

THE ARCHITECTS' JOURNAL



standard contents

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

NEWS and COMMENT

Diary

News

Astragal's Notes and Topics

Letters

Societies and Institutions

TECHNICAL SECTION

Information Sheets

Information Centre

Current Technique

Working Details

Questions and Answers

Prices

The Industry

CURRENT BUILDING

Major Buildings described:

Details of Planning, Construction,
Finishes and Costs

Buildings in the News

Building Costs Analysed

Architectural Appointments
Wanted and Vacant

No. 3193]

[Vol. 123

THE ARCHITECTURAL PRESS

8, 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. Marlborough Whitehead, "Dyneyley," Castle Hill Avenue, Berkhamstead, Herts.	
ABS	Architects' Benevolent Society. 66, Portland Place, W.1.	Langham 5721
ABT	Association of Building Technicians. 1, Ashley Place, S.W.1.	Victoria 0447-8
ACGB	Arts Council of Great Britain. 4, St. James' Square, S.W.1.	Whitehall 9737
ADA	Aluminium Development Association. 33, Grosvenor Street, W.1.	Mayfair 7501/8
ArchSA	Architectural Students' Association. 34/36, Bedford Square, W.C.1.	
ARCUK	Architects' Registration Council. 68, Portland Place, W.1.	Langham 8738
BAE	Board of Architectural Education. 66, Portland Place, W.1.	Langham 5721
BATC	Building Apprenticeship and Training Council. Lambeth Bridge House, S.E.1.	
BC	Building Centre. 26, Store Street, Tottenham Court Road, W.C.1.	Reliance 7611, Ext. 1706
BCC	British Colour Council. 13, Portman Square, W.1.	Museum 5400
BCCF	British Cast Concrete Federation. 105, Uxbridge Road, Ealing, W.5.	Welbeck 4185
BCIRA	British Cast Iron Research Association. Alvechurch, Birmingham.	Ealing 9621
BDA	British Door Association. 10, The Boltons, S.W.10.	Redditch 716
BEDA	British Electrical Development Association. 2, Savoy Hill, W.C.2.	Fremantle 8494
BIA	British Ironfounders' Association. 145, Vincent Street, Glasgow, C.2.	Temple Bar 9434
BID	Building Industries Distributors. 52, High Holborn, W.C.1.	Glasgow Central 2891
BINC	Building Industries National Council. 11, Weymouth Street, W.1.	Chancery 7772
BOT	Board of Trade. Whitehall Gardens, Horseguards Avenue, Whitehall, S.W.1.	Langham 2785
BRS	Building Research Station. Bucknalls Lane, Watford	Trafalgar 8855
BSA	Building Societies Association. 14, Park Street, W.1.	Garston 2246
BSI	British Standards Institution. British Standards House, 2, Park St., W.1.	Mayfair 0515
BTE	Building Trades Exhibition. 32, Millbank, S.W.1.	Mayfair 9000
CABAS	City and Borough Architects Society. C/o Johnson Blackett, F.R.I.B.A., Civic Centre, Newport, Mon. Newport 65491	Tate Gallery 8134
CAS	County Architects' Society. C/o F. R. Steele, F.R.I.B.A., County Hall, Chichester.	Newport 65491
CCA	Cement and Concrete Association. 52, Grosvenor Gardens, S.W.1.	Chichester 3001
CCP	Council for Codes of Practice. Lambeth Bridge House, S.E.1.	Sloane 5255
CDA	Copper Development Association. Kendals Hall, Radlett, Herts.	Reliance 7611 Ext. 1284
CIAM	Congrès Internationaux d'Architecture Moderne. Dolderhof, 7, Zurich, Switzerland.	Radlett 5616
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.	
DIA	Design and Industries Association. 13, Suffolk Street, S.W.1.	Reliance 7611
DPT	Department of Overseas Trade. Horseguards Avenue, Whitehall, S.W.1.	Whitehall 0540
EJMA	English Joinery Manufacturers' Association (Incorporated). Sackville House, 40, Piccadilly, W.1.	Trafalgar 8855
EPNS	English Place-Name Society. 7, Selwyn Gardens, Cambridge.	Regent 4448
FAS	Faculty of Architects and Surveyors. 68, Gloucester Place, W.1.	Welbeck 9966
FASS	Federation of Association of Specialists and Sub-Contractors, Artillery House, Artillery Row, S.W.1.	Abbey 7232
FBBDO	Fibre Building Board Development Organization, Ltd. 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. 26, Great Ormond Street, Holborn, W.C.1.	
FPC	The Federation of Painting Contractors, St. Stephen's House, S.W.1.	Chancery 7583
FRHB	Federation of Registered House Builders. 82, New Cavendish Street, W.1.	Whitehall 3902
GBPA	Gypsum Building Products Association, 11, Ironmonger Lane, E.C.2.	Langham 4341
GC	Gas Council. 1, Grosvenor Place, S.W.1.	Monarch 8888
GG	Georgian Group. 16, Hanover Square, W.1.	Sloane 4554
HC	Housing Centre. 13, Suffolk Street, Pall Mall, S.W.1.	Mayfair 5454
LAAS	Incorporated Association of Architects and Surveyors. 29, Belgrave Square, S.W.1.	Whitehall 2881
ICA	Institute of Contemporary Arts. 17-18, Dover Street, Piccadilly, W.1.	Belgravia 3755
ICE	Institution of Civil Engineers. 1, Great George Street, S.W.1.	Grosvenor 6186
IEE	Institution of Electrical Engineers. Savoy Place, Victoria Embankment, W.C.2.	Whitehall 4577
IES	Illuminating Engineering Society. 32, Victoria Street, S.W.1.	Temple Bar 7676
IGE	Institution of Gas Engineers. 17, Grosvenor Crescent, S.W.1.	Abbey 5215
		Sloane 8266



