THE ARCHITECTS' JOURNAL

standard contents

every issue does not necessarily contain all these contents, but they are the regular features which continually recur

No. 3313] [Vol. 128

THE ARCHITECTURAL PRESS

11 and 13, Queen Anne's Gate, Westminster, S.W.1. *'Phone: Whitehall 0611*

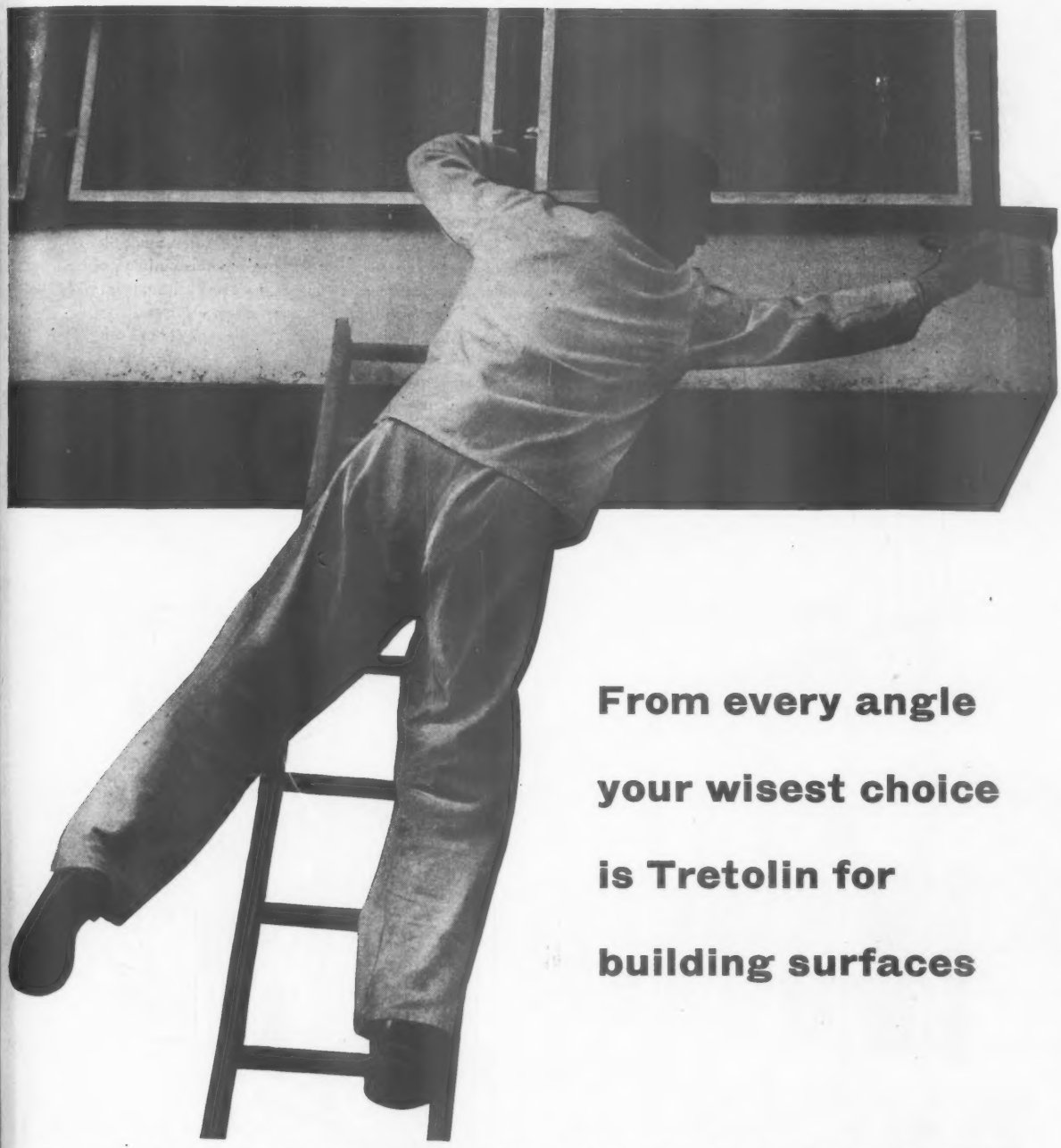
Price 1s. 0d.

Registered as a Newspaper.

★ A glossary of abbreviations of Government Departments and Societies and Committees of all kinds, together with their full address and telephone numbers. The glossary is published in two parts—A to Ig one week, Ih to Z the next. In all cases where the town is not mentioned the word LONDON is implicit in the address.

AA	Architectural Association, 34/6, Bedford Square, W.C.1.	Museum 0974
AAI	Association of Art Institutions. Secy.: W. L. Stevenson, College of Art, Hope Street, Liverpool 1.	Royal 1826
ABS	Architects' Benevolent Society. 66, Portland Place, W.1.	Langham 5533
ABT	Association of Building Technicians. 1, Ashley Place, S.W.1.	Victoria 0447-8
ACGB	Arts Council of Great Britain. 4, St. James's Square, S.W.1.	Whitehall 9737
ADA	Aluminium Development Association. 33, Grosvenor Street, W.1.	Mayfair 7501/8
ARCUK	Architects' Registration Council. 68, Portland Place, W.1.	Langham 5861
BAE	Board of Architectural Education. 66, Portland Place, W.1.	Langham 5721
BC	Building Centre. 26, Store Street, Tottenham Court Road, W.C.1.	Museum 5400
BCC	British Colour Council. 13, Portman Square, W.1.	Welbeck 4185
BCCF	British Cast Concrete Federation. 105, Uxbridge Road, Ealing, W.5.	Ealing 9621
BCIRA	British Cast Iron Research Association. Alvechurch, Birmingham.	Redditch 716
BDA	British Door Association. 10, The Boltons, S.W.10.	Fremantle 8494
BEDA	British Electrical Development Association. 2, Savoy Hill, W.C.2.	Temple Bar 9434
BIA	British Ironfounders' Association. 145, Vincent Street, Glasgow, C.2.	Glasgow Central 2891
BID	Building Industries Distributors. 52, High Holborn, W.C.1.	Chancery 7772
BINC	Building Industries National Council. 11, Weymouth Street, W.1.	Langham 2785
BOT	Board of Trade. Whitehall Gardens, Horseguards Avenue, Whitehall, S.W.1.	Trafalgar 8855
BRS	Building Research Station. Bucknalls Lane, Watford.	Garston 4040
BSA	Building Societies Association. 14, Park Street, W.1.	Mayfair 0515
BSI	British Standards Institution. British Standards House, 2, Park St., W.1.	Mayfair 9000
BTE	Building Trades Exhibition. 32, Millbank, S.W.1.	Tate Gallery 8134
CABAS	City and Borough Architects Society. C/o S. A. G. Cook, A.R.I.B.A., Borough Architect and Director of Housing, Town Hall, High Holborn, W.C.1.	Holborn 3411
CAS	County Architects' Society. C/o S. Vincent Goodman, F.R.I.B.A., Shire Hall, Bedford.	Bedford 67444
CCA	Cement and Concrete Association. 52, Grosvenor Gardens, S.W.1.	Belgravia 666[illegible]
CCP	Council for Codes of Practice. Lambeth Bridge House, S.E.1.	Reliance 7611 Ext. 1284
CDA	Copper Development Association. 55, South Audley Street, W.1.	Grosvenor 8811
CIAM	Congrès Internationaux d'Architecture Moderne. Doldertal, 7, Zurich, Switzerland	
COID	Council of Industrial Design. 28, Haymarket, S.W.1.	Trafalgar 8000
CPRE	Council for the Preservation of Rural England. 4, Hobart Place, S.W.1.	Sloane 4280
CUC	Coal Utilization Council. 3, Upper Belgrave Street, S.W.1.	Sloane 9116
CVE	Council for Visual Education. 13, Suffolk Street, Haymarket, S.W.1.	Reading 72255
DGW	Directorate General of Works, Ministry of Works, Lambeth Bridge House, S.E.1.	Reliance 7611
DIA	Design and Industries Association. 13, Suffolk Street, S.W.1.	Whitehall 0540
DOT	Department of Overseas Trade. Horseguards Avenue, Whitehall, S.W.1.	Trafalgar 8855
EJMA	English Joinery Manufacturers' Association (Incorporated). Sackville House, 40, Piccadilly, W.1.	Regent 4448
EPNS	English Place-Name Society. 7, Selwyn Gardens, Cambridge.	
FAS	Faculty of Architects and Surveyors. 68, Gloucester Place, W.1.	Welbeck 9966
FASS	Federation of Associations of Specialists and Sub-Contractors, 14, Bryanston Street, W.1.	Welbeck 1781
FBBDO	Fibre Building Board Development Organization Ltd. (Fidor), 47, Princes Gate, Kensington, S.W.7.	Kensington 4577
FBI	Federation of British Industries. 21, Tothill Street, S.W.1.	Whitehall 6711
FC	Forestry Commission. 25, Savile Row, W.1.	Regent 0221
FCMI	Federation of Coated Macadam Industries. 37, Chester Square, S.W.1.	Sloane 1002
FDMA	The Flush Door Manufacturers Association Ltd. Trowell, Nottingham.	Ilkeston 623
FLD	Friends of the Lake District. Pennington House, nr. Ulverston, Lancs.	Ulverston 201
FMB	Federation of Master Builders. 33, John Street, W.C.1. Tel.: Chancery 7583 (6 lines)	
FPC	The Federation of Painting Contractors, St. Stephen's House, S.W.1.	Whitehall 3902
FRHB	Federation of Registered House Builders. 82, New Cavendish Street, W.1.	Langham 4341
GPDA	Gypsum Plasterboard Development Association. 11, Ironmonger Lane, E.C.2.	Monarch 8888
GC	Gas Council. 1, Grosvenor Place, S.W.1.	Sloane 4554
GG	Georgian Group. 2, Chester Street, S.W.1.	Belgravia 3081
HC	Housing Centre. 13, Suffolk Street, Pall Mall, S.W.1.	Whitehall 2881
IAAS	Incorporated Association of Architects and Surveyors. 29, Belgrave Square, S.W.1.	Belgravia 3755
ICA	Institute of Contemporary Arts. 17-18, Dover Street, Piccadilly, W.1.	Grosvenor 6186
ICE	Institution of Civil Engineers. 1, Great George Street, S.W.1.	Whitehall 4577
IEE	Institution of Electrical Engineers. Savoy Place, Victoria Embankment, W.C.2.	Temple Bar 7676
IES	Illuminating Engineering Society. 32, Victoria Street, S.W.1.	Abbey 5215
IGE	Institution of Gas Engineers. 17, Grosvenor Crescent, S.W.1.	Sloane 8266

TH



From every angle your wisest choice is Tretolin for building surfaces

Although versatility is claimed for many coatings, Tretolin, for the painting of *building surfaces*, really merits this description. Tretolin is not only the ideal paint for asbestos cement but is equally efficient and durable on concrete, brickwork and other surfaces.
Tretolin's performance under both interior and exterior conditions, or when exposed to chemical attack is unequalled and no sealers are required. It is available in a wide range of selected B.S.2660 colours and a series of one-coat roofing shades. Make Tretolin your first choice—it will be your wisest!

We shall be glad to send a set of Tretolin specification sheets for your files.

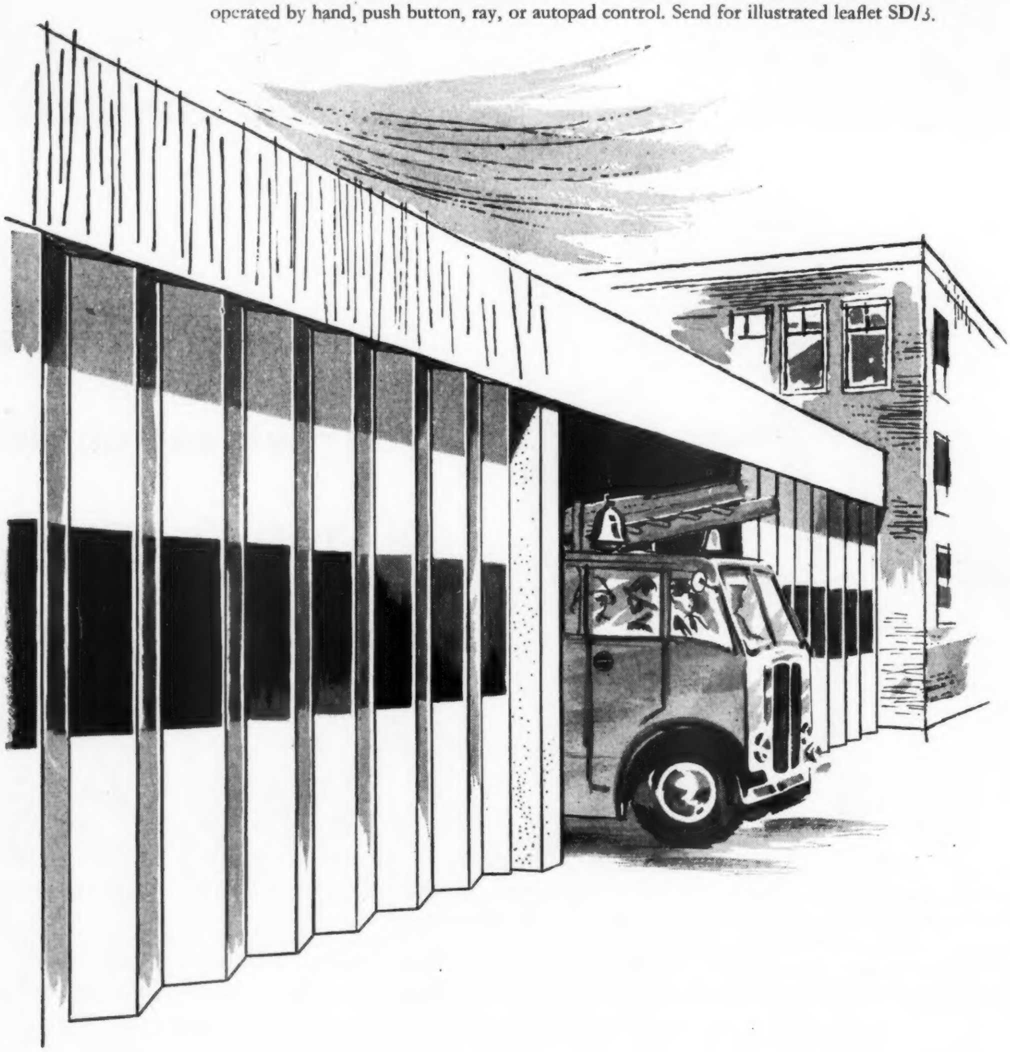
Tretolin Paint

For direct application to Asbestos-Cement, Concrete, Cement Renderings, etc.

TRETOL LTD., Makers of Paint & Building Products, THE HYDE, LONDON, N.W.9. Telephone: Colindale 7223

go on duty

The alarm sounds, the great doors slide smoothly back, and in seconds the gleaming appliances are on their way to deal with yet another outbreak of fire It is their constant, instant response to the demands made upon them, that makes Brady Sliding Shutter Doors the regular specification for fire stations, police garages, aerodromes, and all types of public, commercial and industrial buildings. Made in steel or aluminium to proved designs, their robust reliability ensures years of service. They are attractively finished with glazed vision or ventilation panels as required, and are easily operated by hand, push button, ray, or autopad control. Send for illustrated leaflet SD/3.



G. Brady & Company Limited, Manchester, 4. Telephone COLlyhurst 2797/8/9.

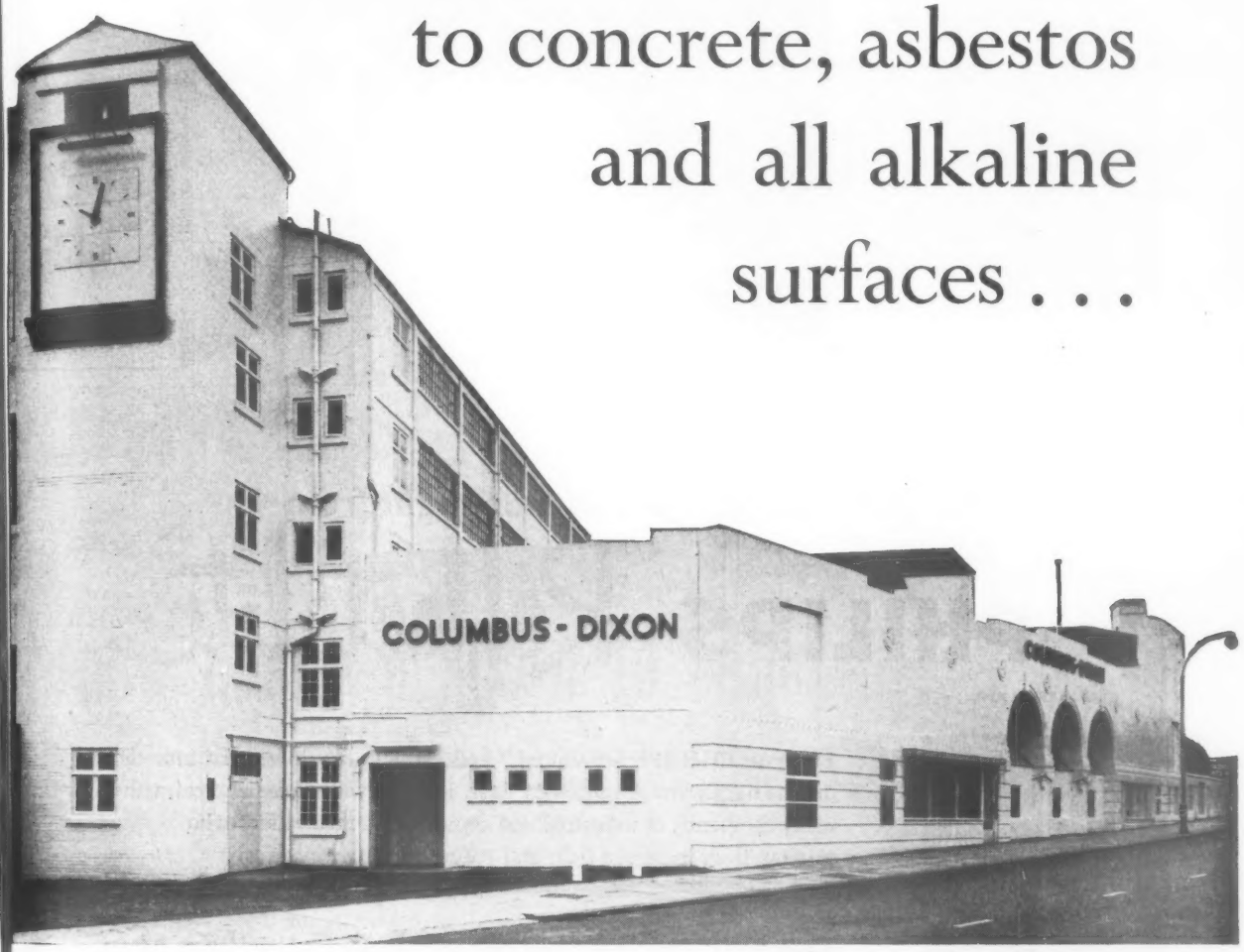
BRADY FOR EVERY OPENING: BRADY ROLLING DOORS IN STEEL, WOOD AND ALUMINIUM . SLIDING SHUTTER DOORS . GRILLES IN STEEL, ALUMINIUM OR NYLON . UP AND OVER DOORS . FIREPROOF DOORS . COLLAPSIBLE GATES . SLIDING DOOR GEAR

BRADY
SHUTTERS ROLLING DOORS

THE DOORS COMMANDING THE WORLD'S LARGEST SALE—
London, Birmingham, Glasgow, Montreal, Port Credit, Hong Kong.

Stowe & Bowden

For direct application to concrete, asbestos and all alkaline surfaces . . .



Two coats EVODYNE paint applied to unpainted brickwork and cement rendering

paint with EVODYNE

CHLORINATED RUBBER PAINTS

- *No special primer required*
- *Proof against acids, alkalis, corrosive gases and salt water*

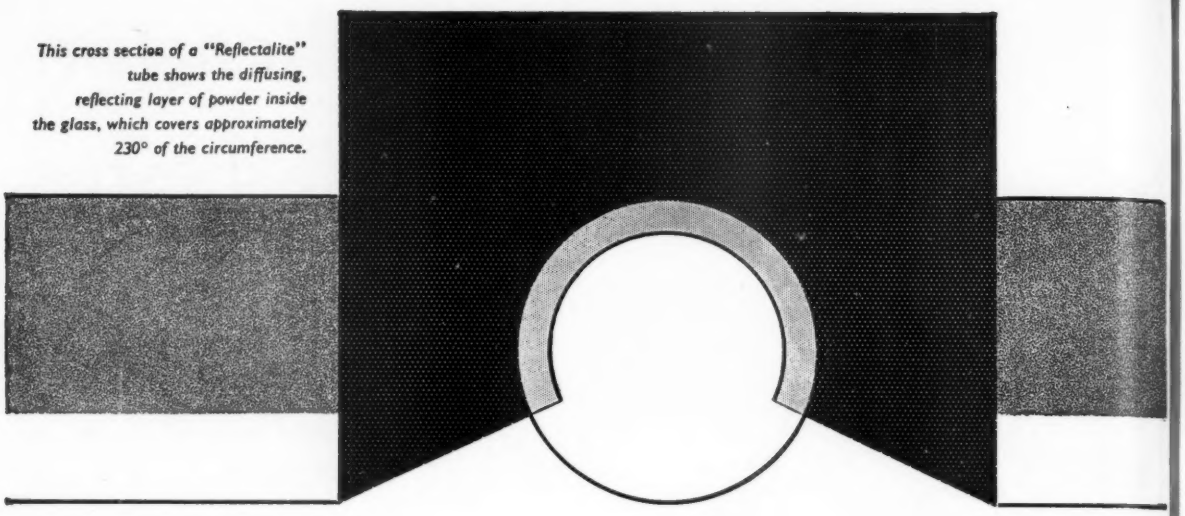
A PRODUCT OF EVODE OF STAFFORD

Manufacturers of: BITUGEL, EVOKOTE *and* EVOTECT *paints*

SEND FOR LITERATURE *EVODE LTD. (PAINTS DIVISION)* **STAFFORD.** *Telephone: 2241*

London Office: 82 VICTORIA STREET, S.W.1. *Telephone:* ABBey 4622

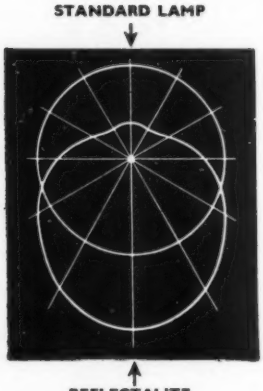
H-W.81



This cross section of a "Reflectalite" tube shows the diffusing, reflecting layer of powder inside the glass, which covers approximately 230° of the circumference.

This year you can get still more light from

PHILIPS Reflectalite



Light distribution diagram.

Last year PHILIPS introduced "Reflectalite", the fluorescent tube that defeats light wastage caused by dust. It was a widespread success with many thousands of industrial and commercial organisations who profited from increased light and reduced maintenance costs.

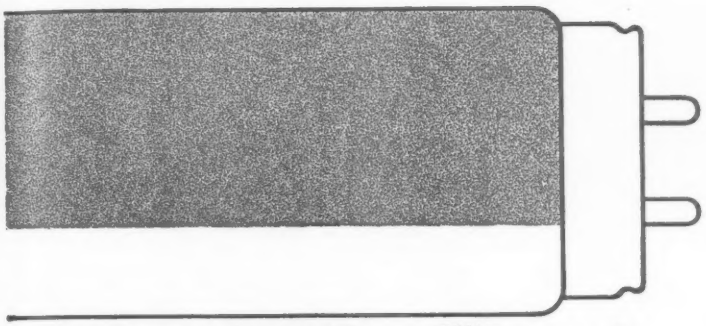
This year, the light output of "Reflectalite" has been even further increased—for example the 40W Cool White tube now has 10% greater efficiency. That means you get even more light in the useful direction.

Next time you need a tube

—fit a **PHILIPS**

PHILIPS

PHILIPS ELECTRICAL LTD · LIGHTING DIVISION · CENTURY HOUSE · SHAFTESBURY AVENUE · LONDON · W.C.2



PHILIPS Reflectalite

now has even more to offer

With ordinary fluorescent tubes, dirt and dust settling on the top and sides of the tube soon start to absorb much of the light output. "Reflectalite" defeats this light wastage with a built-in reflector. Almost two-thirds of the tube is internally coated with a special powder prior to the application of the normal fluorescent phosphor. Thus, the major part of the light output is reflected through the 130° 'window' – *where it has maximum effect.* (See diagrams.)

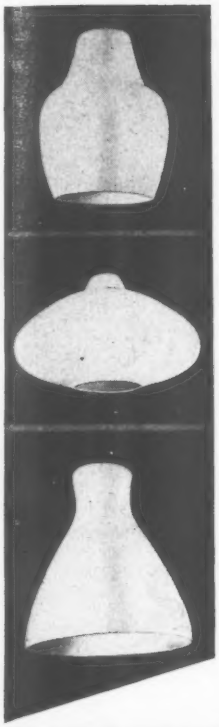
Available in Cool White. Cool White de Luxe. Warm White.	SWITCH START 4' 40w. 13/9d. plus P.T. 5' 80w. B.C. or Bi-Pin 14/9d. plus P.T. INSTANT START 1/- extra.

Reflectalite

FLUORESCENT REFLECTOR TUBE

- ✳ ***Now gives even more light in the useful direction***
- ✳ ***Cuts out light wastage through dust collection***
- ✳ ***Reduces the maintenance bill***

(LD3096)

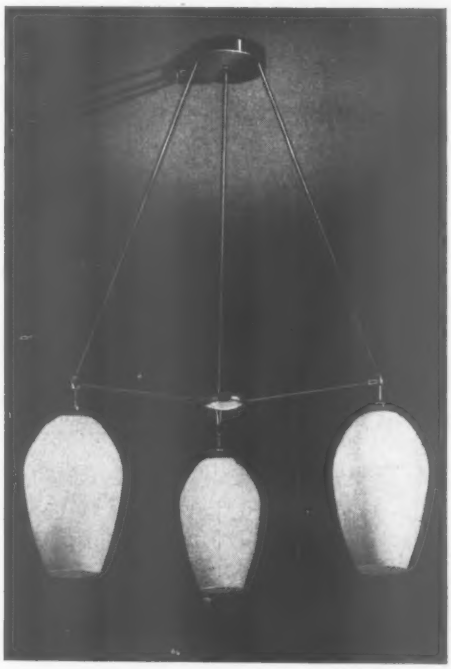


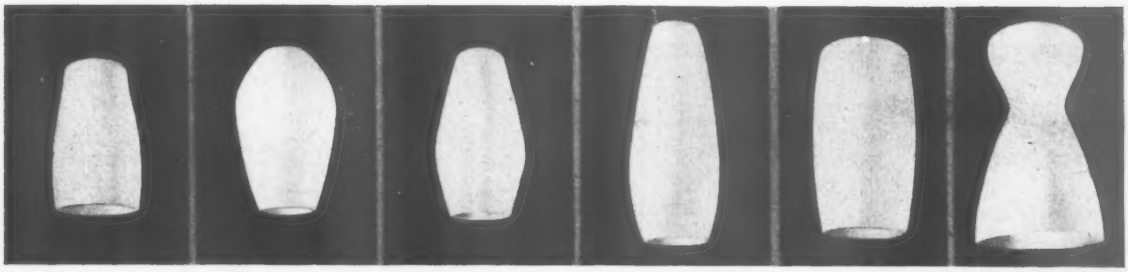
Satina

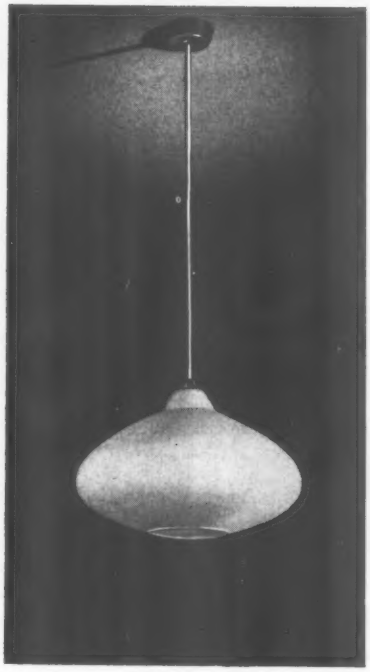
From this range the Council of Industrial Design has chosen

'THE LIGHTING DESIGN OF THE YEAR'

British Design
British Manufacture





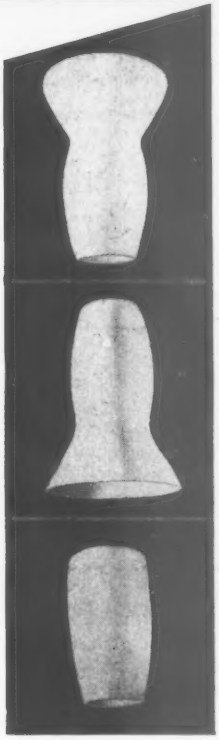


Hailwood & Ackroyd Ltd.

18 LOWNDES STREET
LONDON, S.W.1

TELEPHONE: SLOANE 0471-2

Please send for Catalogue



A

-23 HC

At Versailles

"Harefield" Rubber Flooring laid in a luxurious restaurant at Versailles

The long-wearing properties and wide choice of beautiful colours available in "Harefield" Rubber Flooring make it the unhesitating choice wherever quiet dignity and a complete integration with the interior decor are required.

In all parts of the world, the luxury and adaptability of "Harefield" Rubber Flooring are leading to its ever increasing use.

May we send you further details and sample.

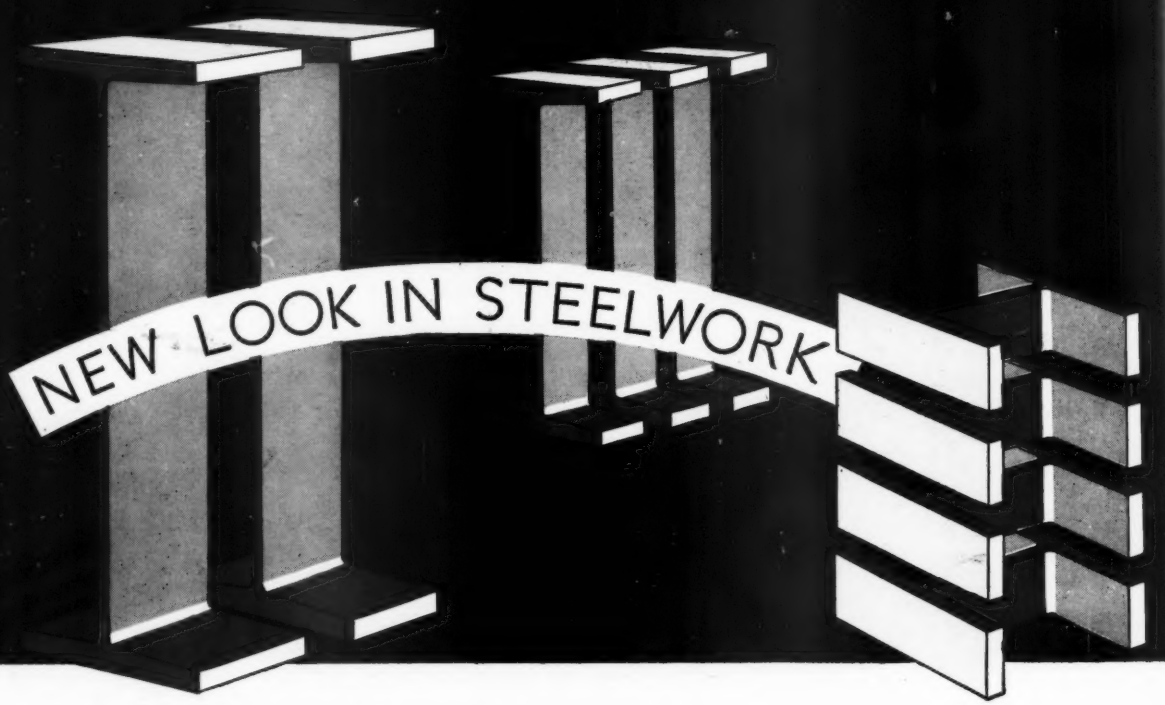
"Harefield"

RUBBER FLOORING

COVERS THE WORLD

RUBBERWARE LIMITED · CONTRACTS DEPARTMENT

23 HOLBORN · LONDON E C 1 · TELEPHONE CHAncery 7741 · HEAD OFFICE AND WORKS HAREFIELD · MIDDLESEX



'UNIVERSAL' SIMPLIFICATION

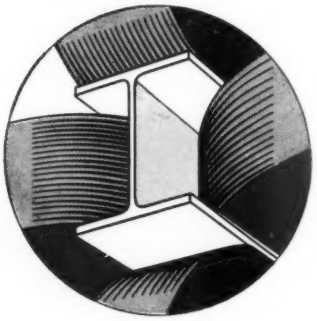
Our new Universal Beam mill is now at work rolling beam sections in a wide range never before made in this country, from 36 in. by 16½ in. down to 8 in. by 5¼ in. In planning this new range, the needs of the designer have been studied closely, and each section is available in different weights to suit the loads to be carried.

Designers are already reaping the benefit of simplification —for many of the beams are far stronger than any hitherto rolled in Europe. They can be used, direct from the mill, for bridge spans which have previously needed expensive fabrication.

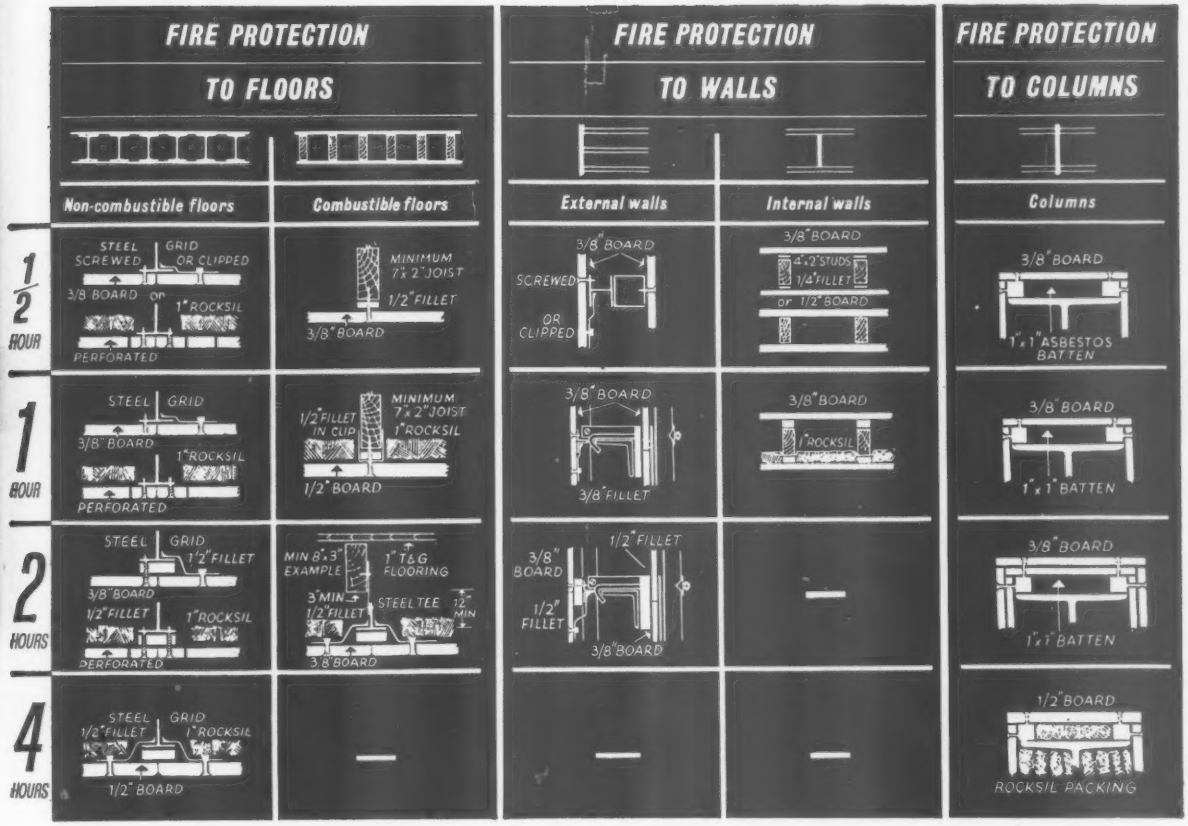
We also roll 'H' sections for columns (ranging from 6 in. by 6 in. up to 14 in. by 16 in.) in related 'families' of different weights, so that the increased column-loading at the lower storeys of tall buildings may be met by simple sections without riveted-on flange plates.

The range of British Standard beams, channels and angles continues to be available.

Diagram showing the arrangement of the rolls, which are adjustable to control the flange and web thickness. The adjustment does not appreciably alter the surfaces shown in blue in the upper illustration.



DORMAN LONG



Proven fire protection

By means of extensive full scale tests by the Joint Fire Research Organisation, Cape Building Products Limited have successfully evolved constructional details for the fire protection by Asbestolux of a wide range of structural elements. This range of details will be continually extended by further tests carried out in the course of a long term development programme.

These specifications apply only to Asbestolux and cannot directly refer to any other board material. No other sheet material has been proved to give so great a range of fire protection.

In a public demonstration firing staged by Cape Building Products on 28th May 1957, a full-size 3-bay industrial structure stood up virtually undamaged to temperatures in excess of those required by the British Standards 6-hour Fire Test. For a full account of this demonstration, write for a free copy of the 'Report and Findings.'

ASBESTOLUX

the unique asbestos insulation board

CAPE

CAPE BUILDING PRODUCTS LIMITED Cowley Bridge Works, Uxbridge, Middlesex. Tel: Uxbridge 4313
Glasgow: Eagle Buildings, 217 Bothwell Street, Glasgow, C.2. Tel: Central 2175
Manchester: Floor D, National Buildings, St. Mary's Parsonage, Manchester 3. Tel: Blackfriars 7757
Birmingham: 11 Waterloo Street, Birmingham 2. Tel: Midland 6565-6-7
Newcastle: 19 & 20 Exchange Buildings, Newcastle upon Tyne. Tel: Newcastle 20488

1A453

results have proved that

VERMICULITE

provides better thermal insulation efficiency—for no extra cost—than any other material

Roof screeds · Floor screeds · Loose fill · Plaster

Specify one of these branded A.V.E. *Vermiculites.*

ASSOCIATION OF AVE VERMICULITE EXFOLIATORS

Full technical information from

J. M. & J. Bartlett Ltd
Lombard House
Warwick Street
NEWCASTLE UPON TYNE 2

Cape Building Products Ltd
114–116 Park Street
LONDON W1
Cowley Bridge Works
UXBRIDGE Middlesex

A. R. & W. Cleaver Ltd
Advance Works
Wood Street
NORTHAMPTON

Dupre Vermiculite Ltd
39–41 New Broad Street
LONDON EC2
23b Broadwater Road
WELWYN GARDEN CITY Herts

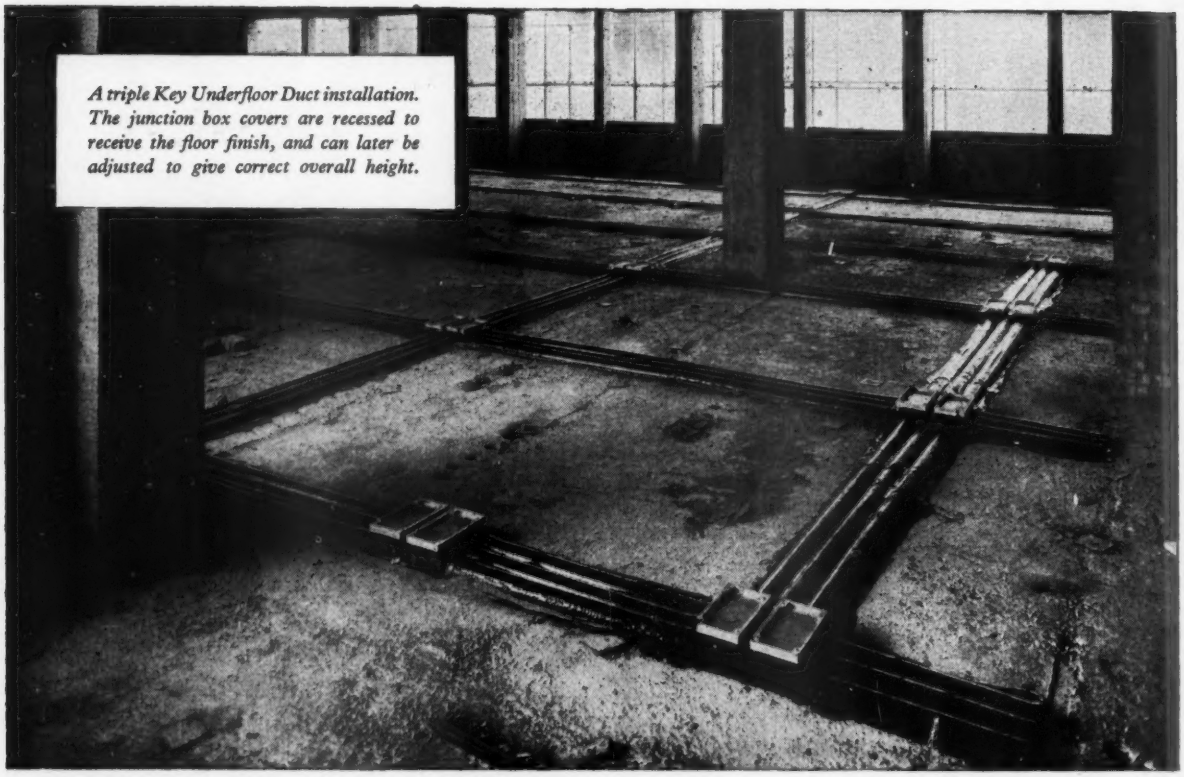
The Iron & Marble Company Ltd
33–35 Victoria Street
BRISTOL

William Kenyon & Sons (MetaMica) Ltd
DUKINFIELD Cheshire
140 West George Street GLASGOW C2
50 Bloomsbury Street
Bedford Square LONDON WC1

L. Slack & Son Ltd
Courthouse Street
Pontypridd
SOUTH WALES

Issued in the interest of better insulation by the Association of Vermiculite Exfoliators 51-55 Strand London WC2

Now and for the future—
Key Underfloor Duct
solves wiring problems economically



A triple Key Underfloor Duct installation. The junction box covers are recessed to receive the floor finish, and can later be adjusted to give correct overall height.

Electric power and telephone outlets can be installed and added as necessary when Key Fibre Underfloor Duct is used. On a materials plus labour basis the cost of installations is lower than any metal system. Because of their light weight and ease of cutting and fitting, Key ducts can be quickly laid. Since there is no necessity to pre-position outlets, the architect can install an underfloor duct scheme, and later fit outlets to suit the occupant's requirements. The fitting of these outlets is a quick and simple matter and the most complete range of fittings is available for lighting and telephone systems.

easy to lay—low cost
completely adaptable

KEY UNDERFLOOR DUCT
conforms with B.S. 815 and is the original Underfloor Duct System. Key have the widest experience of Underfloor Duct Systems in the U.K.

Speed the job—cut the cost with the

KEY UNDERFLOOR DUCT SYSTEM

ALSO KEY FIBRE CONDUIT FOR HEAVY DUTY CABLES

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

Reed

TGA UDI

Q·V·F

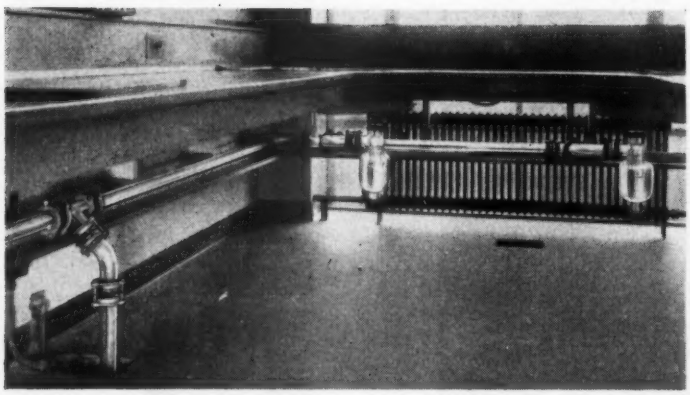
Glass Sink Traps and waste lines...

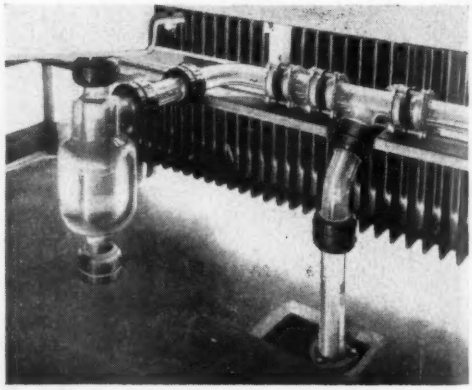
QUICKFIT Visible Flow

Q UICKLY FITTED

V ISIBLE IN OPERATION

F REE FROM CORROSION





Photographs by courtesy of Nottingham Technical College.

The Q.V.F. system of Glass Sink Traps and Waste-Lines is ideally suited for installations in chemical, Pharmaceutical and Biological Laboratories. The transparency of the system allows any build-up of solids to be instantly detected—an important point where the efficient disposal of noxious liquids is of paramount importance.

