.,
Horton Bridge Road, Tel: 4021 7

NORTHAMPTONSHIRE

KETTERING A. R. & W. CLEAVER LTD.,
Montagu Street, Tel: 4851

NORTHAMPTON A. R. & W. CLEAVER LTD.,
Wood Street, Tel: 1432

NORTHUMBERLAND

BERWICK-ON-TWEED HENRY MOAT & SON LTD.,
High Street, Tel: 574

NEWCASTLE THE BUSHBOARD CO. LTD.,
Princesway, Team Valley,
Tel: Low Fell 75338

NEWCASTLE HENRY MOAT & SON LTD.,
Rutherford Street, Tel: 2-1453

WARERITE is also stocked by:— C. F. ANDERSON & SON LTD., Graham St., London, N.1. Tel: CLE. 4582

NOTTINGHAMSHIRE

NOTTINGHAM BUXTON DAWSON LTD.,
18/20, Triumph Road, Lenton,
Tel: 73051

NOTTINGHAM A. S. TOONE & SONS LTD.,
Dulwich Road, Radford,
Tel: 76036

SOMERSET

HIGHBRIDGE JOHN BLAND & CO. LTD.,
Tel: 4

WESTON-SUPER-MARE JOHN BLAND & CO. LTD.,
Salisbury Road, Milton,
Tel: Western 2304

STAFFORDSHIRE

STOKE-ON-TRENT C. H. SMITH & SONS,
Normacot Road, Longton,
Tel: Longton 33379

SURREY

CROYDON C. BREWER & SONS LTD.,
Old Palace Road, Tel: 7321

FARNHAM TILLY & BROWN LTD.,
6 Castle Street, Tel: 6294

GUILDFORD C. BREWER & SONS LTD.,
11 Quarry Street, Tel: 3222

GUILDFORD TILLY & BROWN LTD.,
185/6 High Street, Tel: 2987

REDHILL C. BREWER & SONS LTD.,
120/122 Station Rd., Tel: 670

SURBITON C. BREWER & SONS LTD.,
86/88 Ewell Road,
Tel: Elmbridge 1152

THORNTON HEATH C. BREWER & SONS LTD.,
21/23 Woodville Road,
Tel: Livingstone 3348

WEYBRIDGE STANTONS,
Canal Bridge, Byfleet Road,
New Haw, Tel: 4740

SUSSEX

BEXHILL-ON-SEA C. BREWER & SONS LTD.,
8/10 Wickham Ave., Tel: 3800

BRIGHTON PLASTIC SERVICES LTD.,
16 Gloucester Road, Tel: 20584

EASTBOURNE C. BREWER & SONS LTD.,
123/127 Ashford Rd., Tel: 6060

HORSHAM C. BREWER & SONS LTD.,
55/59 East Street, Tel: 2345

WARWICKSHIRE

BIRMINGHAM WM. EVANS & CO. (MANCHESTER) LTD.,
84 Colmore Row,
Tel: Central 3194/5

BIRMINGHAM, I ROWE BROS & CO. LTD.,
Berkeley St., Tel: Midland 2791

BIRMINGHAM, 16 MIDLAND WALLBOARDS LTD.,
St. Vincent Street,
Tel: Central 1576

BIRMINGHAM (Near) MIDLAND (PLYWOOD) SERVICE CO. LTD.,
Hayseach Road, Halesowen, Tel: 1631/3

BIRMINGHAM (Near) W. H. FOSTER & SONS LTD.,
Cardale St., Blackheath,
Tel: 2028/9

COVENTRY A. R. & W. CLEAVER LTD.,
35/45 Much Park St., Tel: 62491

RUGBY A. R. & W. CLEAVER LTD.,
Warwick Street, Tel: 2296

WORCESTERSHIRE

BLACKHEATH W. H. FOSTER & SONS LTD.,
Cardale Street,
Blackheath,
Tel: 2028/9

YORKSHIRE

BRADFORD ARNOLD LAVER & CO. LTD.,
Wharf St. Sawmills, Tel: 32861

HULL WM. EVANS & CO. (HUMBER) LTD.,
Saltend Sawmills, Hedon,
Tel: Hedon 41621/2/3

HULL ARNOLD LAVER & CO. LTD.,
High Street, Tel: 36739

LEEDS, 7 ARNOLD LAVER WALLBOARDS (LEEDS) LTD.,
2 Elmwood Place,
Camp Road, Tel: 28499

SHEFFIELD, 2 ARNOLD LAVER & CO. LTD.,
Bramall Lane, Tel: 54351

CHANNEL ISLANDS

GUERNSEY NORMAN LTD.,
Well Road, Tel: Central 552

JERSEY NORMAN LTD.,
Commercial Buildings,
Tel: Jersey 258

NORTHERN IRELAND

BELFAST ROBERT KIRK LTD.,
Exchange Street, Tel: 24681

ISLE OF MAN

DOUGLAS DOUGLAS STEAM SAWMILL & TIMBER CO. LTD.,
Lake Road, Tel: 169

SCOTLAND

ABERDEEN ROBERT MILLAR & SONS LTD.,
Blaikies Quay, Tel: 22251

ABERDEEN WHITEHEADS (DOMESTIC EQUIPMENT) LTD.,
26 Waterloo Quay,
Tel: Aberdeen 24272

EDINBURGH, 1 HENRY MOAT & SON LTD.,
56/58 St. Mary Street,
Tel: WAV. 1251

EDINBURGH, 6 PARK DOBSON & CO. LTD.,
Leith, Tel: Leith 35413

EDINBURGH, 7 ALEXANDER MacKENZIE & CO. LTD.,
37/38 Haddington Place, Tel: WAV. 7666

GALASHIELS ADAM PATERSON & CO. (T.M.) LTD.,
Low Buckholmside, Tel: 2036

GLASGOW, C.4 BROWNLEE & CO. LTD.,
Port Dundas,
Tel: Glasgow Douglas 7331

GLASGOW WM. EVANS & CO. (SCOTLAND) LTD.,
Easterhouse, Baillieston,
Tel: Baillieston 1944

KILMARNOCK BROWNLEE & CO. LTD.,
Fullerton Street, Tel: 395

KILWINNING NEIL SMALL & CO. LTD.,
Dirrans Saw Mills,
Tel: 265

MONTROSE ROBERT MILLAR & SONS LTD.,
4 Barrack Road, Tel: 2

WALES AND MONMOUTH

BRIDGEND JOHN BLAND & CO. LTD.,
Industrial Estate,
Queens Road, Tel: 736

BRIDGEND ROWE BROS. & CO. LTD.,
North Road, Bridgend Trading Estate, Tel: 1220

CARDIFF JOHN BLAND & CO. LTD.,
East Moors, Tel: 24241

PORTSKEWETT JOHN BLAND & CO. LTD.,
Tel: Caldicot 203

WARERITE

REGD.



REGD.

Plastics with the lovelier patterns

Roof of the future

INCOMBUSTIBLE

(2 HOUR FIRE RATING !)

HIGH SPEED CONSTRUCTION



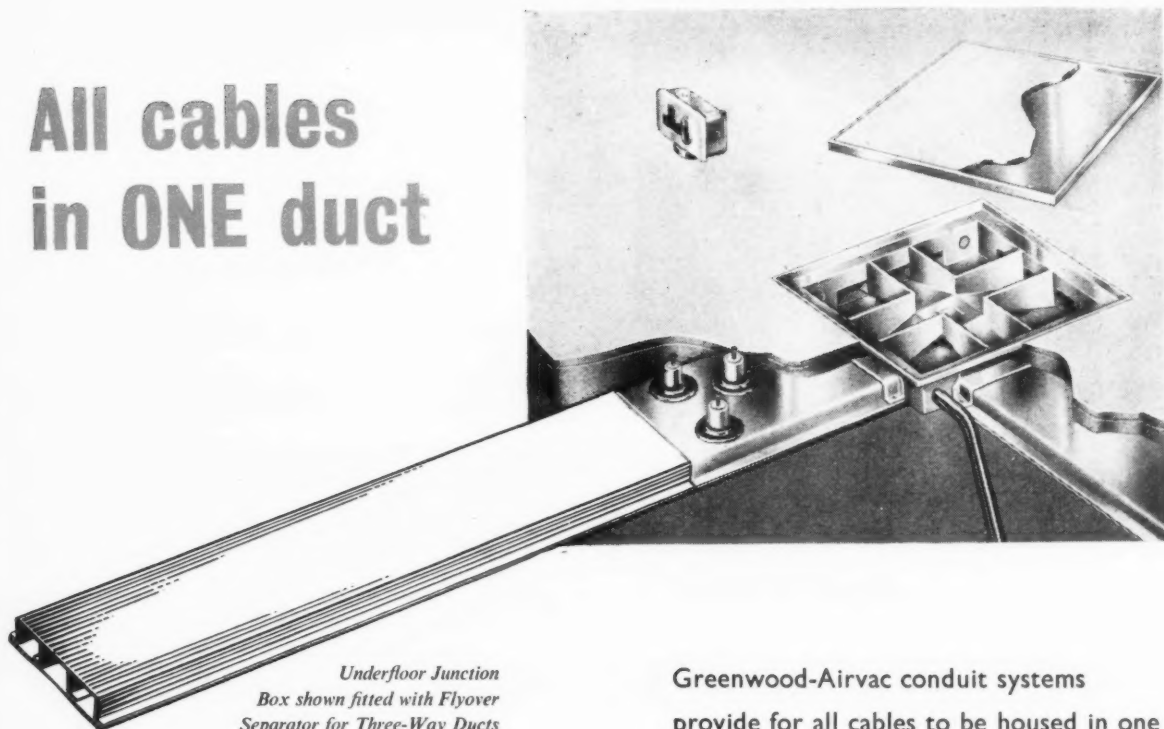
Poured in place

Pyrodek

Stand 93/4 Row E
BUILDING EXHIBITION

OLYMPIA NOV 13-27 1957

All cables in ONE duct



*Underfloor Junction
Box shown fitted with Flyover
Separator for Three-Way Ducts*

Greenwood-Airvac conduit systems provide for all cables to be housed in one duct with adequate screening between telephone and power cables. The unique construction of the underfloor system enables it to be laid where necessary in only $1\frac{1}{2}$ " of screed, and for applications where underfloor fitting is impracticable, a skirting system is readily available. Please write or telephone for the publication 'Greenwood-Airvac Conduit Systems' or call to see the demonstration layout in the Beacon House showroom.

Walbrook House, Cannon Street, E.C.4



*Arch:—Henry Tanner Esq.
Cont:—F. G. Minter Ltd.
El. Cont:—Berkeley Electrical
Eng. Co. Ltd.*

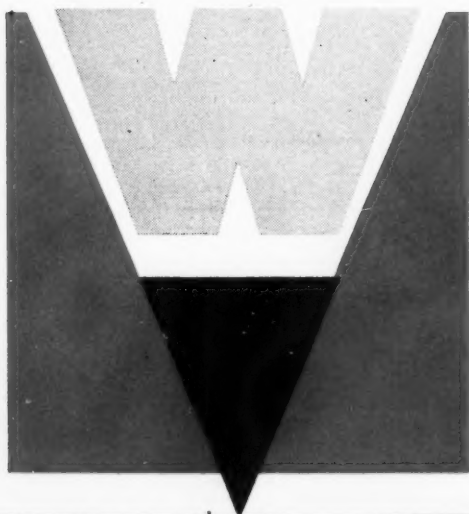
*Photograph by courtesy of "The City Press"
Another Greenwood-Airvac Conduit underfloor installation*



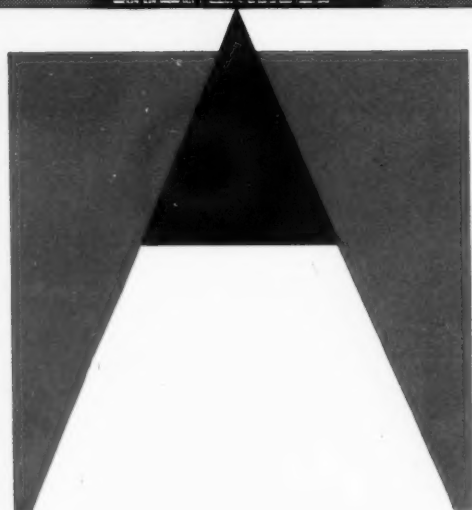
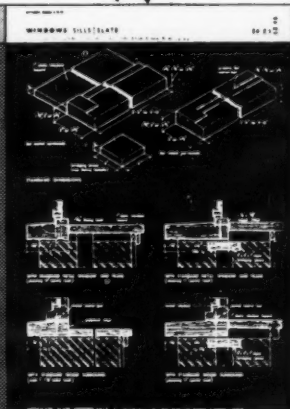
Greenwood-Airvac *conduit systems*



GREENWOOD'S AND AIRVAC VENTILATING COMPANY LTD
Patentees, Designers and Manufacturers of Ventilating Equipment and Electrical Conduit Systems
BEACON HOUSE, KINGSWAY, LONDON, W.C.2. CHAncery 8135/6/7. 'Airrac', London



**Where a strong line
is needed . . .**



W I N C I L A T E

**thick sills
allow for a bolder
line than that provided
by the normal 1 inch sills
also manufactured by**

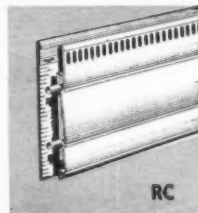
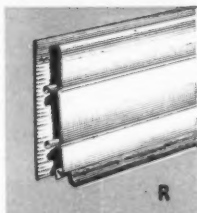
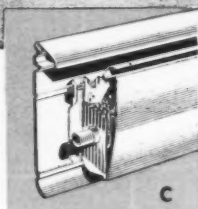
W I N C I L A T E

THE BOW SLATE & ENAMEL CO., LTD
B.R. Depot, Old Ford Road, London, E.3
Telephone: ADVance 2203
(Proprietors of the Aberllefenni
Slate Quarries)

Born Yesterday . . . and already the talk of the town



THERE
ARE THREE
TYPES OF
WALLSTRIP



Type C—Recommended for most domestic applications, providing mainly convected heat.

Type R—Institutional model of heavy construction, but shallower from wall to front than Type C, providing mainly radiant heat. Smooth surfaces, free of dust-traps, especially suitable for hospitals and other places where hygiene and cleanliness are vital.

Type RC—Again, an institutional model of heavy construction, similar to Type R but providing a combination of radiant and convected heat.

Copperad WALLSTRIP is a skirting-board: a skirting-board that heats. Which means that it places the heat where it is most needed—all along the outside walls at the normal source of loss.

It also means that windows can reach to within 12" of the floorline.

WALLSTRIP allows you the maximum freedom in aesthetic design. No ungainly, heavy equipment is involved. There is nothing to detract from its flowing lines.

For a new building—home, office, school, hall, hospital or institution—WALLSTRIP costs no more than conventional central heating. The cost of skirting-board is, of course, eliminated. Moreover, no special equipment is required; it can be installed with the ordinary tools of a heating engineer.

If you require further information about WALLSTRIP, we shall be happy to advise you.

Copperad Wallstrip

Warmth from nowhere — EVERYWHERE!

Copperad Ltd. Head Office & Works: COLNBROOK, BUCKS. Telephone: Colnbrook 2521 (6 lines) Telegrams: Copperad, Colnbrook

Scottish Office:
30 Rutland Square,
Edinburgh 1
Telephone:
FOUntainbridge 6067

London Office:
1 York Street Baker Street,
London W.1
Telephone:
WELbeck 1226/7

Birmingham Office:
Wolverley House,
18 Digbeth,
Birmingham 5
Telephone:
MIDland 1553

Welsh & South Western
Office:
Chesterfield Chambers,
Westbourne Place,
Queens Road,
Clifton, Bristol 8
Telephone:
Bristol 3-3883

Representatives at:
Glasgow, Belfast,
Manchester, Leeds,
Nottingham,
Newcastle-on-Tyne

Also at:
Auckland (N.Z.),
Johannesburg, Lisbon,
Brussels, Toronto,
Melbourne

RIPPERS STANDARD WINDOWS

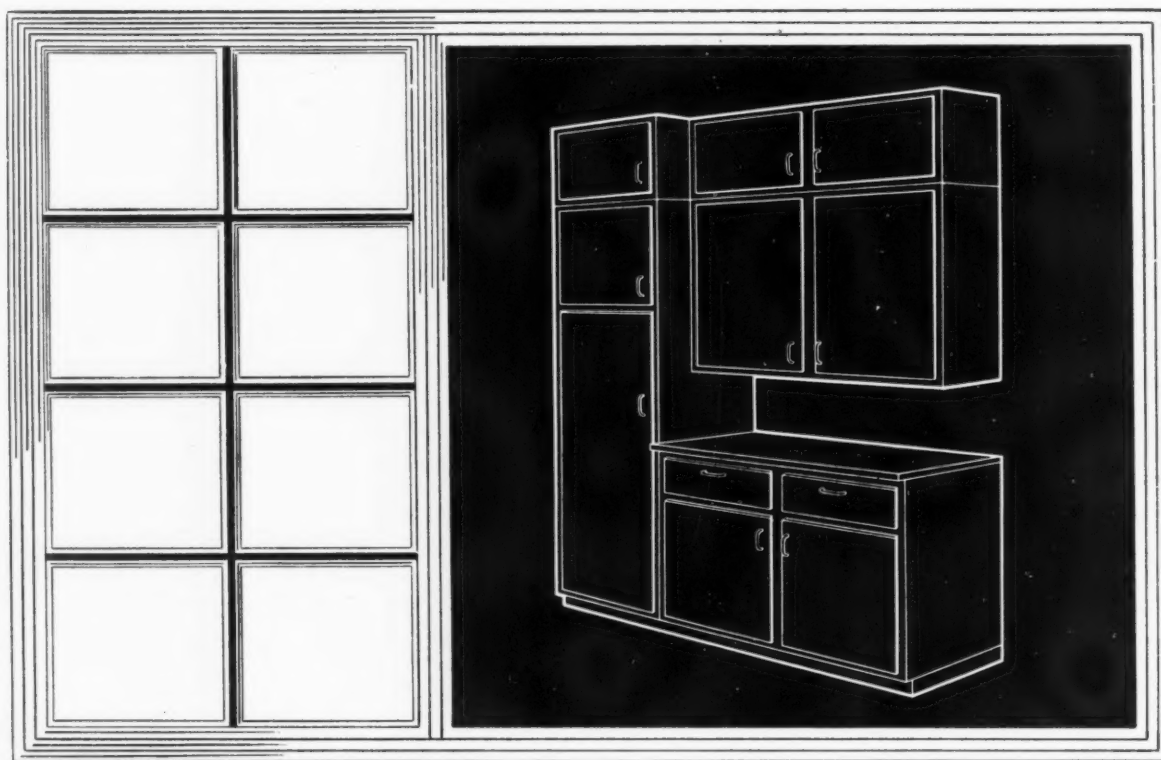
When you order windows, external door frames,
internal door frames or kitchen units, make sure you buy
Rippers — the finest standard joinery obtainable.

Over sixty years experience is behind Rippers quality —

'the best in the business'

Write to-day for our free Catalogue: it describes over three
hundred designs from which endless window combinations
can be arranged, and includes descriptions of all our products.

Apply for your free catalogue to Dept. A.J. 21/10.



**RIPPER
WOODWORK**

"you'll be glad you chose WOOD windows"

RIPPERS LIMITED

CASTLE HEDINGHAM, HALSTEAD, ESSEX

TELEPHONE: 191 HEDINGHAM (4 lines). TELEGRAMS: RIPPERS, CASTLE HEDINGHAM

LONDON OFFICE:

9, SOUTHAMPTON PLACE, LONDON, W.C.1. TELEPHONE: CHANCERY 8106/7.

of
course
mason's
add
something
extra
to
their
paint



Practising architects
are invited to
write for this helpful
book—"Joseph Mason
Painting Specifications"

... something you would find
unusually helpful in your next
building project or maintenance
problem. It's the Joseph Mason
technical advisory service,
so familiar to many members of
the architectural profession.

joseph mason paints

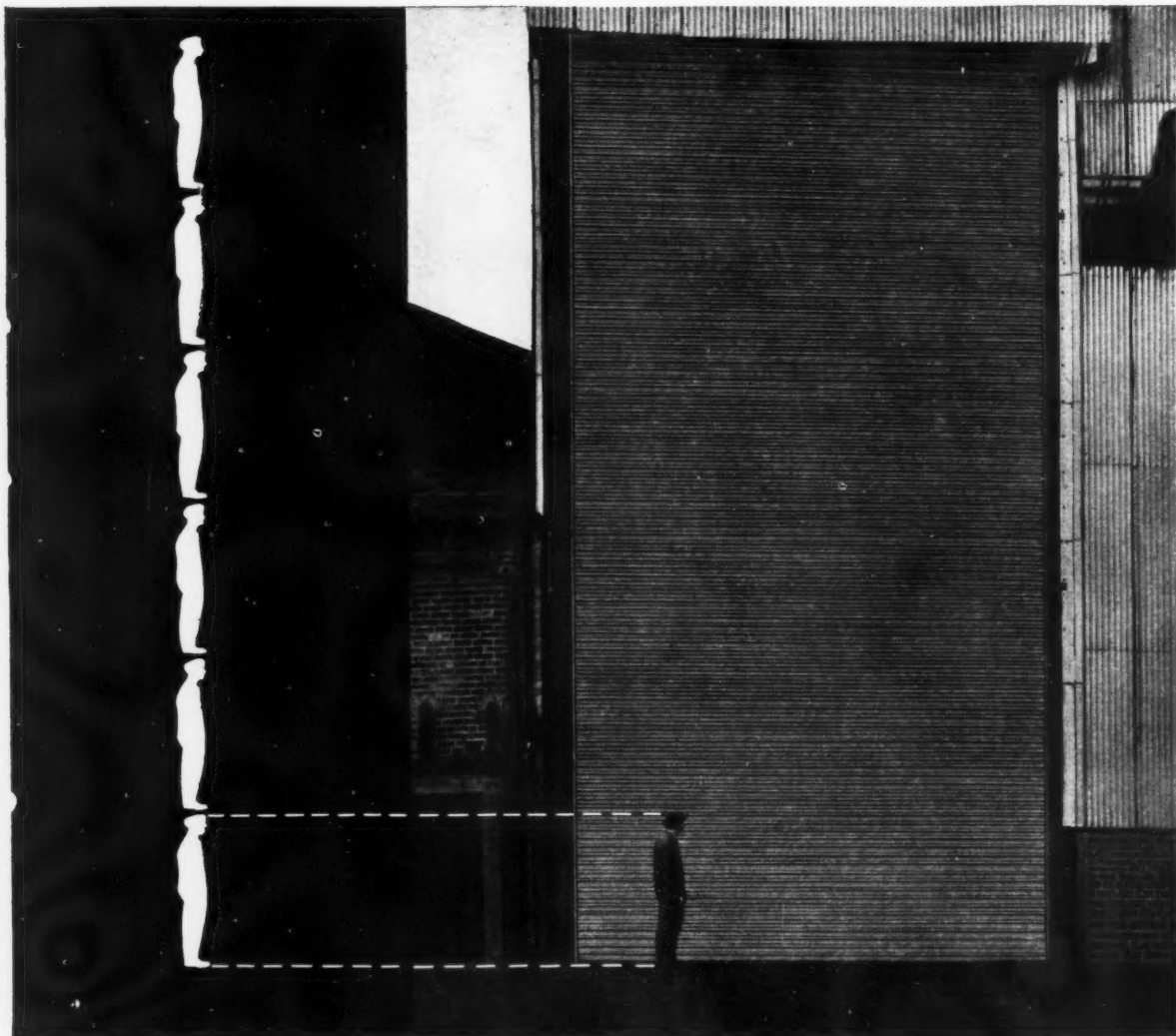
JOSEPH MASON AND COMPANY LIMITED, DERBY. TELEPHONE: 40691-2-3

MANUFACTURERS OF VERY GOOD PAINTS SINCE 1800



The doors commanding the world's largest sale

build a rolling door over 6 men high



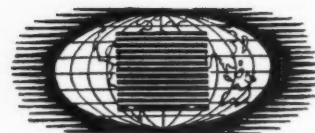
Over six men high—38½ feet by 21 feet wide, this Brady Roller Door operates electrically, at the touch of a button! Rolled up, it is out of the way; down, it is safe against intruders and the weather, and how easily closed! This fine example of Brady engineering was built for the Neptune Works of Swan Hunter and Wigham Richardson Ltd, Newcastle-upon-Tyne.

Send for fully informative literature No. 3.

G. BRADY & CO. LTD • MANCHESTER 4

Telephone COLlyhurst 2797/8

manufacturers of Brady hand and power operated lifts



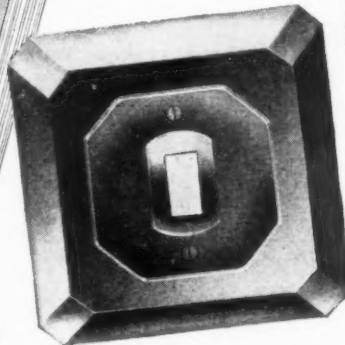
we shutter the world

London: Thames Works, Strawberry Vale, Twickenham, Middx. Birmingham: Rectory Park Road, Sheldon 26. Canada: David C. Orrock & Co. (G. Brady & Co. Canada Ltd.) 4925 De Sorel Street, Montreal, Que. and also at Suite 2/23 Applewood Village, 1077, Queen Elizabeth Way, Port Credit, Ontario. Norway: An Thorbjørnsen, Kongensgate, 14, Oslo. Hong Kong: Blair & Co. Ltd, Windsor House.

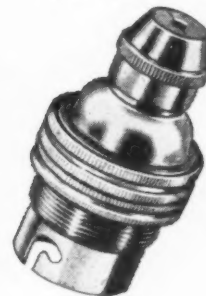
You'll find all the answers in Britain's most comprehensive electrical accessories catalogue



The 'Trent' range of 5 amp flush switches are available in 1, 2, 3 and 4 gang form.

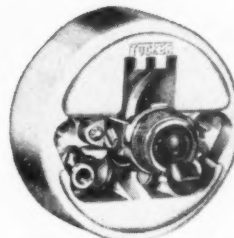


'Trojan' Brass B.C. Lampholder.



'Titan' all-insulated B.C. Lampholder.

Now you can choose all the accessories you need from one catalogue—the MEM, Tucker & Kersons catalogue. The merger of these famous accessory manufacturers means that you get a wider range of accessories from one source than ever before. It saves you time and trouble. And you know that every line is backed now by the combined experience of three outstanding names in electrical accessories. Send for your MEM-Tucker-Kerson catalogue today.



Open view of 'Tyne' heavy duty 5 amp tumbler switch.

'Tyne' heavy duty quick make and break tumbler switch.

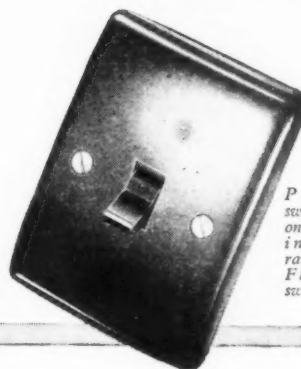
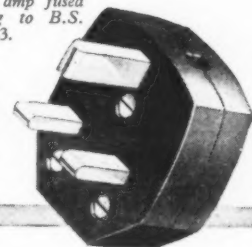
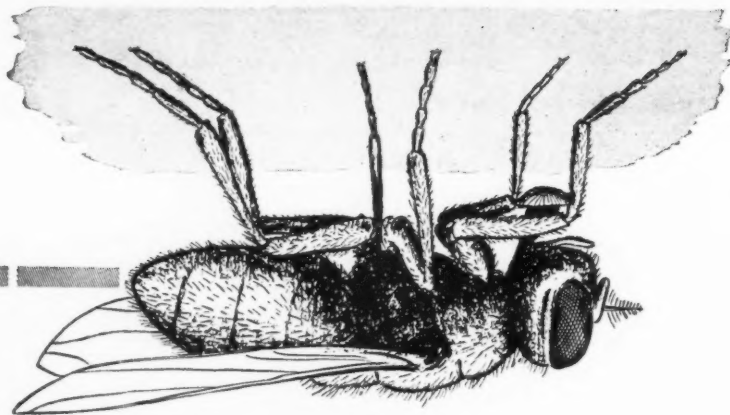


Plate and switch form a one piece unit in the Tay range of A.C. Flush Plate switches.

13 amp fused plug to B.S. 1363.

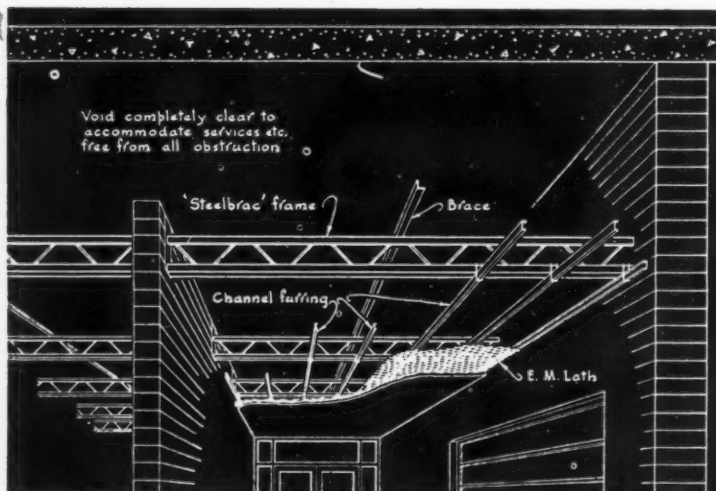


MIDLAND ELECTRIC MANUFACTURING CO., LTD., TYSELEY, BIRMINGHAM, 11



Wise flies know...

A Steelbrac suspended ceiling is practical, economical and speedy. The special light-weight framing is exclusive to the system, and the metal lathing which has 500 meshes per square foot ensures a tenacious key for the plaster. Special effects such as barrel or vaulted ceilings can be demanded without the embarrassment of prohibitive cost. The void between the ceiling and the floor above acts as a natural barrier to noise, and is the obvious place to accommodate services, since absolute latitude is obtained. We have an interesting technical booklet and will be pleased to send you a copy if you will kindly send us your name and address.



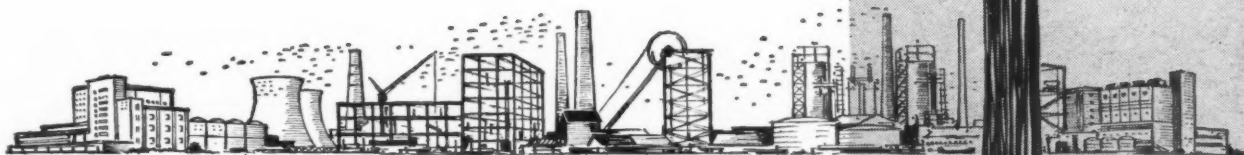
...AT THE BACK OF A GOOD SUSPENDED PLASTER

CEILING THERE'S ALWAYS STEELBRAC FRAMING



STEEL BRACKETING & LATHING LTD.

3/8 BRIGSTOCK PARADE, THORNTON HEATH, SURREY
Telephone: Thornton Heath 5601



at the root of industrial Britain

monk

Warrington and London

A MONK & COMPANY LIMITED

Head Office:
Padgate, Warrington.
Telephone: Warrington 31288

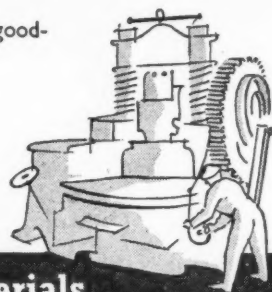
London Office:
75 Victoria Street, S.W. 1.
Telephone: Abbey 2651

Offices at: Stamford,
Hull & Middlesbrough

**Build
up
your
profits
on**

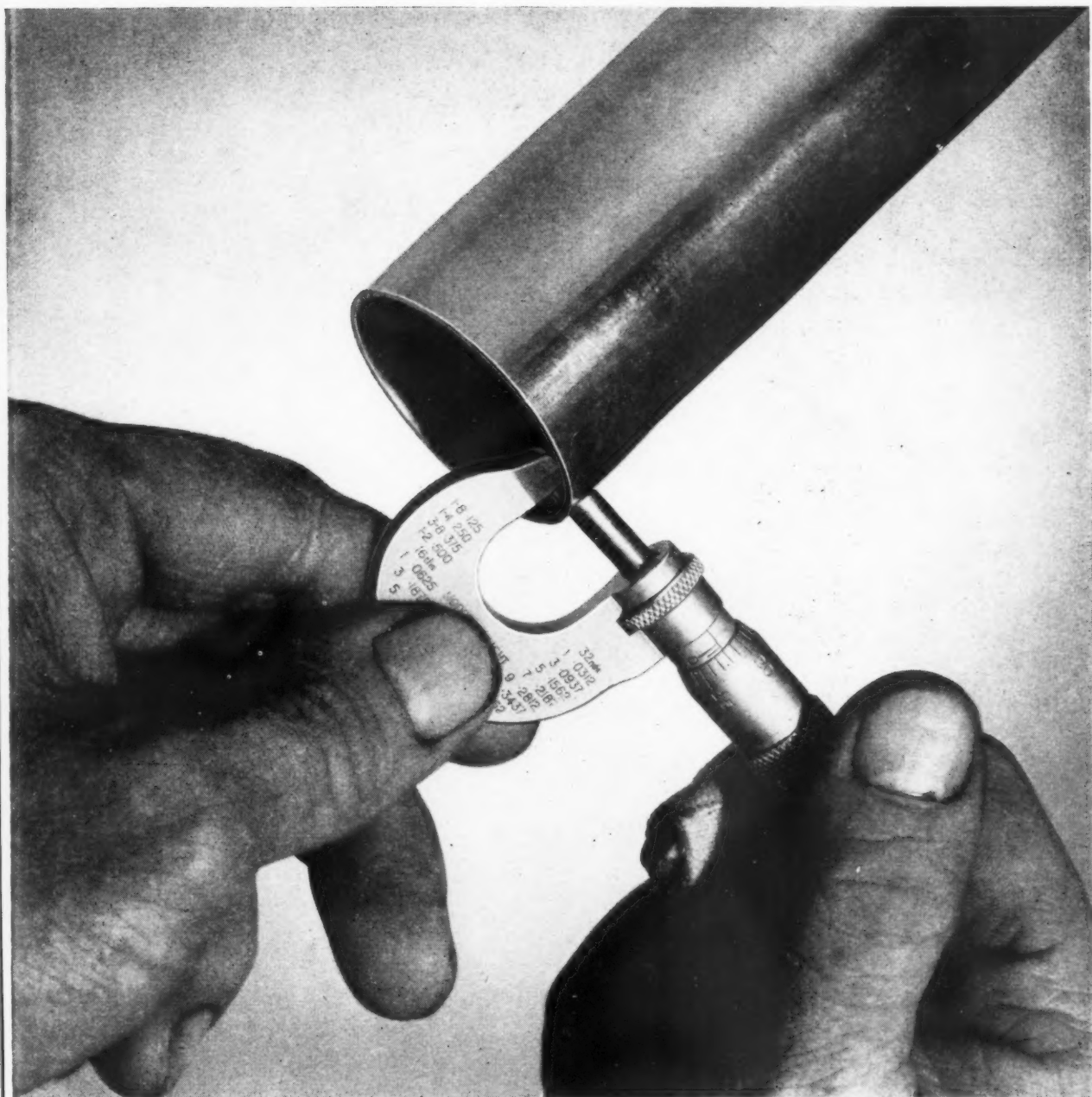
WASTE

'Waste' materials, such as clinker and slag, can add a comfortable total to the profits. Sutcliffe Speakman's EMPEROR Press turns these materials into good-quality bricks — consistent, well formed and readily marketable. The Press, exerting a pressure of 200 tons, produces up to 3,000 bricks per hour. Its other uses include coal Briquetting, pressing of fine pulverents into special shapes and forms, briquetting metal borings and turnings (iron, steel, brass, copper, aluminium, etc.).



On-the-spot Brickmaking from Waste Materials

FULL PARTICULARS FROM **SUTCLIFFE SPEAKMAN** AND COMPANY LIMITED
LEIGH, LANCASHIRE. LONDON OFFICE: 2 CAXTON STREET, WESTMINSTER, S.W.1. PHONE: ABBEY 3085



It need never be measured like this again

Wednesbury Copper Tubing owes its down-to-earth reliability to the most precise control of quality at every stage of manufacture. For example, every day 56 micrometers in skilled hands like these are gauging the wall thickness of every piece of copper tubing the works produce. That's just one of the reasons why people who buy or specify the best in BSS Domestic Copper Tubing...

choose WEDNESBURY TUBE

Obtainable from your local stockist or builder's merchant. Manufactured by

THE WEDNESBURY TUBE CO. LTD, BILSTON, STAFFS

Architects :

W. H. Rogers, Esq.,
A.R.I.B.A.
Architect's Department,
City of London Real
Property Co. Ltd.

**Consultant
Architect :**

Sir Howard Robertson,
P.P.R.I.B.A.

Contractors :

Messrs. Trollope
& Colls Ltd.

**Architects
to Tenants :**

Messrs. W. R. A. Curtis
Green, Son & Lloyd



FOUNTAIN HOUSE, 130 FENCHURCH STREET, LONDON E.C
APPROXIMATELY 2,500 YARDS OF LIGNACITE USED IN THIS PROJECT

**Obtain Thermal
Insulation and
Economy by using ...**

THERMAL INSULATION—The value of a 4-in. Lignacite Block is equivalent to an 11-in. cavity brick wall.
FIRE RESISTANCE—4 hour grade (4½-in. block) **FULLY LOAD BEARING**—DIRECT FIXING—MAY BE CUT, SAWN AND CHASED.

LIGNACITE

TRADE MARK

LIGHTWEIGHT · LOAD BEARING · INSULATING · FIRE RESISTANT

BUILDING BLOCKS

Full details forwarded with pleasure

LIGNACITE (North London) Ltd., Meadgate Works, Nazeing, Essex.
Telephone: Hoddesdon 2277

LIGNACITE (Home Counties) Ltd., Bracknell, Berkshire.
Telephone: Bracknell 666

LIGNACITE (North Eastern) Ltd., Whitley Bridge, Nr. Goole, Yorks.
Telephone: Whitley Bridge 354/5

LIGNACITE (South Eastern) Ltd., Ninfield, Sussex.
Telephone: Ninfield 345

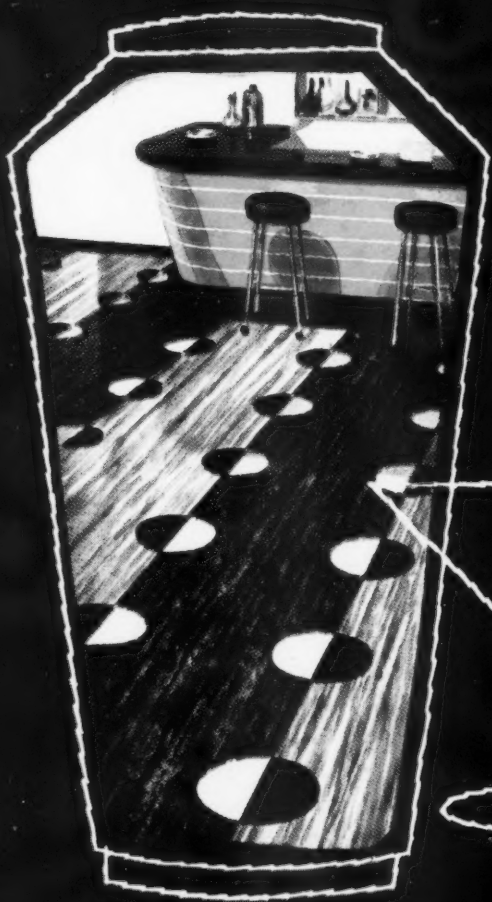
LIGNACITE (Brandon) Ltd., Brandon, Suffolk.
Telephone: Brandon 350

LIGNACITE (Fordingbridge) Ltd., Fordingbridge, Hampshire.
Telephone: Fordingbridge 2177

Paraflor

— multi-purpose

rubber flooring



Cocktail bar flooring is just one of the many roles which PARAFLOOR plays in perfect style. For PARAFLOOR is at home in showroom or schoolroom—hospital ward or bank—hotel or club—providing hard-wearing, long-lasting service. Architects and designers will appreciate PARAFLOOR colours and designs—a wide variety to suit all types of interior decoration schemes. Manufactured in rolls and tiles, PARAFLOOR can be laid in any part of the United Kingdom by a trained staff available on request.



U. S. Rubber

Made in Britain

THE NORTH BRITISH RUBBER CO. LTD.
Sales Office: 52-54 Horseferry Road, London S.W.1. Factories: Edinburgh & Dumfries.



PATTERNS



THE mosaicist was no doubt amused at his own creation as he put together a picture of a fat and bibulous Silenus over-burdening his beast. Yet the years have given proof of the long-lasting endurance of this miniature form of "tiling" and the lively opportunity it gave for the use of colour in decorating floors. Semtex, the modern flooring tile, affords a more general opportunity for design.

Whole areas can follow an integrated pattern in either traditional or contemporary style, which can be picked out in contrasting colours.

There is also no doubt of the endurance and economy of the Decorative Semastic and the Vinylex ranges, which are inexpensive to lay, easy to clean and keep clean, comfortable to walk upon and at once the most practical and the most attractive form of covering for sub-floors in any housing or building concept. They are increasingly specified, not only for their obvious suitability but also because there are expert Semtex tile-laying facilities conveniently available in all principal towns throughout the United Kingdom.

SEMASTIC AND VINYLEX DECORATIVE TILES

made by SEMTEX LTD A DUNLOP COMPANY

For further information and illustrated brochures write or telephone:

SEMTEX LIMITED, SEMTEX HOUSE, WELSH HARP, LONDON, N.W.9.

Tel: HENDON 6543

OF PROGRESS

This mosaic, now in the Museo Nazionale, Naples, originally formed part of the floor in the house of Paquius Proculus, a citizen of ancient Pompeii. It depicts Silenus, son of Pan, nurse, preceptor and attendant of Bacchus, proving too great a burden for his ass.



7/52/51A



DECORATIVE FLOORINGS

TRINASCOLIN · COLOURPHALT · SEMASTIC · CORK TILES

THE LIMMER & TRINIDAD LAKE ASPHALT CO. LTD.

Trinidad Lake House, 232-242 Vauxhall Bridge Road, London, S.W.1.

3 ST. JAMES'S SQ. S.W.1

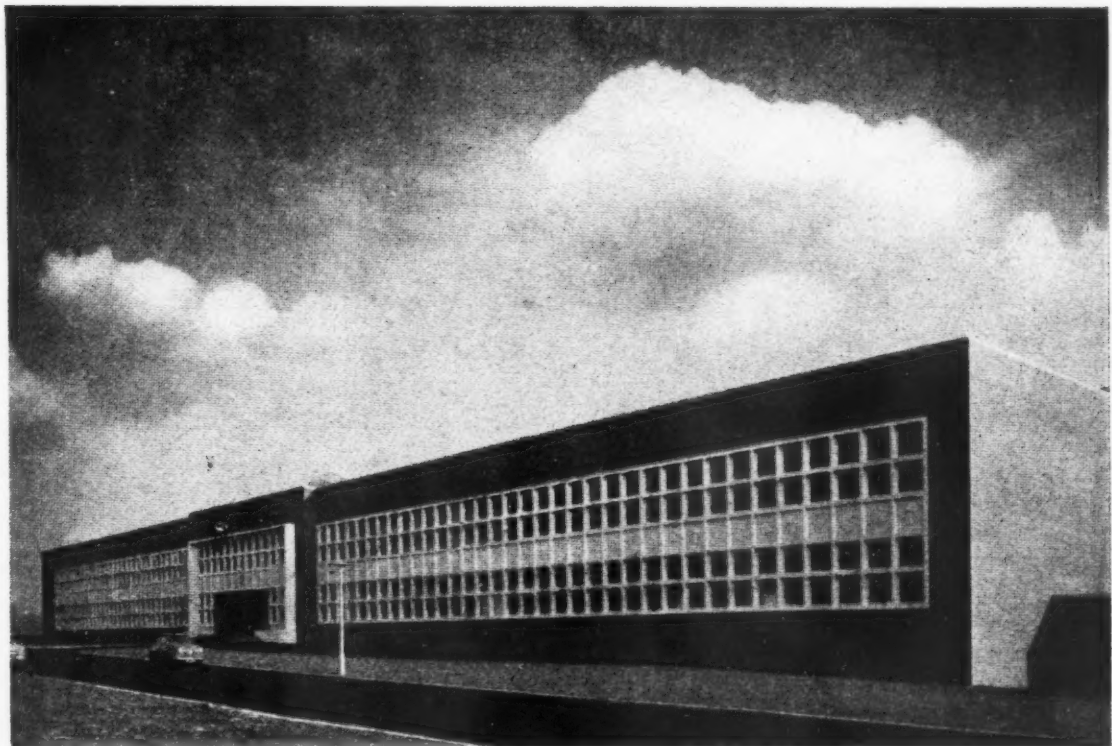


TRAFALGAR 7833

THE DEMOLITION & CONSTRUCTION

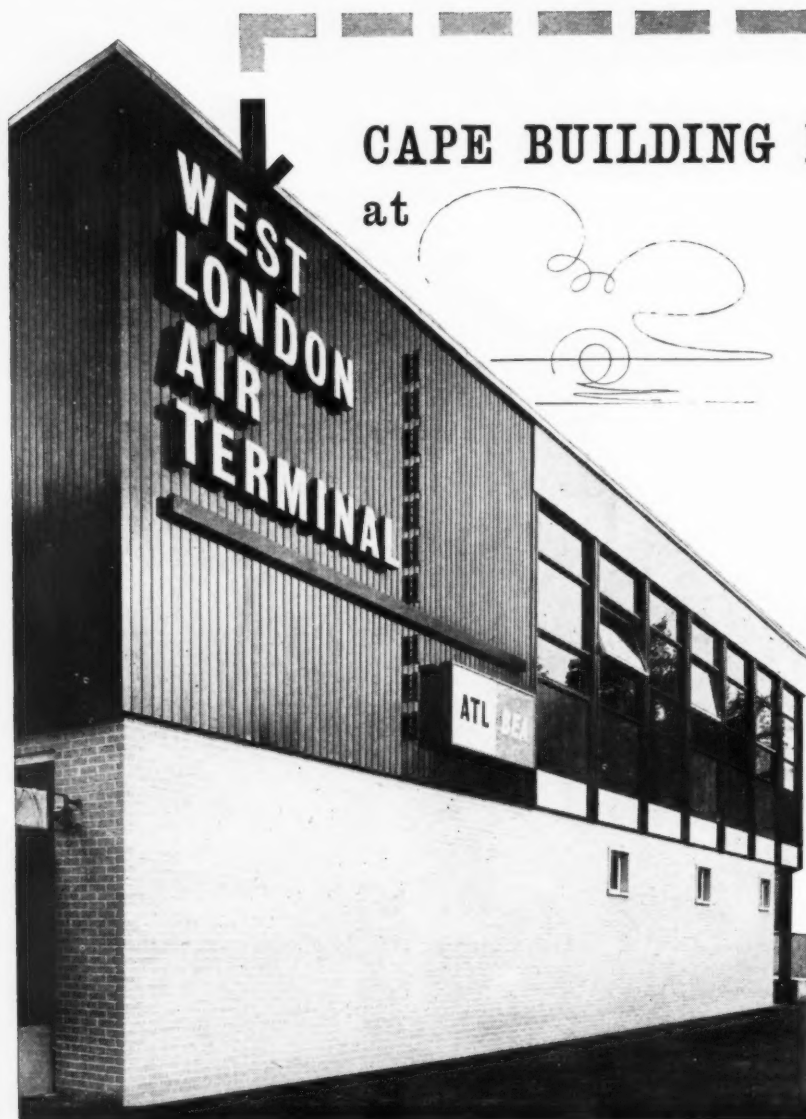
COMPANY LIMITED

*Civil Engineering, Building and
Public Works Contractors*



NATURAL SCIENCES BUILDING OF THE
UNIVERSITY COLLEGE OF SWANSEA
recently completed by this Company

Architects :
Sir Percy Thomas & Son, PP(A.R.I.B.A., Cardiff and Swansea



CAPE BUILDING PRODUCTS at

ASBESTOLUX

1,720 sq. ft. of stove enamelled panels.
44,920 sq. ft. of sanded grade panels.
3,360 sq. ft. of acoustic panels.

ROCKSIL

3,300 sq. ft. of 1" building mat.

UXBRIDGE FLINT BRICKS

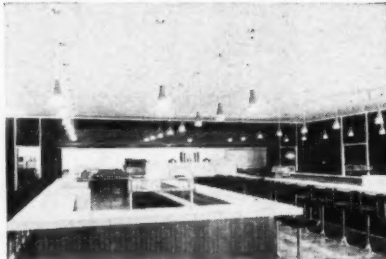
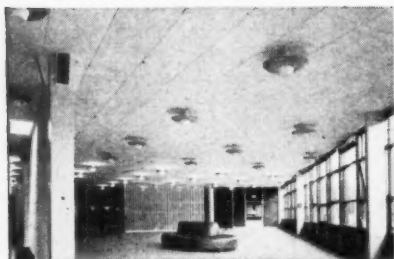
49,000 6D Buffs.

* Fire protection

The use of Asbestolux for ceilings and column casings provides 1 hour fire protection.

Main Contractors: RICHARD COSTAIN LTD.
Specialist fixing by
ANDERSON CONSTRUCTION CO. LTD.

Architects:
Architect's Section of S.E.A. Property Branch—
Detailing by Architect's Department.
RICHARD COSTAIN LTD.



Complete service and advice for architects and builders by

CAPE BUILDING PRODUCTS LIMITED

Cowley Bridge Works, Uxbridge, Middlesex. Tel: Uxbridge 4313

and at Glasgow: Eagle Buildings, 217 Bothwell Street, Glasgow C2. Tel: Central 2175

Manchester: Floor D, National Bldgs. St. Mary's Parsonage, Manchester 3. Tel: Blackfriars 7757

Birmingham: 11 Waterloo Street, Birmingham 2. Tel: Midland 6565-6-7

TA 11541

THE CEMENT MARKETING COMPANY LIMITED

announce the promotion of a

COMPETITION

for the design of a

Reinforced Concrete Factory Building

FIRST PRIZE £1,000

SECOND PRIZE £500

THIRD PRIZE £250

Assessor—Edward D. Mills, F.R.I.B.A., assisted by Ove Arup & Partners, who will advise on the engineering aspects of the Competition and Mr. Leslie W. Clark, who will advise on the estimates of cost.

OBJECT OF COMPETITION

On many new housing estates, and in the New Towns, industrial areas are being developed to provide work for the inhabitants of the district. Many of the industries attracted to these areas can be housed in a 'standard' factory which can be equally satisfactory for a wide variety of light industrial processes. The object of this competition is to produce attractive and imaginative designs for such a 'standard' factory, exploiting the various uses of concrete, (precast, prestressed, in-situ reinforced concrete, etc.—making the fullest use of prefabricated members suitable for repetitive production) in solving the structural and cladding problems which arise. The promoters are seeking designs for economical structures which at the same time would add to the amenities of an industrial area.

Designs will be judged from both architectural and engineering standpoints with particular regard to the adaptability of the buildings, fire resistance, ease of maintenance and flexibility. It is intended that entries should be submitted as the joint work of architects and engineers.

CONDITIONS OF ENTRY

The competition is open to architects, architectural students and engineers resident in the British Isles.

CLOSING DATE — 1st APRIL, 1958

All qualified to enter this Competition are invited to write for the Conditions to :—

THE CEMENT MARKETING COMPANY LTD., PUBLICITY DEPT., PORTLAND HOUSE, TOTHILL ST., WESTMINSTER, S.W.1
Telephone: ABBey 3456



BENJAMIN REGD. lights the way

—to increased production. Good lighting is an essential tool in any industry—the planning of it a job for experts. Today industrialists rely on the experience and advice of Benjamin as they have done for the last half century.

Consult Benjamin and let them put your workers on a full-time basis.

***Better
lighting
by***



Benjamin Fluorier Fittings
Used single or in continuous runs they have proved their worth in factories throughout the world. This is just one of the vast range of reflectors specially designed for a specific application by Benjamin.

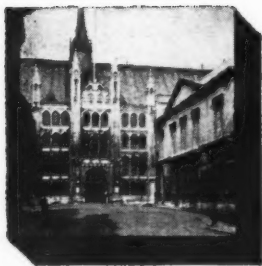
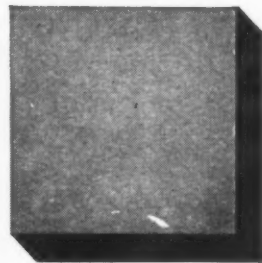
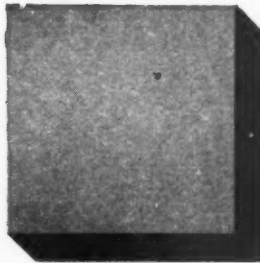
BENJAMIN REGD.

Please write for full details to:

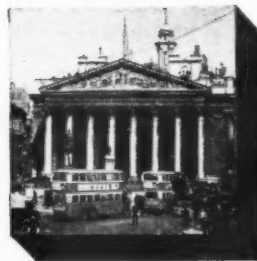
THE BENJAMIN ELECTRIC LIMITED • TOTTENHAM • LONDON N17
Telephone: TOTTENHAM 5252 (5 lines) Telegrams: "Benjalect, Southtot, London"

BIRMINGHAM: 5 Corporation Street, Birmingham 2. Tel. MIDland 5197 LEEDS: 49 Basinghall Street, Leeds 1. Tel. LEEDS 25579

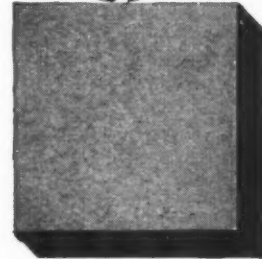
Smee's 103



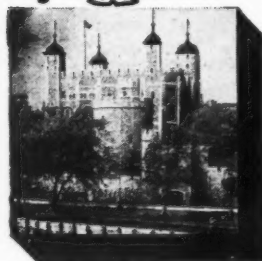
3,608,821 SQ. YDS.
OF ACCOTILE FLOORING



That is the incredible
amount of Accotile flooring
supplied and laid
by Neuchatel during the
past eight years ..



.....enough to cover the
whole of the City of London



Craftsman-laid by

THE NEUCHATEL ASPHALTE COMPANY LTD.

Neuchatel House, Palace Street, Westminster, London, S.W.1

Telephone: VICTORIA 8982

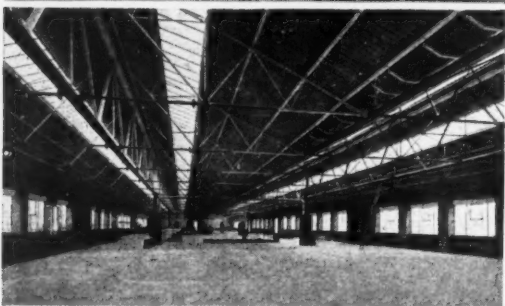
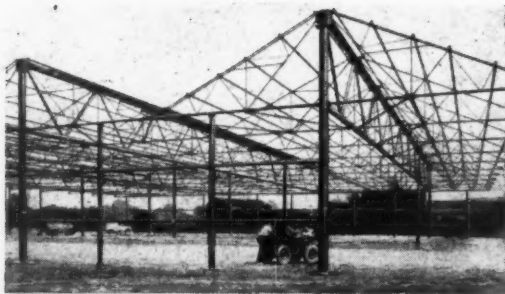
Branches throughout Britain.