we're changing
a name
on our
family
tree

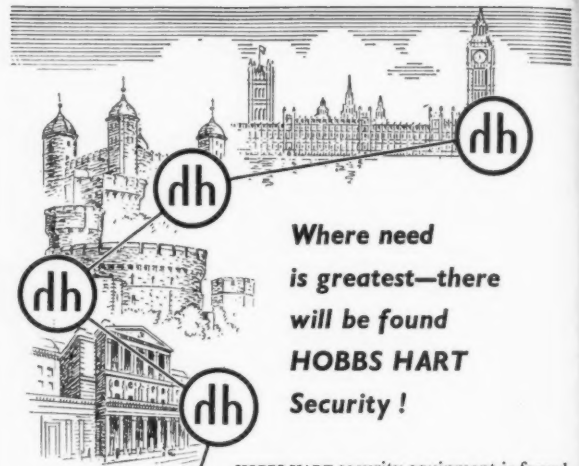
From now on Lloyd Board will be known as

**Bowater
Board**

HARDBOARD, INSULATION BOARD, ACOUSTIC PANELS, 'TALON' FIXING SYSTEMS

BOWATERS SALES COMPANY LIMITED (Building Boards Division)
BOWATER HOUSE, STRATTON STREET, LONDON, W.1. TEL: MAYfair 9090

CRC 1A



Where need
is greatest—there
will be found
HOBBS HART
Security!

HOBBS HART security equipment is famed throughout the world for strength and ingenuity of design and is installed in the Bank of England, Tower of London, Windsor Castle, Government Departments and leading commercial concerns everywhere. Write today for the latest specialised advice on all security problems.

HOBBS HART
AND COMPANY LIMITED

The Headquarters of Safety and Security

HOBBS HART & CO. LTD, (DEPT. F.), STAFFA RD, LONDON, E10
SHOWROOMS: 76 CHEAPSIDE, LONDON, EC2

CONTACT PYNFORD LTD FOR A

Complete Foundation Service

★ SITE INVESTIGATIONS AND REPORTS

that are clear and to the point.