In addition, the smooth surface of the glass minimises scale formation, and will withstand thermal shock of alternate flushing with boiling and ice-cold liquids.

Full details are contained in our new Brochure ***"GLASS SINK TRAPS & WASTE-LINES".*** *Write for your copy NOW!*

Q·V·F

LIMITED

The Chemical Engineers in Glass

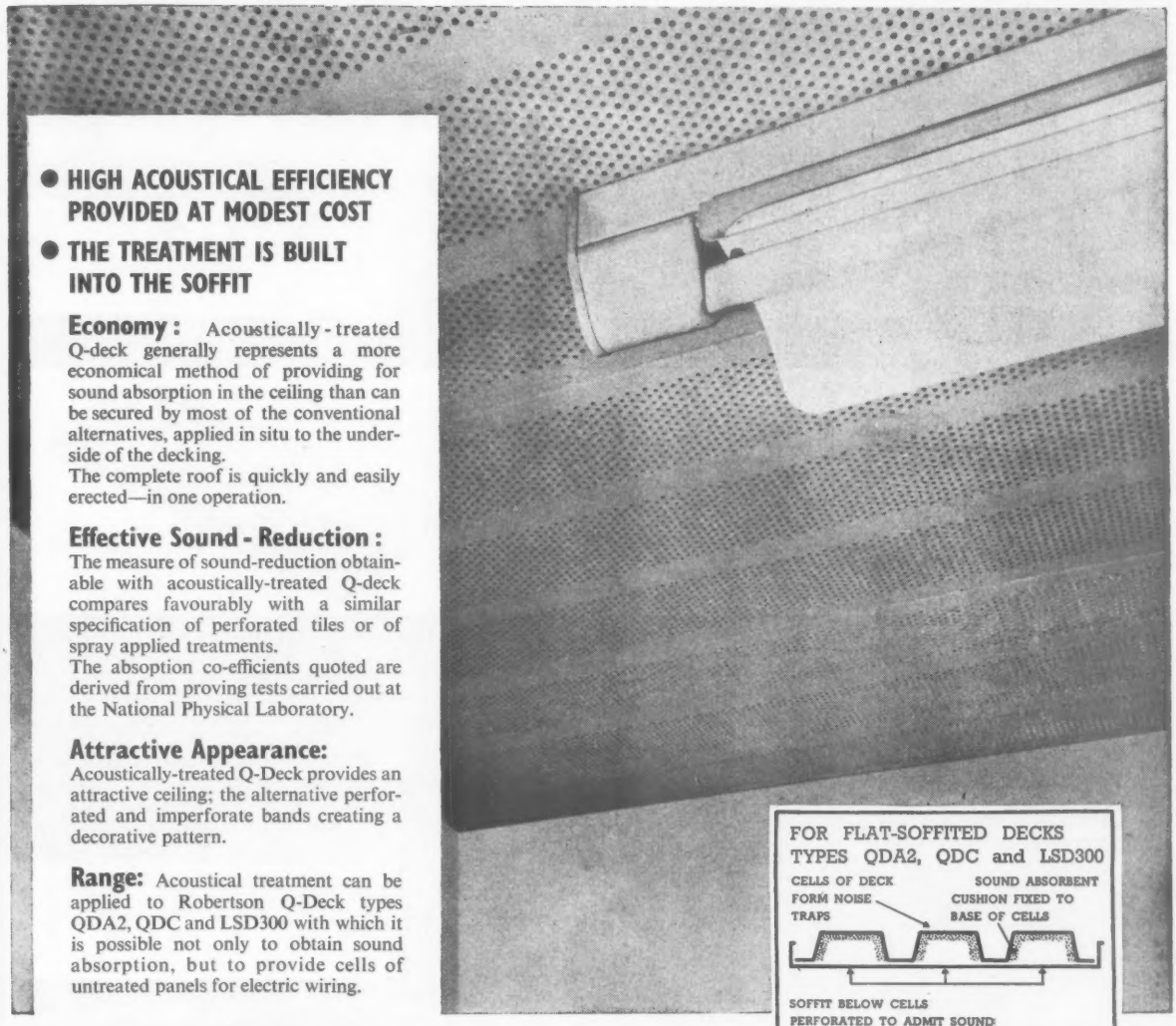
DUKE STREET · FENTON · STOKE-ON-TRENT · STAFFORDSHIRE

Tel: LONGTON, STAFFS 32104-8

Grams: 'GLASSPLANT', STAFFS

Another notable advance in Roof-Deck development

—ACOUSTICALLY-TREATED Q-DECK



- **HIGH ACOUSTICAL EFFICIENCY PROVIDED AT MODEST COST**
- **THE TREATMENT IS BUILT INTO THE SOFFIT**

Economy : Acoustically-treated Q-deck generally represents a more economical method of providing for sound absorption in the ceiling than can be secured by most of the conventional alternatives, applied in situ to the underside of the decking.
The complete roof is quickly and easily erected—in one operation.

Effective Sound-Reduction :
The measure of sound-reduction obtainable with acoustically-treated Q-deck compares favourably with a similar specification of perforated tiles or of spray applied treatments.
The absoption co-efficients quoted are derived from proving tests carried out at the National Physical Laboratory.

Attractive Appearance:
Acoustically-treated Q-Deck provides an attractive ceiling; the alternative perforated and imperforate bands creating a decorative pattern.

Range: Acoustical treatment can be applied to Robertson Q-Deck types QDA2, QDC and LSD300 with which it is possible not only to obtain sound absorption, but to provide cells of untreated panels for electric wiring.

FOR FLAT-SOFFITED DECKS
TYPES QDA2, QDC and LSD300

SECTION THROUGH METAL DECK UNIT

FREQUENCY	ABSORPTION CO-EFFICIENT
125 C.P.S	0.25
250 „	0.50
500 „	0.75
1000 „	0.70
2000 „	0.50

SEND FOR DETAILS

ROBERTSON THAIN LIMITED

ELLESMERE PORT · WIRRAL · CHESHIRE

Telephone: Ellesmere Port 3622-9 Telegrams: 'Robertroof'

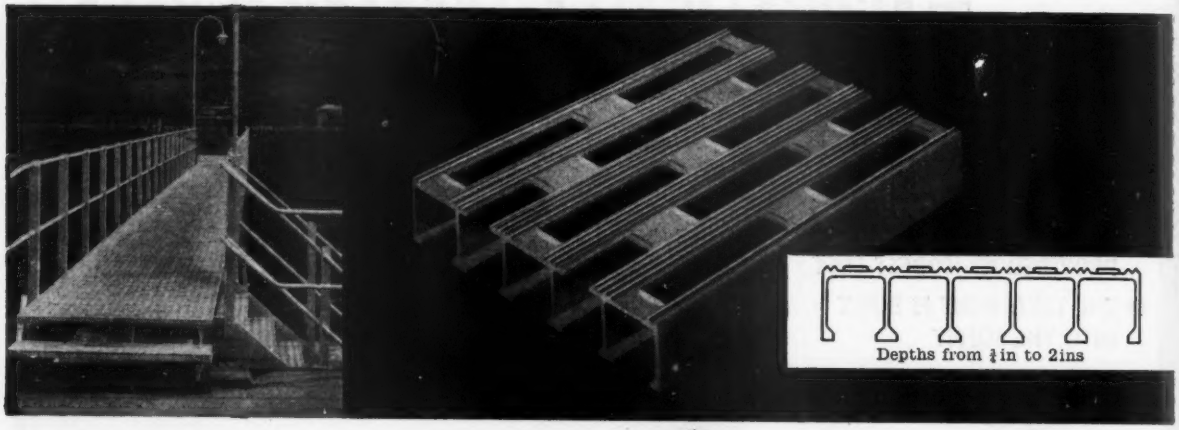
Sales Offices

BELFAST · BIRMINGHAM · CARDIFF · EXMOUTH · GLASGOW · IPSWICH · LIVERPOOL LONDON · MANCHESTER · NEWCASTLE · SHEFFIELD

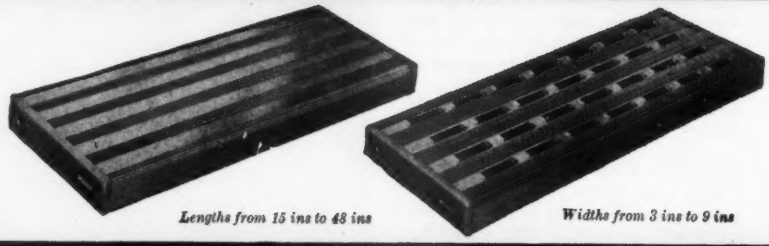
Associated Companies or Agents in most countries throughout the world

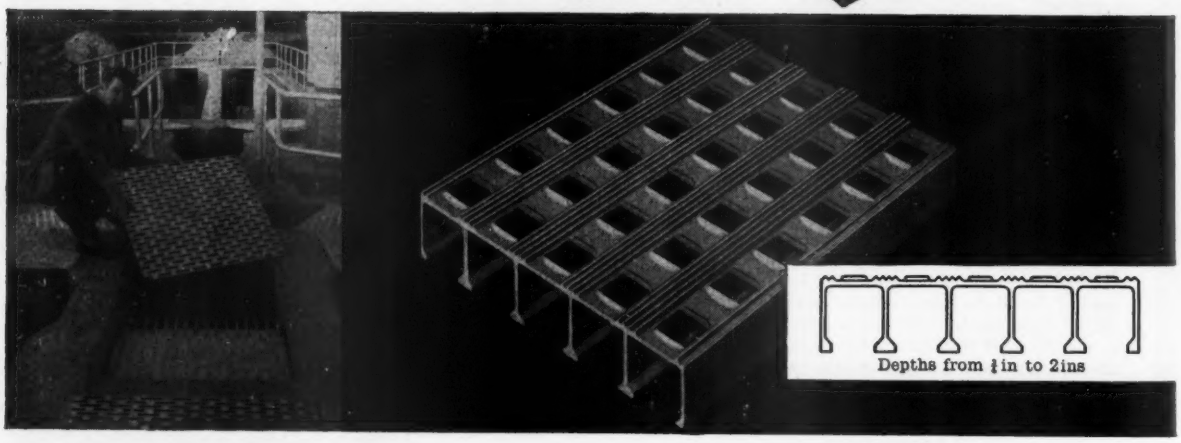
QD28

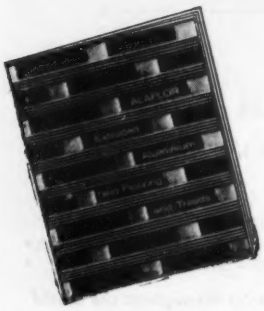
'ALAFLOR' extruded aluminium grid floorings & treads are fast becoming industries most popular floorings



'ALAFLOR' Treads Plain or Punched







it's not hard to see why

The inherent economy advantages of Alaflor have no rival:—

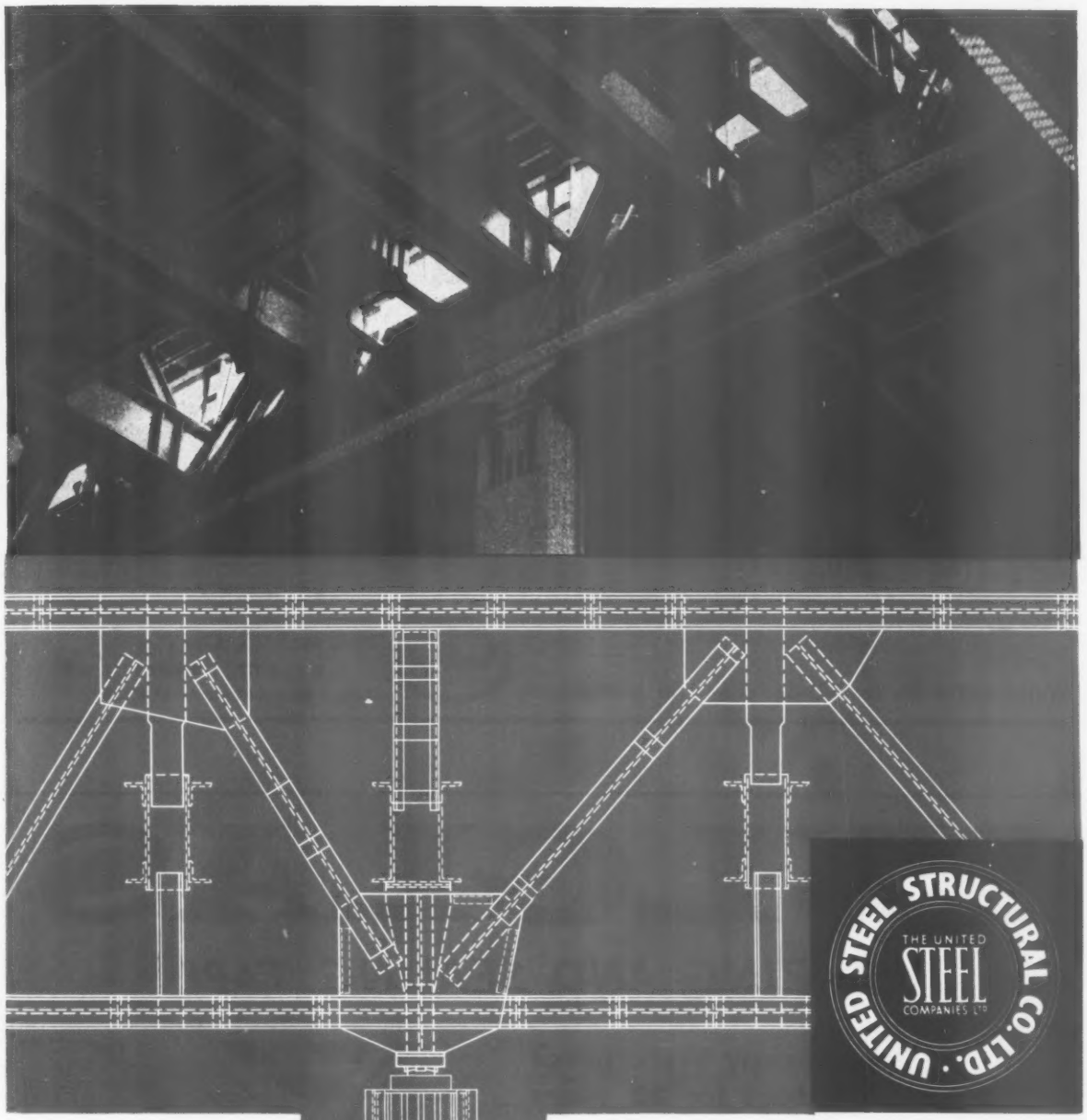
- Outstanding strength and rigidity
- Spark-resistant and non-skid
- Minimum weight, non-corrosive and no maintenance.

Write today for literature and cut overheads underfoot.

ARCHIBALD LOW & SONS LTD

HOME & OVERSEAS SALES OFFICE: 143 Sloane St., London S.W.1. Tel: Sloane 6178

HEAD OFFICE & WORKS: 82 Merkland St., Partick, Glasgow W.1.



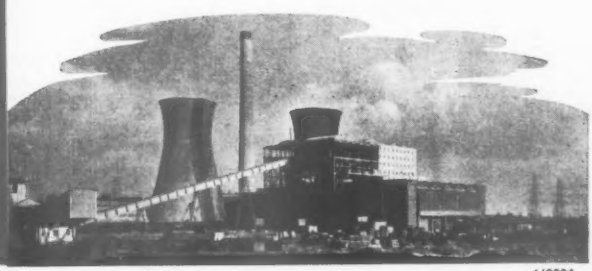
The Ferrybridge "B" boiler house roof consists of three independent arched structures each carrying the weight of one boiler suspended from it. They consist of all-welded bowstring girders mounted on rocker bearings in rivetted trusses (illustrated) freely supported 130 feet above the ground on the tops of the stanchions.

FERRYBRIDGE 'B' POWER STATION EXTENSION

built by

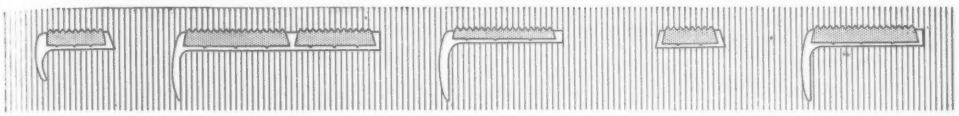
UNITED STEEL STRUCTURAL COMPANY LIMITED

SCUNTHORPE · LINCOLNSHIRE

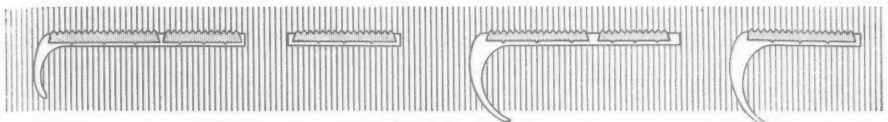


USS36

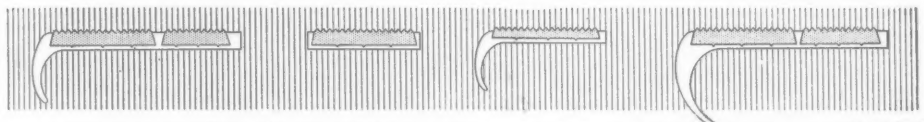
For every type of stair



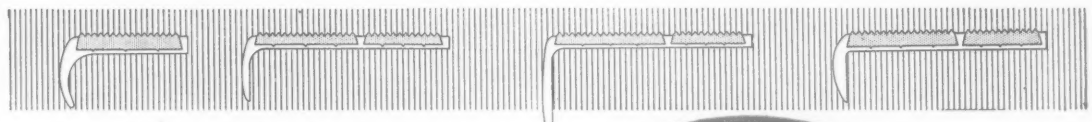
(wood metal or stone)



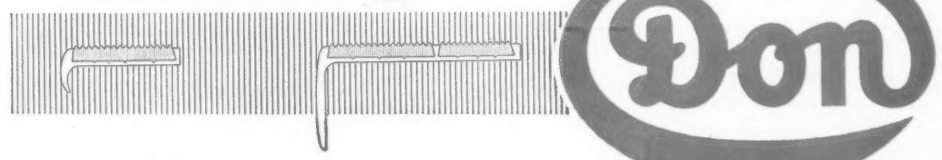
there's a DON non-slip



tread (colour or fabric-filled)



and nosing



DON

WE HAVE AN EXHIBIT AT THE BUILDING CENTRE
26 STORE STREET W.C.1

We have
PERMANENT
STAIRTREAD EXHIBITS
at
THE LONDON BUILDING CENTRE
26 Store Street, W.C.1
and
THE SCOTTISH BUILDING CENTRE
425 Sauchiehall Street,
Glasgow

STAIRTREADS

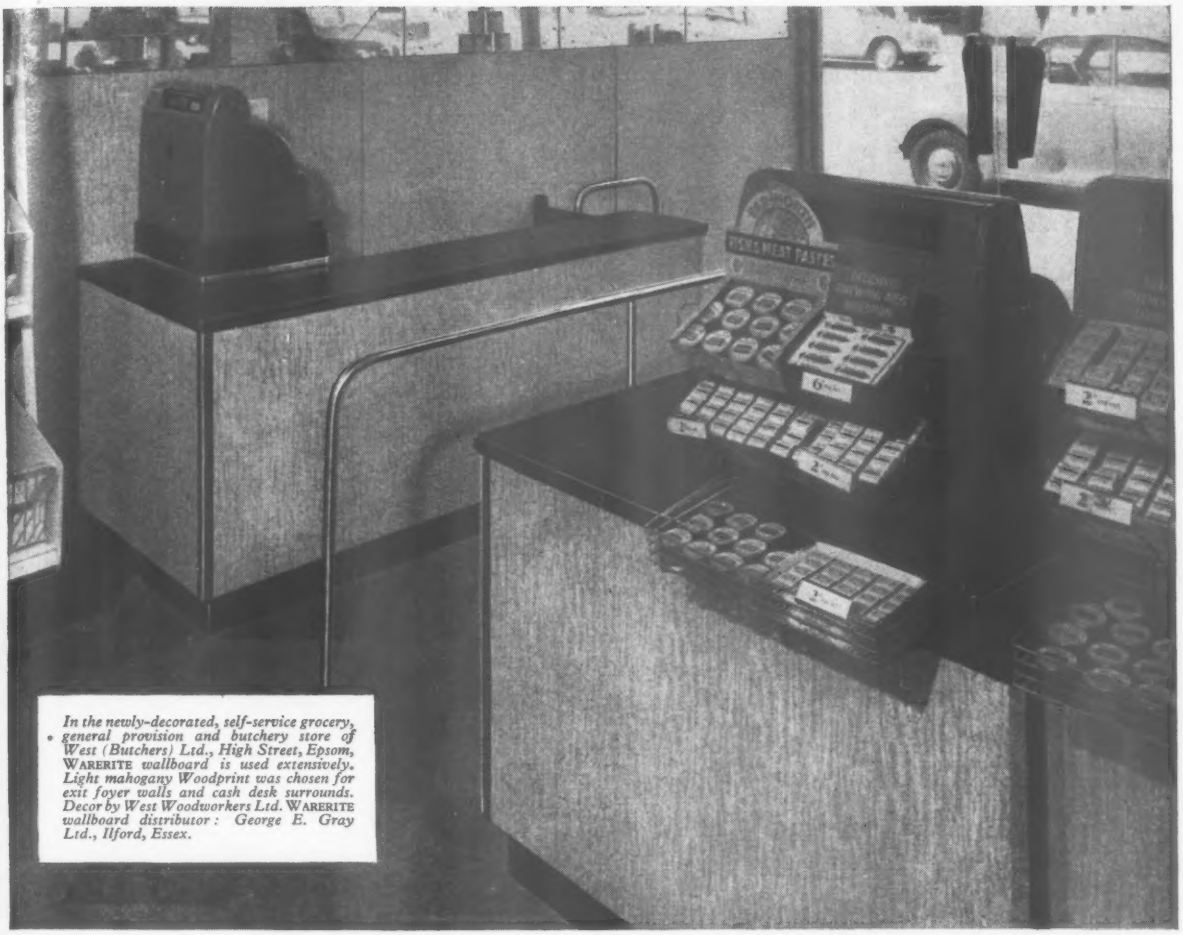
19 different nosings: extruded from pure aluminium:
plastic-filled in 9 colours (brown, green,
lino brown, blue, maroon, black, white, silver, red):
also available fabric-filled:
suitable for all types of stairway:
can be supplied to fit almost any curve or bend.

Sole Distributors to the Furnishing Trade in England and Wales:
GEORGE DICKINSON & CO. LTD.
Calabria Road, London, N.5

Main Distributors for Scotland
GEO. BOYD & CO. LTD.
129, Buchanan Street,
Glasgow, C.2.

For supplies and information get in touch with:

SMALL & PARKES LTD *HENDHAM VALE WORKS MANCHESTER 9 London: 67 Victoria Street S.W.1*



In the newly-decorated, self-service grocery, general provision and butchery store of West (Butchers) Ltd., High Street, Epsom, WARERITE wallboard is used extensively. Light mahogany Woodprint was chosen for exit foyer walls and cash desk surrounds. Decor by West Woodworkers Ltd. WARERITE wallboard distributor: George E. Gray Ltd., Ilford, Essex.

For attractive, hardwearing vertical surfaces choose *New* WARERITE REGD. wallboard

Wherever decorative vertical or ceiling surfaces must be moisture-resisting, durable and easily cleaned, new WARERITE wallboard is the obvious and economical choice. Counter fronts, partitions, cupboard fronts and flush doors are typical applications. WARERITE wallboard can be screwed or pinned, or fitted into extruded jointing sections.

WARERITE *materials are supplied from stock in cities and towns throughout the country. Write for literature, samples and the name of your nearest distributor.*

WARERITE wallboard REGD.

IS IDEAL FOR VERTICAL SURFACES AND CEILINGS

• Wipes clean instantly • Easier construction at lower cost—no maintenance • Resistant to steam and moisture • Can be fixed with screws, or panel pins; cemented to wooden battens or fitted into frames • Standard boards 8 ft. x 4 ft. • Melamine-resin surfaced both sides

WARERITE wallboard **with the lovelier patterns!** REGD.

A product of BAKELITE LIMITED • 12-18 GROSVENOR GARDENS • LONDON SW1 • Telephone: SLOane 0898

TGA WW128

Internal view of 175in. by 48in. one piece Rectangular Glass Domes fitted to St. Gregories R.C. Girls School, Kirkby, Nr. Liverpool.
Architects: Lionel Prichard & Son, Liverpool.

SEDDON

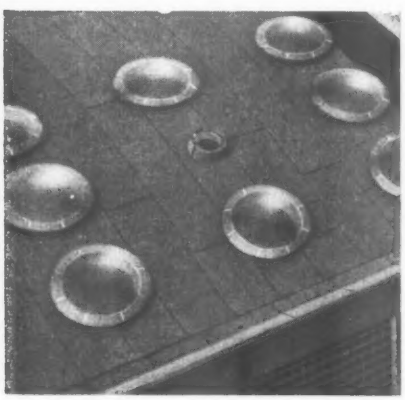
DOMELIGHTS

Circular and rectangular Domelights manufactured in rough cast or clear polished plate glass, for fitting to wooden or concrete kerbs.

Seddon domes are also available in Georgian or Hexagonal mesh-wired glass. The circular and rectangular glass dome ventilators provide roof lighting and natural ventilation by means of weather proof louvres and Controlled hit and miss shutters.

Illustrated brochure containing full particulars and specifications forwarded on request.

Our experienced staff of fixers are available for fitting.

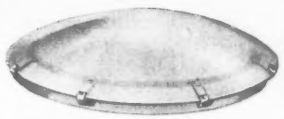


R. SEDDON

& SONS (ST. HELENS) LTD.,

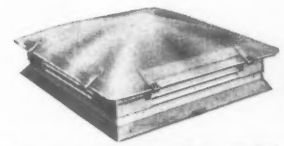
Warrington New Road, St. Helens, Lancs.

Tel : St. Helens 5451/2

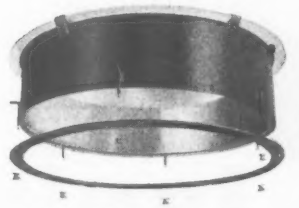


Circular domes supplied from 18in. to 90in. diameter.

Rectangular domes from 24in. to 175in. length to 36in. to 72in. width.



Rectangular glass dome ventilators supplied, also circular ventilators from 18in. to 72in. diameter.



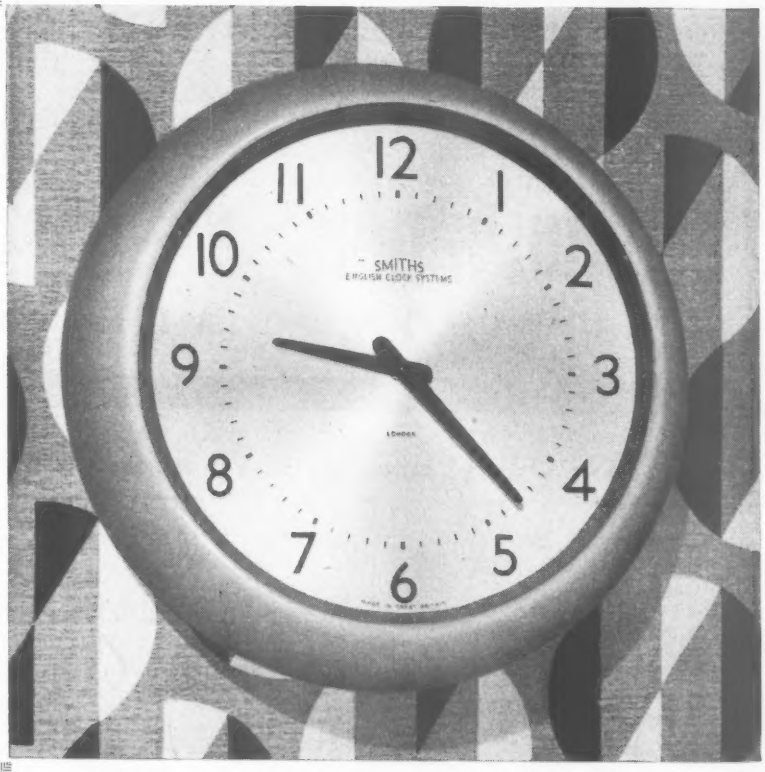
Combined steel liners and laylights. This method of fixing provides complete sealing against weather.

SMITHS

new service for the ARCHITECT & DESIGNER

Smiths Clocks and Watches Ltd. and English Clock Systems have combined to give a complete service to both Architect and Designer. All Wall Clocks in the new extensive Smiths and E.C.S. ranges together with 'specials' can now be ordered through the Architects' Service Department of English Clock Systems. Clocks can be either 'Sectric' or fitted with impulse movements for operation from E.C.S. Pendulum Master Clock.

Also available: the larger interior/exterior clocks, advertising clocks, time recorders, bell signal clocks, watchman's clocks, time switches and process timers etc. In fact, the new Architects' Service Department can supply the complete range of timekeeping equipment required for factory, school or office.



'SPECIALS' SERVICE

In case there is not a suitable clock for the particular requirements from the wide range available we can now produce to Architects' own specification from 6" Wall Clocks to the largest Tower Clock.

Mayfair SURFACE MOUNTED WALL CLOCK from the E.C.S. range. A circular grained aluminium dial with light Gill Sans numerals. Hinged-type case for easy access to movement. Standard finish in bronze (any colour supplied at small extra cost).

Dia. of face 9", 12", 18". Overall dia. 11⅛", 14⅛", 21". Projection: 2¾" (18" face projects 4")

Flush fitting model **FARNHAM**—Cream or white finish—Supplied with standard 6" wall box. Stud and keyhole fixing.

INFORMATION AND LEAFLETS FROM THE ARCHITECTS SERVICE DEPT.

BRANCH OFFICE & SHOWROOMS
IN MANCHESTER, BIRMINGHAM
GLASGOW & BELFAST

ENGLISH CLOCK SYSTEMS*

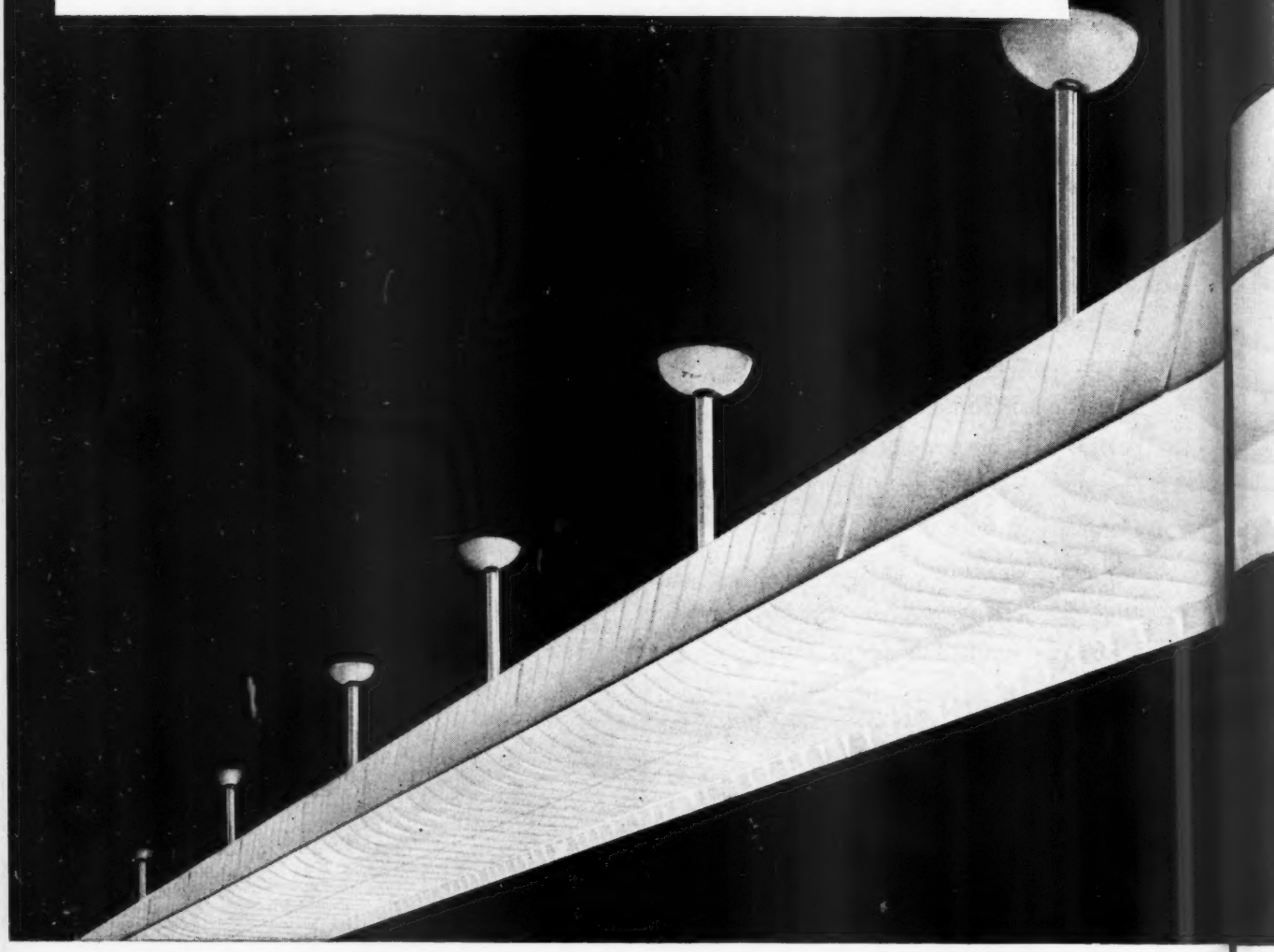
Head Office and Showrooms

179-185 GT. PORTLAND STREET, LONDON, W.1

Telephone: LANgham 7226

* A BRANCH OF THE CLOCK AND WATCH DIVISION OF SMITHS S. SMITH & SONS (ENGLAND) LTD.

Luveline



Here is a lighting fitting which will do everything.

It is made of three basic parts with a diffuser which is

the largest single polystyrene injection moulding ever made for a lighting fitting.

Developed in Canada, it is now manufactured here by

Harris & Sheldon (Electrical) Ltd.

HANDSLITE | *THE BEST OF BOTH WORLDS*

Harris & Sheldon (Electrical) Limited

not just another lighting fitting

—but something NEW!

in lighting technique

SOME OUTSTANDING LUVELINE FEATURES

- ✳ Can be used as separate fittings or in continuous lines.
- ✳ Ceiling-mounting or suspension is equally simple.
- ✳ Installation is easy and quick.
- ✳ Relamping and cleaning is simplicity itself, owing to the specially hinged diffuser sections.
- ✳ Surface brightness is low, but efficiency is high.

Write for illustrated folder to Harris & Sheldon (Electrical) Ltd.

RYDER STREET BIRMINGHAM 4. Telephone CENTRAL 6272 London Office: 46 GT. MARLBOROUGH STREET, W.1. Telephone GERrard 0869

Complete Lighting Specialists and Manufacturers of Lighting Fittings and Control Gear.

The Common Brick

THERE is a tendency in most industries today to pay more and more attention to visual appeal. Manufactured goods of all kinds, from pots and pans to motorcars, are becoming more glamorous, and considerations of substance and performance tend to be overshadowed by external finishes.

In earlier days, a brick was a brick. No doubt some were better than others, and the principle of sorting for facing and backing must have been practised centuries ago, but during the last few decades, with the premium on aesthetic appeal, facings and commons seem to have moved far apart. In fact, in some works today, backing bricks are no longer simply a by-product of facing brick production; common bricks are specifically made as commons, by modern scientific methods.

Encouraged by architects and builders, manufacturers of facing bricks have steadily widened their ranges; new colours have been produced to whet the appetite of the designer; new textures devised to exploit light and shade. Meanwhile, the common brick has had to compete with various alternative materials for backing and inner-leaf construction. Some of these may offer some advantage so far as thermal conductivity is concerned, but experience has shown that one property alone is no criterion for the selection of a structural building material, and the common brick, with its all-round good performance, is regaining lost friends.

The common brick combines strength, durability and resistance to fire with reasonable standards of thermal insulation and sound deadening. It forms an ideal backing for rendering and plastering. Where walls are liable to receive rough treatment, good, solid brick construction eliminates periodical repairs. Wall fittings may be easily and securely anchored, and cutting and chasing may be undertaken without risk of serious damage. Where good standards of hygiene are desirable, the common brick is a safeguard against infestation.

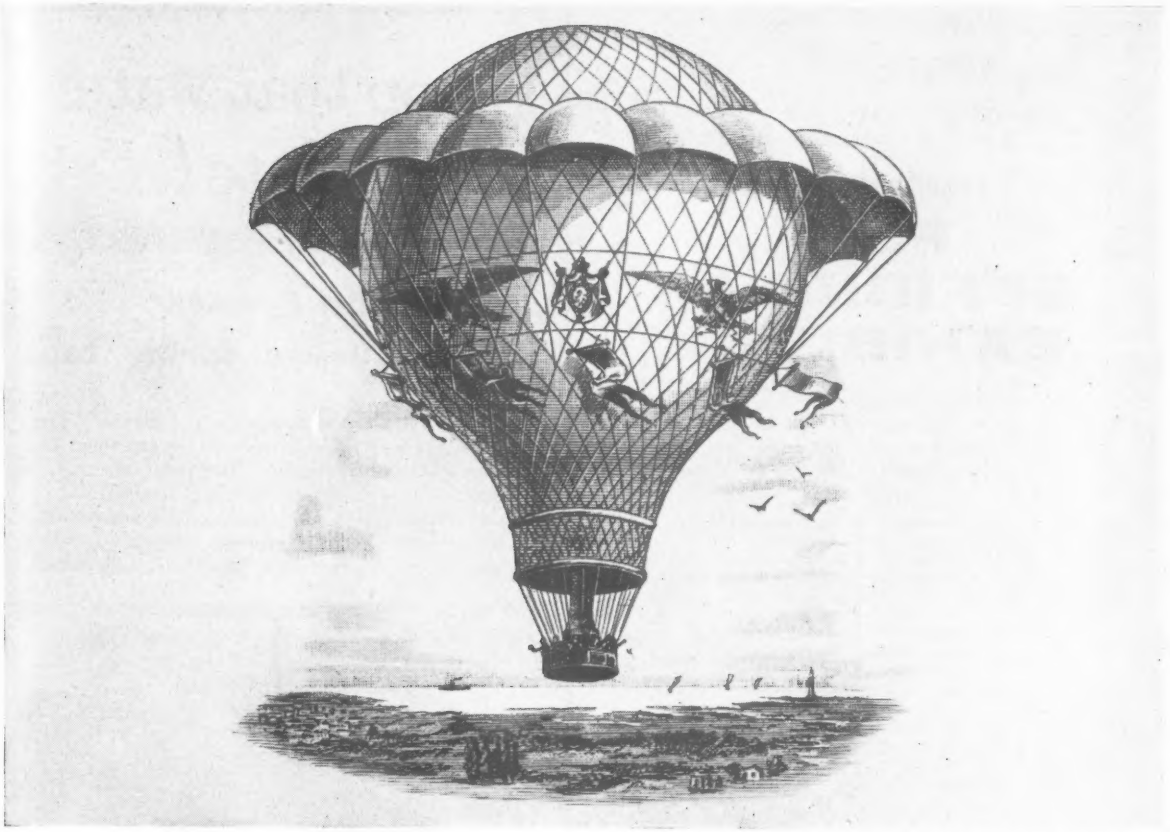
Internal skins built of brick have a greater ability to take up movement, and are not so liable to cause pattern cracking of plaster applied as a skim coat only. Further, the common brick is much more convenient and adaptable than larger units for use internally in buildings where there are large numbers of openings such as doors and windows. Cutting is reduced to a minimum.

For many parts of a building where the work is finally obscured, chimney breasts for example, the common brick has no serious rival. Colour washed common brick provides an attractive and serviceable exterior. Many grades of common brick have good loadbearing capacities, and may be bonded in with facings in positions where good appearance is not vital.

The common brick has no pretension to beauty, but it is the jack-of-all-jobs, proved by long usage, convenient, adaptable, economical and—even in these days of scientific building—quite indispensable.

(*Reprinted from 'The Brick Bulletin'*)

ISSUED BY THE NATIONAL FEDERATION OF CLAY INDUSTRIES, DRAYTON HOUSE, WC1



Hot air balloon 1864: Eugene Godard Hulton Picture Library

WHAT GOES UP...
MUST COME DOWN!

that is why so many lighting installations incorporate L.E.F. Raising and Lowering Gear

L.E.F. Raising and Lowering gear is the perfect answer to every problem posed by interior lighting installations in which the fitting must of necessity be out of reach and, consequently, tricky to service.

This gear enables maintenance staff to bring lighting fittings down to floor level so that they can be dealt with quickly and conveniently. It out-dates cumbersome methods and is most economical in time and labour.

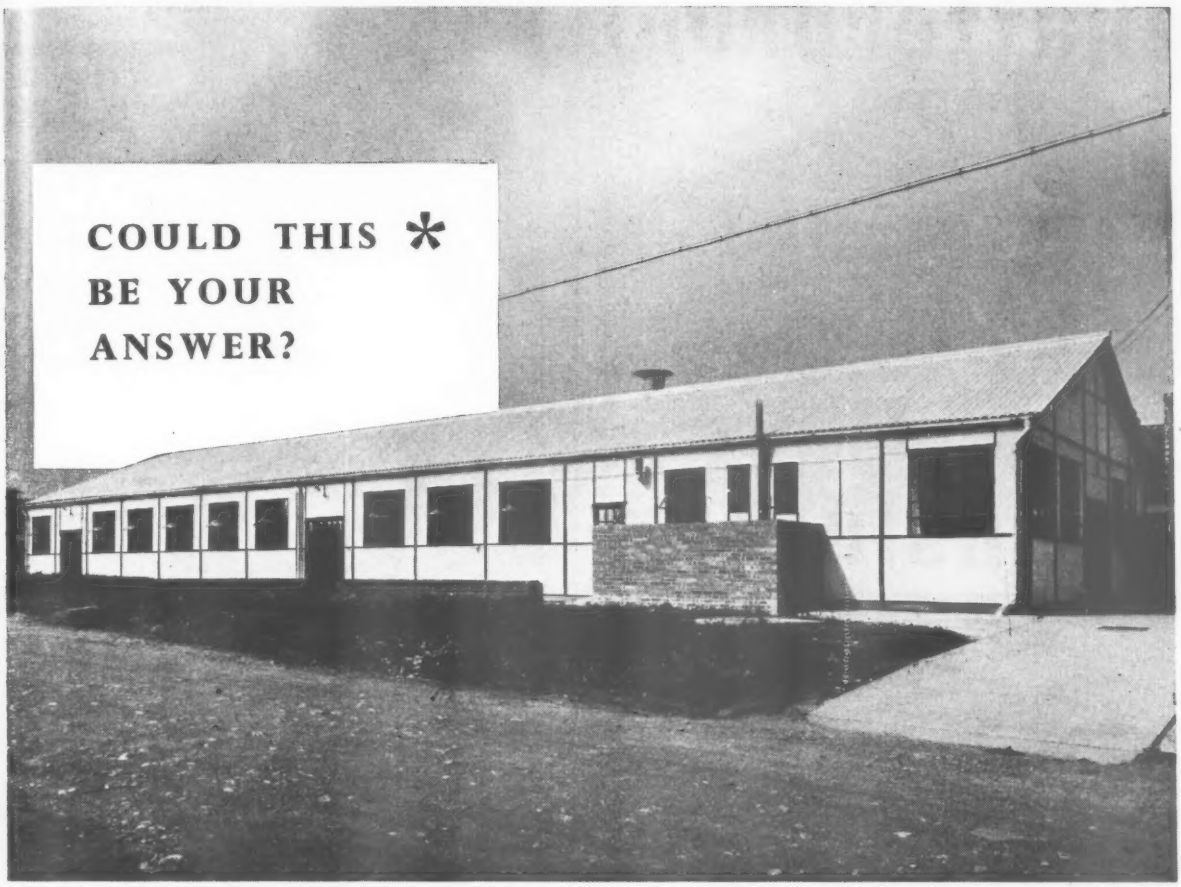
When you have a lighting problem, remember that it is most important to discuss your needs with L.E.F. at the planning stage; first to specify your technical requirements and secondly, to ensure suitable delivery.

NEW INNER TEMPLE

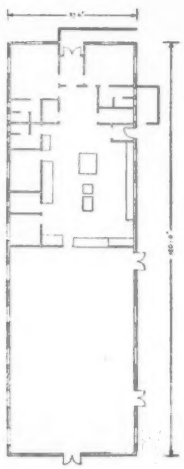
This beautiful hall is lighted by ten heavy chandeliers which are serviced by means of L.E.F. Raising and Lowering Gear. L.E.F. were consulted at an early stage during building by the Architects (Sir Hubert Worthington, R.A., and T. W. Sutcliffe Esq., A.R.I.B.A.,) and the Contractors (Bower Engineering Works Ltd.) with the result that they were able to supply equipment "built in" to the ceiling.

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

Tib.119



Photograph by courtesy of Thomas Harrington Ltd., Hove, Sussex.