Subsidiary and Associated Companies all over the World.

Photographs: Picture Post Library



A NEW APPROACH TO WIDE SPAN CONSTRUCTION



This new method overcomes the problems created when roof spans exceed 60 feet.

Umbrella tubular steel building construction is based on a tubular steel lattice girder, supported at each end by a single tubular column. This girder may be 105ft., 90ft. or 75ft. long. From each side of the girder at 15ft. intervals are fixed 20ft. cantilever trusses. A standard unit covers 105ft., 90ft. or 75ft. \times 40ft. Any number of units can be used side by side or end to end. Any height to eaves can be accommodated to suit requirements.

LESS WEIGHT, LOWER STEELWORK AND SITE COSTS

Formed of pre-engineered tubular steel units, they are lighter in weight, and require less foundation work. Their lower ridge heights reduce fuel bills, reduce the cost of providing parapet walls and considerably facilitate the architects task of designing elevations. The intensity of natural light is also increased. Initial and maintenance costs are lower and good delivery can be effected.

THIS NEW BROCHURE GIVES FULL PARTICULARS.
It also includes information on Unimer Buildings, of which we have delivered over 350, and which are suitable for spans from 15ft. 4ins. to 60ft. wide. Send for your copy.



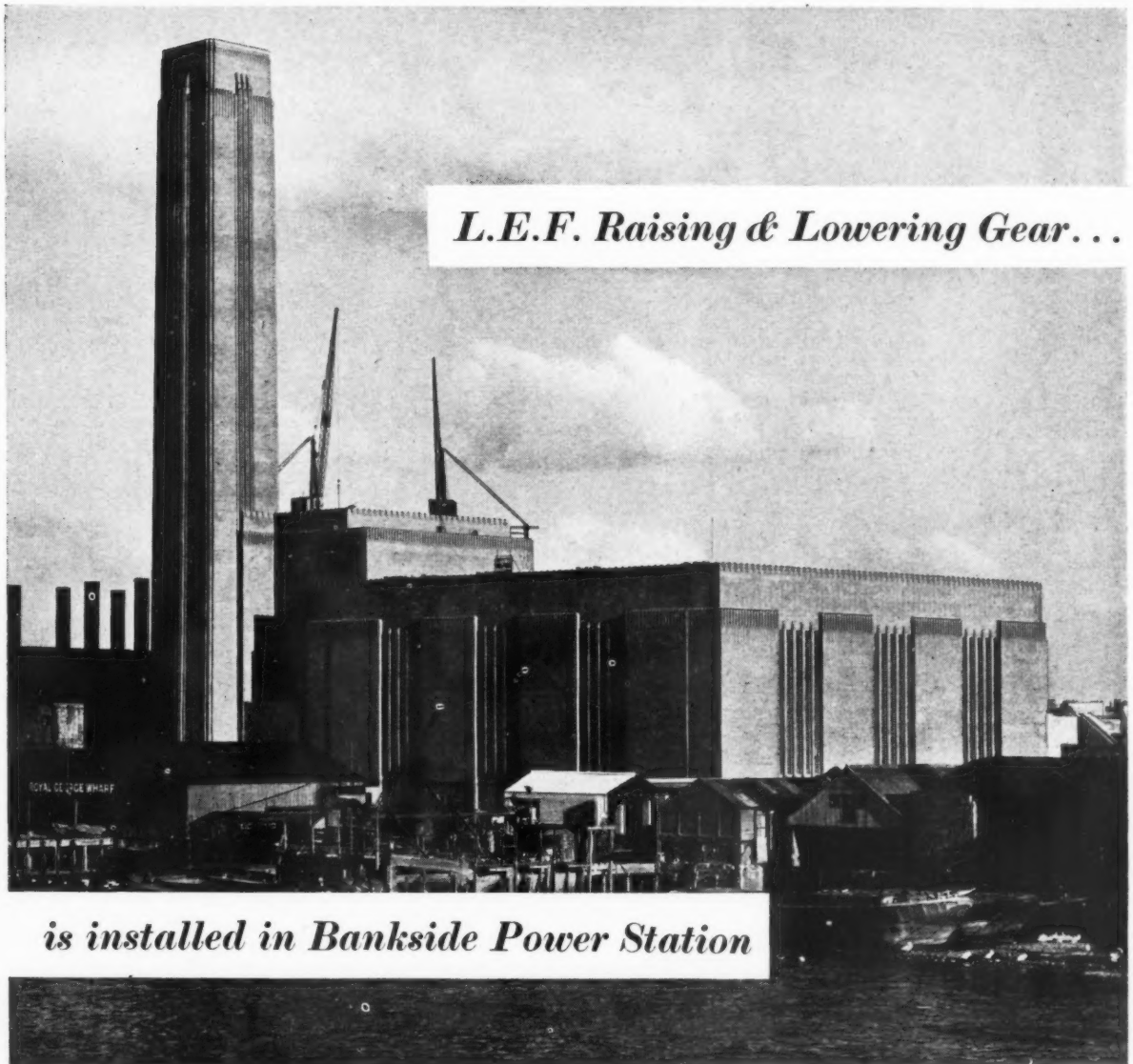
Top and Centre: Bus Garage, Leamington Spa Architect: A. B. Taunt, A.I.A.A. Below: Interior of Production Shop, Stourport-on-Severn. Architects: Robinson & Kay, F.R.I.B.A., Stourbridge . . . Over one hundred prominent Architects, Surveyors and Consulting Engineers have specified Tubular Steel Buildings which we have supplied.

Sherbourne Engineering Ltd.

**HEAD OFFICE: SHERBOURNE ROAD,
ACOCKS GREEN, BIRMINGHAM 27**
Telephone: ACOcks Green 0683 (12 lines)

LONDON OFFICE: 33 Manor Farm Road, Alperton, Wembley.

Telephone: Wembley 8671 (5 lines) — Resident representatives in all areas



WHEN planning lighting installations that are high up and difficult to reach, an important consideration is the method by which they are to be serviced.

For convenience and from an economic point of view L.E.F. Raising and Lowering Gear is the obvious answer. Lights can be quickly brought down to ground level, serviced at ease, and raised again. The make and break of electrical contact is an automatic part of the raising and lowering action.

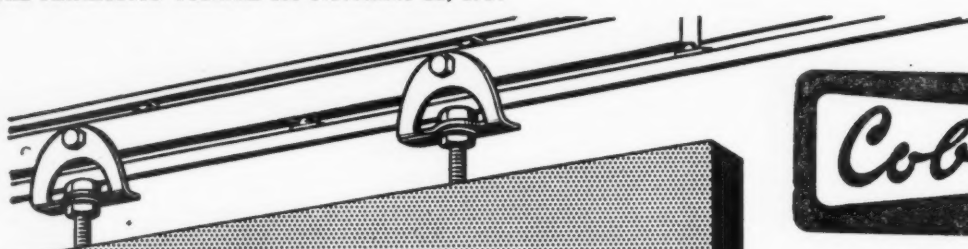
Bankside Power Station of the Central Electricity Authority is one of several of the most modern Power Stations in which L.E.F. Raising and Lowering Gear has been installed. Other L.E.F. installations will be found in all types of buildings and in public and private street lighting systems.

Send for full information or let us demonstrate L.E.F. Gear to you in our works

LONDON ELECTRIC FIRM LTD., Brighton Road, South Croydon. Telephone: Uplands 4871

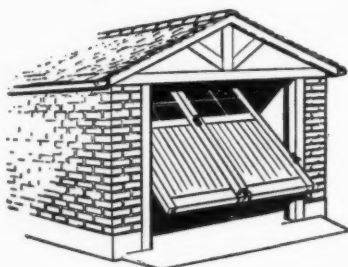


TIB. 95



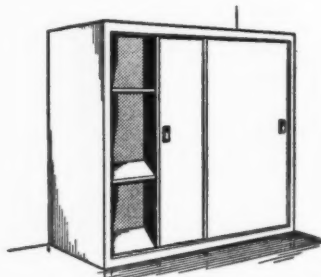
'MASTER' GEAR (above)

Specially designed for light-weight interior doors, this ball-bearing sliding gear is light, yet remarkably strong. It has a wide variety of applications, is simple to install and completely trouble-free.



'OVER-THE-TOP' GEAR

Finger-tip control by perfect counterbalancing. Completely weatherproof and draughtproof, ensured by weather stripping on inside of door and jamb. Standard set operates doors up to 8ft. high and up to 250 lb. weight. Simple to install and maintenance free.



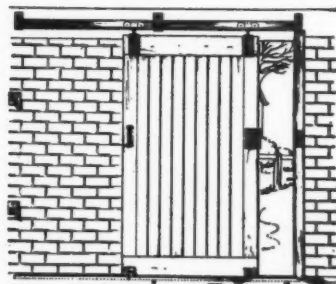
'CUBBARD' GEAR

Light in weight, quiet in operation and unobtrusive in appearance; designed to suit quality or utility doors fitting into the rear face of the joinery. Maximum door weight recommended is 50 lb.



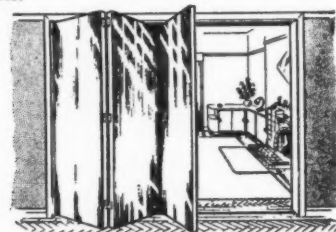
THE SLIDING DOOR GEAR

for every place and purpose



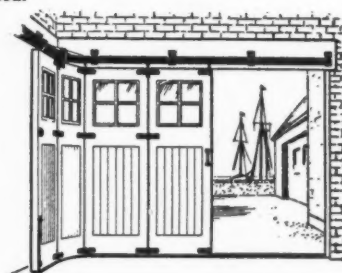
STRAIGHT SLIDING GEAR

The most popular and widely used of all sliding gears. It can be used on single, double or triple tracks. A wide variety of applications may be assembled from the various components available.



FOLDING GEAR

May be used for exterior and interior folding and sliding doors, screens and windows. It is particularly suitable when side walls may not be used.



'ROUND-THE-CORNER' GEAR

The perfect gear for garages, warehouses and similar buildings where it is required to run the doors round the corner, so that they are positioned against a side wall when open.

✱ Send for fully illustrated Catalogue of gears and prices.

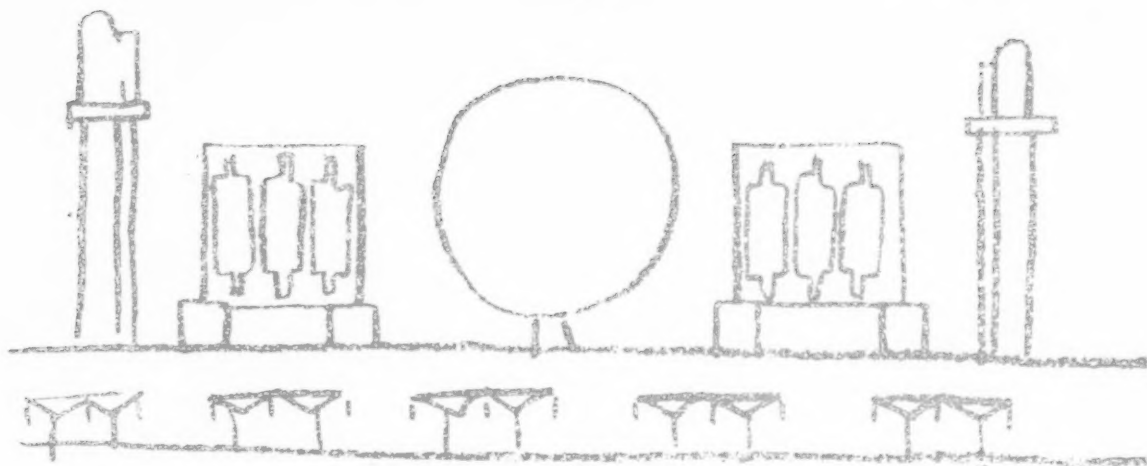
COBURN ENGINEERS LTD

COBURN WORKS • PEASMARSH • GUILDFORD • SURREY Tel.: GUILDFORD 3373

industry



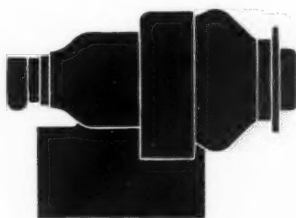
ALL THEIR HEATING PROBLEMS SOLVED



BETTER GET ONE OF THOSE



WHITE
Firepak



OIL BURNERS

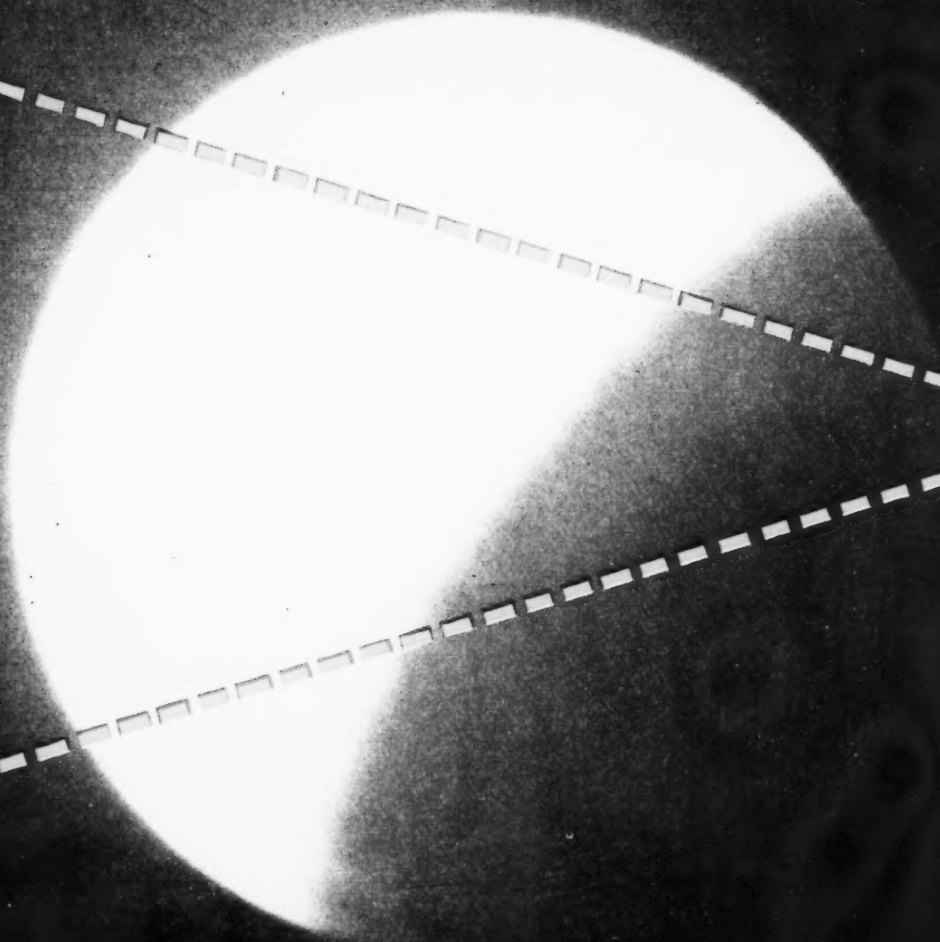
WHITES OF HEBBURN

(ENGINEERS) LTD. HEBBURN CO. DURHAM. PHONE : HEBBURN 32224-6
Supported by 40 years experience and research in oil burning.

* *Guaranteed not to affect the milk*

The Architectural Record for November 28, 1952

LIGHT



where it's wanted

with Simplex lighting equipment

One side of the picture—

the light we cannot alter: the light of a solar system

And the other side of the picture—

Electric light . . . beamed, diffused, controlled in a hundred different ways by Simplex lighting fittings: all competitively priced—sensible, modern and attractive in design. Simplex lighting specialists, with their background of 60 years' leadership, offer their help with all your lighting problems . . . from recommending the best methods and fittings, to preparing—without obligation—complete lighting layouts and estimates



**Contemporary
Well Glass
Luminaires**

For 60/100w GLS lamps

Two striking new ranges of screwglass fittings here—simple and modern design. *Weatherproof, corrosion resistant*, Simplex screwglass fittings are ideal indoors or out.

The two types: vitreous enamelled (acid-resistant) cast iron or cast aluminium alloy. Reflectors in pressed aluminium (optional) to suit all types. 60w complete with B.C. lampholders in bakelite—porcelain optional extra. 100w with porcelain lampholders as standard

cut your costs with

**Simplex
Screwglass**

for 60/100w GLS lamps

.....
lighting fittings by
.....

Simplex

ECLIPSE OF THE MOON

Scientists of more than 50 nations will be observing such phenomena throughout the International Geophysical Year
Photograph by courtesy of THE TIMES

Simplex Electric Co Ltd Creda Works Blythe Bridge Staff

Branches throughout Britain and agents throughout the world

A  COMPANY



The *NEW* Greenwood-Airvac
POWER DOME
roof-mounting extractor
Provides low contour and easy access

High performance
Hinged dome-head
Strong construction
All aluminium housing
Low airflow resistance
Minimum power
consumption



Easy maintenance
Simple to install
Modern appearance
Size range 9" to 24"
Low overall height
Flat or sloping bases
Speed regulation
available

Visit Stands G122,3, Building Exhibition, Olympia—Nov. 13-27.

Greenwood-Airvac *ventilation*



GREENWOOD'S AND AIRVAC VENTILATING COMPANY LTD
Patentees, Designers and Manufacturers of Ventilating Equipment and Electrical Conduit Systems
BEACON HOUSE, KINGSWAY, LONDON, W.C.2. CHAncery 8135/6/7. 'Airvac', London

CANADIAN TIMBER

...from Canada's vast forests
a wood for almost every need!

CANADIAN DOUGLAS FIR

Special Properties

Superior strength
Quite resistant to decay
Obtainable in large dimensions
High working stress values
Low natural moisture content

Typical Uses

Glue-lam fabrication
Heavy and general construction
Engineering designed trusses
Sea defences, dock and
harbour work
Heavy duty case making
Railway sleepers

For further information on Canadian Woods, contact:
Commercial Counsellor (Timber), Canada House, London, S.W.1.

You are invited to visit
the Canadian Timber Exhibit
at the

**BUILDING EXHIBITION
OLYMPIA, LONDON**

November 13th—27th, 1957

Stand Nos. 643—6

**The Gallery,
NATIONAL HALL**

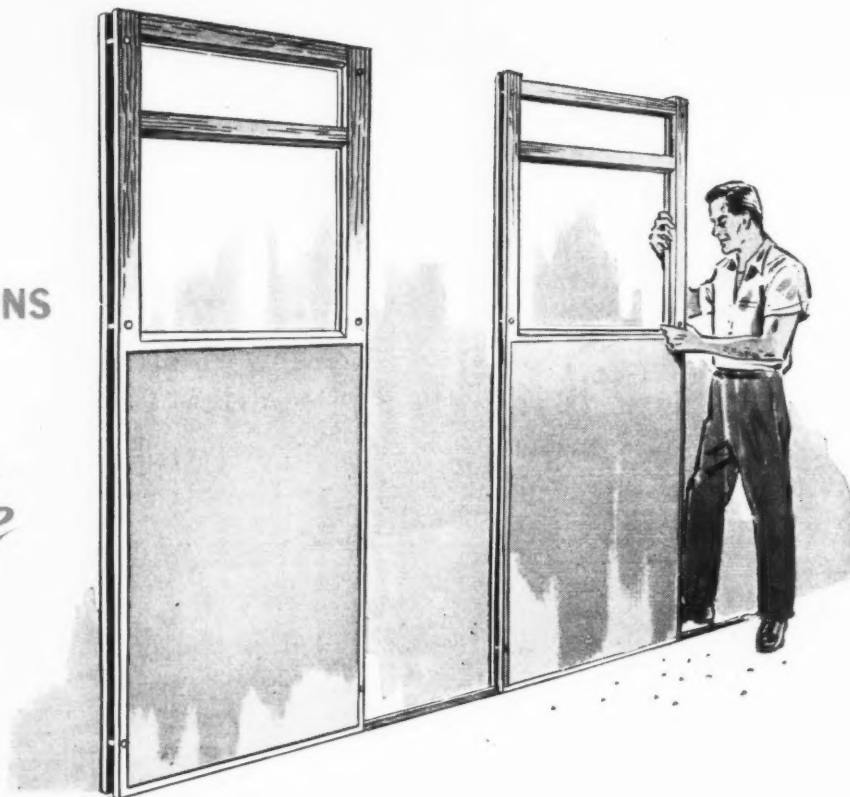
EXPANDABLE

WOOD PARTITIONS

THAT SIMPLY

glide

TOGETHER



GRANGEWOOD partitions — the most practical and economical way to divide working space

**ONLY TWO FIXINGS—YET
GRANGEWOOD PARTITIONS
UNITE TO MAKE A RIGID
WALL WHEREVER YOU
LIKE TO PUT THEM!**



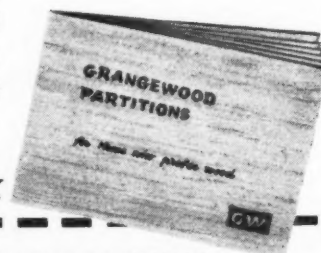
Grangewood Partitioning achieves complete rigidity with a minimum of fixing. Each section glides over "top hat" rail screwed to the floor.



At ceiling height one single-screwed fixing bracket is all that is necessary giving extreme simplicity of erection or possible later re-arrangement.

This new Grangewood partitioning has simplified most partitioning problems out of existence. Completely new devices (patents applied for) make Grangewood partitions adjustable to any height from 7 ft. to 11 ft. in a matter of minutes. It will accommodate itself to any length of run and turn around protruding beams equally quickly. Sections simply glide into position and lock into place.

As well as all these advantages, Grangewood partitions are approximately 20% less costly than their counterpart in any other material—and they are available for immediate delivery. Firm and immediate delivery dates can be quoted at once even by telephone. All the details of these new Grangewood developments are fully described in the Brochure offered below. Please write or telephone for your copy at once.



SEE STAND No. 586

MAKE NO DECISION UNTIL YOU HAVE SEEN THIS BOOK

**GW GRANGEWOOD
PARTITIONS**

**SAVING 20%
IMMEDIATE ERECTION ON SITE
TRACTABLE MATERIAL**

Grangewood Partitions, 2 Abbots Rd, East Ham, London E6
Telephone: GRangewood 3444-9

MADE BY AUSTINS OF EAST HAM LTD

**POST
THIS
COUPON
TODAY**

To:
GRANGEWOOD PARTITIONS
(Dept.AJ) 2 Abbots Rd, East Ham, London E6
Please send me a free copy of your illustrated brochure
"Grangewood Partitions."

Name

Address

(BLOCK LETTERS PLEASE)



Hammill

OFFERS YOU

THE CHOICE OF

9 Colours

THE HAMMILL BRICK CO., LTD
EASTRY • SANDWICH • KENT • Tel: EASTRY 231/2



MR. THERM BURNS TO SERVE YOU

Have you obtained your copies of the sections published to date for the "DOMESTIC GAS HANDBOOK FOR ARCHITECTS" from the Gas Council or your Area Gas Board?*

THE GAS COUNCIL (Dept. A), 1 GROSVENOR PLACE, LONDON, S.W.1

** Sections 1, 2 & 3 are now available*

Visit Stand No. 236, Row Q, at the Building Exhibition, Olympia

The Gas Industry makes the best use of the Nation's coal

FO

RP

PIC
ME

For substantial economies in daylighting flat-roofed buildings—specify

ROBERTSON DECKLIGHTS

★ DECKLIGHTS are integral with roof deck—no separate trimming or supporting steelwork is required.

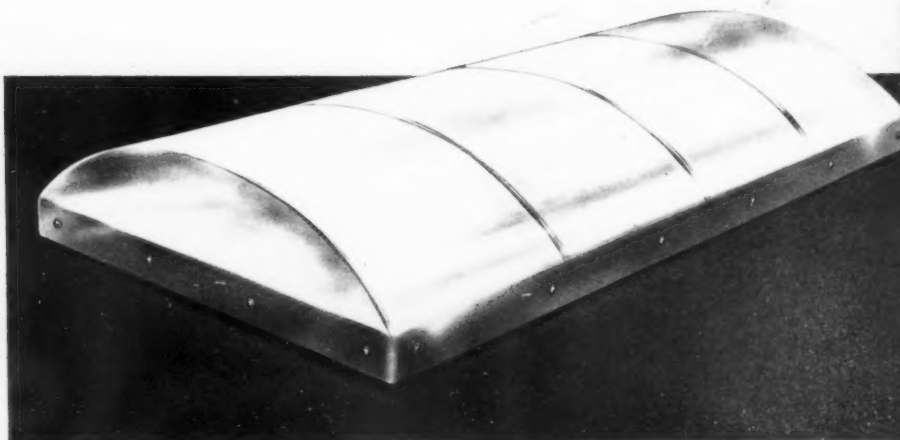
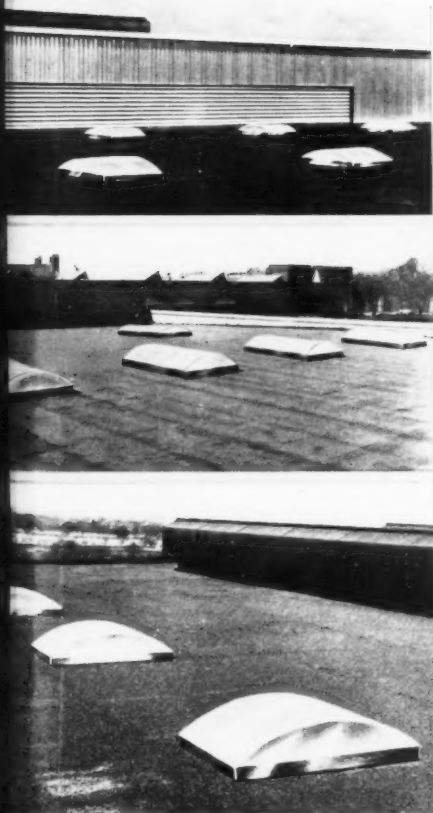
★ DECKLIGHTS can be distributed evenly in Q-DECK to ensure maximum daylighting.

★ DECKLIGHTS have outer cover of polyester resin/glass fibre, constructed in one piece. Cover is leak-proof and unbreakable.

★ DECKLIGHTS give more light where you want it and at a substantial cost reduction.

★ Three sizes are available: 4 ft. x 4 ft.; 6 ft. x 4 ft., and 8 ft. x 4 ft. The larger dimension runs in the same direction as the deck unit in which the DECKLIGHTS are fitted.

*Complete and mail the reply-paid card for
your copy of descriptive literature*



Postage will
be paid by
Licensee

No Postage
Stamp
necessary if
posted in
Great Britain
or Northern
Ireland.

BUSINESS REPLY CARD

Licence No. LV 1301

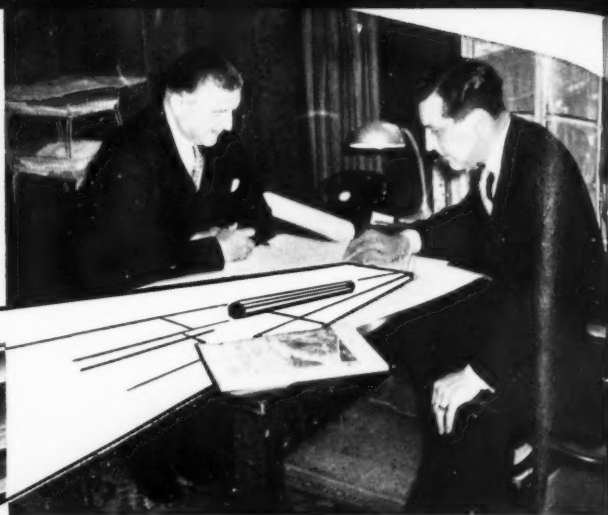
Issued by Robertson Thain Limited
Ellesmere Port • Wirral • Cheshire

**PIONEERS OF DEVELOPMENT IN
METAL DECK CONSTRUCTION**

**ROBERTSON THAIN LIMITED
ELLESMERE PORT
WIRRAL**

CHESHIRE

CONVERSATIONS in an ARCHITECT'S OFFICE



"I have positioned the ventilators on the ridge so that we make the most effective use of 'stack action'.

That makes sense, but why can I not put them in the roof slope below the ridge line?

You can, of course, but natural ventilators will not exhaust consistently in that position. Worse than that, they may backdraught when the wind direction is unfavourable.

Better not risk that happening—leave the ventilators on the ridge, it is obviously the most sensible place to put them."

For schemes of
NATURAL VENTILATION
consult

ROBERTSON THAIN

The Pioneers of Efficient Natural Ventilation!

True to this principle
ROBERTSON VENTILATORS
have been providing
efficient natural
ventilation for more
than 30 years in
over 60 countries.
THERE IS A TYPE AND SIZE OF
**ROBERTSON
VENTILATOR**
FOR EVERY
REQUIREMENT

Please send descriptive literature on

NAME _____

BUSINESS ADDRESS _____

In all Robertson Ventilators, provision can be made for the automatic release of smoke and heat in the event of fire



ROBERTSON THAIN LIMITED
ELLESMERE PORT · WIRRAL · CHESHIRE

Telephone: Ellesmere Port 2341
Telegrams: "ROBERTROOF"

Sales Offices:
BELFAST · BIRMINGHAM · CARDIFF · EXMOUTH
GLASGOW · LIVERPOOL · LONDON · MANCHESTER
NEWCASTLE · SHEFFIELD

Associated Companies or Agents in most
countries throughout the world



quickest fixing plastic surface

balanced

hardec
regd.

BUILDING EXHIBITION
OLYMPIA
STAND No.'s 572 and 574
Grand Hall Gallery

SPEED UP WITH HARDEC

Cut a panel from HARDEC and it can be fitted immediately. It needs no backing veneer because Hardec is *balanced*. Topside is the tough decorative plastic surface, and on the other side of the board, a plain plastic backing. These two plastic surfaces *balance* each other to give HARDEC unequalled stability.

CUT COSTS WITH HARDEC

Because Hardec is balanced, labour costs *and* time

are practically halved. No backing veneers are necessary, and far less adhesive. HARDEC needs less fixing and saves money.

TOUGH AND COLOURFUL

HARDEC is melamine-surfaced, as tough as they come, so it keeps its brand-new look through years of the hardest wear and tear. It is made in a range of popular colours and patterns—including a fine walnut woodgrain—in both satin and polished finishes.

...and **hardec** regd. is very competitively priced

Write for a sample of Hardec to:—

THE AIRSCREW COMPANY & JICWOOD LIMITED • WEYBRIDGE • SURREY • Tel: Weybridge 2242/7



For Electric Cables, too— you need green fingers

Given the same soil, the same fertilizers, the same sunshine and rain; using, apparently, identical methods; two gardeners do not get identical results. One gardener grows perfect blooms in profusion but, try as he will, he can never tell you exactly how he does it. We say he has green fingers. But what really seems to have happened is that much he has learned over the years has become so completely part of himself that he does the right thing instinctively.

Something of the same kind seems to happen in engineering—with a whole works playing the gardener. It is not a question of craftsmanship in the old sense, for it occurs even on a production line. But in a works that has been making cable (for instance) for years, the right decision seems 'natural', being based on knowledge that is so much a part of past experience that it is taken for granted. This is one reason why a name with a long history can still mean so much.



Crompton

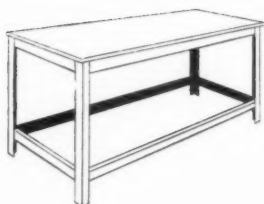


A GOOD NAME FOR CABLE

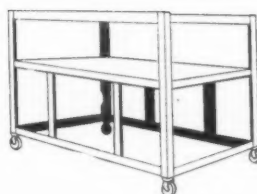
Made to the registered specifications of the Cable Makers Association

CROMPTON PARKINSON LTD., CROMPTON HOUSE, ALDWYCH, LONDON, W.C.2. TELEPHONE: CHANCERY 3333
TELEGRAMS: CROMARK ESTRAND LONDON. CABLE WORKS: ALFRETON ROAD, DERBY. TELEPHONE: DERBY 45431

BENCHES,



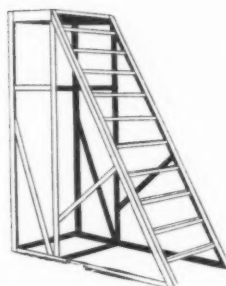
TROLLEYS & CONVEYOR



EQUIPMENT

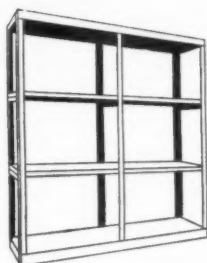
It's amazing what you can do

ACCESS AND MAINTENANCE PLATFORMS

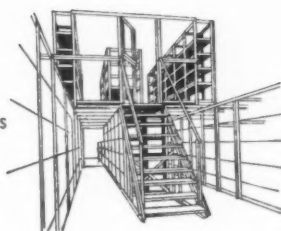


for so little money

STORAGE



INSTALLATIONS OF ALL SHAPES



& SIZES

with DEXION slotted angle



Amazing! You just can't get away from the word when you're talking—or thinking—about Dexion Slotted Angle! The final cost of a Dexion structure is very often so low it is truly amazing. The versatility of Dexion is just as amazing. Storage racks, work benches, conveyors, mobile maintenance platforms—you merely think of something and then erect it with Dexion. Usually unskilled labour can do the job because 80% of the work has been engineered into Dexion before it reaches you.

If you're an extra cautious man, you may be reassured by these two facts. Industry has already used over 100,000,000

feet of Dexion! And 80% of our orders are repeat business! If you have a constructional problem—large or small—and you're worried about cost, speed and space saving, it's almost certain that Dexion can help you.

SPEEDFRAME

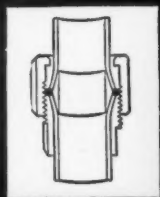
Speedframe System—another Dexion first. Saves up to one-third construction time. Send for details.

Demonstrations on our Stands—N. 35 and 37—at the Building Exhibition.

DEXION LTD • MAYGROVE ROAD • LONDON • N.W.6 • MAIDA VALE 6031 (21 LINES)

Two Minutes to make a perfect joint

... a joint that really stays firmly in position and permanently resists pressure, side strain and temperature variations—that's SECUREX. This solderless joint is precision built to save you time and money—write for details of the various sizes, suitable for many purposes.



SECUREX
SOLDERLESS COMPRESSION
JOINTS

**JAMES H.
LAMONT
& CO. LTD.**

ENGINEERS — BRASSFOUNDERS
GYLEMUIR WORKS, CORSTORPHINE, EDINBURGH 12
SCOTLAND
Telephone: Corstorphine 2241-2 Telegrams: "Solderless, Edinburgh"
London Office
NORFOLK HOUSE, LAURENCE POUNTNEY HILL, E.C.4.
Telephone: Mansion House 5700 Telegrams: "Yutaka Cannon, London"

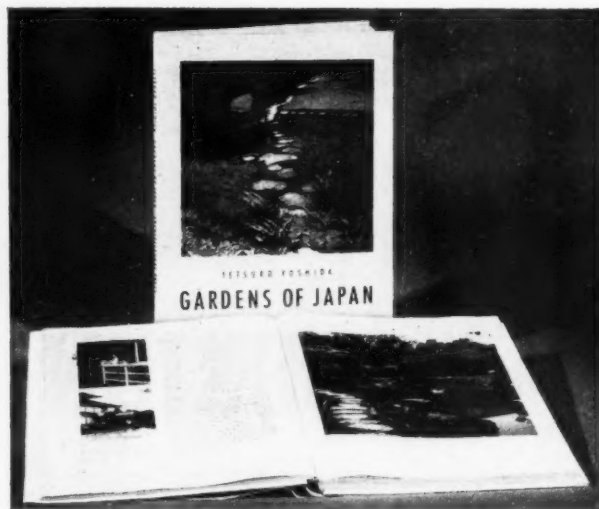
just published

GARDENS OF JAPAN

by Tetsuro Yoshida

WITH GARDENS—just as with houses—many fundamental design problems which have recently been bothering designers in the Western world, have long since been solved in Japan; a true integration of garden and house for example; the creation of an atmosphere of solitude and seclusion in a confined space; the skilful exploitation of mystery and surprise.

Following his successful work, *The Japanese House and Garden*, Tetsuro Yoshida here presents a full-scale study of the Japanese garden. But whereas earlier books have tended to approach the subject mainly from the historical angle, Yoshida writes directly from the view-point of design. He analyses in detail the simple basic elements traditionally used throughout the country—trees and shrubs, rocks, stone and water—defines their symbolic significance and the accepted rules and canons for their arrangement; he deals with the various design details such as ground coverings in grass, moss, paving and cobbles; and with plans and photographs he reveals the way in which Japanese designers, preoccupied as they are with the pursuit of a harmony between man and nature, achieve a perfect marriage of house and garden. This detailed analysis is followed by over 100 full-page illustrations of Japanese gardens.

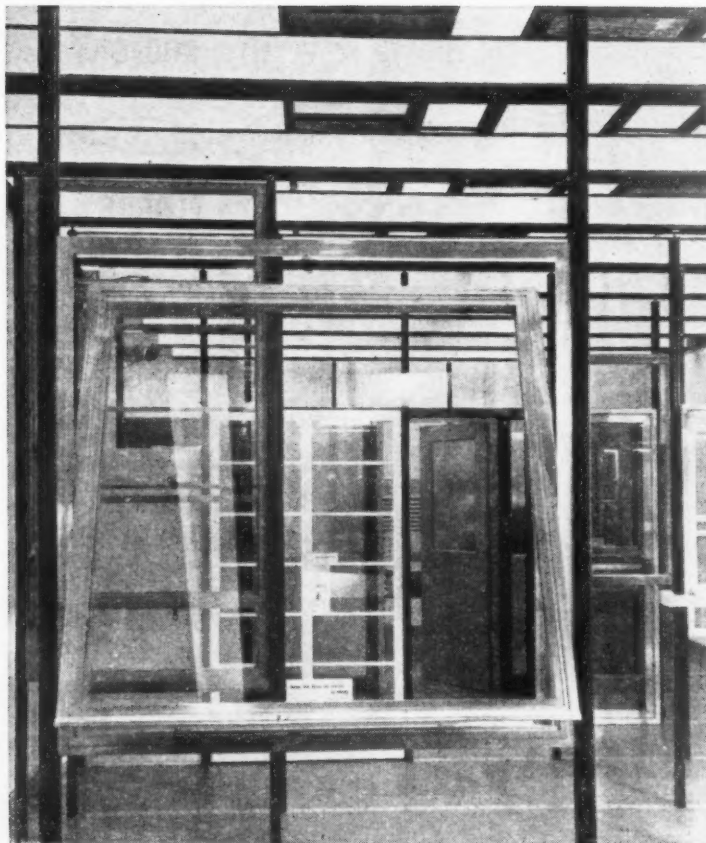


The general picture which emerges is not that of an exotic art, of interest primarily to the orientalist; but that of a garden which is a truly successful expression of simplicity and tranquillity; which makes skilful use of limited space; which is essentially aformal; and which, above all, displays in all its parts a complete oneness with nature. The kind of garden, in fact, which is at this moment of acute interest to designers in the modern Western world. Size 11 in. by 8½ in., 196 pages, including 174 halftones and 50 line illustrations, and a frontispiece and 3 plates in colour. 63s. net, postage 2s.

THE ARCHITECTURAL PRESS

9-13 Queen Anne's Gate, Westminster, S.W.1

Why Williams & Williams are not at the Building Exhibition



Williams & Williams have opened a *permanent* exhibition at their new showroom, 36 High Holborn, W.C.1. It has been designed by Bronek Katz & Vaughan (Architect-in-charge Roger Balkwill, A.R.I.B.A.). The new showroom is of considerable architectural interest in itself, besides providing a spacious and well lit setting for the products displayed. The exhibition is devised so that it can be changed around to accommodate new designs as they become available. It will therefore be a valuable place of reference where the latest developments in windows, patent glazing and curtain walling may be seen. The new showroom is open daily from 9 a.m. to 5.30 p.m. We like to make special arrangements for our architect visitors so a few hours' notice will be appreciated. Phone HOL 9861 and ask for the London Divisional Manager, Mr. J. Borthwick.

The current exhibition at 36 High Holborn includes the following products:

'ALOMEGA' the new low-price aluminium double-hung window.

'ALUMINEX' sidewall glazing and packaged roof lights.


'WALLSPAN' Curtain Walling—including a new moulded Fibreglass infilling panel.

STANDARD METAL WINDOWS AND DOORS—domestic, industrial and agricultural types.

PURPOSE MADE WINDOWS in aluminium including a new double-glazed, horizontally pivoted, fully reversible window.

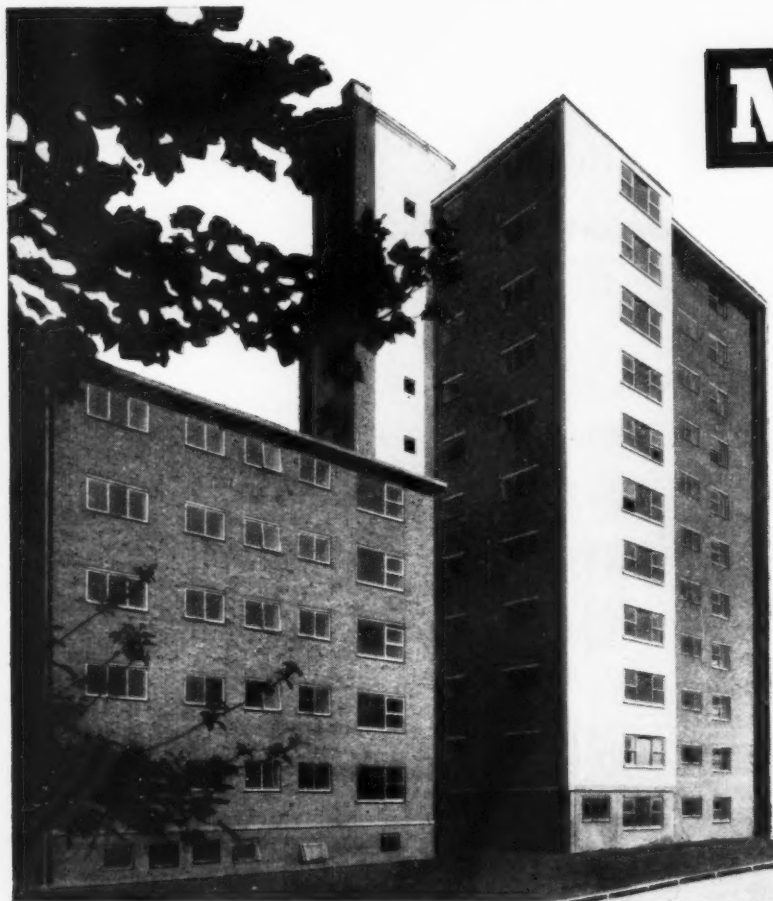
ROFTEN MODULAR PARTITIONING and Rofthen Toilet Cubicles. Pressed steel doorframes and subframes.



 Member of the
Metal Window Association

visit the **WILLIAMS & WILLIAMS** *permanent exhibition*

36 HIGH HOLBORN, W.C.1, ADJOINING WILLIAMS HOUSE



ARCHITECTS: MESSRS. REDGRAVE & CLARK, A.R.I.B.A., F.R.I.B.A.

MYKO

ROOFS

FLOORS

R. C. FRAMEWORK

and
ART STONE CLADDING

FOR THESE FLATS AT ROYAL LEAMINGTON SPA

The design and erection of the R.C. framework, floors, roofs and Art stone cladding on the above contract was undertaken by the Myko organisation. We can offer competitive schemes and estimates for the design and supply of reinforcement and the design and erection of all types of R.C. structures and Myko floors, roofs and Greenco Hollow beams throughout the British Isles. Our design and Technical service is available for consultation at all times.

Myko self-insulating roofs and floors are available in the following spans. Standard Myko to 18ft. clear span. Pre-stressed Myko to 34ft. clear span. Greenco Hollow beams to 18ft. clear span. Manufactured at Leeds, Cullingworth (Bradford), Newcastle, Romford (Essex), Portland (Dorset), Wisbech (Cambs.).

George Greenwood & Sons Ltd

King's Cross Street, Halifax
Halifax 3201

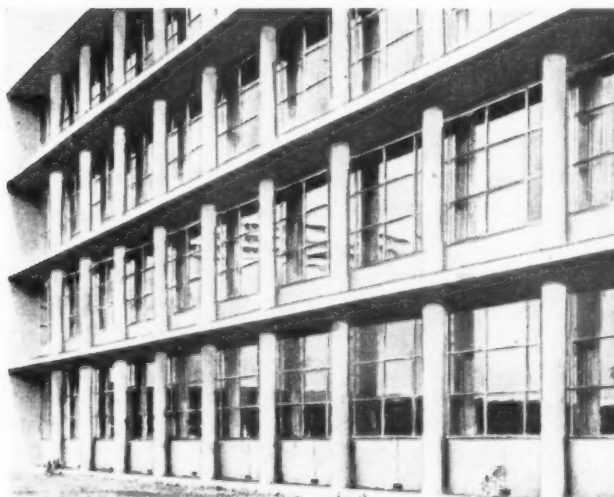
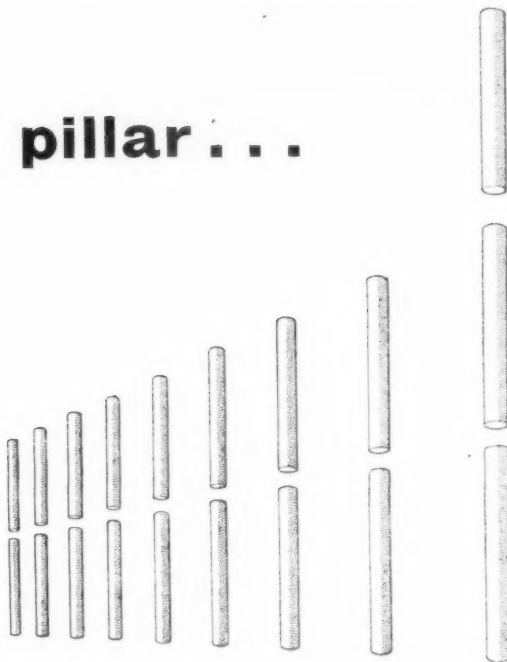
and 4 Ashley Place, Victoria, S.W.1.
Tate Gallery 2451

Manufacturers of: Flags, Kerbs, Ready Mixed Concrete and Reconstructed Stone, Bricks, etc.
See our Exhibits at the Building Exhibition, Olympia Nov. 13th-27th, Stand No. 536, Grand Hall Gallery.

Think of a round pillar...

multiply it...

build them
with ***Sonotubes***
quickly, easily
and cheaply!



Sonotube expendable fibre forms have been specifically developed to provide a fast and economical means of forming round columns of concrete. They save time, labour, timber and money in the construction of concrete columns, piers, piles and underpinning and are adaptable for encasing wooden piles and steel stanchions. Steel reinforcing can be

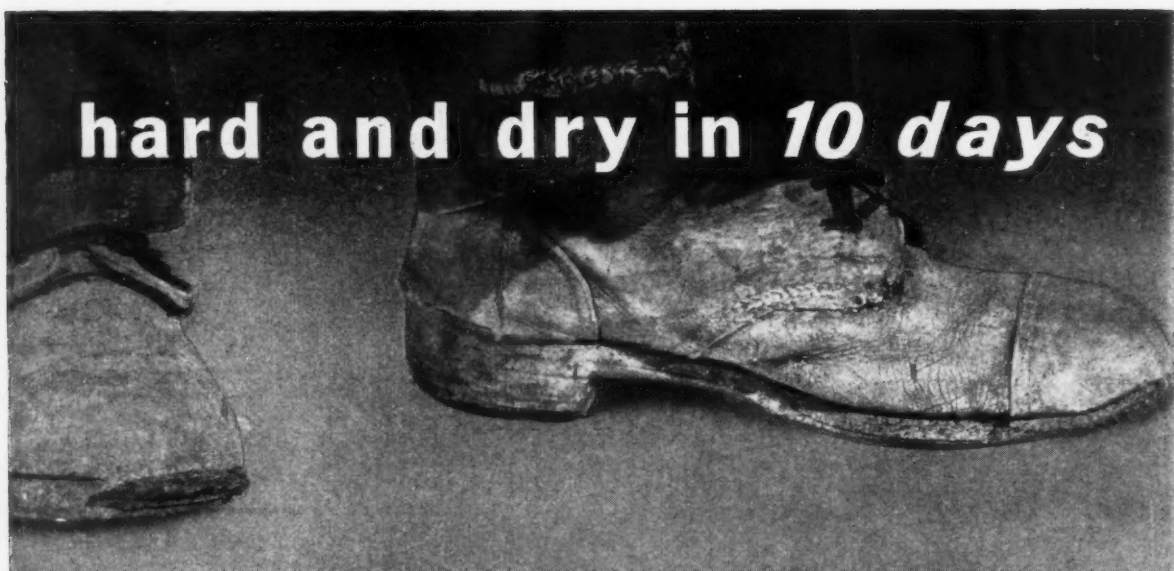
used within the tubes. Sonotube can be made an integral part of steel, cast-in-situ, or precast reinforced concrete beams. Send for detailed and fully illustrated leaflets.

Diameter: 4" ID - 36" ID. Lengths up to 25ft, Sonotubes are easily cut on site to any desired length.



expendable forms for concrete pillars

T.P.T. CONSTRUCTION PRODUCTS Division of The Textile Paper Tube Co. Ltd.
ROMILEY, CHESHIRE, ENGLAND. Telephone: WOODley 2271/2 3/4. Telegrams: SONOTUBE, ROMILEY.



hard and dry in 10 days

SYNTHANITE

THE FLOOR SCREED THAT SAVES WEEKS IN CONSTRUCTION TIME

WILL NOT NORMALLY CRACK OR SHRINK

SYNTHANITE is a new screed binder with phenomenal hardening and drying qualities. Six to ten days after being laid, a Synthanite screed is hard and dry. No more waiting four to six weeks for this stage of construction. The use of Synthanite therefore allows earlier occupation of the building, and that means saving of time, labour and money.

Great strength and virtual absence of shrinkage are outstanding qualities of a Synthanite screed. Up to 600 sq. yds. can be laid at a time with no joints and little fear of cracking. There is no risk of having to do repairs later, and an excellent surface for all floor finishes is obtained.

Laid on top of an acoustic mattress, Synthanite continuous screed forms an ideal sound insulator, and need be no more than 1½ in. thick for this purpose with no reinforcement.

Only the specialist firms listed here lay Synthanite screed; their workmen are skilled in the operation, and contracts can be accepted for screeding anywhere in the U.K. and Eire.

For full information write to any of the above firms or to:

Haskel Robertson & Co. Ltd.

19 Queen Street, London, W.1. Tel: GROsvenor 8764

W. Miller (Plasterers) Ltd.

15 Stainforth Road, London, E.17. Tel: LARKswood 3496

P B Industrial Flooring Ltd.

(Associate Co. of Pollock Bros. Ltd.)
473 New Cross Road, London, S.E.14. Tel: TIDeway 4438

Jonathan James Ltd.

55 Lacy Road, London, S.W.15. Tel: PUTney 9343

The British Doloment Co. Ltd.

18 Howick Place, London, S.W.1. Tel: VICtoria 6176

William Kenyon & Sons Thermal Insulation

(Scotland) Ltd.
140 West George Street, Glasgow, C.2. Tel: Douglas 7233

John Hadfield & Sons Ltd.

Effingham Street, Sheffield, 4. Tel: Sheffield 24082

Synthanite (North Western), Ltd.

Quarryfields, Ruthin, Denbighshire. Tel: Ruthin 493

Decorative Plaster Co. (Newcastle upon Tyne) Ltd.

1a Leazes Park Road, Newcastle upon Tyne. Tel: Newcastle 23014

Artistic & Industrial Flooring Ltd.

Specialist House, St. Philips, Bristol. Tel: Bristol 77671

Morris de Leval Limited,

15 Princes Gate, London, SW7. Tel: Kensington 6000

MORE THAN 63,000,000 square feet OF SYNTHANITE SCREEDING HAVE ALREADY BEEN LAID

Recent contracts include:— Leven High School, Fife. Kirkcaldy School, Fife. Buckhaven School, Fife. Hutcheson's Grammar School, Glasgow. Stewarts and Lloyds' Office, Mossend. Tate & Lyle Building, Silvertown. Bowaters Building, Northfleet. Telephone Exchange, Liverpool. Sun Assurance Office, Edinburgh. Marconi Buildings, Great Baddow, near Chelmsford.



BRABY

Pressed Steel Stairs are strong, safe and dependable

These internal stairs are load-saving, rapidly assembled at site and when erected with structural frame can be used to facilitate building operations.

Treads and landings are designed to take granolithic, terazzo, marble, wood, etc. or prepared for rubber covering.

Designs and estimates submitted on request.

Pressed Steel Stair in a modern office building.

Associated architects:

*H. Courtenay Constantine, F.R.I.B.A.
and Arthur A. Stewart, F.R.I.B.A.*

**other BRABY
products include**

METAL WINDOWS AND PARTITIONS · STRUCTURAL STEELWORK
DOVETAIL STEEL SHEETS · COPPER ROOFING · TANKS, CISTERNS
AND CYLINDERS · DUCTING · STEEL STORAGE EQUIPMENT

ONE OF THE WIDE RANGE OF

BRABY

PRODUCTS

FREDERICK BRABY & COMPANY LIMITED

ECLIPSE WORKS, PETERSHILL ROAD, GLASGOW, N. TELEPHONE: SPRINGBURN 5151

OTHER FACTORIES AT: London Works, Thames Road, Crayford, Kent. TELEPHONE: Bexleyheath 7777

Havelock Works, Aintree, Liverpool, 10. TELEPHONE: Aintree 1721

Ashton Gate Works, Bristol, 3. TELEPHONE: Bristol 64041. And Falkirk

OTHER OFFICES: 352-364 Euston Road, London, N.W.1 (Head Office). TELEPHONE: EUSTON 3456

110 Cannon Street, London, E.C.4 (Export). TELEPHONE: MANsion House 6034

Queen's Buildings, 10 Royal Avenue, Belfast. TELEPHONE: 26509

Palace Street, Plymouth. TELEPHONE: 62261

AP-283



The primary consideration in this Secondary School

*... a hard-wearing **ACCOTILE** floor!*



The illustrations of the Entrance Hall and Corridor above are at Flixton County Secondary School, Flixton, Nr. Manchester. Architect: G. Noel Hill Esq., F.R.I.B.A., M.T.P.I., County Architect, Lancs. Accotile Specialist Contractors: The Newsham Asphalt Co. Ltd., Manchester.

School floors have to stand up to rough usage. That explains the popularity of Accotile for floor surfacing halls, classrooms and corridors in schools all over the Country.

Accotile can take heavy traffic — its colours extend throughout the mass, its surface is easy to clean, it's good for years and years of service. It can be laid on almost any sub-floor, even on concrete direct to earth. It is rot and vermin proof. When you compare all these advantages plus the infinite design possibilities of this modern thermoplastic tile, you will realise how Accotile can help in your plans.