★ FOUNDATIONS DESIGNED

to suit all site conditions

★ FOUNDATIONS CONSTRUCTED

quickly and accurately

★ UNDERPINNING

PYNFORD METHOD

by the proved

*Write for our illustrated brochure and for further details
write or 'phone*

Site Investigations, Site
Clearance, Foundation
Design and Construction.
Site Tests During
Construction. Piling and
Underpinning. Controlled
Jacking, Mining Subsidence
Control, Plant Hire, Structural
Alterations.

Pynford Limited

Foundation Engineers

74 LANCASTER ROAD, STROUD GREEN, LONDON, N.4. Tel: ARCHway 6216/7

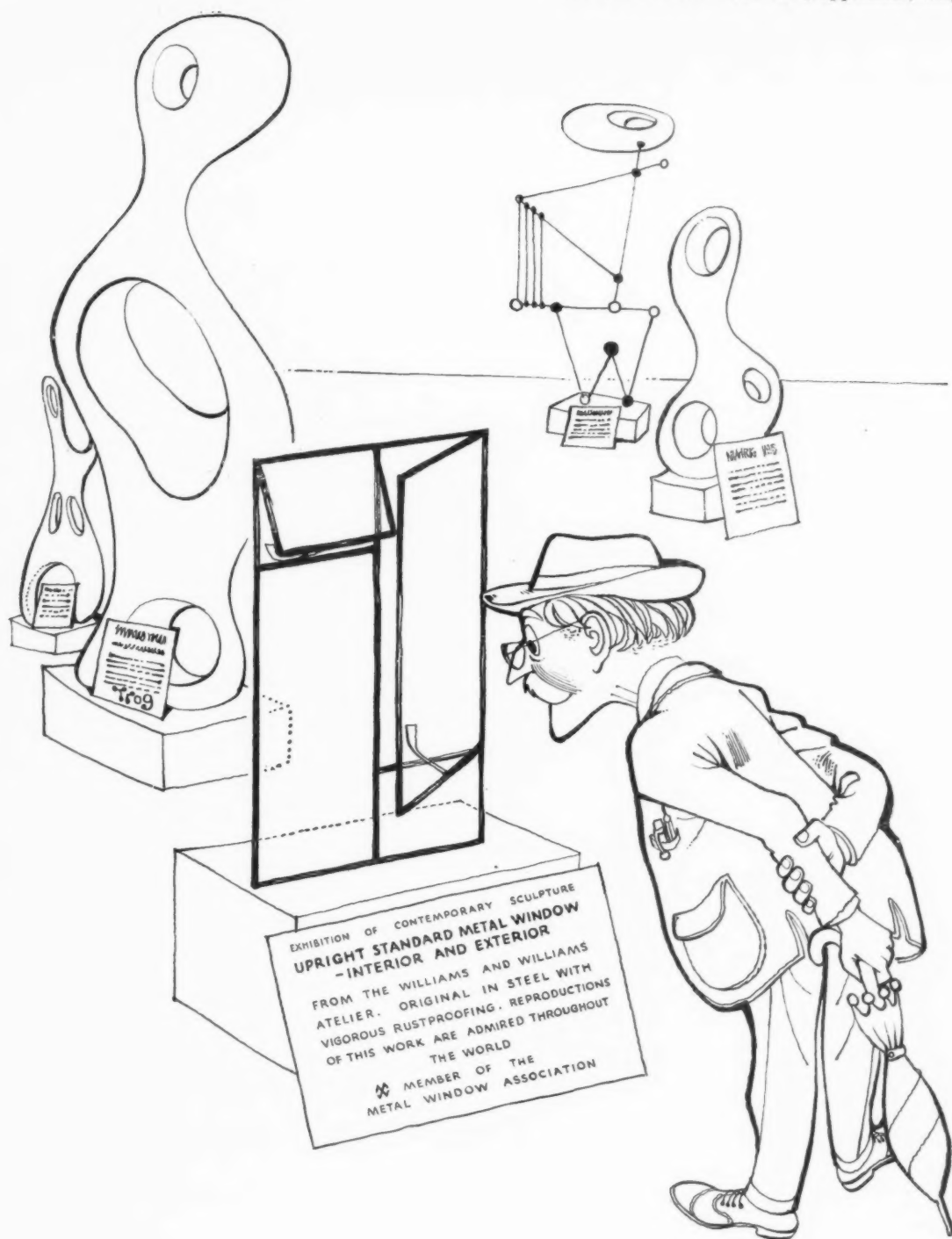
famed
h and
led in
ndon,
epart-
ncerns
latest
curity