* **FOR ONE REASON OR ANOTHER, tomorrow may find you face to face with a complex building problem. Perhaps the situation demands 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.**

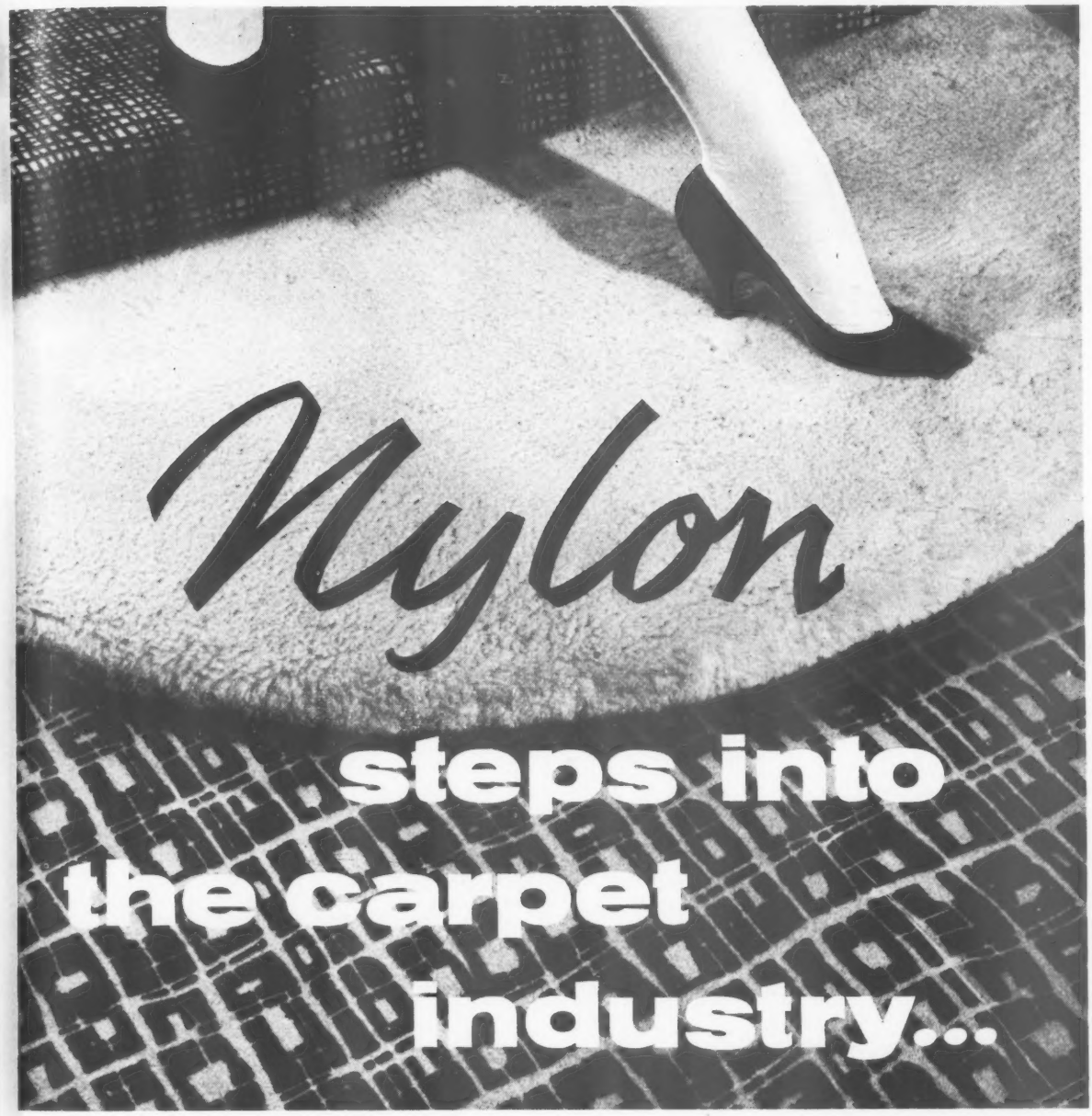
THORNS TIMBER-FRAMED BUILDINGS provide just such an answer; prefabricated in BASIC units, they combine economy with ease of erection—and are easily adaptable to your own design.

In hundreds of places THORNS have proved the *RIGHT* answer for dependable and efficient buildings—Canteens, Offices, Hospitals, Pavilions, Temporary Schools and Shops, Church Halls and Institutes, Scout Headquarters, Industrial Workshops, etc. The photograph shows a canteen building size 120ft. by 37ft. by 10ft. containing dining hall, kitchen and store.

Basic widths available—12ft., 15ft., 18ft., 20ft., 24ft., 25ft., 30ft.

get your quotation from **THORNS**

J. THORN & SONS LTD. (Dept. 188) BRAMPTON ROAD, BEXLEYHEATH, KENT



Designs are by Ronald Grierson F.S.I.A.

shildon

100% WOVEN NYLON PILE CARPETS & RUGS

are being advertised this Autumn in local press and cinemas in specially selected areas throughout the country. Shildon carpets are a product of the Alfred Morris group of companies—the established leaders in the development of woven nylon. You can have Shildon Nylon Carpet built for any wear life you require. Nylon outwears every other carpeting fibre known. Shildon Nylon Carpet can also be produced in your own design.

Write for details to:

ALFRED MORRIS FURNISHINGS LIMITED
19/23 WELLS STREET LONDON W1
LANgnam 5921

AMF26

This is Medway

Medway is a company with unrivalled experience in the design, production and site construction of factory-made timber building systems. Several independent modular methods of construction are available for permanent or temporary structures on one or two storeys. 'Dry' construction, unaffected by weather delays, saves time and money in the construction of such buildings as offices, laboratories, social halls, pavilions, hospitals and schools (more than 70,000 children are now taught in modern Medway schools). Medway ensures rapid building, a firm schedule, economic cost and, of course, a most attractive building.

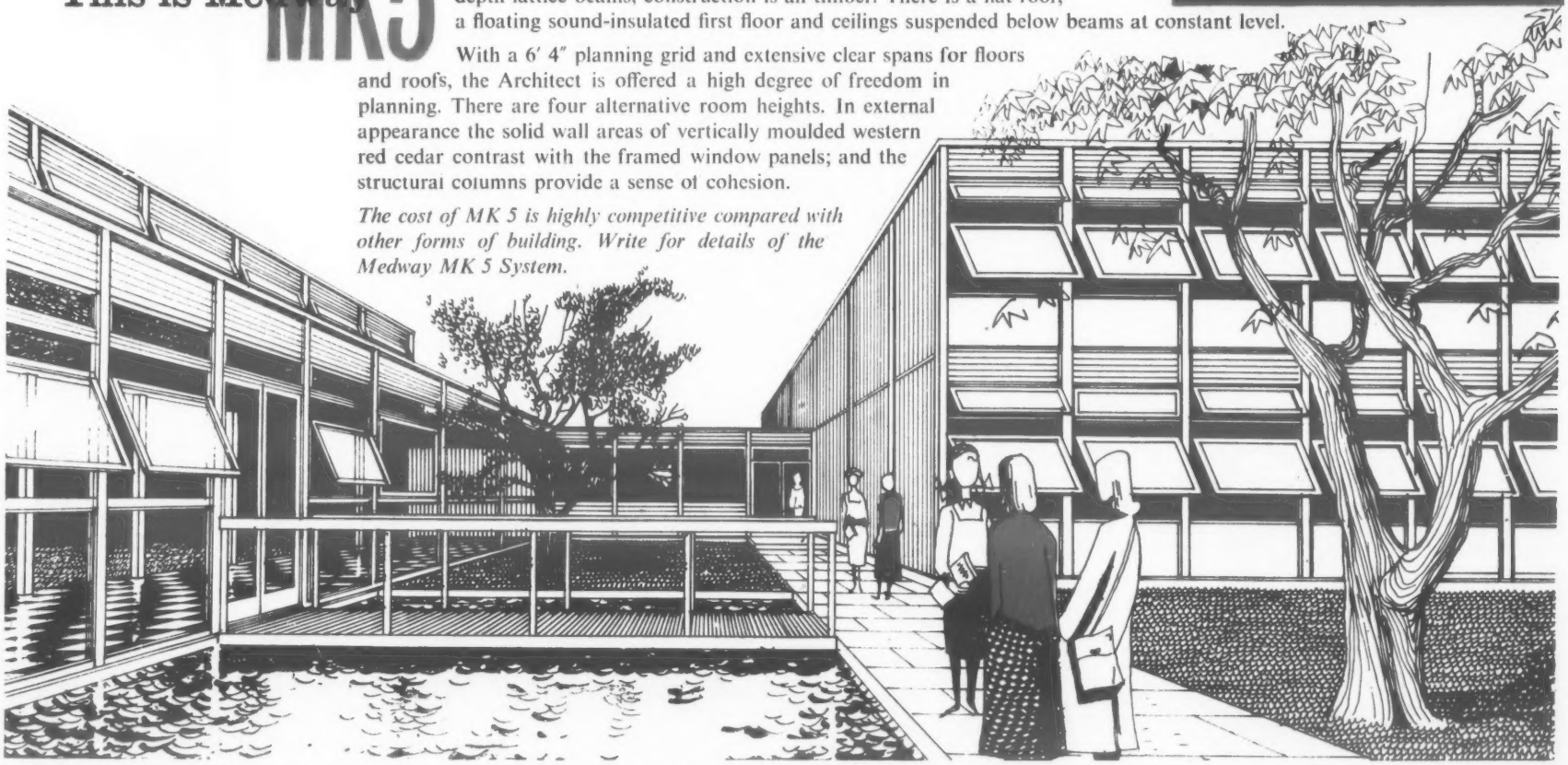
MEDWAY TIMBER BUILDINGS

This is Medway MK5

MK 5 is Medway's newest system of permanent construction for one- or two-storey buildings. With a structural frame of columns and constant depth lattice beams, construction is all-timber. There is a flat roof, a floating sound-insulated first floor and ceilings suspended below beams at constant level.

With a 6′ 4″ planning grid and extensive clear spans for floors and roofs, the Architect is offered a high degree of freedom in planning. There are four alternative room heights. In external appearance the solid wall areas of vertically moulded western red cedar contrast with the framed window panels; and the structural columns provide a sense of cohesion.

The cost of MK 5 is highly competitive compared with other forms of building. Write for details of the Medway MK 5 System.



MEDWAY BUILDINGS & SUPPLIES LTD., PHOENIX WHARF, ROCHESTER, KENT. TELEPHONE: STROOD 7521

AP33

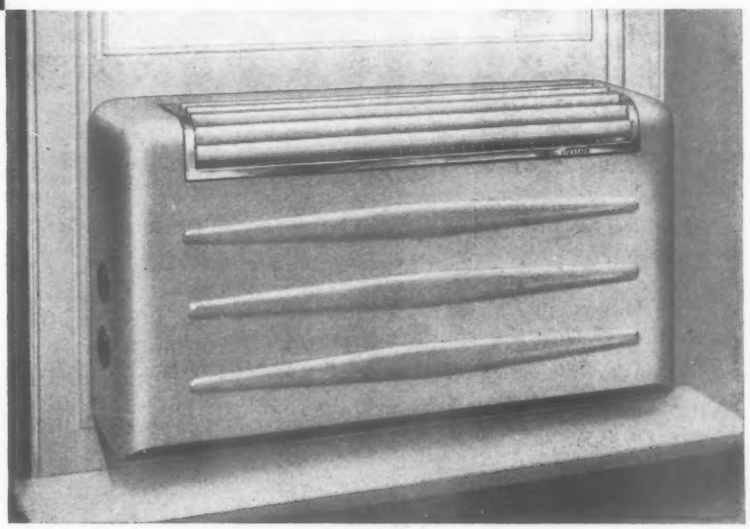
WESTAIR

room unit AIR conditioners

The complete answer where cost prevents the installation of a centralised system

Westair room unit air conditioners provide full scale air conditioning plus two important advantages. First, the number of units that can be installed is infinitely variable, which means that cost can be closely controlled. Secondly, Westair units provide individual room control.

The 1.5 Model, illustrated, carries out cooling, heating, filtering, extraction and re-circulation, and is one of a range of units designed to cover all requirements. A free-standing dehumidifier unit is also available.



Westair units have been installed by The General Post Office, Babcock & Wilcox Ltd., The Metropolitan-Vickers Electrical Co. Ltd., British Tabulating Machine Co. Ltd., Guys Hospital, C. T. Bowring & Co. Ltd., Remington Rand Ltd., English Electric Co. Ltd., Stewarts & Lloyds Ltd., etc.

Send now for full information to:

Sole Distributors for London and the Home Counties:

MORTIMER GALL & CO., LTD.

Electrical Engineers & Contractors

115/117 Cannon St., London, E.C.4

'Phone: MANsion House 9888

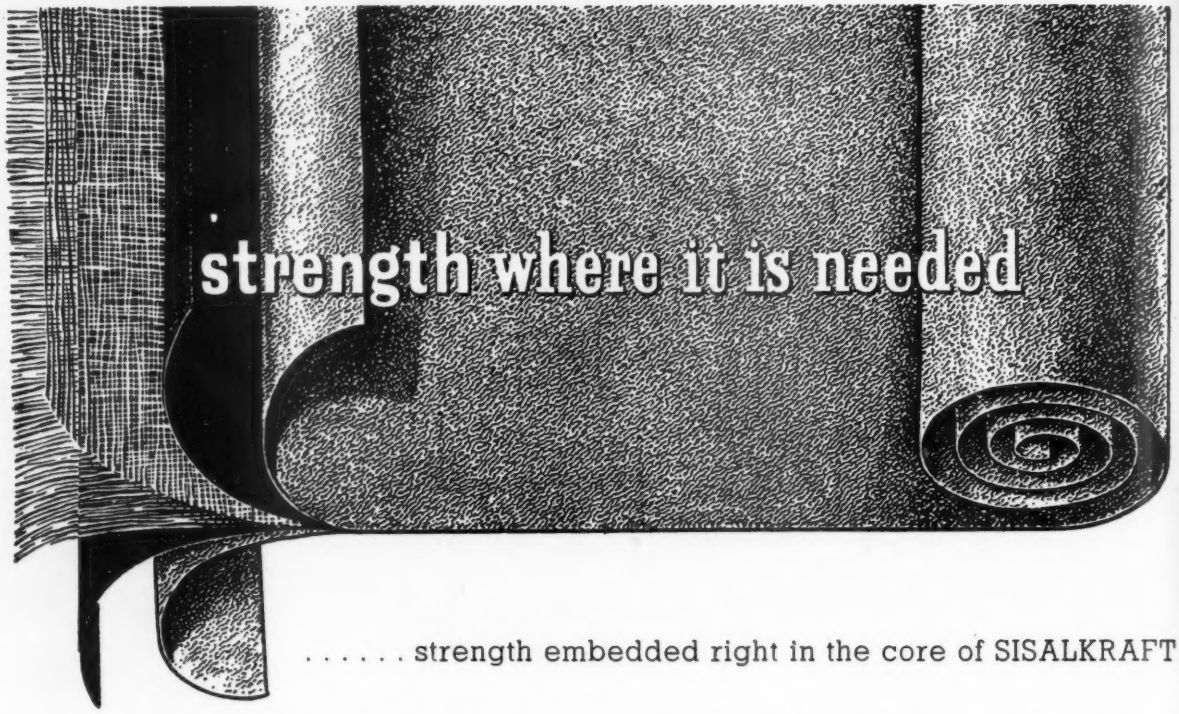
Local Agents in most areas of the country

Westair equipment is manufactured by:

WESTOOL LTD., St. Helen's Auckland, Co. Durham. 'Phone: West Auckland 551/5

THESE FOLDERS ARE AVAILABLE ON REQUEST

C



. . . . . strength embedded right in the core of SISALKRAFT by the unique reinforcement of tough, nonhygroscopic, unspun sisal fibres that are laid in both directions and sealed in two layers of high grade bitumen and covered by outer sheets of stout kraft paper. This 6 ply construction gives the tough, supple strength of SISALKRAFT, making it easy to handle yet exceptionally tear resistant and proof against moisture and damp.

SISALKRAFT TRADE MARK *the supreme building paper*

A PRODUCT OF BRITISH SISALKRAFT LIMITED

Please write for information and samples to the SOLE DISTRIBUTORS:

ESTABLISHED OVER A CENTURY J.H.SANKEY & SON LTD

ESSEX WORKS · RIPPLE ROAD · BARKING · ESSEX | *PHONE.* RIPpleway 3855 *GRAMS:* BRICKWORK · BARKING

New Technical College, Bangor, N. Wales.

Architect:
County Architect,
Caernarvonshire County Council.

General Contractors:
Williams & Williams (Caernarvon) Ltd.

Roofing Contractors:
Blackwells & National Roofings Ltd.

GYPROC AT BANGOR

. . . provided thermal and acoustic insulation with excellent qualities of fire resistance at The New Technical College

USING GYPKLITH WOOD WOOL SLABS

GYPKLITH wood wool slabs are light in weight and have great structural strength and durability. They have exceptional fire protective properties, being virtually incombustible, with Class I surfaces (B.S.476). As a thermal insulator GYPKLITH is excellent — a one inch slab of GYPKLITH is equivalent in thermal insulation to twenty-one inches of stone. These are only a few of the features worth studying. Write for leaflet AP358a which gives you complete information.

GYPROC PRODUCTS LIMITED

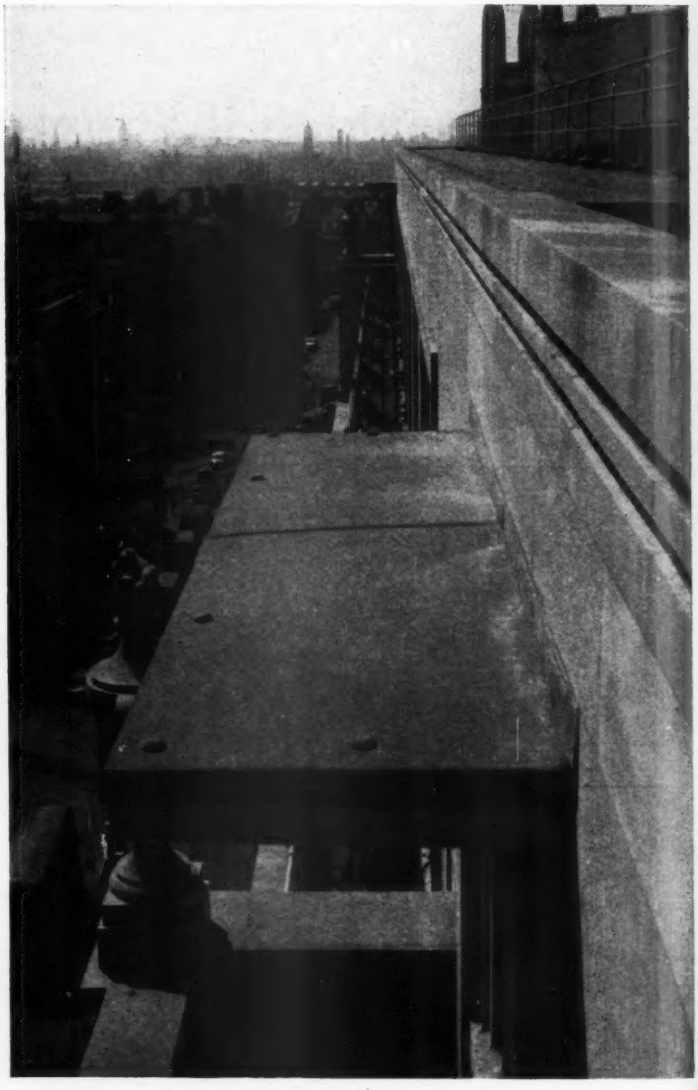
Head Office: Singlewell Road, Gravesend, Kent. *Gravesend 4251/4*
Glasgow Office: Gyproc Wharf, Shieldhall, Glasgow, S.W.1. *Govan 2141/3*
Midland Sales Office: 11 Musters Road, West Bridgford, Nottingham. *Nottingham 82101*
London Office: Bath House, 82 Piccadilly, London, W.1. *Grosvenor 4617/9*

S/GK4

CONFIDENCE

The confidence that architects have in Lead is measured in centuries—not years. Its pre-eminence for Weatherings is amply demonstrated by the extent to which it is specified for all but the cheapest work.

Bank of London & South America, City of London.
Architect: Victor Heal, M.C., F.R.I.B.A.
Contractors: Trollope & Colls Ltd.



The quality of Lead is unquestioned: it is unchanged by long exposure to town or industrial atmosphere; it can be readily dressed to the most intricate shapes. Wherever a weathering is needed no material inspires confidence of permanent weathertightness as does

LEAD

LEAD LASTS

The Association's Technical Information Bureau will gladly help with problems on the use of Lead Sheet and Pipe in building work. Details of the main uses are given in a series of Information Sheets and Bulletins, which can be obtained by applying to the Association.

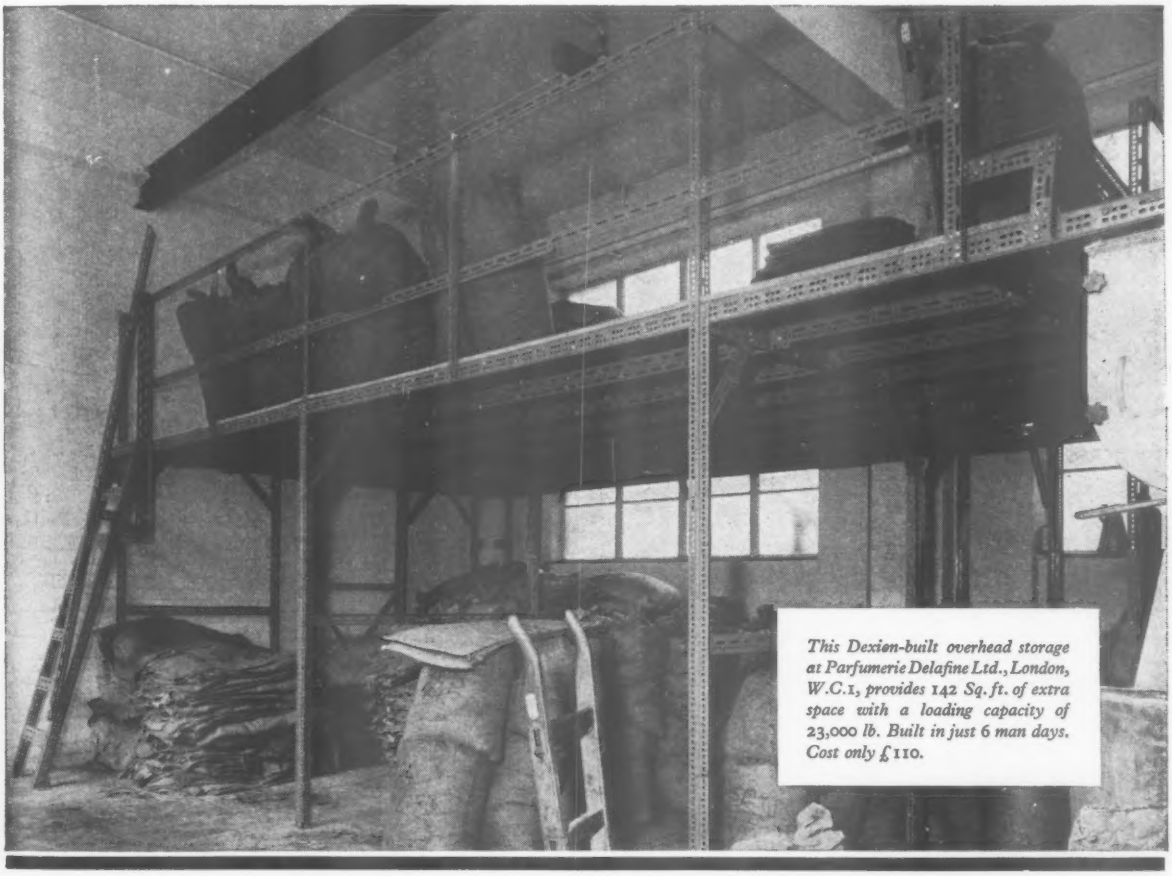
LEAD DEVELOPMENT ASSOCIATION
18 ADAM STREET, LONDON W.C.2
Telephone: Whitehall 4175
Telegrams: Leadevep, Rand, London

B156

rent-free space

With Dexion Slotted Angle you can often double or treble storage space

without renting or building new premises



This Dexion-built overhead storage at Parfumerie Delafine Ltd., London, W.C.1, provides 142 Sq. ft. of extra space with a loading capacity of 23,000 lb. Built in just 6 man days. Cost only £110.

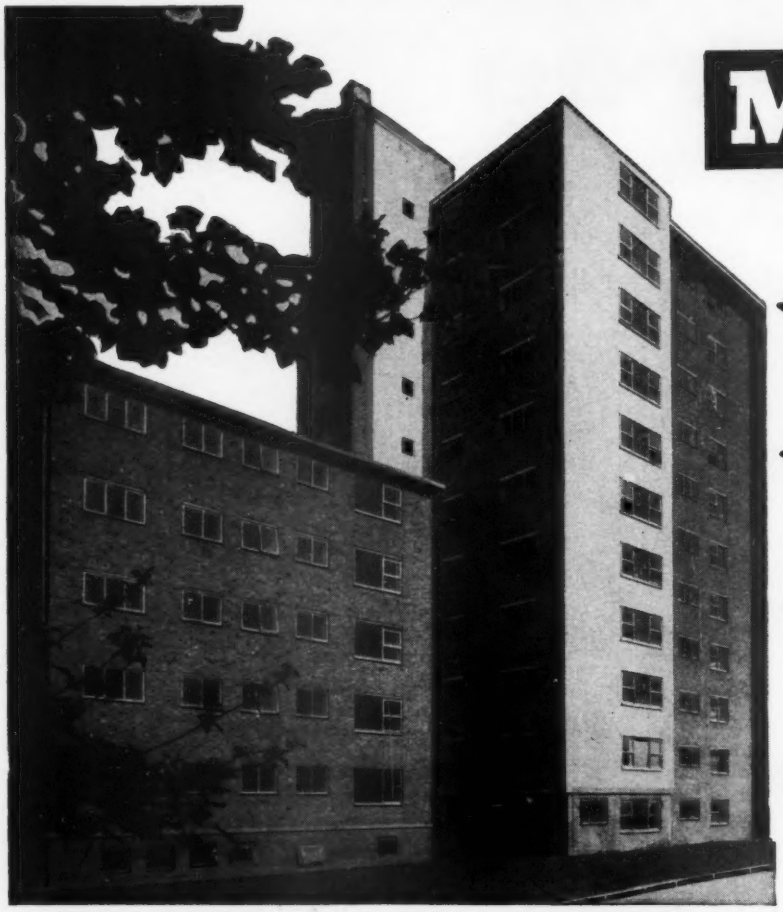
With Dexion you can expand storage or production at very little cost. Dexion builds anything—from work benches to factory extensions—builds it fast and builds it permanently strong. Yet a Dexion structure can be easily altered to meet changing needs. Dexion is more then a Slotted Angle, it is progressive, flexible planning at its best. Delivery is fast—Dexion can be delivered at the works within a few hours.

DEXION SLOTTED ANGLE CONSTRUCTION

FOR NEW IDEAS ON YOUR FACTORY PLANNING **CALL IN DEXION**

do it now - before you forget!

DEXION LIMITED · MAYGROVE ROAD · LONDON N.W.6 · TELEPHONE : MAIDA VALE 6031 (21 LINES)



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.

Don't worry... Carrier have thought of everything

With Conduit WEATHERMASTER, Carrier offer the most comprehensive air conditioning system yet available. Summer cooling, winter heating, constant supplies of clean air and temperatures controlled in individual rooms free from traffic noise — just a few of the many outstanding features of this revolutionary, space-saving, air conditioning system for multi-roomed buildings. Please ask for full particulars.

Carrier

Conduit WEATHERMASTER Regd.

AIR CONDITIONING SYSTEM

CARRIER ENGINEERING COMPANY LTD · 24 BUCKINGHAM GATE, WESTMINSTER, S.W.1 · Telephone: VICtoria 6858

The Pioneers of Air Conditioning

AJ

THE ARCHITECTS' JOURNAL

No. 3313 Vol. 128 August 28, 1958

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 17s. 6d.; carriage 2s. extra.

NOT QUITE ARCHITECTURE

RUM ISLAND

A Vickers' Viscount, a barley sugar from the hostess, a plan view of a four-way traffic intersection, each flyover loop packed with morning rush hour traffic, a tantalizing last glimpse of Manhattan and then clouds. . . .

*

Jamaica is a difficult place to describe. Scenically superb, climatically too humid, socially and spiritually backward; a hopeless confusion of rags and riches, Englishness and Americanism, progress and lack of progress, shanty towns and super hotels, black and white, yellow and brown, mountains, plains, rivers, forests, hurricanes and earthquakes.

*

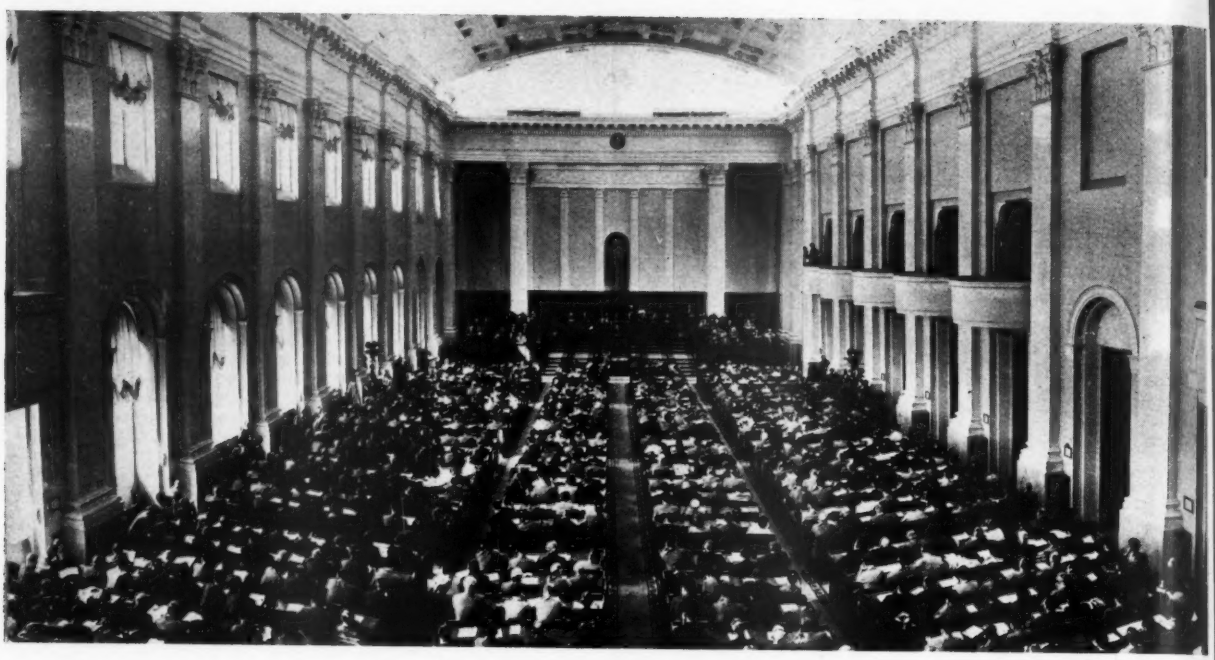
Columbus arrived first at Discovery Bay and found the Arawak Indians who later were driven out. Captain Morgan brought fame and disrepute to Port Royal, then thought to be the wickedest city in the western world and which deservedly sank in the 1791 earthquake. The sugar estates were established by the Spanish, and developed and prospered when taken over by the English—under a slave economy. Nelson fitted his ships at a rebuilt Port Royal and left some ill-cared-for relics. Lord Rodney left a memorial at Spanish Town. Fine Georgian towns were built at Kingston, Montego Bay and Spanish Town, and for a few Europeans Jamaica was an orderly, prosperous place.

*

Slavery was abolished and the estates were ruined. The English Parliament was too preoccupied to provide assistance, and poverty came; the decline was accelerated by the earthquake of 1907 and the development of beet sugar manufacture.

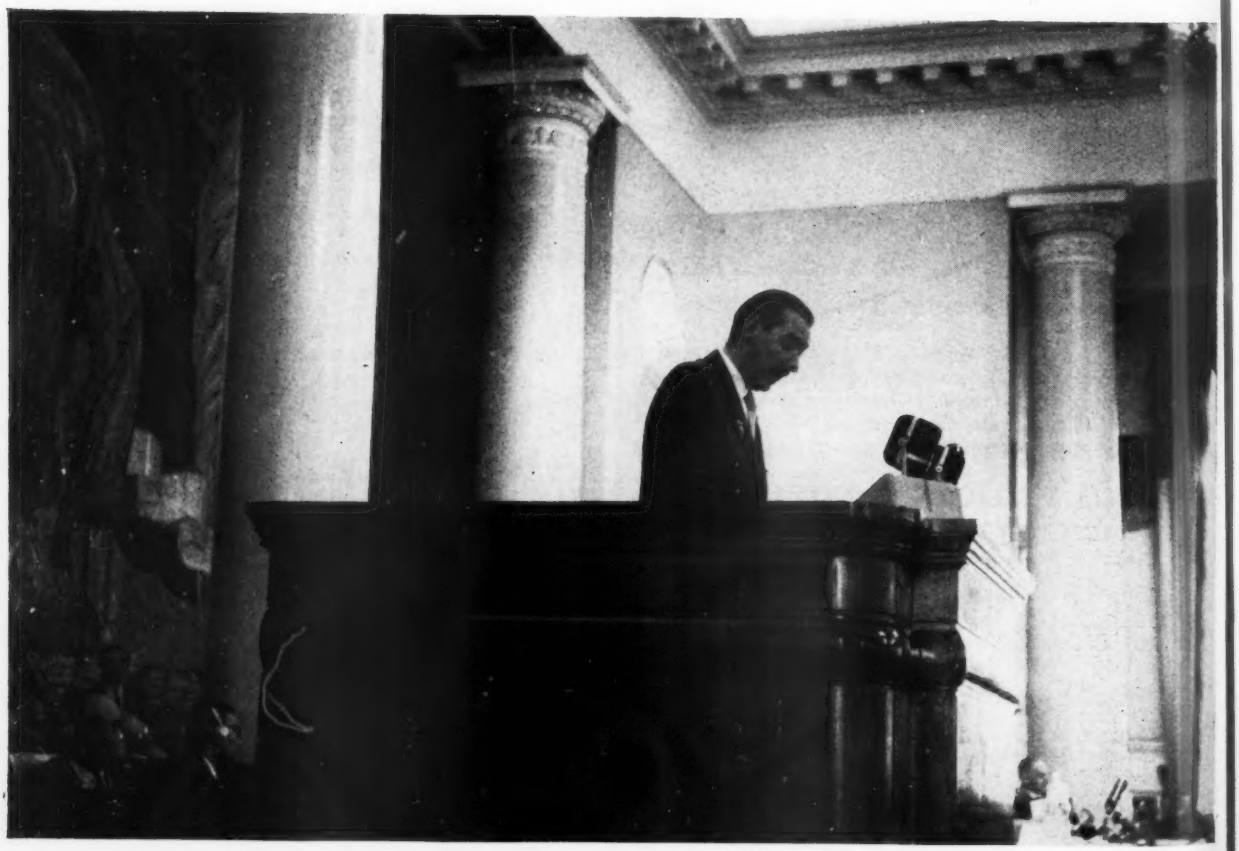
*

World War II and the evaporation of the British Empire convinced the English government that early anticipation of rising nationalism would be wisdom. Among other things it gave independence, a University and a teaching hospital; it encouraged the recently achieved Federation of the British West Indies. Bauxite, bananas, rum, sugar



The World's Architects Meet In The Kremlin

The Fifth Congress of the International Union of Architects was held in Moscow from July 29 to 27, in the Grand Palace of the Kremlin. This hall, in which the Supreme Soviet of the USSR sits, was built in 1838-49 by the Russian architect K. Ton on the site of a former palace. The subject of the Congress was "The Construction and Reconstruction of Towns, 1945-57." Above is a general view of the Congress, in which 1,000 foreign architects and 300 Soviet architects took part. Below, Arthur Ling addresses the Congress as rapporteur for Western Europe. This week we publish the first article by Cleeve Barr on his visit to the Soviet Union, in which he reports the Congress proceedings. This report will be continued in a future issue, followed by a survey of recent developments in Soviet architecture and building.



and tourism have now made the bulk of the population richer than ever before imaginable. While the resulting enthusiasm and expansion is invigorating, the utter lack of spiritual, traditional or moral background has produced an uncouth, callous and materialist and aesthetically barren attitude. The population is now composed mainly of the descendants of the emancipated slaves, partly of the progeny of Chinese indented labour, and fractionally of white Jamaicans. The Negroes want to forget their Jamaican history—they only have a future—yet they are still burdened with the moral principles forced on them by slavery, amorality, fecklessness, laziness, improvidence and lack of initiative. The Chinese want to stay Chinese and the whites all claim heritage in Europe or America. The only shared desire is for material accomplishment. The newest and brassiest products are imported indiscriminately from abroad along with the latest bright ideas. All are used whether suitable or not and without the advantages of a background of experience. There is little national pride, only ambition, and Jamaica has now reached its adolescence: contemptuous of the past, impatient with the present, utterly selfish and devoted to the future. Under these circumstances, there is little to please an architect.

*

The few antiquities that were not destroyed by earthquake or hurricane are generally neglected and not valued, and except for the work of a few comparatively recently imported architects the standard of design in new work is excruciating. The hypercritical Andor Gomme should look at Kingston and he'd be well content with Cambridge as it is. Speculative housing has all been artlessly copied from American magazines, and painted the colours of a Battenberg cake.

*

All the towns are shanty towns, and even Kingston has miles of rusty corrugated iron sheeting. Each has one or two new concrete buildings, usually monstrosities, but sometimes powerfully virile in a crude way as if an idiom is on the verge of being found.

*

The fabulous north coast is exactly the same; true some of the hotels are splendid, but they are ringed by shanties and seldom have any architectural qualities.

*

The new University, against its surrounding background of purple mountains, has one of the finest sites in the world. The buildings, scattered in a park-like setting, show signs of crippling financial restrictions, but are nevertheless the most sophisticated in the island, and are a credit to Norman and Dawbarn; they evoke almost unanimous approval from the population. This is the island's showpiece, and from its organized and well-cared-for surroundings, unbelievably different from the rest of Jamaica, may spread an appreciation of cultural and aesthetic values, which, geared to the terrific material expansion, could well produce some interesting results, particularly in architecture.

MICHAEL MANSER

The Editors

IUA CONGRESS, LONDON, 1961

OUR special correspondent's report of the Fifth IUA Congress recently concluded in Moscow (pp. 296-302) includes a reminder that the Sixth Congress will be held in London in 1961.

The RIBA, on whom the task of organizing the Congress will fall, has none too long a time in which to prepare, if it is going to live up to the standards set in Moscow this year, or at the Hague in 1955. The IUA is an organization well worth supporting. It is in fact still very young, born only after the last world war (although with links, through such men as Perret and Abercrombie, with previous international committees), but it is growing up fast, and is now established firmly as a world organization, embracing some 100,000 architects.

The major dominions of the British Commonwealth have not so far joined as independent members, and the RIBA Committee represents only the United Kingdom. This is a pity. The Commonwealth countries are developing at such a pace, from the point of view of building and the expansion of cities, that they would have much to contribute, as well as to learn from such international gatherings.

At the Hague conference on housing, which was easily the biggest thing the IUA had done to that date, and at the Moscow conference, which was bigger still, the governments concerned dipped deeply into their pockets to provide hospitality and generous support. The excellence, speed and scale of the documentation in Moscow was akin to turning HM Stationery Office on to the job (which perhaps we can hardly expect), but the lecture halls and facilities of the State University, not to mention the halls of the Supreme Soviet and the City Soviet, were also made available. These are indeed problems which the RIBA will need to consider immediately. Is there, for example, more than one hall—the RFH—which will accommodate such a gathering satisfactorily? And where can fifteen hundred to two thousand architects, speaking fifty different languages, be satisfactorily accommodated? Or provided with good facilities for socially mixing with each other and meeting British architects? No doubt the RIBA would welcome constructive thought on

these problems. Certainly British architects who have enjoyed travel and hospitality abroad since the war would appreciate an opportunity of being able to play some small part in contributing to the success of such a Congress, and in widening the basis of the IUA in Britain.

AIR ON A G-PLAN

New cabinets for hi-fi equipment in the *G-plan range* were introduced recently with what G-plan clearly thought a sizzling hot gimmick—having the opening remarks on recordings—little knowing that this had been done already by no less a body than the William Morris Society. Admittedly, though, the basic gimmick was jazzed up. Various parts of the speech were recorded on different instruments in order to show the progress made in methods of reproduction. What came out was (*a*) distorted speech on a His Master's Dog type gramophone, (*b*) woolly speech on a radiogram disguised as a cocktail cabinet (or possibly *vice versa*), and (*c*) disappointing speech on a hi-fi set with the treble response wound up so shrill that all the loose tin-ware in the set was buzzing and jarring. Even ASTRAGAL, who recently suffered in Brussels, from Walt Disney's "Circorama," which attacks in sight and sound from all directions, paled visibly beneath the Tannoy-type noises—especially when a stereophonic railway train hurtled through the room.

But was the furniture sound? The actual cabinets—with their neatly built-in dust traps—were so much in the established *G-plan* style that they hardly seemed new. What stuck most firmly in ASTRAGAL'S mind was the information that contemporary design came in at about the same time as Paul Whiteman's Orchestra, a piece of vital historical knowledge that has been overlooked by Pevsner and Giedion.

CAST-IRON CRITICISM

Congratulations all round on the full-dress study of the Ironbridge, in Coalbrookdale, in the current issue of the *AA Journal*. Messrs. Maguire and Matthews have done a very good job in sorting out the intricacies of its designing and construction, and placing it in history—this scholarly treatment should help the campaign to get something done about its present squalid condition.

*

The authors of the article point out that this entirely convincing pioneer work in cast iron owes its form to masonry and its assembly techniques to carpentry. So much, apparently, for truth to materials. If some of our contemporary critics were projected into the 1770s they would doubtless accuse the designers of "rococo nihilism," or of "imposing a fake æsthetic" on materials that ought to be used in some other way.

A MUFFLED REPORT

Another interesting bit of reading in the *AA Journal* is the council's annual report. This is rather like the RIBA's annual report: so guarded that you can't find out very much. It gives the facts, where necessary, but not the ideas behind them.

*

One of the most interesting subjects briefly described is the Ministry of Education's proposal that the AA should join in the forming of a College of Architecture and Building. The AA rejected this because it felt it would not have sufficient control and because the proposed college "would not appear to provide the integrated high level of training originally envisaged by the Council." The council also reports that there is no need to start separate courses, one for architects and one for assistants, and that no advantage would be gained from doing so.

*

All this is fascinating but rather veiled information. It is a pity there is no forum in London where the educational problems of architects and the building industry can be fully and informally discussed. Everywhere we have committees and conferences, closed doors and rumours. Why can't all the education authorities, self-styled or otherwise, make their views public? Does all this secrecy merely conceal a paucity of ideas?

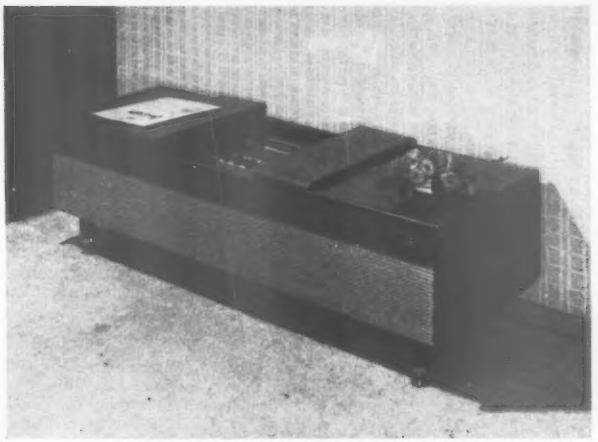
GOING AHEAD DOWN UNDER

ASTRAGAL, who doesn't know much about Perth, West Australia, was surprised to find that the 8th Australian architectural Convention was held there this year—as surprised as he would be to learn that the next RIBA conference was to be held in Stornoway. A special issue of the Australian journal, *The Architect*, shows that buildings in Western Australia make our provincial architecture seem positively rustic. Most of those illustrated (they are nearly all less than five years old) derive from familiar international models, but they are competently designed and well executed. It is interesting (practice committee and editors please note) that the names of individual architects are not given under the buildings, but at the back.

DUTCH REPUTATION

A man with his ear to the dike reported to me some time ago an interesting exhibition of the work of G. T. Rietveld, the pioneer architect of de Stijl, being held in Utrecht this summer to celebrate his 70th birthday. If, like ASTRAGAL, you trekked in a preoccupied way to and from Brussels, and missed other continental exhibitions, you can assuage your curiosity on a new book* about Rietveld that has just appeared. This immensely thorough work of an American research scholar, Theodore M. Brown,

*A. W. Bruna & Zoon, Utrecht. Price f35. Or from Alec Tiranti Ltd, 63s.



ASTRAGAL *refers opposite to a new range of cabinets (Messrs. E. Gomme's G-Plan) for housing high fidelity sound equipment. Above is model T934, in walnut and black lacquer, brass-trimmed. The lids lift up again to reveal the turntable at one end and either a tape recorder or a loudspeaker at the other. Alternatively, the loudspeaker can be housed in a separate cabinet (T933)—the lower of the two left—and the hi-fi equipment housed in a multi-use cabinet (T939), which is quite independent.*

seems to have pinned down all the knowable facts about Rietveld, and to illustrate all the findable buildings.