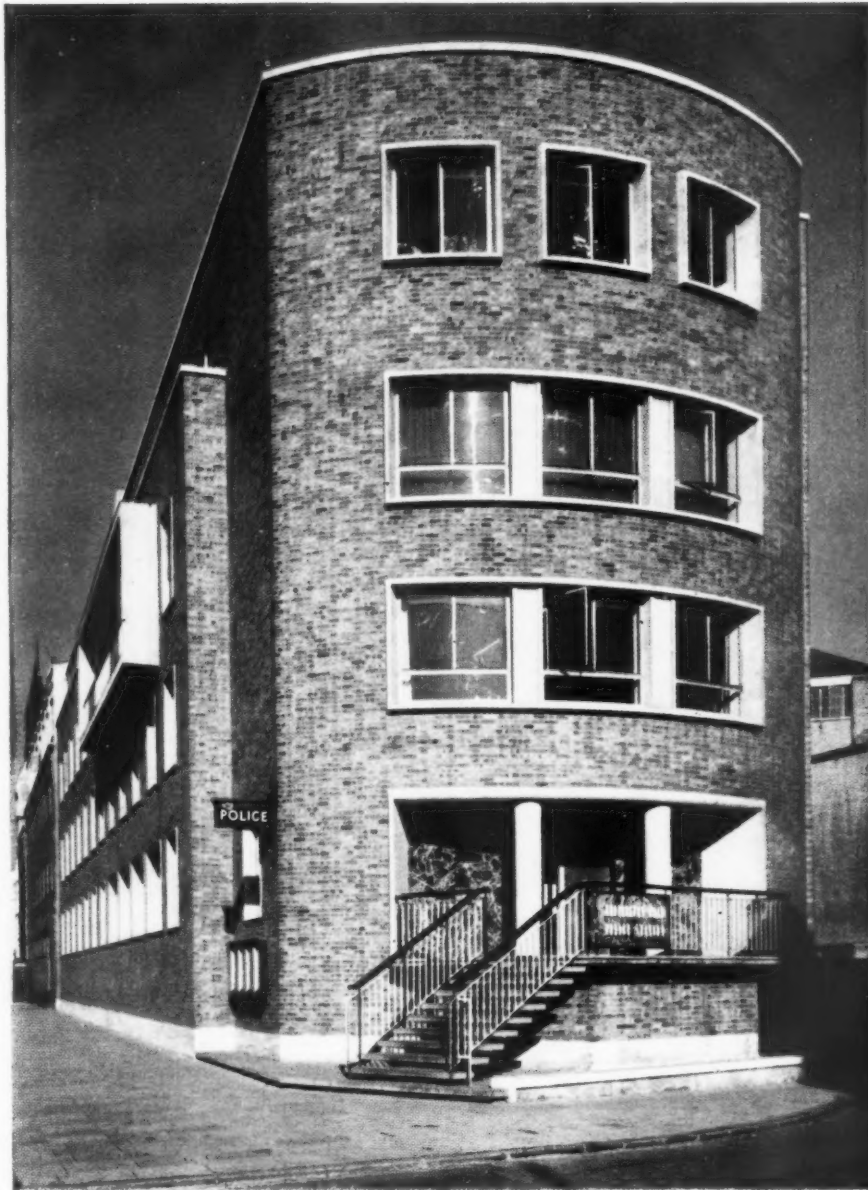
The Accotile range of colours has been increased to 26 — why not write for full details to: ARMSTRONG CORK COMPANY LTD., Flooring Department, Bush House, Aldwych, London, W.C.2. Telephone: COVent Garden 1101.

Visit our Stand No. 45, Row C, Grand Hall, Olympia, at the Building Exhibition 13th - 27th November

Armstrong Flooring

ACCOFLEX • ACCOTILE • CORK TILE • LINOLEUM

A Permanent External Finish



It is not merely a matter of pride that the structures you design or build should retain their good looks. External maintenance can be a substantial burden over the years to come.

Prominent among the advantages of brick construction is the extreme durability of its external finish. And there is practically no limit to the variety of treatments obtainable by the judicious use of colour and texture.

*Kennington Police Station
and Offices, London, S.E.1.*

*Chief Architect and Surveyor:
J. Innes Elliott, B.Arch.,
A.R.I.B.A.*

*Senior Architect responsible:
D. T. Edwards, A.R.I.B.A.*

VISIT STAND No.

76 - 7 D

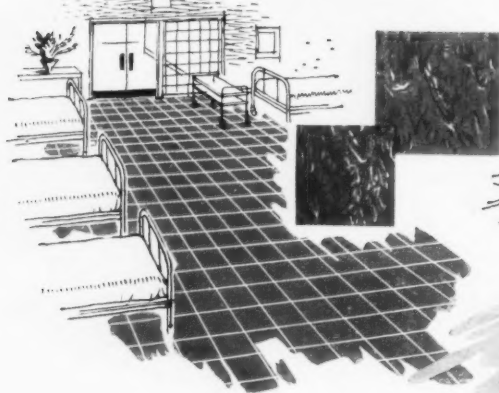
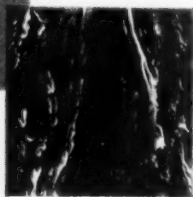
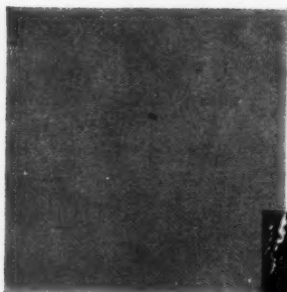
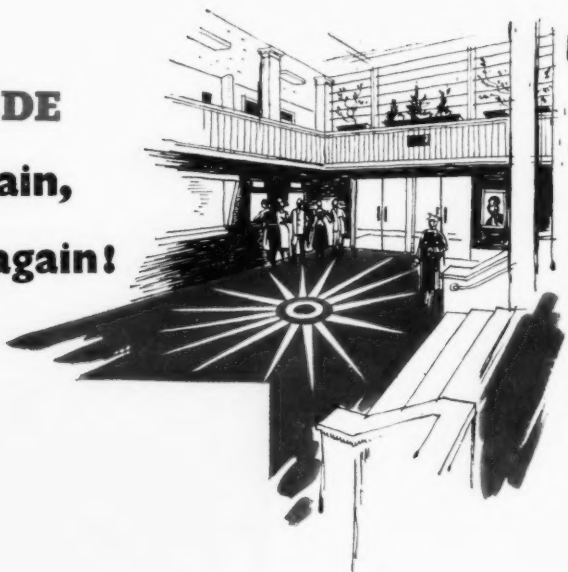
AT THE BUILDING
EXHIBITION

Design for the future—

BUILD IN BRICK

Issued by The National Federation of Clay Industries, London, W.C.1

RUNNYMEDE
is so right – again,
again and again!



Colours both plain and marbled, to lend richness to an infinity of decorative schemes; conveniently-sized squares or yard-wide rolls, in various thicknesses to meet the needs of differing conditions—at a cost inside the budget. Laid with ease to start a long life of quiet efficiency; a safe, non-slip surface always; non-buckling, non-stretching, hygienic, waterproof and so easily maintained. Runnymede—as right as rubber can possibly be . . . on any floor.

RUNNYMEDE

RUBBER FLOORING

RUNNYMEDE RUBBER CO. LTD., 6 OLD BAILEY, LONDON E.C.4

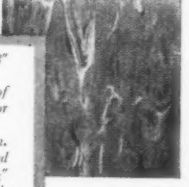
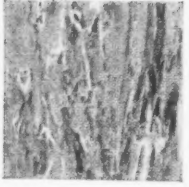
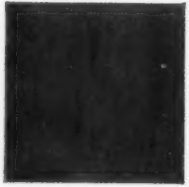
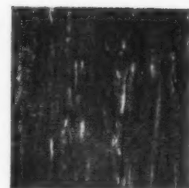
- * Squares 9" x 9", 12" x 12", 18" x 18" and 36" x 36".
- * Rolls 3 ft. wide in maximum lengths of 6 ft. for Plain colours and 10 ft. for Marbled colours.
- * In addition to the standard 3.75 mm. gauge all 34 Runnymede patterns and colours can be supplied in $\frac{3}{16}$ " and $\frac{1}{2}$ " thicknesses for orders of 50 square yards or more. Delivery: 3.75 mm. (available from stock), $\frac{3}{16}$ " and $\frac{1}{2}$ " (one month from date of order).



1/4"

3/16"

3.75 mm.





ARE YOU INTERESTED IN
KITCHEN PLANNING
and
CATERING HYGIENE?
Then you need this
Booklet

This 28-page booklet is a complete step-by-step guide to planning and equipping large-scale kitchens for schools, hospitals, hotels, restaurants, industrial and institutional canteens. Send now for your copy (reference No. 11/KP) and remember that our Advisory and Planning Department is always at your service.



VERNON WORKS, OLDHAM
LONDON OFFICE
167, OXFORD STREET, LONDON, W.1



THE ARCHITECTS' JOURNAL

No. 3273 Vol. 126 November 21, 1957

9-13 Queen Anne's Gate, London, S.W.1. Tel. WHI 0611

Subscription rates: post paid, inland £2 15s. 0d. per annum; abroad, £3 10s. 0d. per annum. Single copies, 1s.; post paid, 1s. 6d. Special numbers are included in subscriptions; single copies, 2s.; post paid, 2s. 6d. Back numbers more than 12 months old (when available), double price. Half-yearly volumes can be bound complete with index in cloth cases for £1 10s. 0d.; carriage 2s. extra.

NOT QUITE ARCHITECTURE

**BUILDING
FOR CLIMBERS**

(*Mountain—not Social*)

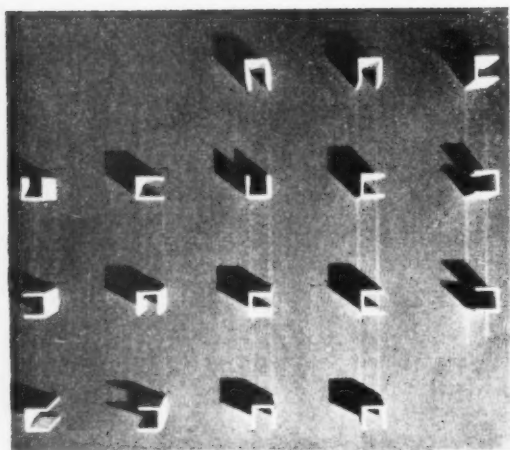
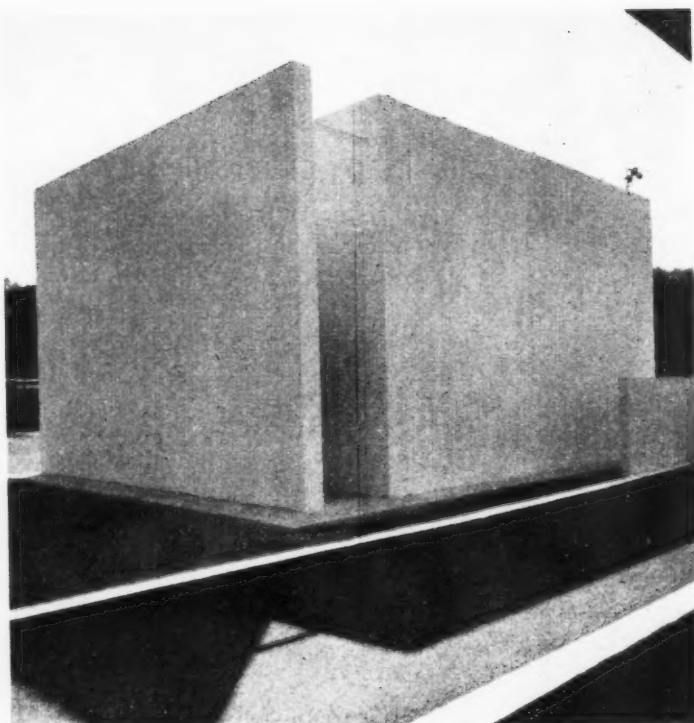
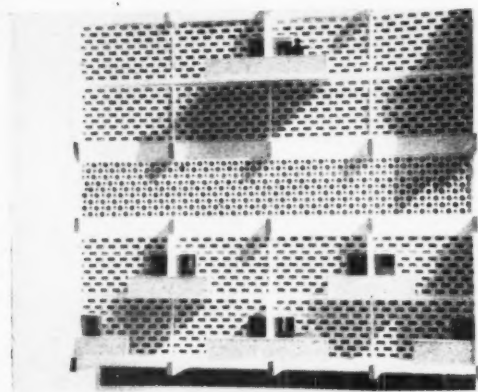
The recently published schemes for University buildings make one wonder whether all the clients' (*i.e.*, students') requirements are being properly met. If architects have a vocational sport it would appear (from a casual reading of the gossip columns of the professional journals) to be sailing. If only it were rock climbing! What a rich architectural style would have emerged.

However, undergraduates do climb and this is a guide to the features they would welcome in their buildings.

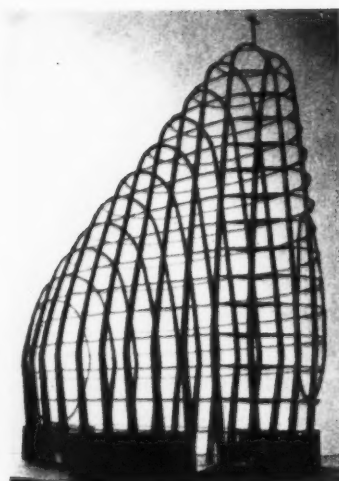
1. *Vertical Ascents*: Rainwater pipes must be at least half an inch from the wall, so that the climber can get his fingers round. The difficulty then depends on other features, such as the length and diameter of the pipe, its proximity to a corner, the surface of the wall, and the availability of resting places. The architect should provide several downpipes of varying standards of difficulty. If the pipe finishes below the top of the wall a large rainwater head should be provided. Pipes in or near a corner can often be climbed by layback* or, if the gap between the pipe and the corner is just right, by jamming hands and feet, and in these cases the pipe may be fixed tight against the wall.

2. *Chimneys*: A "chimney," in climbing parlance, occurs when two parallel walls face each other. It should be between 1 ft. 6 in. and 4 ft. in width, and is climbed by wriggling up or straddling the gap and levering oneself upwards. Obviously the friction is of utmost importance; the smoother the walls the harder the climb. Pebble dash should not be used, as the pebbles tend to come out when any pressure is applied, and act as ball-bearings between the climber and the wall.

* Climbing a pipe by layback means that the climber stands with the pipe between himself and the corner, holds on to the pipe, and leans away from it. He then puts his feet on the opposite wall, below the level of his hands. By moving his feet and hands gradually upwards, he is able to "walk" up the opposite wall.



Top, left, projected office block by R. K. Chudirji (Iraq); top, right, exhibition pavilion by Ahlgren, Olsson and Silow (Sweden); above, house structure by Hanford Yang (USA); below, warped slab by Gunther Gunshel (Germany); right, ovoid basilica by Andraut and Parat (France); far right, unplanned Syracuse competition entry by Alain Bourbonnais (France).



Blinkers In The Rue Bartholdi



The October issue of the influential Paris architectural magazine *Architecture d'Aujourd'hui* was devoted entirely to the work of younger architects all over the world, ranging from actual buildings by recently established masters like Paul Rudolph and Harry Seidler, to the excitable imaginings and uncompromising purities of the newly-qualified—but including nothing at all from Great Britain. There are a number of possible explanations for this startling omission: *Architecture d'Aujourd'hui* is closely linked to the aesthetic doctrines of *Groupe Espace*, with which many younger English architects have a quarrel that goes back some years now; it is also

closely linked to the French CIAM group, and the same younger architects may be in bad odour for their part in wrecking the old CIAM organization. Perhaps our younger architects are just not good enough—but even if we have no-one in the Rudolph-Seidler class, any average fifth year exhibition at one of our progressive architecture schools could produce work of the quality of the projects and buildings reproduced above. Or perhaps *Architecture d'Aujourd'hui* no longer has a London correspondent? At all events, the drawing on the left, taken from the top of one of the editorial pages of the September issue, seems to give a fair picture of the outlook of the Rue Bartholdi, an outlook that does little credit to a magazine of international standing, and little service to that international interchange of ideas for which Paris is the traditional clearing house.

3. Cre
widths
deep, s
deplora
present
architec
that the
comple

4. Tre
of a bu
stone a
These
pleasan
of thes
doubte

5. Tre
climb
narrow
can be
his fin
ledge;
distan
may b
are av
withou
5 in. w

6. Be
climbe
for fix
desirab
tal pro
stacks
purpos
may r
known
and to
windo

7. W
several
imagin
vide a
with n
unfort
gradin
they c
ditions
gradin
easy o
with w
The h
instanc
but or
tect sh
ever, z
to be
nowhe
availa
large
handh
past th

A fir
as str
a tend
and c
a clim
clutch
or a p

* Crack
may al
REFER
" Whip

3. *Cracks*: Vertical cracks, of varying widths from 2 in. upwards and at least 4 in. deep, should be provided.* Thin cracks are deplorably absent from most buildings at present, and it is to be hoped that in future architects will see that they are provided or that they arise within a reasonable time after completion.

4. *Irregularities*: Sometimes on the corners of a building, alternate courses of brick or stone are made to project beyond the rest. These give an easy route up, or perhaps a pleasant way down. A judicious sprinkling of these bricks on a bare wall would undoubtedly give a very pleasant climb.

5. *Traverses*. A traverse is a horizontal climb across the wall of a building. If a narrow ledge is provided a hand traverse can be made. The climber hangs on with his fingers and works his way along the ledge; the difficulty depends mainly on the distance between resting places. The ledge may be walked, for variety, if handholds are available a few feet above—or walked without handholds if the ledge is more than 5 in. wide.

6. *Belay*s: On exposed hard climbs many climbers prefer to be roped and a "belay" for fixing the rope at the top of the climb is desirable. Collars on downpipes, ornamental projections, lightning conductors, chimney stacks, balustrades or railings fulfil this purpose. A window is not sufficient since it may not be assumed that the climber is known to the inhabitants of the building, and to enter a building through its upper windows is to risk prosecution.

7. *Wall Climbs*: A wall is climbed using several or all of the above methods. The imaginative architect should be able to provide a large number of interesting routes, with many standards of difficulty. It is not, unfortunately, possible to give an accurate grading of the above types of climb, since they depend so much on individual conditions. Different people will give a different grading to the same climb. A climb that is easy on a calm, dry day may be very hard with wind or icy conditions to contend with. The hardest part of a chimney climb, for instance, may occur, not in the chimney itself but on entering or leaving it, and the architect should not be too lenient here. However, a word of caution: there is little fun to be gained in starting a climb which leads nowhere, and some sort of finish should be available. A fairly flat roof is useful, and large eaves should be avoided, unless good handholds are provided to assist the climber past them.

A final note. Make your aids to climbing as strong as possible. Rainwater pipes have a tendency to work loose with repeated use, and can be dangerous; and nothing makes a climber look sillier than to drop 50 ft., clutching in his hands a large pipe or gutter or a particularly malevolent gargoye.

ANTHONY BAYES

The Editors

A NEW ROLE FOR THE BUILDING CENTRE

THE lesson we have all learnt from the Sputnik is that while competitive private enterprise, working in a partially free economy can give some nations a very high standard of living and scientific achievement, the rigidly controlled economy can, by totalitarian methods, rapidly overhaul the achievements of the free economy by undertaking selected, limited aims and concentrating all available brain-power and manpower to those purposes.

Western democracies may be repelled by the loss of personal liberty involved in such measures, but they are fast realizing that competitive economics can be very wasteful in labour and materials—that cut-throat competition can be just that. . . .

There are, it would seem, two ways of improving standards in a free economy: by raising the quality of education and by speeding up the competitive marketing process. The first method is inevitably a very slow one, but the second can have more immediate results. We believe that there are simple steps which can be taken to improve the quality of products manufactured by private enterprise in addition to passing complicated legislation to deal with the evils of monopolies and so forth. One of the most important of such steps is the setting up of consumer advisory bodies. One of the first of such bodies, in a limited way, was the Council of Industrial Design. Recently two other bodies, one privately run, one a part of the British Standards Institute, have started giving advice on how to obtain value for money in household purchases.

We believe that this type of advisory service is entirely beneficial and should be greatly enlarged and developed. It is the simplest method by which good products can be publicized and therefore the effect of competition on the whole marketing system accelerated. But if it is important for the housewife, whose individual purchases are, in the main, small, relatively inexpensive items such as clothing, foodstuffs and household sundries, how much more important would be such a service to the building industry, where architects and builders are responsible for the purchase of vastly more expensive items. It is easy to say that professional training and experience soon equip a man to accept this responsibility. This may have been true once, but it is hardly true today. The reason is simple: the number of different buildings which a man designs in a lifetime has not changed significantly, but the number of materials, and the variety of equipment which can be put into each building has multiplied enormously. In other words, the choice put before the architect has increased greatly but the number of opportunities to experiment has remained constant. It is obviously, therefore, best to avoid having architects learning "the hard way" through "practical experience," which normally means at other peoples' expense. It was partly to meet this situation that the British Standards Institute and the Building Research Station evolved, but their influence on the manufacturers of building materials and

* Cracks may be climbed in a similar way to pipes, and may also often be climbed by the "jamming" method. REFERENCE: *The Night Climbers of Cambridge*, by "Whipplesnaith," published by Chatto and Windus.

equipment, though fairly sure, is slow.

What is needed is an accelerator of professional experience. This could be achieved by a body composed of architects and engineers who would select material on the basis of performance, appearance and value for money (with equal emphasis on each attribute, not, as we suspect with the COID, putting appearance first) and who would publicize their choice. The body to undertake this would logically seem to be the Building Centre. The first in its field, and the pattern on which the world famous Boncentram in Holland has been modelled, the Centre should, we suggest, celebrate its twenty-fifth anniversary by revising its aims. It is no longer sufficient for it to be a miniature permanent version of the Building Exhibition. The time is now ripe for it to record and exhibit *all* building materials and equipment—showing samples, prices and specifications, but, more important still, to give special publicity to new ideas on the one hand, and proven sound designs—British or foreign—on the other. No matter if the latter list prove somewhat arbitrary. The effect of such publicity for recommended designs would be to accelerate the rate at which inferior designs on the market were replaced by good. This policy may mean that the present method of financing the Centre would have to be adapted, and some financial support by the Government might be necessary, but that, as we have indicated above, is probably an essential task of a twentieth-century democracy.



TERRACES REPRIEVED?

Mr. Butler's statement to the House that the Nash terraces are less likely to be destroyed than public opinion imagines, and his readiness to listen

to M.P.s before any final decision is taken, are certainly reassuring as far as they go. ASTRAGAL has also heard, from what diplomatic correspondents would call "a high and reliable source," that the terraces are not going to be destroyed. It remains to be seen, however, what this really means. Mr. Butler did not say "all." The Gorell Committee in 1947 recommended that of the 24 groups of houses forming the "Nash terraces" at least seven should be preserved "at all costs"—Chester, Cornwall, Cumberland and Hanover Terraces, Park Crescent, York Gate and Sussex Place. But this was the committee's last ditch, the point beyond which it would not retreat: in fact, it wanted to preserve the lot. It looks as if we may be in, not for a controversy on the complete destruction of the terraces, but an argument about the merits of individual terraces, and the problem of their replacement. But why must these battles be fought afresh every ten years?

IMPACTED WISDOM

Fort Worth, the Texan city where "wheels and legs are kept separate," and the mechanized beings are to be

driven underground, leaving the human ones to enjoy fresh air and exercise in safety above, is a place to give all planners a lift of unaccustomed optimism. And optimism was certainly the keynote of a talk about Fort Worth by its architect, Vienna-born Victor Gruen, at the Stationers' Hall in the City of London last week.

*

Apart from Mr. Gruen's hopeful disposition and witty tongue—he produced a new definition of Subtopia by saying the countryside is becoming "infested with *Bacillus technologicus*"—there is food for optimism in the fact that Fort Worth today has begun on a 15-year-plan for refashioning itself with all wheeled traffic going underground, and has found the ways to win local officialdom, population and business interests for the scheme, and the means to pay for it, despite the fact that, as Mr. Gruen remarked, "Five years ago 'Planning' was a dirty word in America—as dirty as 'Communism'."

*

Mr. Gruen had been caught in transit, returning to Texas from his annual visit to Vienna, to talk about Fort Worth to an advisory group of consultants recently formed under the title of IMPACT (it stands for Industrial-Municipal Planning and Co-ordination of Technologies—or maybe the polysyllables came after the initials were thought of). They have worked together before, on the High Paddington proposal and the New Barbican plan, and the fact that Fort Worth is a fact as well as a plan evidently gave everybody new heart to continue the struggle for planned development, to end the decay of town centres and release the traffic jams. They peppered Mr. Gruen with questions, from "where does the money come from?" to "how does one carry home the shopping?" And Sir William Holford, speaking up as a distinguished visitor, expressed how much interested they all had been.

*

The City of London Plan, Sir William pointed out, had many of the same ideas as those for Fort Worth, though their appearance might be different, but he was pessimistic about "democracy" ever allowing them to become reality. Mr. Gruen had only one answer to that: "Optimism."

The
—
an
chro
May
cove

A m
an
has
33 y
for A
2 fiv
By n
borro
in sh

The n
and so
handw

THIS
Perh
decide
call
This
Now
tectur
newly
in N
upright
ing, al
chape
planar
Bruta
advan
appea
tailed
plush

Wha
ironic
he ha
good
Frede
that
aethe
the P
"It a
the m
in th
place
ber o
exhib
Paris
exhib
recta
becom
whee
geanc
that
honor
respo
cerat

WHAT
MO
Arts

The venerable Bauhaus-Fundition AND de Stijl
— are dead. Dead as a doornail. No
chromium-plating will bring it back alive.
Mary's Tomb has lost its words. Valuable
covers were spun from its yarn. All is gone.

A new Lamb was born. NO ONE paid
any attention to it. That new animal
had been growing since, and is exactly $(\frac{57}{24})$
33 years old. Comparatively young
for a new structural system. It was 1924, when
I first exhibited the "Endless" in "Continuous Tension".
By now the baby is played with, and
borrowed from Lap to Lap. Doms are leaping
in shell-constructions.

The newly-completed World House Gallery
and some explanations in "Brutalist-type
handwriting." See note below.

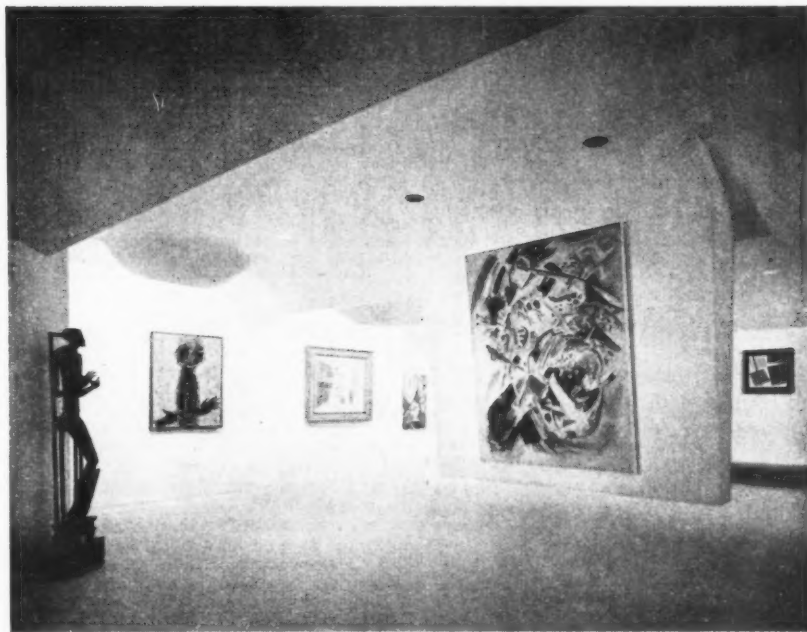
THIS WAS TOMORROW

Perhaps the Amiable Young Men who
decided, against powerful advice, to
call their exhibition at Whitechapel
This is Tomorrow were right after all.
Now that tomorrow is here, *Architectural Forum* has pictures of the
newly-completed World House Gallery
in New York, complete with non-
upright walls, wavy ceilings, trick light-
ing, abstract paintings, and other White-
chapel gimmicks, including an ex-
planatory text in the designer's own
Brutalist-type handwriting. The main
advance on Whitechapel is that it all
appears to be well and expensively de-
tailed, and the materials are very
plushy.

What struck my Scholarly Spy as
ironical—and more than ironical after
he had looked up dates and facts in the
good books—is that the designer is
Frederick Kiesler, who says in his blurb
that (among other things) "A new
aesthetic unfolds its wings, freed from
the Prison of the Grid." My SS writes:
"It appears to be an historical fact that
the man who shut up exhibition design
in the prison of the grid in the first
place was one Frederik Kiesler, mem-
ber of *de Stijl*, whose 1924 theatre
exhibition in Austria, later seen at the
Paris exhibition of 1925, was the first
exhibition structure based on those
rectangular space grids that have later
become so routine and tedious. So a
wheel has come full circle with a ven-
geance, though one cannot help feeling
that the *amende* might have been more
honorable if Kiesler had admitted
responsibility for the original incar-
ceration."

WHAT TOP PEOPLE SIT UPON

More than one early visitor to the
Arts and Crafts Exhibition Society's



show at the Victoria and Albert must
have been momentarily caught out, as
ASTRAGAL was, by a set of five chairs,
unlabelled and uncatalogued, plain,
straightforward in design, but notice-
ably worn and battered. An historic
set of Gimson's, perhaps? A recently
discovered suite of . . . and then reali-
sation dawned—standard MoW issue
chairs, not exhibits, but for the Princess
and the other top people to sit on at
the opening ceremony.

The mistake has a moral, for these
humble sitting machines were practi-
cally the only objects in the whole
crowded, but well-arranged, room
that were free from an insufferable
artiness that varied in style from the
pseudo-mediaeval to the sub-Espresso;
they showed just how low handicraft
work has fallen in design and concep-
tion today. Nevertheless, those ex-
hibits that were handicraft-made for
sound economic reasons, like the key-
board instruments by Goble, Dol-
metsch and Clark and the violin bows
by Bultitude, were mostly impeccable
and in some cases superlative, and
showed up the rest of the objects on
view.

It is clear that what the handicraft
business in England needs today is not
higher standards of workmanship, but
higher standards of intellectual and

economic realism. These highly sophis-
ticated people really must stop playing
at peasants, artificially imitating the
accidents of incompetence. If they
offered instead those qualities which
it is uneconomic to build into mass-
produced consumer goods—notably
high finish and absolutely hairline pre-
cision—many people, including ASTRA-
GAL, would be prepared to take them
much more seriously.

CAPITOL CONVERSION

It seems we are not the only country
that has first-class, but half-muffled,
architectural scandals. Quite apart
from the continuing mutters from
affronted Brazilian architects at Corb's
attempt to muscle in on the design of
their new dream-capital, Brasilia, there
is an increasing undertone of rum-
blings from Washington about the
long-proposed, long argued, long-
opposed scheme to extend the Capitol
there, by advancing its eastern façade
just enough to spoil its relation to the
dome above it.

As the committee, headed by the
Capitol's architect, J. G. Stewart, finally
put in an allegedly agreed report, ad-
vising that the refronting be done,
sundry Congressmen were busy pro-
moting bills to cut the ground from
under the committee's feet by amend-
ing the law under which they were

operating, and the air was beginning to thicken with allegations, some of them more or less posthumous, that the agreed report was a fiction, that the views of some of its members are being grossly misrepresented, and that the proposed internal improvements, which were the justification of the rebuilding would be on the west side of the block anyhow.

POLY

Not every student publication presents its readers with a free paper doyley and bids them farewell with a genuine handcrafted kiss. For these uncommon courtesies ASTRAGAL would like to thank the editors of *Polygon 2* (though they might have been less determined to conceal the fact that it comes from the Regent Street Polytechnic). The kiss is printed on a sheet of ten-to-the-inch graph paper, and it can therefore be stated with some certainty that my copy contains just over one square inch of genuine old-style non-kissproof lipstick.

*

On the other hand, it is possible that this combination of indubitably-organic form with demonstrably-regular rectangular geometry may have some connection with the last article in *Polygon 2*, which—if I read it aright—is a plea for a sort of split-level architectural aesthetic, for modular grids controlling everything standardized, and roly-poly organic shapes (the New Bowellism, is the term suggested) for unique one-offs and public buildings. But since this is a student publication where everything is possible and no holds are barred, why stick at only a two-way split (which is what the US has already, anyhow). Why not have as many aesthetics as there are building types?

*

And what happens if the bulk of your standardized accommodation is in Fuller domes, or moulded fibreglass shells? The purely visual attractions of a neat two-form system are obvious enough, and have been exploited by Corb since goodness knows when, and by the Woods at Bath before him, but is it enough for our present needs and is it good enough for our future needs?

ASTRAGAL

LETTERS

R. V. Trigg, L.R.I.B.A.

John Voelcker, A.R.I.B.A.

Peter L. Clark, A.R.I.B.A.

Lecturer in Building, Nottingham and District Technical College

Thomas A. Markus, A.R.I.B.A.

J. M. Austin-Smith

Representation

SIR,—Having read the collective opinions of local government architects in your issues of October 24 and 31 respectively, I feel that these reactions to Richard Sheppard's open letter are no contributions to the spirit of his proposals, but are an illustration of an ill-informed appraisal based on a narrow outlook.

There is an obvious economic necessity for all LGO's to improve their status and monetary reward for the services they carry out for the community. Architects and members of other professions employed in this capacity are dependent at the moment on two sources of representation to achieve improvement: their professional body and their Trade Union. The former, for a variety of reasons, is unable to provide effective support—and thus the whole responsibility for the present salaries and conditions of service and all future improvements rests with the latter.

It is therefore interesting to read that "NALGO does not effectively represent the architectural profession in its negotiations with the National Joint Council and is indeed never likely to do so." Very true; NALGO is fully occupied in representing local government officers (of whom a small minority are architects) with the unselfish support of "a large preponderance of clerical and administrative officer members" whose "long and sustained effort" is acknowledged by Mr. Sheppard.

It is suggested that the financial aspirations and professional recognition of the local government architect would best be served by:

(a) The formation of a vigorous society to work wholeheartedly with and not against NALGO.

(b) The direct assistance given to NALGO by architects at local, district and national level.

The Association would benefit from their interest and active support, and perhaps in due course the closer contact with members at all levels from all departments would ensure that a statement such as "the status and respect rightly due to architects is to be maintained" would offend their sense of decency as strongly as it did mine.

R. V. TRIGG.

Northampton.

Rushbrooke Housing

SIR,—In reply to "Functionalists'" queries and criticisms, published on October 24.

(1) A door should certainly have been provided between the kitchen and the passage leading to bathroom and bedrooms.

(2) Orientation; the bedroom spine runs from north to south with a maximum

variation of 15 degrees to east or west. This variation is useful in arranging the group of houses to suit the configurations of a particular site. I agree that the alternation between east and west is not entirely satisfactory—the difference should be reflected in the plans of east-side and west-side houses, but for simplicity I kept the same plan while making sure that the courts got plenty of sun.

(3) Overlooking; possibly it was not clear from the plan published, but the large bedroom always looks into the court of the same house and the other bedrooms (one or two) look on to public ground. Within the limits of one-, two-, and three-bedroom houses it is always possible to arrange the sequence of houses in such a way that they do not overlook each other's courts.

JOHN VOELCKER.

London.

Education For Builders

SIR,—Will you please clarify the following points which have arisen from the article by Alan Tate, "Education for Builders," published on September 19?

He states that the Higher National Diploma is equivalent to the Higher National Certificate and later quotes questions from an HND examination paper set in 1957 for part-time day students.

The student with Ordinary National Certificate may either proceed to an HNC course, which is usually three evenings or one day per week for two years, or to an HND course comprising three years' full time study, or a Sandwich type course of four years' duration (i.e., six months in industry, six months at college each year). A far greater variety of subjects are studied and a much higher standard attained on the HND courses, and perhaps this can best be illustrated by a comparison of hours.

HND — 3,000 hours plus.

HNC — 430 hours approx.

Hardly equivalent.

Concerning the second point; which educational establishments run an HND course for part-time students?

It would be in the best interests of students and prospective employers for a suitable distinction to be made between the two qualifications.

PETER L. CLARK.

Leicester.

Alan Tate, the author, is abroad, so we showed Mr. Clark's letter to a spokesman of the Institute of Builders, who makes the following comments.

1. The Higher National Diploma is considerably higher in standard than the Higher National Certificate. The latter, by virtue of the time factor—that is to say, the average student would have only three evenings per week for 2½ hours per evening in which to study the subjects—is to a very large extent narrowly vocational in outlook. The full-time course offered for the Diploma permits some study of background subjects; and a very much broader approach results. In addition, where the full-time course is of the sandwich type it cannot be argued that the full-time course has no element of practical experience which is very helpful in the part-time course. In short, the point made by Mr. Clark is a correct one. The point made by Mr. Tate cannot be said to be correct.

I should welcome an opportunity to show you typical syllabuses of these courses and I am sure it will become immediately evident to you.

2. I think there must be a misprint so far as the statement that an HND examination paper was set for part-time day students.

The Diploma implies full-time or full-time sandwich. It is the Certificate which is taken by part-time day or part-time evening students.

Cladding Skyscrapers

SIR.—Your leader of November 14 pinpoints issues which Sir Howard Robertson raises by implication in his letter. Whilst it is unfortunately true, as you say, that our knowledge of the functional performance of curtain walling is far from adequate for a dogmatic judgment, it is sufficient to show Sir Howard's argument for what it is—rationalisation of private taste. There is only space for the briefest replies to his 11 points; but first the initial confusion which he introduces must be pointed out. Arguing that "the all glass front" in American offices is on the way out, he qualifies this by saying that it is "... in reality only about 50 per cent. glass owing to fire regulations." Throughout his letter it is difficult to decide whether his points refer to windows, to spandrel panels, or to both. I will take each of Sir Howard's points in turn:

1. *The load on the air-conditioning for both heating and cooling is found to be excessive and uneconomic.*

This is only so when the balance between window orientations on various elevations has not been achieved. Thus, south facing walls can act as solar collecting surfaces for heating north-facing rooms. Implicit in the idea of the glass curtain is the use of such devices as special glasses, shades and blinds against heat build-up and double glazing against heat loss: these are not "remedies" but an integral part of the glass curtain.

2. *The heat resisting glass reduces summer heat, but correspondingly cuts down the benefits of solar warmth in winter.*

This is not necessarily so. It must be remembered that unwanted summer heat and wanted winter heat are coming from different directions. Thus the American Society of Heating and Air Conditioning Engineers' Guild shows that in New York latitudes the east and west elevations present the most serious summer problems as the sun is striking from low altitudes, screens are of little use, and there is little reflection loss from the glass. South elevations present less problems as the sun is striking from a greater height and can be screened by shallow overhangs. Thus, in these latitudes ordinary glass with overhangs on south elevations, and heat absorbing glass on east and west elevations, will make the most of both conditions.

3. *The next logical step, already in application on lower structures, is the use of sun louvres, of various degrees of complication, requiring maintenance and adding to initial cost.*

There must be few buildings in New York, even of "traditional" construction and with small windows, which do not need such devices somewhere and at some seasons, and the increased amount of them which larger windows demand is not in proportion to the extra area (e.g., a remote control device for a blind 6 ft. high by 6 ft. wide does not cost twice as much as for a window 6 ft. high and 3 ft. wide). The savings made by a properly designed curtain wall more than pay for these devices.

4. *The "all-glass" fronts, having attractive possibilities in the country (views, etc.), seem in the cities to demand extensive use of venetian blinds, behind which electric light is burning, thus adding a fresh source of heat. Otherwise the glare, at certain phases of the year, is terrific.*

To reduce glare it is not, of course, necessary to cut out daylight, but only to diffuse it (by using special glasses or blinds), to redirect it upwards (by using prismatic glass

or adjustable venetian blinds) or to reduce it (by using neutral, grey or obscuring glass). Such diffusing, redirecting or reducing as may be necessary should not of itself require the burning of electric light.

5. *The thin curtain walling is at least as expensive as masonry, and if the added cost of an excess loaded air-condition is added, is often more expensive.*

For reasons given above, there is no reason why a thin curtain wall with proper insulation should place a greater air conditioning load on the plant than a thick masonry one. The enormous saving in dead weight (reduced structure and foundation) and the speed of erection of curtain walls more than make up for their extra cost per sq. ft. on savings in floor area (see 10 below).

6. *The maintenance of glass and metal façades can be very high, the various mastics and jointings requiring frequent attention and sometimes replacement.*

Glass itself is unique among building materials in requiring no maintenance; it is the maintenance of the frame which is expensive. Developments are now on foot to reduce this (permanent aluminium finishes, vitreous enamelled aluminium, cladding panels incorporating their own framing which is concealed behind the front skin). The use of motor-car type glazing extrusions, as in Saarinen's General Motors buildings, or patent glazing techniques, or rubber-like mastics, should make for long-life joints with relatively easy replacement. A stone building also needs maintenance—usually rather more than it gets.

7. *Such façades only look well if constantly cleaned. I was informed at the all-glass Manufacturers Trust Bank building in Fifth Avenue that its façades are washed every day.*

Yes, but as you point out in your leader, properly designed overhead rails, platforms and cradles make this little more expensive than window cleaning on a traditional building. But the finished product, a clean curtain wall, is something immeasurably more appealing than a clean stone building: it is a new conception of pristine sophistication. The price you pay is accepted as the price of permanent freshness.

8. *Excess of glass often gives rise to unhappy and distorted reflections from neighbouring buildings (e.g., No. 450, Park Avenue).*

This need not happen; but in any event some people like it.

9. *A building such as the Fifth Avenue Bank only looks really interesting when the totally luminous ceiling is lit up. These lights are on all day and in the evening, and the effect is charming. But it is a form of advertising expense which is scarcely possible for us here, at any rate on a large scale.*

The success of other glass-fronted buildings which do not have the luminous ceiling of the Manufacturers Trust Bank suggests that this device, fine as it is, is not essential. On this point of advertising it is surely evident that signs incorporated in the curtain and designed as part of it will have a longer life and will look better than neon advertising "stuck on" store façades.

10. *The curtain wall buildings mostly have columns projecting internally, or free-standing internally back of the glazing. These columns encumber the floors and waste space. Where the column is placed externally (Inland Steel Building, etc.) the loads are eccentric, the construction more expensive, and if there is a building line, the lettable "envelope" is reduced by the sacrifice of external space.*

Sir Howard's solution to this problem is, apparently, to flush up the columns on both sides with a thick wall, and thus make certain of giving no increased unencumbered floor space or lettable area. No: thin walls, be they eccentric or not, reduce the

load on the columns sufficiently to allow the column dimensions to be reduced too. Internally projecting columns do encumber floor space, but the space left between them is, nevertheless, valuable—especially if partitions are properly related to columns.

11. *The window problem of these buildings is still unsolved. We have better windows, incorporating blinds, available now on the English market, with others to follow.*

It is not easy to see what Sir Howard means. Certainly our windows leave much to be desired in detailing; but we must in any case use windows and we have no option but to insist on getting better ones.

It is not "functional and technical analysis" which has swayed Sir Howard, but emotional prejudice. Against this there is no argument. But one would have thought that the increasing adoption of glass curtain walling by the leading American office architects and by large industrial and commercial corporations at least speaks for its economics. The manager of the Manufacturers Trust Bank, at the Conference on glass held by the Washington Building Research Institute last November, showed clearly the effect of his building on his business: he was apparently sufficiently convincing for at least two other major banks to follow suit. One can only wish that those British commercial giants who try to put the architectural clock back could be convinced that their buildings are a definite debit item.

THOMAS A. MARKUS.

St. Helens.

CRITICISM: On November 7 we published an article by J. M. Richards on the Ministry of Pensions building at Twickenham. Last week the MOW architect in charge of the job, E. H. Banks, replied. Below is a letter about the building from J. M. Austin-Smith, F.R.I.B.A.

I have read with interest the criticism by J. M. Richards of the Office Building at Twickenham, designed by the Chief Architect's Department of the Ministry of Works. I am very largely in agreement with both his praise and his criticism of the building, though one aspect which I feel to be important does not appear to have been fully dealt with by Mr. Richards.

I refer to the manner in which the single-storey mass wraps itself around one corner of the tall block. Mr. Richards generously refers to this low part of the building as a "single-storey wing." That, unfortunately, is just what it is not, which is a great pity, since a clearly defined single-storey wing properly articulated to the main block would have been infinitely preferable to the wrap-around technique which has been employed.

The fundamental fault surely lies in the planning. It would be fallacious to criticize the plan in detail, since I am unaware of all the factors involved. Nevertheless, within any given set of conditions it is possible to produce a clean, tidy plan, or one that is scrappy and pieced together. I feel that the ground floor plan of the office building at Twickenham falls into the second category. Undoubtedly it fulfils all its requirements, but it gives the appearance of having been produced by tacking on one unit to the next.

This, surely, is a very early stage in the development of a plan, and very considerable refinement is required so that a precise statement can be made by the building and not the unfortunate conglomeration which the present plan brings about.

J. M. AUSTIN-SMITH

NEWS

OLYMPIA

Building Exhibition Opened

The building industry of Great Britain has magnificent achievements to be proud of, said Henry Brooke, the Minister of Housing and Local Government, when he opened the Building Exhibition at Olympia last week. This did credit to all, from designers down to craftsmen, he continued, and he was sure that knowledge existed in Britain to enable us to show the world that we could build better than anyone else. Nevertheless, he gave those three familiar reasons why the building time was faster in the United States than here: 1. There was more preplanning, which enabled the contractor to start the job with all the architect's drawings in his possession. 2. There was a correlation between the size and speed of a contract—the bigger contracts—and there were more of them—progress was quicker. 3. There was greater standardization of building techniques and greater use of mechanical equipment. He also said that he had become more than ever conscious of the tensions that existed in every aspect of life between the forces of tradition and change—particularly in the fields of architecture, building and planning. He was sure new methods of building were coming in.

Kenneth M. B. Cross, P.R.I.B.A., who took the chair at the opening ceremony, announced that the Queen had agreed to act as Patron of the exhibition, which was the fiftieth to be held at Olympia and the largest ever. Referring to the exhibition, he said that the same *desiderata* on information and on presentation applied to exhibition stands as to technical literature. L. A. Walden, president of the NFBTE, and J. H. Mills, president of the NFBTO, who proposed and seconded the vote of thanks to the Minister, both expressed concern lest the current financial restrictions lead to unemployment.

The exhibition will be reviewed fully in next week's JOURNAL. A superficial inspection showed that there were no startlingly new features, but that the standard of exhibits and of exhibition stands was noticeably higher than in previous years, and the attempts to sectionalize the halls under types of subject shown were, if only very slightly, bearing fruit.

HOUSING DEBATE

A 20 Per Cent. Cut

The government aims to reduce the housing programme of local authorities and new towns in England and Wales to 100,000 a year by 1959-60, and to 20,000 a year in Scotland. These figures were given to the House of Commons in last week's debate on housing, and carry rather further the earlier announcement by the Chancellor of the Exchequer that the housing programme would be reduced by 20 per cent. The output of houses by local authorities and new towns is likely to be about 140,000 houses in the current year, so that the cut is likely to be rather more severe than 20 per cent.

G. R. Mitchison opened the debate with a sharp criticism of the government's twin policies, the elimination of the general needs subsidy and the increase in interest rates, which are now 6½ per cent. on local loans. The slum clearance campaign, he said, was not going too fast. The MOHLG had anticipated that 60,000 houses a year would be clear, but clearances were only running at 40,000 a year. On the assumption that the local authority housing programme would be cut to 117,000 houses a year (17,000 more than the figure later announced

by Mr. Brooke) in 1959-60 Mr. Mitchison calculated that after allowing for slum clearance, new towns and overspill there would be only 30,000 houses a year to relieve the general housing shortage. And this figure he contrasted with the waiting lists of 53,000 urgent cases in London, 100,000 in Glasgow and 35,000 in Liverpool. He also stressed the adverse effect of high interest charges in two ways: on the one hand the 2 per cent. rise in the bank rate would add £1 a week to the rent of each house; on the other, the need to replace low interest loans would cost Birmingham a 3d. rate, and Leeds a 5d. rate. James McInnes, who seconded the Labour motion regretting the lack of any positive proposals for dealing with the housing problem, drew similar contrasts between the housing programme in Scotland and his estimate of the number of slums at 200,000, the waiting lists at 300,000, and the overspill for Glasgow alone at 300,000.

Henry Brooke, the Minister of Housing and Local Government, opened by retorting that while the Labour Government had been satisfied with 200,000 houses a year, the government had surpassed its target of 300,000 every year since 1953. Housing had been given a special priority because of the grave situation when they took over, and had been absorbing from one fifth to one quarter of the total capital investment. Quite clearly this rate of housebuilding could not be needed forever. Although there was still a severe shortage in some places, over the country at large, local authorities had built enough houses to satisfy urgent needs, or were within sight of this. His aim was that in 1959-60 local authorities and new towns in England and Wales would complete 100,000 houses. He had no intention of limiting the freedom of local authorities to decide their own housing priorities in the light of local circumstances, although in some cases it might be necessary to set an overall limit on the number which a particular authority could put out to tender next year. To Mr. Mitchison's financial criticisms he replied that only one authority in seven was operating a differential rents scheme.

Private housing, he added, could not be exempt from the credit squeeze. He was not making any prophecy, but it might be that for the next few years building in England and Wales would be shared roughly half and half by private builders and public authorities. The government, he concluded, would not be content until everybody had a decent home of their own, and until all the slums were down. But when it was a question of putting a brake on new housing or letting inflation go unchecked the whole country would say that honest money must come first.

The opposition motion was rejected on a division.

ISE

New Beam Mill

A paper was presented to the Institution of Structural Engineers recently which described the new Dorman Long rolling mill at Lackenby and the range of sections with which it will deal.

The new mill is part of a £60 million expansion scheme and will be the most modern universal beam mill in the world. The beam sizes, ranging from 6 in. by 6 in. to 36 in. by 16½ in., have been chosen from the American range to be fully adequate but without too many sizes being included.

Experimental rolling will commence in 1958 and full production will be achieved as soon as the inevitable initial difficulties have been overcome. The advantages of the sections both as beams and columns are obvious and will be heartily welcomed by structural engineers. The price is not



The Duke of Edinburgh leaving the Building Centre after making a thorough tour of the exhibits on the occasion of his first visit to the Centre. He is accompanied by Sir Giles Gilbert Scott, the president; Sir Alfred Hurst, the chairman (in the rear); and Frank Yerbury, the director of the Building Centre. This year is the twenty-fifth anniversary of the founding of the Centre.

yet available, but the beams will be sold in competition with the existing BS Sections, there will be a saving in steel weight in the structure, and fabrication should be easier. It will not be possible for engineers to design on the basis of the new sections until full production is attained and there will undoubtedly be a short period during which substitutions may have to be made.

RIBA

Dame Evelyn Sharp, Permanent Secretary to the MOHLG, has accepted the RIBA Council's nomination for election as an honorary associate.

Street Furniture Manual

The RIBA Council is to approach the Civic Trust—on the recommendation of its Town and Country Planning and Housing Committee—with a view to the production of an advisory manual on the design of street furniture.

Town Portrait

"Portrait of a Town" is the name of an exhibition to be shown at the RIBA's headquarters, 66, Portland Place, W.1, from December 12 to 23. It has been prepared by the Guildford School of Art.

DIARY

Architectural Aspirations. Talk by Michael Patrick. At the AA, 34 Bedford Square, W.C.1. 8 p.m. NOVEMBER 27

Slum clearance. Talk by J. P. Macey. At the RICS, 12 Great George Street, S.W.1. 5.45 p.m. DECEMBER 2

Modular Furniture. Paper by John F. Hard (Managing Director of D. Meredew Ltd.). At the RSA, 6 John Adam Street, W.C.2. 7.30 p.m. DECEMBER 5

Architectural and Building Requirements as Related to Atomic Energy. Talk by Sir John Cockcroft. At the RIBA, 66 Portland Place, W.1. 6 p.m. DECEMBER 10

MODULAR SOCIETY

The Practical Selection of Modular Sizes for Components

Speaking at a meeting of the Modular Society at the Royal Society of Arts on October 28, 1957, Anthony Williams, of the Modular Co-ordination Study Team at BSI, began by recapitulating the recent history of modular co-ordination in this country and by re-stating the five essentials of the subject. The first of these was the division of all building material into the categories of "materials," "components," and "functional elements" and the limiting of the scope of modular co-ordination to "components." The second was the selection of a basic module of 4 in. and acceptance of the fact that for the time being the brick size must remain much as it was. The third essential was the solution of the tolerance problem by the distinction between the "nominal" size of a component (which would be on the module) and the "actual" size, which would be the modular size less an allowance for the joint and for manufacturing tolerances. The fourth was the establishment of a modular reference system—in effect a module grid at 4 in. centres; and the fifth and last stage, which had only recently been reached, was that of determining a basic range of sizes from which the size of each standardized building component within the system would be selected.

Concerning this last stage, which formed the main subject of his talk, Anthony Williams referred to the original desire of the members of the EPA project on Modular Co-ordination to eliminate some of the thirty sizes which come in the range 0-120 in. and gave his view, (which was also that of the Scandinavian members) that all 4 in. multiples within this range should be retained.

He then considered the rules which should govern the selection of standard dimensions for "small components" (*i.e.* components up to about 32 in. wide). These should be selected on an empirical basis having regard first to the functional limits of a product's dimensions (Fig. 1). A room door could not be less than 24 in. or more than 36 in. wide. This would determine the limits of the range. Where, however, it was desired not to include all sizes within a range, and where components were customarily used in combination, a further criterion of selection could be applied. Namely, how many different modular spaces—see Fig. 2—could be filled by adding components together. If there was only a single modular width, the number of modular spaces filled up from 4 in. to 120 in. would depend upon the width. Thus, if a cabinet was 24 in. wide it would fill five spaces, if it was 20 in. wide it would fill six and if it was 16 in. wide it would fill seven. If, however, two sizes were included in the standard, the situation at once improved. If cabinets were 16 in. and 24 in. wide they would fill fourteen spaces, and if they were 20 in. and 24 in. they would fill twenty spaces. If a third size was added little was gained, however, and the speaker's conclusion was that components of this type should normally be made in two related sizes, that these would often be 4 in. apart, and that they should not have a Highest Common Factor of more than 4 in. Components wider than about 32 in. were not susceptible to this treatment, said the speaker, and their sizes must be selected on the basis of the spaces required for each design. For this a modular grid might well be used, the most likely dimensions of which would be those multiples of 2, 3 and 5 which give sizes like 32 in., 40 in., 48 in., 64 in., 80 in., and 96 in. that have the maximum number of factors divisible by 4 in.