RT
TED
curity

, E10

ons, Site
oundation
truction.
During
ng and
controlled
bsidence
structural

216/7



IT PAYS TO THINK OF DEXION

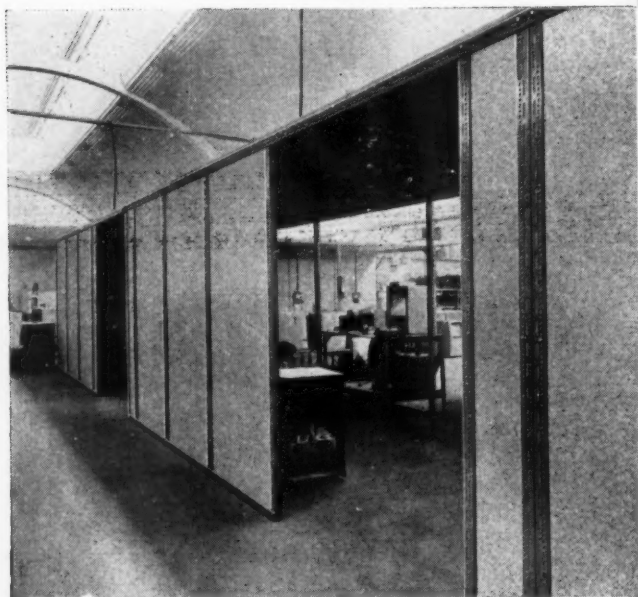
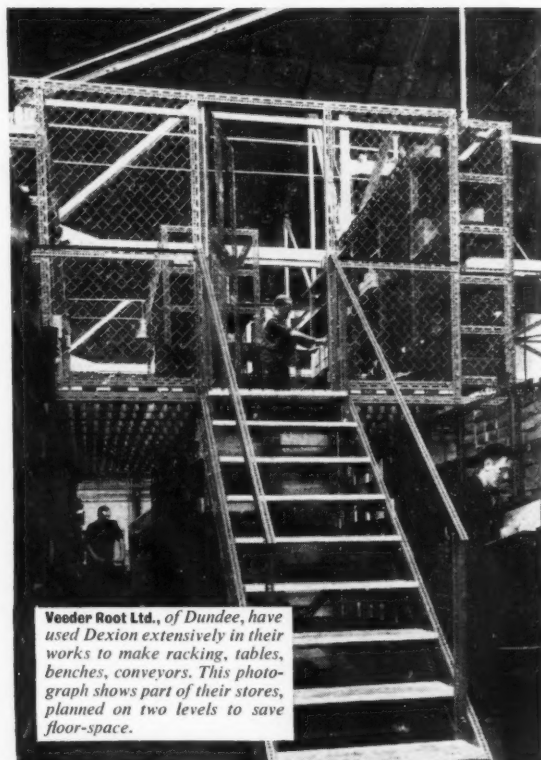
-at the planning stage

A FACTORY LAYOUT must be flexible, capable of being adapted at short notice to changing circumstances. This applies particularly to storage requirements and works equipment.

There is no more versatile material for building stores and equipment, exactly to your own designs, than Dexion Slotted Angle. Such Dexion equipment is quick and cheap to install. And any Dexion structure can be readily adapted and altered to meet changing needs. There is no waste, no scrap: Dexion is fully recoverable, and can be used again and again.

When you are planning the building and layout of a factory, Dexion deserves careful consideration at an early stage. This versatile material may bring about important economies, initially and for years to come.

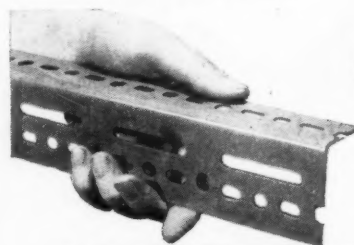
A technical design and estimating service is available free; and for large installations, construction teams will carry out the work if required.