*

The upshot is curious; before reading this book my knowledge of Rietveld was more or less restricted to two only of his designs—the famous wooden chair of 1918, and the equally famous Schröder house at Utrecht of 1924. Nothing in the book seems to come within a mile of these two pieces either for originality or for sheer quality of design, and it seems clear that Dr. Brown feels the same way about things, for the allocation of space, illustrations, explanatory text and everything else leans towards *the* chair *and* the house at the expense of all other items of furniture or architecture. It looks as if Rietveld's reputation will have to go on depending on one chair and one house.

PRECISE OR RELAXED?

There's no doubt we are becoming a well-known profession. First it was films and books that portrayed us, and now—to ASTRAGAL'S horror—the advertising agents are after us. Recently an ad-man told how the architect's precise, reliable mind needed X's precise, reliable watch. And then the architect's keen eye spotted that yonder finial was not plumb—so investment with Y was recommended. Now, according to Southern Television, the architect is part of a sizeable steady-money audience which travels miles to work and comes back every evening tired and longing to relax with the telly. A Southern Television ad shows the architect—back view, bald, with brief case, striding through an endless Subtopian corridor of chain-link fencing. He is on his way to the station, to catch—we are told—the 7.20. He will not be back, says the text, until 7 p.m. What a day! How can he switch off his design problems and devote himself to T.V.? Is this good discipline or merely a dreary job? One thing about this alarming advertisement is very revealing. It says that T.V. has a sizeable, steady-money audience, ranging from tycoons to typists. How odd that architects are included in that shallow company.

A NARROW VIEW

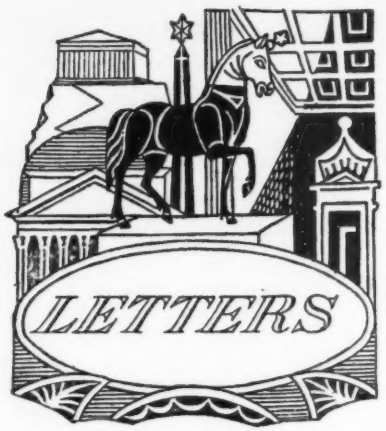
How long is a narrow boat? What well-known bridge in London was accidentally blown sky high sixty years ago? What is a winding hole? Where, in NW3, will you find cast iron Doric Columns clearly marked "Coalbrookdale"? Why are certain kinds of labourers known as "navvies"? Those who know their inland waterways—canals for short—will know the answers. Those who don't can find a very pleasant introduction to the subject—and one suitable to the holiday season—by taking an hour and a half trip any afternoon, and at a very reasonable cost, on the "Jason" narrow boat which plys between the basin just off the Edgware Road, near little Venice, and the Camden Road locks.

*

The scenery is astonishingly rural, the views of Regency and early Victorian architecture are unusual and the loudspeaker commentary is accurate, informative and not too high to defy pleasure.

ASTRAGAL

Offices in Perth, Australia the illustration from a special issue of The Architect, *the journal of the Royal Australian Institute of Architects. See "Going Ahead Down Under".*



J. E. Cooke, A.R.I.C.S.
The Ruberoid Company.
Stramit Boards Ltd.
A. B. Waters, F.R.I.B.A.
Peter Jay, M.A.

The Architect's Prerogative

SIR,—I feel that your editorial on "mechanical quantity surveying" (AJ, August 14) gives a slightly misleading impression when you say that the system "will only work well . . . . where even minor variations from the coded unit quantities can be avoided."

Whilst variations are to be avoided as the plague, no system of construction can be developed to its fullest efficiency, either structurally, functionally or economically, unless the architect can introduce modifications as the need arises. This is an essential prerogative which the architect must, and indeed will, retain. I subscribe to, and recognize this need and, in devising the punch card system mentioned by you, I made it a condition from the very beginning that the system must accept and deal with these variations. This, I am pleased to say, it does; regardless of whether the variations are minor or major ones.

With the rest of your remarks on the present nature of the BQ, I am in entire agreement. It seems to me that there needs to be a re-assessment of what is wanted in this respect by all concerned—the architect, contractor, sub-contractor and quantity surveyor. From this conglomeration of requirements it should then be possible to formulate the essential purpose which a revised form of the Bill should serve; even to the extent of having a two-part document useful both for pricing and legals and for contract organization.

Could not the RICS initiate a conference of all interested parties on these lines to explore the possibilities?

J. E. COOKE.

Coventry.

Thermal Insulation Of Factory Roofs

SIR,—In our view parts of the article on Thermal Insulation of Factory Roofs in your issue of June 19th relating to metal decking are misleading, and in some ways inaccurate.

In particular, "Weatherproofing Cladding" covering items 17 to 25 inclusive is misleading, for the normal systems include ½ in. fibre board insulation as an essential part of the system sandwiched between the bitumen felt and the deck. Thus, beneath this heading it would be better to include for metal decking, ½ in. fibre board insulation and bitumen felt. The price for this varies according to the load and span and the weatherproofing, but ranges from approximately 36s. per square yard. This should be compared with your price of 46s. per square yard without insulation of any kind. The basic covering provides a U-value of 0.37 approximately.

Following from the above, items 17, 18 and 19 are misleading because insulation is an essential part of metal deck roofs and no further insulation is required beneath them. Further, such suspended insulation produces the problem of condensation already experienced with normal sheeted roofs as described in items 2 to 13 and this subject has been fully covered by the National Building Studies Research Paper No. 23 "Condensation in Sheeted Roofs" H.M.S.O. 1958. Page 9 "Over roof Insulation" states on the subject of such linings that ". . . as regards condensation this arrangement of the roof is fundamentally wrong, the insulation board should be placed on the 'cladding' which thus becomes a roof deck." Thus we consider that items 17 to 19 should be deleted.

Regarding items 20 to 23, these do illustrate the conventional method of insulating deck roofs. However, they do not cover the most common range, which should include the basic ½-in. fibre board already referred to, and could conveniently be tabled as being the extra over cost for other kinds of insulation to provide any U-value required.

We attach hereto a revised table to cover this part of the section which we think illustrates the point, and at the same time covers flat roofs, items 33 to 41. The table in your form is both misleading to architects and inaccurate regarding price, and can only prejudice in their mind what is the technically superior form in insulated roof covering, whilst also being an economical one.

THE RUBEROID COMPANY LIMITED.

Below, a revised table supplied by the Ruberoid Company for the JOURNAL'S *article on the Thermal Insulation of Factory Roofs published on June 19.*

Weatherproofing cladding	*Thermal insulation*	*U-value*	*Extra over cost of alternative insulation per sq. yd.* (1,000 *sq. yd.*)	*Comments*
Metal decking with ½-in. fibreboard insulation and bitumen felt weatherproofing. Fixed to purlins from 36s. 6d. per sq. yd. (pitched roof) 40s. 9d. per sq. yd. (minimum fall roof) U-value 0·37	Lower U-value provided as required by use of alternative thickness and types of insulation			(i) Class 1 flame spread internally (ii) Exceeds maximum Fire Research Station recommendations for resistance to fire penetration from exterior
	(*a*) 1-in. fibreboard	0·25	6s.	(iii) Allows full control of soffit condensation by selection of correct U-value
	(*b*) 1½-in. fibreboard	0·18	12s.	
	(*c*) 2-in. fibreboard	0·15	18s.	(iv) Vapour barrier available for humid conditions to control interstitial condensation
	(*d*) 1-in. cork board	0·21	8s. 6d.	
	(*e*) 1½-in. cork board	0·16	16s.	(v) Wide range of spans and loads
	(*f*) 2-in. cork board	0·12	21s.	(vi) Wide range of weatherproofing to suit roofs of all pitches and applications
	(*g*) Other thicknesses and types as required	Any required U-value		(vii) Fully sealed construction, including integral gutters

One of the authors replies: We are grateful to the Ruberoid Company for their comments and additional information. In general we accept their criticisms and agree that on balance, it would have been better to omit the below deck types. On the cost issue raised in the first paragraph the quantity surveyor comments as follows:—The 46s. per square yard is intended to indicate an average cost (including builder's profit and attendance) for the various types of decking of metal or asbestos cement covered with felt to compare with average costs of other types of construction. The actual cost in any particular case would, of course, depend on many factors.

Sir,—In the Technical Section of your edition of June 19th, you deal with "Advantages and Disadvantages of Main Methods of Insulation," and in Table 2 set out the various comparative costs for various constructions, a work which I feel sure will be greatly appreciated. There are, however, one or two inaccuracies in Table 2 as far as compressed straw slabs are concerned, and it is these that I want to bring to your notice.

Item 7 Comment states: "Class 3 flame spread: can be reduced to Class 2 by two coats of distemper. Susceptible to fungal attack in humid conditions."

When Stramit is used in humid conditions our recommendation is for distemper *not* to be used as decoration. In such buildings, two coats of paint or a coat of primer and a coat of chlorinated rubber paint is usually used with the result that there is no fungal attack. You will be interested to know that our material has been used on numerous buildings in the Middle and Far East and in agricultural buildings in this country where the humidity is high, without the occasion of fungus forming on the slabs.

Item 32 (Thermal Insulation) states: "2 in. strawboard in tee bearers at 4 ft. centres (on purlins at 2 ft. centres)."

This is, of course, inaccurate, for if the purlins are at 2 ft. centres the long edges of the slabs would be supported by the purlins and the steel tees used as noggings for the ends of the slabs. Since our material is manufactured in standard lengths of 6 ft., 8 ft., 9 ft., 10 ft. and 12 ft., the tees would be at these centres, but certainly not at 4 ft.

Item 32 (Comment) states: "Takes less super loading than wood wool at 2 ft. centres supports but adequate for most industrial roofs."

This is also incorrect. In 1946 a Special Investigation was carried out by the Building Research Station in accordance with BS.1105. The results of this investigation suggest that at 2 ft. centres compressed straw slabs will take a greater loading than wood wool slabs. This can be confirmed on reference to Building Research Station.

Throughout the Table reference is made to compressed "strawboard." Since "strawboard" is used for booking binding, etc., my Directors decided some years ago, to prevent any confusion, that our material should be referred to as compressed "straw slabs."

STRAMIT BOARDS LTD.

One of the authors replies: We much appreciate Mr. Joynes' comments. The note about humid conditions was not intended to be read in conjunction with the note about distempers. I agree that for humid conditions the paint treatment would be more suitable. Your correspondent is correct about the tees. I am not convinced, however, that he is correct about the relative strength of woodwool as against compressed strawboard slabs. I do not regard a 1946 test as sufficient evidence.

Supermen?

SIR,—I have read with disappointment the advertisement of two A.R.I.B.A.S (AJ, August 14) who are claiming that for a cost of £3,000 per annum they can carry out work for which the fees normally payable would be £60,000.

I use the word "disappointment" advisedly because such an ill-advised statement as the advertisement to which I refer is typical of the thinking of many of the entrants to the profession.

The cost of carrying out work is not limited to the salaries of architectural staff, nor indeed is it possible for any two people (no matter how clever) to carry out this amount of work unaided.

At a time, however, when the profession is afflicted by competition from all directions, such a statement can only do harm, since it reflects on the whole of the fee structure.

I hope that the advertisers will reply to this letter over their own names; and if they can show that they can in fact carry out adequately the amount of work that they refer to, I shall be very pleased to offer them a much larger salary than they ask. We could then dispense with the services of a staff numbering between 20 and 30 that I find necessary to carry out work of this value.

A. B. WATERS.

London.

The Belgrade Theatre

SIR,—There are a number of points worth making in reply to Mr. Ling's, and your theatre correspondent's comments on my criticisms. Firstly, Mr. Ling's remarks show how fatally he has missed the point; what difference does it make whether the front row of the audience are separated from the actors by a deep forestage, or a slightly less deep forestage and an empty orchestra pit? Where there is an orchestra doubtless the problem of the apron will be less severe, but how often is there likely to be an orchestra? As I pointed out, the forestage should have been shallower, and should perhaps have consisted simply of a cover over the orchestra pit.

Sight-line planning in theatres is very largely concerned with the difficulties created by audience sitting at the extreme sides, front and back, so that I cannot accept Mr. Ling's airy dismissal of the problem of the stage boxes.

My own information indicates that it is not so easy as Mr. Ling assumes to plot the volume settings for the sound equipment; moreover, what advantages are there to be found in having the lighting and sound control placed adjacent to each other? I know of no other theatre where this has been done, even where both are front of house.

As regards front-of-house lighting, I, too, have heard conflicting opinions from theatre people as to where it should go, but nobody has ever suggested that it is in the right place at present.

All Mr. Ling's comments look all right on paper—to those who have never worked in a theatre.

I am not historically so illiterate as your theatre correspondent supposes. The form of the theatre reached in the late Victorian era is by no means sacrosanct, it simply happens that it, or something very like it, is still the most satisfactory form for the production of the majority of plays in the current repertory.

There is no question that arena stages offer interesting possibilities for the production of some plays in some circumstances, and the experimental groups, both professional and amateur, are doing good work in this field. The brief for the Belgrade Theatre, however, stated that it was to be a repertory theatre, that is, that the vast majority of the plays that will be presented there will be better adapted for presentation behind a proscenium than in an arena. I do not pour scorn on any hint that there might be a case for "fundamentally rethinking the playhouse and the method of presenting plays." I simply do not see that it has any bearing on this case.

Besides this, arena productions often go better in non-specialized buildings with flat floors, in which the shape of the stage and arrangement of seating can be changed at will. It seems most unlikely that either the demand for, or supply of productions of this kind will justify the construction of a specialized building for many years to come.

The really important point about all this, though, is the attitude taken towards specialist advice. Experts do differ, of course, just as architects differ, but this does not matter provided that the architect selects one competent consultant with whom he can work readily. The result will at least be self-consistent. What so often happens is that the architect asks many different people their views in a general way, and, finding that these views differ, selects the view on each particular question that he finds most convenient.

The result tends to be an ineffective compromise, as are those buildings which do not reflect the ideas of one architect or design team, but are designed by a committee.

Besides this, when apparently stupid answers are received from specialists there is a strong presumption that the questions were stupid in the first place. I am frequently told that some particular recommendation of mine conflicts with that from somebody else. On the occasions on which I have been able to track the matter to its source it has nearly always turned out that my, or the other consultant's, recommendations have been taken entirely out of context, since some architects have a truly astonishing desire to find simple general rules for dealing with specialist problems where few, if any, rules exist, and those that there are are neither simple, nor general.

I repeat, competent consultants in various specialist fields differ no more among themselves than competent architects, and are very little more difficult to find.

London. PETER JAY.

NEWS

LGAS

Meeting of Provisional Executive Committee

The first meeting of the Provisional Executive Committee of the Local Government Architects' Society took place at the RIBA on Friday, July 4. Those attending were: T. M. Williams, in the chair, J. Barker, M. E. Holt, J. T. Bell, K. G. Jones, J. Duxbury, C. F. Kim, G. Foxley, A. J. Passmore, A. Goss, Miss M. Shield, A. R. Green, E. C. Tory, S. A. Heppell, E. H. Turner.

In attendance: G. R. Ricketts (Secretary, Professional Relations).

After discussion it was agreed to elect for the life of the committee the following officers:—

Chairman: T. M. Williams (London C.C.); Vice-Chairman: J. Duxbury (Sunderland C.B.); Secretary: K. G. Jones (West Ham C.B.); Treasurer: J. T. Bell (Essex C.C.).

The committee then considered methods of working and it was agreed to form sub-committees as follows:—

(a) A sub-committe to consider organization and finance, consisting of:—J. Duxbury, G. Foxley, S. A. Heppell, and E. H. Turner. (The Hon. Treasurer would also attend meetings where matters of finance were being discussed.) This committee also to give consideration to the calling and organization of the next general meeting.

(b) A sub-committee to consider relations with other associations and unions and possible negotiations, consisting of:—G. Foxley, A. Goss, N. E. Holt, and E. H. Turner.

(c) A sub-committee to consider membership, consisting of:—J. Barker, A. R. Green, C. F. Kim, A. J. Passmore, and E. C. Tory.

It was further agreed that the chairman and secretary should be ex-officio members of all sub-committees, and that an additional sub-committee consisting of representatives of each of those above should meet somewhat later to draft a constitution.

It was agreed that the next meeting should be held on Friday, September 12, 1958, at 2.30 p.m.

SPAB

Repair of Ancient Buildings

The SPAB is again providing facilities for architects and surveyors interested in and responsible for old buildings to obtain knowledge of its principles and methods of repair, and is arranging its annual course, consisting of lectures, discussions and visits, to cover the many important aspects of repair work. It is hoped that local authorities and others who have buildings in their care, or have dealings with them, will be able to give facilities to the architect members of their staff to take advantage of this scheme.

The course will be held from Monday, October 13 to October 18, 1958, and the Society invites those who are interested to apply for further details to the Secretary, The Society for the Protection of Ancient Buildings, 55, Great Ormond Street, London, W.C.1.

STANDARDIZATION

Slow Progress Being Made

The latest issue of BSI News, which has been altered in size to conform to A5, in the A series of paper sizes, contains an article by a chairman of one of the BSI committees, asking for comments from the makers and users of wire, sheet and strip on the American proposals for a preferred number inch series of sheet and wire gauges, and on the alternative series proposed by the International Standards organization. The chairman put three proposals: to leave things as they are; to establish parallel mm and inch series; and to accept one series only.

As regards the usage of unified threads for precision bolts and nuts, a recent survey by the British Fasteners Industry shows that the automobile and petroleum industries are all using large quantities, and other industries are gradually changing over. There is no doubt that the unified thread screw is established and will replace Whitworth and BSF.

CORRECTION

Conference on Building Education

The joint conference on Training and Education in the Building Industry, reported by G. Grenfell Baines in the Journal of July 31, was described by the JOURNAL as having been organized by the Liverpool Regional Federations and the North Western Federation of Building Trade Employers. This is incorrect. These bodies sponsored the conference financially, but the organization was by the North Western Educational Association for the Building Industry, who alternate the organizing of the conference, every two years, with the equivalent Federation in Yorkshire.

Cleeve Barr, deputy architect of the MOE, a former Guest Editor of the AJ, and one of the very few British architects who speaks Russian, attended the Fifth Congress of the International Union of Architects, which was held in Moscow last month. His first report of the Congress is printed below and includes the full resolution which was approved by the members of the Congress. His article concludes with a summary of the reports made to the Congress by rapporteurs Arthur Ling (UK) and C. Van Eesteren (Holland) on Western Europe; Hernan Lurrine (Colombia) on Latin America; Henry S. Churchill (USA) on North America and Liang Si-Cheng (China) on East Asia. In a future issue of the JOURNAL Cleeve Barr will write about the recent developments in Soviet architecture and building which he has observed, and will conclude his summaries of the reports made to the Congress by the following: Chkvarikov (USSR), Hillerbricht (Germany), Toner (Bulgaria), Kump (USA), Fayeton (France), Alabian (USSR), and Baranov (USSR).

IUA

Fifth Congress, Moscow 1958, reported by Cleve Barr

The Fifth Bi-Annual* Congress of the IUA was held in Moscow from July 20-27, 1958. About 1,000 foreign architects from 47 countries, plus some 300 Soviet architects, took part. The theme was "The Construction and Re-construction of Towns, 1945-57." As an assessment of the achievements and short-comings of post-war town planning and reconstruction the reports issued during the Congress make impressive reading. They constitute the most complete record of the subject yet available in any language. They were in fact published in five languages and it is to be hoped that full sets will be available in the RIBA library for consultation by architects and students.

The opening (Monday morning) session of the Congress was held in the Grand Palace of the Kremlin, the chamber of the Supreme Soviet of Deputies of the USSR —followed by a tour of the incredible group of former palaces, bell-towers and cathedrals which make up one of the best maintained and most picturesque groups of architectural masterpieces anywhere in the world. Subsequent sessions were held in the new thirty-nine storey University, surely the largest and most extravagant edifice built by architects anywhere since the war. ("For the price of this university we could have had 10 universities"—Krushchev to a meeting of the IUA Vice-Presidents, July 25, 1958).

The working languages of the Congress were French, English, Russian, Spanish and German, in which simultaneous translations of speeches were broadcast and daily bulletins published. Not all translators were, however, equally efficient, and particular difficulty was caused by speakers speaking in a language not their own, for example, a Dutchman speaking in bad French, which became almost unintelligible in re-translation. The Swedes also seemed to have difficulties with interpreters. By and large the translation service was adequate, but not first-rate. Each member of the Congress was given ear-phones and a tiny portable plastic radio set, which he carried round his neck, and on which a pointer could be set to pick up the language required. Proceedings were necessarily somewhat formal and cumbersome. Intending participants in future congresses should note that it is virtually impossible to crack a joke in five languages at once and only the bluntest and most direct statements are really certain of getting across.

The success of the Congress in making a contribution to the subject of post-war town planning and re-building was to a large extent due to the comprehensive summaries prepared by the main rapporteurs. These are very briefly reviewed below. Another factor was the excellent exhibition, to which all national sections contributed, and the main contents of which were published, with additional notes, in great volumes (vols. 1/1 and 1/2) entitled *Urban Construction and Reconstruction* 1945-57.)† Overlaying the formal business of the Congress, however, was the intense excitement of the peep behind the curtain—the possibility of actually seeing and talking with Russians, looking at towns and buildings, shops, street-scenes and people. Attendance at Congress sessions dwindled as the week wore on, and as individuals, or small groups, made contacts, waylaid interpreters, or the few English-speaking Russian architects, and went off on their own. On most afternoons there was a choice of half-a-dozen Intourist excursions—to exhibitions, museums, art galleries, churches, as well as visits to architectural offices, a school of architecture, and building sites. On RIBA Conference lines, special trips were arranged for ladies (and well-patronized by delinquent architects) to chocolate factories, youth camps, monasteries, and so on, as well as river excursions. The first evening was devoted to a reception at the

* The Fifth Congress should have taken place in Moscow in 1957, but was postponed on account of the international tension following the rising in Hungary. The next Congress will be in London in 1961.

IUA: Founded, ten years ago, with an initial membership of 23 countries. First President, Sir Patrick Abercrombie. *President d'Honneur,* Auguste Perret. With the exception of the Commonwealth countries and certain countries in the Middle and Far East, nearly all countries with an established architectural profession are now members of the union. Membership is on a corporate basis, each national society being eligible to become a member, if it is considered to represent a sufficiently large body of architects. In Britain the RIBA is the national representative body, and it maintains liaison with the IUA through a UK Committee appointed by the RIBA for this purpose. The chairman of this committee is Arthur Ling.

The IUA is strictly non-political. Its aims are, irrespective of distinctions of nationality, race, religion, professional training and architectural doctrines, to establish relations of friendship, understanding and mutual esteem between architects, and to facilitate the exchange of ideas and knowledge within the profession. It is a most encouraging fact that, at the Moscow Congress, the German architects were able to represent their divided country with one national delegation. In spite of the fundamental differences of view between their governments, and in the practice of architecture and town-planning in their respective territories, they were able as architects to unite in compiling one report and one exhibition.

To date, the IUA has held five major international congresses. It also has a number of Working Commissions on such subjects as Architectural Education, School Building in under-developed countries, Housing, Public Health and so on. It is consulted by UNESCO and other United Nations subsidiaries on architectural and town-planning issues. Through UNESCO it has established regulations for the holding of international architectural and town-planning competitions.

The present officers are: President, H. Mardones-Restat (Chile); Vice-Presidents, Robert H. Matthew (UK), Yang Ting Pao (China), G. B. Ceas (Italy); Secretary-General, Pierre Vago (France); Treasurer, Willy van Hove (Belgium).

† A third book (vol. 2), in Russian, describes the history, planning and rebuilding of 15 cities in the USSR. It is well illustrated with diagrams and photographs.

Moscow City Soviet and the last to a slap-up, standing banquet—provided by the Government, for the Union of Architects—in the grounds of the Kremlin Palace. Other evenings included films and a visit to a superb performance of *Swan Lake* by the Stanislavski company. All delegations were accommodated, comfortably, even palatially, in the 31-storey Hotel Ukraina, one of the seven skyscrapers of Moscow. Most visitors would agree that there can hardly be a country with greater contrasts than one sees in Russia, nor one more evidently in a state of rapid change. The towns (and railway stations) still seem to be bursting with newly arrived peasants. The roads are fantastically wide (seven traffic lanes each way) but the vehicles few. There really is *no* litter on the Metro or in the streets, and people drop their cigarette stubs carefully in the waste-paper urns which occur every few yards in all public places. Yet indoor sanitation is unpleasant, due to bad plumbing, and there is almost a complete absence of public conveniences. The quality of clothing by western standards is shoddy and the prices exorbitant —yet no one pays more than a few shillings a week rent (including central heating and hot water, gas, electricity, radio, television, refuse collection and all repairs). On new building schemes the workmanship is execrable, even on public buildings, but in all restoration work it is magnificent. On the same building site, on the same block, one sees in regular use the latest techniques in mechanization and prefabrication, while simultaneously an army of women manhandle concrete from a mixer to a conveyor skip on a board. A description of the Russian scene—at least as far as architecture and building is concerned with be given, however, in a subsequent issue of the AJ.

The organization of the Congress itself, the exhibitions and so on, was well done, and the Russian architects are to be congratulated on their achievement in this respect. The organization of everything else, however, transport, accommodation, excursions, visits, changing money, information and so on was undertaken by Intourist, and no one who has not experienced this organization can possibly appreciate its ineptitude. It is fickle, ignorant, incompetent and wholly incapable of organizing a Sunday school treat, yet it is the sole agency for all the tourist traffic for both foreigners and Russians inside the Soviet Union. It sends people on prodigious train journeys (25 hours Moscow to Helsinki) with not even a sandwich and no intimation that there is nothing to eat *en route*. It books parties first-class and finds there are only third-class carriages available. It reserves hotel accommodation, weeks in advance, and finds there are no beds. It is a standing joke amongst Russians themselves (like bureaucracy and paper permits). Its only consolation is the slap-happy kindliness of its staff (half of whom are students doing holiday work), who smile charmingly when they learn that the train you booked for is full up, and say "well, you must stay till to-

Above: the Moscow State University (built 1948-53, architects Rudnev, Chernishev, Abrosimov, and Khrekov) in which the Fifth Congress of the IUA was held. The lower floors in the main block consist of conference halls, club rooms and communal facilities. The centre tower from the 3rd to the 23rd floors contains the faculties of mechanics and mathematics, geology and gegraphy, with museums from the 24th to the 31st. The inner 18-storey wings contain 6,000 study bedrooms, and the outer 9-storey wings contain further faculties of physics, chemistry and philosophy. Below: the Ukraina Hotel, Moscow, in which the IUA delegates were accommodated—seen from a good half-mile away across the river Moscow, and taken with a telephoto lens.

morrow night." (" But what about my plane connection to London, and my visa will be out of date? . . . oh, hell! ")

The Congress lasted from Sunday to Sunday in Moscow, and delegates then dispersed to all parts of the Soviet Union (time, money and Intourist permitting) on a series of excursions. Leningrad was the most popular excursion, but parties and individuals also went to Stalingrad, Kiev, Kharkov, Odessa, the Crimea, Sochi, on the Black Sea coast, and places like Tbilisi and Erevan in the deep south. The least represented nation was the United States. Over two hundred American delegates were said to be en route to Moscow, somewhere in Scandinavia, when the storm broke over the Lebanon. Only half-a-dozen or so decided to continue to the Congress. This, as it turned out, was most unfortunate, since there is no doubt that they would have contributed materially to the Congress discussions, particularly on the problems of traffic in the modern city.

The most numerous delegations were the French and the Swedes. The British party consisted of about eighteen (including several wives), plus ten students. Arthur Ling and Robert Matthew attended as official representatives of the RIBA.

The students were separately accommodated, in semi-dormitories, and received specially advantageous financial terms. Several of them submitted school work to a students' exhibition and received premiums of 200 roubles (about £7) each.

At the last session of Congress the national sections of architects representing Colombia and Viet-Nam were formally admitted to membership of the IUA.

It is very difficult to pin down this or that contribution for detailed comment, in a conference which covered so broad a theme and in which the contributions, spoken or written, aggregated over half a million words. The main value unquestionably lay in personal contacts and meetings between architects of widely different backgrounds, social systems and experiences. One recalls vividly the impact made by the scale of Soviet town-planning and the tempo of industrialization of their building industry. On the other hand, one was slightly surprised by the keen interest of the Russians and East Europeans generally in British post-war reconstruction, and especially in the work of the new towns. The reconstruction of Coventry, particularly the separation of vehicular from pedestrian traffic, received wide acclaim. So did the master plan for Harlow—for its use of the contours and natural features of the landscape, for its industrial zoning, for its residential layouts, shopping centres and pedestrian ways. British town-planning standards*—daylighting, residential densities, car-parking, open space amenities and the whole conception of small neighbourhood units based on school catchment areas and local shopping centres—are undoubtedly highly regarded in widely different parts of the world. They are certainly influencing the Soviet Union in the design of their proposed satellite towns for Moscow and Leningrad. On the other hand, a leading Chinese architect strongly rejected the idea of too-rigid zoning proposals—other than for heavy industry—and, to reduce transport distances, favoured a distribution of light industry and office buildings amongst local residential development.

It was a pretty salutary shock for western Europeans to come face to face, for example, with the problems of the Chinese and the Latin Americans. Architects from these countries have hardly yet arrived at the stage of setting " desirable standards " —as they are faced with the problem of providing minimum economic shelter for millions of peasants seeking work and a better life in the expanding towns. On the other hand, to record yet another contrast, in the students' exhibition was a delightful Chinese painting, at least double-elephant size, of a scheme for a town-centre set in a valley, surrounded with craggy trees and mists and ranges of mountains, the whole thing evocative of a previous and more leisured age.

Several French architects made direct and pungent attacks on the monumental and formalistic character of Soviet architecture, and Robert Matthew made an excellent contribution on the need for human scale in town design. These criticisms were well received and the Russians openly confessed that both in lay-outs and in architectural character they had for some years followed a wrong line and had too often and too slavishly copied historical styles. On the other hand, they defended the scale of their town-building, the monumental flights of steps and the size of their squares and open spaces as an expression of pride in socialist achievement.

A major point of discussion, on which there was a large measure of agreement and strong feeling, was the necessity for a national economic plan (absent in most western countries) as a basis for regional planning or for proper town planning itself. The advantages of public ownership of the land were stressed by east European delegates. A Frenchman suggested that the Russians—because their economic system offered the facility for doing this sort of thing—should hold an international competition for the design of a new town. This would enable western architects to engage in friendly competition with eastern Europeans to show what each could do. No immediate reply to the suggestion was, however, made.

A number of speakers from many countries, from Japan to Germany, referred to the destruction caused by wars, and to the negation, which war implied, of all creative architecture and town-building. William Ohlsen (Sweden) proposed a resolution urging the banning of nuclear weapons, and a Latin American delegate called for a reduction in armaments and a lessening of international tension. There was, however, some immediate dissent on these issues, annd without lengthy discussion, the President wisely decided to refer the matter to the Executive Committee.

At the end of the Congress, a general resolution prepared by the Executive Committee, was put to the meeting and carried unanimously. It is necessarily in general terms, but it is significant in representing the highest common measure of agreement reached after considerable debate, between architects from all parts of the globe—from vastly different economic, political, ethnographic and climatic backgrounds. In detail, the reference to the principles to be observed in expressing housing densities (the subject of much debate) is an indication of the extent to which the Russian architects and their east European colleagues have been influenced by western thinking—most of these countries up till now having regulations which as a general rule condition housing densities by the number of storeys in a given development. (See opposite page, para.: " Housing.")

Resolution

" Architects of all the world assembled in Moscow, at the Fifth Congress of the International Union of Architects, have studied the results achieved in the field of building and reconstructing towns in the last 13 years since the Second World War, which caused the destruction of towns in many countries. The Congress is a logical culmination of the work begun at the congresses in Lisbon and the Hague, which revealed that the creative efforts of architects, particularly in the sphere of housing, are bound up intimately with problems of town planning.

" The rapid growth of the urban population, the need to reconstruct towns and the need to improve the living standards of the peoples of all the world, require the architects to approach the problem of building on a town scale, so as to improve the welfare of town populations and improve living conditions. Architects, builders and statesmen should focus their special attention on housing development both when reconstructing existing towns and when building up new ones.

" The extensive materials submitted to the Congress by the national sections of the IUA, the recommendations of the rapporteurs, based as they were on these materials, and the numerous observations and suggestions introduced in the course of the discussions, reveal that, at the present time, town planning has become a matter of prime importance, and have made it possible to define certain town planning principles, on which the architects are of a single mind.

In this epoch, an epoch of vast social change and unprecedented progress in science and technology, the development of towns according to plans based on scientific foresight has come to be a vital necessity.

NATIONAL PLANNING AND MASTER PLANS OF TOWNS : To make full use

* By this I mean, not past practice, but current standards applicable to new urban development.

of a country's resources the national plans must provide for the siting of industrial and other establishments. Plans of that kind will serve as the basis in the extension of existing towns, the building up of new towns and, if necessary, the development of satellite towns. Every effort should be made to limit the growth of cities.

Projects of planning and building a community must be preceded by regional planning. The town comes into contact with its adjacent districts through its suburban zones.

TOWN STRUCTURE: Town planning and development must be based on a long-term master plan and on detailed priority projects of planning and development, which should make provision for the principal elements of the town structure—housing, zones of industry, planting, transport, administrative, cultural and public establishments, engineering equipment and public services.

HOUSING: The neighbourhood is the structural unit for the planning and development of dwellings.

The ideal size of a neighbourhood may be determined only in relation to existing economic, geographic and social conditions.

As for the density of housing, certain principles may be defined:

Housing density should be expressed by the overall habitable floor space or volume of completed buildings related to site area, and this index should be supplemented by population per hectare.

It is only in exceptional cases that housing density may be related to the number of storeys, even if average indexes of height are taken.

TRANSPORT: The tremendous growth of town traffic and transport calls for a rational solution of the tomorrow's transport problem that would not detract from the convenience of the town population.

All available means should be employed to combat difficulties in town traffic,

—adequate siting of residential areas and zones of industry;

—convenient interrelation of town and suburban transport facilities in line with modern technical achievements;

—clear-cut differentiation of the thoroughfare network;

—a decentralized system of parking spaces for automobiles and, last but not least, provision of streets and squares for pedestrians.

TOWN AESTHETICS: Not only must a town meet the functional, technical economic and social requirements, the aesthetic architectural pattern of a town must endow it with distinctive features and individuality, and reflect upon the way of life of its population. Town architecture must reflect advanced techniques and social progress. In realizing large-scale building plans, developing large residential areas and laying out a comprehensive network of thoroughfares, the architects must proceed from human scales and the functional requirements. Rigid planning and standardization of building elements may easily lead to monotony. Every effort should be made to introduce variety by a free siting of buildings, using different materials, textures, colours and planting. Monumentality has a definite

A section of the delegates, with some of the British contingent in the bottom left foreground, in the main Assembly Hall of the University (seating 1,500). Speeches were simultaneously translated into five languages, and delegates were issued with tiny radio receivers, worn round the neck, and head-phones.

place in town development, but the principal aim of housing, both in cities and in regional centres, is the creation of a pleasant environment for the human being.

LEGISLATIVE, ECONOMIC AND SOCIAL ASPECTS IN TOWN PLANNING: In a planned economy every effort should be made to relate long-term economic plans and forecasts with the projects of district planning and master plans of town development. Wherever there is private landownership steps should be taken to enhance legislation thus facilitating the implementation of town planning projects by the authorities.

Local authorities should control the normal development of towns. Each city should have a chief architect endowed with appropriate powers and assisted by a staff of associates.

It is essential that town planning legislation should from time to time be revised, so that the realization of new ideas should not be impeded by outmoded rules and regulations, or bureaucratic control.

Finally, every effort should be made to extend the professional scope of architects and town planners.

Progress in modern town development is unthinkable without the active support of science. That is why in all countries research institutes and academies, devoted to town planning and development, should be requested to work out the fundamentals of modern town development with cognizance of scientific and technical progress.

TECHNICAL ASPECTS OF IMPLEMENTING TOWN DEVELOPMENT PROJECTS: Architects have dedicated themselves in all earnest to the industrialization of building. Industrialization alone will enable them to derive the greatest benefit from manpower and material resources.

Having taken the lead in this movement, they assert that building is a means of embodying values in architecture; and that industrialization may produce a new aesthetics.

* * *

To carry out these tasks the architects of all the world, represented in the IUA, must multiply their efforts to widen their scope.

Questions of town development should be handled by diverse specialists under the guidance of a person possessing extensive knowledge and a sense of co-ordination and harmony in space and time.

The architect, by his very essence, possesses all these qualities, which naturally put him at the head of this work.

The objectives of town development are related to the vital interests of hundreds of millions of people. Their solution will have a bearing on the life of the future generations. For this reason, the public and the Governments of all countries should be informed of the purposes and importance of town development.

The International Union of Architects asks the support of Governments in developing regional planning, town planning and in strengthening town planning legislation.

But all efforts will be in vain if there is no peaceful co-operation and mutual understanding between the peoples of the whole world. This is the principal requisite of creative development.

Congress lessons for London, 1961

The Sixth Congress of the IUA will be held in London in 1961, on the theme "The Influence of Contemporary Materials and Techniques on Architecture." The organizers will be able to benefit greatly from a study of the successful points, as well as the minor weaknesses of the Fifth Congress. Some points worth noting are as follows:

1. Many architects, travelling half-way round the world to visit London, are bound to wish to bring their wives with them, and to have excursions arranged. But these should not be arranged coincident with Congress sessions, except for wives only. Morning Congress sessions with afternoon visits is a good arrangement, and the latter should concentrate on good contemporary buildings, within an hour's radius of London.

2. Several hundred delegates (speaking a dozen different languages) are, of course, an impossible number to take round a building site, or even into the Kremlin, at the same time. The advance notification system for excursions in Moscow in fact broke down and guides coped with individual requests as best they could. A proper system of advance booking should be organized with every available London architect (or at least several hundred), with interpreters, fully briefed to take parties to sites and buildings of interest.

3. All transport, accommodation, bookings, currency exchanges and so on should be arranged by a first-class agency (or a pooling of agency resources).

4. The division into classes—in Moscow of all places—was unfortunate. *De luxe* for the executive, half-*de-luxe* for rapporteurs, first-class for those wishing to pay extra for meals they never had time to take anyway, second and third classes (at different price levels) which no one could differentiate, and then the students. National delegations were thus split up in different dining-rooms and found it most difficult to meet to discuss common arrangements. There should be one class only with good simple food, avoiding any attempt at *de luxe* catering.

5. The problems of such a conference are great enough without the complications of trying to run separate facilities for student exchanges at the same time. By all means have international student conference, discussions and exhibitions—but separately.

6. The lounge or common-room facilities for getting together (other than the bedlam Intourist counters for passports, currency changing, theatre tickets and so on) were inadequate.

7. The congress lapel badges contained no indication of the delegate's name or nationality—an essential help to mixing delegations socially.

8. Several national delegations failed, before the Congress took place, to deliver material to the 12 rapporteurs in time for inclusion in their regional summaries. Some delegates, notably the USA, failed to contribute material supplementary to their exhibition screens for inclusion in the final printed volumes. The permanent exhibition was a valuable adjunct to the Congress.

9. The organizers failed to send out the main congress reports to delegates before arrival in Moscow. These should have been despatched to delegates at least six weeks in advance of the Congress date to enable them to be read before discussions took place.

10. Each speaker must be directed that his paper shall be in such a form that a summary of its contents and conclusions is immediately evident. Many of the contributors to the Fifth Congress failed sadly in this respect.

The main reports, which vary from 5,000 to 25,000 words in length, were distributed to delegates (in five languages) on the first day of formal business of the Congress. The rapporteurs spoke to them, summarizing the substance of them for the benefit of delegates. Subsequent speakers were required to submit their contributions also in writing, and all spoke from the platform box. The earlier sessions of Congress dealt with the theme of the functional and æsthetic aspects of city planning; the later sessions with economic and social principles, and with technical problems of building.

Summary of Reports

Arthur Ling (UK)—Western Europe

Ling had the task of summarizing, on the basis of reports submitted by IUA sections, the achievements of Western Europe in the reconstruction of war-damaged towns and the construction of new towns. The only examples of new post-war towns outside Great Britain were those with an economic origin like Emeloord in Holland and Esquivel in Spain, which serve as centres for bringing new or neglected land into cultivation. New satellites such as Langwasser (Nuremberg) were really extensions to existing towns.

The fundamental issue was "whether the distribution of industry, and therefore of population . . . should be planned to make full and fair use of land and resources." He advocated the expansion of existing towns to make full use of regional resources, rather than "artificially located satellites" which achieved only a short distance movement of people and an extension of influence of the metropolis. The Copenhagen "finger" plan, the "fingers" being held sufficiently apart to enable green wedges almost to penetrate the heart

Robert Matthew, and a group of British students, at Cheremushki, an experimental housing site containing point-blocks and 4-storey blocks on western lines, in south-west Moscow.

of the city, made great virtue of necessity. He quoted English opinion as tending towards 100,000 rather than 50,000 as an optimum size, and also as now favouring more compact development (Cumbernauld). French policy was directed towards decentralizing Paris (which contains 35 per cent. of the French population), stabilizing existing big cities, rehabilitating some 26 areas of declining employment, and rehabilitating rural life in villages with over 3,000 inhabitants. However, as van Eesteren pointed out, French policy is not "sealed legislatively."

The reconstruction activities of Western Europe demonstrated, in Ling's view, the vitality of cities, which "belied the prophets of urban doom." In some cases, due to the urgency of replacing the devastation, decisions to re-create a previous environment had often been made without adequate thought (St. Malo, or Middleburg) and the full measure of the traffic problem had been everywhere underestimated. The question of land ownership had also greatly influenced the character of urban development. Best results had been gained where public powers were taken to acquire land compulsorily (not necessarily on the basis of confiscation) for comprehensive redevelopment. England and Holland had begun to prepare new legislation during the war. Western Germany, where the emphasis was on the inviolability of private property, was a conspicuous case of a country with fine new buildings and extensive reconstruction, but with few examples of comprehensive replanning.

On zoning principles, Ling suggested that planners had tended to go to extremes of excessive tidiness (for example, the exclusion of residential elements from city centres) and noted that this was now being corrected. On the form of city centres, he said, the issue was between the traffic street as the dominant element (Le Havre, Plymouth) and the separation of vehicles from pedestrians (Kassel, Rotterdam, Coventry). "Renaissance forms of planning are no longer valid for the modern city. . . ."

C. Van Eesteren (Holland)—Western Europe

Van Eesteren (co-rapporteur with Ling) attempted a summary of the problems and progress of "urban remodelling" in Western Europe. He pointed out that large areas of cities built in previous centuries, or at the beginning of this century, no longer meet the living standards of today, and that the havoc wrought by the war has only emphasized the need for redevelopment. He is himself slightly obsessed by the problem of the conscience of the individual in grappling with the problems of the community, and stressed the importance of relations between architect-planners and local government authorities, and of educating the public (from school onwards) in the need for town-planning in its widest sense. He developed at considerable length his view that there should be a future congress on the æsthetics of town-planning, "the appearance and form of a city." "It is not," he said, "an æsthetic doctrine, but inspiration that is indispensable to creative endeavour"—but Congress did not pursue this theme very far. His contribution suffered obviously in translation.

The speaker gave a detailed summary of the replies of national sections to a questionnaire on town-planning principles and statistical standards (population structure, structure of towns, traffic statistics, open space, shops and cultural amenities, industrial zoning, and so on). Unfortunately, the replies were in varied forms and give the impression that the questionnaire may have been itself over-optimistic or unrealistic. For example, on housing:

England: Harlow, 123-148 persons per hectare* (80 per cent. of population have houses and gardens); Coventry, 40 flats per hectare; London, 173-494 persons per hectare (from periphery to central zone).

Denmark: Copenhagen, 100-200 persons per hectare at the centre; 25-75 persons per hectare at 1·5 kilometres out (80 per cent. of built-up area consists of flats).

Norway: Two- or four-roomed house is typical.

Sweden: "Proportion of multi-storey housing growing steadily."

Switzerland: "No official density regulations."

Holland: Amsterdam, "For economic reasons, Amsterdam cannot build more than 30 per cent. new single-storey dwellings."

Germany, new central areas: Magdeburg, 450-500 persons per hectare; Leipzig, 500 persons per hectare; Bremen (west suburbs), 53 per cent. two storeys, 42 per cent. three or four storeys, 5 per cent. seven storeys; Nuremberg (Langwasser), 50 per cent. higher than two storeys.

Van Eesteren concludes that "the methods and organization of town-planning have reached such a stage in Western Europe that they can furnish norms and standards for any department of town construction . . . . the establishment of norms and the clever functional zoning of the urban territory are not very difficult problems. It is much more difficult to ensure an adequate quality of construction, particularly from the engineering and artistic standpoint."

Hernan Lurrine (Colombia)—Latin America

With considerable Latin American feeling, Lurrine said that his continent had a population of some 175,000,000 people, who were increasing at the rate of 2.4 per cent. per annum. Architects should not withdraw into an ivory tower, but should co-operate with economists and sociologists to seek ways to raise living standards. Vague resolutions were not enough. The IUA had a consultative voice in the UN Economic and Social Council and should use it. He proposed that a standing consultative IUA commission should be appointed, on a geographical basis, to maintain contact with the UNO, and to stimulate scientific research. If architects did not take a lead in these matters, by the year 2,000, millions of people (the world population is increasing at the rate of 3,000 every hour) would be living in new cities in utterly inadequate and inhuman conditions.