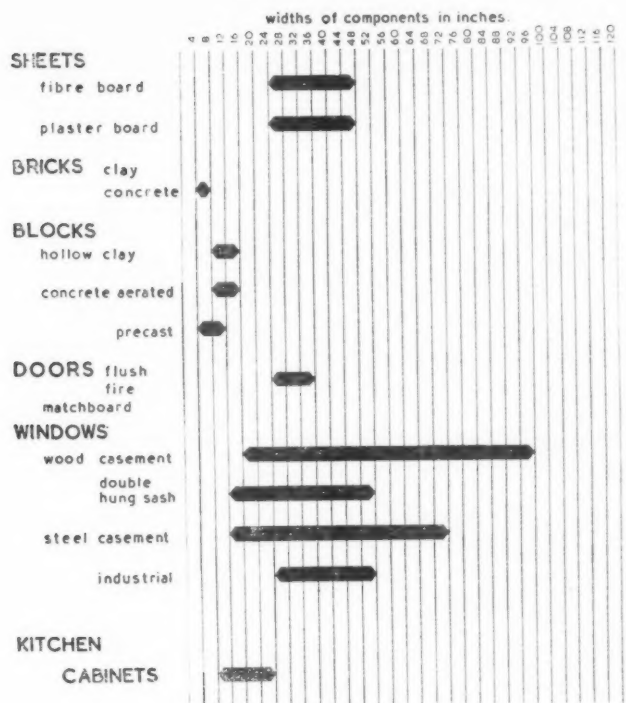


Fig. 1, chart showing the functional limits to the sizes of a selection of building components.

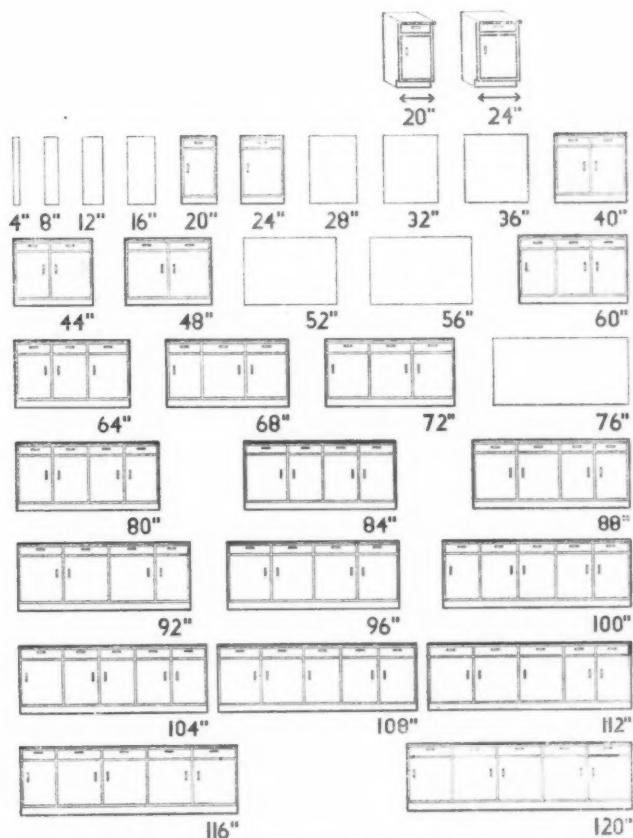
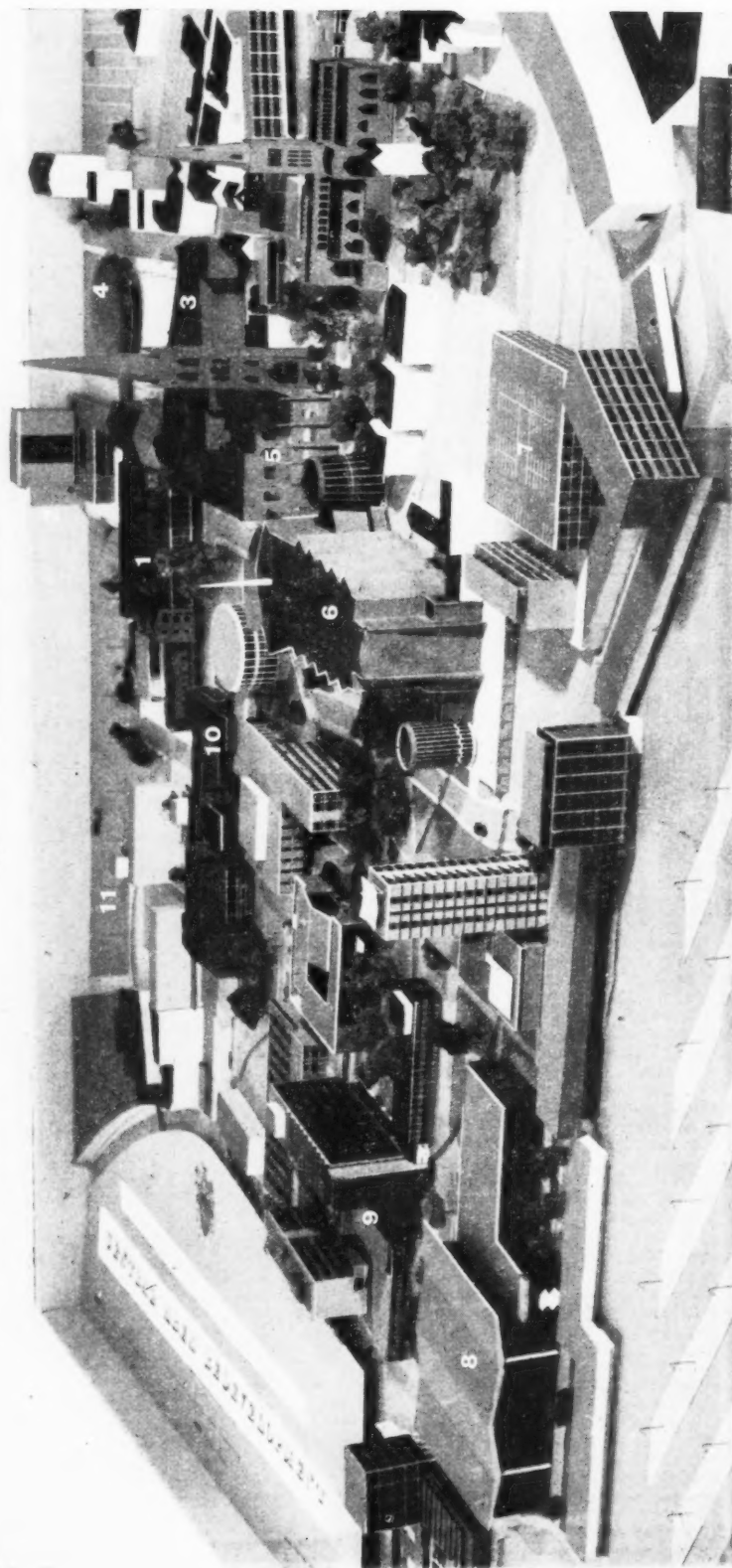


Fig. 2, diagram showing the number of modular spaces (20 out of a maximum of 30) between 4 in. and 120 in. which can be filled by two standard kitchen cabinet sizes 20 in. and 24 in. respectively.

THE LATEST PROPOSALS FOR COVENTRY'S CITY CENTRE

Further proposals which have been made for the central area of Coventry are incorporated in the model shown here. Some of the proposals have not yet been approved by the Corporation, but the general layout forms the basis for investigations and designs for specific projects. The picture below shows the civic area, seen from the north. The new cathedral can be seen in relation to the new college of art and technology—a group of buildings placed around a series of enclosed and partially enclosed areas. The picture opposite shows the commercial area, from the north. Note the pedestrian-ways and also, at the rear of the shops, the multi-level car parks. The circular retail market, in the top right-hand corner, is now under construction. It will have a roof-top car park. Below this is a block of two-level shops which are due for completion early next year. The new civic theatre, in the foreground, is due to open early next year. (The planning staff, working under A. G. Ling, city architect and planning officer, include W. Burns, who is principal planning officer, and J. D. Spence, E. Wyn Thomas and J. F. N. Collins, planning officers.)

1. Local government offices
2. Law courts
3. Council house
4. Civic hall
5. Cathedral ruins
6. New cathedral
7. Multi-level car park
8. Swimming baths
9. College of art and technology
10. Library
11. Art gallery



Key

1. Civic hall
2. Law courts
3. Broadgate
4. Broadgate house
5. British Home Stores
6. Multi-level car park
7. Market square
8. Market way
9. Retail market with roof car park
10. Woolworth
11. Multi-level car park
12. Two-level shops
13. Co-op store
14. Civic theatre
15. Corporation street
16. Smithford way
17. Multi-level car park
18. Marks & Spencer
19. The precinct
20. Owen-Owen store
21. Hotel Leofric





Amersham High Street.

A HIGH STREET KEEPS IN KEEPING

Amersham High Street is well-known as a visual delight. How natural it is, therefore, that the North Thames Gas Board chose to provide it with a noble foil. And who can be surprised that the Rural District Council objected to an "incongruous" single-storey house of good design, and approved a "Stockbroker's Tudor" dwelling? The guardians of our heritage are certainly remarkable men. Just how remarkable you will deduce from the following report by a JOURNAL representative.

The Minister of Housing and Local Government, in a recent planning appeal, said that "Amersham High Street is rightly famous as one of the most nearly complete main streets of its period." For that reason he decided

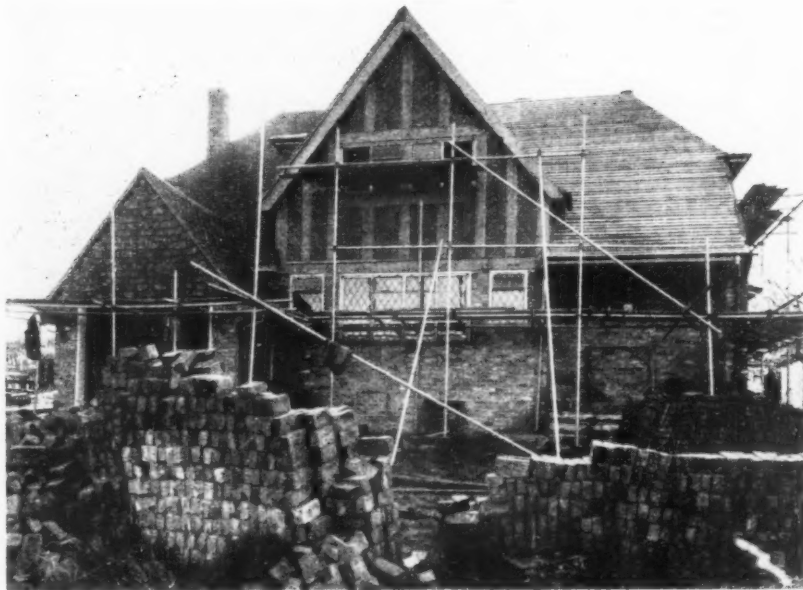
that he could not permit a building that would be "a quite incongruous addition to the town." In taking this line he was supporting the Amersham Rural District Council which had taken a firm stand against

"incongruous additions" to the town. Anybody going to Amersham to-day would have no difficulty in finding two structures, one of them still under construction, and the other recently completed, that fully

Two illustrations to show how the new gasometer, for which planning permission was not required, dominates the town. Left, looking east, with the old town hall on the left, and below, a closer view. The new gasometer was built between the old one and the street.



The one the Council passed . . .



House at Cherry Lane, Amersham. Architects, Melville, Seth-Ward and Partners.

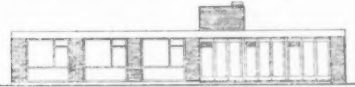
comply with the Minister's description of "incongruous additions" to the town. One is the new gasholder, a monster 95 ft. high and nearly as broad, containing 500,000 cubic feet of gas, and standing within a few yards of the High Street, little more than 100 yards from the old Town Hall which is its centrepiece. The other is a new two-storey house described to me by the chairman of the Rural District Council, Maj. George Boyce, as "Stockbrokers' Tudor," complete with half-timbering on herringbone brickwork, diamond leaded lights and other clichés from the same vocabulary, that is being built for another member of the RDC on a vacant site to the south of the High Street.

Yet neither of these structures incurred the Minister's displeasure. Indeed, neither was ever referred to him. The North Thames Gas Board, being a statutory undertaker, is not subject to development control, and did not require planning permission to erect its new gasholder, which overshadows the town and destroys the intimate domestic scale of its High Street. The "Stockbrokers' Tudor" design was passed without question by the RDC, with the approval of the County Planning Committee. The Minister used the word "incongruous" to describe an inconspicuous single-storey house designed by Ernő Goldfinger, whose crime was to give it a flat roof and to omit overhanging eaves.

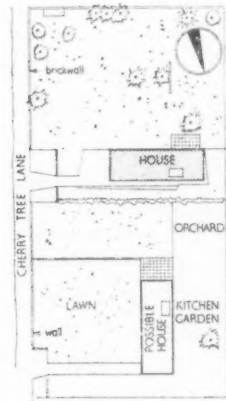
It is worth looking a little bit more closely at the different treatment accorded to these two houses. The Goldfinger house was designed for a typographer who is keenly interested in good design. The owner thought it would be rather exciting to build a modern house that would be a fitting addition to the old town, just as the Georgian houses, in

their day, were frankly modern additions to it. But because his site was on a rising piece of ground overlooking the High Street, in what was formerly the garden of "The Firs," a fine Queen Anne house in the High Street, he thought that a flat roof would be particularly appropriate, as it would keep the house low and inconspicuous among the trees. A flat roof would not have interfered at all with views either north towards the town, or south from it. He employed a well-known architect who, he thought, could build a house that would be right for his personal needs and for Amersham. And so a single-storey house was designed, with a flat roof, to be no higher than the garden wall, in the traditional red brick, that would soon have merged unobtrusively into the landscape. When the plans were rejected by the Amersham RDC the planning officer first suggested that he would not mind a "contemporary flavour" but did not wish to have a modern house in the old town. Subsequently the council modified its objections, and was prepared to accept either a pitched roof, or a flat roof with overhanging eaves, despite the fact that overhanging eaves would have been an artificial addition to the design both in appearance and construction. At the enquiry the RDC objected that the house would be "completely out of keeping" with "The Firs," and would spoil the view from the footpath that runs at right angles to Cherry Lane—although in fact it would scarcely have been visible. Evidence in support of the design was given by Sir Patrick Abercrombie and J. M. Richards, and letters in its support were read from Sir Hugh Casson and John Summerson. Nevertheless, the Minister rejected the design, mainly on the ground that it would be visible from this footpath. The

. . . and the one it refused



Elevation of house at Cherry Lane, refused planning permission by the RDC and the Ministry. Architect, Ernő Goldfinger. Scale: $\frac{1}{32}$ in. = ft.



Site plan of the house above, showing its location in a secluded garden with high brick walls and matured trees. The house was designed to be the same height as the garden walls. Scale: $\frac{1}{16}$ in. = 1 ft.

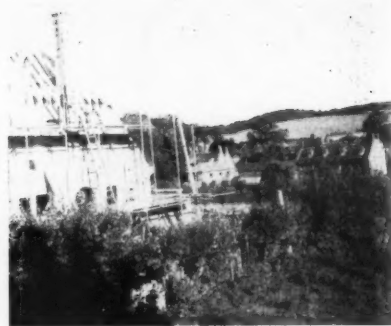


From the north: the line of the pitched roof shows that a flat roof would have been invisible from this point.



The above house as it was built, with a high-pitched roof. In this view, from the south, Amersham High Street would have been visible had a flat roof been allowed.

The view the Minister preserved



The Minister's main reason for refusing permission to the Goldfinger house was that it could be seen from a path skirting the fields. Both these pictures are taken from this path. The large picture shows, left bottom corner, the pitched roof of the Goldfinger house, which would have been almost invisible with a flat roof, and the mock Tudor edifice subsequently approved by the RDC. The smaller photograph, also taken from the path, shows the view towards old Amersham and the Chilterns that the Minister was so concerned about, with the mock Tudor house standing unscreened in a field.

house had to be redesigned with a double-pitched roof, making it far more conspicuous.

One would imagine after the Minister had given such a decision that the RDC would have refused all applications for houses that obstructed the view from the footpath. But not at all. The "stockbroker's Tudor" house, which is now being built, is sited right up against the footpath, completely obstructing the view of the town.

Town planning, as in this case, all too often swallows the camels and strains at the gnats. The gasholder and the bogus Tudor go up, while the modern architect runs into difficulties. It is easy to say that the problem can be solved by freeing architects from planning control: but one should say this, if at all, with one's eyes open; knowing, for example, that this "stockbroker's Tudor" house and many others like it are also designed by architects. A closer look at the planning machinery and the way it operates in Amersham may help to illustrate the problem.

Amersham Rural District is a large area covering 72 square miles in the Chiltern Hills, of outstanding natural beauty where it has escaped the ravages of the builders. Much of the undeveloped land is green belt, and had it not been for the strict use of the power to control development the green belt would long since have been engulfed by bricks and mortar. In this respect the RDC's planning control—unlike its "aesthetic"

control—has been effective in the face of strenuous efforts by developers to build on the green belt. The centre of the rural district is Amersham town, which consists of two parts: old Amersham, around the High Street, which lies in the valley of the Misbourne, and Amersham-on-the-Hill, typical of any outer London suburb, which has grown up in the last fifty years round the railway station above the valley. The Amersham RDC takes pride, in its official guide, not only in the scenery, but in the area's literary, historical and architectural associations. Both the Government and the Local Authorities are fully aware of the rich architectural tradition of Amersham. With the object of preserving it, most of the buildings in the High Street have been listed for preservation on account of their architectural interest. The question that arises is whether preservationism is enough: for in fact most of those who build in the area, whether for the Council or privately, fail completely to learn from the tradition, which has been fossilized in Amersham High Street, and ignored elsewhere.

The Rural District Council, in exercising the powers of development control delegated to it, does not employ its own technical staff. It is advised by an officer of the Buckinghamshire County Council, who is qualified neither as an architect nor as a town planner. Above him there is an area planning officer for South East Buckinghamshire, who is an MTPI and a surveyor, but not an archi-

tect, and above him there is the County Planning Officer, who is also an MTPI and a civil engineer, but not an architect. There are, of course, architects on the staff of the County Planning Officer, but it will be seen that the chain of command in Amersham passes exclusively through the hands of those who are not trained as architects. When I discussed the problems of town planning control with Maj. George Boyce, the Chairman of the RDC (who was most co-operative, and answered frankly every question put to him) I asked him why, for such an area of rich architectural interest, the Council did not employ an architectural consultant whose advice could be taken on all development in any way affecting the old town. The Council Clerk explained that this was not allowed, as Buckinghamshire County Council had delegated its powers of planning control on condition that the RDC employed no technical staff of its own: the technical staff is employed by the County Council. The procedure on applications, Maj. Boyce explained, is that the Buckinghamshire Planning Committee (in reality, one presumes, the County Planning Officer) submits observations on every application. If the RDC and the County Council agree, the application is determined accordingly. If they disagree, it is considered by a special committee of the County Council. This committee may consult an advisory panel of architects practising in Buckinghamshire, although this advice is not necessarily followed. This is not an RIBA-CPRE panel, and its members are anonymous. This panel did in fact turn down the Goldfinger house. Official CPRE-RIBA panels, which do not exist in Buckinghamshire, are not, of course, anonymous.

It is easy to test the views of the Amersham RDC on architecture by studying its current housing. If one turns off the High Street

and walks up Whielden Street towards High Wycombe, one passes abruptly from old Amersham to a new housing estate that exhibits all the worst faults of council housing. A very similar plan is being used for houses now being built at the junction of Church Street and Back Lane, where the layout is even less satisfactory. These flats were designed by a private architect.

When I asked Maj. Boyce why the Council was building housing estates of such poor aesthetic quality he blamed the Minister's restrictions on cost, and showed me a perspective of a proposed new terrace of rather more modern design. But cost is, in fact, no excuse. At Whielden Street the ground in front of the houses is not divided into gardens, but has been grassed over, instead of allowing the grass to flow freely between the road and the houses; dwarf walls have been built at considerable expense, following the line of the vision splays, cutting up the ground, wasting money and making a poor layout worse. Good landscaping and detailing will, of course, cost some money, and it is often right to blame the MOHLG for its parsimonious attitude: but an infinitely better result could have been obtained for the same amount of money. I discussed the whole problem of architectural control at length with Maj. Boyce, and with Mr. Pocock, a member of the RDC, and of the Buckinghamshire County Planning Committee. Mr. Pocock was genuinely surprised to learn that there was a strong feeling among the younger, modern, architects at any rate against controls, for, he said, in Buckinghamshire there was no such control except in such areas as old Amersham where there was an "architectural whole" to preserve. Elsewhere, explained Maj. Boyce, they were governed by the Minister's decision in a 1956 planning appeal (where the external appearance of a house was said to be "startling") that the developer should be allowed to have the house of his choice. "We have tried on a number of occasions to control this speculative building of boxes," said Mr. Pocock, "but we don't get away with it."

Maj. Boyce explained the rejection of the

Goldfinger house by saying that, because it was in the "architectural whole" of Amersham, the only thing to do was to refuse it and abide by the Minister's decision. But the council did not consider that the "stockbroker's Tudor" design was such a startling departure, and approved it because it considered that the Minister would not refuse permission on appeal. The "stockbroker's Tudor" was, he said, "spurious," but it reflected the age in which we lived. "It is an age," he said, "of artificial things, or artificial jewellery and that sort of thing. Here was a developer who wanted artificial decoration. We did not like it, but we felt we could not resist it."

But the Goldfinger house? It was not only the flat roof and the lack of eaves that were objectionable. "These Cubist buildings are bad in this climate. They soon get stained, and look unkempt." Mr. Pocock was much more sympathetic to modern architecture, going so far as to say he was not against it if it was well done, and Maj. Boyce, when the discussion roamed further afield, said that he liked the Gollins, Melvin and Ward buildings in New Cavendish Street. It was only in such places as old Amersham that he thought modernity unsuitable. How many refusals are there? Not more than one in one hundred were referred to the architects' panel, and probably only one in a thousand was refused on architectural grounds. How many plans submitted were by architects? The majority of individual houses, but only a minority of speculatively built houses. The largest speculative builder in the area employs an assistant "with architectural experience" to do his designs. Others are still using pre-war designs. Another advertises in the local press: "Contemporary building, decorating and designing a speciality."

At the moment Amersham is rent by controversy about whether to develop, and if so, how to develop, the area of back gardens running south from the High Street, between Cherry Lane and the Town Hall. This controversy illuminates the whole problem of control. The Council considers that in a town where there is such a shortage of

building land this area should be developed. But the Council not only neglected in the past to prepare a detailed plan for the development of this area, but built the housing estate already mentioned at Whielden Street, which blocked a possible access from the east. All the alternative access routes debouch into Amersham High Street—a busy main road with an average of 302 vehicles an hour—through narrow openings. Most of the householders do not want to build on their gardens, or orchards. But two of them do, and when they applied for permission this year, in one case to build two houses and in the other to build three, the Council refused permission on the grounds that these houses would block the access from Cherry Lane, and so prejudice the comprehensive development of the area. To show that it was possible to develop the area properly with access from Cherry Lane the Buckinghamshire County Council planning officer prepared a plan (in a week, and without making a survey, according to the clerk to Amersham RDC). This is a plan for a typical suburban development. Cherry Lane would be widened to 40 ft. overall, to conform to the Buckinghamshire County Council's revised schedule of road widths. A vision splay would be opened out where Cherry Lane joins the High Street, resulting in the bisection and ruination of the front garden of "The Firs" (the Queen Anne House that the RDC and the Ministry are so anxious to preserve) and the demolition of three Victorian cottages on the other side of the Lane. The cottages themselves are of no interest, but to punch a hole of this size in the street would be wrong. From Cherry Lane, its charm destroyed, a similar cul-de-sac road, 34 ft. wide overall, would be run straight, parallel to the High Street, with building lots on either side of it. The RDC has approved this plan in "principle," but wishes it to be understood that it is in no way committed to it in detail.

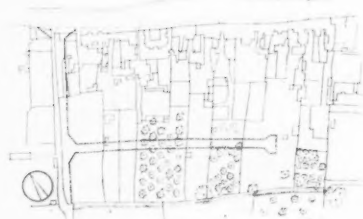
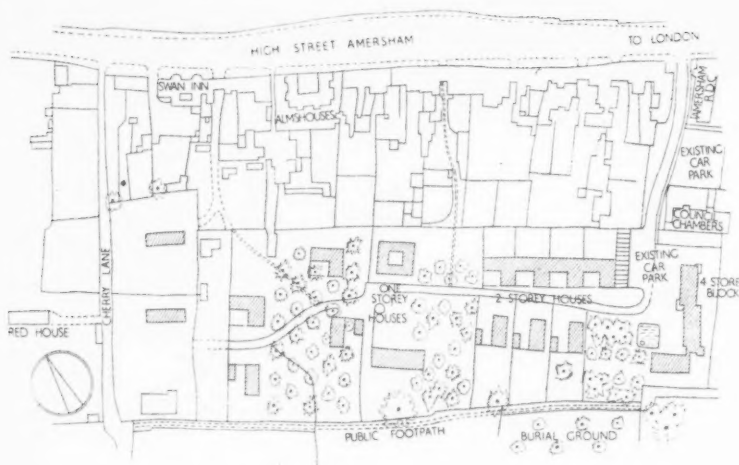
Two architects who practise in the area.

Derek Matthews and H. Werner Rosenthal, have prepared an alternative plan by which access would be obtained from the High Street by the existing entrance at the side of the Town Hall, now used by cars to go to and from two Town Hall car parks. There would be a low block of flats to close the vista, and a lane would run through the gardens and orchards preserving

Amersham RDC housing

Whielden Close, flats recently built by the Amersham RDC in old Amersham. Another estate using very similar plans, is now being built north of the High Street. Note, right, the ground behind the flats cut up into tiny jig-saw plots with concrete posts and wire to give each flat a "garden," many of which are uncultivated.





Top: a plan (scale 1/3,000) showing the scheme proposed by Derek Matthews and H. Werner Rosenthal for the development of land to the south of old Amersham High Street. Planning permission was refused because it did not comply with the county council's schedule of road widths and vision splays. Left, the RDC's proposals, approved in principle only but not in detail, to widen Cherry Lane to 40 ft., knock down the three cottages illustrated below to provide vision splays, and drive a 34-ft. roadway with building lots on either side. (Scale 1/6,000).

so far as possible the existing trees and orchard which would, the architects say, be largely destroyed in the Council's plan. The houses, moreover, would be informally grouped to give a sense of privacy and enclosure. Sites would be individually developed, under strict architectural control. Permission for this plan has been refused because (a) it does not provide for a vision splay at the High Street (this would also involve knocking down two or three cottages) and (b) the lane is not 34 ft. in width, overall.

The rigid insistence on vision splays and minimum road widths by the road engineers is fatal to any scheme for the development of this area. Extending old Amersham is rather like converting an old house. It has to be adapted and extended to meet changed conditions, without destroying or subverting its character, and this is not to be done by rigidly applying suburban by-laws. It would be far easier to solve the problem if the Amersham by-pass, planned many years ago, were to be built. Here is a case where a skilled architect planner, after a thorough survey and analysis of the area, could work out a solution that would harmonize the new and the old, and provide a safe and architecturally acceptable road access. Such a plan could take into account the Council's intention to build a new civic centre at Amersham-on-the-Hill and to remove (one fine day) the temporary Council chamber at the rear of the Town Hall. What this problem does show is the unsuitability of piecemeal development, with wrangles over each application. The only possible solution is comprehensive development.

An article that studies town planning control in a single area is likely to raise more

questions than it answers. But a number of useful points can be made.

Pending changes that would probably require legislation (freeing architects' designs from aesthetic control is one of these) much could be done within the existing machinery. Is there any good reason why the Buckinghamshire County Council should not entrust architects, rather than surveyors and engineers, with responsibility for architectural control?

Why should Buckinghamshire not set up

Cherry Lane lies between The Firs, on the right, and the Victorian cottages, on the south side of Amersham High Street.



CPRE-RIBA advisory panels with the specific aim of raising the standard of private building. Where these panels are working effectively the proportion of architect-designed houses is rising; and if some architect-designed houses are not all they should be, nevertheless, the more houses that are designed by architects the better the standards are likely to be. It was obviously absurd to waste time and money debating whether the Goldfinger house in Amersham should or should not have a flat roof. If the Minister made it clear that he would never support the planning authorities in such absurdities this kind of thing could be stopped. But the Minister, by supporting the RDC in this case, positively encouraged it.

Would complete freedom for architects solve the problem? In many places it might, but is it really possible to allow any registered architect to build whatever he pleases in Amersham High Street? Anyone who thinks so should take a long, lingering look at the picture on page 773. Freedom for architects would let through one more house in a thousand; and that might be important for the progress of good design. But the major problem in the war against subtopia is the remaining 999 which at present pass safely through the net of aesthetic control.

Local councillors who say they dislike speculative building complain that the Minister will not support them if they use their planning powers in a serious attempt to raise standards. And the Minister passes the buck back to the Council. The present system offers unlimited scope for shifting of responsibility. But one of the root troubles is the failure of the Minister to support those who really do declare war on nasty speculative building. But even in a small town like Amersham the best solution would often seem to lie in positive planning, in comprehensive development under the control of a single architect, with a more elastic application of the bylaws that impose universal suburban standards. And statutory undertakers should be brought under planning control.

technical section

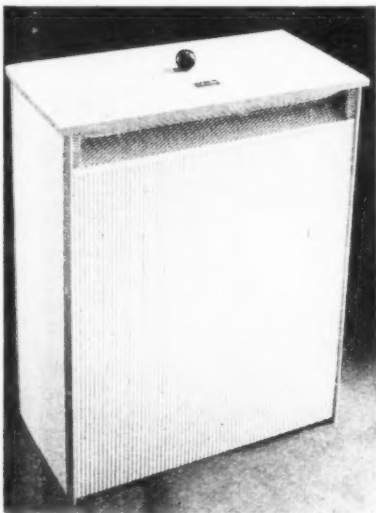
THE INDUSTRY

Brian Grant describes a storage heater and a radiator pipe return.

Thermal storage heating

The Dulrae Supa-Stor electric thermal storage heater has an internal thermostat arranged to vary the charging period at night (within the limits of the time switch setting) according to the amount of heat withdrawn during the preceding day. The heat output during the day can be controlled by the knob at the top of the cabinet. In the standard model the loading is 1,500 W. and the heat storage capacity 12 kWh., but in another model both figures are increased by about 30 per cent.

There are two self-contained but withdrawable heating elements, and the heat storage medium is in powder form. Weight is 56 lb., to which must be added a further 224 lb. for the heat storage medium. The outer casing is insulated and has a low surface temperature, the standard finish being a light grey, but this can be painted to any colour if necessary. Dimensions are 2 ft. by 1 ft. with a height, including the control knob, of 2 ft. 9½ in. Price is £16. (Dulrae Ltd., Griffin Lane, Aylesbury.)



The Dulrae Supa-Stor heater.

Tidier radiators

For central heating installations where long and unsightly runs of water return pipe are to be avoided, Gulf Radiators have evolved a simplified pipe run. The hot supply is taken to the bottom of the radiator, and the return is brought back from the far end by welding the pipe to the bottom manifold at the foot of the radiator on the wall side, so that both connections are side by side and installation is simplified. These out of sight return pipes can be supplied on panel radiators of any length. (Gulf Radiators Ltd., 229, Regent Street, W.1.)

19 CONSTRUCTION: DETAILS

the glass curtain wall 2, heat transmission

Continuing his review of the present stage of our knowledge of the glass curtain wall, the author, Thomas A. Markus, turns to the problem of heat transmission. This he considers under two aspects: insulation against heat loss from the building and the passage of solar radiation into the building. On heat loss he points out that we need, not the single U-value figure at present envisaged, but three or four values to take into account different orientations and whether a building is used day and night or during the day only. Pointing out that the U-value of opaque panels becomes more critical when double glazing is used in the translucent panels, he suggests 0.2 B.t.u./hr. sq. ft. deg. F. as a reasonable U-value for an opaque panel. He then considers solar radiation, first by pointing out the contribution of heat resisting glass in preventing excessive heat gain in hot weather; and second by discussing the problem of edge fixing created by the thermal expansion in the glass. On this last he demonstrates that cracking is caused not (as we have been led to believe) by insufficient tolerance, but by the unequal expansion in the glass caused by the shielding of the frame; and that therefore the depth of the frame is critical.

Thermal insulation

The problem of thermal insulation more than any other feature of the subject, drives home the absolute necessity of treating curtain walling comprehensively. The overall insulation value of the wall must be in accordance with recognized standards for fuel economy and for keeping capital costs for heating plant as low as possible—this standard will be defined by a "U" value. The wall must also have sufficient thermal capacity to act as a "fly-wheel"—i.e., to cushion the heating plant from sudden large fluctuations caused

HOPE'S *Windows*

See these new exhibits at the Building Exhibition

★ STANDARD WINDOWS *glazed from INSIDE
for multi-storey flats.*


★ A NEW RANGE of PROJECTED WINDOWS
for factories, offices, etc.

★ HOPE'S *new* REVERSIBLE WINDOW in
*galvanized steel or aluminium, for multi-storey buildings;
turns inside out for cleaning or reglazing.*

★ COMBINED WINDOW AND HEATING UNIT
*Window, window cill, and radiator casing in one combined
unit, as supplied to I.C.I. Metals Division's 10 storey
office building at Witton, Birmingham,*

*and Window Walls, Double Hung Sashes, Roof Glazing,
Opening Gear, Steel Doorframes, Dome-Top Lantern
Lights and Door Furniture.*

**Stand 79, Row D, Grand Hall
Olympia-November 13th-27th, 1957**

MEMBER OF THE METAL  WINDOW ASSOCIATION

technical section

by changes in external conditions. In both respects the curtain wall presents serious problems.

Whereas the BRS Digest No. 98 outlines some general principles on the thermal insulation problems of the curtain wall it does not set out to give the architect or heating engineer a simple method for arriving at a practical "U" value for calculations. Short of measurements on complete curtain walls over a long period such as have been carried out at the BRS Wall Laboratory for some years, but which have been limited to a few selected types of construction, some approximate method of calculation which takes into account the "U" values of the separate components of the curtain wall is the only available method of prediction. The three main components are the window (glass and frame), the opaque panel and the curtain wall framing. The more accurate the figures for each of these three components are, the more realistic the answer will be. (a) WINDOWS: Windows are likely to take up 50 per cent. or more of the area of a normal curtain wall. "U" values for them vary, as for any type of construction, according to exposure conditions—i.e., orientations and wind conditions. But for glass, which is transparent, the calculation is even more complex. The surfaces within the room absorb and reflect the radiation transmitted by the glass in various proportions. The absorbed energy heats them and they in turn re-radiate long wave energy to which glass is opaque and this accounts for the well-known "greenhouse" effect of cumulative heat build-up behind glass.

The solar heat gain through a window alters its net "U" value to such an extent that at periods of high radiation intensity it may be negative—i.e., the heat gained through the window by radiation is higher than that lost through it by convection-conductance. Even on a north wall in winter day-time radiation gains from the sky can be substantial and may give a minimum day "U" value 200 per cent. lower than the maximum night value 12 hours later.

More accurate knowledge of solar heat gain through various types of window, on various exposures and orientations, will in time necessitate a complete re-appraisal of "U" values in walls with large windows. The effect is more than "a welcome addition to comfort" (Digest 98)—it may well be a substantial reduction of heating costs. So whilst architects at the moment consider every square foot of window as a heating liability in the building, and large windows required for appearance or light are included with a guilty conscience, they may find that in certain circumstances windows will be a heating asset.

There will be an increasing need for three or four "U" values for a given wall:

- A mean day value for winter—this could be used for calculating fuel consumption for buildings heated only during the day (e.g., offices).
- A mean night value during winter—to be used in combination with the day value for 24-hour heated buildings (e.g., a hospital).
- A frequency curve showing the number of occasions on which the "U" value reaches certain maxima

—this is required for assessing the total load the plant may be required to carry, and whether it is economical to maintain the design temperature (say 65 deg. F.) on all occasions, or whether one may allow a drop in temperature for X hours or Y days per annum.

(d) Variations of "U" values according to orientation. In all calculations, of course, the thermal capacity of the building must be allowed for: where it is low, as in most curtain wall structures, a building heated during the day only may place considerable extra load on the plant in the morning, whilst the structure which has cooled during the night is absorbing heat.

It may be found, for instance, that large windows on a north and south wall of a slab building balance each other on clear days—i.e., the heat lost on the north wall is about the same as that gained on the south.

For the time being there is not sufficient window "U" data to make this comprehensive approach possible. BRS is measuring "U" values on curtain walls on north walls. As this information is published the situation will become clearer. But it will be many years before there is sufficient data, especially such as takes into account other than north orientations. In the meantime architects and engineers can only carry on using conventional figures, as indicated below, but they should be aware that whilst these may give fairly accurate results for the calculation of heating plant, where there are large windows they may give an excessively high and inaccurate result for fuel consumption, particularly if:

- The building has large windows facing south.
- It is only in daytime use (e.g., offices and schools).
- Curtaining is regularly used at night.

The Institution of Heating and Ventilating Engineers' tables give the following values for single and double glass in windows.

Table 1. U values for single and double glass (reproduced from IHVE tables)

Thermal transmittance, U. B.t.u./hr. sq. ft. deg. F. difference of air temperature.						
Orientation	Exposure to wind					
S	Sheltered	Normal	Severe	Severe	Severe	Severe
W, SW, SE		Sheltered	Normal	Sheltered	Normal	Severe
NW			Sheltered			
N, NE, E			Sheltered	Normal		Severe
<i>Glass</i>						
Single windows	0.70	0.79	0.88	1.00	1.14	1.30
Double windows	0.41	0.44	0.47	0.50	0.53	0.56

It must be assumed that the double glass values are for a sealed $\frac{3}{4}$ -in. air space, the optimum condition. Larger cavities than this do not give the increase expected due to an extra mass of air since increased convection currents take place and heat transfer by conduction across this air is relatively insignificant; at $\frac{3}{4}$ in. these are inhibited by the nearness of the hot and cold air layers. At smaller spacing the conduction exchange will be higher and the convection interference between the hot and cold air layers will cause short circuiting currents across the cavity. At $\frac{1}{2}$ -in. spacing the thermal insulation value will be about 90 per cent. to 94 per cent. of the $\frac{3}{4}$ -in. space, at $\frac{1}{4}$ -in. spacing about 82 per cent. to 87 per cent. and at

BOURNE & HOLLINGSWORTH LTD.

Details of a major shop-fitting scheme carried out by our organisation at this famous London store.



ARCHITECTS
COPELAND NOVAK AND ISRAEL
NEW YORK CITY

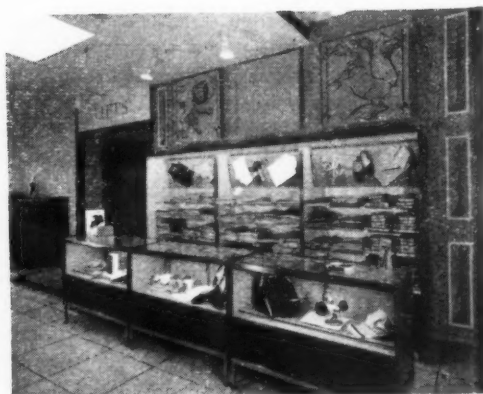


OUR DESIGN AND TECHNICAL SERVICE IS READILY AVAILABLE TO ASSIST IN THE DEVELOPMENT OF ALL TYPES OF DECORATIVE SCHEMES

Harris & Sheldon Ltd.

The organisation with a background of 75 years experience

BIRMINGHAM · LONDON · GLASGOW · TORONTO



technical section

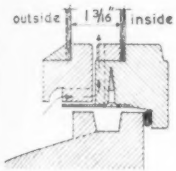
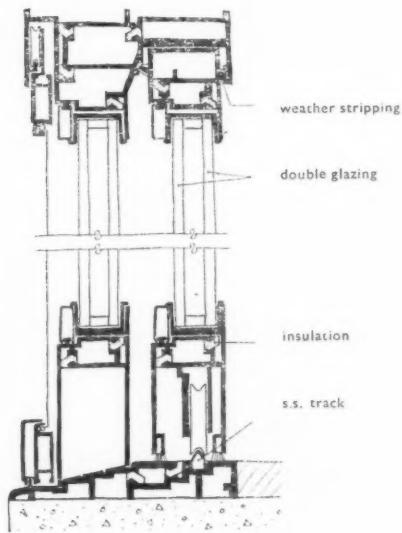


Fig. 1 (above), section through a pair of American double glazed doors designed to eliminate "cold bridge." Fig. 2 (left), bottom ventilation into the cavity of a Swedish double window designed to ensure that "breathing" is to the outside.

$\frac{1}{4}$ -in. spacing about 50 per cent. Ventilation of the cavity will also increase the "U" value; by a small amount if the space merely "breathes" to the outside air, by a larger amount if there is top and bottom ventilation and a through current of air.

The overall window "U" value will be the glass value modified by the effect of the frame—this depends largely on the frame material. The American Society of Heating and Air Conditioning Engineers' (ASHAE) *Guide* gives the following factors by which the glass "U" values should be multiplied.

Several American manufacturers are producing discontinuous metal frames in which the "cold-bridge"

Fig. 3 (below), an English internal "storm sash" designed for fixing on the inside of an existing window to provide double glazing. Fig. 4 (below right), the fixing of a second English version of an internal "storm sash."

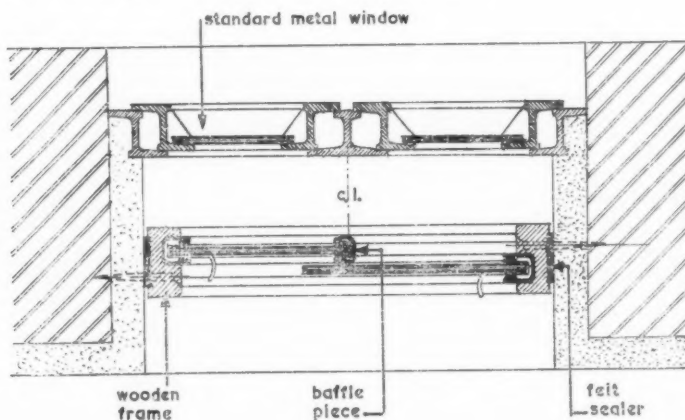


Table 2. Factors applicable to glass U values to account for frame materials (reproduced from ASHAE Guide)

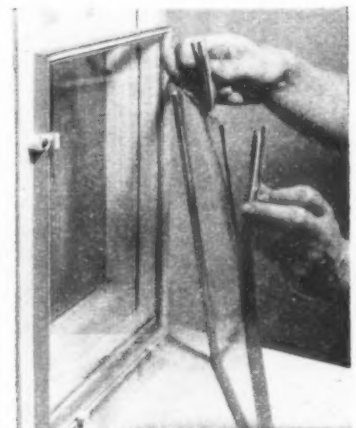
Window description	Single glass		Double glass	
	Percentage glass	Factor	Percentage glass	Factor
Sheets	100	1.00	100	1.00
Wood sash	80	0.90	80	0.95
Wood sash	60	0.80	60	0.85
Steel sash	80	1.00	80	1.20
Aluminium	80	1.10	80	1.30

heat loss is eliminated. An example is illustrated (Fig. 1).

The use of curtaining at night will cause a substantial reduction in window "U" values; 15 per cent. is a reasonable estimate, but this will vary according to the weight of the curtain material and the closeness of its fit.

Four well-known hermetically sealed double glazing units are available in this country: "Hilsulate," "Insulight," "Holloseal" and "Cavity Plyglass." All are available in a variety of glass thicknesses and with varying air spaces. All rely on adhesives or mastics to retain the hermetic seal and careful glazing according to the manufacturers' instructions is necessary to prevent moisture causing a breakdown. The enclosed air is of low moisture content and therefore condensation is only likely in extreme conditions; even then the total water vapour being small and being distributed over a large surface the condensation may not be visible.

Various methods of double glazing with two separate pieces of glass in one frame, from simple double rebates to complex metal sections, have been used with greater or lesser success. The difficulty is that even where a hermetic seal can be obtained by mastics and sealing compounds, the enclosed air will have the moisture content of the atmosphere at the time of construction. Whenever the inside face of the outer pane drops to the dewpoint temperature of the enclosed air, condensation will form. If the member separating the panes is timber, it should be sealed and painted, otherwise moisture escaping from it during strong sunlight will cause condensation. If air penetration into the cavity is inevitable the design should ensure that breathing is to the outside rather than the inside (see Fig. 2). The provision of deliberate vent holes may solve this, but their blockage by dirt and





Pearl Assurance Company Ltd — Chief Office Extension



GUESTS' LUNCHEON ROOM



VIEW OF THE LUNCHEON ROOM SUITE FROM THE
GUESTS' TO THE DIRECTORS' LUNCHEON ROOM

The Luncheon Rooms, shown above, are panelled in selected Plane tree Burr with solid Plane tree for all the joinery work. In other suites the panelling is of figured English Walnut with the joinery carried out in the same timber. All these materials were supplied from our extensive stocks of decorative veneers and home grown hardwoods, and the panels were manufactured in our Crayford factory to the Architect's specification.

ARCHITECTS
ERNEST BATES & W.M.G. SINNING,
A.R.I.B.A.
MAIN & JOINERY CONTRACTOR
TROLLOPE & COLLS LIMITED

**William Mallinson
and Sons Ltd.**

TIMBER and VENEER MERCHANTS

130-150 HACKNEY ROAD · LONDON · E.2

Telephone: Shoreditch 7654 (15 lines)

Telegrams: 'Almoner' London

MANUFACTURERS OF PLYWOOD, ARMOURPLY, PANELS, COMPOSITE PARTITIONING AND INFILL PANELS

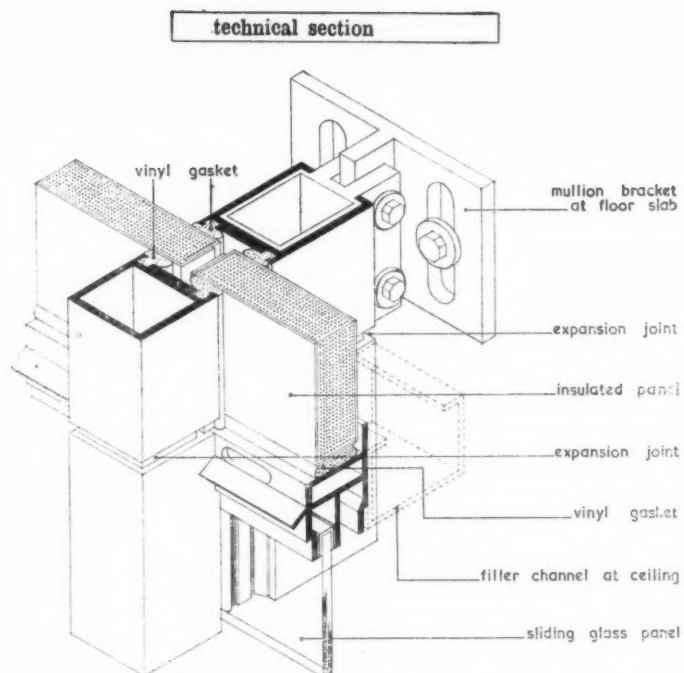
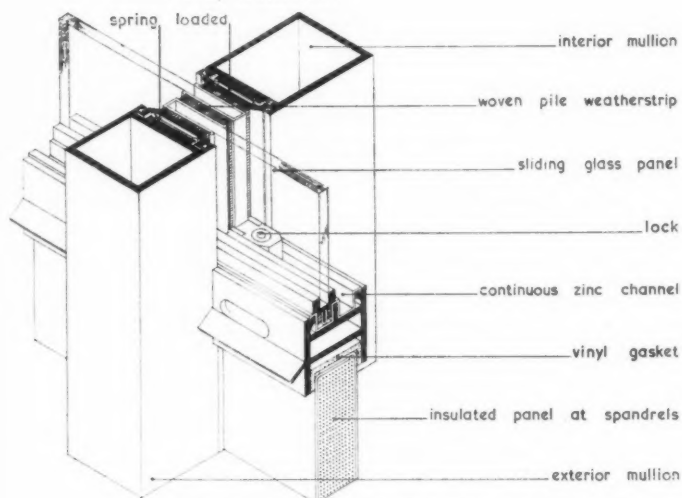


Fig. 5, isometric drawings showing details of an American "split mullion" curtain wall. Above, at head level; below, at sill level.



insects must be watched. In any such design provision must be made for easy removal of one pane, preferably the inner, for cleaning.

A number of systems similar to the American "storm sash," but applied inside the existing window, are available; they consist of a subsidiary frame and glass which are held by channels, toggle clips or other means against the window frame. Two are illustrated in figs. 3 and 4 on page 779.

The average cost of double glazing with factory-made units and with double windows is about the same, although in both there are large variations; in the first due to type of glass and the proportion of edge to area and in the second due to varying qualities of materials and fittings. With factory-made double glazing units the expensive item is the edge seal; the ratio of edge length in feet to area in square feet is 4:1 in a unit 12 in. \times 12 in., but 1:1 for a unit

48 in. \times 48 in.—the latter will therefore be cheaper per square foot than the former using the same glass thickness and cheaper also than an oblong unit of the same area, 96 in. \times 24 in., in which the ratio is 5:4. Thicker glass costs more; this increase is particularly sudden when the size demands a change from sheet to polished plate, but in all cases the lowest possible edge to area ratios should be aimed for.

With double windows this area to frame ratio also has an effect, but more important are the quality of the material (e.g., hardwood or softwood) and the quality of the fittings. The large single opening light window seems to be the most economical where ventilation is required.

The time taken for repayment of the capital cost of double glazing or double windows out of fuel savings and (amortized) saving on capital cost of heating plant has been variously estimated at 10 to 25 years. It depends on the amount of window in the wall and on the use of the building; it will be shorter in a 24-hour heated building where high internal temperatures are to be maintained (e.g., a hospital) than a building heated during the day only and with lower permissible temperatures (e.g., a canteen or shop). The freedom from condensation and down-draught may be the determining consideration in such situations as shop windows or a hospital ward.

(b) THE OPAQUE PANEL: The wide variety of factory or site assembled glass fronted panels makes it impossible to generalize about "U" values. The important point to remember, however, is that no matter how high the insulation value of this panel the effect of large window areas and heat-flow through the framing may substantially reduce the overall insulation, especially at night and times of low solar radiation intensities. Double glazing and carefully detailed framing is essential if the high insulation value of a panel is to be fully realized.

Several factory-made glass fronted cladding panels are available.

Panel	Construction	Claimed "U" value in B.t.u./hr. sq. ft. $^{\circ}$ F.
"Hilsulate" coloured panel	Coloured dished aluminium tray behind glass.	0.55
"Vitroslab"	Sealed double glazing unit, with coloured glass fibre interlayer, alone or with a variety of insulating materials fixed to it.	0.6 to 0.13
"Colourseal"	Sealed double glazing units with painted and fired surface on rear of front glass.	0.4
"Hollow Seal" composite wall cladding panel	As above with a variety of insulating materials fixed to the back.	Down to 0.25

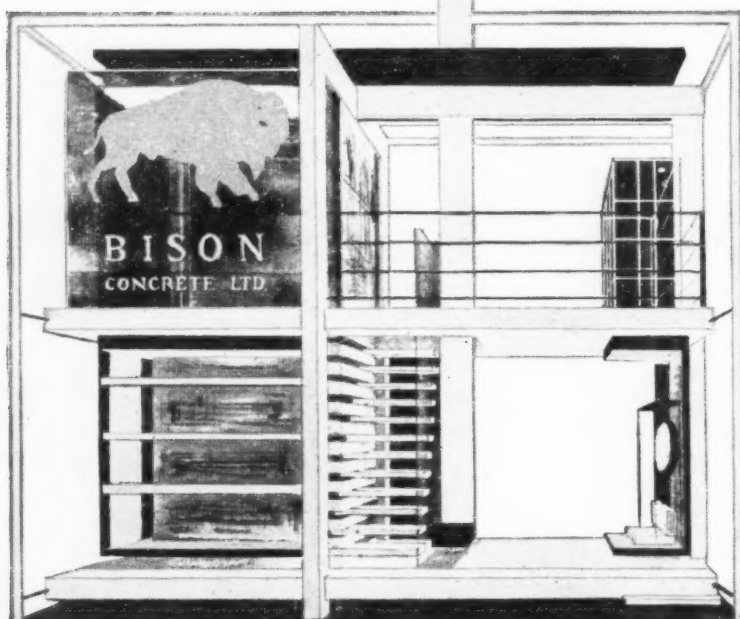
Where a single opaque glass such as "Muroglass" or "Armourclad" is used in front of a back-up wall with a separate cavity the insulation value can be "tailor-made" to requirement. The inclusion of a reflective, metallic foil on one side of a cavity will greatly increase the insulation of the entire panel. A factory-made "Vitroslab" panel with such a foil is obtainable. In the USA a toughened opaque coloured glass, similar to "Armourclad," is available

BISON

at Olympia . . .

ALL THESE BISON PRODUCTS ARE DISPLAYED

Bison Reinforced Concrete Floor and Roof Units
Bison Prestressed Floor and Roof Units
Bison Plank Floor
Bison Wide Slabs
Bison Hollow Purlins
Bison Precast Concrete Frame Construction



Grand
Hall
Row
C
Stand
50



CONCRETE LIMITED

BISON

floors, beams and precast frame structures

THE LARGEST STRUCTURAL PRECAST CONCRETE MANUFACTURERS IN THE WORLD

LONDON: Green Lane, Hounslow, Middlesex. Hounslow 2323

London Sales Office: 16 Northumberland Avenue, London, W.C.2

CONCRETE (NORTHERN) LTD: Stourton, Leeds 10. Leeds 75421

LICHFIELD: Dovehouse Fields, Lichfield, Staffs. Lichfield 3555

CONCRETE (SCOTLAND) LTD: Etna Road, Falkirk. Falkirk 1930

CON. 92

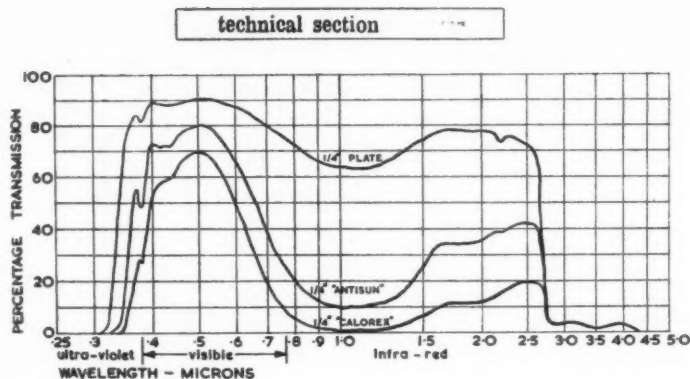


Fig. 6, energy transmission curves for normal plate glass and two heat absorbing glasses, "Antisun" and "Calorex."

with a sprayed fired-in aluminium surface on top of the ceramic.

Hollow glass blocks have been used in curtain walling both as "window" and as "panel"; the Code of Practice "Walls and Partitions of Blocks and Slabs" gives a measured "U" value of 0.44 B.t.u./hr. sq. ft./deg. F. for them on a north wall. The laboratory value, where incoming solar radiation is ignored, is given as 0.54.

The BRS Digest gives no guide as to the "U" value to be aimed for in the opaque panel. When manufacturers of expensive compound panels are putting sales pressure on architects based on an emphasis of low "U" values, it must always be remembered that due to large areas of single windows and the "cold bridge" framing effect, the overall insulation gain in the wall may be only marginal (perhaps only one or two decimals on the "U" value). However, where double glazing is used or smaller windows, such panels may be a more worthwhile investment. A reasonable maximum "U" value for the opaque portion of the curtain wall is 0.2 B.t.u./hr. sq. ft./deg. F.

(c) FRAMING: The prevention of "cold bridge" heat losses through the framing, needs careful location of the insulation or the use of materials of low conductivity such as timber. Several manufacturers are attempting to overcome this problem and two methods, using a "split mullion" system, one American and one English, are illustrated in Fig. 5 on page 780. Where special precautions of this kind are not taken it is suggested that the "U" value for the wall should be increased by, say, 10 per cent. for metal framing to allow for this extra heat loss.

(d) CALCULATION: Having assessed the "U" value of the three separate components of the curtain wall as outlined above, the total "U" value can be approximately obtained.

Example

A wall with 40 per cent. single glass window (80 per cent. glass and 20 per cent. aluminium frame), 60 per cent. opaque panel and aluminium curtain wall framing.

Glass "U" value	= 1.0 B.t.u./hr./sq. ft./°F.
Correction factor for aluminium frame according to Table 2	= 1.10
Total "U" value of window	= 1.10 B.t.u./hr./sq. ft./°F.
Opaque panel "U" value	= 0.2 B.t.u./hr./sq. ft./°F.
Total wall "U" value	= $\frac{40}{100} \times 1.10 + \frac{60}{100} \times 0.2 + \text{correction}$
	factor for curtain wall framing—say
	10 per cent.
	$2.2 + 0.6$
	$\frac{5}{5} = 10 \text{ per cent.}$
	= 0.616 B.t.u./hr./sq. ft./°F.

When this overall "U" value has been calculated the heat transfer through the wall can be calculated by:

$$Q = U \times A (t_i - t_o), \text{ where}$$

Q = total heat loss in B.t.u./hr.
 U = overall coefficient of thermal transmittance in B.t.u./hr./sq. ft./°F.
 A = area in sq. ft.
 t_i = indoor temperature in °F.
 t_o = outdoor temperature in °F.

Solar radiation

Apart from its effect on lighting and "U" values solar radiation raises two distinct problems in the curtain wall: first, heat gains through the windows in excess of the heat losses which were considered under the "U" value concept and, second, heating of opaque panels and frames and resultant stresses on and deterioration of materials.

(a) EXCESSIVE HEAT GAIN: Uncomfortable summer heat gains, as BRS Digest No. 98 suggests, are not so serious in this country that they cannot normally be dealt with by ventilation and blinds. Probably this problem will be tackled together with that of glare and, as in that case, so here special glasses may have a useful function even in this country and certainly in more extreme climates. The so-called heat absorbing glasses may be particularly necessary where:

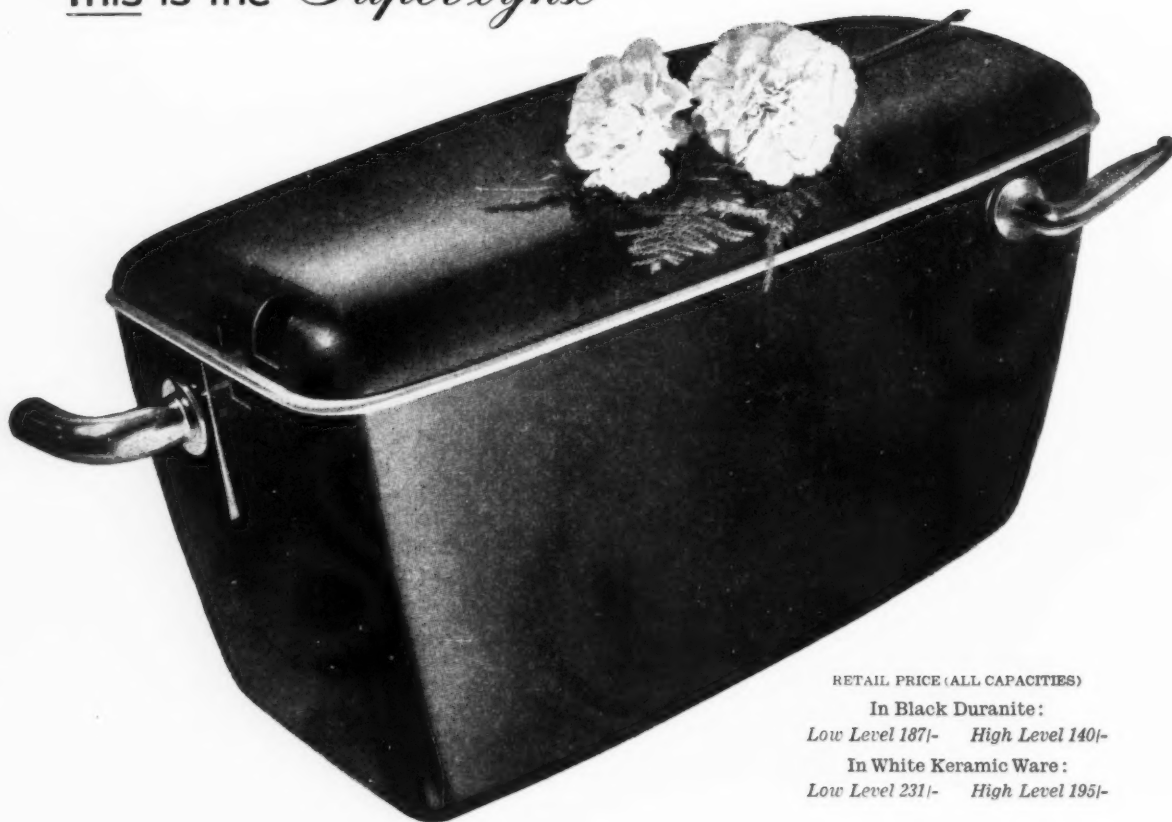
- (i) There are large areas of fixed glazing (no ventilation).
- (ii) Difficulty of access or type of usage (e.g., an office corridor) makes operation of blinds impractical.
- (iii) Capital and maintenance cost of blinds are prohibitive.
- (iv) Clear vision must be retained, as in an airport control room.

The principle of these glasses is that by the incorporation of certain iron compounds they absorb part of the short wave infra-red energy. Of the solar energy reaching the earth through various air masses, roughly 50 per cent. is in the visible range and 50 per cent. in the short wave infra-red.

Fig. 6 shows the transmission curves for normal ¼-in. polished plate glass and the two British heat absorbing glasses "Calorex" and "Antisun"—which have a light transmission of about 60 per cent. and 70 per cent. and a solar heat transmission of about 20 per cent. and 42 per cent. respectively. In the USA and on the Continent glasses with solar heat transmission varying from 18 per cent. to 70 per cent. are obtainable. These glasses transmit less light at the red end of the visible spectrum than at the other and this gives them their characteristic blue-green colour.

All energy falling on glass is reflected, absorbed and

This is the *Super-lynx*



RETAIL PRICE (ALL CAPACITIES)

In Black Duranite:

Low Level 187/- High Level 140/-

In White Ceramic Ware:

Low Level 231/- High Level 195/-

the new, super-efficient, super-smart cistern by Shires

Introduced several months ago, the 'Super-lynx' has been enthusiastically received by architects, builders and plumbers. Not only because it is super-efficient, not only because it is super-smart, but also because it is guaranteed for 5 years. Inside and out the 'Super-lynx' really is an outstanding job—one which you will be pleased to specify for initial installation or for replacement. High and low level models are available in extra high gloss black Duranite and white Ceramic ware. The low level model has gold-lustre beading, operating lever and flush pipe. The high level model has a gold-lustre lever mechanism and beading, and chain with coloured acrylic handle. Matching flush pipe for the high level model can be supplied at extra cost. The 'Super-lynx' is fitted with the rustless, unbreakable, silent flush-at-a-touch 'Kingfisher' syphon mechanism. Powerful flush syphon to B.S.S. 1125 and water works specifications. Capacities 2, 2½ and 3 gallons.

made by
Shires
for your convenience

See us at the
BUILDING EXHIBITION
STAND 242

Shires are the largest manufacturers of flushing cisterns in the world. They also make W.C. pans and seats, pipes, wash-basins and complete

W.C. Suites. Full details and trade terms from: Division A, Shires & Co. (London) Limited, Greenbottom Works, Guiseley, Yorks. (Also at London, Stoke, Birmingham & Glasgow).

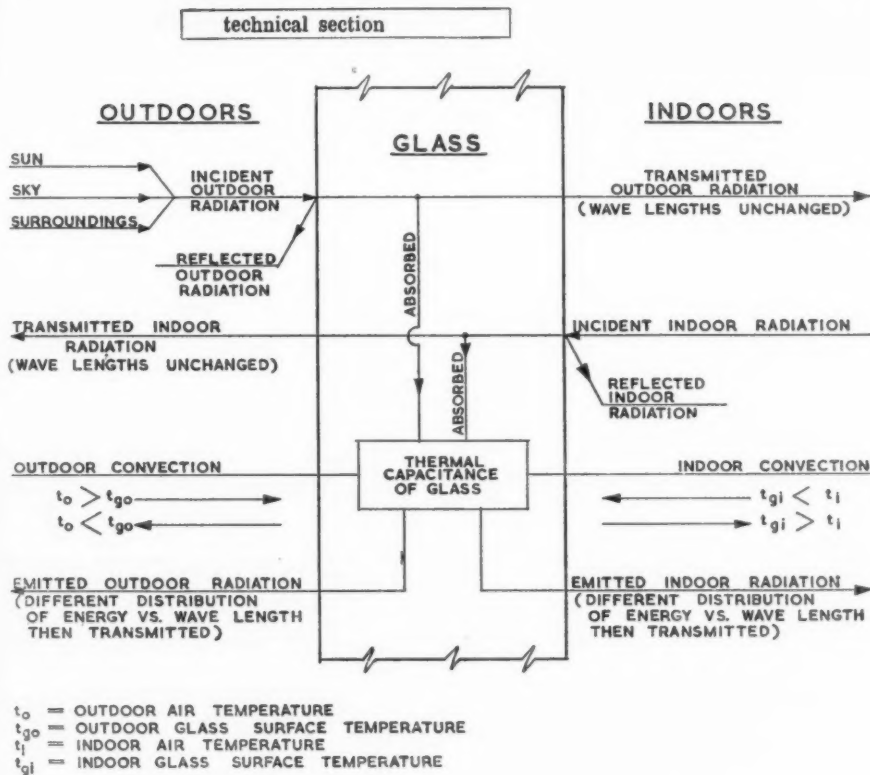
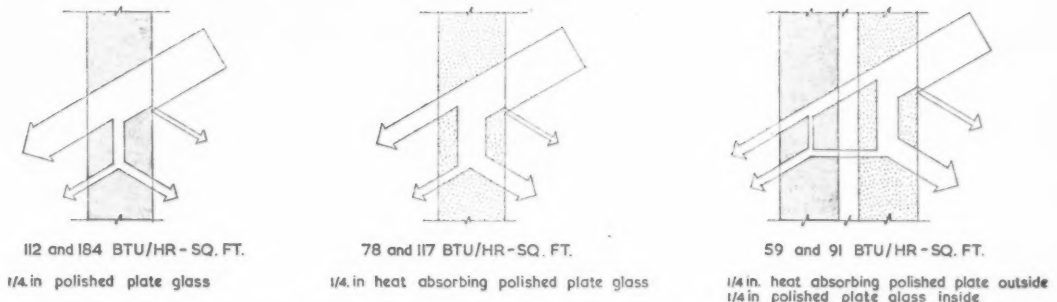


Fig. 7 (left), diagram showing the pattern of thermal behaviour of heat absorbing glass. Fig. 8. (below), comparison of heat transmission through polished plate glass, heat absorbing polished plate glass, and a double glazed window incorporating both.



transmitted in various proportions. The reflection depends on the incident angle of the energy and on the surface texture of the glass. For transparent glasses it is less than 10 per cent. at normal or near-normal angles of incidence. The remaining energy is absorbed and transmitted in proportion to the transmission characteristics of the glass—the more the transmission the less the absorption (see Fig. 8). All absorbed energy, visible or otherwise, heats the glass and the hot glass in turn re-radiates long wave energy to both sides. This raises two practical design problems. First, special glazing precautions must be taken and since these are similar to those for opaque cladding glasses they are considered under that heading. Second, heat gains from the hot glass must be minimized. The provision of ventilation above and below to assist in removing warm air is one method. Another, but more expensive method, is to use double glazing with the heat absorbing glass as the outer pane and ordinary glass for the inner pane. The inner pane both seals the layer of warm air from the room and also acts as a radiation shield against the long wave energy emitted by the hot outer glass, to which it is opaque. Ventilation of the space between the

glasses to the outside air will increase the effectiveness of such a window even further.

Accurate calculation of the total heat balance is a complex matter.

The glass receives radiation from three external and one internal source; it reflects, absorbs and transmits this energy; the absorbed energy heats the glass; there is convection-conduction exchange from both sides which also heats the glass; the glass therefore acts as a "heat sink" and re-radiates to both sides. The most accurate work to date has been done by G. W. Parmalee and W. W. Aubele at the laboratory of the American Society of Heating and Air Conditioning Engineers. It has been published in detail* and an outline of it is given in *ASHAE Guide*. For anyone designing for tropical conditions and calculating air conditioning loads from solar radiation through various types of glazing this *Guide* is indispensable. The figures given in Table 3 (p. 783) have been calculated from the *Guide* and they are based on two selected tropical conditions, since it is assumed that it is only in fully air conditioned buildings in these

* In papers on different glass products in issues of the *ASHVE* (later *ASHAE*) JOURNAL's section on heating, piping and air conditioning.



LUXFER LIMITED

Supplied the
Roof Lights in
Reinforced Concrete
for the Westbury Hotel,
Bond Street.

Specialists in the
manufacture of
all constructions
through which
daylight is admitted
into a building.



LUXFER LIMITED, WAXLOW ROAD, HARLES DEN, N.W.10

Telephone: ELGAR 7292-5

Telegrams: LUXFER, HARLES, LONDON.

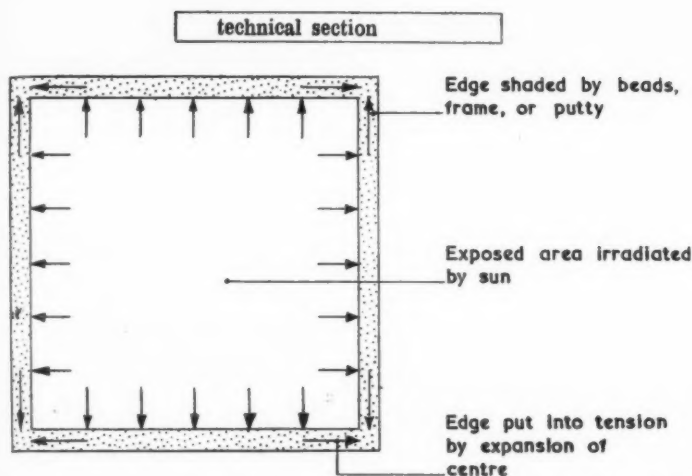


Fig. 9, illustrating the creation of tension round the edge of a glass sheet by the expansion of glass in the centre.

Table 3. Passage of heat through a variety of glasses for two selected tropical conditions

Aspect		South	East
Time		12 noon	9.0 a.m.
Total direct and diffuse radiation in B.t.u./hr./sq. ft.		138	214
Solar altitude		68°	45.5°
Outdoor dry bulb temperature		95° F.	80° F.
Indoor temperature		80° F.	80° F.
Glasses	Total per cent. direct solar energy normal transmittance	Total B.t.u./hr./sq. ft. Passed Inwards	
Single sheet	87	112	184
Single 1/4-in. polished plate	77*	104	168
Single 1/4-in. polished heat absorbing plate	41	78	117
Double, 2 sheets, 1/4-in. space	76	94	158
Double, 2 1/4-in. polished plates, 1/4-in. space	60*	84	138
Double, outside 1/4-in. polished heat absorbing plate inside 1/4-in. polished plate, 1/4-in. space	35	59	91
Single, 3/8-in. hammered (rough side out)	75	87	160
Single 1/4-in. heat absorbing hammered (rough side out)	21	52	75
Glass blocks (smooth external faces, wide horizontal ribs on internal faces)	—	40	92

* These figures are lower than those accepted in this country and open to doubt.

regions that accurate calculation is necessary. The Table is useful for other regions as a method of comparison between the nine types of glazing.

(b) HIGH GLASS TEMPERATURES: A great deal has been written and said recently on the effects of solar radiation on opaque glasses and the resultant high temperatures reached. BRS Digest No. 99 gives 160 deg. F. as the maximum for an opaque insulated material in this country and draws attention to a number of important implications of such a temperature; but some of the recommendations concerning glass must be questioned. Both in the Digest and earlier discussions there is an emphasis on clearances round the glass to allow for thermal expansion at the expense of other practices which are not only equally important in themselves but are more often ignored. The special glazing techniques described below also apply to heat absorbing glasses such as "Calorex" but not to toughened glasses such as "Armourplate" or "Armourclad" which cannot be overstressed from solar radiation and which only require normal sound glazing practice. The toughened glasses cannot of course be cut or worked.

An opaque coloured glass becomes hot according to the degree of its absorption; a light or white panel will gain less heat than a black or dark one. A transparent or translucent glass used in front of an opaque panel absorbs a little of the sun's short wave energy and a lot of the long wave, emitted by the hot, absorbing panel behind it, to which it is opaque. If there is a separating cavity the air is heated from both warm surfaces and cumulative heat build-up takes place. If the glass is in contact with the absorbing panel it will be heated by conduction. Whichever condition causes heating of the glass, since the edges are normally covered by beads and frame rebates and embedded in mastic and since glass is a poor conductor of heat, there will be a considerable temperature differential between the centre and the edge. The centre will try to expand; the cold edges will try to restrain it and will thus be put into tension (see Fig. 9). Whilst glass is extremely strong in compression it is relatively weak in tension and it is tensile stresses which invariably cause failure. In this instance the tensile stresses are concentrated along the weakest part of the panel—the edge which always has minute flaws and fissures. These will determine the limiting stress which the glass can withstand, beyond which they will open up and start cracks across the pane. This hot centre cold edge differential may be higher at low ambient temperatures, as for instance on a clear frosty day when the sun emerges from behind an obstruction or cloud. A dark heat absorbing frame will reduce the differential in comparison to a white or reflective frame. The difference between a metal and wood frame in this respect has not yet been assessed.

Experiments and experience have shown that two factors are critical in determining resistance to this stress. The first is the amount of edge cover. Within practical limits the narrower this is the smaller will be the temperature differential and hence the stress on the glass. Above a certain width of cover, about 1 1/8 in. for 1/4-in. glass, the stress again becomes less as there is an increasing width of strip to resist the tension. At about 1 1/8 in. the two opposing trends combine to give the lowest resistance. Fig. 10 shows edge stress plotted against the width of edge cover. If the maximum edge cover is limited to 3/8 in. the glass has an ample margin of safety (see Fig. 11).

The second critical factor is the edge condition of the glass; any edge damage such as shelling, grazing, nipping or even arising (particularly on the coloured surface of the glass) weakens the edge resistance to tension. Prevention of such damage involves good cutting, careful handling and packing and careful glazing. Wooden battens should always be used to cushion glass from hard floors or walls during storage.

In the cutting of wired glass small edge "vents" (fissures) are caused by the wires during cutting. It should not, therefore, have colour applied to it and wired "Muroglass" had to be withdrawn for this reason. Translucent or transparent wired glass may be used in front of opaque panels provided there is an

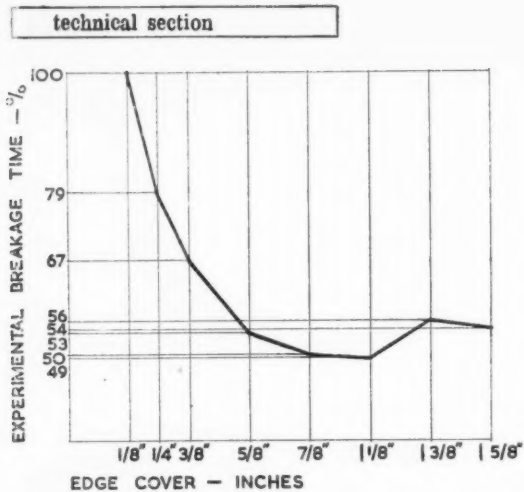
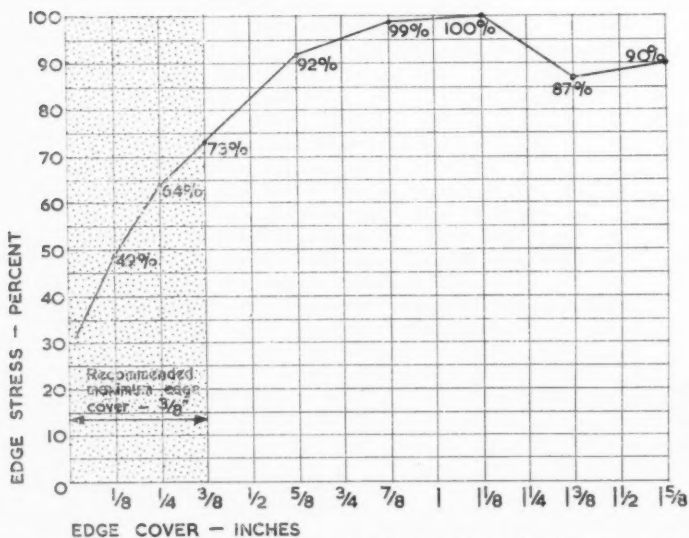


Fig. 10 (above), graph plotting experimental breakage for different depths of edge cover. Fig. 11 (below), diagram showing the relationship of edge stress (tension) and amount of edge cover. Maximum stress is created by about $1\frac{1}{8}$ in. edge cover, and both increased and decreased cover cause a reduction of stress.



adequate cavity, which should preferably be ventilated to the outside. Cavity ventilation will not only reduce the centre glass temperature but is also desirable as a means of condensation control.

Tight glazing will, of course, cause breakage under thermal movement but few substantiated cases of it have occurred as precautions for its prevention are standard practice in the glazing trade. Special care must, however, be taken to prevent projecting screw-heads, welding fillets in corners and out-of-square frames from causing tight glazing. The clearances normally recommended are larger than required for differential thermal movement because they envisage these conditions and also dimensional tolerances in the glass and frame.

The determination of these clearances from theoretical data, such as coefficients of expansion, as is done in Digest No. 99, is difficult, because:

(a) The glass coefficient is lower than that of any framing material except timber (Table 2 in Digest

No. 98 suggests that glass and steel have identical coefficients; this is not in accordance with standard reference works). This suggests that contraction during cold weather of the frame against the glass may be a more serious risk than expansion of the glass against the frame in hot weather.

(b) Even though the frame has a higher coefficient it may expand less because it has a high thermal capacity, e.g., concrete; because it is reflecting, e.g., aluminium; or because it projects in the nature of a cooling fin and is thus cooled more rapidly by the wind than the glass.

(c) In a row of windows or panels it is impossible to predict in which direction a particular frame will move in respect to the glass edge—in moving away from one pane it may move towards another.

(d) The frame material will generally move parallel to the glass edge and the space reduction between the frame and glass is more likely to be the result of buckling than straightforward thermal expansion.

Using the figures given in Table 2 of Digest No. 98 and assuming the biggest difference in materials (i.e., glass in an aluminium frame) the total relative movement does still not justify the clearance recommended in Digest No. 99—i.e., $\frac{1}{4}$ in. for every 4-ft. length. In an 8-ft. length this would mean $\frac{1}{2}$ -in. clearance at both ends which would necessitate a minimum rebate depth of $\frac{7}{8}$ in., unlikely to be obtained in any of the standard framing systems. Apart from this, the difficulty and expense of adequately filling a $\frac{1}{2}$ -in. wide gap with mastic makes such clearances impracticable. In practice, therefore, the customary tolerance of $\frac{1}{4}$ in. all round, for panes up to 30 in. in their major dimensions and $\frac{1}{8}$ in. all round for panes over this size, will be sufficient to cater for thermal movements and the other conditions described above. The two setting blocks placed under the bottom edge not only prevent mechanical stress caused by direct glass to frame contact but are also intended to centralize the glass in the opening. Sometimes they have to be of different thicknesses to do this. The suggestion in Digest No. 99 that setting blocks should be placed at "frequent intervals" along the bottom edge would largely defeat their purpose; the glass can only be raised fully on two blocks and the others would take no weight. The two that do so may be the wrong ones for even load distribution or centralization of the pane.

It is equally important to maintain clearances between the front and back of the glass and the frame and bead, to prevent local hot or cold spots and mechanical stress. Normally $\frac{1}{8}$ in. is recommended as a maximum on each side. Under "wind" special precautions to prevent this mastic from being squeezed or "pumped" out in exposed situations are described. High glass temperatures also affect such materials as mastics, stoved or pigmented colours and insulation materials. The manufacturers of these products must be aware of the possible maximum temperatures and it is suggested that they should assume 160 deg. F. to 175 deg. F. for this country and 175 deg. F. to 190 deg. F. for tropical regions.

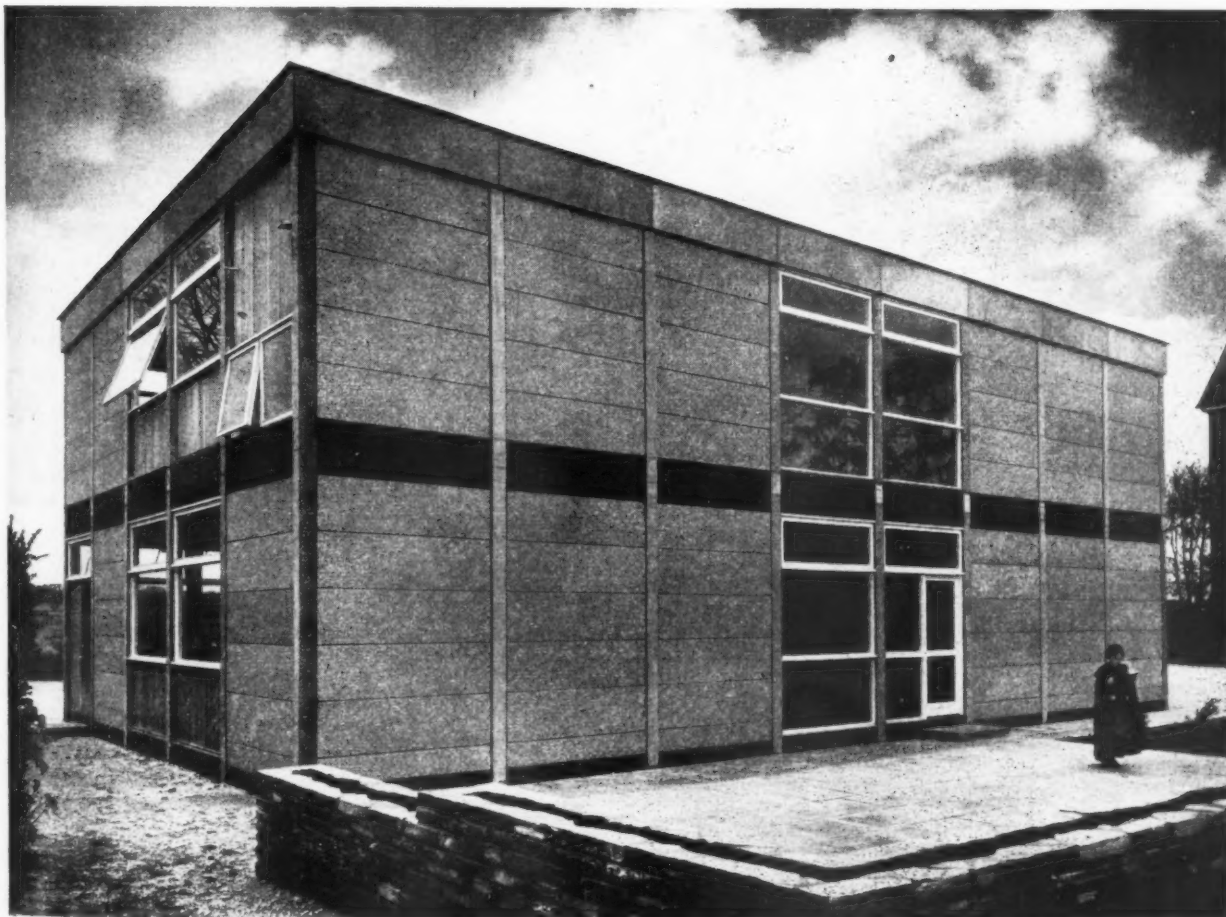
building illustrated

LABORATORIES

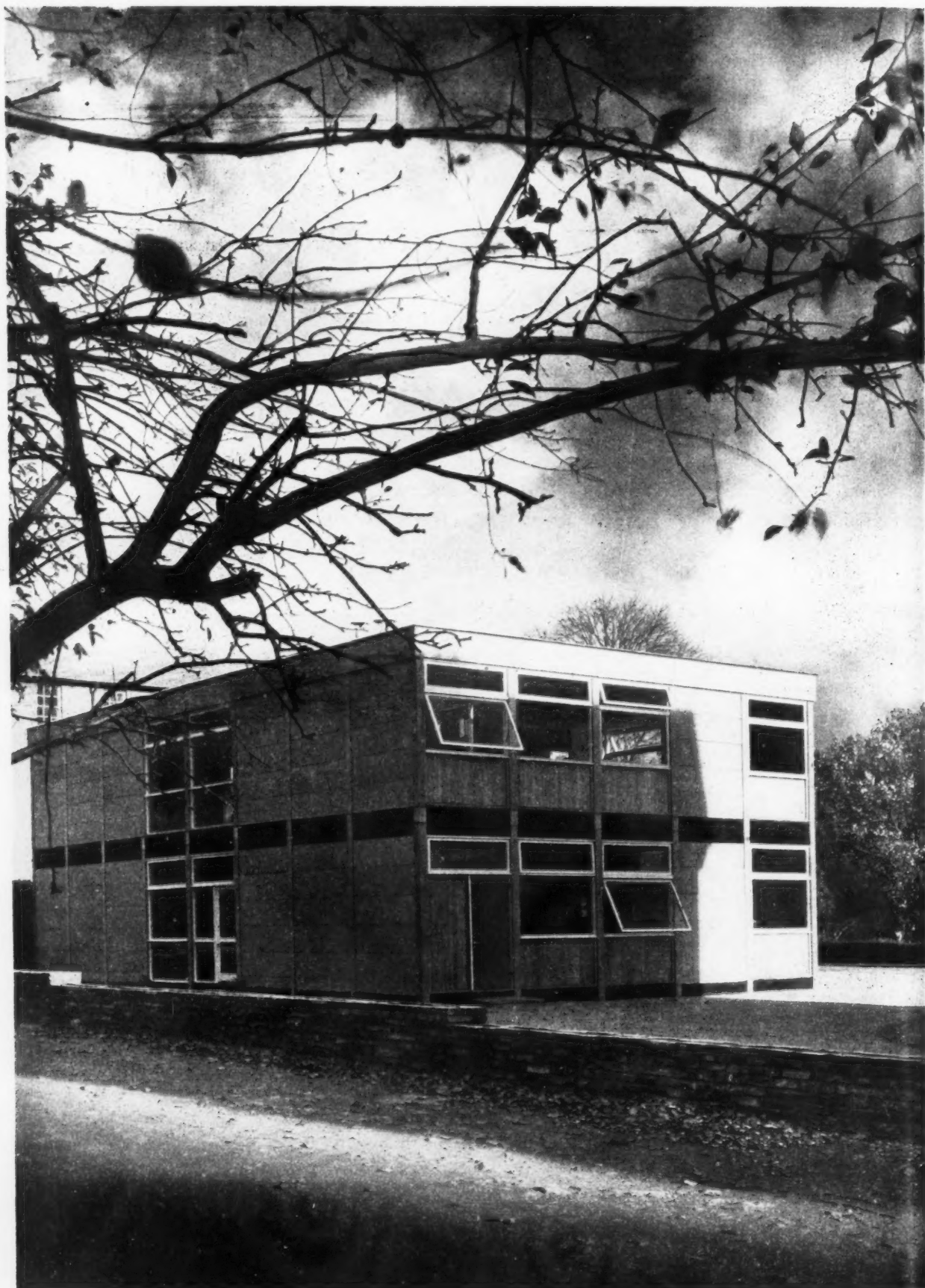
at SHERBORNE SCHOOL FOR GIRLS, SHERBORNE, DORSET; designed by the ARCHITECTS' CO-PARTNERSHIP quantity surveyors DAVIS, BELFIELD and EVEREST

A new building was required at the Sherborne School for Girls, to accommodate the chemistry department and release existing laboratories for the physics and biology departments. As the school is short of space for new buildings, a two-storey block was designed and constructed to take a third floor if required later. The areas of rooms, amount of equipment installed, etc., were based on recommendations from the Industrial Fund for the Advancement of Science in Schools, from which the school received a grant. The laboratories are constructed in the precast concrete system first used at the Worthing Secondary School (AJ August 4, 1955).

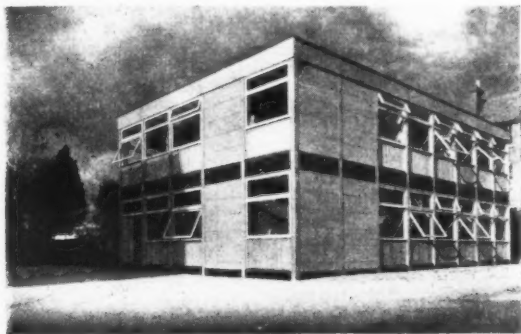
From the north, showing the entrance with landing windows above.



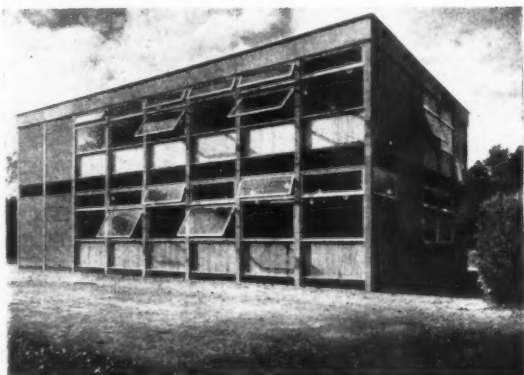
building illustrated



Opposite page: from the south-west. Below: from the north-west. The light-coloured precast concrete slabs have a sienna marble, exposed aggregate finish. The slabs which form a dark line round the middle have a black cement mix with a dark exposed aggregate. The junction between the ground and first floor columns with the exposed ends of bracket units have been exposed with "V" joints. In most cases where this structure has been used on other buildings these joints have been slurried over. The wall in the foreground of the picture on the left was already on the site.



Below: from the south. The fascia and columns are of precast concrete. The in-situ concrete plinth is painted black. The window units are of timber, painted white, and the panels below are of untreated Western Red Cedar with sub-sills of oiled hardwood. External solid doors are painted blue, BSS.2660 No. 7-080.



Below: elementary chemistry laboratory on the ground floor. The ceilings are white painted fibreboard. The floors are black and white marbled thermoplastic tiles. The exposed structural members are all painted white. The wall panels on the chalk board wall are light pink, BSS.2660 No. 1-020. The end wall panel next to the window is pale blue, No. 7-083.



analysis

CLIENT'S REQUIREMENTS

A new building to house the whole of the accommodation needed for chemistry so that the existing laboratories could be re-planned, to enlarge within them the physics and biology departments.

The school is very short of space for building. Therefore a two-storey block, with the possibility of adding a further storey for geography at a later date, was decided on.

The site selected by the school is on part of a disused tennis court. A minimum amount of site work and landscaping has been done, in order not to increase gardening and maintenance work.

PLANNING AIMS

The school received a grant from the Industrial Fund for the Advancement of Science in Schools. The areas of rooms, layout and quantity of equipment are generally in accordance with the Fund's recommendations. A simple, rectangular building with minimum circulation areas and large, well-lit rooms was aimed at.

element and price per sq. ft.	s	d
preliminaries and insurances	15	5½
contingencies	4	3½

Figures based on estimated final account.

Work below ground floor level 3 9½

Columns housed in 2 ft. 9 in. square by 2 ft. 8 in. deep r.c. foundations. Between them runs a periphery beam, 6 in. wide by 1 ft. deep. No excavation under slab, maximum of 4-in. hardcore, 6-in. concrete slab.

STRUCTURAL ELEMENTS

Frame or load-bearing element 12 0½

Prestressed precast concrete frame. Columns at 6-ft. 8-in. centres, primary and secondary floor and roof beams and precast infilling slabs.

External walls 5 9

Standard eaves precast cladding slabs, fairfaced as columns. External precast concrete cladding slabs between columns; coloured black at first floor level; elsewhere faced with Siena marble to tone in colour with local Ham stone.

$$\text{ratio: } \frac{\text{solid wall } 0.4597}{\text{floor area } 1} =$$

Windows (cost includes external doors) 7 11½

Softwood frames, hardwood sills. Projectors, hoppers and V-jointed cedar panels.

$$\text{Ratio: } \frac{\text{windows (including external doors) } 0.5133}{\text{floor area } 1} =$$

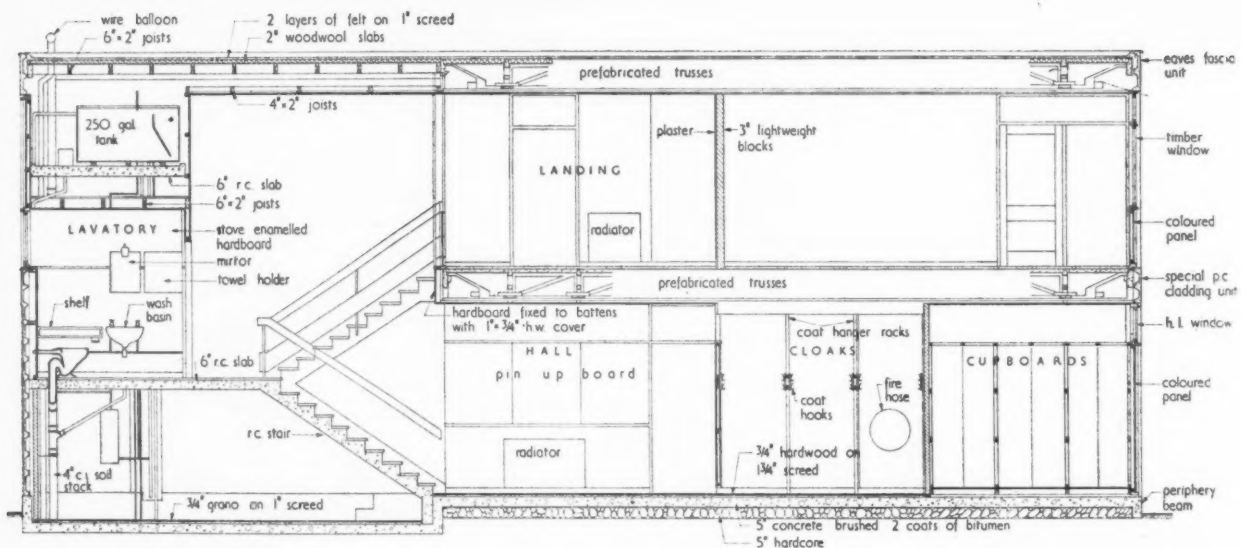
External doors (cost included above)
Front door in glazed panel. Side doors, painted external quality ply.

$$\text{Ratio: } \frac{\text{doors } 0.015}{\text{floor area } 1} =$$

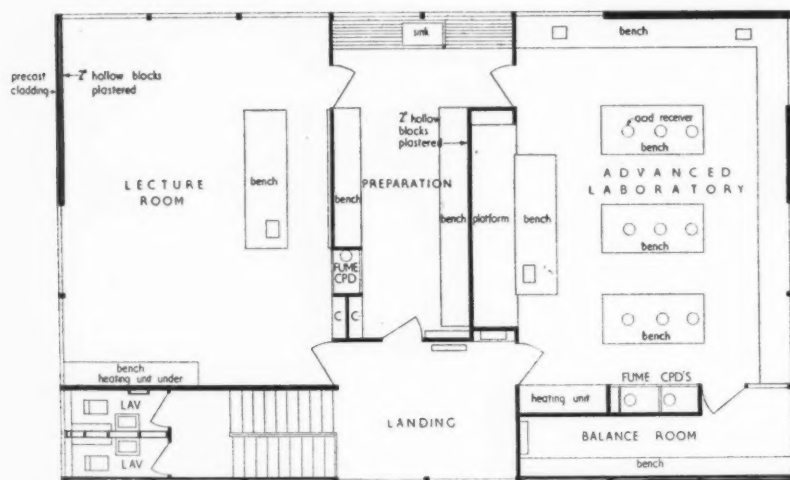
Upper floors 1 8½

Span, 26 ft. 8 in. Primary and secondary prestressed, precast 3 ft. 4 in. units; concrete infilling slabs, 2-in. structural screed. Area, 1,718 sq. ft.
Super loads, 90 lb. per sq. ft. (60 lb. live load, 30 lb. partitions, finishes, etc.)

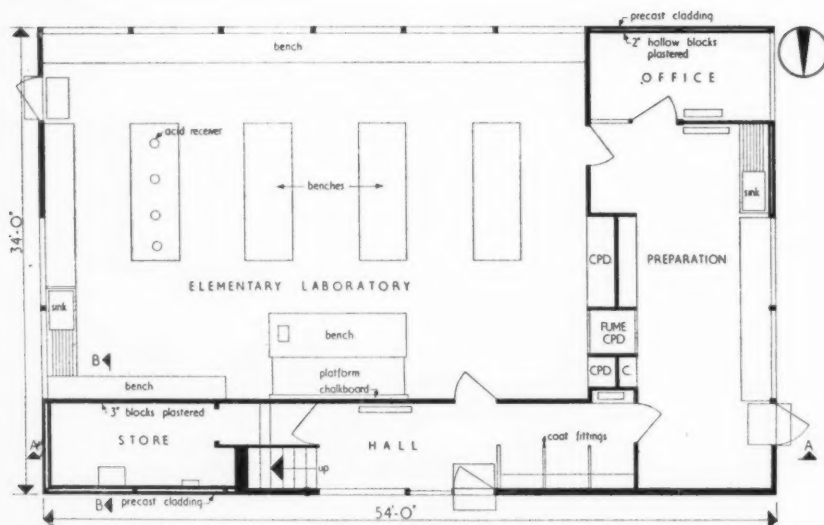
building illustrated



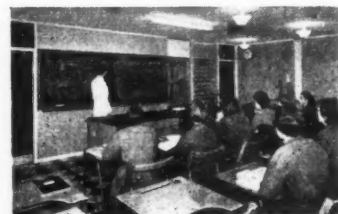
Section A-A [Scale: $\frac{1}{4}'' = 1' 0''$]



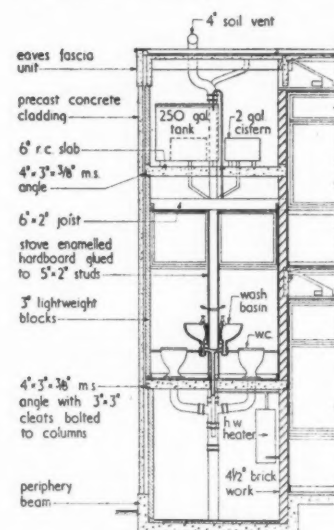
First floor plan



Ground floor plan [Scale: $\frac{1}{16}'' = 1' 0''$]



The advanced chemistry lecture room.



Section B-B [Scale: $\frac{1}{4}'' = 1' 0''$]



The advanced chemistry laboratory on the first floor.

analysis

	s	d
Staircases	1	0
1 r.c. staircase and landing. Not a part of the precast r.c. system.		
Width, 3 ft. Total rise, 10 ft. 9 in.		
Roof construction	2	10
Primary and secondary prestressed precast concrete unit; concrete infilling slabs, 3-in. insulating screed. Aluminium eaves drip.		
Area, 1,792 sq. ft.		
Roof lights		
Glazing	1	8½
Hopper windows, 32 oz. Projectors, ¼-in. plate.		
Wired Georgian in four below-sill glazed panels.		
total of structural elements	32	11½

PARTITIONS AND FITTINGS

Internal partitions	1	2½
2-in. hollow blocks (1,166 sq. ft.) and 3-in. structural blocks (535 sq. ft.).		
Internal doors	1	0½
13, hardboard painted, single.		
Ironmongery		6
Door furniture, anodized aluminium lever handles.		
Window furniture, cam stays and espagnolette bolts.		
Fittings	18	5½
Laboratory		
Benches: hardwood tops, beech faced block-board doors and cupboards.		
Plastic catchpots and drainage (from sinks) above floor level.		
Others	7	
total of partitions and fittings	21	9½

FINISHES

Floor finishes	3	7½
½-in. granolithic to store; area, 109 sq. ft. Price per sq. yd., 10s. 5d.		
9-in. × 9-in. × ½-in. thermoplastic tiles to laboratories and classrooms. Area, 2,783 sq. ft. Price, 13s. 4½d. per sq. yd.		
Wood block flooring, polished, to halls and landings. Area, 303 sq. ft. Price, 55s. 9d. per sq. yd.		
Wall finishes	1	5½
½-in. plaster, painted. 2-in. hollow clay pot inner skin to external walls.		
Ceiling finishes	2	11½
Tentest fibreboard panels, fixed to timber framing and treated with fire-resistant paint.		
Roof finishes		8½
Two layers bituminous felt and chippings.		
Area, 1,718 sq. ft.		
Decorations	1	11
Walls: emulsion paint, prime and three coats.		
Woodwork: gloss paint—internal, prime and three coats; external, prime and four coats.		
Total of finishes	10	7½

SERVICES	s	d
External plumbing	3	½
Cast iron pipe connections to water and gas mains.		
Hot and cold water installation	3	2½
Galvanized iron pipes.		
Sanitary fittings	4	½
Two low-level w.c.'s; two glazed stoneware lavatory basins.		
Heating and ventilation	3	9½
Low pressure hot water accelerated system service, warm air cabinets and radiators. Internal temperature, 62°F. for classrooms. Air change, 3 per hour.		
"U" of walls, 0.3. 0.6 for panels below windows.		
"U" of roof, 0.3 (MOE standard for school premises) cost excludes connection to heating main in adjoining building.		
Gas installation		8½
20 points to laboratory benches and 2 gas water heaters.		
Electrical installation	2	9½
Fluorescent lights, 6; Tungsten, 61; 13-amp. power on ring main, 10; clocks, 3.		
total of services	11	2

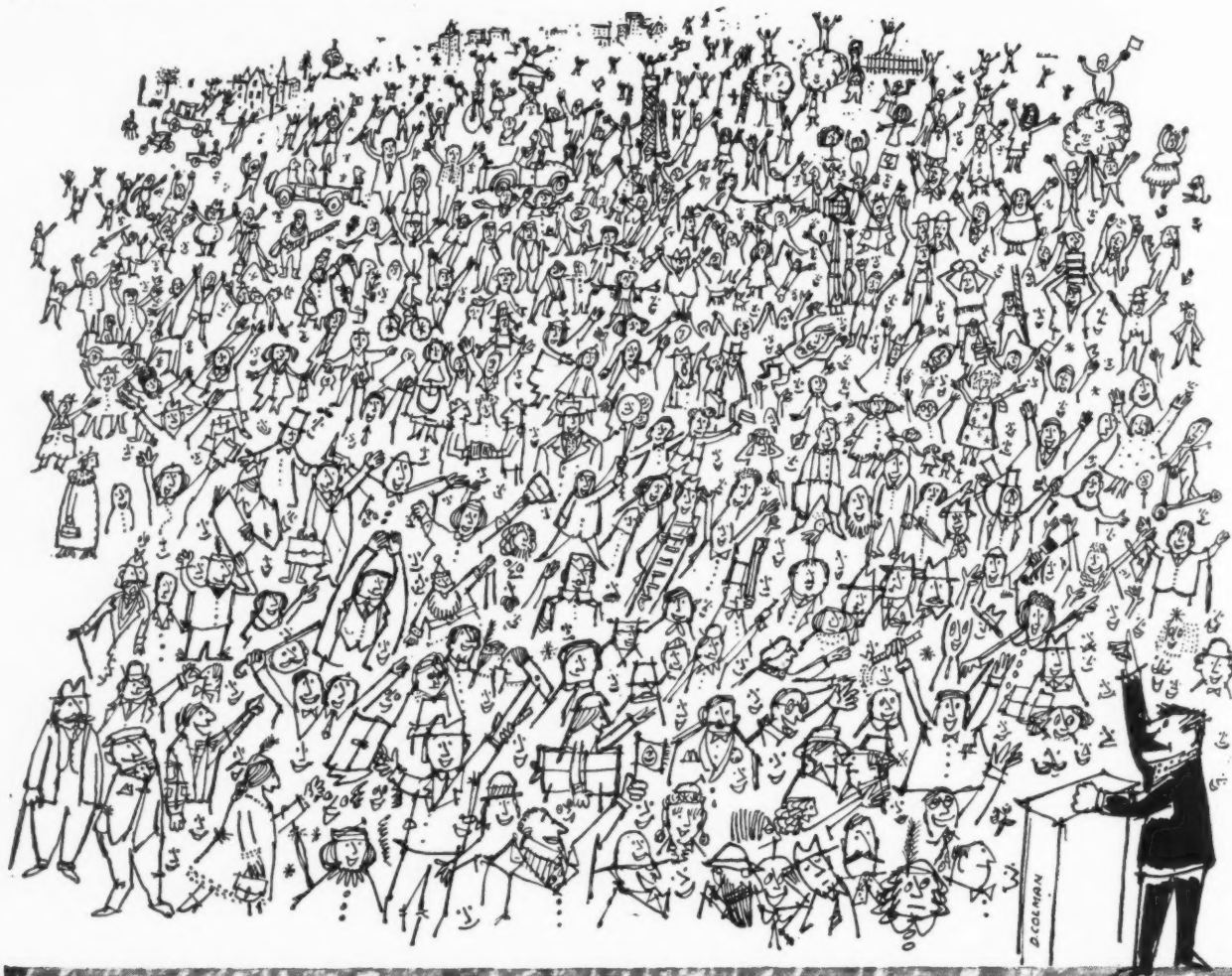
Drainage	1	8½
Cast iron pipes. One new manhole, connection into existing manhole.		
Rainwater also in cast iron to existing manhole.		
Other elements not shown above	6	11½
All external works, drainage beyond last connecting manhole, all external gas, electrical and water mains, share of new heating installation in adjoining building.		
Shillings per sq. ft.		£17,673
of floor area	= 101s. 10½d. =	
(excluding "other elements".)		3,470 sq. ft.

COST SUMMARY

Ground floor area: 1,775 sq. ft. Total floor area: 3,470 sq. ft.
 Type of contract: negotiated.
 Work began: May 1, 1957.
 Work finished: August 30, 1957.
 Tender price: £18,780.
 Final contract price: (estimated) £18,880 including "other elements" shown above.
 Tender price external works and ancillary buildings: £220.
 Final contract price: £240 (estimated).

CONTRACTORS

General contractor: Gilbert-Ash Ltd. Sub-contractors—
 Electrical: Norman H. Sheppard. Flooring (Accotile): The Southern Tiling Flooring Contractors Ltd. Ceilings: Tentest Fibre Board Co. Ltd. Heating: Weatherfoil Heating Systems Ltd. Laboratory benches: Spencer's Joinery Ltd. Window and external door units: East & Son Ltd. Ironmongery and sanitary fittings: William Dibben & Sons Ltd. Cloakroom fitting: The Finch Organisation. Furniture: Avant Galleries Ltd. Blinds: Deans Blinds (Putney) Ltd. Fire fighting equipment: The Pyrene Co. Ltd.



Five thousand years we've waited . . .

for CARLITE pre-mixed plaster

Aha! A revolution in plaster and about time too. Five thousand years is a lot of 44-hour weeks, but it is roughly the number of years that Man has been plastering with heavy sanded plasters. The first advance of basic importance in all this time is Carlite.

Carlite is a *pre-mixed* plaster, and in it sand is replaced by a lightweight aggregate of Perlite, which is premixed with gypsum in the factory.

The advantages of Carlite are many. Already it has won the calculating (but human) hearts of architects and builders, who are using it on scores of their biggest contracts. If you are still unaware of just what these advantages are, full technical information is available. Send us your name and address today.



The Gotham Company Limited, Gotham, Nottingham.
The Carlisle Plaster & Cement Co., Cocklakes, Nr. Carlisle.
Thomas McGhie & Sons Ltd., Kirkby Thore, Westmorland.

building illustrated

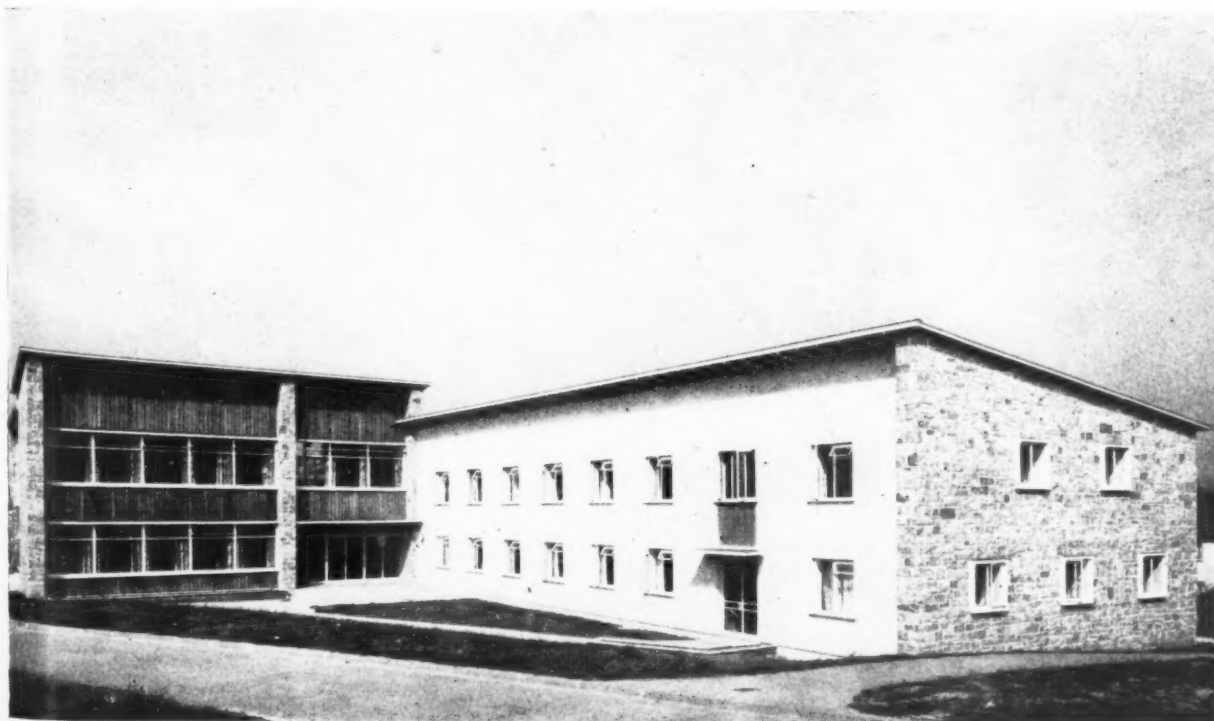
Old People's home at Ernesettle Green, Plymouth

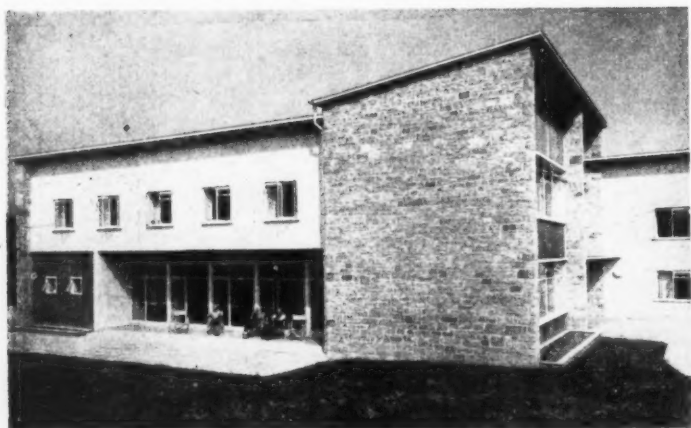
OLD PEOPLE'S HOME

at ERNESETTLE GREEN, PLYMOUTH ; designed by H. J. W. STIRLING, city architect ; assistant architect D. HUNT
assistant W. R. SOLOMON ; consultants (heating) HOARE, LEA and PARTNERS
quantity surveyors GASKELL, BROWN and PARTNERS

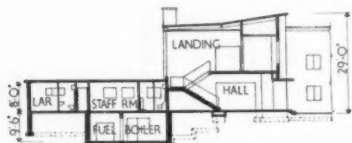
The Lakeside Residential Home for old people is located in the neighbourhood unit of Ernesettle on the perimeter of the city, and close to a shopping centre, church and green. The accommodation for 35 persons of both sexes includes a high proportion of single bed-sitting rooms, a feature not to be found in similar homes in the city. Each bed-sitting room is equipped with a built-in wardrobe, a lavatory basin, and a radiator under the window. This is the first old people's home to be cost analysed in the JOURNAL.