In Latin America (which contains 20 independent countries) the population of the major cities has increased 50 per cent. in 10 years, largely due to the influx of rural population. "The poor sanitation caused by industrial and other nuisances disturbing normal life, is aggravated by the scarcity of recreation zones. . . ." This group of countries lags far behind other regions of the world, and, despite their common historic, geographic, economic and social features, they fail to co-ordinate their development.

Standards for housing, schools, industry, and so on, all exist and are in process of

* Very approximately 100 per acre=250 per hectare, or 40 per acre= 100 per hectare

development. "Almost all Latin American cities have a rectangular lay-out based on 100 m. × 100 m. blocks—a system called into being by ordinances of Charles V at the time when the first cities were founded by Spanish colonisers in the 16th century." This causes a problem of differentiating traffic, since all streets (excepting a few central avenues) are of identical widths.
New cities based on the development of new heavy metallurgical or mining industries, include Volta Redonda (Brazil), Monterrey (Mexico), Paz del Rio (Colombia), Caroni (Venezuela), and Juachipato (Chile). Another type of new city, based on political and administrative functions, is Brazilia, the new capital of Brazil, now in construction.
The problems of reconstruction in Latin America arise, not from war damage, but from economic and social conditions, lack of control over the movement of people, regions of substandard sanitation, noxious industries in residential districts, and the mixture of a rich historic architecture with modern buildings.
According to estimates of the Pan-American Union, the annual housing requirements are:

	Urban	*Rural*
To meet annual shortages	143,000	505,000
To replace, gradually, worn-out buildings	41,000	76,000
To meet population increase	424,000	51,000
	608,000	632,000

Since housing construction now aggregates only 240,000 dwellings annually, there is a cumulative gross deficiency in the continent of some 1,000,000 dwellings per annum.
Lurrine outlined the various measures being taken to mobilize capital for investment in building. He also described the various kinds of dwellings, from multi-storeyed flats, with brick-filled reinforced concrete frames, to houses of reed, bamboo, or unbaked clay and thatch.

Henry S. Churchill (USA)—North America
Churchill summed up American experience in a terse, efficient paper, which flung a new dimension into the thinking of many delegates present—that of the motor-car.
"The enormous technological changes of the last 50 years have made large parts of our cities obsolete. . . . The automobile has made it possible for us to avoid, at least in part, the problem of obsolescence. Families by the thousand simply left the central city. . . . Since 1945, some 10 million low-cost and medium-cost houses have been built on the fringes of the cities, and whole new cities, like the Levittowns and Park Forest, have been built on raw land. . . "
"The major urban problem is to rebuild our cities so that there will be a place for both the automobile and for people . . . . "
On city planning, Churchill described the various administrative measures in use, and the efforts of citizens' committees to popularize particular projects. "Zoning has been found to be merely a negative instrument of little worth. . . . " Procedures under the Urban Renewal Administration had been extremely cumbersome. "It takes from 5 to 10 years to go from authorization . . . to the start of actual work, and although nearly 300 projects have been approved . . . only parts of 17 have been completed."
He also described in detail Levittown, PA, "which differs from the rest of the vast peripheral growth of housing around the cities only in having been planned and built on such a large scale that it was necessary to provide community facilities . . . . "; and successful examples of urban renewal, based on highway or parking construction, in New Haven, Conn., Tarrytown, N.Y., Detroit, Mich., and Los Angeles. ("There has been virtually no planning in Los Angeles, except that of the State Highway Department in its desperate effort to keep wheels moving.")

Liang Si-Cheng (China)—East Asia
In view of the limited number of eastern countries which are as yet members of the I.U.A., Liang was able to cover in his report on East Asia, only the activities of Japan, North Korea and the People's Republic of China. Regretfully, this brief review will have to be limited in the main, to China. He described the development of national economic planning in China since the liberation in 1949, and planning at regional and city levels. 156 towns were now covered by master plans in China. In North Korea, where 85 per cent of cities were devastated "like Warsaw," more than 40 cities had been planned.
In China, a "town" is anything over 50,000 population. Anything less is called a "settlement." A medium-sized town—and most average new towns would be of this size—would have from 50,000 to 200,000 or 300,000 inhabitants. In addition there would be many cities, such as the capitals of large provinces, with well over 500,000 people. He listed his "basic principles" for city planning, and these compare quite closely with the terms of the Congress resolution (page 298)—but are expressed in delightfully simple language. On zoning—"the functions of commerce and other institutions of public facilities are to render services to the great mass of people. Therefore they should be evenly spread out in a network system over the entire residential districts. . . . To cite as an instance, many of the administrative office buildings in Peking are built with their residential quarters in blocks behind them. I consider such arrangements quite reasonable. . . . "
On housing, Liang said, "It is clear that the primal consideration in Eastern Asiatic countries is that of easing off the extremely acute shortage. The question of high or low standards is secondary. . . .
"In Eastern Asia there live about half the population of the world . . . . According to Indian statistics of 1952, the average number of occupants in a room 10 ft. square is five adults . . . . In China statistics of 175 cities collected in 1957 show that the average living space per head is only 3·5 square metres. . . .
"Oh! Be there spacious mansions,
With thousands and thousands of rooms,
Let the poverty-stricken homeless
All beam with happy smiles! "*
In China, standard house plans in use at the moment contain "one, one-and-a-half and two room sizes" equivalent to living-areas of 9, 12 and 15 square metres respectively.†
As regards densities, the average in China in the immediate future for one and two-storey development is 500 to 600 persons per hectare (200 to 240 per acre), and for three to five-storey development it is 1,000 persons per hectare (400 per acre).
The Chinese government has devoted a great deal of attention to mass planting, which will not only create beauty in towns but which will cover the bare mountains and deforested land, minimize wind and dust storms, and bring about a fundamental change in climatic conditions and the health of town and countryside. The campaign, "Over all green" and "Plant trees on all 'Four Sides' (house sides, village sides, road sides, water sides" seems to have swept the country. A mountain village in Shansi became the national champion last spring with an average of 4,000 trees planted by *each person* in the village. Shanghai is planting 120 million trees this year and will be self-sufficient in fresh fruit in 10 years. In 13 provinces plus Pekin, ten thousand million trees have been planted this year. Every garden, community green or city square, every street and side road will be planted with trees flowing into green belts, public parks and suburban woods.
Liang also referred to the problems of the redevelopment of old cities (apart from the reconstruction of destroyed cities) which his country had inherited. Of 157 large and medium-sized cities, only 63 had water supply systems and only 59 had sewage systems. The open sewers of Pekin, Shanghai, Tientsin and other great cities had now been cleared. Apart from public works by the government, a vast improvement in sanitary conditions had been undertaken by the Patriotic Hygiene Movement. In Pekin, for example, six centuries' accretions of debris, garbage and human manure—some 960,000 tons—had been removed from the city by voluntary labour. Similarly, many towns and even whole counties had now been declared free of the "Four Evils" (flies, mosquitoes, rats and sparrows). "The principal evils of the 'slums'" declared Liang, "have been to a great extent eliminated and although the houses still remain old and crowded, and the standard of facilities low, they are clean and orderly. . . . It goes without saying that the old inferior houses must be entirely replaced by decent livable houses . . . . Their reconstruction can be carried out only step by step . . . . "

* Lines quoted from Du Fu, a Chinese poet of the eighth century.
† As in the USSR, "living-area" or "floor space" means the area of bedrooms and living-rooms only; kitchen bathrooms and circulation areas are excluded.

technical section

THE INDUSTRY

Brian Grant describes a new bottle trap, ventilation of asphalt roofs, light fittings and a new steel bath.

Bottle trap in polythene

To the Plastronga range of polythene fittings and tubes there has now been added a high strength bottle trap which is claimed to be resistant to household detergents. The traps are made with 1½-in. and 3-in. seals, and have a central vertical tongue,

The Plastronga bottle trap.

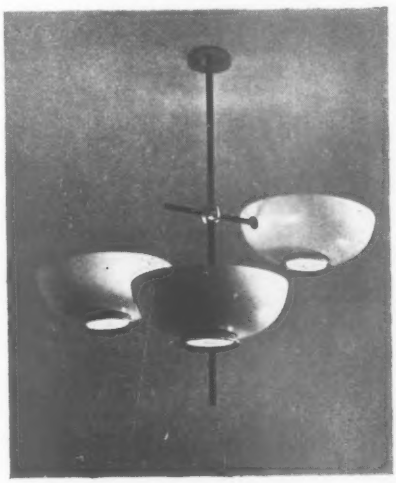
the waste passing down one side and up the other, so that there is less liability to blockages. The lower part of the body unscrews for cleaning, and there is a 1½-in. nut on the inlet for connection to the sink and an outlet to connect to the same size normal gauge BS.1972 polythene pipe with the Plastronga flange. (*Yorkshire Imperial Metals Ltd., P.O. Box No.* 166, *Leeds.*)

Insulation under asphalt

When roof insulation is laid over screeds or directly on top of structural concrete, there is always the danger that it may become damp, and while a top layer of asphalt will protect the insulation from any further moisture, it will also prevent the evaporation of any existing moisture, which may then ultimately penetrate the roof structure and show as stains. In order to overcome this problem the Natural Asphalte Mine Owners and Manufacturers' Council has just issued a leaflet showing the type of ventilator recommended to allow insulating materials and screeds to dry out. The section below shows a typical arrangement, with bricks laid four courses high and having air or louvre bricks in the top course to provide air vents. A paving slab is used to cover the main outlet and the asphalte is turned up two courses and tucked in. One ventilator for every 60 to 70 square yards of roof is recommended, and there should be at least two in all, at the upper and lower ends of the roof fall. They can be removed after the insulation has dried out, but it is generally better to leave them in place so that they may help to deal with condensation. (*The Natural Asphalte Mine Owners and Manufacturers Council,* 94, *Petty France, Westminster, London, S.W.*1.)

Lighting fittings

Allom Heffer have just produced a very well laid out list of lighting fittings in which the illustrations are not made from the usual half tone blocks but are actual photographs, with the result that the fittings are very well shown and the dimensioned drawings provide all other essential information. Tungsten and fluorescent fittings are produced, both for ceiling mounting and suspended, as well as recessed, and there are various tungsten wall fittings. Prices are, as usual, bedevilled by purchase tax, but are not unreasonable. (*Allom Heffer & Co. Ltd.,* 17, *Montpelier Street, Knightsbridge, London, S.W.*7.)

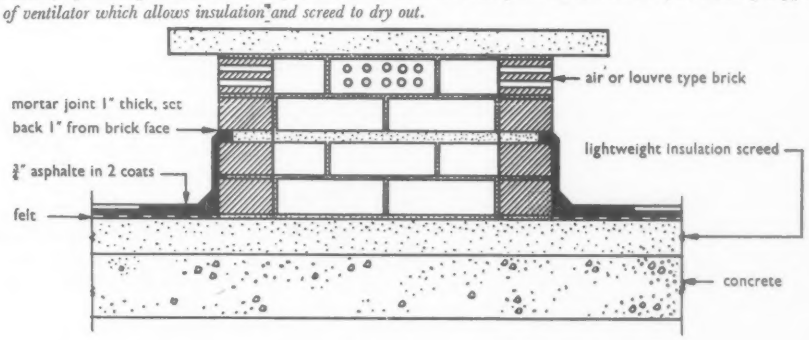


One of the new Allom Heffer light fittings—the TP.4/v3 for 3 100*w. lamps.*

Pressed steel bath

The Regina bath, now being imported from Germany, is a single pressed steel unit with a white acid-proof vitreous enamel finish, and is ready holed for waste and overflow, and also for pillar taps. The weight of the bath is only 90 lb., or about half that of the conventional cast iron type, so that it is easy to handle and less liable to damage during installation. Dimensions are 67 by 28 in., and a further model 4 in. shorter will be available later on this year. (*Oscar Moenich & Co. Ltd.,* 51, *Crutched Friars, London, E.C.*3.)

Section, reproduced from the Natural Asphalte Mine Owners and Manufacturers Council's leaflet, showing a type of ventilator which allows insulation and screed to dry out.



CONCRETE, MORTAR AND RENDERING MIXES . . .

MARLEYMIX

ready-to-use DRY MIXES

CONTROLLED INGREDIENTS
CONTROLLED MIXING . . .
CONTROLLED STRENGTH

USE THE RIGHT MIX FOR THE RIGHT JOB

1	**FINE CONCRETE MIX** With aggregate ¾" down, guaranteed high strength and good workability. Recommended for all concrete work where fine finish is required.
2	**COARSE CONCRETE MIX** With aggregate 1½" down, for path bottoming, infilling and similar work.
3	**CEMENT MORTAR MIX** High strength and impermeability for cement screeds, rendering over brickwork in contact with the earth, drainage work, engineering, brickwork and general purposes.
4	**BRICKLAYING MORTAR MIX** The highly plastic mortar having all the working characteristics to give a speedy, clean job. The mortar is compounded for the moderate strength recognised to be reliable in brickwork. Mortar has excellent bond to bricks and incorporates a water-repellent to reduce absorption. Consistent colour of pointing is assured.
5	**RENDERING/PLASTER UNDERCOAT MIX** The cement-lime-sand mix designed for ease in application, good bond to the wall with the moderate degree of strength suited to this application. A water-repellent is incorporated.

PACKED IN MULTI-WALL SACKS OF APPROX. 1cwt CAPACITY

FULL DIRECTIONS AND COVERAGE PRINTED ON EVERY BAG

AVAILABILITY: Initially MarleyMix is being marketed from our Aveley, Essex, factory and will be available through stockists within a 30-mile radius from there — which includes the greater London area. Subsequently the special plants necessary will be installed at all our factories in Great Britain, making possible a country-wide coverage.

Full technical details from:
THE MARLEY TILE CO. LTD., STIFFORD RD., S. OCKENDEN, ESSEX. *S. Ockenden 2201*
Head Office: SEVENOAKS, KENT. *Sevenoaks 55255*
London Showrooms: 251 TOTTENHAM COURT ROAD, W.1

technical section

We know that repairs and maintenance occupy about one-third of the building labour force. They do not occupy an equal proportion of architects' time, but they are still an important part of architectural practice. Conscious that we have neglected this side of our readers' interest, we have asked Donald Insall, an architect who has specialized in this class of work and a former Lethaby scholar,* to write a *vade mecum* on it. This we are publishing in two parts. The first part, which deals with the administrative background of preservation work, we are retailing through the JOURNAL as three double length technical articles. The second part, which describes current repair techniques, we will publish as a special issue. The present is a critical time for preservation work, if only because traditional techniques no longer hold a central position in the training of architects and are likely shortly to lose this position in the training of craftsmen. As we are aware of the difficulty experienced by architects of the new generation in handling old buildings, we have asked our author to be very explicit, even at the risk of stating the obvious. If, therefore, readers find some of his comments elementary, the fault is ours, not his. Lastly, we have an important acknowledgment to make. This work was originally conceived as a tribute to the Society for the Protection of Ancient Buildings who, as readers may remember, had their eightieth anniversary last year. To ensure that it should be acceptable as a tribute and, at the same time, to take advantage of the fund of experience which the SPAB commands, we have asked the SPAB's Technical Panel to check the text and to add their comments. This they have kindly done.

* holder of one of the SPAB's Lethaby Scholarships.

THE REPAIR AND PRESERVATION OF OLD BUILDINGS, 1
introductory, the legal background, money

Introducing his subject, the author, Donald Insall, describes the need for a " preservation plan " for each building, which will take into account the relative urgency of each repair, the money available, and the best use of craftsmen's time. He then discusses legislation which particularly affects preservation work, notably the Town and Country Planning Acts and Section II of the 1957 Housing Act. The last part of this first article deals with the all-important question of how to find the money: with the Schedule "A" Income Tax provisions, with Local Authority Improvement Grants, and with Historic Buildings Grants.

Every architect must have experienced the problem of giving the best possible advice, not only on the needs of a building, but to a great variety of owners, with widely different standards of repair and depths of pocket.

With old buildings, the problem is even more acute than with new ones. For the building has already, as it were, its own standards and needs, which may or may not match those of its present guardian. It is the architect's task to help in solving the needs of both. What is needed above all in intelligent maintenance is a definite policy. This policy must take into account both the general state of the building, and also the special needs of its present owner. The architect, like many professional men, may here find that he can be much more helpful than his client had expected. The owner will naturally tend to see the problem in terms of a draught to be stopped, or damp plaster to be waterproofed—or, on the other hand, a crack of earthquake significance. His architect should from experience be equipped to take the wider view and to give him a balanced picture, taking account of the whole state of the building. In fact, the most valuable service of all he can render is first to give him a clear idea of the *relative* importance of every attention a building requires. The technique of preparing surveys and reports will be discussed in a later article.

Perhaps the next most useful service will be to help with financial problems. Money for repairs and maintenance is nearly always hard to come by, especially for the owners of old buildings. Balanced attention to repairs by their relative urgencies will enable the most to be done with a small budget. Further, there are now various systems of alleviation and assistance for building owners, aimed at making the situation of people living in old houses less impossible than it might otherwise have been. Local Authority Improvement Grants and Historic Buildings Grants will be discussed later in this article. To these should certainly be added the provisions of the Income Tax

technical section

regulations, especially with relation to the rebates allowed under Schedule "A." It is surprising how often a building owner needs advice on these points, and it is the architect's job to help him with them.

The preservation plan

The first step in preparing the "preservation plan" is to strike a balance between the increasing cost of disrepair and depreciation and that of carefully phased repair works. Neglect to such points as roof gutters must inevitably accumulate a high unseen toll. Any form of "galloping" decay such as dry rot, the collapse of beam bearings, or of the joints of a structural frame, is obviously going to accumulate rapidly like compound interest, and just cannot be ignored. On the other hand, the repair of relatively spectacular damage due to expended structural movements, or of the gradual weathering of eroded wall facings, is often less urgent than an owner might have feared, and can perhaps be timed to cheer his bank manager.

Another important aspect of economic property maintenance is the fluctuating cost and availability of suitable labour and of specialist trades. When the demand for building labour is great, not only are prices forced up, but more seriously, the quality of the job may suffer. When despite the rising spiral of inflation, building costs stand at abnormally favourable rates, it is undoubtedly worth while to take advantage of them in catching up on maintenance work, of which at other times contractors may be shy.

The architect's next task is to assist his client in finding the best possible contractor. He must decide whether it is more economic and efficient to carry out a job by inviting in an army of operatives for a month, or by maintaining a constant small staff over the years. If the owner is himself a capable organizer, really interested in his estate, a good two- or three-man repair team can accomplish wonders without invoking heavy "on-costs" to carry temporarily idle staff elsewhere. For example, a repetitive job in one trade, requiring little heavy plant and administration, may well be more cheaply undertaken over a period. A current case in point is that of an estate recently acquired by the nation which has several miles of iron boundary railings. Here a contractor's overheads might considerably reduce the work possible on a limited budget. Whether or not an outside contractor is employed, the programme will further be influenced by the need in some trades for good weather and long daylight hours. Work must be found for skilled men like masons during frost, when fingers are thumbs, and when expensive external scaffolding is likely to be unusable for much of the time. The question of disturbance is important too; and there is always the likelihood of repeated damage to furniture and personal effects which have to be moved around by contractors. If a house is opened to the public during the summer months, loss of revenue might be thought a consideration, but thanks to the undying devotion of the British public to a "hole in the road," the problem is less serious than might have been expected. For institutions like schools, universities, theatres and similar organizations, however, the disruption of daily life will necessitate the shortest, sharpest possible burst of work during vacations, even at increased cost in terms of building.

A variant of the problem occurs when a ceiling figure for expenditure has been clearly defined and agreed, *e.g.*, by trustees. It may then be best to undertake the phasing of work not only by priorities in terms of structural urgency, but also in order of predictability with regard to cost. Unmeasurable outlays are thus dealt with first, before cutting into the rest of a limited cake—appetite being, as it were, tempered by table-manners.

When specialist labour has to be engaged—as when bells are being recast, stained-glass re-leaded, or steeplejacking work done—it is obviously economic to take the fullest possible advantage of skilled trades while they are available. An owner will then be well advised to bring forward certain elements of maintenance work to save extra future costs. Accessibility is also a factor; roof carpentry is much more likely to be repaired thoroughly when tiles and leadwork have been stripped than later on. When a spire is scaffolded, it would be foolish not to overhaul the weathercock; but less dramatic examples are surprisingly easy to forget until it is too late.

Sometimes a roof protects specially precious decorations, such as gilded and painted plasterwork ceilings, or irreplaceable artistic treasures such as valuable wall-paintings. Then normal structural priorities are overriden, and repairs and renewals must be carried out not only when materials are worn right out, but before the first disastrous leak can start. Even if such repairs are not urgent, it is the architect's duty to give some idea of when to expect them.

Buildings in corporate and public ownership

If private clients are still in a majority among the owners of buildings, more and more properties are also being taken over by corporate bodies, who tend to require special services. In the case of small family trusts, as for instance where the finances of an estate are governed by the Settled Lands Act (1925), it may be necessary to obtain High Court permission for expenditure, when the architect may be called as an "expert witness." Church properties are a special case, and their administrative arrangements will be described later. In this connection the provisions of the Inspection of Churches Measure have given a new turn to Church advisory work. Lastly, more and more buildings are passing in to the hands of Public Authorities, whether of local councils or the centralized Government departments. Public bodies like the Ministry of Works will usually prefer, for the sake of maintaining procedure, to arrange for their own departments to carry out formal legal steps such as inviting tenders and placing contracts. It is then the duty of the "nominated architect" to advise and co-ordinate these specialist departments.

Where public bodies are concerned, it is specially

technical section

necessary for the professional man to indicate the limits of his own survey, recommending detailed tests of items such as services where these seem called for. A committee of laymen may be quite unaware of the claims of ageing wires and pipes, lightning-conductors and the like; and it is the architect's responsibility to see that proper tests are not forgotten.

No organization or individual should ever acquire property without a proper examination and report by an independent, qualified observer. Specialist bodies such as the National Trust will usually also have special committees of experts in such matters as the architectural and historic aspects of old buildings. Such committees require only the straight facts, ably presented. The layman, or a specialist in a non-architectural subject, may on the other hand need information which at first seems incredibly obvious, but which he has never had to think about before. Once the defects and their remedies have been pointed out, he will often be perfectly capable of doing everything else needed.

When a property is acquired by a public organization, its future lease to a suitable tenant is frequently arranged at the same time. In this case, both the landlord and tenant may simultaneously require works to be carried out under their own separate responsibilities. By virtue of his professional position, the architect may conveniently be retained by both parties to supervise the whole of the work, in which case entirely separate but parallel contracts can economically be run through the same contractor.

Building or repair work undertaken for trustees, or for a property-owning Company of any kind, is usually subject to approval by their permanent architect or surveyor. Contract costs should then also include generous contingencies allowances, so as to permit any reasonable variations found necessary without additional legal work. The surveyor's fees are often payable by the tenant as a condition of the lease, or of any licence to carry out alteration work; and it is the architect's responsibility to ensure that appropriate conditions and arrangements are made to indemnify his client.

Preservation and the public

At least three different types of authority are concerned with representing and protecting the public interest in relation to old buildings; and as each of these may affect the architect and his work in some way, it may next be of value to rehearse what the various bodies concerned can do, and how they do it. The authorities mainly involved are the Central Government, the Local Authorities and the various private property-owning and advisory bodies. Their interest is very diverse and often conflicting. Apart from the ways in which financial provision can be made, the architect is caught up in the perpetual tug-of-war between the Local Authorities, whose concern is the maintenance of public health, protection against dangerous structures and the finding of extra space for new buildings—all of which leads them to wish for old buildings to be pulled down—and the Central Government as executor under Sections 41 and 42 of the 1947 Town and Country Planning Act, together with the various preservation societies, whose concern it is to keep them up. It is important for the architect to have at his finger-tips a knowledge of the powers given to the Local Authorities to pull down, to make safe and to make healthy, and of the ways in which planning legislation enables an old building to be protected, and by which preservation and amenity societies can advise and represent the public interest. He must also inform himself about the particular legal requirements of special organizations such as the Church, and of procedure with regard to alterations and repairs to buildings in communal ownership.

The Town and Country Planning Acts

In 1944, under Sections 41 and 42 of the Town and Country Planning Act, and again in 1947 as provided in Section 30 of the new Act, the nation required the Minister of Housing and Local Government to compile lists of all buildings in this country which he considered to be of architectural or historic interest. This work was obviously of quite primary importance in the national assessment of the preservation problem. Until a general picture is available, it must be very difficult to relate the merits of any particular building, either to changing local land use, or to the conflicting claims of other historic buildings elsewhere.

A Chief Inspector of Historic Buildings was appointed in 1947, with 24 assistants. Three years later, the staff was cut by half, and still further reductions were made in 1952. At the beginning of the current year, from 1,480 districts to be covered only 870 lists were complete. A further 307 districts were represented by temporary "interim" lists, and 101 more by provisional lists. One hundred and two districts had not even been surveyed, and not a single list has yet reached print.

At the present rate of progress, it may be 10 or 15 years before the initial collection of data is complete; and there is little sign of any attempt to collate, analyse and present it. Until the national picture is complete, it is impossible to make any attempt to correlate and compare the importance of buildings on a country-wide basis. The Ministry's investigators have been handed a truly enormous and vital task, without the means to give it the attention it deserves. Hamstrung by lack of funds, investigators have so far been driven in some instances to rely upon older surveys such as the Victoria County Histories and Royal Commission Volumes. However wonderful these may be, it is surely not possible to compile a balanced and up-to-date national survey without an actual sight of every worth-while building in its present state? Meanwhile, flourishing series of guide books and such special works as the Pelican *Buildings of England* series have proved that not only does public interest justify a commercial enterprise of this order, but that

technical section

the job can be well and thoroughly done. It is almost tragic that the effort behind these valuable series could not have been harnessed to the national comparative survey, so that a proper overall picture would by now be to hand.

The coverage of the "listing" process has in turn itself been far from complete. All Church buildings, *i.e.*, those "for the time being used for ecclesiastical purposes," were excluded from its provisions; and it has become apparent that as indeed it should be, the first interest of the Church is in the cure of souls, and not in the care of stones. Further, although the Diocesan Advisory Committee System of the Church of England affords some parallel system of protection, there is as yet no similar system for Catholic and Nonconformist churches. There are in fact therefore no provisions either for the architectural and historic "grading" of churches and chapels, or for any integrated planning protection.

From a commendable public delicacy regarding the Englishman's castle, investigators are moreover not empowered to see the inside of buildings unless expressly invited. It has so far been left to an owner who feels sufficiently strongly about the interior of a property to write to the Ministry, asking for an inspection regarding its possible inclusion in the lists. He may also request the up-grading or down-grading of a listed building. Unless the inspector considers the application frivolous, an inspection can then be made. No general or individual invitation has yet been made to likely owners to ask for consideration in this way, nor is there really any incentive to request it. If only, for example, the investigations and listing were tied, as they surely should be, to an outline system of photographic recording, it would then be possible to attract a far more complete and rewarding coverage of the interior and exterior of all buildings of outstanding interest. The procedure is at present as follows:

For convenience of administration, "provisional" lists are first circulated for comment to Local Authorities and interested public bodies. These set out buildings in three categories:

"*Grade I.*" Buildings of such importance that only the greatest necessity would justify their removal. A Committee has been set up under Sir William Holford to advise the Minister on applications received for permission to demolish a building of really outstanding importance.

"*Grade II.**" Buildings of very great interest which are not quite eligible for Grade I.†

"*Grade II.*" Buildings of considerable historic or architectural importance, which have a good claim to survival.

"*Grade III.*" Buildings of interest, often as a group or item of townscape, which, although not regarded as having a sufficient degree of architectural or historic interest to deserve listing under the Act, nevertheless deserve carful consideration in preparing town-planning proposals.

From the provisional lists, Statutory lists are in turn compiled, for certification by the Minister. These comprise only buildings in Grades I and II, and notices are served on the owners and occupiers, who must thereafter give two months' notice of intended alteration works. The exact wording of the Act is (Section 30, Sub-section (6)) "So long as any building . . . is included in any list compiled or approved under the Section, no person shall execute, or cause or permit to be executed, any works for the demolition of the building, or for its alteration or extension in any manner which would seriously affect its character, unless at least two months before the works are executed notice in writing of the proposed works has been given to the local planning authority." A copy of this notice must also be sent to the Minister.

"Supplementary Lists" of Grade III buildings are issued for reference only: they have no statutory force, and the owners are not notified.

Buildings are listed on their merits and irrespective of present condition, although where structure is in poor repair, a note to this effect may some times be included in the description.

The owner of a historic building is allowed under Section 6, Para. (2) of the Act, to execute any works "urgently necessary in the interests of safety or health, or for the preservation of the building or the neighbouring property, so long as notice is given . . . as soon as may be after the necessity for the work arises."

If proposals are made for the demolition of a building of importance before it is included in a list, the Minister is empowered to spot-list it immediately. In all cases, it is the responsibility of the Minister to notify an owner of listing or de-listing and its implications. Listing does not necessarily, for example, qualify a building for a Historic Buildings Grant, but is plainly on the credit side when an application is being considered. The provisions of listing are, of course, transferred with the property in the case of any change of hands, and lists are always to be made available to the public at Council Offices.

If proposals are received for the demolition of a graded building, a Building Preservation Order can be made by a Planning Authority under Section 29, Subsection (2a), requiring the consent of the local planning authority to be obtained for the execution of works of any description specified in the Order.

On contravention of a Building Preservation Order, the authority may require "the restoration of the building to its former state," and a fine not exceeding £100 may be imposed on conviction. The authority is, however, liable by claims for "compensation in respect of damage or expenditure caused or incurred in consequence of the refusal of any consent required under the Order, or the grant of any such consent subject to conditions" (Section 29).

Should the owner make objection, a public inquiry must be held, and the evidence considered by a representative of the Ministry of Housing and Local Government, who will decide whether or not the Order shall be confirmed.

If the Order is confirmed, and the owner is still un-

†*"Grade II*" is the official designation.

"It suits me fine! And it all helps to keep up the value of the house."

Whether it is a matter of a new house or of making modifications to an old one, it suits him to specify a 'Potterton' Oil-Fired Boiler. *He is bound to save on estimates* because he only has to make one order and the 'Potterton' Boiler is delivered as a complete unit, pre-wired and tested, direct from the works; his installation costs are therefore reduced.

He also knows it to be very much in his client's interests to have a 'Potterton' Boiler. He is aware of the growing public demand for automatic central heating, and that any house so equipped must fetch the maximum price in the open market. The price of a 'Potterton' Oil-Fired Boiler compares favourably with that of other boilers, but the performance, he knows, to be incomparable, the running costs low.

For these, and other reasons, there is an all round advantage—to architect, heating engineer *and* client—in specifying a 'Potterton' Oil-Fired Boiler.

It saves to specify

'POTTERTON' BOILERS

Oil-Fired or Gas-Fired

the Key to comfort

POTTERTON DIVISION, Thomas De La Rue & Co. Ltd.,
20/30 Buckhold Road, London S.W.18.

DL834

technical section

willing to co-operate, he may in turn require the Local Authority to purchase the building by serving them with a "Compulsory Purchase Order." In this case, the value is fixed by the Council's valuation officer, or on appeal, by tribunal of the Lands Commission.

In practice, it is a weakness of the legislation in the first place that the onus of confirmation and valuation is placed upon the interested public party, and in the second place that a Local Council is generally very unwilling to risk the finances of its electorate in speculative purchase, however worthy. Many good buildings have therefore been lost, from the Local Authority's fear that this clause may be invoked. The Ministry equally has no power of compulsion, and is unwilling to antagonize a Council by undue insistence.

Although there are powers to prevent an owner from demolishing his property, there is almost no provision for persuading him to carry out necessary maintenance works. An owner who is determined to destroy a building can, in fact, do so purely by deliberate neglect. Indeed, there have been cases in which tiles and leadwork have vanished from roofs, and disintegration has been actively encouraged by the owner for his own ends. If through avarice or circumstances, he is sufficiently determined upon destruction, there are really very little but delaying measures to prevent him. A sense of decency and sentimental attachment to a property, and any feeling of public guilt, are the only public deterrents short of compulsory purchase. Although the Minister of Works is empowered by the Historic Monuments Act to purchase buildings of national importance for the country, these provisions have so far been invoked only in very special cases of the greatest importance. Thus today while uninhabited ruins (which once they are scheduled as Ancient Monuments can also be taken under the actual guardianship of the Ministry of Works) are often wonderfully and thoroughly restored and maintained, it is a tragic fact that magnificent and habitable mansions of the greatest architectural interest may be left to perish.

Demolition and closing orders

The major part of the law concerned with the demolition or closure of old buildings is conveniently encompassed within Section 11 of the 1957 Housing Act. The legal requirements are fortunately quite straightforward and comprehensible; and a working knowledge of this Act will thus equip the Architect to advise the unhappy owner who may have crossed its path.

More often than not, the first shot in the battle is discharged by the Local Authority, as represented by its Medical Officer of Health, or Sanitary Inspector. If a building comes under the consideration of this Officer as to whether or not it may be regarded as fit for human habitation, he may test it by applying certain standards to defined aspects of the planning and construction.

These are listed in the Act as follows:

(*a*) Repairs.
(*b*) Stability.
(*c*) Freedom from damp.
(*d*) Natural lighting.
(*e*) Ventilation.
(*f*) Water supply.
(*g*) Drainage and sanitary conveniences.
(*h*) Facilities for storage, preparation and cooking of food and for the disposal of waste water.

These headings are deliberately vague; and it is left to the Local Authority to decide what items shall be included under each heading, and the standards to be set in each case. In practice this usually results in the Local Bye-laws becoming the touch-stone; so that in different places, different standards will prevail.

If the building under consideration does not reach the required standard in any one or more of the aspects mentioned, the Local Authority may first demand of the owner that they be remedied within a certain stated period. Often, of course (and one hopes with an architect's advice), the work is carried out at this stage; the Local Authority are then satisfied, and there the matter ends. However, if the owner refuses or otherwise neglects to conform to their requirements, there are then four courses of action open to the Authority:

(*a*) They may do the work themselves and charge the owner for it.

(*b*) They may issue a "Closing Order," prohibiting the use of the building for all but limited purposes (for example, as a warehouse) for an indefinite period. The Closing Order may be withdrawn when the Local Authority has been satisfied that the building has been brought up to a standard sufficient for human habitation.

(*c*) If they do not consider that the building can be put right for a reasonable sum, they may issue a "Demolition Order."

(*d*) They may compulsorily purchase the property.

An important modification to (*c*) is that if the building is of architectural or historic interest and appears on the list compiled under Section 30 of the 1947 Town and Country Planning Act, or on any form of scheduled list, then a Demolition Order cannot be issued at this stage, although the building can still be subject to a Closing Order.

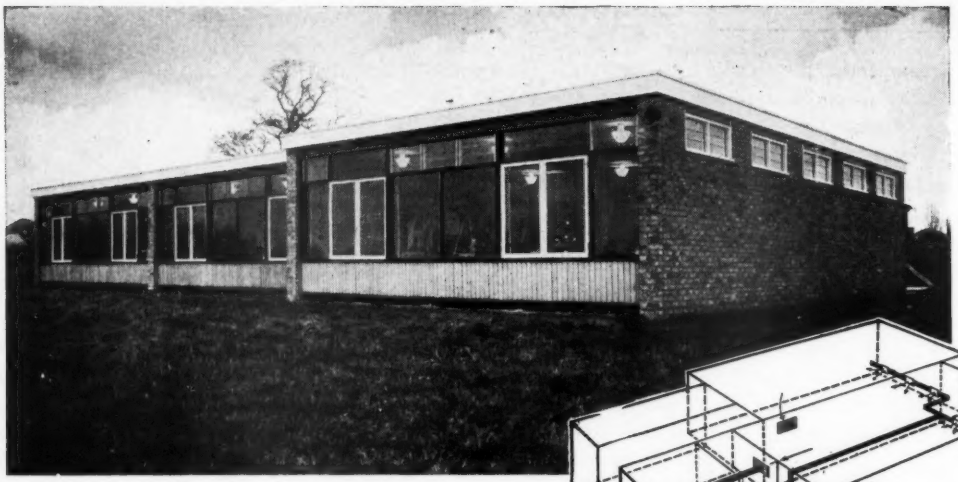
If the owner is now stirred to action by his circumstances, conscience, or architect, or in official parlance is "aggrieved" by the Local Authority's action, he may appeal against—

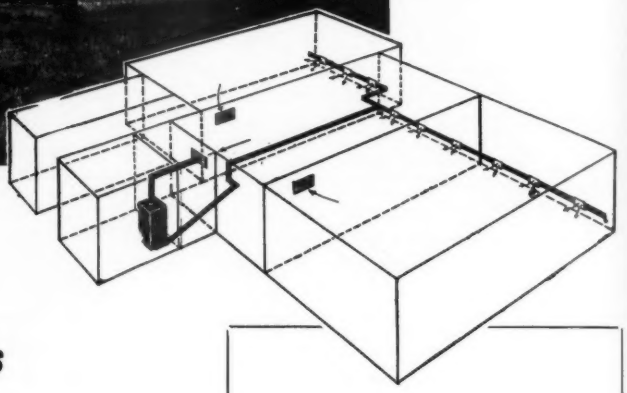
(*a*) a demand for recovery of expenses,
(*b*) an order made with respect to any such expenses,
or (*c*) the servicing of any notice demanding repairs.

The appeal must be made to the County Court in the jurisdiction of which the property lies, and must be made within 21 days of the serving of the notice.

The Judge has the right to confirm, quash or alter any notice as he thinks fit. The Local Authority can also demand his opinion on whether he considers the state of the building is such as to warrant repair or renovation. If the Judge considers that it is not the Local Authority is empowered to purchase the property compulsorily, at the value of the cleared site.

E





The best of all modern heating systems is warm air heating—

by **Waterbury**

It is more efficient

Running costs are low

Installation costs are low

Waterbury heating can be applied to nearly all types of building ranging from the factory to the house, from the school to the church, from the garage to the shop. Flexibility in installation is the keynote and high efficiency the rule. Low capital cost and fuel economy are combined with heating at its best. Gently moving filtered warm air quickly circulates to all parts, obviating cold spots, banishing draughts and providing positive ventilation within minutes from starting. Sturdy construction, attractive appearance, long life and the latest oil and gas firing techniques are built into each Waterbury furnace.

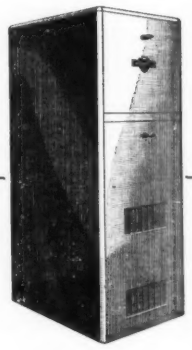
GOFFS OAK SCHOOL, HERTFORDSHIRE.

A Waterbury " Downflo " system of heating is used in this new school in Hertfordshire.

Architect: C. H. ASLIN, C.B.E., P./P.R.I.B.A., County Architect, Hertfordshire County Council.

Heating Engineers: NEWMAN & WATSON LTD., LONDON.

The Waterbury " Downflo " oil-fired warm air furnace, utilised in conjunction with underfloor ducts, is smart, quiet and entirely automatic in operation.



WATERBURY automatically means warm air

WATERBURY LIMITED

175/195 Stamford Brook Arches, Stamford Brook, W.6.

Telephone: Riverside 5081 Telegrams/Cables :Waterbury, London.

technical section

If a Demolition or Closing Order is issued, the Local Authority must reimburse the inhabitants displaced by it, to the extent of paying for the cost of moving their belongings. In the case of a shop they must also pay a sum as compensation for damage to the business and for loss of goodwill, as agreed either privately or if necessary in a Court of Law. A building must be vacated within 28 days of a Demolition Order becoming operative; and the Local Authority may itself demolish the building, if the owner has not done this within six weeks from the date of vacation.

A useful proviso of the Act, of particular concern to architects, is that after the serving of a Demolition Order, the Local Authority can agree to hold it in abeyance for a certain specified time if the owner then brings forward suggestions for repair. Furthermore, at the end of that time they may remove the Order altogether if they are satisfied that the work is about to start, is under way, or has been satisfactorily completed. On the other hand, if they are not satisfied, the original Order can be enforced. Whether or not a Local Authority hold such an order in abeyance is left very much to their discretion.

A Local Authority is lastly also empowered to substitute a Demolition for a Closing Order if it thinks fit, provided, of course, that the building is not "listed." In this case the whole procedure must start again from the beginning.

Clearance areas

Where an area is so planned as to be "injurous to the health" of the people living or working in it, or if the houses generally are all below bye-law standard, and are not worth repairing and renovating, the whole area can be designated as a "Clearance Area." Demolition Orders are then served individually on each property, and the whole matter is referred to the Ministry of Housing and Local Government. In these circumstances, any appeal goes to the Minister, whose decision is final.

Money

As has been mentioned, money is nearly always a very serious problem in preservation work; and it is therefore important for the architect to be well versed in the ways in which it can be found. There are three classic methods of financing (or helping to finance) building repairs. The first is the obvious (but often overlooked) method of taking full advantage of Schedule "A" Income Tax allowances, the second is to obtain a Local Authority Improvement Grant, and the third (which applies only if the building is of exceptional historic interest) is to obtain an Historic Buildings Grant. There is, in fact, a fourth possible source in the many different private trusts, but these are so numerous that it seems best to deal with them separately in a later article.

Income Tax Provisions

The Income Tax provisions are in themselves an interesting commentary on the progressive change in the value of property, and in the cost of repairs. Whether or not it is equitable for a tax to be raised on the annual value of property is beyond the scope of this article; but the fact that assessments have been allowed to lag so far behind actual values does suggest that at least this is in doubt. Schedule "A" assessments are normally, although not automatically, based on rateable values. But though rateable values were amended in 1956 to bring house properties up to 1939 values and other properties up to present-day values, the Schedule "A" assessments have not yet been brought into line, and are in fact based on 1935 values.

The provisions are at present that an owner who is also the occupier, or who is responsible for the repair of property occupied by tenants, receives an income tax reduction proportionate to the gross annual value of property held—the assumption being that this proportion at least will be spent on repairs. The actual figures on which tax relief is allowed is currently computed as follows:*

(*a*) Where the amount of the assessment does not exceed £40, a sum equal to one-quarter of the gross annual value;

(*b*) Where the assessment exceeds £40, but not £50 a repairs allowance of £10;

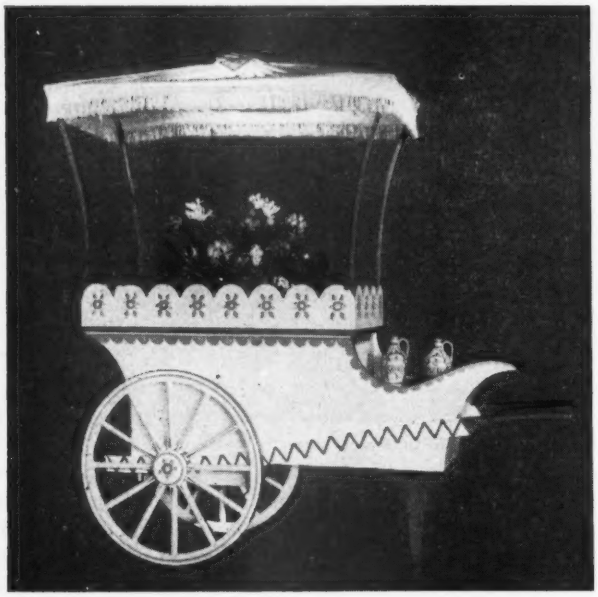
(*c*) Where the assessment exceeds £40 but not £100, a sum equal to one-fifth of the gross annual value;

(*d*) Where the assessment exceeds £100, £20 together with a sum equal to one-sixth of the amount by which the assessment exceeds £100.

In actual fact, the sum this represents will in almost every case be much less than that needed for proper maintenance. The owner is therefore entitled to claim a proportion of the excess over this allowance incurred by the cost of "maintenance, repairs, insurance and management" calculated as an average over the preceding five years. It is possible to claim in this way the whole of the amount which would otherwise be due as Schedule A tax. Provisos are of course made that outgoings already deducted from tax under other headings, or which the owner is entitled to charge against other persons, are ineligible for relief. "Maintenance" is taken to include replacements, as far as is necessary to maintain an existing rent, and additions or improvements to "farm houses, farm buildings and cottages" made to comply with local authority regulations, and for which no extra rent is received.

Though almost any elderly house (especially if assessed at the present Schedule "A" rates) is likely to require at least this expenditure on repair, it is worth while to remember that if this amount is not spent and the repairs phased accordingly, the money will still go in tax just the same. The concession is a provident one, for although the rebate will seldom go far towards meeting the cost of the more extensive works which form the subject of this issue, it can

* From Section 100, the Income Tax Act of 1952.

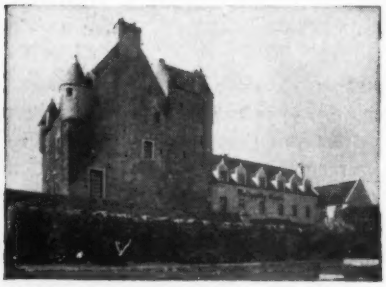


BALLYGALLY CASTLE

NORTHERN IRELAND

An extensive contract was recently completed by our organisation at this attractive hotel including wrought iron work, tables, back fitting, light fittings, false ceiling, column casings and wine wagon.

Architects: W. H. McAlister and Associates, Belfast. *Designer: Leon Davey.*



Harris & Sheldon Ltd.

The organisation with a background of 75 years experience

BIRMINGHAM · LONDON · GLASGOW · TORONTO

technical section

certainly be made to go some way towards the expense of day-to-day maintenance and repairs.