From the south-west. The communal and staff wing is on the left.

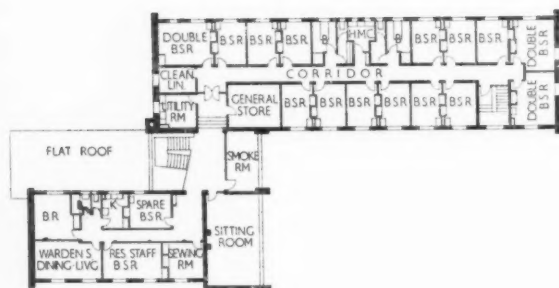




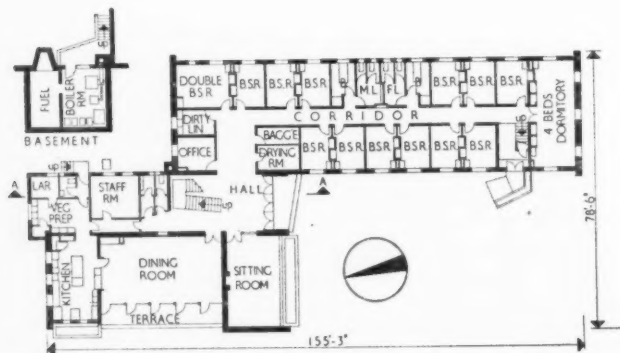
From the west. The wing on the left contains the dining room and kitchen on the ground floor and staff accommodation above. Gable walls are faced with random limestone rubble; elsewhere external finishes include white tyrolean rendering, facing bricks and vertical timber boarding.



Section A-A



First floor plan



Ground floor and basement plans [Scale: $\frac{1}{8}'' = 1' 0''$]

CLIENT'S BRIEF

To provide a home for 35 able-bodied aged persons with a high proportion of single bed/sitting rooms, and a small number of double rooms for married couples. Central heating to residents' rooms in addition to main communal rooms. Ground floor access for wheel-chairs to main communal rooms.

SITE: topography, access

The site is located on the perimeter of the city in the neighbourhood unit of Ernesettle and in close proximity to its shopping centre, church and green. The site faces on to the green and the road surrounding it and slopes evenly away from this road to the northernmost corner. Corporation terrace and semi-detached traditional type houses flank the site on either side and at its back.

PLAN: general appreciation

The accommodation is contained on two floors and in two main units. The larger unit contains the residents' bed/sitting rooms, toilets and bathrooms, and the other unit, which caters for the communal life of the home, contains the large sitting rooms, smoke room, dining room and kitchen. The large entrance hall links them and at the same time isolates the separate functions of the two units, giving privacy and quiet to those residents wishing to retire to their rooms.

price per sq. ft.	s	d
preliminaries and insurances	10	1
contingencies	11	1

Note : figures based on final contract price. Contingencies excluded from total.

STRUCTURAL ELEMENTS

Work below ground floor level	5	34
-------------------------------	---	----

Mass concrete foundation. Ground floor, 2-in. concrete cover, d.p.m. and 4-in. site concrete. Basement tanked with 1½-in. asphalt horizontally and ¾-in. vertically.

Load-bearing element, external walls	5 3
--------------------------------------	-----

Calculated engineering brick piers to support beams across wide spans.

11-in. cavity walls. White tyrolean finish externally. External walls to ground floor reinforced, to comply with byelaw. Gable walls, 14-in. random rubble limestone externally, 2-in. cavity and 4½-in. brick inner skin. Facing brick panels.

$$\text{ratio: } \frac{\text{solid wall}}{\text{floor area}} = \frac{0.76}{1}$$

Windows

Purpose-made and standard type metal windows generally, painted white.

$$\text{ratio: } \frac{\text{windows}}{\text{floor area}} = \frac{0.073}{1}$$

External doors

Main and secondary entrances, purpose-made

metal casements. Kitchen entrance, flush door with Georgian wired glass.

$$\text{ratio: } \frac{\text{doors}}{\text{floor area}} = \frac{0.026}{1}$$

Upper floors

R.c. floor slab.

Span: 24 ft. 6 in. (average). Area: 640 sq. yd.

building illustrated



The dining room on the ground floor, looking towards the kitchen servery hatch.



The first floor landing with the smoke room on the left.

analysis

s d

Staircases

10

R.c. with h.t. reinforcement. Main beam from which the 2-in. tread and riser is cantilevered. 1-in. heavy density cork treads. Steel balustrade both sides. Two staircases: widths, 4 ft. and 3 ft. 6 in. Total rise, 10 ft. 10 in. and 8 ft.

Roof construction

2 5

Type of roof:

- | | |
|---|-----------------|
| 1. 8° monopitch: 7-in. × 2½-in. rafters supporting strawboard | } 6,850 sq. ft. |
| 2. 8° monopitch 5-in. × 2-in. rafters on steel bearers supporting strawboard. | |
| 3. Flat: 9-in. × 2½-in. bearers supporting boarding for zinc. | 1,500 sq. ft. |

Glazing

8

total of structural elements	14 7
------------------------------	-------------

PARTITIONS AND FITTINGS

Internal partitions

1 1½

3-in. breeze concrete, 315 sq. yd. 4½-in. brick, 504 sq. yd.

Screens

8½

Glazed and wax polished mahogany, to act as fire breaks.

Internal doors

1 0½

Flush, hardboard-faced. 115 single, 10 double.

Ironmongery

3½

Anodized aluminium door furniture, pull handles, kicking plates and latches.

Fittings

6

Cupboards in kitchen, dining room, sewing room. Airing cupboard, and storage shelves to clean linen room and baggage room.

total of partitions and fittings	3 8
----------------------------------	------------

FINISHES

Floor finishes

3 6½

Bed/sitting rooms and communal rooms, cork tiles: 8,820 sq. ft., price 26s. per sq. yd. (laid).
Bathrooms, toilets, etc., terrazzo: 648 sq. ft., price 30s. per sq. yd.
Entrance and sun terrace, concrete tiles: 306 sq. ft., price 35s. per sq. yd.
Kitchens and stores, coloured cement: 1,467 sq. ft., price 6s. 6d. per sq. yd.

Wall finishes

3 1½

Hard wall plaster finished washable distemper.

Ceiling finishes

8

Ground floor, plaster; first floor, ½-in. plasterboard and skim coat.

Roof finishes

3 5½

Aluminium "clip-on" roofing on 2-in. strawboard (6,850 sq. ft.); zinc on felt and boarding (1,500 sq. ft.).
Total roof area, 8,350 sq. ft.

analysis

Decorations

Walls, oil-bound washable distemper. Wallpaper to panel in dining room. Gloss paint interior and exterior. Hardwood joinery wax polished. Cedar boarding externally, twice oiled. Medium colour cork tiles.

total of finishes 12 8½

SERVICES

External plumbing

R.w.p.s and gutters in asbestos cement, painted white.

Hot and cold water installation

H. and c. to each bed/sitting room basin. Roof space utilized as circulating duct. Hot water circulation assisted by pumps.

Sanitary fittings

A lavatory basin to each bed/sitting room. Slop hopper to dirty linen room.
33 lavatory basins, 6 single sinks, 2 double sinks, 4 foot baths, 5 baths, 9 w.c. suites, 1 slop hopper, 3 urinals.

Heating and ventilation

Accelerated l.p. hot water by radiators in all rooms except entrance hall, dining room and ground floor sitting room, where there is coiled floor heating. Open fireplaces in sitting rooms. Extract fans to kitchen and drying room. Natural ventilation to bed/sitting rooms.

Gas installation

Gas points to cooker, hot cupboard to servery counter and eye level grill. Poker points to two sitting rooms.

Electrical installation

Each bed/sitting room has light switch and bell push to call system by bedside, with socket outlet below, 18 in. from floor level. Call system of luminous type and once started will not stop until switched off at the source of the call.

Type of point and number of each type:

Lighting, 110; 13-amp outlets, 52; clock, 5; motors, 4; cooker, 1; fire alarms, 6; call system, 31.

Fire-fighting equipment

Four hosereels fixed into positions recommended by the Fire Officer, two on each floor. Additional equipment for boiler room and kitchen.

total of services 10 3½

Drainage

One-pipe plumbing.

Other elements not shown above

Kitchen equipment, gas: cooker, hot cupboard to servery counter and eye-level grill. Electric refrigerator and cooker to matron's kitchenette.

total cost per sq. ft. of floor area = $\frac{£31,282}{12,579 \text{ sq. ft.}} = 49 \text{ 8½}$

COST SUMMARY

The sketch design was completed July 1951, but working drawings were not prepared until 1953/54, due to national steel shortage at that time.

Ground floor area: 6,459 sq. ft.

Total floor area: 12,579 sq. ft.

Type of contract: RIBA (quantities)

Work began: February 17, 1954

Work finished: February, 1955

Tender price of foundations superstructure installations and finishes, £31,339

Final contract price: £31,282.

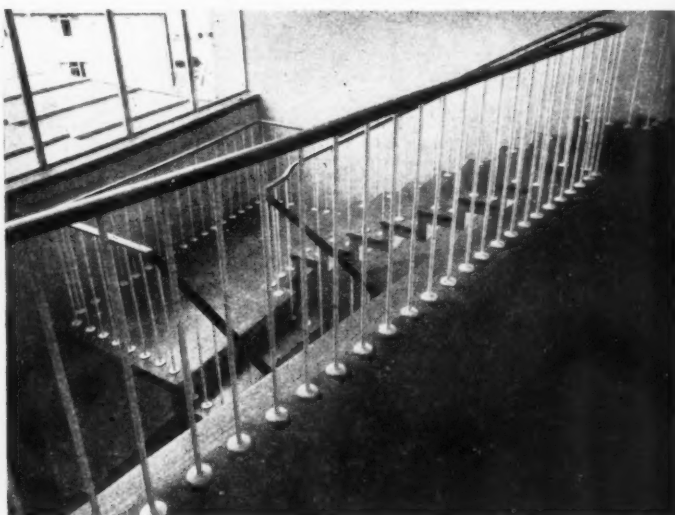
Tender price of external works and ancillary buildings:

£1,931

Final contract price: £2,480

Total tender: £33,270

Final: £33,762



The main staircase, the 2-in. treads and risers are cantilevered from a central v.c. spine beam. Treads are finished with 1-in. heavy density cork.

CONTRACTORS

General contractor: A. N. Coles Ltd. Sub-contractors:—Gas and kitchen equipment: South West Gas Board. Special windows: Henry Hope & Sons Ltd. Electricity: Yeldon & Gardiner. Cork tile floors: Cork Insulation & Asbestos Co. Ltd. Terrazzo: S.W. Flooring Co. Ltd. Balustrades: Woodrow Metals Ltd. Heating, hot and cold water supplies: Johnson & Baxter Ltd. Reinforcement: Square Grip Reinforcement Co. Ltd. Ironmongery: William Dibben & Sons Ltd. Sanitary fittings, curtain track: Henry Lawry Ltd. Roller shutter: G. Brady & Co. Ltd. Fire grates: Plymouth Tile & Hardware Co. Ltd. Fire-fighting equipment: Pyrene Co. Ltd. Tiled fire surrounds: J. F. Russell & Co. Ltd. Paints: Associated Lead Manufacturers Ltd. Bricks: Western Counties Brick Co. Door furniture: R. Cartwright & Co. Ltd.

1

nd

ered
-in.

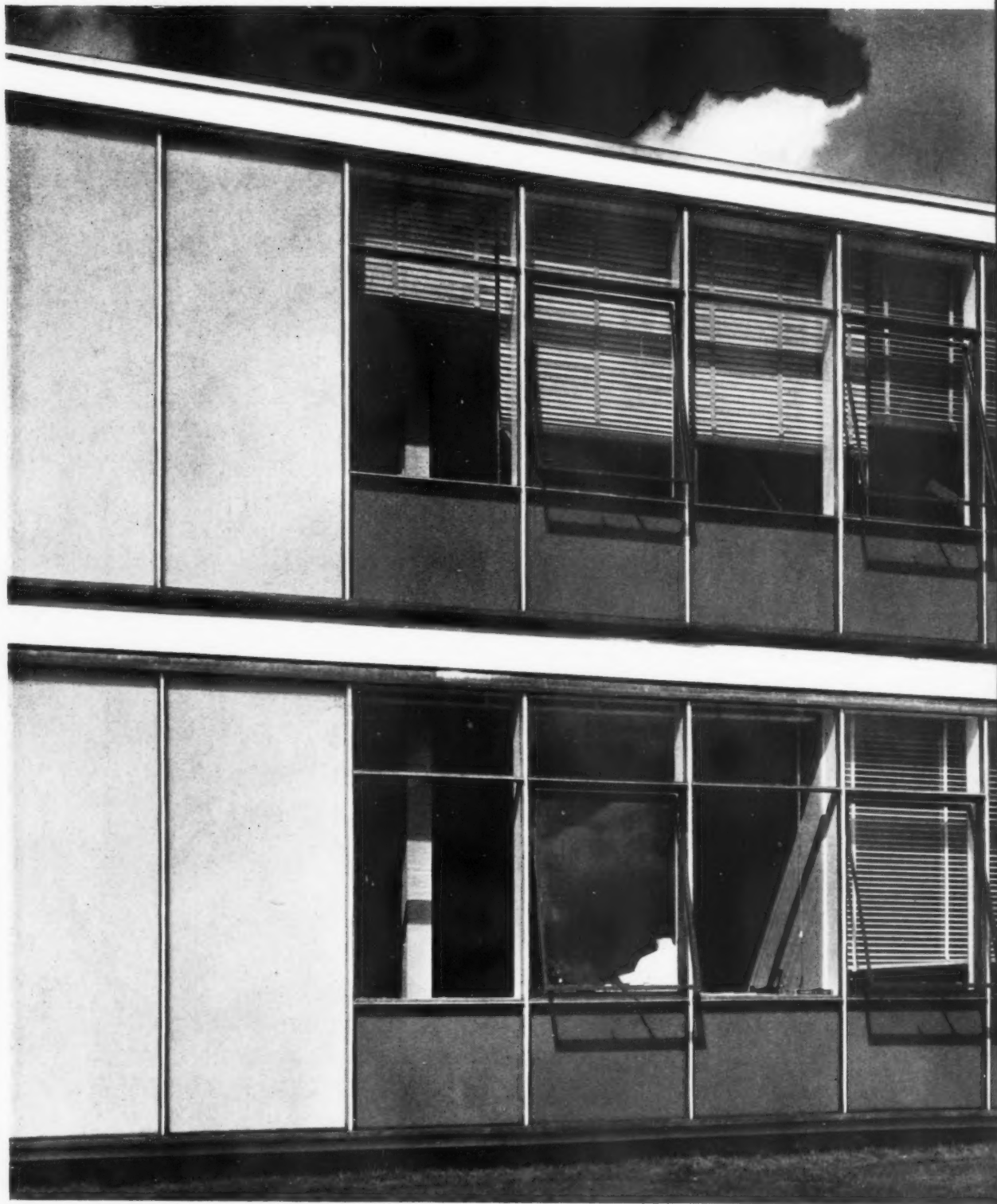
Gas
pecial
n &
Co.
ood-
nson
Co.
itary
; G.
Co.
fire
Lead
Co.

working detail

WALLS AND PARTITIONS: 55

CURTAIN WALL: FACTORY AT CAMBERLEY, SURREY

John Bickerdike, architect



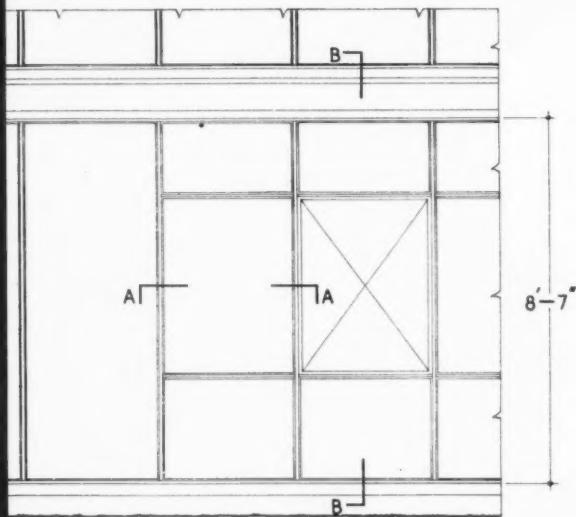
The frame of this curtain wall is of redwood, prefabricated on a 3 ft. 4 in. module, in four and six module lengths. The frames are fixed with 3½-in. m.s. screws (at quarter span between module lines) to head and sill plates bolted to the structure. Apart from the narrow forward edge of mullions and the plate beneath ground floor sill, the softwood frame does not read in the external face. Window sills and transoms have aluminium drips; framing sills and remaining plates are lead-covered. Opening lights are steel and fixed lights are beaded in iroko.

working detail

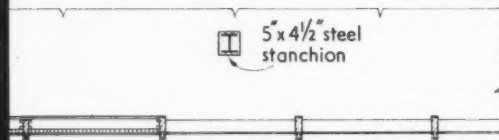
WALLS AND PARTITIONS: 55

CURTAIN WALL: FACTORY AT CAMBERLEY, SURREY

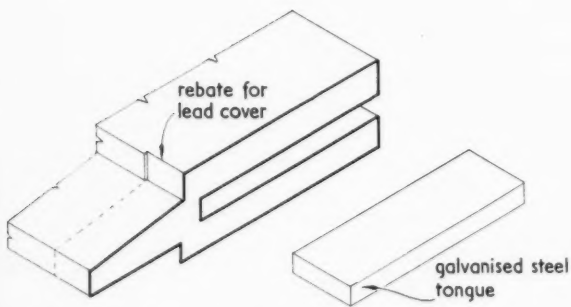
John Bickerdike, architect



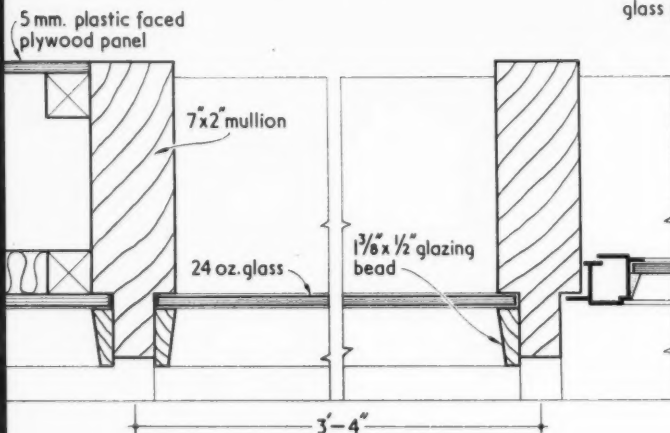
ELEVATION scale $\frac{1}{4}'' = 1'-0''$



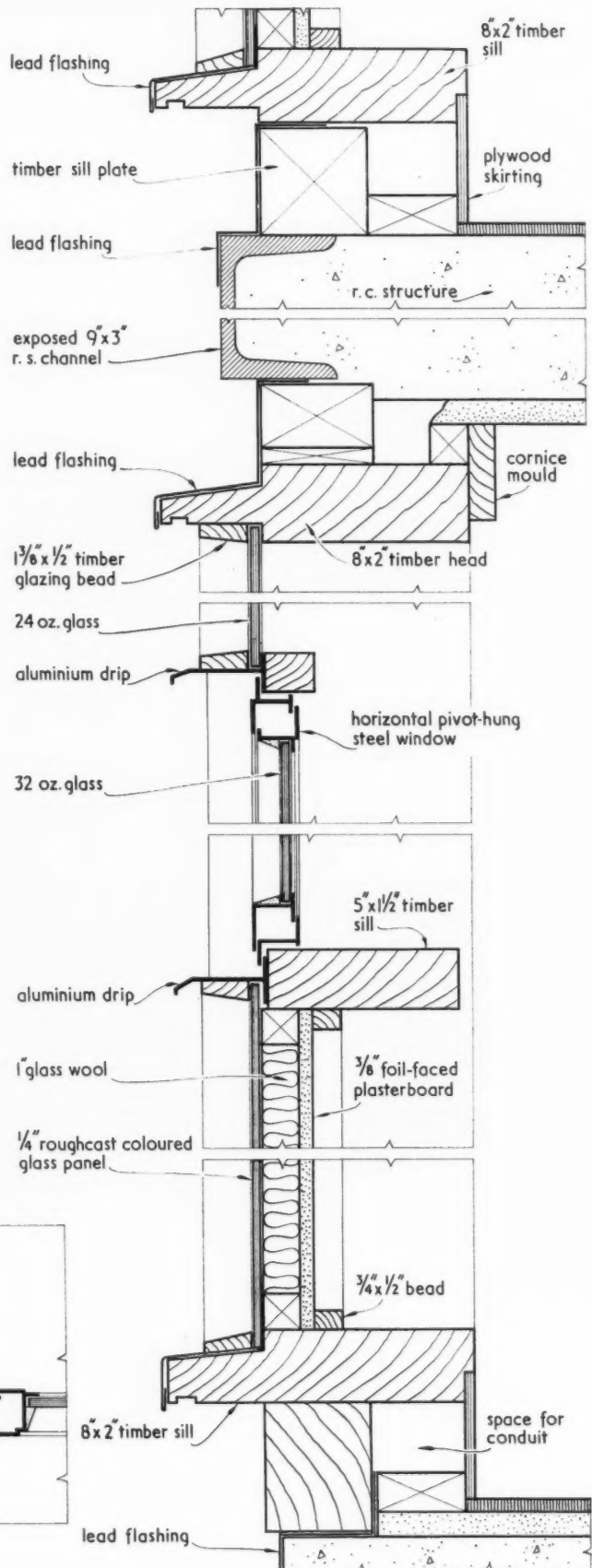
PLAN scale $\frac{1}{4}'' = 1'-0''$



METHOD OF JOINTING HEAD AND SILL UNITS.



PLAN AT A-A. scale $\frac{1}{4}''$ full size



SECTION B-B. scale $\frac{1}{4}''$ full size

working detail

ROOFS AND CEILINGS: 41

ROOFLIGHT: FACTORY AT CAMBERLEY, SURREY

John Backerdike, architect



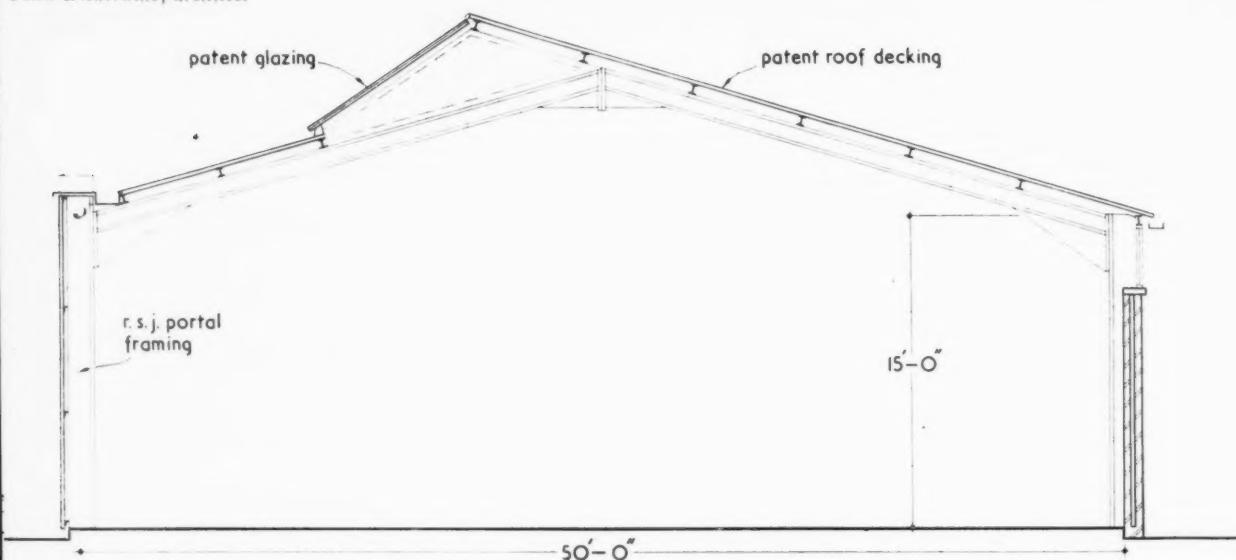
This unusually neat northlight is formed by the upward continuation of the southern slope of the roof. The light is supported on spandrel frames which rest on the main portal trusses. The spandrels are filled in (and, incidentally, painted magenta red) to provide some measure of glare protection.

working detail

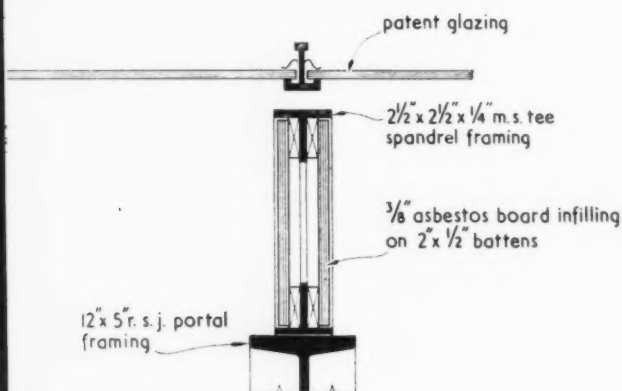
ROOFS AND CEILINGS: 41

ROOFLIGHT: FACTORY AT CAMBERLEY, SURREY

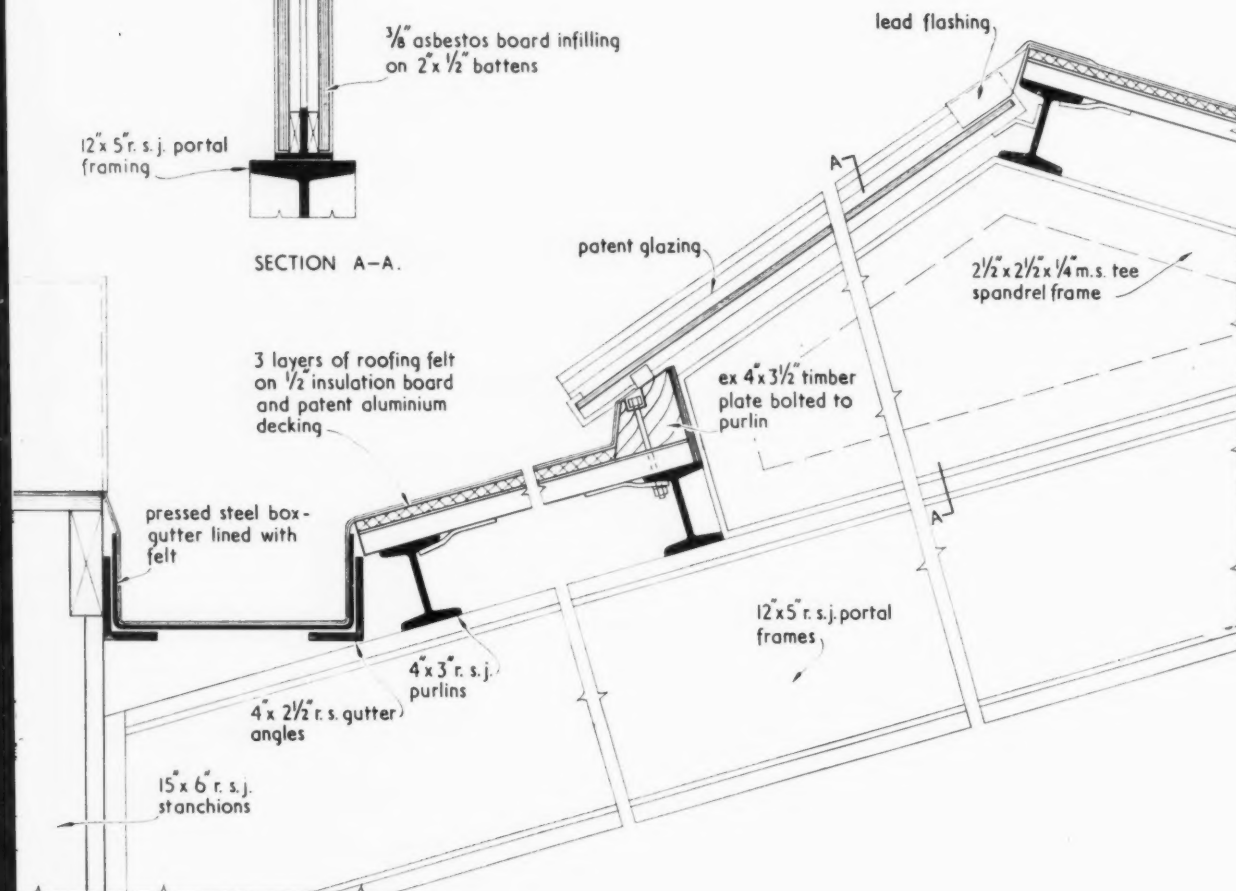
John Bickerdike, architect



SECTION. scale $\frac{1}{8}'' = 1'-0''$



SECTION A-A.



DETAIL SECTION OF ROOF. scale $\frac{1}{2}'' = 1'-0''$



Let in the daylight to the hidden dark places below the roof.

Pilkington's Glass Slates and Tiles are made in patterns to match all standard sizes of slates and tiles. Send for illustrated booklet of the profiles available.

PILKINGTON'S
GLASS SLATES & TILES

PILKINGTON BROTHERS LIMITED

St Helens, Lancs (Tel: St Helens 1001). London Office: Selwyn House, Cleveland Row, St James's, London, SW 1 (Tel: WHITEhall 5672-6)

Supplies are available through the usual trade channels





Doctor's orders?

Doctor's orders fiddlesticks! Never felt better in me life.

What's the trouble then?

Matter of principle my dear fellah. Told Old Bewley this morning I'd buy no more cigars from him to subsidise the Border Raider's Association.

Reed Millican again eh?*

Exactly. Whacking great lorry parked outside the 'baccy shop. Newcastle 28383 on the tailboard. Glass counters, shelves and what not. Chaps unloading a dam' great Sir Walter Raleigh panel—in four colours!

Bewley there?

In raptures. Bleatin' about colour silvering, sand embossin' and blast etching. They've got him body and soul. Says they're doin' all his shops. Movin' with the times he calls it.

Holy smoke!



.. ARTISTRY IN

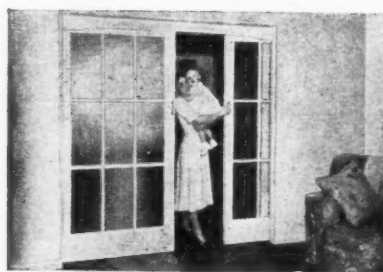


GLASS

ELLARD

SLIDING DOOR GEAR

ESTATE FOR THE HOUSE



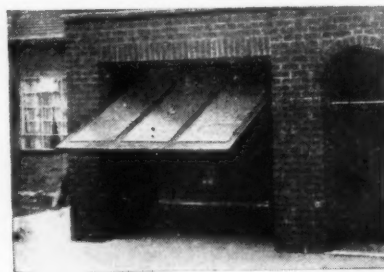
The illustration on left shows yet another example of ELLARD "Estate" Sliding Door Gear in the modern dwelling-house. See how simple it is to convert a spacious room to one of cosy and intimate atmosphere. Elegant appearance, ease of operation and long service are the main selling features of this attractive ELLARD Door Gear. The obvious choice for both council estates and private houses is ELLARD Door Gear.

FOR THE RADIAL GARAGE

The illustration on right shows ELLARD "Radial" Sliding Door fitted to a private garage. Valuable working space is offered at the entrance to the garage. ELLARD Door Gear provides easy access to and from the garage by a personal entry door. ELLARD "Radial" Sliding Door Gear is low in price and gives long service without maintenance. This gear is also suitable for the larger openings of commercial and industrial garages.



OVERDOR FOR THE GARAGE



ELLARD "Overdor" Gear, illustrated on left, represents the best method of operating an overhead-type door, and it requires the minimum space, fixing time and maintenance. An entirely clear threshold is achieved, and both side walls are available for windows and shelves. ELLARD "Overdor" Gear is designed for doors from 6ft. to 7ft. 3in. high and up to 200 lbs. in weight. The door is safely balanced and can be opened and closed with ease.

ELLARD Sliding Door Gear is readily obtainable from your nearest ironmonger or merchant.

SEE STAND 596-8
OUR EXHIB. OLYMPIA NOV. 13-27

ELLARD SLIDING DOOR GEARS LTD.
(DESK 6) WORKS ROAD, LETCHWORTH, HERTS. Tel. 613/4

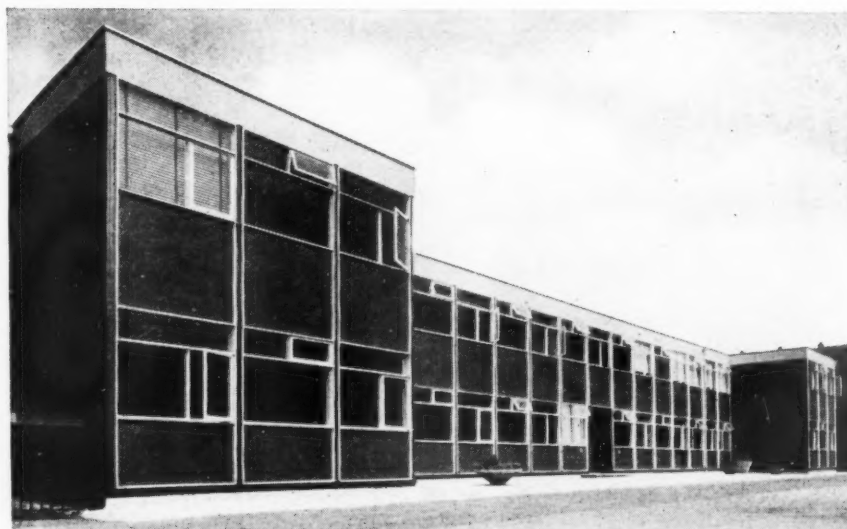
BMJ

SHOWROOMS IN HIGH HOLBORN, LONDON, W.C.1

The newly-opened showrooms for Williams & Williams Ltd., at 36 High Holborn, were designed by Bronek Katz and Vaughan, architect-in-charge, Roger Balkwill. The problem of exhibiting a changing range of products has been solved by providing a grid to which windows, doors,



and curtain walling may be fixed. Exhibits can be bolted with friction grip fastenings to grooved pressed steel posts. These can be fixed in position between perforated floor strips and grooved overhead beams. Colours generally are subdued, with areas of natural wood, slate, black leather cloth and mirrors. Bright colour is introduced in small lighted ceiling recesses and in stained glass panels. The open staircase, left, avoids a visual restriction in the very narrow site.



Widely used for SCHOOLS, HOSPITALS
OFFICE BLOCKS, CANTEENS, HOSTELS

derwent timber structures

3,000,000 square feet erected since 1953
We shall be pleased to send you a brochure
giving full details of the DERWENT System

OFFICES for CHIEF
ELECTRICAL ENGINEER
BRITISH TRANSPORT
COMMISSION

Melbury Terrace, N.W.1.

Floor space 12,700 square feet
Site start

10 SEPTEMBER 1956

Erection start
6 NOVEMBER 1956

Weatherproofed
10 DECEMBER 1956

Completed for occupation
21 FEBRUARY 1957

Architect to the
British Transport Commission :
F. F. C. Curtis, Dr. Ing., A.R.I.B.A.

VIC HALLAM LTD

**LANGLEY MILL
NOTTINGHAM**

News continued from page 768

BUILDING CENTRE

Managing Building Projects

A correspondent writes:

The third of the discussions on Managing Building Projects, organized by the Brixton School of Building, and held at the Building Centre, was more lively than the previous two ("Architect and Client," and "Architect and Quantity Surveyor") for it touched on an issue crucial to architectural quality and value—architect-builder collaboration.

The architect speaker, Robert Paine of Canterbury, and the engineer, Geoffrey Wood (of Ove Arup and Partners), spoke on early design collaboration between engineer and architect. They have worked together in practice and agree that collaboration should begin at the "back of an envelope stage" when many alternatives can be thrown up and thrown out. Robert Paine suggested there should be a period when the architect goes "into retreat" to assimilate the possibilities and the requirements until they become "part of him"—emerging with a solution in general terms which architect and engineer will work up together.

Neither speaker thought it necessary to have all drawings completed provided they kept well ahead of the builder's needs—not only for building, but for materials ordering. In running a contract, Mr. Paine mistrusted too much "open diplomacy" as he called it. Mr. Wood proposed site meetings once a month but agreed that one still had to

"use the knuckle dusters behind the scenes." Robert Paine preferred control of the contract to be through the architect—who should not interfere in site management or deal with sub-contractors direct. Both speakers agreed that builders must take responsibility for sub-contractors—even if they had been nominated by the architect.

These topics led inevitably to design stage collaboration with the builder. Mr. Wood described his own experience of this as "the nearest to heaven that you can get," but warned the meeting that designers must not expect very fruitful design suggestions from a builder. His thinking is conditioned by competitive tendering and it is better for the designer to make use of his knowledge of site methods. Asked by Mr. Paine whether collaboration affected costs, Mr. Wood explained that the builder could give an idea of the costs of alternative solutions and could price unfamiliar methods with more confidence than if he were tendering competitively, because his risk was shared by the client. Pricing problems led Mr. Paine to question the practice of pricing only on the bill—"an abstract of the measurements of the building—rather than the building itself." Mr. Wood then quoted one of his own jobs—a bridge—where tenders had been supplied with photographs of a model, as well as drawings and a bill. He suggested that it was worth while to give contractors the opportunity to suggest modifications in a design and reminded the meeting that there was a strong tendency nowadays for an increasing use of negotiated contracts.

Discussion from the floor was mainly about the merits of employing a consultant rather than a sub-contractor as designer; the reduction of architects fees for specialist work; methods of selecting, by competition, a builder with whom one could collaborate in design; and the practice of employing a builder only as "job manager."

Announcements

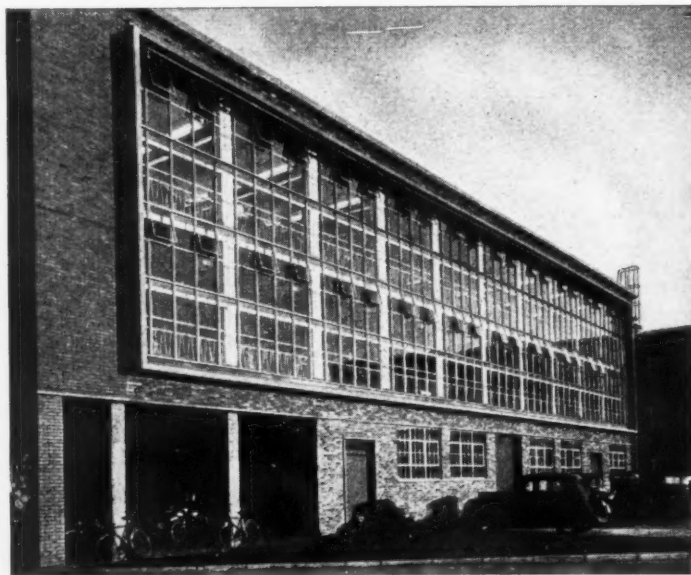
F. R. S. Higgison, A.R.I.B.A., has commenced practice at 48, High Street, Burnham-on-Sea, Somerset (telephone: 3056), where he will be pleased to receive trade catalogues, etc.

Sir William Baird and Partners (London), chartered quantity surveyors, of 7, Catherine Place, London, S.W.1 (telephone: Victoria 8668) have taken W. D. Hyde, A.R.I.C.S., into partnership. The name of the firm remains the same. They also announce that on December 1 they are opening a branch office at 42, St. Mary's Gate, Derby, where P. D. Smart will be in charge.

T. A. Fitton & Son (E. Hamilton Thompson, A.R.I.B.A.), architects and surveyors, of 4, Chapel Walks, Manchester, 2 (telephone: Blackfriars 9930), announce that they have opened a branch office at Barclays Bank Chambers, 87, Haywood Street, Leek, Staffordshire, where they would be pleased to receive trade catalogues, etc.

Correction

In the issue of October 31 a review of an exhibition of oil-fired heating described Watts oil-fired boiler as costing £230 and having an efficiency of 60 per cent. The relevant paragraph should have read as follows:—"Watts" demonstrated a slim, pleasant unit of 70,000 B.Th.U. per hour rating, costing £200. This is a purpose-built, pressure-jet Oil-Fired Boiler, and the efficiency claimed is 75 per cent. They also offer a number of models of their well-known gravity feed boilers which can be readily adapted to oil firing.



Architects: Fairbrother, Hall & Hedges, Edinburgh
General Contractors: Wm. Arnott McLeod & Co. Ltd.

Pictured above is the Drawing Office Window of the new Ferranti Research Laboratory at Edinburgh where Teleflex Remote Controls are used throughout.

FOR THE 'HIGHER REACHES' OF WINDOW CONTROL

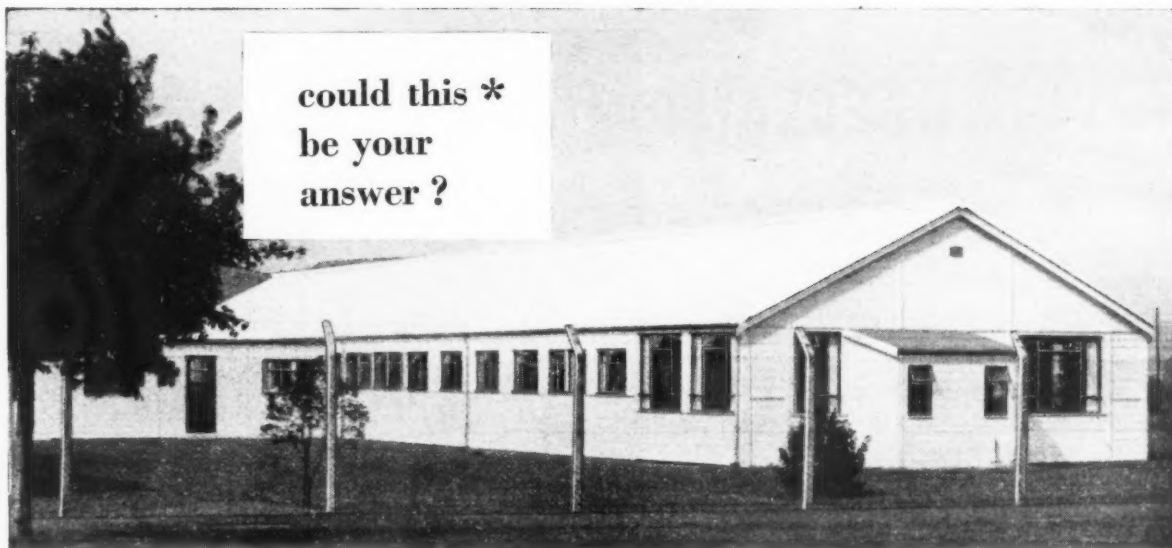
Instant accessibility to "out-of-reach" windows is ensured by the positive push-pull action of Teleflex cable. Housed within a neat rigid conduit, it operates accurately and without distortion throughout all directional changes. The flexibility of the Teleflex system also allows simultaneous multi-point operation from a single line transmission.

Please write for illustrated catalogue.

TELEFLEX

TELEPHONE: BASILDON 22861 TELEGRAMS: TELEFLEX PHONE BASILDON

TELEFLEX PRODUCTS LIMITED : BASILDON : ESSEX
ALSO MANUFACTURERS OF THE WORLD RENOWNED TELEFLEX CONVEYORS



could this *
be your
answer ?

Photograph by courtesy of Hunting-Clan Air Transport Ltd., London Airport.

* For one reason or another, tomorrow may find you face to face with a complex building problem demanding an urgent solution . . . or funds will not permit the expense of a traditional brick structure.

Whichever it is, YOU are expected to find a speedy, efficient, yet simple answer.

Just such an answer is provided by THORNS TIMBER-FRAMED BUILDINGS. Prefabricated in BASIC units they combine economy with ease of erection—and are easily adaptable to your own design.

The photograph shows an Office Building, 152ft. by 30ft. at London Airport.

Basic widths available — 12', 15', 18', 20', 24', 25', 30'.

get ^{your} quotation from **THORNS**

J. THORN & SONS LTD. (Dept. 188) BRAMPTON ROAD, BEXLEYHEATH, KENT

BD960A

CYGNET

Laboratory furniture aids T.V. research

In the chemical section of the new T.V. Research Laboratory, Enfield, Cygnet Laboratory Furniture has been chosen and installed for its high standard of design, craftsmanship and finish. This installation was carried out under the direction of G. A. Jellicoe & Partners, F/A.R.I.B.A.

Other recent contracts for Cygnet Craftsman-made Laboratory Furniture include:—

Bowaters, Northfleet—Farmer & Dark, F.R.I.B.A.

College of Technology, Manchester — Bradshaw, Gass & Hope, F/F.R.I.B.A.

Royal Grammar School, Newcastle—Spence & Price, A.R.I.B.A.

University College, Swansea—Sir Percy Thomas & Son, F/A.R.I.B.A.

Fullers Earth Union—J. Douglass Mathews, F/A.R.I.B.A.

University College, London—Corfiato, Thomson & Partners, F/A.R.I.B.A.



Made in a range of standard units or to specification. Send for full details now.

CYGNET JOINERY LTD · HIGHER SWAN LANE · BOLTON Telephone: BOLTON 1840/4

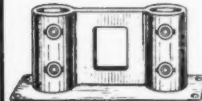
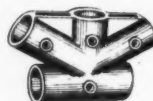
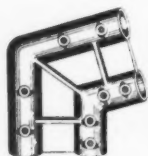
**DON'T
FILE THIS**
Send for broadsheet
1457 and General
Information sheet 117

TUBECLAMP

BUILD-IT-YOURSELF

**MULTI - UNIT
CONSTRUCTION**

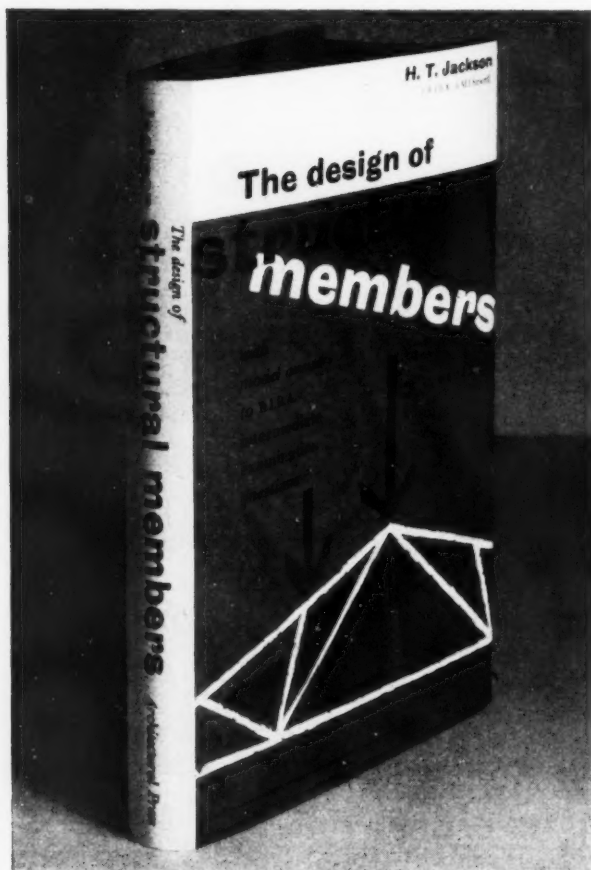
This is really the type of steel
structure that can be erected
without specialist help.



ST. LUKE'S WORKS
OLD HILL
STAFFORDSHIRE
Tel CRADLEY HEATH 69181 - P.B.X

Tubeclamps Limited
TUBULAR & STRUCTURAL ENGINEERS

6, LYGON PLACE
LONDON
S.W.1.
Tel. SLOane 7291 - 2-3



**To be published Nov. 22 : PART ONE OF
THE DESIGN OF STRUCTURAL
MEMBERS with model answers to R.I.B.A.
intermediate examination questions
by H. T. Jackson, F.R.I.B.A., A.M.I.Struct.E.**

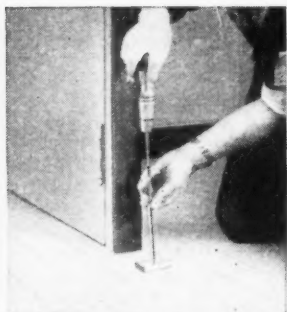
This book is addressed primarily to students of architecture who are preparing to take the R.I.B.A. Intermediate Examination, but at the same time, it will be found useful by all practising architects and assistants.

The book consists of a collection of typical R.I.B.A. Intermediate Examination questions accompanied by model answers; and the problems met in practice in the design and testing of structures are explained and solved. Thus, in a single volume, is brought together all the information required to design a simple structure, information which otherwise could be gleaned only from a score of text-books, technical journals, codes of practice, standard specifications and by-laws. All that is needed in addition to the present volume is a handbook of steel sections and a knowledge of elementary mathematics; since some readers will not have an engineering training, everything is explained in the simplest terms and all the stages of the mathematical processes are clearly shown. This part deals with simple structures, including beams, columns, floors and roofs, frames, walls and retaining walls in all the normally available materials. Part II will have special reference to the R.I.B.A. Final Examination and will deal with larger and more complex structures.

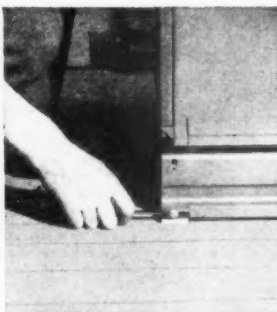
Part I: Size 8½ in. x 5½ in. 176 pages including 161 line diagrams. 25s. net. Postage 11d.

THE ARCHITECTURAL PRESS, 9-13 Queen Anne's Gate, S.W.1.

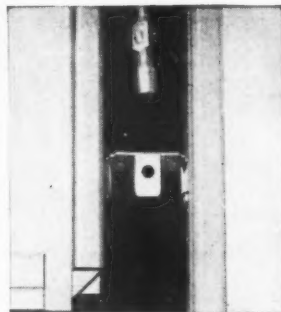
Rofoten Modular Partitioning
is as easy as this
to put up
— or rearrange



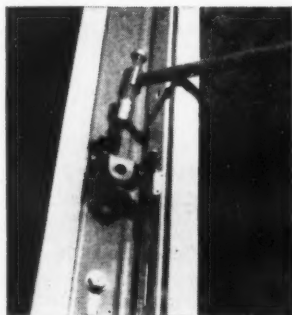
1 Two steel sole plates for each unit of partitioning are screwed to the floor with wood screws.



2 The 40" wide, modular units are bolted to the sole plates. All units are interchangeable.



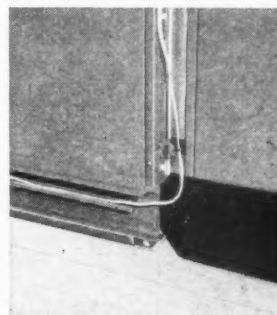
3 Five link plates, at 15" centres, drop into ready pressed out pockets and fix each unit to the next.



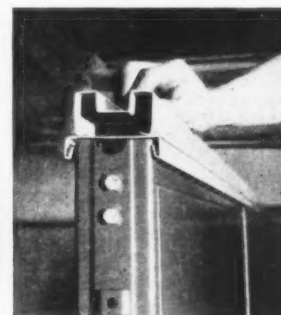
4 Link plates are also used for 3-way fixing—but in this case they are finally bolted in for extra strength.



5 The 40" wide modular door frame, linked in with the rest of the system, is firmly anchored at the foot by a cleat.



6 Electric wiring runs down between partitioning units and along specially provided channels at the bottom.



7 A head channel, cold rolled like all Rofoten Modular Partitioning sections, finishes off the top of the free-standing screening.



8 Pilasters are clipped on to the notches of the link plates to finish off the joins between units.



9 Skirting is clipped on to the bottom of each unit. Plinths cover the joins in between.



10 Four rubber-buffered glazing beads clip in. Special beads are available for double glazing.



11 Any type of 32 oz. glass slips into the opening, followed by the second set of four glazing beads.

The partitioning installation is now finished. Although it is easy to rearrange, Rofoten Modular Partitioning is permanent in appearance, all joins are flush, there are no uncovered bolts or screw heads. 13 standard colours are available, and contrasting schemes can be easily arranged at no extra cost. Rofoten Modular Partitioning will give your client quiet, warm, well laid out offices—of sumptuous appearance.

CAVITY CONSTRUCTION

The panelling of Rofoten Modular Partitioning units consists of a double skin of 20 B.G. pressed steel. Each skin is backed by $\frac{1}{2}$ " insulating board and there is a 1" dead air space in between.

And it is remarkably inexpensive—'phone up and see or write for our leaflet for further details.

ROFOTEN M O D U L A R PARTITIONING

PRESSED METAL DIVISION **WILLIAMS & WILLIAMS**

Dept. AJ1, ROFOTEN WORKS, HOOTON, WIRRAL, CHESHIRE. Willaston 2171
WILLIAMS HOUSE, 37/39 HIGH HOLBORN, LONDON, W.C.1. Holborn 9861.

See **ROFOTEN MODULAR PARTITIONING** at the
NEW WILLIAMS & WILLIAMS SHOWROOMS,
36, High Holborn, W.C.1. ADJOINING WILLIAMS HOUSE.