Repayments of tax are made upon production of a detailed receipted accounts from the contractor, which should distinguish between "repairs" (which include internal decoration) and "improvements."[9]

Local Authority Improvement Grants

Of all the fourteen million homes in Great Britain, over five millions are more than 65 years old. By far the greater proportion of these are soundly built and structurally quite sound; but very many of them are without bathrooms and amenities which have today become essential. Others, particularly of Victorian date, were intended for large families with a whole staff of servants, and are now much too big to be managed as a single unit. If all these properties were to decline into slums, a tremendous number of new houses would be needed; and the cost of a large proportion of these would have to be found from the public pocket, to be borne by the ratepayer and taxpayer.

The Housing Act of 1949, revised by the Housing Repairs and Rents Act of 1954, has made financial aid available to Councils for the purpose of encouraging owners of old houses to "improve" them. Grants may also be made for subdivision of old houses into flats. So as to ensure a certain minimum standard of amenity, 12 requirements have been laid down, with which as far as possible every converted property must comply.

After improvement, it must:

(*a*) be in a good state of repair, and substantially free from damp;

(*b*) have each room properly lighted and ventilated;

(*c*) have an adequate supply of wholesome water laid on inside the dwelling;

(*d*) be provided with efficient and adequate means of supplying hot water for domestic purposes;

(*e*) have an internal or otherwise readily accessible water closet;

(*f*) have a fixed bath (or shower) preferably in a separate room;

(*g*) be provided with a sink or sinks and with suitable arrangements for the disposal of waste water;

(*h*) have a proper drainage system;

(*i*) be provided in each room with adequate points for gas or electric lighting (where reasonably available);

(*j*) be provided for adequate facilities for heating;

(*k*) have satisfactory facilities for storing, preparing, and cooking food;

(*l*) have proper provision for the storage of fuel (where required).

It is recognized that there are exceptions, and that not always will all 12 points apply—for example, where public services such as gas and electricity are not available. In these cases, the Council may ask the Minister to use his power of waiver.

In the case of the conversion of a property into more than one "habitable unit," the cost of complying with the 12 conditions, *plus* any structural work needed to adapt the building to its new use, are regarded as "improvements" eligible for grant. The conversion of a building not previously used as a dwelling is also eligible for aid.

All normal work of repair and maintenance is on the other hand excluded from financial assistance. These are taken to include redecoration, joinery repairs (unless, for example, a window is at the same time enlarged to provide adequate daylight) and the renewal of services such as electric wiring. Only work of this type which is actually consequent upon the improvements or conversion—such as the redecoration of a bedroom which has been divided off to form a new bathroom—can be included in the eligible expenses. The replacement of out-of-date structural equipment such as an obsolete grate by a modern slow-combustion stove would also be eligible, but not, of course, the installation of movable "tenants' fittings" such as a refrigerator, which some optimistic applicants have sought to include. The remaining conditions of Grant are also reasonable. The converted or improved property must have a reasonable prospect of at least 15 years of further life, and the applicant must either be the owner, or a leaseholder whose lease has still this time to run. The work must also cost at least £100, or in conversions where more than one unit is produced, £100 per dwelling. There is no restriction on the maximum expenditure, but the amount of the Grant may be up to 50 per cent. of the cost of the work (or in practice, what the Local Authority thinks the cost should have been) with a maximum of £400 per dwelling. As an example, if an old house is converted into two flats at a total cost of £1,800, the maximum grant payable would be twice £400, or £800; but if the cost of the lesser unit represented only £400 of this total, the grant payable would be up to £400 for the one and only £200 for the other—a total of £600.

In calculating the amount of Grant, professional fees are eligible for inclusion. In practice some Authorities, for no particular reason, seem to exclude the cost of travelling and expenses. Payment may be made either on completion, or by instalments during the work. No enquiry is made into the financial position of the applicant: the grant is made in effect to the property, in the interests of the community. It is sometimes possible for a Council to lend an owner part of his own share of the cost, at reasonable rates of interest. Before an elaborate scheme is prepared, the owner may make preliminary enquiries in outline from his local Council, to find out whether his property is likely to qualify for Grant. If the response is encouraging, he will then obtain professional advice.

In considering Improvement Grant applications, some Councils require competitive tenders to be submitted, while others will make their own estimates from the specification, or may request detailed figures for each item of the contract as placed. The specification must divide the works under separate headings for improvements and repairs. Since the application must first be considered by the Building Inspector, then be passed

technical section

to the next meeting of his Health Committee for subsequent recommendations to the Council, the process is not always a rapid one. Increases in cost due to the lapse of time between the estimate and execution of the works are not admissible, nor are any contingencies allowances, beyond the very barest provisional sums for items of built-in equipment. Alterations in a scheme involve such complex referrings-back that they are better avoided at all costs. Applications *must* be made *before* any work is carried out, and cannot be granted retrospectively. Many grants have been forfeited by ignorance of this provision.

Care should be taken to ensure that any Building Society or other mortgagee is kept fully informed of any proposed scheme of improvement under Grant Aid.

The rent of the improved property, as is reasonable when public money has been spent on it, is restricted by law, an increase of 8 per cent. being allowed on the contribution which the owner himself has made. The work can only be carried out with the agreement of the Tenant, in consideration of an increased future rent; but in view of the slightness of the increase, a tenant will usually be delighted to co-operate.

The converted dwelling must only be used as a private house, unless otherwise agreed by the Council. It must be kept fit for human habitation, and must be occupied by the applicant or a member of his family, or else let or open for letting at the statutory rent.

Should an owner wish to dispose of a property which has been improved under the provisions of an Act, or to let it at a higher rent than the Act permits, he may do so, but he must then pay back to the Council a proportion of the Grant scaled in relation to a term of 20 years. At the end of this period, the property is again free for lease or sale without restriction.

It should be stressed that for better or for worse, the powers given to Local Authorities under the Act are permissive, but not obligatory. The Council must itself contribute a proportion of the Grant, in the knowledge of a saving in housing costs. Not all Councils are willing to make Improvement Grants; and despite the obvious advantages to the Nation, the Local Council, the owner and the tenant alike, there are still Councils who for one reason or another feel themselves justified in withholding the application of the scheme within their areas. If a Council is bent upon this course, there is little that can be done—except perhaps to flee the area, before the enforcement of the increased rates in which its short-sighted policy must eventually result. In 1957, however, all but 128 of the 1,400 housing authorities in England and Wales were giving Grants, and receiving the advantage of Central Government funds in this valuable contribution to the housing problem.

Historic buildings grants

The Historic Buildings Council for England, and similar Councils in Wales and Scotland, were appointed in Autumn, 1953.* Their function is to keep the Minister informed on the general state of preservation of buildings of outstanding historic or architectural interest, and to advise him on the making of grants towards the repair or maintenance of such buildings "or their contents or adjoining land," or towards "the acquisition of buildings under Section 41 of the Town and Country Planning Act, 1947, by local authorities, and by the National Trust." The Councils further advise the Minister regarding the acquisition of properties, and of the contents of Ancient Monuments and National Trust buildings "by purchase, lease or otherwise, or their acceptance as a gift," and also regarding possible uses for particular buildings whose future may be in doubt.

The Government announced in 1953 that it was prepared initially to provide funds at the rate of £250,000 per annum, and the figure was raised in 1955-56 to £350,000. An allowance of £500,000 was also set aside from the National Land Fund* for the first five-year period.

Between 1953 and 1956, 1,294 applications were received in England. Grants were awarded in 303 cases to a total of £865,654. Of these grants, 279 were towards structural repairs, four towards repair of murals, 19 for repair of chattels, one for repair of a historic garden and eight towards annual maintenance costs of outstanding historic buildings. Six properties were approved for acquisition by the Minister, and one grant was made to enable a purchase to be made by a public body. Eight hundred and forty-six applications were refused, or the grant declined or cancelled. The amount of each grant has so far varied from £100 to £20,000. No separate system of listing buildings has been set up for grant purposes, principles of selection being allowed to emerge empirically from the applications received. Whereas only buildings of "outstanding" interest are eligible, in practice a building of only average character with particularly outstanding features, such as mural paintings, would still be considered for a grant.

Application for a grant may be submitted either by a private owner, or by a public body or local authority unable to carry out works from its own resources, and is made by letter to the Secretary of the Council, at Lambeth Bridge House, London, S.E.1. The name, neighbourhood and a description of the building should be given, together with full details of the repairs and expenditure towards which the grant is required.

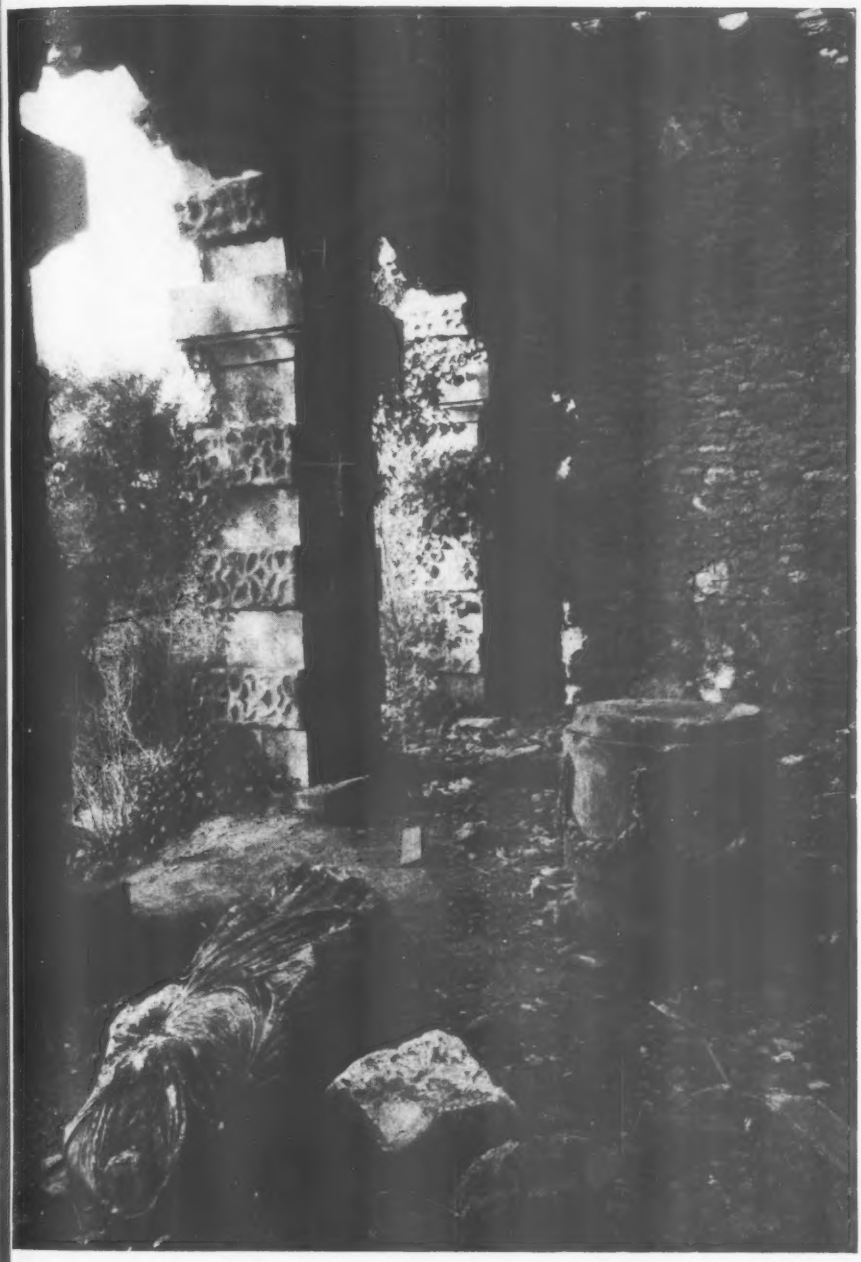
---

* The Historic Buildings Council for England consists of a chairman, nine members and a secretary, and the Council for Wales of a chairman, five members and a secretary. In Scotland, the Council consists of a chairman appointed for three years and eight members appointed for two years, a secretary, and one assessor each from the Ministry of Works and the Department of Health for Scotland. To ensure a reasonable uniformity of aims and standards, meetings are held at intervals between the chairmen of the three Councils, with the Minister of Works.

* The *National Land Fund* was set up by Sir Hugh Dalton in 1946 with a capital of £50,000,000. The fund performs the function of reimbursing the Inland Revenue for real properties (historic houses, amenity lands and since 1953 also chattels) accepted by the State in lieu of death duties, and also provides moneys from which the Minister of Works may make purchases under the 1953 Historic Monuments Act.

The Fund's capital was reduced to £10,000,000 in 1957. Recent purchases include Petworth, Surrey (chattels only), and Saltram and Ickworth, where the house and contents were thus maintained intact.

technical section



Longstraw thatching. The training of craftsmen is one of the more difficult long term problems in a national programme of maintenance.

Neglect. A summer house or banqueting loggia at Kings Weston House, Bristol, by Sir John Vanbrugh. This building is in the care of the Bristol Corporation's Education Committee.

Not all faults are due to neglect. The rusting of iron fixings has caused this damage.

At the next meeting of the Council, preliminary consideration is first given as to whether the building is in fact of sufficiently "outstanding" historic or architectural interest to qualify for aid. If insufficient information is available, a visit may be made to the building, either by one of the members of the Council, or by an expert on historic buildings from the Ministry's Inspectorate of Ancient Monuments.

If it is decided that a building is sufficiently outstanding, the Council then considers such questions as the necessity and suitability of the proposed works, and whether the estimated cost is reasonable. It is of assistance to the Council in the consideration of a case if a detailed report has been obtained by the owner from an architect with special experience of the preservation of historic buildings: confirmation of the necessity for repairs may then also be obtained by the Council from an architect of the Ministry of Works.

In order that the limited finances available may be fairly distributed to the greatest public advantage, the owner is usually asked to state the maximum contribution towards the cost of the work which he can make from his own resources, and to give a general assurance that without such assistance, he is unable to maintain the fabric.

Recommendations are then made by the Council to the Minister, who will decide whether or not assistance is to be given. If an award is made, the conditions of a grant will generally include the submission and approval of a detailed specification, and the inspection and approval of the works at intervals by the Ministry of Works' architects. An undertaking to provide some degree of public access to grant-aided houses is also usually required.

In special circumstances instead of the single award, a Maintenance Grant may be made over a period of years. The State is, however, chary of undertaking maintenance responsibilities, and such a grant is unlikely to be made to a property thought capable of attracting another purchaser, who can himself afford to meet the maintenance costs—especially as he may be reassured by the possibility that in any future emergency, a repair grant might still then be available. Equally, a maintenance grant is unlikely to be made when there is any prospect of a building's purchase for use as a school or other institution. An important exception has however been made in the case of certain properties offered by their owners to the National Trust, in circumstances where the endowment would otherwise be too small to prevent their loss to the nation.

"Chattels"

Items such as pictures and furnishings, are also eligible for grant as "chattels," provided they form an essential part of a house of historical or architectural interest, whose value would be greatly diminished by their loss. Thus a series of family portraits related to the history and ownership of a house, or a collection formed by its founder as part of its basic furnishings, would be more likely to attract a grant than a recently purchased masterpiece. The maintenance and repair of libraries and archives is eligible for assistance as well as furniture. When a grant is made for the repair of chattels, the owner is asked to give an undertaking not to dispose of any item without giving the Minister, through the Council, at least three months' notice. If he thereafter decides to sell, without the agreement of the Council, an appropriate refund may then be required.

Finding uses for old buildings: the Historic Buildings Bureau

A problem at the root of most difficulties in the saving of old buildings is the question of uses. So many properties owe much of their architectural and historic interest to their design in more opulent times, for uses which no longer occur.

To assist the Minister in finding new uses for historic buildings, and in collecting information about organizations interested in this type of property, a Historic Buildings Bureau has now been set up. A small Committee on Uses (a sub-committee of the Historic Buildings Council) has also been formed to guide the Bureau, and valuable assistance has been received from bodies such as the RIBA and the RICS, the Land Agents' Society, the SPAB and the Georgian Group..

The Historic Buildings Council has pointed out that the subdivision into lots of any large estate which includes an historic house is unhappily often so contrived that the principal lot containing the house is only of sufficient size to interest a demolition contractor. The division into many plots of a large site presents an almost insoluble problem. The imposition of excessively awkward conditions of sale or bequest have also sealed the doom of many an otherwise attractive property.

The acquisition of buildings by the nation

Owing to the crippling effect of taxation, large estates are now almost annually being offered to the Treasury in settlement of death duties.

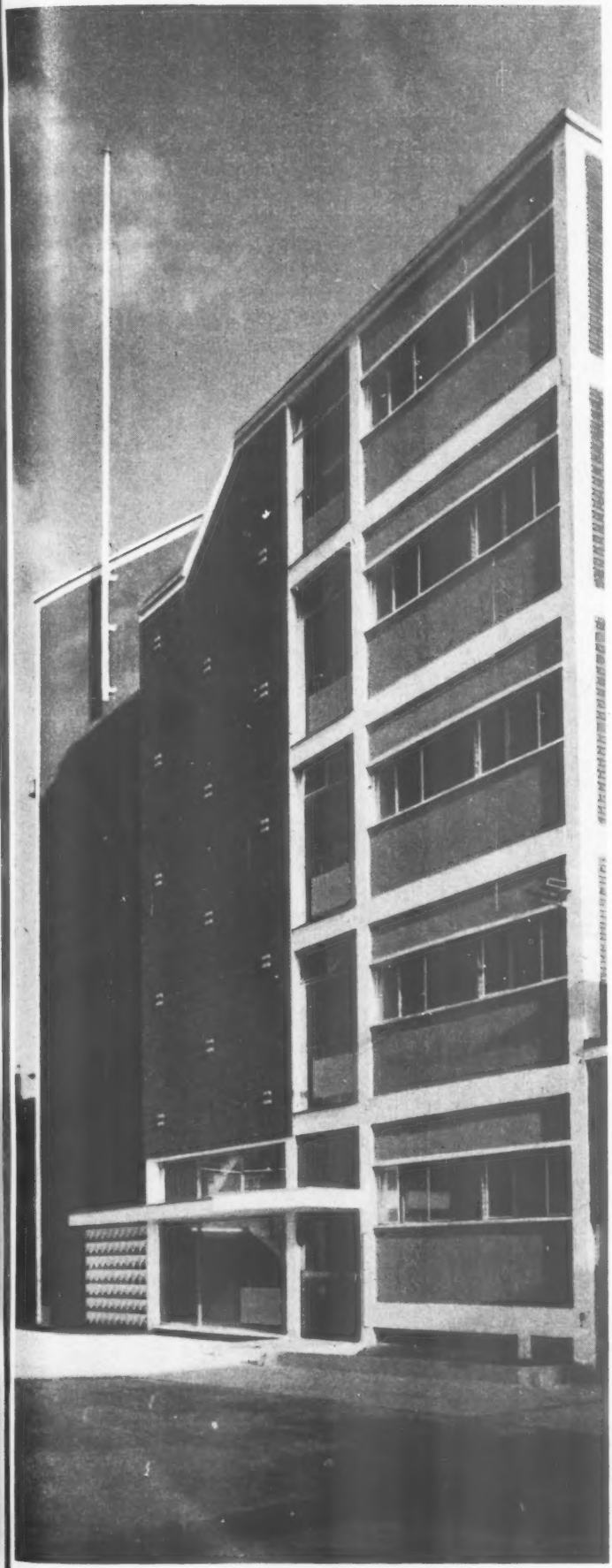
The Treasury will in this case seek a likely user such as the National Trust, who may receive assistance towards the purchase and repair of the building under the terms of a Historic Buildings Grant.

Where no purchaser can be found for a threatened building of obviously first importance as a museum piece, then the Minister of Works is empowered to acquire it for the nation, and to find a use or transfer ownership to a suitable public body

It has been estimated that some two to three millions of visitors are shown over England's historic homes in each year. The careful allocation of a relatively small budget—less than the cost of an airliner annually—to the most needy cases has already proved remarkably successful as a national investment in real estate, by enabling private owners to maintain a national heritage.

building illustrated

Factory extension on the Great West Road, Brentford, Middlesex



FACTORY EXTENSION

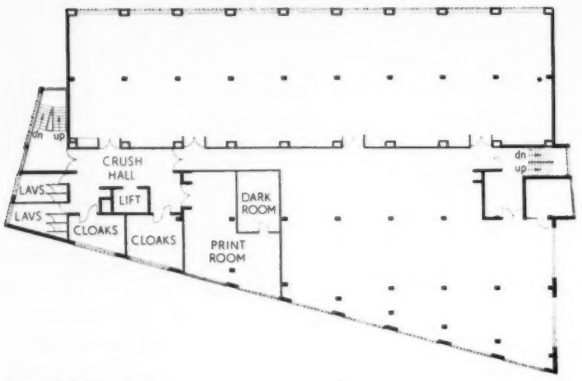
on the GREAT WEST ROAD, BRENTFORD, MIDDLESEX
for R. B. PULLIN and CO. LTD.
designed by JOSEPH MENDLESON and PARTNERS
partner-in-charge J. H. C. LAMB
assistant R. SUTHERLAND
consulting engineers CHAMBERLAIN and PARTNER
quantity surveyors FRANK FALKNER and PARTNERS

The JOURNAL publishes this extension to the factory of an electronic instrument firm, not because it has any great aesthetic merit, but because it provides interesting solutions to several familiar problems. The site was extremely restricted, both in plan and in section, since there were daylight angles to be considered; the building was to be used by a number of departments with varying requirements; the nature of the work necessitated a dust-free environment and consequently air-conditioning; and the provision for this and for other extensive services involved a careful integration of duct space and structural elements.

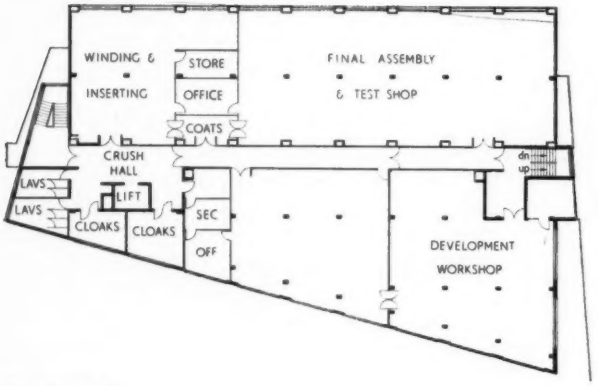
Viewpoint 1: *the main entrance on the west side.*

building illustrated

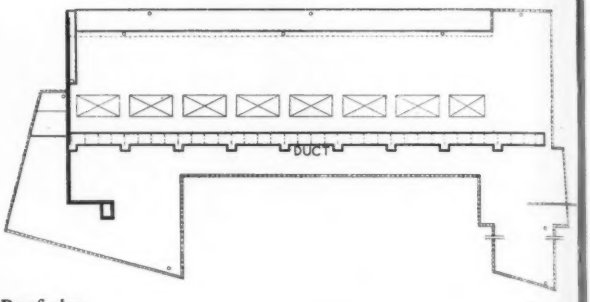
The new block contains drawing offices, administrative offices, machine shops and instrument assembly shops. Planning considerations made the main entrance on the west face and all loading and unloading on the east. Raising the ground floor to the 3-ft. 6-in. level formed a loading platform and gave natural light to the lower ground floor in addition to reducing excavation. The decision to build up on five floors over the whole site, without a central light well, provided a compact and flexible plan with a reduced proportion of external wall and circulation space and consequently reduced the heat losses. The adequate artificial lighting of central areas became very important and 50 ft.-candles are provided at bench-top level in the main production area. Bright colours have been used in corridors to give life to the centre of the block.



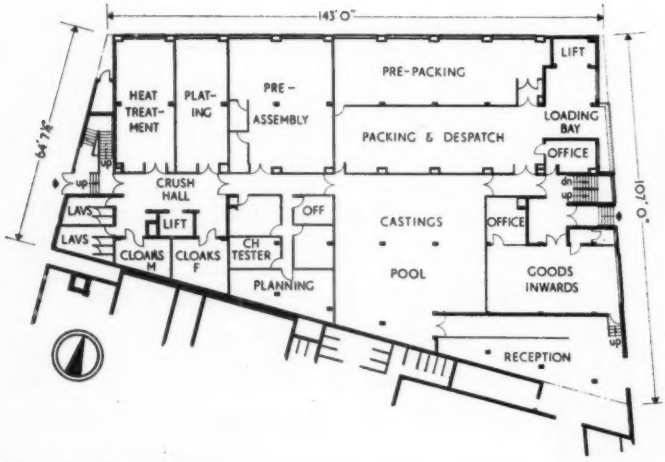
Second floor plan



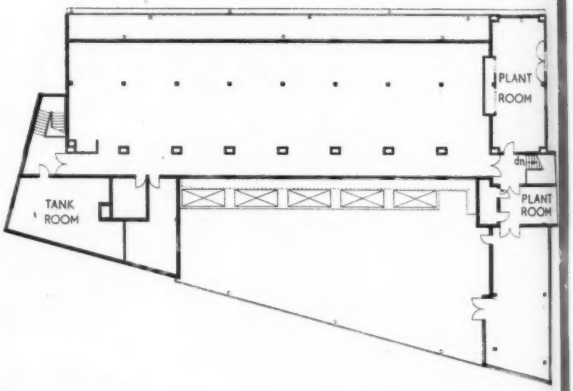
First floor plan



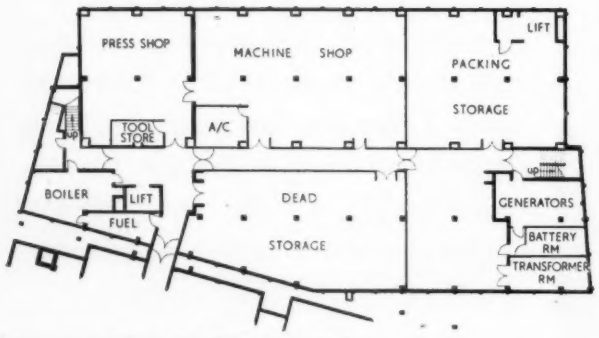
Roof plan



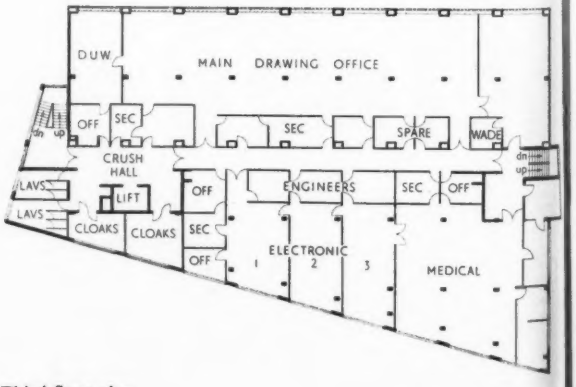
Upper ground floor plan



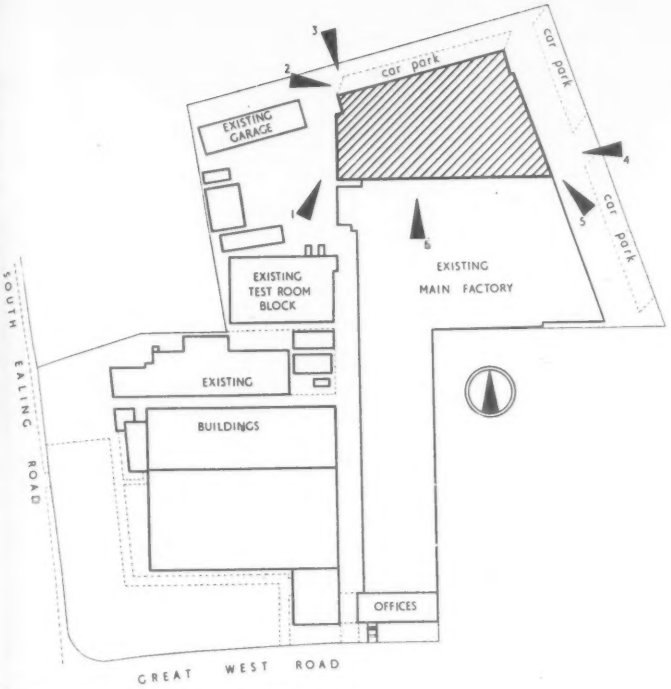
Fourth floor plan



Lower ground floor plan [Scale: $\frac{1}{16}$" = 1' 0"]

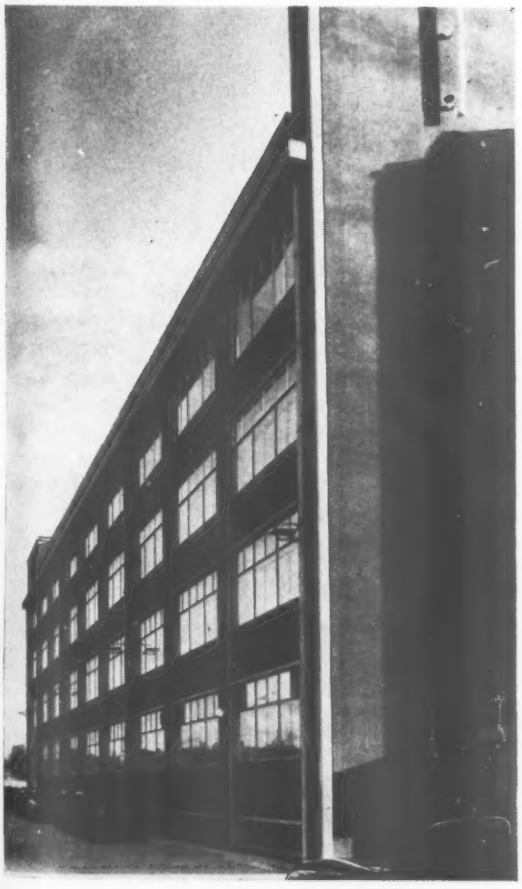


Third floor plan



Site plan showing photographic viewpoints

Viewpoint 2 (below) shows the long north elevation where it was possible to obtain a repetitive glazing treatment. The vertical elements are twin 24-in. × 6-in. columns spaced 2 ft. apart and between which pass ventilation ducts. These ducts show as brick infills on elevation.



analysis

CLIENT'S REQUIREMENTS

The clients, manufacturers of scientific, electronic and gyroscopic instruments, required the maximum permissible development of their available site area to provide a multi-storey factory, linked to their existing premises, which would function as an integral part of these premises, but also be capable of being isolated if necessary. Dust-free working conditions and temperature control were required, together with flexibility of internal planning and services to meet changes in production as they arose. Further requirements were for a high standard of general lighting, facilities for unloading of raw materials and loading of finished goods, and free and speedy vertical circulation for personnel, equipment and goods. A 20-ft. wide roadway was required round the perimeter of the site for vehicular access to the loading and reception docks which it was agreed should be sited at the east end of the building.

PLANNING

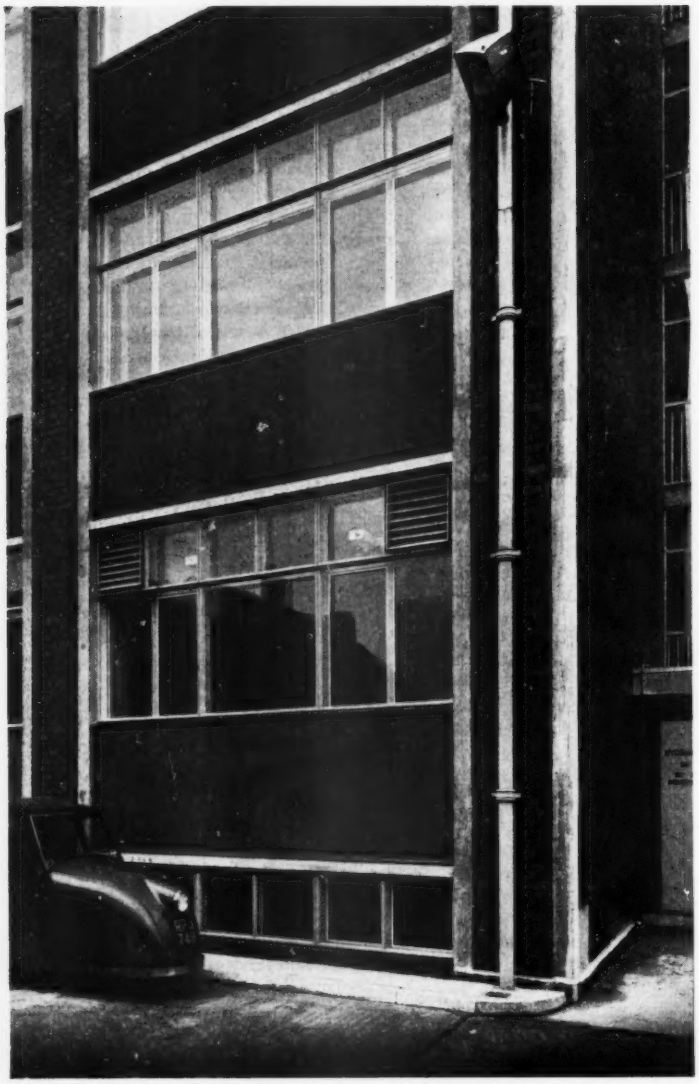
The plan shape of the building was established tentatively as an irregular quadrilateral abutting the existing factory on the south side. After investigation of the internal planning problems and the setting out of day-lighting angles, it was found that the original concept of a building incorporating a central light well would result in maximum development of the site only if there were two or more set-back floors. The clients had previously stressed the importance of maximum block width and unrestricted floor space which set-back floors would not afford. It was therefore agreed that, subject to special consideration of artificial lighting, the light well would be omitted. This would then result in maximum site development but with reduction in the building height and the elimination of one set-back floor.

Greatly increased unrestricted area were thus made available on each floor with a marked reduction of circulation area. The reduction in area of glazing also resulted in reduced heat losses and maintenance costs and the decreased height resulted in lower building costs. The building was therefore planned with a circulation and services spine in the centre of each floor where artificial light would be used, allowing the maximum natural lighting to the working areas. The penetration of natural light was of great importance and the structural design was developed with this in view, so that window heads are at slab soffit level.

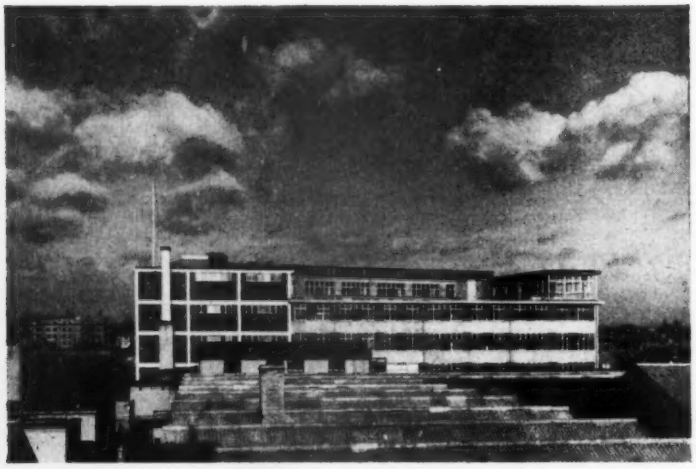
Daylighting also affected to some extent the sectional position of the upper ground floor slab which is 3 ft. 6 in. above ground level. This resulted in a minimum of excavation for the lower ground floor, which is 7 ft. below the actual ground level, and also provided a raised loading bay in the goods dispatch area. The lower ground floor is connected to the existing works by a ramp with a gradient of 1 in 10 to provide access for pedestrians and works trolleys.

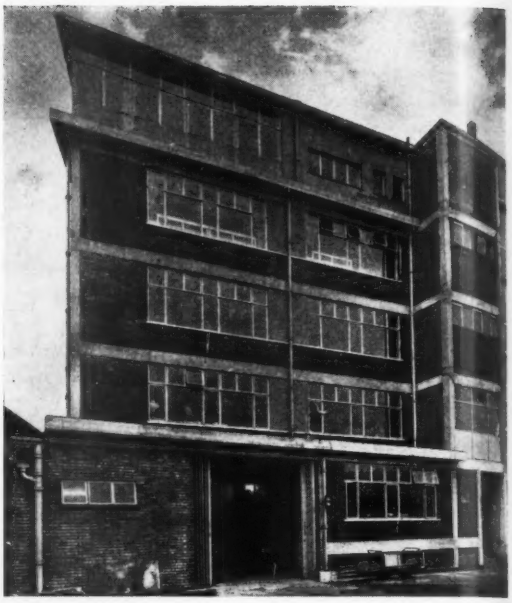
The clients required that all the internal services be hidden as far as possible and this to some extent dictated the design of the reinforced concrete hollow column frames. The whole of the main circulating ducts are contained within these columns or within horizontal service ducts running at high level through the centre of the building on the corridor line, with the result that they are not visible either internally or outside the building.

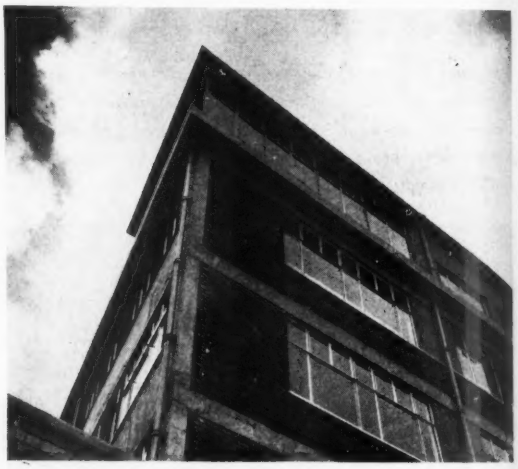
building illustrated



Viewpoint 3 shows a detail of the corner and the glazing subdivisions, which allow ventilators where required. The under-window panels are brick, faced in a dark-red rendering with mica chip admixture.

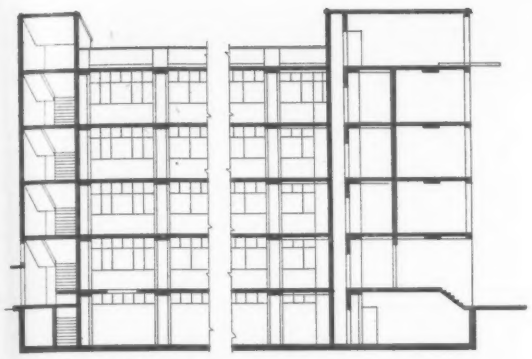




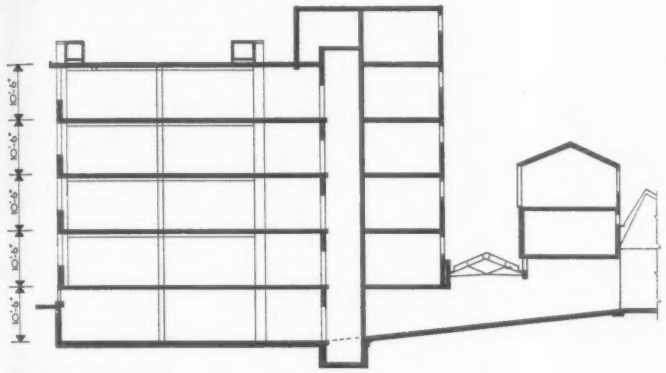


Viewpoint 4 (top) shows the east elevation and illustrates what happens when a loading bay is included late in the design to take advantage of the building line. The irregular projecting wing on the right of the photograph encloses a staircase and lavatories and these are faced with vertical mahogany boarding and red rendering, respectively, set in the exposed concrete frame. The building as a whole suffers from a surfeit of facing materials and different elevational treatments, a fault too often found nowadays. The glazing immediately above the doorway is entirely removable to allow the movement of exceptionally heavy equipment. The detail (viewpoint 5, above) looks upward to the penthouse at general roof level. The dark grey flint facing bricks have deeply raked joints, and a soft dark mortar has been used to avoid cracking. The throating to the artificial stone cills has been carried through to the ends and it is believed that this avoids the streaking problem. Viewpoint 6 (left) shows the south face of the extension rising above the existing factory roofs. The fairface concrete apron beams on the seven right-hand bays are cantilevered 5 ft. from the columns in order to allow the column bases to avoid the existing factory wall. The three bays on the left are clear of this wall and the frame appears on face.

analysis

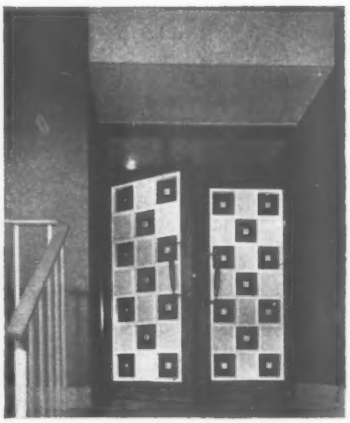


Longitudinal section [Scale: $\frac{1}{32}$" = 1' 0"]



Transverse section [Scale: $\frac{1}{32}$" = 1' 0"]

Vertical circulation is by means of one 2-ton capacity passenger/goods lift for heavy machinery between upper and lower ground floors only. The machinery is set on anti-vibration mountings on an ash subfloor. Lavatories are grouped around the stair at the west end of the building and cloakroom spaces are provided. Staff working in the dust-free areas wear nylon coats, and for instrument assembly work it is noted that operatives often prefer individual desk lights to overhead lights. The north section of the block is used for assembly and drawing offices, and the south section for stores, development and laboratories. Below left, the main entrance seen from the stairs to lower ground level. The cantilevered r.c. canopy containing light fittings is painted yellow, the dark wall is midnight blue and the floor is mottled grey terrazzo with black and white carborundum inserts: the p.v.c. handrailing is electric blue. Below right are the inner entrance doors leading to the upper ground floor. Main doors on each floor are of one hour fire resistance. The end of a horizontal corridor duct can be seen above the doors.



SUMMARY

Ground floor area: 13,533 sq. ft.
Total floor area: 69,590 sq. ft.
Type of contract: Approximate quantities.
Separate contracts for excavation and piling.
Tender date: August 1956
Work began: Excavating and piling, August 1956, building, September 1956.
Work finished: November, 1957.
Final contract price of foundations, superstructure, installations and finishes: £184,075.
Final contract price of external works and ancillary buildings: £4,250.
Total: £188,325.

	cost per sq. ft.	s	d
Preliminaries and insurances } **Contingencies**	}	3	0½
Work below ground floor level		6	5¼

207 concrete piles, 17-in. in diameter and an average of 22 ft. long, support a 6-in. layer of blinding concrete, asphalt tanking and 6-in. r.c. floor slab. Retaining wall of 4½-in. Uxbridge flint brick outer skin, asphalt tanking and 6-in. r.c. inner skin.
All work in contact with the ground is in sulphate resisting cement.

STRUCTURAL ELEMENTS

Frame or load-bearing element — 6 11
R.c. frame with prestressed concrete beams.

External walls — 2 2¾
Cavity walls with 4½-in. inner skin of hollow clinker concrete blocks.
Outer skin of Uxbridge dark purple flint bricks and flettons with rendered finish.
Ratio: $\frac{\text{solid wall}}{\text{floor area}} = \frac{0{\cdot}298}{1}$

Windows — 1 3
Mainly standard composite with metal sills to north elevation.
Artificial stone sills to other elevations. Double glazing generally.
Ratio: $\frac{\text{windows}}{\text{floor area}} = \frac{0{\cdot}115}{1}$

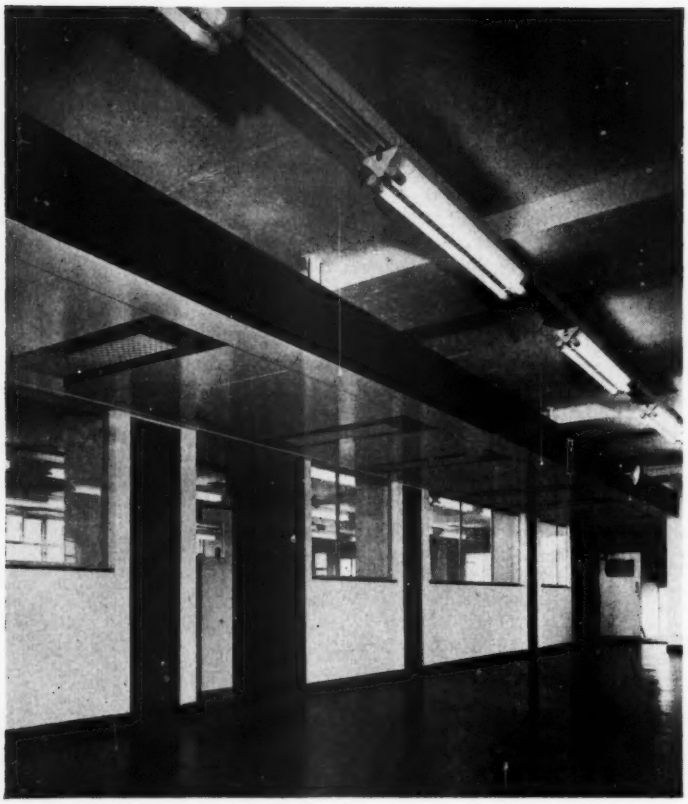
External doors — 2
Hardwood glazed doors. Metal-faced collapsible folding gates to loading bay and reception areas.
Ratio: $\frac{\text{doors}}{\text{floor area}} = \frac{0{\cdot}0049}{1}$

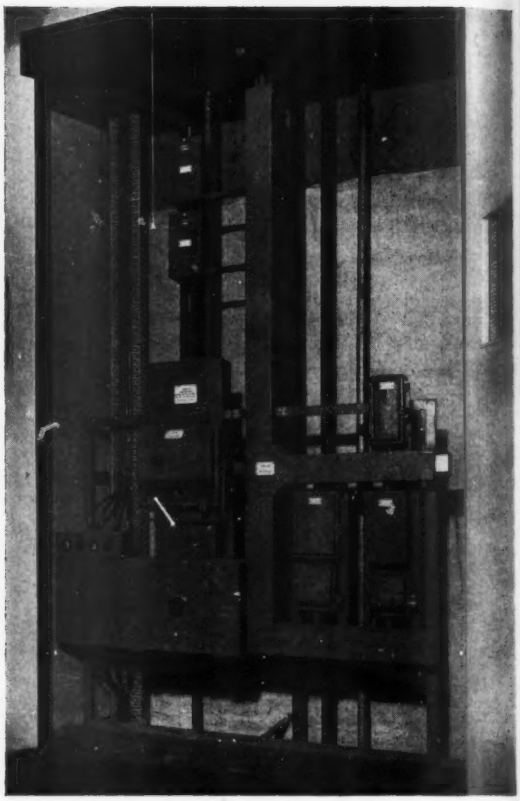
Upper floors — 4 3¾
In-situ reinforced concrete, 5 in., 6 in. and 7 in. thick according to loads and spanning 12 ft. 3 in. between prestressed beams.
Superloads: 100, 150, and 200 lb. sq. ft.