Introducing **SNAP-DEK**

(Patent Applied for)

SNAP-DEK lightweight, completely dry construction, durable, sandwich construction of Aluminium, has been developed from materials already used in general roof practice. It provides a decking or vertical cladding which can be speedily erected to give immediate weatherproofing and a finished ceiling with excellent Thermal Insulation.

FIRE RESISTANCE—can be fixed with certain insulating mediums to give a covering that is completely incombustible.

STRENGTH—**SNAP-DEK** has been designed to be laid to a minimum pitch of 4 deg., but can also be laid to all sloping roofs and as vertical cladding. Loadings: Purlin spacings for **SNAP-DEK** 22 g. 8ft. centres.

INSULATION—**SNAP-DEK** provides air spaces between two covering mediums of Aluminium, having a high degree of natural reflectivity and low thermal radiation. The addition of an insulating medium between the two skins gives high thermal efficiency.

Approximate Insulation figures are: Double skin of Aluminium with air space, 0.33. Double skin of Aluminium with air space and mineral wool, 0.19.

SNAP-DEK is cheaper than any comparable form of Roof-Decking

SNAP-DEK

CHESTER STREET · ASTON · BIRMINGHAM 6

ASTon Cross 3071 (15 lines)

A new low cost Insulated **ROOF DECKING**

MAINTENANCE—the outside unit being continuous with no fixings exposed, is entirely leak-proof, and maintenance is eliminated.

APPEARANCE—Embossed Aluminium sheets of patented design on outside, approx. 22 g. The decking unit is Aluminium of 22 g. symmetrical section requiring no decoration. Various finishes are available.

FIXING—The decking unit is easily fixed and gives a complete weatherproof roof which can be fixed in all weathers.

WEIGHT—As laid, **SNAP-DEK**, including all fixings, weighs only 160 lb. per sq. of 100 sq. ft., or 14½ lb. per sq. yd.

SEND FOR FULL TECHNICAL INFORMATION AND LIST
OF ACCREDITED FIXING CONTRACTORS.



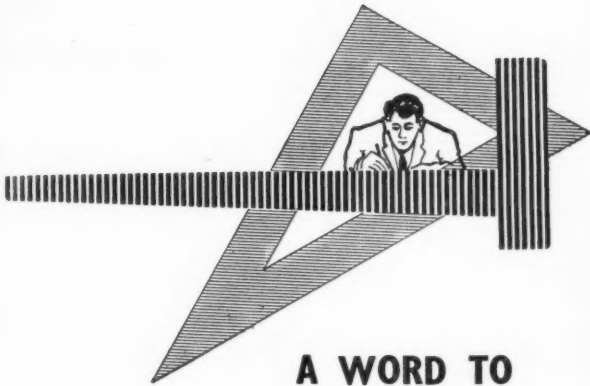
ROSEMARY CLAY ROOF TILES

“Rosemary” Clay Roof Tiles have been used on thousands of the new houses, schools and other buildings. The reason? Their proved durability and fine colour. Roofing Contractors like them because of their clean shape and freedom from distortion. This makes for speedy fixing. “Rosemary” Roof Tiles are made in a variety of browns, brindles, reds, and other colours.

State the colour required and quantity so we may quote and send sample tile.

G. W. LEWIS' TILERIES LTD., STOCKINGFORD, NUNEATON Phone: NUNEATON 3125

In association with THE HAUNCHWOOD BRICK & TILE CO. LTD., NUNEATON. Phone Nuneaton 3419



A WORD TO OVERWORKED ARCHITECTS

The Compactom service is designed to take over *all* the problems in connection with every type of scheme calling for dry construction demountable partitions, wall panelling, counters and fitments, and acoustic and false ceilings. When you call in Compactom you have the benefit of many years' experience in these specialised spheres. A general outline of what you have in mind is all we ask. We will do the rest: provide plans and perspectives, advise upon the most suitable materials from our very wide range, supply full quotations, and erect on site. A telephone call or letter will bring a copy of our brochure—or a representative to talk over your ideas with you.

1

Partitions.—The widest possible range of materials, styles and finishes—tailored for every scheme. Partitions may be solid or glazed, and may be treated for sound insulation, sound absorption or fire resistance: they provide all the solidity of permanent walling plus the ability to meet changing needs without loss of materials.

2

DECOR.—Schemes involving decorative and functional panelling for walls in board rooms, offices, reception areas, etc. An almost unlimited range of materials and finishes is available and any special features can be incorporated.

3

CEILINGS.—We are also specialists in all types of acoustic and false ceilings. As with partitions and decor we are completely flexible and are able to give you the scheme best suited to each individual project (whether it involves ceilings alone or an overall scheme embracing our entire service).

FOR WALLS WITHIN WALLS . . .

...and ceilings too!

CALL

We shall be on Stand 121G, Ground Floor, Grand Hall, at the Building Exhibition

COMPACTOM

Compactom Ltd. Oxgate Lane Cricklewood London, N.W.2
GLAstone 6633



Arch: Whitney, Son & Austen Hall

flexwood is so versatile

(Flexwood in ZEBRANO and FIGURED

ASH at the Commercial Bank of
Australia, London, W.1)

Flexwood is a genuine, high-grade, cloth-backed veneer; a really superb material for interior decoration, yet very reasonable in price.

And the beauty of Flexwood is that it can be applied direct—on flat or rounded surfaces—and will not warp, crack, shrink or expand.

Flexwood is made in a wide range of beautifully grained timbers.

All Flexwood work is carried out by our own specially trained craftsmen. We shall be pleased to quote on any plans and elevations you send us.

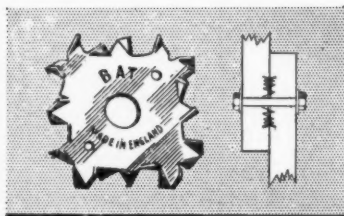
flexwood

Please address your enquiries to Mr. L. S. Weill

Alexandria Trading Corporation Ltd.
121 London Wall, London, E.C.2
Telephone: MONarch 2272

Timber Connectors

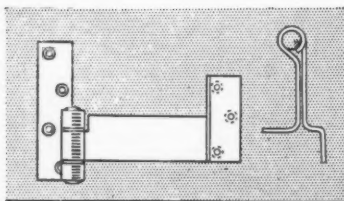
Modern structural timber design calls for the use of BAT Timber Connectors. Joints are doubled in strength. Timber sections are reduced. Rigidity is increased and weight saved by simplified designing.



'Easyclean' Hinges

Special feature is the Arm Design which allows for interchangeability with the STORMPROOF Butt Hinge fitting. Other types include the E.J.M.A. Hinge to BS644 and a light type.

PRICES AND SAMPLES ON APPLICATION



Sole Manufacturers:



AUTOMATIC PRESSINGS LIMITED

'Bat' Works, Blackheath, Birmingham ENGLAND

AP30

Which stairtread

colour range covers



every need?



STAIRTREADS

* 19 different nosings: extruded from pure aluminium: plastic-filled in 9 colours (brown, green, lino brown, blue, maroon, black, white, silver, red): also available fabric-filled: suitable for all types of stairway: can be supplied to fit almost any curve or bend

To
SMALL & PARKES LTD.
(Stairtreads Dept.),
MANCHESTER 9

NAME

A.J.11

ADDRESS

PLEASE SEND ME
YOUR ILLUSTRATED
CATALOGUE
GIVING DETAILS
OF NOSINGS, COL-
OURS AND DIMEN-
SIONS OF DON
STAIRTREADS—and
names of depots and
suppliers

SMALL & PARKES LTD.

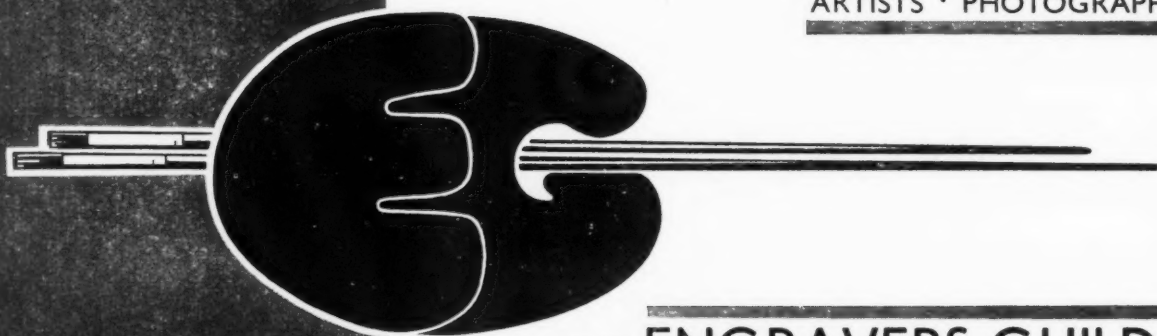
HENDHAM VALE WORKS · MANCHESTER 9
London: 76 Victoria Street, S.W.1

AN ASSOCIATION OF ARTIST CRAFTSMEN

MAKERS OF PRINTING BLOCKS IN LINE

HALFTONE AND COLOUR

ARTISTS · PHOTOGRAPHERS

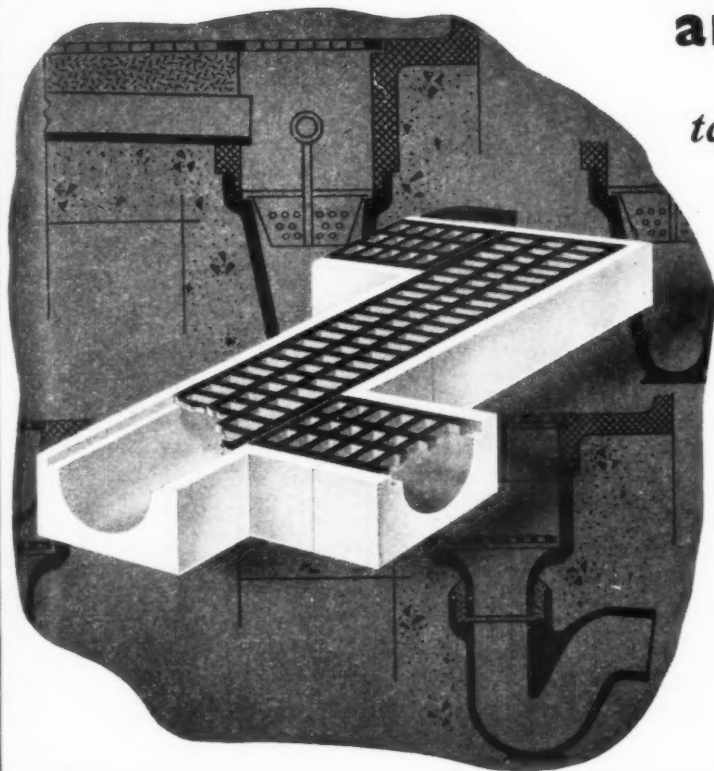


THE **ENGRAVERS GUILD** LTD

WINDSOR HOUSE · CURSITOR STREET · LONDON · E.C.4

The Problem of Channels and their Gratings

*tackled with down to earth
efficiency*



Channels and Fittings complete with
Gratings and Frames detailed and
selected to suit lay-out.

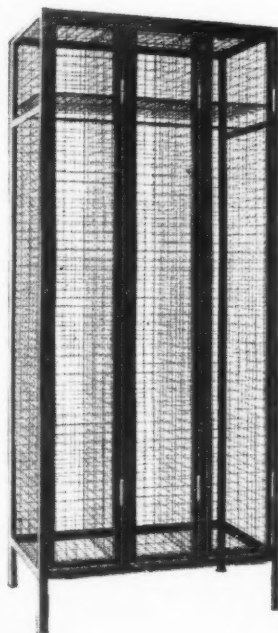
Assembled at one source and delivered
ready for installation

Detailed Layout Drawings submitted to suit
requirements

Illustrated Brochures sent on request

BROADs

4, SOUTH WHARF, PADDINGTON, W.2.
Tel: PADDINGTON 7061 (20 LINES)



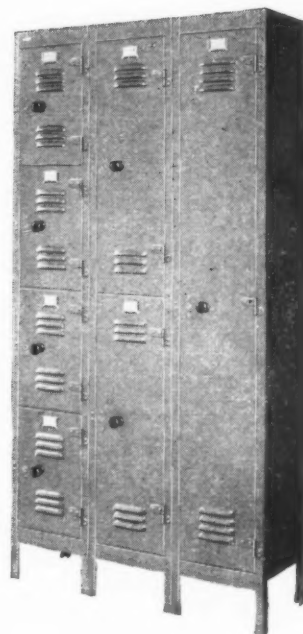
An Important Amenity

Friction between employees and confusion at going-home time may be avoided by providing separate receptacles for clothes and personal belongings. Such provision is also important in the interest of hygiene. 'Harco' Clothes Lockers provide the answer. They are made in sheet metal or wirework, in nests of up to five in one unit, with short or full-length compartments as required. Steel lockers are fitted with six-lever locks which can differ up to 1,600; wirework lockers carry hasps and fasteners for padlocks. Height of both types is 72in.

'HARCO' CLOTHES LOCKERS

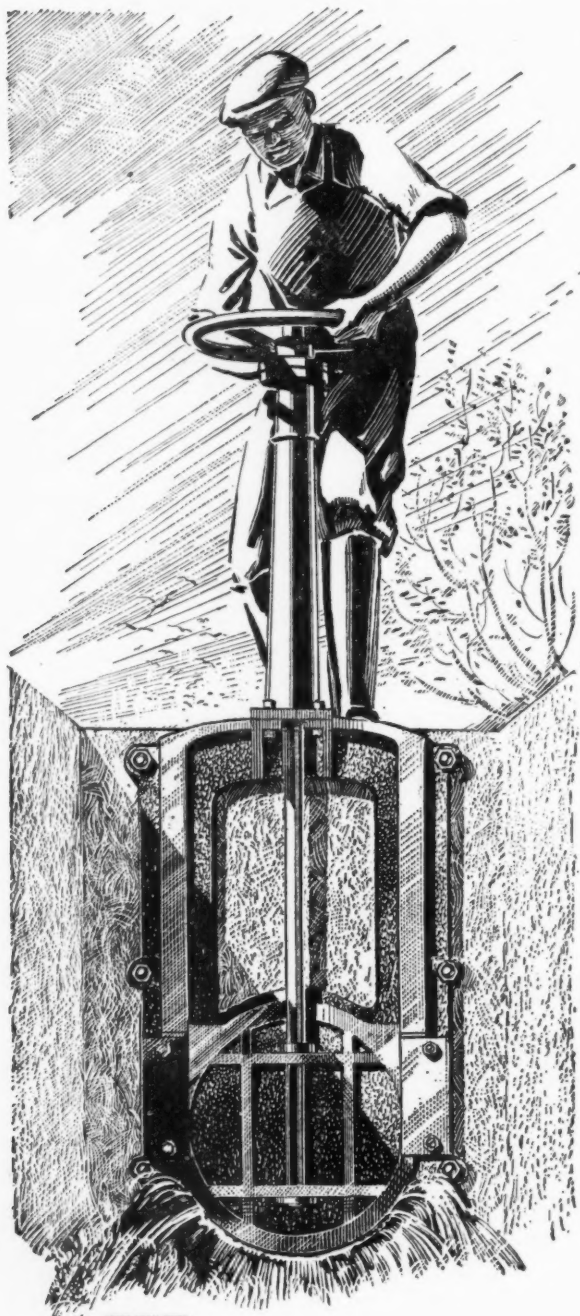
IN WIREWORK OR SHEET METAL

Please ask for Lists Nos. AJ 960 and AJ 1009



Harvey

G. A. HARVEY & CO. (LONDON) LTD.
Woolwich Road, London, S.E.7 GREENWICH 3232 (22 lines)



W E MANUFACTURE
A WIDE RANGE OF
PENSTOCKS, VALVES AND GENERAL FITTINGS
FOR SEWAGE PURIFICATION WORKS
AND MAKE SPECIAL MENTION OF:

**AMES
CROSTA
MILLS
AND
COMPANY
LIMITED**
OF HEYWOOD LANCASHIRE

HAND STOPS
HAND-LIFTING PENSTOCKS
RECTANGULAR PENSTOCKS
CIRCULAR PENSTOCKS
WEIR PENSTOCKS
MOTOR-OPERATED PENSTOCKS
FLOATING OUTLETS
DECANTING VALVES
SLUDGE PLUGS AND VALVES
SLUICE VALVES
FLAP VALVES

THE SPECIALISTS IN THE PURIFICATION OF SEWAGE
LONDON OFFICE: ABBEY HOUSE, VICTORIA STREET, S.W.1.
CW 3407

PLASTER CORNER

REINFORCEMENT

The Blakey Galvanized metal Angle Bead protects external angles against accidental damage at very little cost. It is simply and quickly fixed and finishes off with a neat arris.

The Blakey Bead will not shrink, corrode or chip and has been fixed in factories, housing estates, hospitals, etc.

Illustrated brochure and sample section will be sent on request.



Manchester Corporation Housing Scheme.
Director of Housing: A. MACKENZIE, L.R.I.B.A.

**OVER 2,000,000 FT.
OF BLAKEY BEAD
USED ON ABOVE
CONTRACTS**

PAT. No.
Pro. 10832/54

BLAKEY
PATENT
Galvanized
METAL
ANGLE BEAD

THE BLAKEY CABINET
& METAL WORKS CO.,
LTD.

61 Scotland Road,
Nelson . Lancs.

'Phone Nelson, 941

Building the modern way and using Aluminium to do it

In these new eleven storey blocks of flats aluminium is strongly featured. The drop-pers connecting the five balconies are in aluminium alloy, as are the balcony side and front screens and also the rainwater fittings. All were supplied by Templewood Hawksley.

Aluminium — light, strong, pleasing in appearance and highly resistant to corrosion — is setting the pace in modern building. So, too, are Templewood Hawksley. Whatever the type of aluminium structure involved, the experience of Templewood Hawksley is readily available to architects and builders. From initial design to final completion, they provide a unique service.

That's the job of

TEMPLEWOOD HAWKSLEY

World Leaders in Aluminium Structures



Flats in the Picton Street development scheme undertaken by the L.C.C.
Architects: L.C.C. Architects Department.
Contractor: John Laing & Son Ltd.

SLOUGH • BUCKS • TELEPHONE: SLOUGH 22224 • A member of the Hawker Siddley Group

Specify deep-dyeing COLRON when you want good-looking natural wood floors

Whenever clients favour modern natural wood effects, you will find COLRON suits your purpose admirably because it combines economy with superlative performance.

COLRON is a penetrating wood-dye, developed by Ronuk to enrich the natural colour of a wood or to simulate the colouring of others. Easily and quickly applied to floors, doors, panelling and other woodwork, and it sinks deep down into the grain.

Ease of application and rapid drying-time (it's ready for finishing in 4-6 hours) reduce labour charges to a fraction of former costs.

Write for colour
guide and information
leaflet to:



RONUK

LIMITED, DEPT. (A), PORTSLADE, SUSSEX

AVOID
THIS...

Fit

EVERLASTO
for safety!

**EVERLASTO SASH
CORD**

JAMES LEVER & SONS EVERLASTO CORDAGE WORKS
DELPH ST BOLTON



HEALTH and INCOME

Good health is part of the professional man's capital and disablement from accident or sickness is soon reflected in his income.

A Group Insurance has been arranged for Architects on the "Non-cancellable" basis with the leading Office in this field, at premium rates well below those charged for individual policies.

The benefits under this policy provide an income which continues to be payable so long as the member is unable to work—up to age 65 if necessary. These benefits may not be restricted or cancelled by the Insurance Office or premiums increased on account of the number or duration of claims made.

This type of Insurance is the only effective protection in case of permanent deterioration or total breakdown in health.

Write for details, in confidence, with a note of your age to:—

The Manager,
A.B.S. Insurance Agency, Ltd.,
78, Wimpole Street,
London, W.1

Telephone : WELbeck 1526

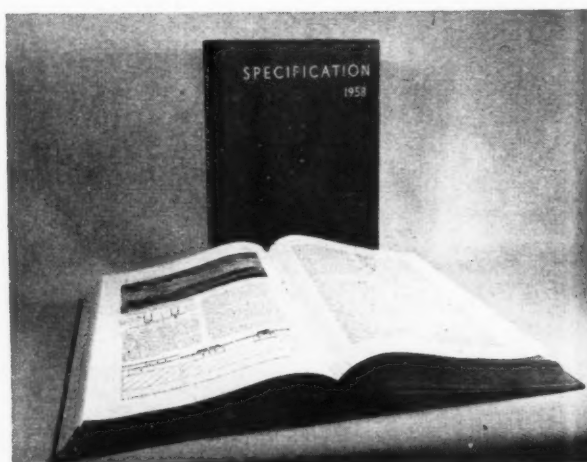
just published

SPECIFICATION 1958

Editor, F.R.S. YORKE, F.R.I.B.A.

THE 1958 EDITION of this unique complete guide to the writing of building specifications, long acclaimed as the standard work covering all sections of the building industry, has been scrupulously revised throughout and now runs to 1,404 pages (1,334 pages in 1956, 1,288 in 1955). Model specification clauses are included in many of the sections, and the general arrangement is that laid down by the British Standards Specification for the sequence of trade headings in specifications.

The 1958 volume contains one entirely new section: *Curtain Walling* by Arthur Parry, A.R.I.B.A., which includes descriptions of many proprietary systems and of infilling panel materials. Three other sections have been re-written completely: *Fire Protection* (previously *Fire Resisting Construction*) by L. A. Ashton, B.Sc.(Eng.); *Ironmongery* by Robert Maguire and Peter Whiteley, A/A.R.I.B.A. (now very well illustrated); *Schools* by John Stillman and John Eastwick-Field, A/A.R.I.B.A. *Structural Aluminium Alloys* has had considerable revision by R. M. Davies, B.Sc.(Eng.), A.C.G.I., A.M.I.C.E. of Aluminium Development Association. Other revisions include: *Carpenter and Joiner*, in which I. D. G. Lee, B.Sc.(Eng.) has revised the information on plywood; *Floors* in which Derek Ebner



lists and annotates all currently available flooring timbers; *Plumber, Sanitary Engineer and Water Supply*, revised by M. W. Gilbert, A.R.I.B.A., with the assistance of A. Waddington, B.Sc., A.R.I.C.

In each of its 38 sections will be found not only full details of the established methods of building construction but also the latest information about the constantly changing and ever increasing number of proprietary systems and materials.

You are urged to place your order *now* for the 1958 edition. Price 35s. net. Postage 3s. 3d. inland (6s. 4d. abroad).

THE ARCHITECTURAL PRESS, 9-13 Queen Anne's Gate, Westminster, S.W.1

An instant success!

THE JAPTIC POLYSTYRENE SYPHON

for
HIGH
or
LOW
level
cisterns



*Non-corrosive, unaffected
by chemicals, acids, etc.
Particularly ideal for hard
water areas

*Silent in action

*Unaffected by changes of
climate, even at sub-zero
temperatures

*Easily fitted to existing
cisterns

Available from leading Plumbers' Merchants

Further details from Sole Manufacturers:

CLAUGHTON BROS. LTD.

SANITARY LEAD WORKS • BRAMLEY • LEEDS • TEL. PUDSEY 2886

SEE



**The New Aids To Roof
Construction**

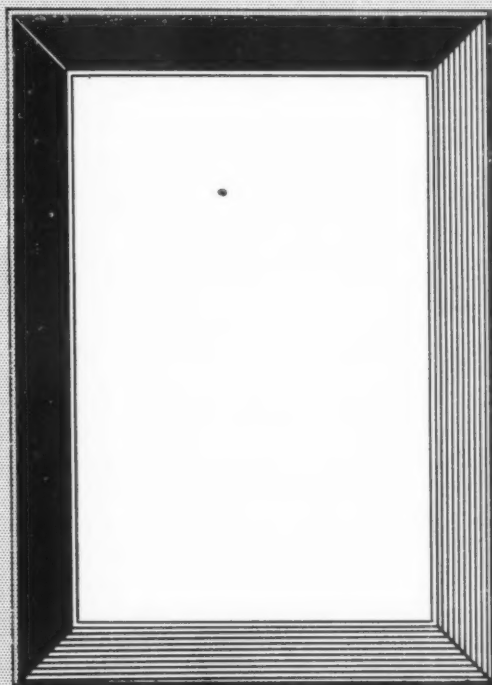
at the Building Exhibition:

STAND No. 732 (Empire Hall, 1st. Floor)

PARAMOUNT ASPHALTE LTD.

149 KENNINGTON PARK ROAD, LONDON, S.E.11

RELIANCE 2373 - 2191



PORTRAIT OF A PRODUCT

Of course you can't see clean air, and in some cases you can't see dirty air either! But you can easily see the *results* of both. And it is *results*, in replacing dirty air with clean air, that have made Air Control the leading suppliers of air filtering equipment in Great Britain.

From the Air Control range you can select the filter that gives you the *efficiency* you need plus the *maintenance characteristics* you want! May we send you your copy of our complete filter catalogue?

**AIR CONTROL
INSTALLATIONS LIMITED**

RUISLIP • MIDDLESEX • RUISLIP 4066

LONDON • BIRMINGHAM • MANCHESTER • NEWCASTLE • GLASGOW

AAC

Air Control are the sole manufacturing licensees in Great Britain for products of the American Air Filter Co., Inc.

BOTTOGAS

Aids to Industry

the CHINOOK CHAMPION



You can see this equipment on Stand 590 at the Building Exhibition Olympia 13th to 27th November.

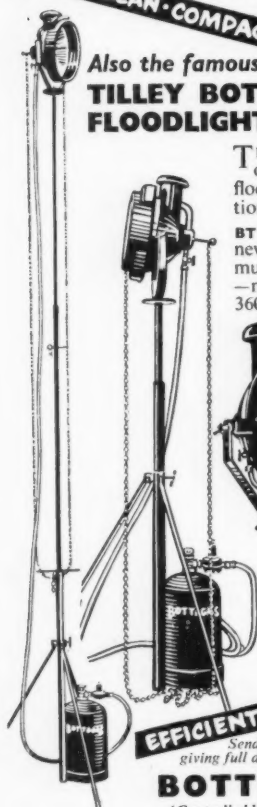


The latest development in Propane Heaters and at very low price

FOR heating workshops, stores, repair sheds and working on open sites; for carpet and in situ-drying, etc., and for preheating frozen plant and equipment. Operated on BottoGas Propane, the Chinook Champion combines new portability with precision heat control. Completely self-contained with a special built-in engine, it is mounted on semi-pneumatic ball-bearing wheels to be ready for use anywhere... and with a total weight of only 115 lb. it can even be carried easily!

SAFE · CLEAN · COMPACT · ECONOMICAL · MOBILE

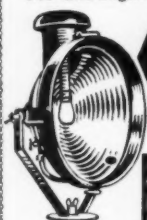
Also the famous TILLEY BOTTOGAS FLOODLIGHTING EQUIPMENT



THIS equipment is ideal for building operations, road and mains repairs, floodlighting buildings, tunnel inspection, etc.

BT 25 TILLEY FLOODLIGHT — with the new adjustable telescopic stand. Minimum length from centre of mantle—6' 6" — maximum 16' 2", can be rotated through 360° and angled when at maximum height.

10,000
mean reflected
Candle Power



3000
Candle Power



BT 26 TILLEY SITE LIGHT
(Portable Hurricane Lamp).

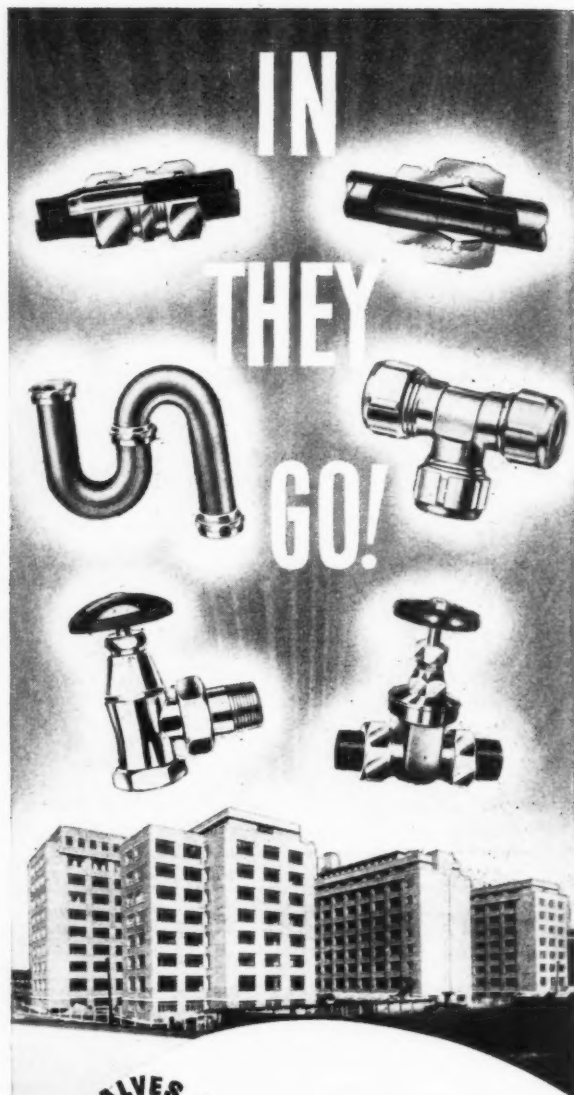
EFFICIENT · PORTABLE · INEXPENSIVE

Send for free illustrated literature giving full details of the above appliances

BOTTOGAS LTD
(Controlled by Shell-Mex and B.P. Ltd)



Cecil Chambers, 76-86 Strand, London, WC2
Covent Garden 2511 (7 lines)



CONEX VALVES & FITTINGS

FOR PERFECT SATISFACTION SAFETY AND SERVICE!

JUST OFF THE PRESS!

Write NOW for your FREE Copy of Catalogue C.J. 5., an invaluable book of reference on all aspects of plumbing.

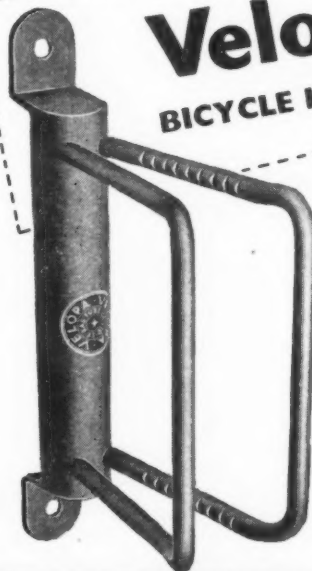
The first choice in all the best offices, schools, flats and private houses, CONEX Valves and Fittings are backed by the greatest brassfoundry organisation in Britain—and approved by the leading Architects, Surveyors, Contractors, Government Departments, Municipal Authorities and Water Works throughout the world. This overwhelming preference for CONEX Valves and Fittings has made the ever-increasing demand the greatest ever in the Company's history.



CONEX-TERNA LTD. WHITEHALL RD., GREAT BRIDGE, Staffs.
Telephone: Tlpton 1162-3. Telegrams: Conex-Terna, Tipton.
One of the SANBRA Group of Companies

The modern answer to bicycle parking problems

VelopA BICYCLE HOLDERS

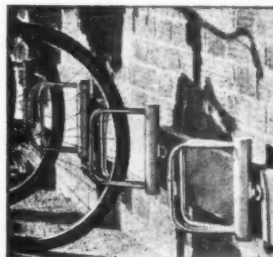


Serrated arms grip tyre only *
Unobtrusive and space saving *
Indestructible *
Heavily galvanised steel * Wide range of models for any wall, post, railing, etc. * Easily installed by unskilled labour.

**SYMMETRY
STYLE
SIMPLICITY**



VelopA Bicycle Holders, 45°, at King's College, Cambridge, specially made with extended upper bracket to suit recessed wall.



Model RT, 45°, bolted to timber beam.

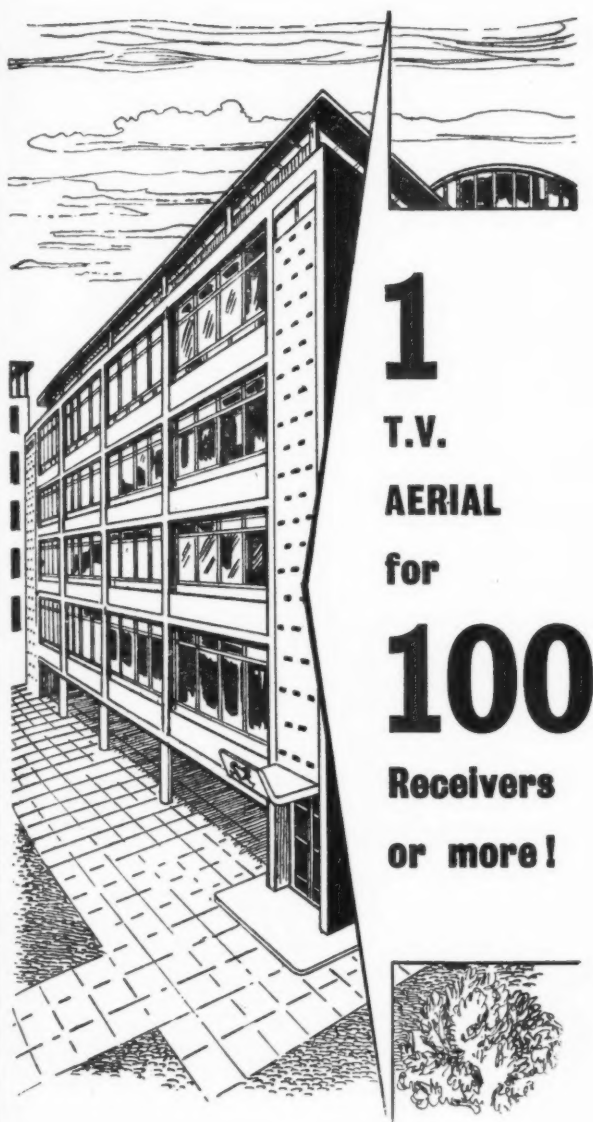


Battery arrangement for bicycles at 12-inch centres.

LE BAS TUBE COMPANY LIMITED

CITY WALL HOUSE, 129 FINSBURY PAVEMENT, LONDON, E.C.1

Telephone: Monarch 8822 Telegrams: Lebasco, Avenue, London
LONDON · MANCHESTER · GLASGOW · BELFAST



**1
T.V.
AERIAL
for
100
Receivers
or more!**

No need to worry about the provision of adequate television services to blocks of flats, hotels, schools, housing estates, etc.

The Antiference system of centralised T.V. reception does away with those ugly arrays of roof-top aerials—one aerial provides perfect reception!

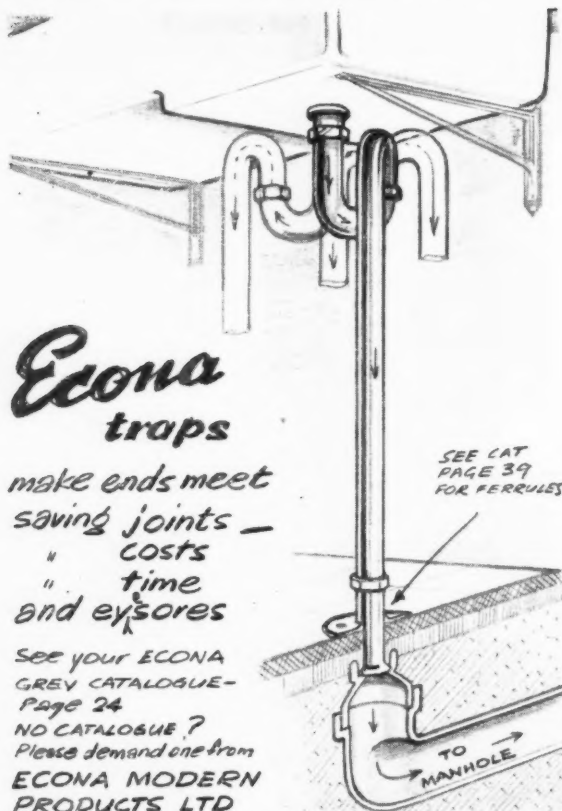
Hundreds of such installations throughout the country have been carried out by our engineers and we would be pleased to advise and assist on your particular project.

ALL

ANTIFERENCE INSTALLATIONS LTD.

19 DUNRAVEN STREET, PARK LANE, LONDON, W.1
Telephone: GROsvenor 1061/2

MIDLANDS:— 39 Holland Street, Sutton Coldfield. Phone 5354
NORTH:— 258 Manchester Road, Wigan. Phone 45321



Econa traps
*make ends meet
 saving joints —
 " costs
 " time
 and exsors*

SEE CAT
 PAGE 39
 FOR FERRULES

SEE YOUR ECONA
 GREY CATALOGUE—
 Page 24
 NO CATALOGUE ?
 Please demand one from
**ECONA MODERN
 PRODUCTS LTD**
 AQUA WORKS, HIGHLANDS RD. SHIRLEY, SOLIHULL, WARWICKSHIRE
 TELEPHONE : SOL 3078



Armourite
LEAD-LINED
Dampcourse

For Extra Protection!

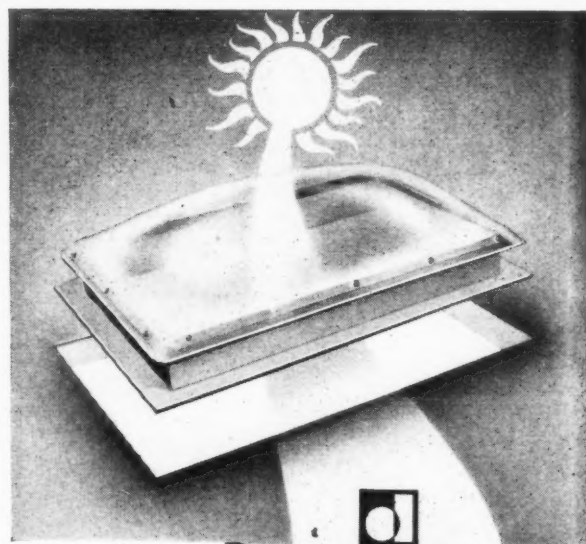
Use "ARMOURITE" for better class building where that "little extra" is required. "ARMOURITE" has all the damp resisting qualities of our wellknown "Aqualite" dampcourse plus the addition of an impenetrable barrier of sheet lead.

Samples and Descriptive Literature from
WILLIAM BRIGGS & SONS LIMITED DUNDEE
 BRANCHES THROUGHOUT THE COUNTRY



JAMES
 make good
**METAL
 WINDOWS**

W. JAMES & CO. LTD.
 Hythe Rd. Willesden Junction
 LADbroke 6471 N.W.10



clearly **DUPLUS**
DOMELIGHTS

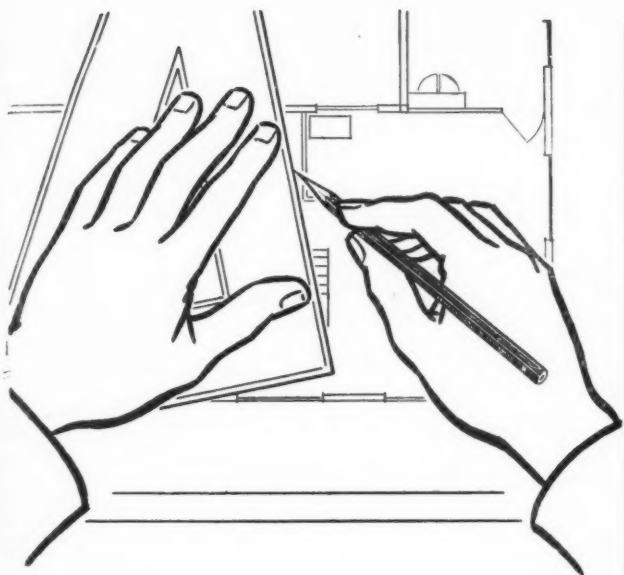
toplighting at its best

Duplus Domelights in Perspex—weatherproof and shatter resistant. Special turn-down edge gives additional strength and better weather proofing.

Circular up to 70" diameter.
 Rectangular up to 106" x 70".

Prefabricated curbs available. Full details sent on request.

DUPLUS DOMES LTD., Chatham Street, LEICESTER



"To a chap like me –
and I'm proud of my work – my pencil's
my living.

The pencils I use have to stand up to fast
hard work, their grading's got to
be absolutely spot on – not almost
or nearly but bang on the dot every
time.

The leads must hold their points
and flow smoothly throughout a long line –
no crumbling or 'clinkers' mark you! –
and if I erase a line it must go cleanly –
there's no 'furrow' left in my paper
so you won't find ghost lines in prints
made off my drawings. As a matter of
fact you can tell from a print when it is
my drawing – the print's always first class."

"What pencils do I use?"

"Venus drawing pencils of course, the
ones with the crackle finish! – how else do
you think I keep up my high standard?"

VENUS
DRAWING
PENCILS

*VENUS Drawing pencils are made in 17 accurate
grades from 9H to 6B.

THE VENUS PENCIL CO., LTD., LOWER CLAPTON RD. LONDON, E.S.

you'll
be glad
you chose
WOOD
windows



WOOD is ideally functional and
economical to install and maintain as well
as providing flexibility in expression. Wood
reduces condensation. Specify wood for
windows.

A CASE IN POINT *Wood windows
have been used in the new Administrative Block at
London Airport with a view to combining functional
efficiency with the required style of contemporary
design. For advice on wood windows suitable for
schools, offices and factories consult E.J.M.A.
Write to the address below.*

THE ENGLISH JOINERY MANUFACTURERS' ASSOCIATION (Incorporated)
(with which is associated the Scottish Joinery & Door Manufacturers' Association)

SACKVILLE HOUSE · 40 PICCADILLY · LONDON, W.1

Telephone: REGENT 4448/9

Preview

January Architectural Review

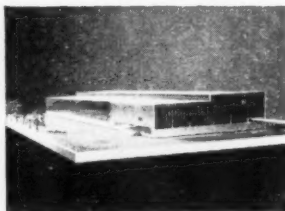
Each New Year, the Review devotes an entire special issue to a survey of what the leading architectural offices in Britain have in hand on the first day of the year. *



Assembly Hall of a girls' comprehensive school at Southwark. Architects, Chamberlin, Powell and Bon.

The view presented by *Preview* is an extremely varied one; the buildings it covers range from a pub to a synagogue, by way of schools, universities, colleges, hostels, hospitals, factories, office blocks,

churches, airports, planning schemes, housing layouts, a market and a seaside pavilion; and the offices and architects responsible for these projects-in-progress read like a directory of the country's top talent (as indeed they are)—the L.C.C., the Ministry of Works, ACP, T. P. Bennett and Sons, Bridgewater and Shepherd, James Cubitt and Partners, Llewelyn Davies, Easton and Robertson, Frederick Gibberd, Erno Goldfinger, Gollins Melvin and Ward, Sir William Holford, Arthur Ling, Sir Leslie Martin—and so on down the alphabet to Yorke Rosenberg and Mardall.



Factory at Wokingham. Architects, Yorke, Rosenberg and Mardall.

The reflection in *Preview's* mirror may prove flattering or alarming, but even where there appear to be grounds for satisfaction at the design of the buildings themselves, the environments into which they are being fitted still leave much to be desired, and though this is beyond the architects' control, it is not exempt from the watchful eye of the Counter Attack Bureau, whose month by month vigilance will be maintained even in this special issue.

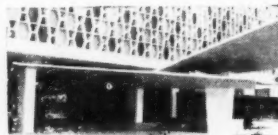
Smithsons Building Exhibition ONNO

November Architectural Review

The controversial Smithsons will make their first appearance as contributors to the Review in November, with an illustrated study of the Shape of the Community, in which they set against the exhausted diagrams of CIAM planning their vision of a more humane type of city. For non-visionaries—and for visionaries too—*Skill* will provide a full coverage of the Building Exhibition from the technical point of view, as well as an *Interiors* treatment of G. A. Jellicoe's restaurant and shopping floors at Harvey's of Guildford.

Visionary qualities, spurred by hard practical necessities, illu-

minate Kenneth Browne's proposals for applying the ONNO traffic-directing technique to Park Lane and west Mayfair. The study of the functional tradition is advanced by Brian Spiller's article on Georgian Breweries. Buildings described in this issue will include the new Bowater Factories by Farmer and Dark, whose cladding provides a practical follow-up demonstration of patent-glazing techniques, and Rangoon University and Technical Institute, by Raglan Squire and Partners, extensively illustrated in colour. Professor



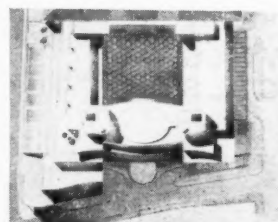
Entrance to the Library of the new Rangoon University. Architects, Raglan Squire and Partners.

Pevsner reviews Tschudi Madsen's important book on the Origins of Art Nouveau, whose character is summed up in the title *Beautiful and, if need be, useful*, and Dr. S. Lang will provide a note on Architectural Visitors to Padua, based upon a register kept by the university there, in which practically every English architect and amateur of note signed his name when passing through.

TUC Brasilia Street Lighting

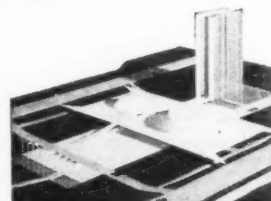
December Architectural Review

Design for public and administrative functions will form the subject of the two most important features in the Review for December. The TUC Memorial Building, designed by David Aberdeen, which is only the second public building of consequence to go up in London since the War, will be described and illustrated for the first time in completed form, and a supporting article in *Skill* will examine in detail the finishes



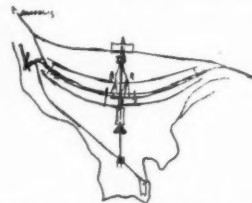
Airview drawing of David Aberdeen's TUC Memorial Building.

and mechanical equipment that make this one of the most lavish buildings—outside the commercial field—of recent years. The other major feature is concerned with *Brasilia*, the projected new capital city for Brazil, typically grandiose and Latin-American in conception, but more likely than most such schemes to achieve completion. Sir William Holford,



Oscar Niemeyer's design for the Congress Building at Brasilia.

who was one of the jury who assessed the competition for the new capital's plan, introduces the project and its site, discusses the competition, and adds a few words by way of introduction to the brilliant and unconventional winning scheme, by Lucio Costa, father of Brazil's modern movement, whose report is published in English for the first time.



One of Lucio Costa's sketches for Brasilia.

Another father of his art, John Britton, founder of English topographical studies, will be the subject of an historical article by Peter Ferriday, and the bicentenary of the birth of the great neo-Classical sculptor Antonio Canova is celebrated by one of England's leading neo-Classical scholars, F. J. B. Watson, with a chronicle of English visitors and admirers at the sculptor's studio in Rome. Gordon Cullen will tackle one of the most vexed and debated problems of outdoor detailing, *Street Lighting*, in terms of distribution and siting, as well as the design of equipment, and interiors to be described include the IBM offices and the Garden Centre, both in new office blocks in Wigmore Street. Foreign reports will cover the *Triennale di Milano*, and the *Berlin Interbau* exhibition, and regular features like the Counter Attack Bureau and Robert Melville's provocative art-criticism will continue.

21

THE ARCHITECTURAL REVIEW
9-13 Queen Anne's Gate, Westminster, S.W.1.
Whitehall 0611

The annual post free subscription rate payable in advance is \$3.0 sterling; in U.S.A. and Canada \$10.50; elsewhere abroad \$8.10.

Please send me the ARCHITECTURAL REVIEW until further notice:
name _____
address _____

STRUCTURAL STEELWORK

LINDSAY'S PADDINGTON IRON WORKS (1948) LTD

NORTH WHARFRD., PADDINGTON, LONDON, W.2. Phone: PAD 8485-6-7

for planned tiling
by experts
consult **THE NORLOND SERVICE**

Tile Works,
24 Edison Road, Crouch End, N.8.
Tel: Fitzroy 0171 West End Showrooms,
167/8 Tottenham Court Road, London, W.1.
Tel: Euston 4201

Fireplaces • Wall and Floor Tiling

FOR A BETTER SOLUTION CONSULT AIRD, STEWART

- ★ Concrete Waterproofing
- ★ Concrete Hardeners
- ★ Floor Dressings
- ★ Waterproofing paint
- ★ Anti-Freeze Admix
- ★ Plasticiser
- ★ Degreasing

Brochures, Test Reports (Stanger) and all information from
AIRD, STEWART LIMITED
Wembley 5321 (PBX)

METAL LETTERS

In STAINLESS or ENAMELLED STEEL

CAST BRONZE LETTERS

(Including CERAMIC Filled)

Engraved BRONZE PLATES

Write for NEW Illustrated List. Completely Revised up to Date.

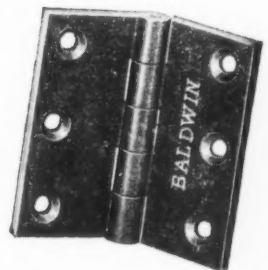
PERSPEX LETTERS
NEON SIGNS COMPLETE INSTALLATIONS
erected and maintained for the
Trade using plain vans.

CHASE PRODUCTS
(Engineering) LTD

7 PACKINGTON RD., SOUTH ACTON, W.3-Acorn 1153-4-And at Leeds.

Time-tested
rust-resistance

Like the famous Iron Bridge at Coalbrookdale - dating from 1779 and still "remarkably free from corrosion" - Baldwin Butt Hinges are craftsman-made of cast iron. The solid drilled knuckles which give larger bearing surfaces and cannot unwrap - plus the graphite content of cast iron - make Baldwin Butt Hinges smooth, silent and enduring.



BALDWIN
CAST IRON BUTT HINGES

See the name BALDWIN on every hinge. Illustrated list of full series from Sole Makers:

ARCHIBALD KENRICK & SONS LTD., WEST BROMWICH, STAFFS.

BATLEY MULTIPLE CONCRETE GARAGES



Adaptable... Versatile... Economical!

- Any number can be erected in one block.
- Choice of hinged or 'Up and Over' Doors.
- Erection service available.
- Purchased by over 275 Councils.
- Three years' Guarantee.
- Attractive Deferred Terms.

Batley Multiple garages provide an unequalled investment—ideal for Housing Estates, Public Utilities, Hotels, Private Lock-ups, etc. Send for fully descriptive Brochure.

ERNEST BATLEY LIMITED

63 Colledge Rd., Holbrooks, Coventry. Tel: 89245

MODELS FOR EVERY SITE



For sloping sites, garages can be stepped.



Back to back in one block.



Roof slope to front or rear.

CLASSIFIED ADVERTISEMENTS

Advertisements should be addressed to the Advt. Manager, "The Architects' Journal," 9, 11 and 13, Queen Anne's Gate, Westminster, S.W.1, and should reach there by first post on Friday morning for inclusion in the following Thursday's paper.

Replies to Box Numbers should be addressed care of "The Architects' Journal," at the address given above.

Public and Official Announcements

30s. per inch; each additional line, 2s. 6d.

LONDON COUNTY COUNCIL ARCHITECTS' DEPARTMENT
Vacancies for ARCHITECTS and SURVEYING ASSISTANTS in the Building Regulations Division as follows:—

- For surveys of existing premises and consideration of proposals for alterations and new construction in the Theatres Section; and
 - For building control work in connection with applications under the London Building Acts and Bye-laws as regards compliance with the Council's construction and means of escape standards.
- Salaries up to £860, with starting rates according to qualifications and experience.
- Application form and particulars from the Architect (Ref. AR/EK/47/57), The County Hall, S.E.1. (1610) 7707

LONDON COUNTY COUNCIL ARCHITECTS' DEPARTMENT
Selections for appointment are now being made from ARCHITECTS who have passed their Final Examinations this summer. Starting salaries up to £712 10s. a year, in scale £637 10s. to £860.

Vacancies also for ARCHITECTS of experience at starting salaries up to £1,090.

Full programme of Houses, Flats, Schools, and many other interesting buildings.

Application forms and full particulars from the Architect (Ref. AR/EK/46/57), The County Hall, S.E.1. (1609) 7708

BOROUGH OF TATMORTH ENGINEERING ASSISTANT
Applications are invited for the above appointment in the Borough Engineer and Surveyor's Department. Salary A.P.T. Grade I. Applicants should have had a good general experience in a Municipal Engineer's office (housing experience would be an advantage). Preference will be given to applicants who have passed the Intermediate Examination of the Institution of Municipal Engineers or hold an equivalent qualification. Housing accommodation available if required. Applications stating age, qualifications and experience, together with names of two referees should reach the undersigned not later than 25th November, 1957. Canvassing, directly or indirectly, will disqualify.

HENRY WOOD,
Town Clerk.

Municipal Offices,
Tatmorth, Staffs.
6th November, 1957. 8029

BUCKS COUNTY COUNCIL
Applications are invited for the appointment of ASSISTANT ARCHITECTS in the County Architects' Department on Architects' Special Scale, £750—£1,050 p.a., and A.P.T. Grade IV, £1,025—£1,175 p.a.

The appointments are supernumerary and subject to medical examination.

A weekly allowance of 25s. and return fare home once every two months may be paid for six months to newly appointed married officers of the Council unable to find accommodation.

Applications, on forms provided, must be returned by 30th November, 1957.

F. B. POOLEY,
County Architect.

Council Offices,
Aylesbury, Bucks. 8046

SOUTH-EAST METROPOLITAN REGIONAL HOSPITAL BOARD
Vacancy for ASSISTANT ARCHITECT—salary rising from at least £720. Applications by December 2nd, 1957. Details from Regional Architect, 10, Hallam Street, W.1. 8047

CITY AND ROYAL BURGH OF DUNFERMLINE

BURGH ARCHITECTS' DEPARTMENT
Applications are invited for the post of ASSISTANT ARCHITECT, on salary scale A.P. Va-VI (£765 to £890), with placing according to age, qualifications and experience. The post is supernumerary and subject to medical examination.

Applicants should be Associate Members of the Royal Institute of British Architects, preferably with considerable experience in housing and local authority work.

Applications, stating age, experience, qualifications and present appointment, together with copies of two recent testimonials, should be addressed to Leonard Howarth, Burgh Architect, 6, Abbot Street, Dunfermline, not later than 30th November, 1957.

The post has been designated by the Town Council for priority housing.

Applicants must disclose, in writing, whether to their knowledge they are related to any member or senior officer of the Town Council, and canvassing, either directly or indirectly, will be a disqualification.

J. DOUGLAS,
Town Clerk.

City Chambers, Dunfermline.
12th November, 1957. 8094

BURGH OF KILMARNOCK
BURGH ARCHITECTS' DEPARTMENT
Wanted, JUNIOR ARCHITECTURAL ASSISTANT. Salary in accordance with the Clerical, Supervisory, etc. Division, Grade VI (at present £565 x £15—£610 per annum). Apply giving details of experience and enclosing copies of testimonials to the Burgh Architect, 64A Bank Street, Kilmarnock, within 10 days of the publication of this advertisement. 8057

COUNTY BOROUGH OF SOUTHEAST-ON-SEA BOROUGH ARCHITECTS' DEPARTMENT
Applications are invited for the following posts: ASSISTANT ARCHITECT, salary scale £750 by annual increments of £40 to £1,030.

Two Posts of ASSISTANT QUANTITY SURVEYORS, salary scale £750 by annual increments of £40 to £1,030.

Candidates must be suitably qualified and experienced. Housing accommodation may be provided for the senior appointments.

The appointments will be subject to the provisions of the Local Government Superannuation Acts and the National Joint Council's Scheme of Conditions of Service so far as adopted by the Council. Medical examination.