Staircases — 3¼
2 staircases, 4 ft. wide.
Total rise, 52 ft. 6 in.

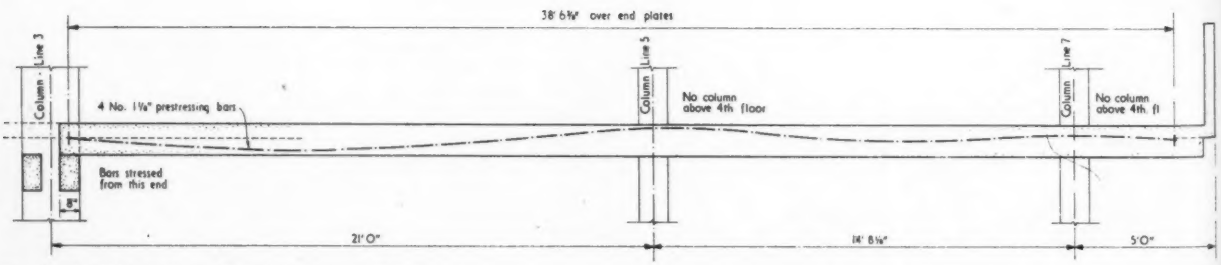
Roof construction — 8¼
In-situ reinforced concrete, 4 in. thick. Area, 15,400 sq. ft.

building illustrated



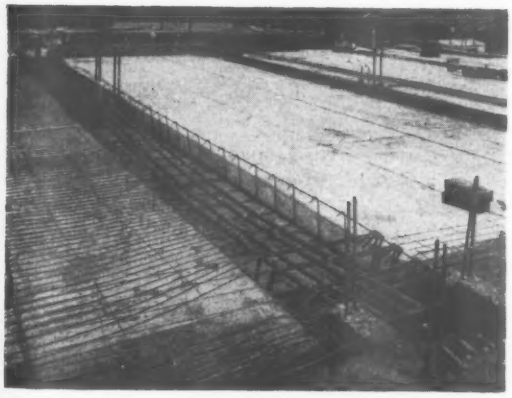


Above left: the horizontal corridor duct. The general ceiling soffit is coloured off white and the removable blockboard panels on the duct are white, with midnight blue lighting units and side face. The hollow concrete columns can be seen which have indian red infill panels below the air grilles. These grilles are for hot-water-heated air which has passed through oil and cloth filters in the plant room: the hot air is pushed out at columns adjacent to windows and extracted for the north section only in the spine columns. The south section extract is by means of permanent vents in the windows, a slight pressure being permanently maintained within the building. Only the plating and heat-treatment shops where the air is contaminated, have separate ventilation. The flooring generally is in brown thermoplastic tiles. Note that the ceiling lighting is controlled from cord switches. One of the chief interests in this building lies in the services circulation. In addition to the hollow r.c. columns which contain conditioned air ducts feeding to and from plant rooms, there is a brick enclosed vertical duct at each end of the block to take all other services. Above right is an electrical switchboard at one floor level, where, from a rising main link box, busbars feed into the horizontal duct in the corridor ceiling; into this can be plugged factory power and light at up to 250 amps. This makes it possible to take any electrical loading to any floor with the minimum of disturbance. The clients' brief required that service runs should be hidden to avoid dust-collecting ledges.



Part longitudinal section through prestressed beam

A typical floor before occupation. The central columns were required to take possible heavy floor loads, and from these span approximately 1 ft. deep × 3 ft. wide prestressed beams spanning 20 ft. at column centres of 15 ft. 3 in.
Double glazing is included primarily to reduce dust penetration and the three internal glass faces are cleaned from inside, the external face being cleaned from outside by ladder. Exposed steel panel radiators under each window are fed from runs in corridor ducts from oil-fired boilers through an indirect cylinder. An outside thermostat is fixed adjacent to the main entrance, and there are also room circuit thermostats. The central heating and mechanical ventilation systems were designed by the architects and main contractors in collaboration.



The fibre tubes in position before pouring the beam. Each tube takes a poststressed wire and is then pumped solid with grout. Between these beams span 5-in. and 6-in. in-situ floors reinforced with high tensile steel, the concrete soffits generally being unplastered. There is no downstand beam at the windows the top of which is at slab soffit level. This permits good daylighting conditions with a 10-ft. 6-in. floor-to-floor height. The whole building is supported on 206 bored piles 22 ft. long which project 8 ft. into blue clay, and the concrete contains sulphate-resisting cement. The lower ground floor is protected from the standing water level (which occurs 12 in. below the floor) by means of an asphalt membrane on a 6-in. r.c. blinding which tapers off at the pile caps to give direct bearing for the structure above. The asphalt is protected on the r.c. retaining wall by means of a 4½-in. brick external skin.

	s	d
Roof lights		3¾
Pavement lights covering an area of 920 sq. ft.		
Glazing		3¾
26-oz. and 32-oz. clear sheet glass, generally. Obscured glass to lavatories and cloakrooms. ¼-in. plate glass to west entrance and staircases.		
Total of structural elements	16s	5¾d

PARTITIONING AND FITTINGS

Internal partitions	2	5¼
Brick and 4¼-in. hollow clinker concrete blocks. Glazed metal unit partitions to lower ground, ground and third floors.		
Internal doors		7½
Painted plywood-faced flush doors with glazed observation panels. No. of single, 102. No. of double, 53 pairs.		
Ironmongery		7½
BMA pull handles, push plates and kicking plates, with overhead or floor springs.		
Fittings		9¾
Tubular guard railing to roof. Mild steel staircase balustrades with plastic rail covering to west staircase. Travelling hoist blocks. Timber flag pole. Special metal grilles to floor of plating shop. Sheet metal extension to existing factory chimney.		
Total of partitions and fittings	4s	6d

FINSHES

Floor finishes — 2 4½

Type of finish	*Area in sq. ft.*	*Price per sq. yd.*
Thermoplastic tiles	22,100	10s. 9d.
P.v.c. tiles	1,737	20s. 6d.
Quarry tiles	984	30s. 0d.
Terrazzo	3,280	90s. 8d.
Acid resisting	550	88s. 0d.
Granolithic	31,450	15s. 2d.

Wall finishes		11¾
Plaster generally. Retaining walls and concrete columns, fair faced.		
Ceiling finishes		6
Plaster to staircases. Fair-faced concrete elsewhere.		
Roof finishes		9½
Vermiculite screed and asphalt. Area 15,400. sq. ft.		
Decorations	1	5¼
Walls and ceilings generally, 3 coats of emulsion paint. Cement glaze to lavatories.		
Total of finishes	6s	1d

analysis

SERVICES

	s	d
External plumbing 4-in. and 6-in. cast iron r.w.p's.		1¾
Hot and cold water installation Copper tube with capillary fittings.	1	0
Sanitary fittings		3¾

Type of fitting	*No. of each type*
Basins	26
Drinking fountains	14
Sinks	10
Lavatories	27
Urinals	5 ranges

Heating and ventilation Central heating and mechanical ventilation are provided from a heating chamber on the lower ground floor and plant rooms on the fourth floor. Central heating is by low pressure accelerated hot water, served from two steel one-piece boilers specially designed for oil-firing, each rated at 1,540,000 BThU per hour, representing two-thirds of full load. Hot water supply is through an indirect cylinder in winter, with a smaller boiler of the same type for summer use. Fuel oil is supplied direct to boilers from a 2,850 gallon rectangular storage tank in a chamber adjacent to the heating chamber, which provides four weeks' supply in winter. Internal temps.: 65 deg. F. average. Air change: 2½ to 3 changes per hour. " U " of walls: 9-in. walls, 0·33; 11-in. cavity, 0·29; glass, 1·0; double glazing, 0·5 " U " of roof: 0·3	7	7½
Gas installation 40 plugged tee points for future connection.		1¾
Electrical installation	4	1¼

Type of point	*No. of each type*
Fluorescent (continuous troughing generally)	185
Tungsten	41

Lifts	1	9½

Type of lift	*No. of each type*
Electric passenger lift	1
Electro-oil hydraulic goods lift	1

Total of services	**15s**	**1d**
Drainage 4-in. and 6-in. glazed stoneware pipes laid on concrete base. Brick manholes. Soil and rainwater, separate systems. Underground pumping chamber for rainwater system.	1	3¼
Other elements 6-in. concrete road reinforced with two layers of mesh reinforcement.	1	2¾
Total per sq. ft. of floor area: $\frac{£184,075}{69,590}$ =	52	10½

(excluding external works)

SITE ORGANISATION

Clients instructions were received in December 1955; work on the site began 23 weeks later, the main contract starting only 35 weeks after instructions. This progress was achieved by the early preparation of rough quantities, and the appointment of a Clerk of Works in May 1956 so that temporary buildings could be erected, excavation and piling started while the main contract went out to tender. The general contractor maintained this rate of progress; for instance the *in-situ* concrete upper floors of irregular shape were completed in 3½ weeks.

COST COMMENTS

The keynotes of this contract appear to have been hustle, and economy on frills. The main weight of cost is on specialised services.

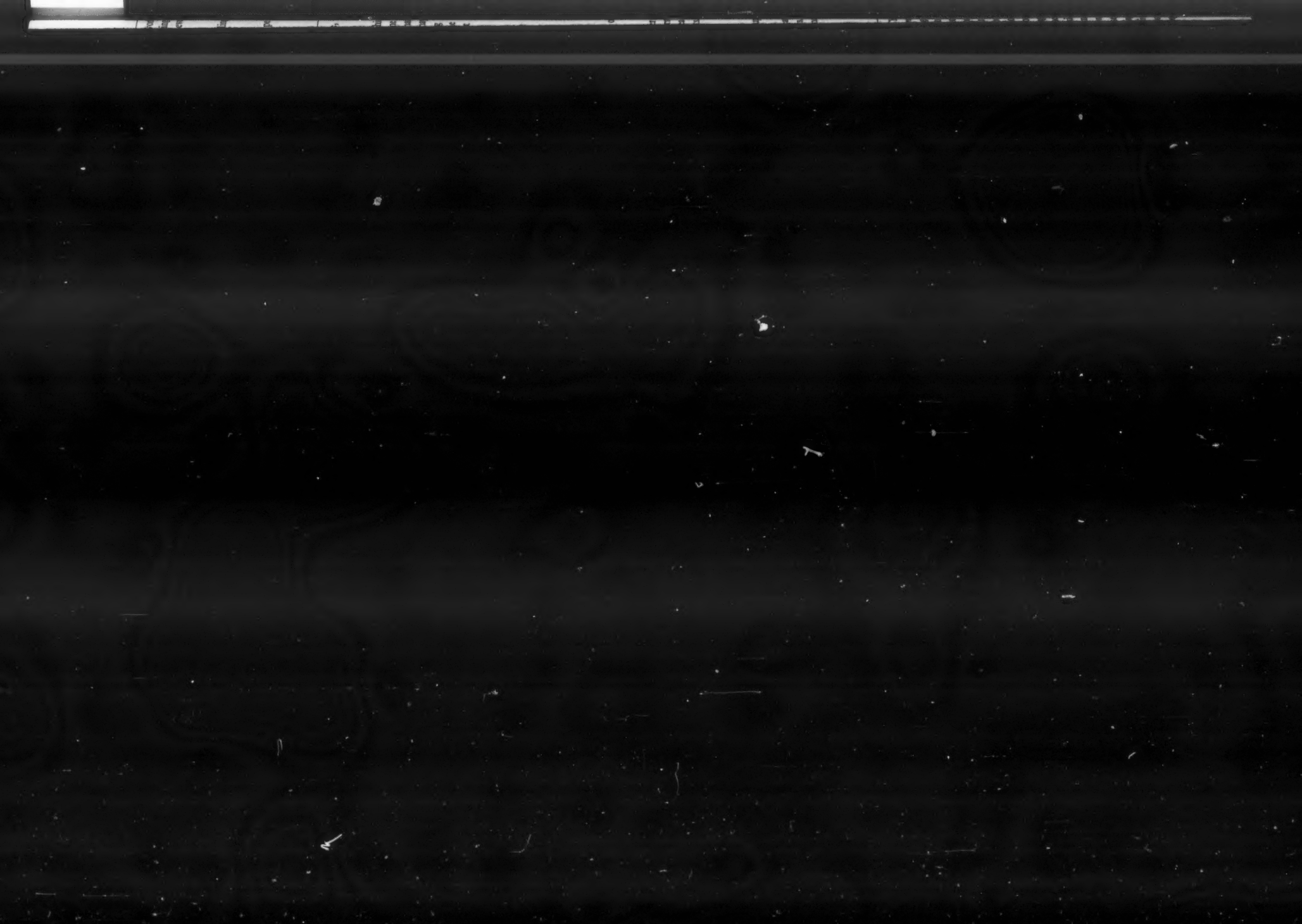
Providing for the specific requirements of the client on this irregularly shaped site must have been difficult in the time allotted for working drawings. The analysis also shows that contracts were based on approximate quantities, which may get results but is not the most economical way of arriving at final costs. The position of the site must have had some effect on the cost. Access was presumably from the Great West Road, leading to what could easily have become a congested building area. That in fact this was well organized is shown by the building time table, with two separate contracts completed in 16 months.

Frame: 6s. 11d. per sq. ft. is reasonable, especially as the columns contain the main circulation ducts and have exposed surfaces for direct decoration. *External walls:* built very economically at a unit price of

$\frac{\text{2s. 2¾d.}}{0{\cdot}298}$ = 7s. 6d. per sq. ft. *Upper floors and roofs:* Cost of these elements includes wrot shuttering to allow direct decoration on the soffit. *Internal partitions:* At 2s. 5½d. per sq. ft. these are more expensive than might appear at a first glance at the unrestricted floor areas. However a great area of the partitions consists of self-finished glazed metal units. *Ironmongery:* In most buildings the standard of the ironmongery reflects the standard of the finishes as a whole. Here BMA finish suggests an efficient if utilitarian appearance. *Finishes:* The keynote is economy in this group of elements, with the exception of the roof finishes. *Heating and ventilation* and *Electrical installation:* The meat of this analysis is to be found in these specialised elements. Note that work finished in November 1957, the maintenance period ended in May 1958, and yet the final prices are already known and agreed.

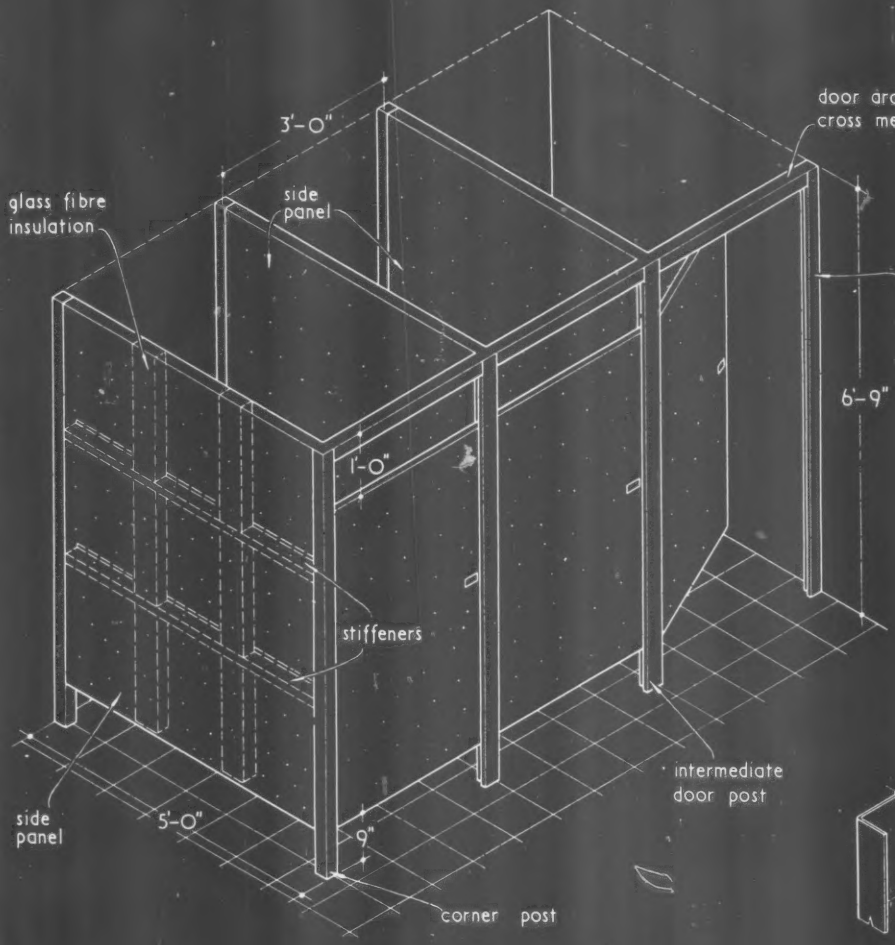
CONTRACTORS

General contractors: Gee, Walker and Slater Ltd. *Piling:* The Pressure Piling Company (Parent) Ltd. *Bulk excavation:* Willment Brothers Ltd. *Sub-contractors: Sanitary fittings:* Chiswall (London) Ltd. *Ironmongery:* James Gibbons Ltd. *Hoist:* Herbert Morris Ltd. *Electrical installation:* Troughton & Young Ltd. *Accotile and Plasco flooring:* Armstrong Cork Co. Ltd. *Sliding, folding doors:* The Bolton Gate Co. *Metal windows:* A. Beanes & Co. Ltd. *Partitions on third floor:* Unilock Partitions Ltd. *Asphalt:* Highways Construction Ltd. *External wall tiling:* Carter & Co. Ltd. *Flag pole:* Piggott Bros. *Glasscrete:* J. A. King & Co. Ltd. *Acid-resisting tiling:* Anchorite Ltd. *Metal grille flooring to plating shop:* Fisher Ludlow. *Balustrading and architectural metalwork:* Kingsmill Metal Co. Ltd. *Partitions (basement to 2nd floor):* John Williams (Cardiff) Ltd. *Terrazzo:* Marriot & Price. *Metal flue extension:* SMW Manufacturing Co. Ltd. *Tiloglaze wall finish:* Quickset Water Sealers Ltd. *Handrail:* Marley Tile Co. Ltd. *Facing bricks:* Hall & Co. Ltd. *Gas:* North Thames Gas Board. *Fire doors:* Fireproof Shutter & Door Co. *Storm water pumps:* Tuke & Bell Ltd. *Lifts:* Marryat & Scott Ltd. *Prestressed steel:* McCalls Macalloy Ltd.

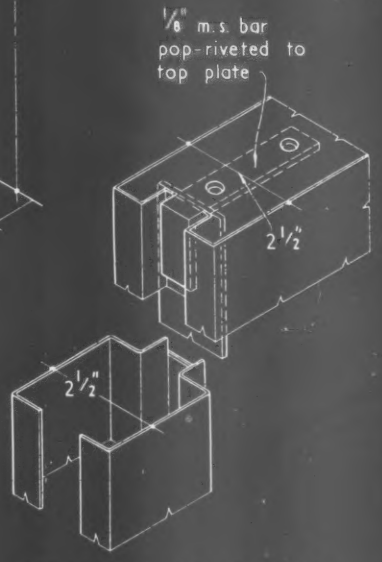


SPECIALISED FITTINGS | LAVATORY CUBICLES

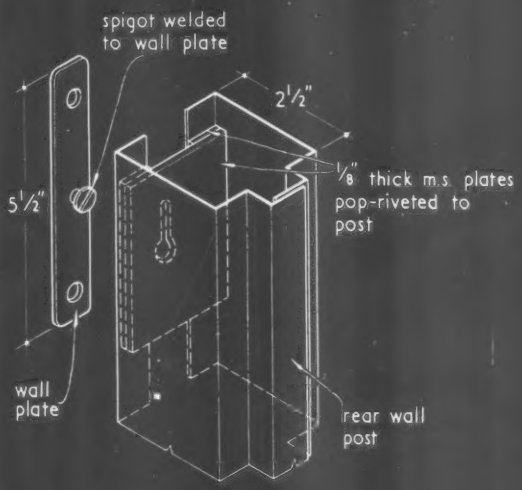
The Architects' Journal Library of Information Sheets 685. Editor: Cotterell Butler, A.R.I.B.A.



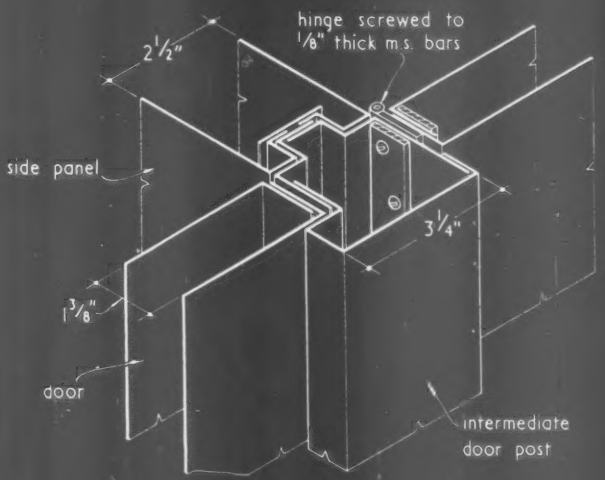
ISOMETRIC VIEW OF GENERAL ARRANGEMENT



DETAIL OF FIXING OF PANEL



DETAIL OF WALL FIXING



TYPICAL DETAIL OF JUNCTION AT DOOR POST

PRESSED STEEL LAVATORY CUBICLES. Manufacturer: Speedwell Gear Case Co. Ltd.

43.Z5 PRESSED STEEL LAVATORY CUBICLES

This Sheet describes pressed steel lavatory cubicles assembled from standard components and requiring a minimum of provision for fixing at floor and walls. The components are readily demountable and interchangeable so that the system may be adapted or extended as required.

Material and Construction

The system consists of vertical posts to which the partition panels are located by tongue-and-groove joints with built-in locking clips. The posts are fixed to the wall as shown in the detail on the face of the Sheet and at the floor by adjustable spigots which are held in fixed sockets: the partitions can therefore be levelled as required. A top capping rail gives rigidity to the whole assembly. Doors and door furniture are supplied.

Posts: These are of 18 gauge pressed steel tongued section as shown on the face of the Sheet. Wall posts are provided at top and bottom with a keyhole piercing to engage with the wall fixing component. There are four types available: rear and end wall, corner and intermediate posts. Adjustable feet are provided.

Wall fixing plates: These are as shown in the detail on the lower left of the face of the Sheet and consist of $\frac{1}{8}$-in. m.s. plate with welded spigots.

Floor fixing sockets: These are of malleable cast iron.

Panels: These consist of two skins of 22 gauge pressed steel joined by concealed spot-welding. The vertical edges of the panel are grooved to fit on to the posts. Each panel is braced internally with two horizontal stiffeners, and also contains two vertical strips of impregnated glass fibres for sound-deadening.

Doors: Doors are of 20 gauge pressed steel, braced and insulated similarly to the panels. They are supplied with furniture and flush heavy-duty brass hinges.

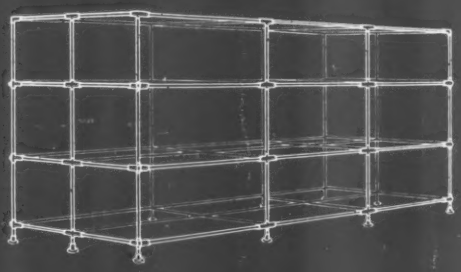
Finish

All steel components are galvanised and stove-enamelled epikote white as standard. Other colours are available to order.

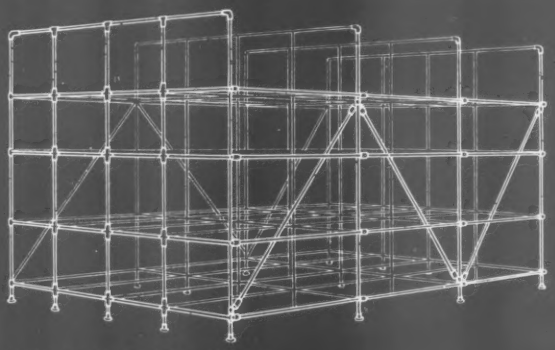
Compiled from information supplied by:

The Speedwell Gear Case Co. Ltd.
Head Office and Works: Tame Road, Witton, Birmingham, 6.
Telephone: East 2261.
Telegrams: Speedwell, Birmingham.
London Office: Palace Chambers, Bridge Street, S.W.1.
Telephone: Trafalgar 4421.
Coventry Office: Needlers End Lane, Balsall Common, nr. Coventry.
Telephone: Berkswell 3227.
Telegrams: Speedwell, Coventry.

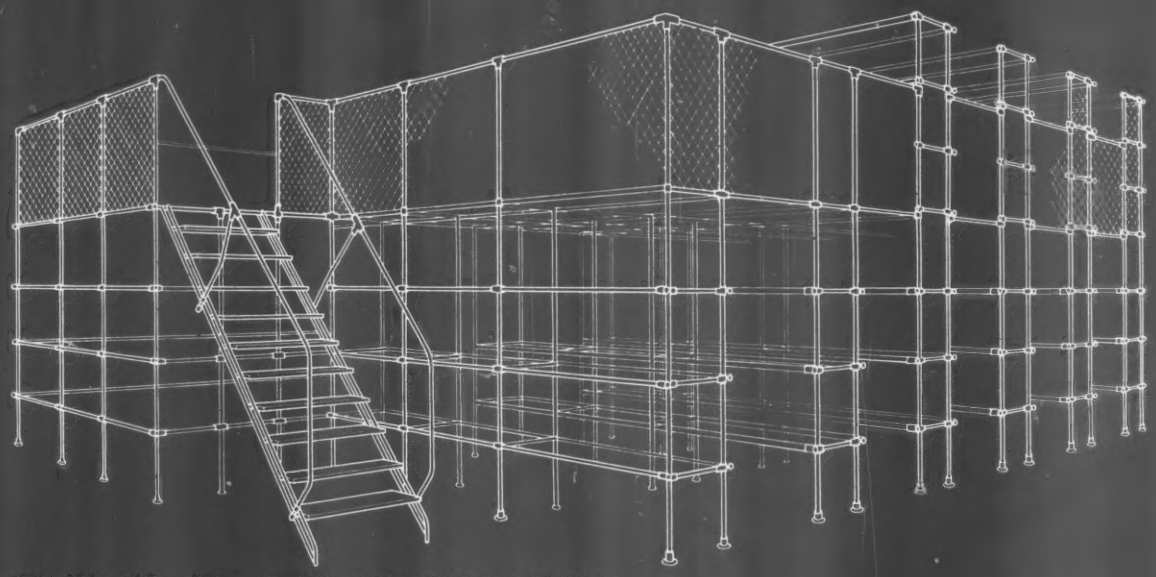
The Architects' Journal Library of Information Sheets 686. Editor: Cotterell Butler, A.R.I.B.A.



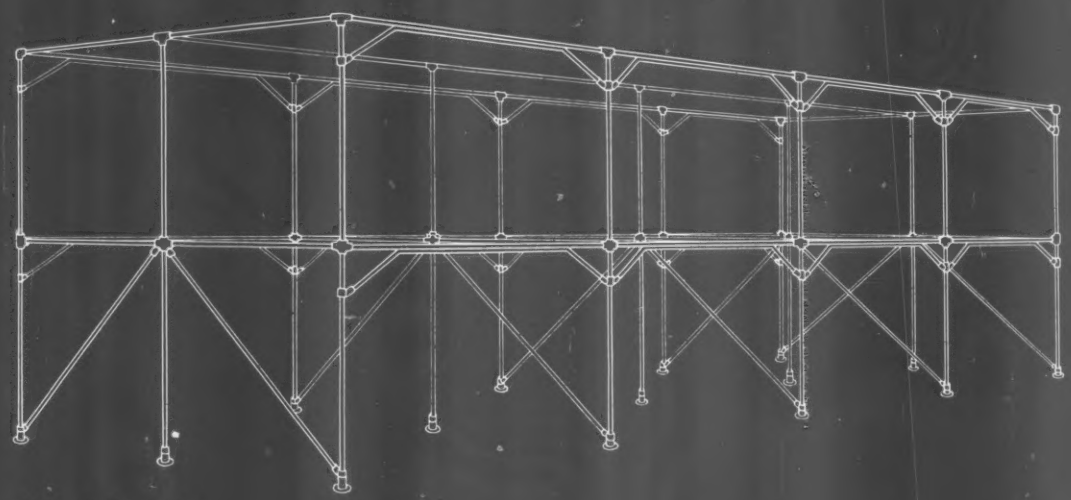
SINGLE TIER ARRANGEMENT.



SINGLE TIER BAR RACK.



MULTIPLE TIER ARRANGEMENT WITH ACCESS STAIRCASE.



CAR BODY RACK.

·KEE KLAMP· FITTINGS FOR TUBULAR STEEL CONSTRUCTIONS: 2 STORAGE RACKING.
Manufacturer: Geo. H. Gascoigne Co. Ltd.

42.Z2 ·KEE KLAMP· FITTINGS FOR TUBULAR STEEL CONSTRUCTIONS: 2 STORAGE RACKING

This Sheet is the second of a series on Kee Klamp fittings and deals with storage racking. A wide range of Kee Klamp fittings is available for joining and fixing steel tubular members to produce various types of structure. Sheet 42.Z1 illustrates the principle of the system and the basic standard components; other Sheets in the series deal with pedestrian guard railing, cycle racks, staging, etc.

Principle

Each socket on a Kee Klamp fitting is provided with a grub screw fixing. The hexagon-socket grub screw is tightened by a special key so that it grips the tubing. This simple principle has been applied to produce a very wide range of components for accommodating single and multiple junctions, crossovers, base flange fixings, etc., so that the flexibility of the system is almost without limit.

Material and Construction

The fittings are of malleable iron and are for use with standard steel gas, steam and water tubing to BS. 1387 : 1957. The drawings on the face of the Sheet show a selection of typical storage racks built up from the basic components. Pressed steel shelving boards are available with shaped ends which fit over the tubes and are retained in position without fixing. Each board has flanged sides to give added strength.

Sizes

The standard sizes in which the fittings are obtainable vary according to function and the manufacturer should be consulted for details. The wide range of tubes which may be used with the fittings allows suitable racking to be built up for different applications. Very heavy loads can be carried. Where the required sizes for a particular application are not available from stock, they can normally be supplied to special order. Standard shelving boards are available in widths of 5 in., 6 in. and 7 in. to suit loading conditions and in spans up to 5 ft. 0 in. Special heavy duty shelving boards are also manufactured.

Finish

The fittings and tubing may be left untreated or galvanised.

Further Information

The manufacturer maintains a technical advisory service available to answer questions and prepare schemes for Kee Klamp installations.

Compiled from information supplied by:

Geo. H. Gascoigne Co. Ltd.

Address : Berkeley Avenue, Reading, Berks.
Telephone : Reading 54417-9.
Telegrams : Keklamps Reading.

working detail

HEATING: 18

DOMESTIC BOILER INSTALLATION: HOUSE AT COWES, ISLE OF WIGHT

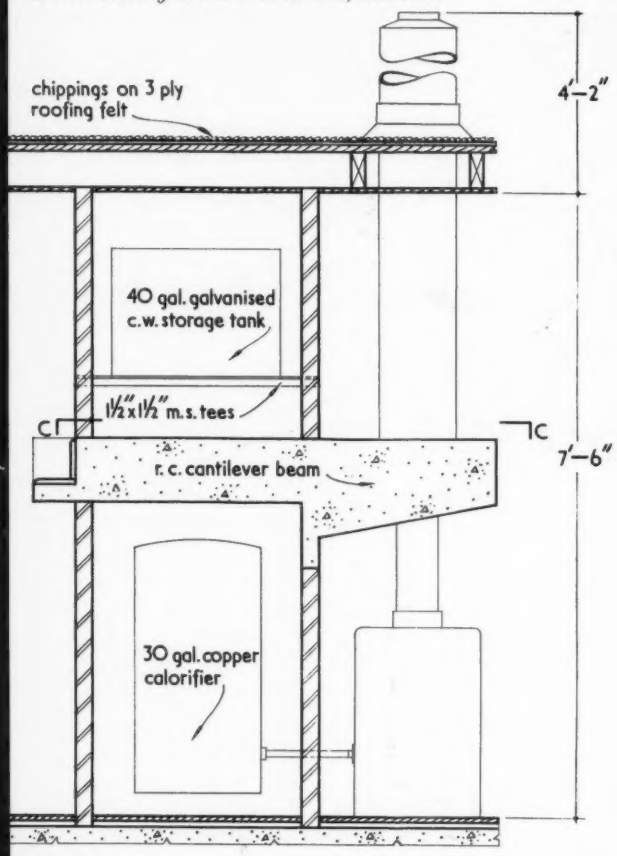
James Stirling and James Gowan, architects

The concrete corbel was designed in order to give the kitchen boiler a vertical flue and the cantilever stabilised by carrying the beam through two walls. It serves to divide the airing cupboard from the cold water storage tank and terminates as a soap tray in the bathroom.

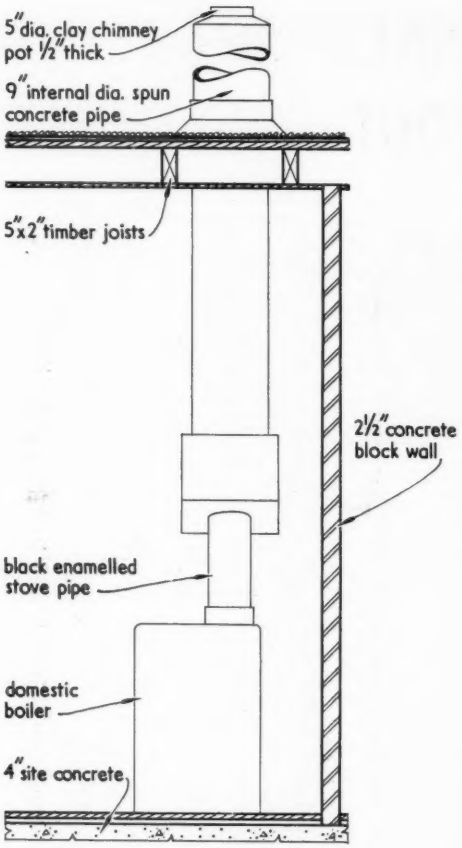
working detail

DOMESTIC BOILER INSTALLATION: HOUSE AT COWES, ISLE OF WIGHT

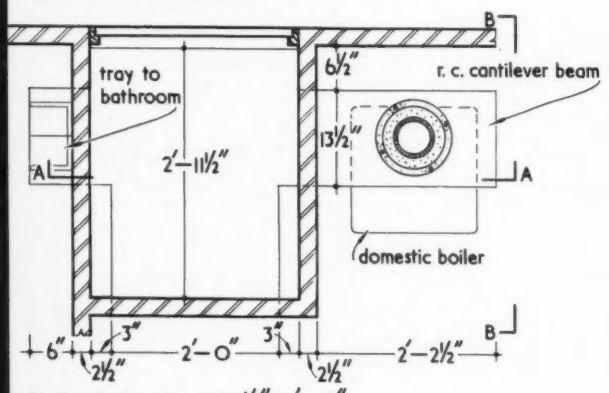
James Stirling and James Gowan, architects



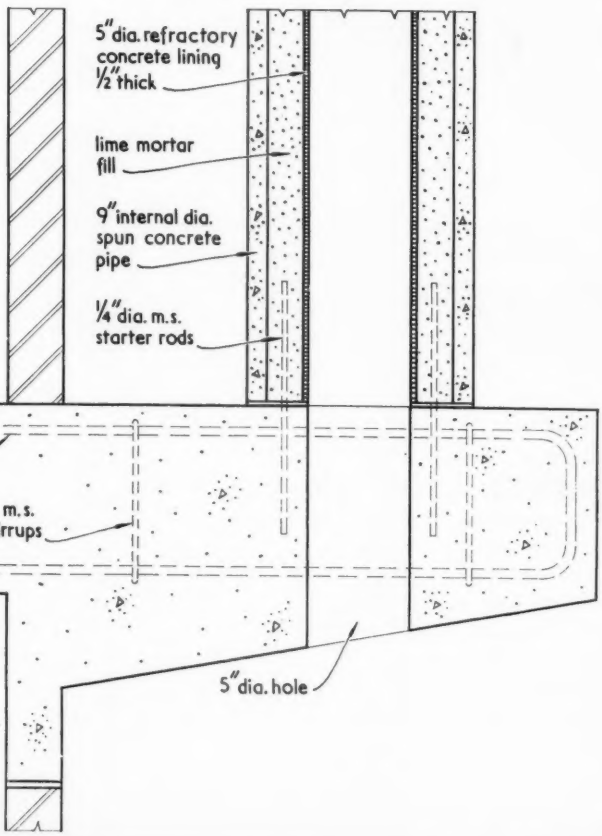
SECTION A–A. scale ½" = 1'–0"



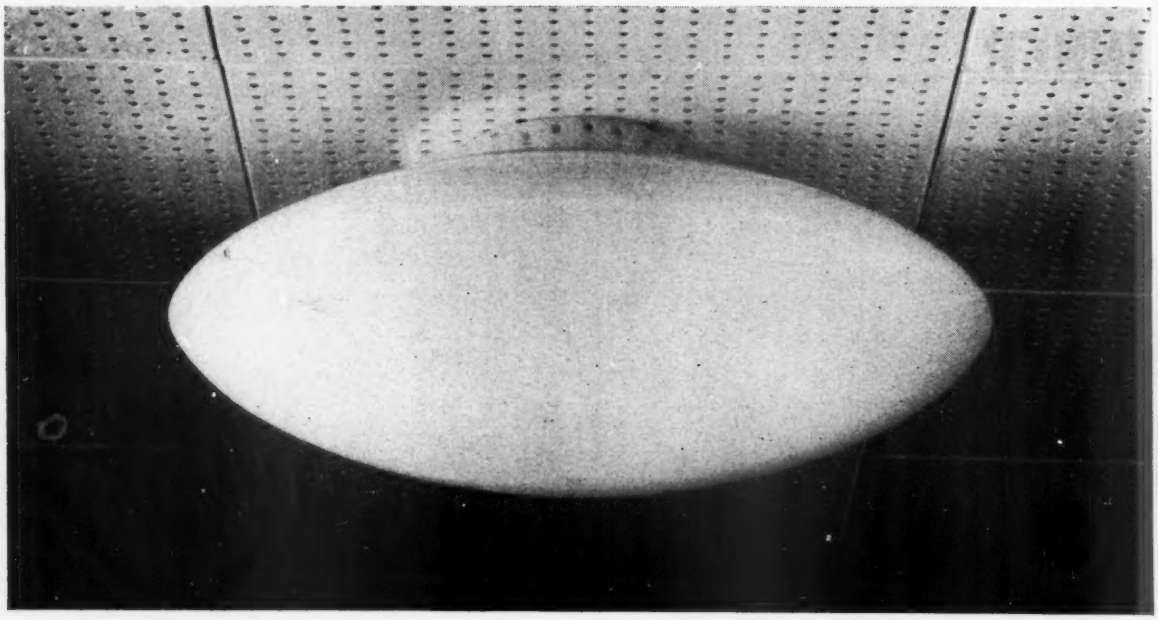
SECTION B–B. scale ½" = 1'–0"



PLAN AT C–C scale ½" = 1'–0"



DETAIL OF CANTILEVER BEAM. scale ⅛ full size



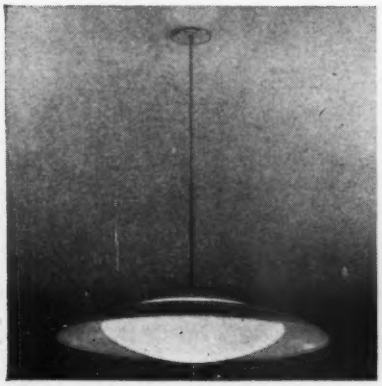
MA 1500 series from 34/8 plus 7/10 tax

Designed by Paul Boissevain, Dip. Arch., M.S.I.A.

announcing the new ELLIPSE SERIES 10" 12" 14" 18" & 22" 60-300w

The Ellipse series provides architects and engineers with a basic range of 120 elegant lighting fittings, of slim appearance, which do a first class lighting job. The quality and finish is of the highest order, and the construction without use of screws or levers is simple, effective and foolproof, allowing for easy fixing and maintenance.

Prices are comparable with ordinary commercial units. Full details, including dimensioned drawings, are given in publication MA 1500 available on request.

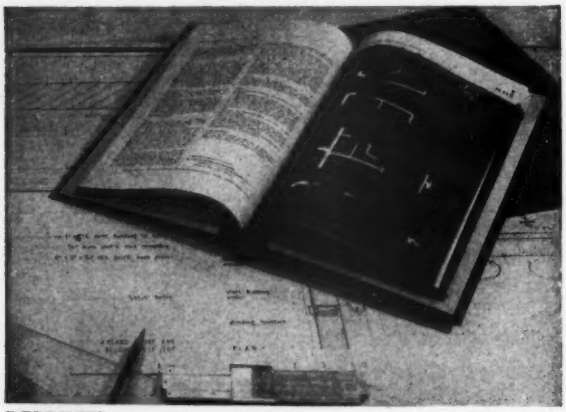


THE MERCHANT ADVENTURERS LIMITED

16-43 PORTLAND ROAD LONDON W.11 TELEPHONE PARK 1221 (5 lines)

GARAGE AT LOWDHAM

This small fitting station and repair shop, with offices and showroom at Lowdham, Notts, was designed by Bartlett and Gray. A building of minimum cost was required, overlooking existing petrol pumps, and the repair shop had to be of sufficient height to take local farm machinery. A prefabricated structure was selected for the repair shop giving the required span, heights and area. Walls are load-bearing brick on strip foundations with in-filling walls built off surface concrete. External walls of Ambergate brown facing bricks. Offices, showroom, accessories room and lavatories face the forecourt, and are of brickwork roofed with prestressed beams.



THE LIBRARY OF INFORMATION SHEETS COMPLETE TO JUNE, 1958

REPRINTS

All Information Sheets published since the new series was started in October, 1947, have been reprinted. Specially-designed binding cases to hold approximately 100 Sheets may be obtained at the price of 6s. 0d. each. (Postage 1s. 1d.)

Oct., 1947-June, 1958 ... £5 5s. 0d. *(Postage 2s. 9d.)*

Individual Sheets may be ordered (3d. each). Readers requiring sets or individual Sheets should fill in the form below. Sets in classified order (without binders) are available as follows:

ORDER FORM

Please send me .....

Name ..... *(block letters)*

Address .....

.....

Announcements

PROFESSIONAL

From September 6 the address of H. D. Dawson, A.R.I.B.A., will be the Borough Engineer's Department, Town Hall, Bury, Lancashire.

Michael Laird, A.R.I.B.A., has moved to 65, Castle Street, Edinburgh (telephone Edinburgh 33969).