Applications, stating age, qualifications and experience, with the names of two referees, should be submitted to the Borough Architect, 30, Alexandra Street, Southend-on-Sea, forthwith.

Canvassing will disqualify. Any candidate who is related to any member or officer of the Council is required to disclose the fact.

ARCHIBALD GLEN,

Town Clerk. 8054

BOROUGH OF WALTHAMSTOW
BOROUGH ARCHITECT, ENGINEER AND SURVEYOR'S DEPARTMENT

CHIEF ASSISTANT ARCHITECT
Applications are invited from suitably qualified Architects for the above appointment on New Grade A.P.T. V (£1,205—£1,355, inclusive of London weighting), with the commencing salary according to experience.

Applications, stating age, qualifications, experience, present position and salary, together with the names and addresses of two referees, one of whom should be the present or former employer, are to be received by the undersigned not later than noon on Saturday, 30th November, 1957, endorsed "Chief Assistant Architect."

G. A. BLAKELEY,

Town Clerk.

Town Hall, Walthamstow, E.17. 8105

14th November, 1957.

CUMBERLAND COUNTY COUNCIL

PLANNING DEPARTMENT

Applications are invited for the following appointments:—

(a) TWO PLANNING ASSISTANTS, on Scale A.P.T. IV (£1,025—£1,175). A.M.T.P.I. essential, with additional qualifications and/or experience in engineering, architecture including landscape architecture, or surveying.

(b) ONE PLANNING ASSISTANT, on Scale A.P.T. II (£725—£845). Intermediate T.P.I. preferred.

(c) ONE DRAUGHTSMAN, on Scale A.P.T. II (£725—£845). Experienced in planning department.

Application forms and further information from County Planning Officer, 1, Alfred Street, North, Carlisle. Closing date: 14th December, 1957.

G. N. C. SWIFT,

Clerk of the County Council. 8104

The Courts, Carlisle.

COUNTY BOROUGH OF WALSALL

PUBLIC WORKS DEPARTMENT

ASSISTANT ARCHITECT

Applications are invited for the appointment of Assistant Architect, Special Grade for Architectural Assistants (£750—£1,030), at a commencing salary of £990 per annum.

Applicants must be A.R.I.B.A. The post is supernumerary and the person appointed will be required to pass a medical examination.

Applications, giving the names of two persons to whom reference may be made, and stating age, present position, salary, qualifications, and details of experience, should be submitted to the undersigned not later than Monday, 9th December, 1957.

M. E. HABERSHON,

Borough Engineer and Surveyor.

Borough Engineer and Surveyor's Office,

Council House, Walsall. 8097

13th November, 1957.

CITY OF BIRMINGHAM

CITY ARCHITECTS' DEPARTMENT

Applications are invited from fully qualified Architects for permanent and supernumerary appointments as ASSISTANT ARCHITECTS, at commencing salaries according to capabilities, and experience within the Special Scale, £750 x £40—£1,030 p.a.

Scope for progressive design of Schools and Educational Buildings of many kinds, a variety of Civic Buildings, and Housing Schemes, including tall blocks of flats, maisonettes and shopping centres.

Medical examination. 5-day week.

Applications, endorsed with the heading of the post and stating age, present position and salary, qualifications, experience and two referees, to the undersigned by 14th December, 1957.

A. G. SHEPPARD, FIDLER,

City Architect. 8102

Civic Centre, Birmingham, 1.

URBAN DISTRICT COUNCIL OF BASILDON

ASSISTANT ARCHITECT

Applications are invited from qualified and experienced Architects for the above established post.

The Special Grade—maximum £1,030 per annum—is applicable; the commencing salary to be £910 per annum, or above, according to experience. Housing accommodation will be considered.

The District is developing rapidly—present population 67,000, area 27,000 acres. Wide variety of interesting works.

Full particulars and application forms from and returnable to Mr. S. A. Wadsworth, A.M.I.C.E., A.M.I.Mun.E., Council Offices, High Street, Billericay, Essex; closing date: 2nd December, 1957. 8103

COUNTY BOROUGH OF GATESHEAD

Applications are invited from qualified and experienced persons for the following appointments, which are subject to N.J.C. conditions:—

ASSISTANT ARCHITECTS, Special Scale (£750—£1,030). Applicants must have passed Part I and II of the Final Examination of the Royal Institute of British Architects or must be registered Architects. Previous experience with a Local Authority would be an advantage.

All above posts pensionable, subject to medical examination and one month's notice on either side.

IN SUITABLE CASES HOUSING ACCOMMODATION WILL BE MADE AVAILABLE ON A RENTAL BASIS, ON PLEASANT POST-WAR ESTATES.

STARTING SALARIES WOULD DEPEND ON THE QUALIFICATIONS AND EXPERIENCE OF THE APPLICANTS.

Applications, on forms obtainable from the Borough Surveyor, Swinburne Street, Gateshead, 8, must be returned to him within 10 days of this advertisement.

C. D. JACKSON,

Town Clerk. 8096

Town Hall, Gateshead, 8.

November, 1957.

METROPOLITAN BOROUGH OF LEWISHAM

TEMPORARY SURVEYING ASSISTANT

Applications are invited for the above appointment, primarily for the surveying of building sites. Salary between £760 and £1,060 per annum, according to qualifications and experience.

Further particulars and form of application from the Town Clerk, Lewisham Town Hall, Catford, S.E.6. Closing date: 2nd December, 1957. 8095

COUNTY BOROUGH OF CROYDON

ASSISTANT ARCHITECT

Applications are invited from members of the R.I.B.A. for an officer to lead a small team engaged on housing schemes and multi-storey flats. Salary scale A.P.T. IV, £1,055 to £1,205, including "London weighting," commencing according to qualifications and experience. 5-day week.

If necessary, the Corporation will endeavour to assist with living accommodation at a full economic rent.

Further particulars and application form from the Borough Engineer, Town Hall, Croydon, Surrey.

Closing date: 9th December, 1957. 8100

LONDON COUNTY COUNCIL

ARCHITECTS' DEPARTMENT

EXANSION OF QUANTITIES DIVISION

Vacancies exist for ASSISTANTS, with sound practical building experience, for purposes of undertaking investigation of costs of various types of materials and forms of construction, and applying results to preparation of estimates of expenditure for building projects.

Previous Local Authority experience not necessary.

Salaries up to £1,090.

Application forms and particulars from Architect (AR/EK 55/57), County Hall, S.E.1, returnable by 30th November, 1957. (2125) 8099

LANCASHIRE COUNTY COUNCIL

COUNTY ARCHITECTS' DEPARTMENT

ARCHITECTS, who have recently passed their Final Examinations, are invited to apply for posts with starting salary of £750 a year in a scale which rises to £1,030.

Applicants with experience may be offered higher starting salaries.

Interesting programme of Schools, Technical Colleges and similar work.

Applications, obtainable from the County Architect, G. Noel Hill, F.R.I.B.A., M.T.P.I., P.O. Box 26, County Hall, Preston, to be returned not later than Monday, 9th December, quoting Ref. A/AJ. 8061

BOROUGH OF BRIDGWATER

APPOINTMENT OF ASSISTANT QUANTITY SURVEYOR

Applications are invited for the above appointment in the Borough Architect's Department, at a salary in accordance with A.P.T. Grade II (£725—£845 p.a.).

Applicants should be experienced in taking off and preparing Bills of Quantities, measuring works in progress, and preparing interim certificates and settlement of Final Accounts.

Applications, stating age, experience and qualifications, and accompanied by copies of three recent testimonials, to be delivered to the Borough Architect, Town Hall, Bridgwater, not later than Saturday, 30th November, 1957.

H. A. CLIBBER,

Town Clerk. 8098

Town Hall, Bridgwater.

9th November, 1957.

BERKSHIRE COUNTY COUNCIL
ASSISTANT ARCHITECT, Grade IV (£1,025—£1,175).

Man capable of taking charge of contracts under a Section Head from preliminary scheme stage to completion is required. Opportunity to obtain a varied experience will be given.

Application forms and further particulars can be obtained from J. T. Castle, A.R.I.B.A., A.M.T.P.I., County Architect, Wilton House, Parkside Road, Reading, to whom they should be returned not later than Thursday, 28th November, 1957.

BOROUGH OF FINCHLEY
ARCHITECTURAL ASSISTANT
HOUSING AND TOWN PLANNING
DEPARTMENT

Salary within the Special Scale, according to qualifications and experience (£750—£40 to £1,030, requiring R.I.B.A. Final Examination or equivalent and 5 years' experience), plus London weighting. Experience in Local Authority Housing and design of multi-storey flats an advantage.

Subject to satisfactory service, anticipated duration of the appointment will be 2 3/4 years. The National Scheme of Conditions of Service and the Local Government Superannuation Acts apply, and medical examination required.

Applications, stating age, full particulars of qualifications and experience, and accompanied by copies of two testimonials (for the names of two referees), to the Borough Housing and Town Planning Officer, The Avenue, Finchley, N.3, by not later than first post on Wednesday, the 4th December, 1957.

R. M. FRANKLIN,
Town Clerk. 8073

DENBIGHSHIRE COUNTY COUNCIL
COUNTY ARCHITECT'S DEPARTMENT,
WREXHAM

Applications are invited for the post of CHIEF QUANTITY SURVEYOR, A.P.T., Grade V (£1,175—£1,325), in the above Department. Candidates must be Corporate Members of the Royal Institution of Chartered Surveyors, Sub-Division III (Quantities Section); must have wide experience in the preparation of Bills of Quantities for all types of building works for a County Authority; measurement of works on site, preparation of interim certificates and final accounts, and must be capable of taking charge of a Quantity Surveying Section. Application forms may be obtained from me. Completed application forms to be returned to me by 30th November, 1957.

W. E. RUFTON,
Clerk of the County Council. 8060
County Offices, Ruthin.

STEVENAGE URBAN DISTRICT COUNCIL
ARCHITECTURAL ASSISTANT

Applications are invited for the above-mentioned post in accordance with the Special Grade of the National Scheme of Conditions of Service for Architectural Assistants, at a commencing salary of £910, rising to £1,030 per annum.

Applicants should be A.R.I.B.A. and should have a contemporary approach to design. The Council have a programme of work associated with the New Town Development. The present population of Stevenage is approximately 30,000 and the town is rapidly developing to a maximum population of 60,000. Full details of the appointment can be obtained on application to the Engineer and Surveyor, 19, Orchard Road, Stevenage, Herts.

Applications, together with the names of two referees, should reach the undersigned by not later than 30th November, 1957.

Housing accommodation will be available if required.

E. J. BOWERS,
Clerk of the Council.
Council Offices, Orchard Road,
Stevenage, Herts. 8110

COUNTY BOROUGH OF BOOTLE

Applications are invited for the following appointments:—

(a) ASSISTANT ARCHITECT, Grade A.P.T. III (£845—£1,025 per annum).

(b) ASSISTANT ARCHITECT, Grade A.P.T. II (£725—£845 per annum).

Preference will be given to those having experience in the design and planning of schools. Application forms, obtainable from the Borough Surveyor, Town Hall, Bootle, 20, are returnable by Friday, the 13th December, 1957.

By Order,
HAROLD PARTINGTON,
Town Clerk. 8124

HAMPSHIRE COUNTY COUNCIL—ARCHITECTURAL PLANNING ASSISTANT required, A.P.T., Grade II (£725—£845), in the County Planning Department Headquarters at Winchester. Candidates must have passed the Intermediate Examination of the Royal Institute of British Architects or of the Town Planning Institute, be experienced and capable designers and have some knowledge of Town Planning. The appointment is pensionable and subject to a satisfactory medical report. In approved cases the County Council assist with removal and other expenses.

Applications, stating age, education, qualifications and experience, together with a copy of one testimonial and the names of two referees, should reach the Clerk of the County Council, The Castle, Winchester, by 7th December. 8126

SOUTHERN ELECTRICITY BOARD
ENGINEERING DRAUGHTSMEN (TWO VACANCIES)

Engineer's Department, No. 4 (Bournemouth) Sub-Area, Salary N.J.B., Schedule D, Grade 6 (£595 × £20—£715 per annum). N.J.B. Conditions of Service.

Applicants should be fully qualified draughtsmen and be able to undertake under supervision the preparation and final layout of building and civil engineering drawings. A sound knowledge of building construction is essential.

The successful candidate will be required to contribute to the C.E.A. and Area Boards' (Staff) Superannuation Scheme, if eligible.

Applications, on forms obtainable from the Sub-Area Secretary, 1, Priory Road, Bournemouth, and returned to him, in envelopes suitably endorsed, not later than December 2, 1957. 8125

NORTHUMBERLAND COUNTY PLANNING DEPARTMENT

ASSISTANT to Area Planning Officer required on Special Scale of Salaries (£750—£1,030). A.M.T.P.I. or equivalent essential. Commencing salary according to qualifications and experience. Application forms from County Planning Officer, County Hall, Newcastle on Tyne, 1, to be submitted by 30th November, 1957. 8072

Architectural Appointments Vacant

4 lines or under, 9s. 6d.; each additional line, 2s. 6d. Box Number, including forwarding replies, 2s. extra.

BUCKINGHAMSHIRE firm of Architects, within 30 miles of London, with a varied practice, require **TWO ARCHITECTURAL ASSISTANTS**, approaching Final R.I.B.A. standard, 5-day week. Salary according to age and experience.—Please write, giving full particulars, to Box 7768.

CITY ARCHITECT requires ASSISTANT, experienced industrial and commercial field. Intermediate Standard. Salary £600—£700. Box 7969.

CO-OPERATIVE WHOLESALE SOCIETY, LTD. ARCHITECT'S DEPARTMENT, BIRMINGHAM Applications are invited for the following appointment in the above Branch Office undertaking interesting and varied commercial and industrial projects:—

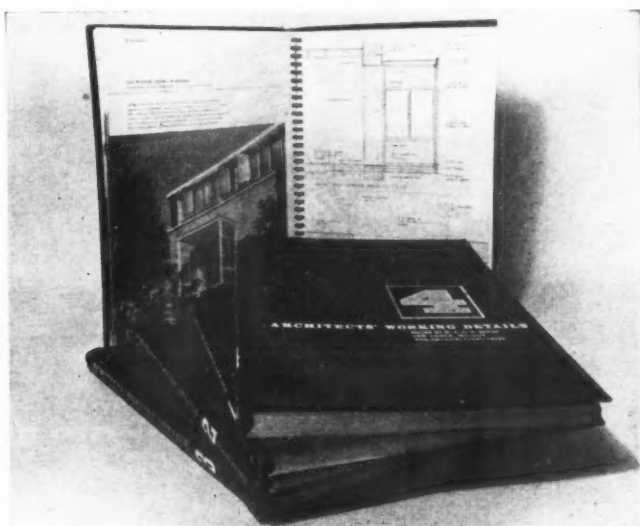
ASSISTANT ARCHITECT, capable of preparing working drawings from preliminary details. There is a 5-day week in operation, and the appointment will offer prospects of upgrading.

Applications, stating age, experience, qualifications and salary required, to G. S. Hay, A.R.I.B.A., Chief Architect, Co-operative Wholesale Society, Ltd., 1, Balloon Street, Manchester. 7941

Just published
ARCHITECTS' WORKING DETAILS: VOLUME 4

Edited by D. A. C. A. Boyne, executive editor of 'The Architects' Journal', and Lance Wright, technical editor of 'The Architects' Journal'.

A FOURTH VOLUME has just been added to this popular new series. Like the earlier volumes this has a twofold purpose: first, to provide architects and assistants with easily accessible solutions to many everyday design problems; secondly, to record the latest stages reached in the study of those problems, thus providing a time-saving starting-point. The presentation is the same as in earlier volumes: each detail is illustrated by a large photograph and by a working drawing on the facing page; the headings under which details are grouped follow, in the main, those used in previous volumes—but with the addition of *Miscellaneous Details*. Each Volume is self-contained and sold separately. The series—reflecting a steadily



growing demand—is, of course, continuous. And Volume 4 is very carefully indexed to facilitate quick reference. Size 11½ ins. × 8½ ins. 160 pages. 'Wire-O' bound to lie flat on drawing-board. Price, per volume 25s. Postage: 1 vol., 1s. 9d.; 2 vols., 2s. 3d.; 3 vols., 2s. 9d.; 4 vols., 3s. 3d.

UNITED DAIRIES LTD., LONDON
APPLICATIONS are invited for the following appointments in the Architect's Department at the Company's Head Office:—

SENIOR ARCHITECTURAL ASSISTANT capable of making site surveys, preparing sketch plans and working drawings and supervising work in progress. Knowledge of shop fitting an advantage.

ARCHITECTURAL JUNIOR ASSISTANT. Experienced in tracing and colouring.

ACCOUNTS CLERK capable of checking and certifying Builders' accounts.

Applications stating age, experience, qualifications and salary required to R. E. Akerman, F.R.I.B.A., Chief Architect, United Dairies Ltd., 31, St. Petersburg Place, W.2. 7829

JUNIOR ARCHITECTURAL ASSISTANTS required. Five-day week. Factory and office buildings. Minimum 3 years' experience.—Write full particulars, R. H. Gallanbaugh, L.R.I.B.A., 54, Queen Anne Street, London, W.1. 8037

PROGRESSIVE Architect, whose current work includes an important office building, urban housing, shops, high flats, and a Town Hall, needs two forward-looking ASSISTANTS, of about fourth year Evening School standard. Five-day week, pleasant surroundings, and a keen lot of chaps. Salary according to ability.—Box 8035.

ARCHITECTURAL ASSISTANT required, with imagination and experience, for contemporary commercial work in London.—C. H. Elsom & Partners, 10, Lower Grosvenor Place, S.W.1. VIC. 4304. 8034

KEEN Intermediate ASSISTANT required for London practice. Excellent prospects and salary for man with initiative.—Full details to Box 8025, or Tel. CAN. 3979.

ARCHITECTURAL ASSISTANT required in Engineer's Office of large Brewery Company in East Midlands area. Work comprises general maintenance, alterations, extensions, and additions of industrial buildings. State age, experience, qualifications and salary required.—Apply Box 7789.

LONDON Firm of Architects requires JUNIORS just leaving school, preferably with G.C.E.; also Post-Intermediate ASSISTANTS, preferably with London experience. Five-day week. Lewis Solomon, Son & Joseph, 21, Bloomsbury Way, London, W.C.1. Telephone HOL 5108. 7997

GOOD position offered to **ARCHITECTURAL ASSISTANT** of Intermediate standard in Sheffield. Applicants should be prepared to accept responsibility, be capable of individual working and have a good standard of presentation. They must also have a contemporary outlook. Good salary offered, five-day week, luncheon vouchers and social club. Write giving full particulars of age, experience, and salary required to Box 8107, quoting Ref. AA 257.

CITY Architect's Office require ASSISTANT of about Intermediate R.I.B.A. standard. Must be quick and reliable draughtsman and accustomed to good class work. Interesting varied work and secure future. Apply stating experience, age and salary. Box 8093.

EAST Midlands Brewery Company requires **STAFF ARCHITECT** and **SURVEYOR** with experience of maintenance and improvements in Licensed Houses. House available upon appointment. State full details of qualifications, experience and salary required. Box 8091.

JUNIOR ASSISTANT required for Architect and Surveyor's West London Office. Box 8090.

ARCHITECTURAL ASSISTANT. Intermediate standard, required in small, busy Office in N.E. Hampshire. State age, experience and salary required. Box 8064.

BUSY office in Kensington requires **ARCHITECTURAL ASSISTANT** approaching Intermediate, with 3/4 years' office experience, good draughtsman and sound knowledge of construction essential, for work on licensed premises. Apply: Mayell, Webb & Hart. Telephone: FRE 8596. 8065

SENIOR ASSISTANT who is above average ability in design and practical experience with a good personality, is required to eventually take responsible position in office. Apply in writing to John H. D. Madin, Dip. A.R.I.B.A., 85/85, Hagley Road, Birmingham, 16. 8067

PARTNERSHIP. An expanding practice in the Midlands requires an **ARCHITECT** who would be suitable for partnership. Only Architects with high qualifications and ability need apply. Write giving full details. Box 8068.

TWO ARCHITECTURAL ASSISTANTS required about Intermediate standard with office experience, capable working drawings busy practice. Apply Ardin & Brookes, A./A.R.I.B.A., 129, Mount Street, London, W.1. 8070

ARCHITECTURAL ASSISTANT, up to A.R.I.B.A. Intermediate standard, required at Guildford. Varied work, mainly factory. Five-day week. Salary by arrangement. Box 8074.

BIRMINGHAM. James A. Roberts, Chartered Architect, Channele House, 85, New Street, Birmingham, 2, Mid. 4315-6, requires Junior and Intermediate level ASSISTANTS to join teams on interesting large-scale projects. 8075

INTERMEDIATE and Final standard ASSISTANTS required. Minimum two years' office experience. Salary according to ability. Box 8076.

ARCHITECTURAL ASSISTANT required by Theo. H. Birks, F.R.I.B.A. Salary range £750-£950 p.a. Ring LAM 7236 for appointment. 8077

ARCHITECTURAL ASSISTANTS required for work on Industrial and Commercial projects. Experience of this type of work desirable but not essential. Salary by arrangement. Write, stating age, experience and qualifications to Box 8078.

ASSISTANT of Intermediate standard, with office experience, good draughtsman, required for work on Flats and Houses. Please state experience, age and salary required to: R. Jelinek-Karl, F.R.I.B.A., 22, Chancery Lane, W.C.2. HOL 5695. 8082

ASSISTANTS required in congenial office, Manchester area. Interesting work. Canteen and other amenities. Salary up to £900 p.a., dependent upon qualifications and experience. Apply Box 8117.

ASSISTANT ARCHITECT, Final standard. A good office experience, for varied country practice with Local Authority work. Salary by arrangement. Car Allowance. Please send details A. C. Bishop, A.R.I.B.A., Market Square, Retford, Notts. 8113

ARCHITECTURAL ASSISTANT required for office with varied contemporary work. Commencing salary from £500 p.a. according to experience. Applications to F. Tomkinson & Son, 180, Edleston Road, Crewe. 8112

ARCHITECTURAL ASSISTANTS for University and Hospital work. Good salary, dependent on experience. Non-contributory Pension Scheme in being after probationary period. Three weeks' holiday a year, and five-day week. Reply, stating age, experience, etc., to: Thomas Worthington & Sons, 178, Oxford Road, Manchester, 12. 0081

ARCHITECTURAL ASSISTANT wanted, about Intermediate standard. Small private office in provinces. Full details to Box 8066.

ARCHITECT (Slough area) requires part-time assistance with preparation of working details for small alteration works in London. Box 8089.

CHARLES B. PEARSON & SON require qualified **SENIOR ASSISTANTS** in their Manchester and Lancaster Offices. Experience in hospital work would be an advantage. Write in the first instance, giving details of age, training and experience and salary required, to 18, Dalton Square, Lancaster. 5088

AT PURLEY, ambitious ASSISTANT to take charge of small contemporary office, fine prospects. Particulars to Box 8069.

STEEL, PEECH & TOZER, branch of the United Steel Co.'s Ltd., have vacancies for **TWO ARCHITECTURAL DRAUGHTSMEN**, with at least five years practical experience. Variable type of work including office blocks, amenity centres and service buildings. Industrial experience would be an advantage, but is not essential. Good pension scheme and canteen facilities, etc. Salary according to age and experience. Applications should be made in writing to the Labour Manager, Steel, Peech & Tozer, The Ickles, Sheffield, 1. 8119

ARCHITECT required by the National Coal Board for their Divisional Headquarters (Welfare Branch) in Edinburgh. Salary £700 x £30-£1,000 p.a. (at present under review); qualifications—A.R.I.B.A. The point of entry will depend on qualifications and experience. The work involved covers a wide and interesting field, including Pithead Baths, Medical Centres, Canteens and Social Centres. Applications, stating age, education, qualifications, experience, present post and salary, to the Divisional Chief Staff Officer, National Coal Board, 3, Eglinton Crescent, Edinburgh, 12. 8114

WANTED in London office of A.R.I.B.A. engaged on work for Housing Company, **JUNIOR ARCHITECTURAL ASSISTANT**, Intermediate R.I.B.A. standard. Experience in preparation of Sketch Designs, Working Drawings and Specifications essential. Salary according to experience and capabilities. Box 8120.

GEORGE WIMPEY & CO. LTD., require ASSISTANTS for interesting work in their Manchester Architect's Department. Canteen facilities. Pleasant office. Salary in accordance with experience and qualifications. Apply in writing to 629, Eccles New Road, Salford 5, Lanes. 8116

TIMBER Building Prefabricating Company requires for its Farnborough Office, an **ARCHITECTURAL DRAUGHTSMAN**. Applicants should be quick and accurate with a contemporary outlook. Five-day week, staff canteen. Write giving details of age and experience to H. & H. Blacknell, Ltd., Park Place, Pinehurst Avenue, Farnborough, Hants. 8115

NEW ZEALAND Architectural Practice mainly engaged Commercial, Bank, Industrial work requires: (a) ASSISTANT ARCHITECT with A.R.I.B.A. salary range £950 to £1,050; and (b) ARCHITECTURAL ASSISTANT with about seven years good experience, salary range £750 to £850. Ability, qualifications, influence rate applicable, such being commencing salary subject good increases, twice yearly, dependent progress. Single or married men considered, excellent opportunity enterprising men, two or three years assured engagement, applicants' passage paid subject few minor conditions. Apply airmail, with snapshot and personal and experience details, plus small recent eighth working drawing, to Mitchell & Mitchell and Partners, P.O. Box 187, Wellington, N.Z. 8092

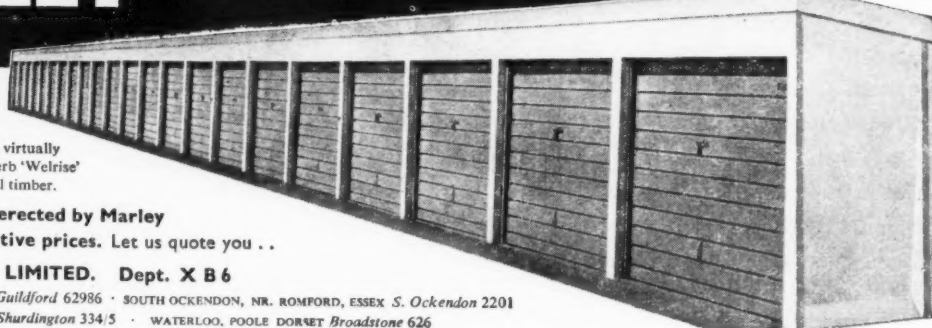
MARLEY MULTIPLE CONCRETE GARAGES

Of unsurpassed appearance and spacious dimensions, these fire-proof, rot-proof garages are virtually maintenance free. Choice of superb 'Welrise' up-and-over doors or traditional timber.

Supplied, delivered and erected by Marley experts at very competitive prices. Let us quote you . .

MARLEY CONCRETE LIMITED. Dept. X B 6

PEASMARSH, GUILDFORD, SURREY Guildford 62986 · SOUTH OCKENDON, NR. ROMFORD, ESSEX S. Ockendon 2201
SHURDINGTON, NR. CHELTENHAM Shurdington 334/5 · WATERLOO, POOLE DORSET Broadstone 626



SENIOR AND JUNIOR ARCHITECTURAL ASSISTANTS required for work in connection with the design of new building techniques. Apply A. M. Gear, F.R.I.B.A., 12, Manchester Square, W.1. HUNTER 0331. 8118

Architectural Appointments Wanted
4 lines or under, 9s. 6d.; each individual line, 2s. 6d.
Box Number, including forwarding replies, 2s. extra.

A. R.I.B.A., 32, five years' responsible and varied experience in same office, seeks progressive position. Car owner. Box 8086.

S EVEN per cent. prevents one of the Top Twelve confirming previous offer to disappointed young Architect. Are any of the remaining Eleven interested in his services? Box 8080.

A. R.I.B.A., fully experienced industrial and commercial work, seeks responsible post with prospects. Private practice or company in North East. Salary £1,400-£1,500. Box 8079.

Other Appointments Vacant

4 lines or under, 9s. 6d.; each individual line, 2s. 6d.
Box Number, including forwarding replies, 2s. extra.

BUCKINGHAMSHIRE firm of Architects, with Quantity Surveying branch, require **JUNIOR ASSISTANT**, for taking off and working up. Salary according to age and experience.—Write Box 7769.

QUANTITY SURVEYOR required for construction department of prominent Retail Company on Merseyside. Must be fully experienced in abstracting and taking off quantities for large commercial buildings. Permanent appointment offering scope for advancement. Good commencing salary. Staff Life Assurance and Pension Scheme. Five-day week. Apply giving age and complete details of qualifications and experience to Box 8122.

CHARTERED QUANTITY SURVEYOR, minimum six years' experience, required for the quantity surveying section of a Midland firm of Architects. Assistance with housing can be given if desired. Box 8083.

QUANTITY SURVEYING section of a Midland firm of Architects require a **QUANTITY SURVEYOR** (not necessarily qualified) experienced in the settlement of final accounts. Assistance with housing can be given if desired. Box 8084.

THE NORTH EASTERN ELECTRICITY BOARD

APPLICATIONS are invited for the appointment of a **SENIOR DRAUGHTSMAN**, Chief Engineer's Department, Carlisle House, Newcastle upon Tyne. Applicants should be experienced in site surveying and design and preparation of detailed drawings of buildings with reinforced concrete foundations for subsiation installations up to 66 kV.

Salary: Schedule D, Grade 4—£895/£995 and conditions of service in accordance with National Joint Board Agreement.

Applications stating age, qualifications and experience to be received by the Assistant Secretary (Establishments), The North Eastern Electricity Board, G.P.O. Box No. 117, Carlisle House, Newcastle upon Tyne, within ten days of the appearance of this advertisement. 8106

QUANTITY SURVEYING ASSISTANTS required by Air Ministry Works Directorate in London and Provinces. Grade and commencing salary based on not less than 3 or 5 years' previous experience under Quantity Surveyor or Building Contractor. Approved full time study will count towards five years period. Normally technical qualifications in Builders quantities or Building, e.g. C & G. Final or O.N.C. or proof to equivalent standard. Duties include abstracting and billing, site measurement and preparation of estimates. Salary range £545 at age 25 to £870 London rate starting pay dependent on age, qualifications and experience. Salaries somewhat lower in Provinces. Pensionable and promotion prospects. Five-day week, three weeks' leave a year. Appointments carry liability for service anywhere U.K. or overseas. Applicants normally should be natural born British subjects. Write stating age, qualifications and previous appointments including type of work done, to Manager, Professional and Executive Register, M.I.N.S., 1-5, Tavistock Square, W.C.1. quoting reference PE105/745. No original testimonials should be sent. Only applicants selected for interview will be advised. 7995

GOOD salary and prospects offered to keen man with drawing office experience for detail design and site supervision of prefabricated structures, U.K. and abroad. Write in first instance to Staff Architect, Mod-X Structures Ltd., 20, Lowndes Street, S.W.1. BELGRAVIA 3266. 8121

ARCHITECTURAL REPRESENTATIVE required by leading firm of Specialist Sub-contractors. Good salary, commission, expenses, and non-contributory pension scheme.—Apply with full details, in confidence, to Box 8052.

JOINERY DRAUGHTSMAN required for office in West London area of large Joinery Manufacturers. Experienced in preparing orders and working details from customers' particulars. The position, offered to a man with experience and ability, is permanent, progressive and pensionable. Reply stating age, giving details of experience and salary required to Box 8062.

BUILDING SURVEYOR. Nationally known Company with Headquarters in Liverpool requires a **BUILDING SURVEYOR** conversant with all classes of construction and interior finishes to commercial buildings and shops. Must be competent to supervise erection of new structures and maintenance work to the above types of buildings. The successful applicant will be required, in the course of his duties, to visit Sites throughout the country, being away from home two to three nights per week. Five-day week. Good salary and expenses. Life Assurance and Pension Scheme. Full details of present and past positions and age to Box 8123.

Services Offered

4 lines or under, 9s. 6d.; each additional line, 2s. 6d.
Box Number, including forwarding replies, 2s. extra.

"DON" ARCHITECTURAL MODEL MAKERS. We offer the highest grade work with speed and reliability.—Please 'phone Erith 3843 or Hastings 1366. 1673

SITE Surveys and Surveys of Buildings prepared at short notice anywhere in Britain. MUSEUM 8753. 3103

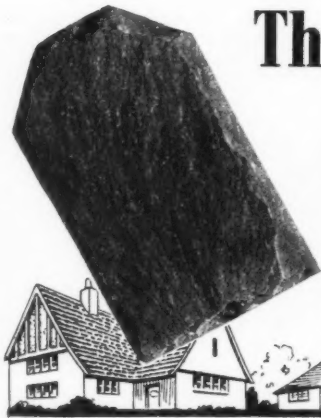
ARCHITECTURAL, Reinforced Concrete and Steel design and detailing work required. Over 30 Assistants available. MUS. 8753. 5145

SMALL London Architectural Practice can undertake further work and help out others more fortunate.—Reply to Box 7908.

COMPETENT ARCHITECT, frenzied by superiors, seeks to regain sanity through free-lance postal work for Architects. All aspects drawings/specs. enjoyed. Box 8087.

The World's best Roofing Slates

For whatever type of edifice they are specified, whether cottage or mansion, church or town hall, factory or commercial premises, the charming old-world texture and colourings of Broughton Moor Westmorland Green Slates will add distinction and beauty to its appearance. Ruggedly surfaced and possessed of rock-hard endurance they will give the best of service for centuries without periodical maintenance. Prices and samples of our Light Sea Green, Olive Green and Mixed Shades gladly supplied, for immediate delivery from stock.



The Broughton Moor GREEN SLATE QUARRIES Ltd.

CONISTON · Lancashire.

Telephone: CONISTON 225/6.

THE ACME FLOORING & PAVING COMPANY (1904) LTD

ESTABLISHED 1864

River Road - Barking - Essex

THE COMPANY WILL GLADLY SEND

on request their latest

TECHNICAL BROCHURE

on IMMOVABLE-ACME HARDWOOD FLOORS for Public Buildings, Offices etc.,
and ACME PAVING for heavy duty factory floors.

Telephone: RIPPleway 2771 (7 lines)

Telegrams: Dowelled-Easphone-London

BILLS OF QUANTITIES, Specifications, Schedules, etc., typed and duplicated. Quality and accuracy guaranteed. Speedy and economical service. Prompt despatch by registered post.—Josephine Sammons, 52, Brunswick Road, Hove, Sussex. Tel.: Hove 70051. 7791

GOOD LETTERING is essential for Commemorative Wall Tablets, Foundation Stones, etc. Designs prepared and estimates given for the finished work in any suitable material. Renowned as a Centre for Lettering since 1934.—Sculptured Memorials, 67, Ebury Street, S.W.1. 9170

SMALL Architect's office in Home Counties, experiencing temporary lull due to credit squeeze, offers services to other Architects on any or all stages of projects.—Box 8024.

THE SITE SURVEY COMPANY, Blackheath, S.E.3. Tel.: LEE Green 7444-5. Fully equipped to undertake urgent Engineering and Architectural surveys in any part of the country and abroad. Specialists in 4 in. scale detailed surveys for extensive city development areas. 1390

NAMEPLATES AND SIGNS, Bronze, Brass, Plastics, Rubber Stamps. Austin Luce & Co., 19, College Road, Harrow, Middx. Harrow 3839. Estimates and sketches free. 7603

NAMEPLATES, PLAQUES, CRESTS, etc., in bronze, brass, and plastic; quotations and lay-outs submitted.—Abbey Craftsmen, Ltd., Abbey Works, 109a, Old Street, London, E.C.1. CLE. 3845. 4165

F.R.I.B.A. (40), well qualified with London financial restrictions offers services to other Architects in their offices or in own. 15s. per hour. Box 8071.

NORWICH, King's Lynn and 20 miles radius. Freelance ARCHITECTURAL ASSISTANT, 14 years' varied experience, offers services to Architects requiring intermittent help. Brough, East Bilney, Dereham, Norfolk. 8063

For Sale and Wanted

4 lines or under, 9s. 6d.; each additional line, 2s. 6d. Box Number, including forwarding replies, 2s. extra.

MOTOR CAR TURN-TABLE—Avoids reversing, indispensable in limited spaces. Write for terms.—Oscar Chess, Limited. Port Talbot, Glam. 8022

"ARCHLIGHT" Wall Type Photo Copier with 32 in. Developing Machine, perfect working condition. A. E. A. Prowling Ltd., 127, High Street, Ruislip. 8108

Partnership and Financial

4 lines or under, 9s. 6d.; each additional line, 2s. 6d. Box Number, including forwarding replies, 2s. extra.

ASSOCIATE, M.A.(Cantab.), Dip.Arch(Oxf.), with five years' varied experience in private practice as chief assistant, is looking for a partnership in an established practice with contemporary outlook. Good sailing district preferred. Capital available. Box 8109.

ARCHITECT, 44, with wide experience at home and overseas, seeks appointment in country practice leading to early partnership. Box 8085.

Miscellaneous

4 lines or under, 9s. 6d.; each additional line, 2s. 6d. Box Number, including forwarding replies, 2s. extra.

A. J. BINNS, LTD., Specialists in the supply and fixing of all types of Fencing, Gates and Cloakroom Equipment.—Harvest Works, 96/107, St. Paul's Road, N.1. Canonbury 2061.

ARCHITECTURAL METALWORK of all types supplied and fitted. Gates, doors, balustrades, staircases, steel structures. Design staff available.—Clayton & Bamber, Ltd., Cartersfield Road, Waltham Abbey, Essex. 5823

FULLY equipped Offices to Let, suitable for Architect commencing practice or Provincial Architect requiring office in London. Situated in Kensington area. Ground floor 300 sq. ft. First floor 170 sq. ft. Reasonable rent.—Box 8020.

RENT ACT PROBLEMS?—Parsons & Co., 13, Maplestead Road, S.W.2 offer estimates for all types property, repairs and decorations.—TUL. 3052 for immediate attention. 8021

Educational Announcements

4 lines or under, 9s. 6d.; each additional line, 2s. 6d. Box Number, including forwarding replies, 2s. extra.

R.I.B.A. and T.P.I. EXAMS—Stuart Stanley (Ex. Tutor Sch. of Arch., Lon. Univ.), and G. A. Crockett, M.A./B.A., F./F.R.I.B.A., M./A.M.T.P.I., prepare Students by correspondence, 10, Adelaide Street, Strand, W.C.2. TEM 1603/4.

R.I.B.A. Inter. and Final EXAMS. F.R.I.B.A., 115, Gower Street, W.C.1. Tel.: EUS. 3906. 1942

COURSES for all R.I.B.A. EXAMS.

Postal tuition in History, Testimonies, Design, Calculations, Materials, Construction, Structures, Hygiene, Specifications, Professional Practice, etc. Also in general educational subjects.

ELLISSCHOOL OF ARCHITECTURE

Principal: A. B. Waters, M.B.E., G.M., F.R.I.B.A.
103B OLD BROMPTON RD., LONDON, S.W.7
and at Albany House, Worcester

You are invited to write for an illustrated

(free) catalogue of

BOOKS on architecture, planning,

and kindred subjects to *The Architectural*

Press, 9-13 Queen Anne's Gate, London, S.W.1

and seal the joints with

SECOMASTIC

Buying new FURNITURE?

BE SURE YOU VISIT THE

FURNITURE

EARL'S COURT JAN. 22-FEB. 1
TRADE PREVIEW JAN. 20-21 EXHIBITION

BROAD-ACHESON

BLOCKS for

unvarying quality

ALL PRODUCTION UNDER
LABORATORY CONTROL

BROAD & CO. LTD., PADDINGTON, W.2

Sound Second Hand STOCK BRICKS

We have regular supplies of these very versatile Bricks now accumulating on our demolition sites. All Bricks are cleaned ready for re-use and are graded into two categories. Grade 1: Suitable for face work. Grade 2: Suitable for footings and Garden walls. Prices: Approximately half the cost of new Bricks. Kindly write or telephone your enquiries.

JEFF ELBUR LTD.

129 STEPNEY GREEN, LONDON, E.1 STE 3674
After business hours Radlett 5667

You can depend on

Cementone

Manufactured only by
JOSEPH FREEMAN SONS & CO. LTD.



**TAYLOR'S
SHUTTERS**

STEEL, WOOD & ALUMINIUM
RAPID DELIVERY AT COMPETITIVE PRICES

JANUS WORKS
SYSTEM, LEICESTER
TEL: SYSTEM 86133

have you seen the new fluted

faience?

For further details and general
information on Faience please
write to—

by **HATHERNWARE**

THE TOUGHEST FAIENCE MADE

Hathernware Ltd., Loughborough, Leics. Tel: Hathern 273.

FIRST FOLD HERE

AJ enquiry service

If you require catalogues and further information on building products and services referred to in the advertisements appearing in this issue of the Architects' Journal please mark with a tick the relevant names given in the index to advertisers overleaf. Then detach this page, write in block letters, or type, your name, profession or trade and address in the space overleaf, fold the page so that the post-paid address is on the outside and despatch. We will ensure that your request reaches the advertisers concerned.

Postage
will be paid
by
Licensee

FOLD HERE

No Postage Stamp
necessary
if posted
in Great Britain or
Northern Ireland

BUSINESS REPLY FOLDER
Licence No. S.W. 1761

THE ARCHITECTS' JOURNAL

9-13 Queen Anne's Gate

London, S.W.1.

FOLD HERE

TUCK IN THIS END

Alphabetical index to advertisers

	PAGE	CODE
Aeae Flooring & Paving Co. (1904), Ltd.	113	0004
Air Control Installations, Ltd.	103	0013
Aird Stewart, Ltd.	109	0804
Aircrow Co. & Hewood, Ltd.	69	0014
Alexandria Trading Corporation, Ltd.	97	0237
Ames Crosta Mills & Co., Ltd.	100	0019
Anderson, D. & Son, Ltd.	34	0021
Antiference Installations	105	0667
Architects' Benevolent Society	102	—
Architectural Press, Ltd. 72, 94, 102, 108	108	0686
Armstrong Cork Co., Ltd.	78	0027
Austins of East Ham, Ltd.	64	0895
Automatic Pressings, Ltd.	98	0037

Bakelite, Ltd.	30, 31, 32, 33	0041
Batley, Ernest, Ltd.	109	0045
Benjamin Electric Co., Ltd.	54	0055
Blakey Cabinet & Metal Works Co., Ltd.	100	0744
Bottogas, Ltd.	104	0861
Bow Slate & Enamel Co., Ltd.	36	0075
Braby, Frederick, & Co., Ltd.	77	0077
Brady, G. & Co., Ltd.	40	0079
Briggs, William, & Sons, Ltd.	106	0082
Brightside Heating & Engineering Co., Ltd.	3	0083
British Furniture Mfrs.	114	0874
British Geon Limited	4	0617
Broad & Co., Ltd.	99, 114	0784
Broughton Moor Green Slate Quarries, Ltd.	113	0111

C.T.C. Heat (London), Ltd.	28	0169
Canadian Government, The	63	0119
Cape Building Products, Ltd.	52	0120
Carlisle Plaster & Cement Co.	88	0121
Cement Marketing Co., Ltd.	53	0128
Chase Products (Engineering), Ltd.	109	0131
Cloughton Bros., Ltd.	103	0138
Coburn Engineers, Ltd.	58	0107
Compactom, Ltd.	97	0147
Concrete, Ltd.	85	0148
Conex-Terna, Ltd.	104	0151
Copperad, Ltd.	37	0153
Coughtrie, J. & G., Ltd.	14	0158
Courtaulds, Ltd.	24	0713
Crompton Parkinson, Ltd.	70	0168
Cygnat Joinery Ltd.	93	0171

Demolition & Construction Co., Ltd.	51	0178
Dexion, Ltd.	71	0181
Duplus Domes, Ltd.	106	0243

Econa Modern Products, Ltd.	106	0201
Elbur, Ltd., Jeff.	114	0757
Ellard Sliding Door Gears, Ltd.	90	0210
Ellis School of Architecture	114	0212
English Electric Co., Ltd.	25	0215
English Joinery Mfrs. Assoc. (Inc.)	107	0681
Engravers Guild, The	98	—
Evode, Ltd.	5	0218

Freeman, J., Sons & Co., Ltd.	114	0244
Gas Council, The	66	0250
Gent & Co., Ltd.	11	0254
Greenwood's & Airvac Ventilating Co., Ltd.	35, 62	0260
Greenwood, George, & Sons, Ltd.	74	0896
Gyproe Products, Ltd.	16	0262

Hallam, Vic. Ltd.	91	0704
Hammill Brick Co.	63	0897
Harris & Sheldon, Ltd.	83	0275
Hatherware, Ltd.	114	0279
Harvey, G. A., & Co. (London), Ltd.	99	0276
Hermesal Acoustics, Ltd.	9	0089
Higgs & Hill, Ltd.	19	0287
Hobbs, Hart & Co., Ltd.	117	0294
Hope, Henry, & Sons, Ltd.	82	0302

Ibstock Brick & Tile Co., Ltd.	17	0305
-------------------------------------	----	------

James, W., & Co., Ltd.	106	0319
Jenson & Nicholson, Ltd.	10	0321

Kay, William (Bolton), Ltd.	28	0324
Kenrick, Archibald, & Sons, Ltd.	109	0042
Key Engineering Co., Ltd.	22, 23	0326
Kingston (Architectural Craftsmen) Ltd.	27	0330

Lamont, James H., & Co., Ltd.	72	0334
Le Bas Tube Co., Ltd.	105	0338
Lever, James, & Sons, Ltd.	102	0343
Lewis, G. W., Tileries, Ltd.	96	0637
Lignacite (N.E.), Ltd.	46	0345
Limmer & Trinidad Lake Asphalt Co., Ltd.	50	0347
Lindsay's Paddington Ironworks, Ltd.	109	0348
London Electric Firm Ltd.	57	0354
Luxfer, Ltd.	87	0357

Macandrews & Forbes, Ltd.	117	0359
Maclean & Co. (Metal Windows), Ltd.	12	0809
Mallinson Bros., Ltd.	84	0367
Marley Concrete, Ltd.	112	0370
Mason, Joseph, & Co., Ltd.	39	0373
Mather & Platt, Ltd.	2	0374
Medway Building & Supplies, Ltd.	29	0377
Midland Electric Manufacturing Co., Ltd.	41	0386
Mills Scaffold Co., Ltd.	118	0388
Modular Concrete Co., Ltd.	15	0761
Monk, A., & Co., Ltd.	43	0394
Morris de Leval, Ltd.	76	0840

National Federation of Clay Industries, The	79	0105
Neuchatel Asphalte Co., Ltd.	55	0108
Norlond Service	109	0670
North British Plastics, Ltd.	26	0415
North British Rubber Co., Ltd.	47	0779

Paramount Asphalte, Ltd.	103	0888
Pilkington Bros., Ltd. (Glass Slates & Tiles)	89	0821

Reed, Millican & Co., Ltd.	90	0464
Rippers, Ltd.	38	0470
Robertson, Thain, Ltd.	67, 68	0473
Ronuk, Ltd.	101	0476
Runnymede Rubber Co., Ltd.	80	0481

Secomastic, Ltd.	114	0501
Semtex, Ltd.	48, 49	0502
Sharp Bros. & Knight, Ltd.	8	0503
Sherbourne Engineering, Ltd.	56	0701
Shires & Company (London), Ltd.	86	0651
Siemens Edison Swan, Ltd.	18	0508
Silixine Paints, Ltd.	Front Cover	0511
Simplex Electric Co., Ltd.	60, 61	0512
Small & Parkes, Ltd.	98	0517
Smith & Davis, Ltd.	117	0728
Smith, Thomas, & Son, Ltd.	20	0521
Snapdeck, Ltd.	96	0898
Steel Bracketing Lathing, Ltd.	42	0673
Stott, James, Ltd.	81	0535
Sutcliffe Speakman & Co., Ltd.	44	0743

Taylor, J. (System), Ltd.	114	0542
T.P.T. Construction Products	75	0899
Teleflex Products, Ltd.	92	0544
Templewood Hawksley	101	0892
Thorn, J., & Sons, Ltd.	93	0550
Timber Development Assoc., Ltd., The	21	0554
Tretol, Ltd.	7	0558
Tubeclamps, Ltd.	91	0838

Venesta, Ltd.	13	0811
--------------------	----	------

Venus Pencil Co., Ltd., The	107	0581
Wednesbury Tube Co., Ltd.	45	0599
Whites of Hebburn (Engineers), Ltd.	59	0602
Williams & Williams, Ltd.	73	0604
Williams & Williams, Ltd.	95	0812
Wood, Edward, & Co., Ltd.	6	0607

For Appointments (Wanted or Vacant), Competitions Open, Drawings, Tracings, etc., Education, Legal Notices, Miscellaneous Property and Land Sales, see 110, 111, 112, 113, 114.

Write in block letters, or type, your name, profession and address below, and fold so that the post-paid address is on the outside.

NAME _____

PROFESSION _____

ADDRESS _____

5
8
0
5
9

8
1

4
0
3
6
11

01
02
03
01
51
08
11
12
17
28
21
08
73
35
43

42
99
44
92
50

54
58
38

11

81
99

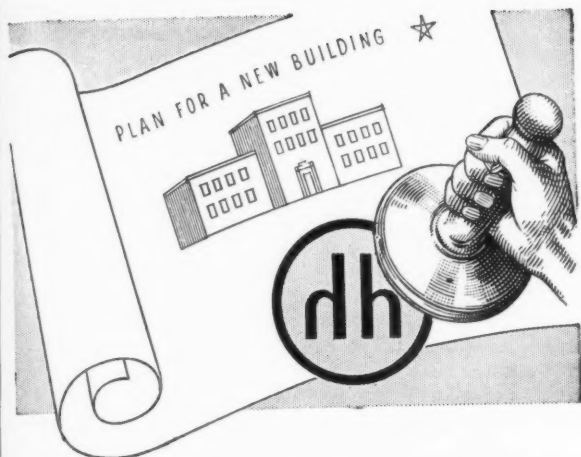
02
04
12
07



★
Give
the
of
See



HO



★
Give it
the Stamp
of Internal
Security.

In planning a new building or reconstructing an old one, the provision of locks and security fittings may be just a detail when set beside the whole undertaking. But it is a very important detail and one that calls for equipment of proved reliability. Such are the anti-burglar locks, safes, strong room doors and security devices for which Hobbs Hart are famed throughout the world. Architects may rest assured that by consulting us on all security problems they will receive the most up-to-date, specialised advice.



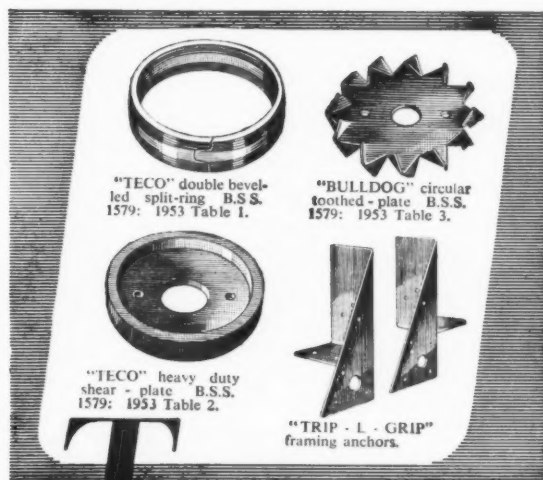
HOBBS HART
& COMPANY LIMITED

The Headquarters of Safety and Security

HOBBS HART & CO. LTD (DEPT. F), STAFFA ROAD, LONDON E10
Showrooms: 76 Cheapside, London EC2

SPECIFY

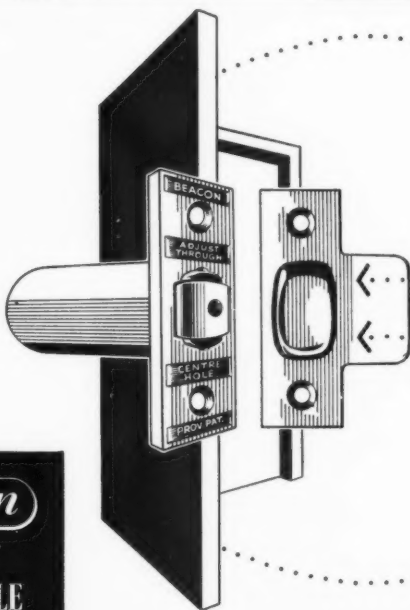
"Teco", "Bulldog" & "Trip-L-Grip" connectors for all construction in timber, and make practicable cuts in timber and hardware requirements. Fulltest data gladly furnished



**Timber
connectors by**

MACANDREWS & FORBES LIMITED,
2 CAXTON STREET, LONDON, S.W.1. Telephones: ABBey 4451-3.

This catch



can't miss

Beacon

**FRONT
ADJUSTABLE
ROLLER
CATCH**

A FRONT adjustable roller catch with the qualities of neatness and efficiency in operation. Tension of catch easily adjusted after fitting with small screwdriver through hole in centre of roller.
Zinc diecast construction and finished Florentine
Bronzed or Bright, Lacquered. Faceplate
Dimensions are 2 1/2" x 1 1/2".

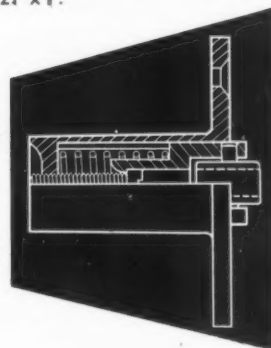
Smith and Davis Limited


1, BEACON WORKS · FRIAR PARK RD · WEDNESBURY · STAFFS

Tel: Wednesbury 0721-5

'Grams: "Beaconite" Wednesbury.

London Office:-
61/62, BROAD STREET AVENUE,
BLONFIELD ST., LONDON E.C.2.
Tel: LONDON WALL 2181
'Grams: Beaconium Ave London



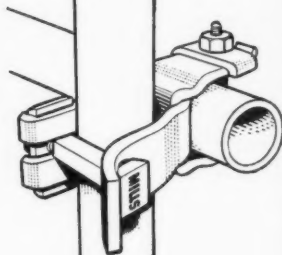


There's no limit to the support you can get from **MILLS**

Mills Scaffold Structure at the Esso Refinery, Fawley.

MILLS Steel Scaffolding

For rapid assembly, economy and sheer strength, builders all over the world use Mills Steel Scaffolding. Mills standard steel tubing has a high strength-to-weight ratio, giving firm support with maximum safety (it complies with B.S. 1139-1951). The Mills 90° Clip is simply designed to speed erection. It is fastened with a few turns of a $\frac{1}{2}$ " spanner—the only tool required for the whole range of Mills fittings. The Mills 90° Clip gives greater grip as load increases, keeping scaffolding framework rigid and completely safe.



MILLS SCAFFOLD CO. LTD. *A subsidiary of Guest, Keen & Nettlefolds, Ltd.*
Head Office: Trussley Works, Hammersmith Grove, London W.6 (Riverside 3011)
Depots: BIRMINGHAM • BOURNEMOUTH • BRADFORD • BRIGHTON • BRISTOL
CANTERBURY • CARDIFF • COVENTRY • CROYDON • HASTINGS • HULL • ILFORD
LIVERPOOL • LONDON • MANCHESTER • MIDDLESBROUGH • NEWCASTLE • PLYMOUTH
PORTSMOUTH • PRESTON • READING • SHEFFIELD • SOUTHAMPTON • SWANSEA