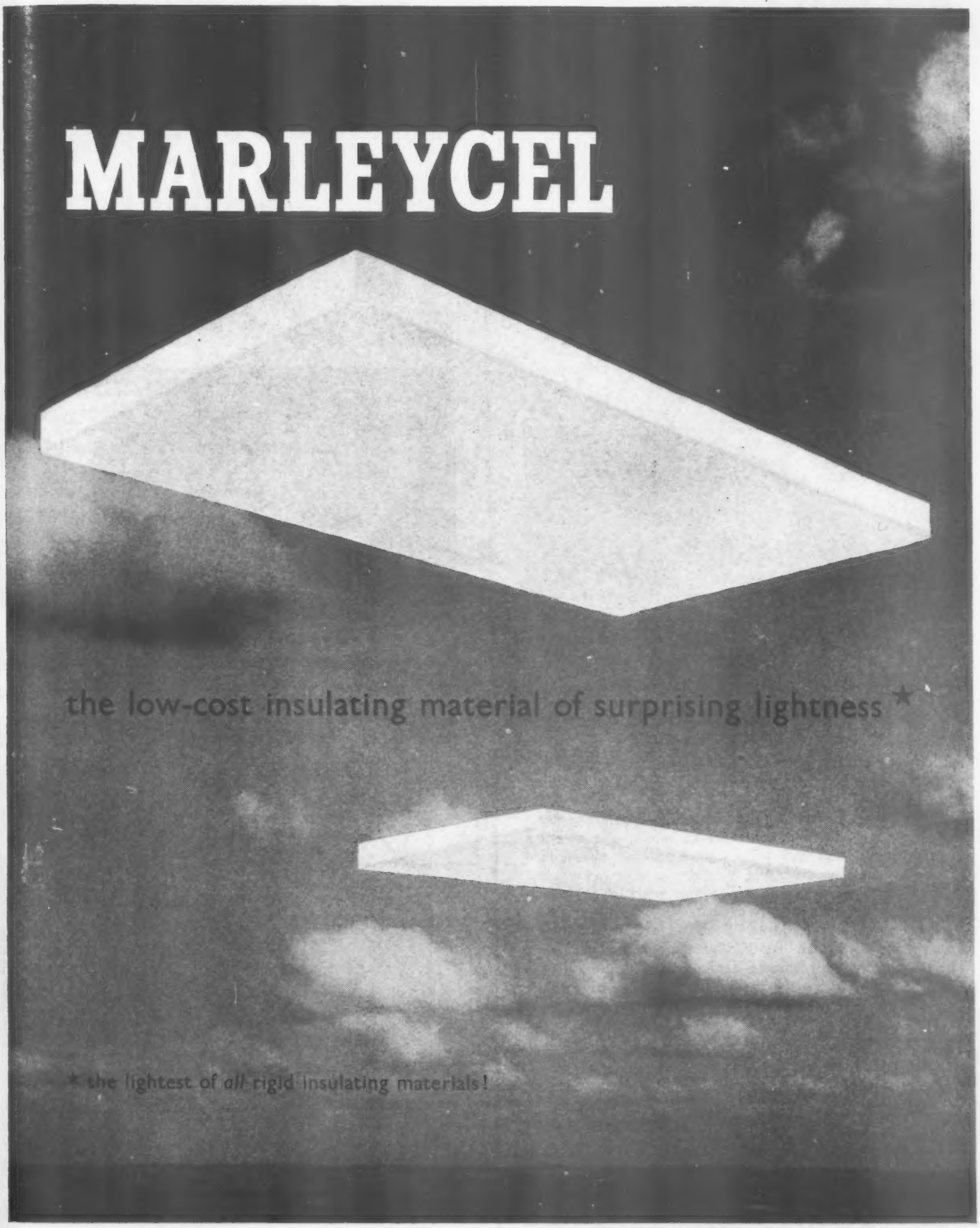
The practice of Sheila Tribe, A.R.I.B.A., Central Square, Newquay, Cornwall, will now be continued under the style of Sheila Tribe, Buxton and Truscott from the same office. Buxton and Truscott's office in St. Austell, Cornwall, will remain as before.

TRADE

Venesta Limited have appointed Stanley Field as chairman of their company.

The whole of the ordinary share capital of Air Control Installations Ltd. has been acquired by Beyer Peacock & Company Ltd., of Gorton, Manchester. F. D. Moul, will shortly be retiring from his position as chairman and managing director, but will continue to be associated with the company in an advisory capacity, as director and president of the company.

T. & W. Farmiloe Ltd., makers of Nine Elms Paints & Mastice, have recently appointed a number of additional architectural representatives. These include Sir Edmund Bedingfeld, Bt. in the London area; Mr. John McNamara in the South London, Kent and Sussex area.



Marleycel is expanded polystyrene plastic supplied in sheets of cellular structure, with low thermal conductivity. Marleycel is feather-light, easy to cut with knife or saw, clean and pleasant to handle and can be fixed by a variety of methods.
Marleycel is rot-proof, odourless, and resistant to the passage of water and water-vapour. It has a snow-white, light-reflective surface and can either be left undecorated or painted with suitable paints. Plaster finishes can be applied. Available in a range of sizes and thicknesses.
Manufactured for Marley by Styrene Products Limited, an associate of Shell Chemicals, and developed by Marley to serve the building industry. For samples and full technical details, write to:
The Marley Tile Company Ltd., Sevenoaks, Kent. *Sevenoaks 55255*
London Showrooms: 251 Tottenham Court Road, W.1

A **MARLEY** product

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.

AIR-MAIL SERVICE available on request:
In response to requests from a number of Overseas subscribers for air-mail delivery of Public and Official Appointment details, we have been pleased to arrange that cuttings of all such classified advertisements appearing in the A.J. shall be despatched by air-mail on Wednesday of each week (one day prior to A.J. publication date). The cost of this special service to Overseas subscribers will be 5s. for four weeks (1s. 3d. for each additional week) and prepayment should be sent by readers wishing to take advantage of this service. The charge we are making represents only the actual cost of the postage involved.

Public and Official Announcements

30s. per inch; each additional line, 2s. 6d.

COUNTY BOROUGH OF SOUTHEND-ON-SEA
BOROUGH ARCHITECT'S DEPARTMENT
Applications are invited for the following posts:
ASSISTANT ARCHITECT
ASSISTANT QUANTITY SURVEYOR
Salary Scales £750 by annual increments of £40 to £1,030.
TECHNICAL ASSISTANT (Architectural)
£575 by annual increments of £30 to £725.
Candidates must be suitably qualified and experienced.
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, by September 8, 1958.
Canvassing will disqualify. Any candidate who is related to a member or officer of the Council is required to disclose the fact.
ARCHIBALD GLEN,
Town Clerk.
1220

CITY OF SALFORD
CITY ENGINEER & SURVEYOR'S DEPARTMENT
Applications are invited for the following new posts:—
(*a*) PRINCIPAL ASSISTANT ARCHITECT: at a salary in A.P.T. Grade V, £1,175—£1,325 per annum.
Applicants must be Chartered Architects with wide experience, capable of taking charge of assistant architects and controlling building works from design to completion. Experience of multi-storey dwellings will be an advantage.
(*b*) THREE ASSISTANT ARCHITECTS: at salaries in Special Grade, £750—£1,030 per annum.
Applicants should hold at least Parts I and II of the R.I.B.A. final or equivalent and have five years' experience.
(*c*) TWO ARCHITECTURAL ASSISTANTS: at salaries in A.P.T. Grades I/II £575—£845 per annum.
Applicants must have passed the R.I.B.A. intermediate examination or equivalent and had some drawing office experience. Facilities for completion of professional training will be given to holders of these posts.
The work of the Department affords experience in a wide variety of municipal engineering and architectural projects carried out for all Committees of the Council.
Housing accommodation will be provided in approved cases.
The appointments will be subject to the provisions of the Local Government Superannuation Acts, the National Scheme of Conditions of Service and the passing of medical examinations.
Applications stating age, qualifications and details of experience, together with the names of two referees, should be sent to the City Engineer & Surveyor, Town Hall, Salford, 3, Lancs, to arrive not later than Friday, 5th September, 1958.
R. RIBBLESDALE THORNTON,
Town Clerk.
1215

COUNCIL FOR TECHNICAL CO-OPERATION IN SOUTH AND SOUTH-EAST ASIA
Applications are invited by the Foreign Office for an appointment as Lecturer in Architecture at the UNIVERSITY of RANGOON, BURMA, under the Technical Corporation Scheme of the Colombo Plan:—Must have degree in Architecture or A.R.I.B.A., with at least five years' professional experience, preferably in the tropics.
Will be required to teach up to degree level. Duration two years. Contract with the U.K. Government. Salary £1,650 per annum (subject to U.K. income tax), plus *tax-free* oversea allowance of £1,360 p.a. for married man (less for a single man) plus other allowances. Free furnished accommodation provided. For further information and application form write Ministry of Labour and National Service (E.9), 26-28, King Street, London, S.W.1, quoting E9/TCS/235/BUR.
1255

NATIONAL COAL BOARD—EAST MIDLANDS DIVISION
Applications are invited for the following posts in the Divisional Architect's Department, 69, Lower Parliament Street, Nottingham:
S.V.912—ARCHITECT GRADE II—Salary scale £815 × £30—£1,125.
Candidates should be corporate members of the R.I.B.A. with varied practical experience.
S.V.926—ARCHITECTURAL ASSISTANT GRADE I—Salary scale £715 × £25—£850 (exceptionally £1,000).
Qualifications: Preferably Intermediate R.I.B.A. although regard will be paid to good practical experience.
The architectural work of the department covers the design of colliery surface buildings of all types, including workshops, stores, power plants, offices, pithead baths, canteens, medical centre and recreation buildings.
The point of entry into the salary scale will depend on qualifications and experience. The post is superannuable and superannuation rights under Local Authority and certain other schemes are transferable.
Applications giving age, present salary and full details of education, qualifications and present appointment should be addressed within 14 days to: The Divisional Chief Staff Officer, National Coal Board, East Midlands Division, Sherwood Lodge, Nr. Arnold, Nottingham. Please quote the appropriate S.V. reference.
1228

LONDON COUNTY COUNCIL
ARCHITECT'S DEPARTMENT
Vacancies for: (1) ARCHITECTS, Grade III, starting salary up to £1,090 a year. (2) ARCHITECTURAL ASSISTANTS, starting salary up to £860.
Full and interesting programme of houses, flats, schools and general buildings.
Application form and full particulars from Hubert Bennett, F.R.I.B.A., Architect to the Council, the County Hall, S.E.1, quoting ref. AR/EK/36/58. (1428)
1074

THURROCK U.D.C. (Engineer and Surveyor's Dept.) require ARCHITECTURAL ASSISTANT. Salary—A.P.T. I/II: £575—£845 p.a. Good architectural experience is necessary. Applicants must be capable of preparing working drawings in all categories and should have passed the Intermediate Examination of the R.I.B.A. The Council have interesting projects in hand, including an Indoor Swimming Bath. Appointment pensionable. Applications, stating age, qualifications, and experience, and quoting three referees, to the Clerk of the Council, Council Offices, Grays, Essex, by September 9, 1958. Canvassing disqualifies. Relationship with Members or Senior Officers of the Council must be disclosed.
1186

BOROUGH OF FINCHLEY
ARCHITECTURAL ASSISTANT
HOUSING AND TOWN PLANNING DEPARTMENT
Salary within Special Grade (£750×£40—£1,030) for a qualified architect, or within A.P.T. I (£575×£30—£725) for one with R.I.B.A. Intermediate only. London Weighting additional.
Subject to satisfactory service, anticipated duration of the post will be approximately 2 years.
Candidates must have had at least 5 years' practical office experience, preferably on Local Authority Housing work; must be capable of carrying out complete surveys of existing property and writing Specifications for conversion work.
The National Scheme of Conditions of Service and the Local Government Superannuation Acts apply and medical examination required.
Applications, stating age and full particulars of qualifications and experience, with the names of two referees, to the Borough Housing and Town Planning Officer, The Avenue, Finchley, N.3, by first post on the 11th September, 1958.
R. M. FRANKLIN,
Town Clerk.
Municipal Offices, N.3.
1300

ESSEX EDUCATION COMMITTEE
SOUTH-WEST ESSEX TECHNICAL COLLEGE AND SCHOOL OF ART
Forest Road, Walthamstow, London, E.17
Applications are invited for the post of SENIOR LECTURER to be responsible for the direction and development of the Architectural Section of the Department of Architecture and Building. There is at present a Year Master for each of the five years of the course and the candidate appointed will be responsible for co-ordinating the work throughout the full-time and part-time Courses, in addition to teaching.
Previous teaching experience in a School of Architecture is essential.
Salary according to the Burnham Further Education Report, *i.e.*, £1,350 by £50 to £1,550 plus London Allowance (£36 or £48 p.a.).
Applications (no forms) by letter, giving particulars of qualifications, training and experience, and enclosing copies of three recent testimonials or giving the names and addresses of three referees, to be submitted to the Clerk to the Governors at the College.
1254

ARCHITECTS. Pensionable posts for men and women aged 25 and under 35 on 1.7.58; extension for regular Forces service, H.M. Overseas Civil Service, established civil service and temporary service as Architect. Candidates must be registered Architects and have appropriate professional experience. Men's starting salary from £755 to £1,085. Maximum (London) £1,250. Promotion prospects. Write Civil Service Commission, 30 Old Burlington Street, London, W.1, for application form, quoting S60/58. Closing date 26th September, 1958.
1246

BOROUGH OF LUTON
Applications invited for:—
(*a*) PRINCIPAL QUANTITY SURVEYING ASSISTANT (Grade A.P.T. V, £1,175 × £50—£1,325). Candidates must be A.R.I.C.S. with subsequent experience necessary for supervision of a team.
(*b*) SENIOR ARCHITECTURAL ASSISTANT (Grade A.P.T. V, £1,025 × £50—£1,175). Applicants must be fully qualified and have had a minimum of six years' experience in the design and development of school buildings.
Housing provided and approved removal expenses paid conditionally. Large constructional and development programme offers a variety of work and experience. Application forms from Borough Architect, Town Hall, Luton, returnable by 12th September, 1958.
1248

BOROUGH OF GRANTHAM
CHIEF ASSISTANT ARCHITECT
AMENDED ADVERTISEMENT
Applications are invited for the above appointment in the department of the Borough Engineer and Surveyor at a salary within Special Grade (£750—£1,030) with car allowance. Applicants must be Registered Architects with good general experience, and be capable of preparing and supervising all building schemes undertaken by the Corporation. Experience of dealing with byelaw applications submitted to the Local Authority would be an advantage. Housing Accommodation will be available to the successful candidate, if required. The appointment is subject to the National Scheme of Conditions of Service, the Local Government Superannuation Acts, the passing of a medical examination, and is terminable by one month's notice on either side. Applications, stating age, qualifications, training and experience, previous and present positions, together with the names of two referees, should be received by the Borough Engineer and Surveyor, Guildhall, Grantham, not later than Friday, 12th September, 1958.
JOHN F. GUILE,
Town Clerk.
Guildhall,
Grantham.
14th August, 1958.
1252

BOROUGH OF SOUTHGATE
BOROUGH ENGINEER AND SURVEYOR'S DEPARTMENT
ARCHITECTURAL ASSISTANTS
Applications are invited for the following appointments in the Department of the Borough Engineer and Surveyor:—
(*a*) A.P.T. Special Grade, £750—£1,030 plus London weighting.
(*b*) A.P.T. Grade II, £725—£845 plus London weighting.
(*c*) A.P.T. Grade I, £575—£725 plus London weighting.
The posts are permanent and superannuated and the starting salary will be fixed in accordance with qualifications and experience. In the case of appointment (*a*) applicants should be Associates of the Royal Institute of British Architects.
Forms of application may be obtained from the Borough Engineer and Surveyor and should be returned to the undersigned not later than 9 a.m. on Monday, 8th September, 1958.
Canvassing, directly or indirectly, will be a disqualification.
GORDON H. TAYLOR,
Town Clerk.
Town Hall,
Palmers Green,
London, N.13.
August, 1958.
1251

BALLYMENA BOROUGH COUNCIL
TEMPORARY APPOINTMENT OF TOWN PLANNING OFFICER AND BOROUGH ARCHITECT
Applications are invited for the position of full-time Town Planning Officer and Borough Architect to the above Council on an inclusive salary scale of £1,250 × £40—£1,450 per annum. The point of entry to this scale will be in accordance with experience and qualifications.
The appointment is a temporary one, but is expected to last for at least three years.
Candidates must be qualified in accordance with the terms of S.R. & O. (N.I.) No. 146 of 1954 (Qualifications of Planning Officers) and must be Associate Members of the Royal Institute of British Architects.
Duties to be undertaken by the successful candidate will include, *inter alia*, Boundary Extension, New Housing, Slum Clearance and Redevelopment, and Conversion and Improvement work under Part II of the Housing (Miscellaneous Provisions) and Rent Restriction Law (Amendment) Act (Northern Ireland), 1956.
Preference will be given to ex-Service candidates possessing the required qualifications and experience.
The successful candidate will be required to furnish satisfactory evidence of health and take up duty within a reasonable time of appointment.
Applications stating age, qualifications, experience and particulars of present and past appointments, accompanied by copies of two recent testimonials, should be forwarded in sealed envelopes endorsed "Town Planning Officer" to the undersigned on or before 12 o'clock noon on Monday, the 15th day of September, 1958.
Dated this 19th day of August, 1958.
JOHN SIMPSON,
Town Clerk.
Town Hall,
Ballymena,
Northern Ireland.
1274

SOUTH WEST METROPOLITAN REGIONAL HOSPITAL BOARD

Applications are invited for the appointment of an ASSISTANT ARCHITECT on the permanent staff of the Board generally in accordance with Whitley Council conditions of service. A large number of development schemes are now in active preparation on which new staff will be engaged. (Headquarters moving shortly to near Paddington Station.)

The commencing salary will be within the scale £700 × £25 (3) × £30 (1) × £35 (6)—£1,015 plus London weighting.

Applicants must be Associate members of the Royal Institute of British Architects and capable of preparing working and detailed drawings and specifications and supervising work on individual projects. Experience of hospital planning and construction an advantage.

Application forms may be obtained from the undersigned at 11a, Portland Place, W.1, and must be completed and returned by not later than 15th September, 1958.

E. C. BRAITHWAITE, *Secretary.*
1267

BOROUGH OF WILLESDEN
BOROUGH ENGINEER & SURVEYOR'S DEPARTMENT

Applications are invited from suitably qualified and experienced persons for the following permanent appointments:—

(*a*) ASSISTANT ARCHITECTS within Special Grade (£750—£1,030 p.a.).

(*b*) ASSISTANT ARCHITECTS within Grade A.P.T. I (£575—£725 p.a.).

London weighting, maximum £30 p.a., is payable in addition to the above salaries.

The Council is unable to assist with housing accommodation.

Forms of application and conditions of appointment may be obtained from the Borough Engineer & Surveyor, Town Hall, Dyne Road, Kilburn, N.W.6. Applications to be returned to the undersigned not later than 9 a.m. on Friday, 19th September, 1958.

When writing for application forms, candidates must state for which appointment they wish to apply.

R. S. FORSTER,
Town Clerk.
1266

COUNTY BOROUGH OF SOUTHAMPTON
BOROUGH ARCHITECT'S DEPARTMENT

Applications are invited for the following permanent positions:—

(*a*) SENIOR ASSISTANT ARCHITECT, Grade A.P.T. IV (£1,025—£1,175). Experienced in local authority major projects.

(*b*) ASSISTANT ARCHITECT, Special Grade (£750—£1,030).

Candidates should possess appropriate qualifications and should state their housing needs.

Application forms from the Borough Architect, Civic Centre, Southampton. Closing date 8th September, 1958. 1253

HER MAJESTY'S OVERSEAS CIVIL SERVICE
PLANNING OFFICER, PUBLIC WORKS DEPARTMENT, HONG KONG

To prepare plans and conditions for comprehensive development and re-development schemes of all types and to consider private and public building proposals.

Pensionable appointment. Salary £1,245 to £2,178 15s. p.a., plus cost of living allowance. Quarters, if available, at low rent. Free passages for the officer and his family to a total cost of five adult fares. Generous leave. Low income tax.

Candidates under 45 must be A.M.T.P.I. and preferably have architectural qualifications. They must be willing to undertake a wide variety of duties.

Write Director of Recruitment, Colonial Office, London, S.W.1, giving briefly age, qualifications and experience, quoting BCD. 112/51/06. 1243

HER MAJESTY'S OVERSEAS CIVIL SERVICE
BUILDING SURVEYORS, PUBLIC WORKS DEPARTMENT, HONG KONG

To examine and approve plans submitted by private architects to ensure compliance with the Buildings Ordinance and to administer that ordinance under the Chief Building Surveyor.

Pensionable and contract appointments. Salary £1,245 to £2,178 15s. p.a., plus cost of living allowance. Gratuity paid on satisfactory completion of contract. Rented quarters, if available. Free passages for the officer and his family to a total cost of five adult fares. Generous leave. Low income tax.

Candidates must be A.R.I.C.S. (Building) with at least one year's post qualification experience, or A.R.I.B.A. and under 45.

Write Director of Recruitment, Colonial Office, London, S.W.1, giving briefly age, qualifications and experience, quoting BCD 112/51/02. 1245

HER MAJESTY'S OVERSEAS CIVIL SERVICE
TOWN PLANNING OFFICER PUBLIC WORKS DEPARTMENT, HONG KONG

To work generally on town planning problems, including the carrying out of planning surveys and research; and the preparation of outline development plans and detailed layouts.

Candidates must have A.M.T.P.I. and be under 45. Additional qualifications, particularly in surveying or engineering will be an advantage.

Pensionable appointment. Salary £1,245 to £2,178 p.a. plus cost of living allowance. Quarters if available, at low rent. Free passages for the Officer and his family to a total cost of five adult fares. Generous leave.

Write Director of Recruitment, Colonial Office, London, S.W.1, giving briefly age, qualifications and experience, quoting BCD 112/51/031. 1244

BERWICKSHIRE COUNTY COUNCIL
ARCHITECTURAL ASSISTANT required for County Architect's Department. Salary scale A. & P. VI to VII (£880 to £1,085). Placing may be given. Candidates must be registered architects and preferably members of the Royal Institute of British Architects. The post is superannuable. House available. Applications (five copies), stating age, qualifications and experience, accompanied by a like number of copies of three recent testimonials, to be lodged with the County Clerk, County Buildings, Duns, not later than 6th September, 1958. 1242

DERBYSHIRE COUNTY COUNCIL
COUNTY PLANNING DEPARTMENT

Applications are invited from Qualified ARCHITECTS, preferably with experience in the layout and design of housing estates and central area redevelopment. Salary will be in the range £750—£1,030 and the commencing salary will be determined on the basis of experience.

Applications with one testimonial and the names of two referees should reach the County Planning Officer, Smedley Street, Matlock, by 22nd September, 1958. 1298

EAST RIDING OF YORKSHIRE COUNTY COUNCIL

Applications are invited for the permanent appointment of an ASSISTANT QUANTITY SURVEYOR on the staff of the County Architect, at a salary in accordance with the N.J.C. Special Scale (£750—£1,030).

Particulars of qualifications, age, experience, past and present appointments with salaries, together with the names of three referees, should be sent to the County Architect, County Hall, Beverley, not later than Friday, 5th September, 1958.

Assistance towards removal, lodging and travelling expenses may be granted.

THOMAS STEPHENSON,
Clerk of the Council.
1268

DENBIGHSHIRE COUNTY COUNCIL

Applications are invited for the following appointments in the County Architect's Department, Wrexham, *viz*:—

(*a*) TWO ARCHITECTURAL ASSISTANTS, Special Scale, £750—£1,030.

(*b*) QUANTITY SURVEYING ASSISTANT, A.P.T. Grade II, £725—£845.

Further particulars with form of application can be obtained from me. Completed forms to be returned by 6th September, 1958.

W. E. BUFTON,
Clerk of the County Council.
County Offices,
Ruthin. 1247

SHEFFIELD REGIONAL HOSPITAL BOARD

Applications are invited for the following posts in the Architectural Division of the Board's Headquarters staff:—

1. SENIOR ASSISTANT ARCHITECT. Candidates must be Registered Architects, having passed the requisite examinations, and will be responsible under direction of a senior officer for design and management of important individual projects or large blocks of work.

2. SENIOR ASSISTANT QUANTITY SURVEYOR. Applicants must hold or have held Corporate Membership of the Royal Institute of Chartered Surveyors.

The appointments are subject to the Whitley Council terms and conditions of service, to the National Health Service (Superannuation) Regulations, and to one month's notice on either side. Salary scale for both appointments is £1,010—£1,195 per annum. Applications stating age, qualifications, previous appointments and experience, together with the names of three referees, should reach the Secretary to the Board, Sheffield Regional Hospital Board, Fulwood House, Old Fulwood Road, Sheffield 10, not later than the 12th September, 1958. 1241

CORPORATION OF LONDON

Require ASSISTANT in Architectural and Building Section of City Surveyor's Department. Applicants must have passed Intermediate R.I.B.A. or Intermediate R.I.C.S.

Neat and accurate draughtsmanship, together with a sound knowledge of building construction essential. Salary £470—£730 per annum.

Applications in writing stating age, qualifications and experience, with names of three referees, to City Surveyor, Guildhall, London, E.C.2, within 14 days. 1275

SALOP COUNTY COUNCIL

A SENIOR PLANNING ASSISTANT is required in the County Planning Office for work in connection with the Development Plan. Salary A.P.T. Special Grade £750 p.a.—£1,030 p.a. Candidates must be A.M.T.P.I., or equivalent. Applications, stating age, qualifications and experience, accompanied by names of two persons to whom reference can be made, should be sent to the County Planning Officer, Shirehall, Shrewsbury, by 13th September, 1958.

G. C. GODBER,
Clerk of the County Council.
1276

BOROUGH OF BRIDGWATER
APPOINTMENT OF CLERK OF WORKS

Applications are invited for a temporary Clerk of Works to supervise the construction of an Open Air Swimming Pool.

Salary up to £20 per week, according to qualifications and experience.

Applicants should have first class experience in the handling and supervision of reinforced concrete structures.

Applications, endorsed "Clerk of Works," stating age, qualifications, previous experience, when duties could commence, and names and addresses of two referees to reach the Borough Architect, Town Hall, Bridgwater, not later than Monday, September 1st, 1958.

H. A. CLIDERO,
Town Clerk.
Town Hall,
Bridgwater. 1246

Architectural Appointments Vacant

4 lines or under, 9s. 6d.; each additional line, 2s. 6d. Box Number, including forwarding replies, 2s. extra

CO-OPERATIVE WHOLESALE SOCIETY, LTD. ARCHITECT'S DEPARTMENT, MANCHESTER

APPLICATIONS are invited for the appointment of ASSISTANT ARCHITECTS with experience of work on commercial and industrial projects, capable of preparing working drawings from preliminary details. Five-day week in operation. 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, 4. 9665

RAMSEY, MURRAY, WHITE & WARD require qualified ASSISTANTS for large-scale industrial programme. Good draughtsmanship essential. Salary according to age and experience. Reply Ref. 309, 32, Wigmore Street, W.1. 1190

INTERMEDIATE approaching Final, ASSISTANTS required at once. Varied practice; 5-day week; salary by arrangement. Write brief details to Musman & Cousens, 12, Upper Berkeley Street, London, W.1. 1221

ARCHITECTURAL ASSISTANTS urgently required to staff proposed new offices. Five-day week, overtime available at basic rates. Applicants must be capable and experienced. Salaries according to ability. Telephone KNI. 9094 for appointment. 1203

ARCHITECTS in Midlands require QUALIFIED SENIORS with experience and initiative. Salary by arrangement, but not less than £1,000 per annum. Box 1191.

EXPERIENCED ASSISTANT required by Staff Architect to Property Holding and Development Companies; Shop and Flat schemes, Estate layout and Housing, Offices, Flats, alterations, etc., should be able to deal with projects from sketches to final account, including all drawings, Local Authority and T.P. interviews. West End. Salary £800—£900, according to experience and qualifications. Box 1189.

ASSISTANTS required for Commercial and Industrial work; excellent working conditions, lunch facilities. Salary around £850. Apply in writing to Alan A. Briggs, F.R.I.B.A., 16 Fleet Street, London, E.C.4. 1210

BUCKINGHAMSHIRE firm of Architects within 30 miles of London with a varied practice, require an ARCHITECTURAL ASSISTANT at Final R.I.B.A. Standard. Five-day week. Salary according to age and experience. Please write giving full particulars to Box 1202.

MORRISON AND PARTNERS require staff at their Derby Office to work on a varied programme of an interesting and contemporary nature. Vacancies exist for:—A. ASSISTANT ARCHITECTS, preferably qualified and with some practical experience. B. ASSISTANTS of or near Intermediate standard preferably with some practical experience. Please apply to St. Alkmund's House, 103, Belper Road, Derby. 1230

ARCHITECTURAL ASSISTANT required—Intermediate standard with office experience—for varied and interesting work. Write stating experience and salary required to Parkinson & Mull, F/A.R.I.B.A., A.M.T.P.I., Whitwell Chambers, Ferrars Road, Huntingdon. 1302

BRIGHTON AND HOVE. SENIOR AND JUNIOR ASSISTANTS with some ability in preparing perspective sketches for small progressive office. Box 1284.

SENIOR ASSISTANT of Finals standard with at least four years' office experience required by busy office engaged mainly in industrial and commercial work.

JUNIOR ASSISTANT of approximately Intermediate standard with some office experience required.

Salaries by arangement. Luncheon Vouchers; five-day week. Apply Eric Firmin & Partners, Thavies Inn House, Holborn Circus, E.C.1. Telephone City 8811. 1281

SENIOR ARCHITECTURAL ASSISTANT required mainly for Technical College work. H. V. Ashley & Winton Newman, 3, Verulam Buildings, Gray's Inn, W.C.1 (HOLborn 2804). 1280

ARCHITECTURAL ASSISTANTS required. Must be good draughtsmen and have not less than five years' office experience. Apply in writing to Llewellyn Smith & Waters, 103 Old Brompton Road, S.W.7. 1277

SENIOR ASSISTANT required in the Architects' Department of the Reed Paper Group. Must have interest in contemporary design and knowledge of modern structural techniques, with experience in the design of industrial buildings, offices, canteens, etc. There are good prospects of early promotion within the Department. A non-contributory pension scheme is in operation and excellent canteen and social club services are available. Requests for application forms should be sent to the Personnel Officer, Group Personnel Division, Albert E. Reed & Co., Ltd., Larkfield, Nr. Maidstone, Kent, quoting ref. ARC/50. 1299

KEEN young ARCHITECT requiring professional practice experience in order to qualify will be welcomed in a Worcester Architect's office. Young enthusiastic staff, very pleasant offices, interesting work. Five-day week. Box 1234.

GRANADA TV NETWORK require an ARCHITECT. Must be qualified, good designer in contemporary idiom, have first-class experience of materials, construction and costs. Write giving age, qualifications, experience and previous salary to Mr. Sidney L. Bernstein, Granada TV Network, Manchester 3. 1278

KENNETH SCOTT ASSOCIATES have the following vacancies:—
ASSISTANTS for their London office, Intermediate R.I.B.A. standard. Minimum 5 years' experience. Salaries ranging £600—£700 p.a. Interesting work in association with Swiss architect on hospitals in the tropics.
QUALIFIED ASSISTANT in their Accra office. Minimum 2 years experience of site supervision. Salary £1,000—£1,100 p.a. plus use of car, free furnished accommodation. Minimum one tour of 18 months—2 years. Box 1257.

INTERMEDIATE ASSISTANT required by Architects, Five Ways, Birmingham. Varied work in Midland and London areas. J. Seymour Harris & Partners, 3/4, Greenfield Crescent, Five Ways, Birmingham. 1262

ASSISTANT required, private office, Swindon. Good prospects for keen energetic man. Living accommodation can be arranged. Box 1261.

RECENTLY qualified ARCHITECT required, capable of making a real contribution to projects in the design stage, for which purpose a high standard of draughtsmanship is essential. Write stating particulars to Box 1260.

TREHEARNE & NORMAN, PRESTON & PARTNERS have a vacancy for a SENIOR ASSISTANT. Salary according to experience and qualifications. Apply: 83, Kingsway, W.C.2 (HOL 4071). 1259

ARCHITECTURAL ASSISTANT of Intermediate or Final standard with experience in private practice required by Kenneth W. Reed, A.R.I.B.A., 1, Elgin Avenue, London, W.9. Write giving age, experience and salary required. 1256

ARCHITECTURAL ASSISTANTS, Intermediate and Final standard, required for Coventry and Manchester offices. Excellent opportunities in varied practice covering wide area. Good salaries, closely related to capabilities and reviewed annually. Pension Scheme available. Five-day week. Travelling expenses to applicants selected for interview. House may be available in Coventry to suitable applicant. W. S. Hattrell & Partners, 1, Queen's Road, Coventry—60668 and 15, Piccadilly, Manchester, 1—Deansgate 8288. 1272

ARCHITECTURAL ASSISTANT (qualified) required. Experience necessary on working drawings, specifications and site supervision. Five-day week. Salary according to experience. Apply to Milner & Craze, 120, Crawford Street, W.1. Welbeck 0488. 1270

ARCHITECT. Qualified ASSISTANT required immediately. Apply stating age and experience. Salary by arrangement. Harry Banister & Partners, 67, Rodney Street, Liverpool 1. Royal 4147. 1269

ASSOCIATE, R.I.B.A., about 40 years of age, required for senior position with firm of food manufacturers south of London. Salary £1,500 to £2,000 p.a. Box 1265.

QUALIFIED ASSISTANT required for busy Birmingham architects' office. Suitable applicant required for immediate work at start of large City project. Box 1264.

ARCHITECTURAL DRAUGHTSMAN up to Intermediate standard for wide variety of work on town redevelopment schemes. Permanent position. Box 1279.

W. J. SIMMS SONS & COOKE LTD., Prefabricators and Building Contractors, have a vacancy in their Architectural Dept. for an experienced SENIOR ASSISTANT. The work is interesting and varied in connection with traditional building for the home market and prefabrication for both home and overseas. Salary will be commensurate with experience and ability. Apply to the Staff Architect, W. J. Simms Sons & Cooke Ltd., Haydn Road, Sherwood, Nottingham. 1238

THE Architect's Department of a large multiple retail company requires immediately ARCHITECTURAL ASSISTANTS of both Intermediate and Junior standard. Previous shopfitting experience not necessary but a keen interest in contemporary shop design is desirable. Good salary dependent on experience. Five-day week. Non-contributory pension scheme. Reply stating age, experience and salary required to Box 1239.

APPLICATIONS are invited for interesting posts from ARCHITECTURAL ASSISTANTS for leading design contractors' office in Manchester. Salary £750—£950 according to experience and qualifications. Canteen facilities, etc. Box 1237.

SENIOR ASSISTANT required, capable of taking full responsibility of contracts, dealing with Client and Contractor. Must belong to the Modern School of Design. State age, experience and salary required to John H. D. Madin, Dip. A.R.I.B.A., 83/85, Hagley Road, Birmingham, 16. 1235

TWO INTERMEDIATE ASSISTANTS required for varied and interesting contemporary projects. State age, experience and salary required, to John H. D. Madin, Dip. A.R.I.B.A., 83/85, Hagley Road, Birmingham, 16. 1236

ARCHITECT'S ASSISTANT, Intermediate standard, required for busy Hampshire office. Please reply to Box 1263.

DESIGN RESEARCH UNIT requires ARCHITECTURAL ASSISTANT. Good draughtsman, designer and detailer essential, with some office experience. Salary £700 to £800 p.a. Write 37, Duke Street, London, W.1. 1233

Architectural Appointments Wanted

4 lines or under, 9s. 6d.; each additional line, 2s. 6d. Box Number, including forwarding replies, 2s. extra

ASSOCIATE, 33, single, nine years' comprehensive experience home and Middle East, seeks interesting or unusual post, preferably overseas. All replies answered. Write Box 1208.

ASSOCIATE, A.A./Dipl., aged 32, now Senior Assistant with seven years' experience in London private practice, seeks post with prospects in the West Country. Reply Box 1231.

A.R.I.B.A. seeks part-time work 3 days weekly varied experience, car owner, surveys, etc. Box 1194.

BALANCED ARCHITECTURAL TEAM of many years' varied experience seek employment as a group in Southern England capable of undertaking any project. Box 1282.

Other Appointments Vacant

4 lines or under, 9s. 6d.; each additional line, 2s. 6d. Box Number, including forwarding replies, 2s. extra

THE ARCHITECTS' JOURNAL requires a first-class full-time DRAUGHTSMAN, with a keen interest in the compilation of technical data, for the preparation of Working Details and Information Sheets. Write to the Editor (Information Sheets), 9, Queen Anne's Gate, S.W.1, stating age, architectural training and experience. 919

CO-OPERATIVE WHOLESALE SOCIETY LTD. Architect's Department, London. WORKER-UP. Applications are invited from suitably qualified and experienced persons. Salary according to age, qualifications and experience. The post is superannuable, subject to medical examination. Five-day week in operation. Applications, stating age, experience, qualifications and salary required to:—W. J. Reed, F.R.I.B.A., Chief Architect, Co-operative Wholesale Society Ltd., 99, Leman Street, London, E.1. 1204

JOINERY SHOP ASSISTANT FOREMAN of good all-round experience, desirable age 30—35, required by Manufacturing Company in S.E. London area. Pensionable Staff Appointment offering attractive commencing salary and progressive opportunity. Apply, giving full particulars, Box 1205.

DRAUGHTSMEN (or DRAUGHTSWOMEN) and TRACERS required for work connected with Planning Proposals—New Town. The scope of the work is wide but ability to develop finished drawings from sketch plans is required and experience in preparation of free-hand sketches and perspectives and in colouring would be an advantage. Salary scale for Draughtsmen (or Draughtswomen) £562—£716. For Tracers—up to A.E.S.D. rates. Placing according to ability. Five-day week. Write, stating age and experience to the General Manager, Cumbernauld Development Corporation, Cumbernauld House, Cumbernauld, by Glasgow. 1250

SURVEYOR. Birmingham firm of Chartered Surveyors and Auctioneers require competent Senior Surveyor. Work would include structural surveys. Maximum age 35. Commencing salary £800 per annum. Reply stating age and experience to Grimley & Son, 39-40, Temple Street, Birmingham 2. 1273

A VACANCY exists for a TECHNICAL REPRESENTATIVE in connection with the Company's products which are of interest to Architects, Municipalities and the Building Industry.
The successful applicant should preferably be not more than 40 years of age and of pleasing personality.
This is not an office job and the Representative will be fully occupied in calling on Architects and Contractors. A knowledge of architectural drawings is essential.
Salary according to age and experience. A car will be provided by the Company and out of pocket expenses on an agreed scale will be allowed.
Write giving full particulars to The Secretary, Venesta Limited, Vintry House, Queen Street Place, London, E.C.4. 1258

ARCHITECTS seek experienced SECRETARY/SHORTHAND TYPIST. Five-day week. Architectural experience not essential. Reply Box 1271, or telephone CHAncery 7611.

Other Appointments Wanted

4 lines or under, 9s. 6d.; each additional line, 2s. 6d. Box Number, including forwarding replies, 2s. extra

MECHANICAL SERVICES—Newly established firm of Consultants specialising in Heating, Ventilating, Air Conditioning, Process and Electrical Services, desire co-operation with Architects in London or Midlands on retainer or other agreed basis. Exclusive services of one or more teams may be arranged if required. Please write in confidence to Box 1174.

CHARTERED QUANTITY SURVEYOR with first class practical experience in professional offices requires responsible post of senior standard and remuneration. London preferred. Box 1196.

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

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 ¼ in. scale detailed surveys for extensive city development areas. 1890

DUPLICATING: Bills of Quantity, Specifications, etc., at short notice. First class work. Sensible prices. Excelsior Bureau, 190, Strand, W.C.2. COVent Garden 0240. 1090

PLAN PRINTING, for a prompt and efficient service, write or telephone for particulars to BEELINE PRINTING SERVICES, Beehive Lane, Chelmsford 3397 and 4145. 1161

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

TWO ASSOCIATES, fully experienced, offer assistance. Sketch plans, surveys, working drawings, etc. Own cars, surveying equipment. London and Southern Counties. Box 1283.

For Sale and Wanted

4 lines or under, 9s. 6d.; each additional line, 2s. 6d. Box Number, including forwarding replies, 2s. extra.

FOR SALE. Large and varied quantity Surveyor's equipment. Exors disposal. Nearest £30 secures. Orchard & Co., Valuers, Hemel Hempstead. 1249

CREOSOTE, 40 gallons 90s., delivered (Home Counties) in free drum; REFINED TAR (needs heating), 93s. 4d.; BARN TAR (can be painted on cold), 96s. 8d. Coopers, Builders' Merchants, Ashford, Kent. 1230

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.

CROGGON & CO., LTD.—Chain Link Fencing and all types of Wrought Iron Fencing supplied and erected.—230, Upper Thames Street, London, E.C.4. CENtral 4382. 9425

ARCHITECTURAL METALWORK of all types supplied and fitted. Gates, doors, balustrades, staircases, steel structures. Design staff available.—Clayton & Bamber, Ltd., Carters-field Road, Waltham Abbey, Essex. 5822

CARPET CONTRACTS LTD.—Carpets made to any design or colouring in Super quality Wilton or Axminster. Fitting and laying service available week-ends or night. 7, Milk Street, E.C.2. MON. 7255/6. 1036

INDIVIDUAL Joinery, Built-in Furniture and Display Work by craftsmen. Consult Leslie Talbott, St. Margaret's Road, Hanwell, W.7 (Ealing 9437). 1301

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 1883/4.

TUITION—Correspondence and Personal Tuition given for the R.I.B.A., Institute of Builders and Clerk of Works Institute Examinations, also in all aspects of Building, Engineering and Draughtsmanship. C. W. Box, F.R.I.B.A., 115, Gower Street, W.C.1. Euston 3906. 9911

COURSES for all R.I.B.A. EXAMS.
Postal tuition in Draughtsmanship, Design, History, Construction, Building Science, Structures, Materials, Testimonies. Professional Practice. etc.
Also Courses for G.C.E.
ELLIS SCHOOL 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

NORTHERN POLYTECHNIC
HOLLOWAY, LONDON, N.7

Principal: T. J. Drakeley, C.B.E., D.Sc., Ph.D. F.R.I.C., F.I.R.I.

Head of Department of Architecture:
T. E. SCOTT, C.B.E., F.R.I.B.A.

DAY SCHOOL OF ARCHITECTURE

The Northern Polytechnic Diploma in Architecture which is awarded on the successful completion of the five years' full-time course and subsequent passing of the examination in Professional Practice, qualifies students for exemption from the Final Examination for Associateship of the Royal Institute of British Architects. The Diploma is also accepted by the Architects' Registration Council of the United Kingdom as a qualification for registration under the Architects (Registration) Acts, 1931-1938.
School year begins 22nd September, 1958.
Fees—£30 per annum.
Students under the age of 18 may be admitted free.

EVENING SCHOOL OF ARCHITECTURE

The Northern Polytechnic Diploma is awarded on the successful completion of the eight years' part-time course and subsequent passing of the examination in Professional Practice and Practical Experience. Intermediate Exemption is granted on the successful completion of the first five years of the course.
New session commences 22nd September, 1958.
Fees from 30s. to 70s. per session.

PART-TIME DAY CLASSES.

A leaflet describing part-time day courses will be sent on application.

ENTRY TO THE SCHOOLS. Intending day students are interviewed by appointment. Intending evening students will be interviewed from 5.30-7.30 p.m. on 16th and 17th September, 1958.

Prospectus post free on application.

Telephone: NORth 1686.

WHITE FACING
BRICKS
(S. P. W. BRAND)
Telephone: BULwell 27-8237-8-9 • Telegrams: "Maclime", Bulwell, Nottingham
M. McCARTHY & SONS, LTD
BULWELL • NOTTINGHAM

FURSE LIGHTNING CONDUCTORS AND EARTHING EQUIPMENT
SUPPLIED ONLY OR SUPPLIED AND ERECTED
SUPPLIED FOR EVERY CLASS OF BUILDING OR STRUCTURE & EARTHING REQUIREMENT
W. J. FURSE & CO. LTD.
14, TRAFFIC STREET, NOTTINGHAM.
LONDON: 22 ALIE STREET, ALDGATE, E.1.
ALSO MANCHESTER, BIRMINGHAM, BRISTOL - SEE TEL. DIRECTORIES

BROAD-ACHESON
BLOCKS for
unvarying quality
ALL PRODUCTION UNDER LABORATORY CONTROL
BROAD & CO. LTD., PADDINGTON, W.2

You can depend on
Cementone
Manufactured only by
JOSEPH FREEMAN SONS & CO. LTD.

STRAMAX
HEATING • SOUND ABSORBTION • COOLING
Full details of STRAMAX RADIANT HEATED CEILINGS are given in the Architects Journal Information Sheet No. 29. H.5 dated Dec. 12th, 1957.
Copies of this and fully illustrated literature on request from
STRAMAX CEILINGS (G. B.) LTD.
19 REA STREET, BIRMINGHAM, 5. *Tel: MID 4674*

DALE ELECTRIC
CONTRACTORS (B'HAM) LTD.
25, BRISTOL ROAD,
BIRMINGHAM, 5. CAL. 3641

'SYSTON' ROLLING SHUTTERS
IN STEEL, WOOD AND ALUMINIUM
'SYSTON' SERVERY HATCHES
MANUFACTURED TO YOUR OWN SPECIFICATION AT COMPETITIVE PRICES WITH RAPID DELIVERY
J. TAYLOR (SYSTON) LTD. • SYSTON • LEICESTER
TEL: SYSTON 2133 • MANCHESTER: RINGWAY 3996

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.

SHOT BLASTING & METAL SPRAYING
BEFORE PRIMING
Ensures Better and More Lasting Finish of Constructional Iron & Steelwork
Ask us for particulars and quotations
SHOT BLASTING & METAL SPRAYING CO LTD., SILWOOD ST., LONDON, S.E.16. Phone: BERmondsey 1131

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.

FOLD HERE

Postage will be paid by Licensee

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

For Appointments (Wanted or Vacant), Competitions Open, Drawings, Tracings, etc., Education, Legal Notices, Miscellaneous, Property, Land and Sales, see 73, 74, 75, 76.

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_____

_____

28.8.58

CODE

0430
0435

0176

1043

0457
0464
0473
0478

0492
0497
1049

1025
0517
0996
0916
0908
0927
0928

0542
0550
0558
0838
1038

0577

0587
0657
1017
1030
1039

0603
0607

0609

Printed in Great Britain for the Proprietors of "THE ARCHITECTS' JOURNAL" (The Architectural Press Ltd.), 9, 11 and 13, Queen Anne's Gate, Westminster, S.W.1, by HARRISON & SONS LTD., by Appointment to Her Majesty The Queen, Printers, London, Hayes (Middx.), and High Wycombe.
Editorial illustrations engraved by THE ENGRAVERS' GUILD LTD., Windsor House, 23/26, Cursitor Street, London, E.C.4.