Murphy Radio Ltd. rapidly erected this partitioning on a Dexion framework, to give a shaded area for testing television sets. Dexion can be used with plywood, asbestos sheeting, corrugated metal, hardboard or any similar cladding material.

GET THE FACTS

Dexion 225 is sold in packets of ten 10-ft. lengths, complete with bolts. Steel Dexion (price from 1/3¹/₂ to 1/5 per foot) is rust-protected, stove-enamelled. Where a light but strong, non-magnetic, non-corroding material is required, use Alloy Dexion (full technical details and prices on request). Send today for sample piece of Dexion and illustrated booklet AU.143 showing many uses in industry. Dexion Ltd., 65 Maygrove Road, London, N.W.6. (Telephone MAIda Vale 6031-9.)



DEXION
REGD.
SLOTTED ANGLE

*"A deep depression is settling over a wide area.
Gales will be followed by heavy rain . . ."*

Where the weather report doesn't matter...



on all roofs weather-proofed by



CONTRACTS DEPARTMENT

We can supply materials and labour. Inspections made and detailed estimates submitted without obligation.



EVODE LIMITED

ROOF WATERPROOFING

Evode Roof Waterproofing—embodying the famous cold applied Evode Insulating (Trade Mark) Pastes—continues to protect roofing structures old or new, large or small, in cold or tropical climates, for many years after it has been applied. This ability to endure and preserve is inherent in the unique properties found only in Evode Insulating Pastes, described fully in our leaflet 1021.

Cuts Building and Maintenance Costs!

STAFFORD

ENGLAND

Telephone: 1590/1/2

Telegrams: Evode, Stafford.

London Office: 1 Victoria Street, S.W.1.

Telephone: ABBey 4622/3



CLAY TILES —

*for eight centuries
England's roof...*

As Agricultural Britain changed to a land of industry, new materials, new methods supplanted the old and traditional crafts began to give way to the first stirrings of mass production. A new, blacker, busier country was born, ruled by the new masters of coal and iron. The revolution had begun. Amongst the few unaffected members of the materials aristocracy was the clay roofing tile, for nothing—since the days of the Normans—has been found to take its place... for the simple reason that there's no roof like a clay tiled roof.

CLAY lasts

ACME clay roofing tiles combine the traditions and experience of centuries with modern manufacture and service. They are made from Staffordshire Etruria marls—acknowledged to be the best clay in the world for tile manufacture. Their colour, burnt in at high temperatures is *absolutely* permanent. Their superior strength saves on site breakage and maintenance. ACME tiles are available, with *immediate delivery from stock*, in a wide range of colours with fittings to match. Ask for the ACME catalogue, containing much valuable technical information.



Private Residence at Heswall.

ACME clay roofing tiles

DOWNING'S range of roofing tiles includes:—

ACME M.M. ROOFING TILES
ACME SANDSTORM ROOFING TILES
ACME HAND-MADE SANDFACED & ACME REDFLOOR QUARRIES.

G. H. DOWNING & Co. Ltd. (Dept. C1), Box No. 3, BRAMPTON HILL, NEWCASTLE-UNDER-LYME, Staffs.
Telephone: Newcastle-under-Lyme 65381





Six of these loads won't be needed

When the last word has been said about the efficiency of the heating plant, there still remains the question of roof insulation with Celotex. And here indeed is scope for dramatic fuel economies. Look at the figures.★ Uninsulated, a corrugated asbestos-roofed building requires 7.8 tons of fuel for every 1,000 sq. ft. of sheeted area to produce a comfortable working temperature. Install Celotex

Cane Fibre Insulation and immediately the fuel requirement drops to 1.8 tons. Celotex is a *permanent* business investment, producing fuel savings of this order year after year at no cost beyond the moderate original cost of materials and installation. To every client with a fuel problem, recommend the immediate installation of . . .

CELOTEX cane fibre insulation

Made in Great Britain with all-British materials by

CELOTEX LIMITED, N. Circular Rd., Stonebridge Park, London, N.W.10. Tel.: ELGar 5717 (10 lines)

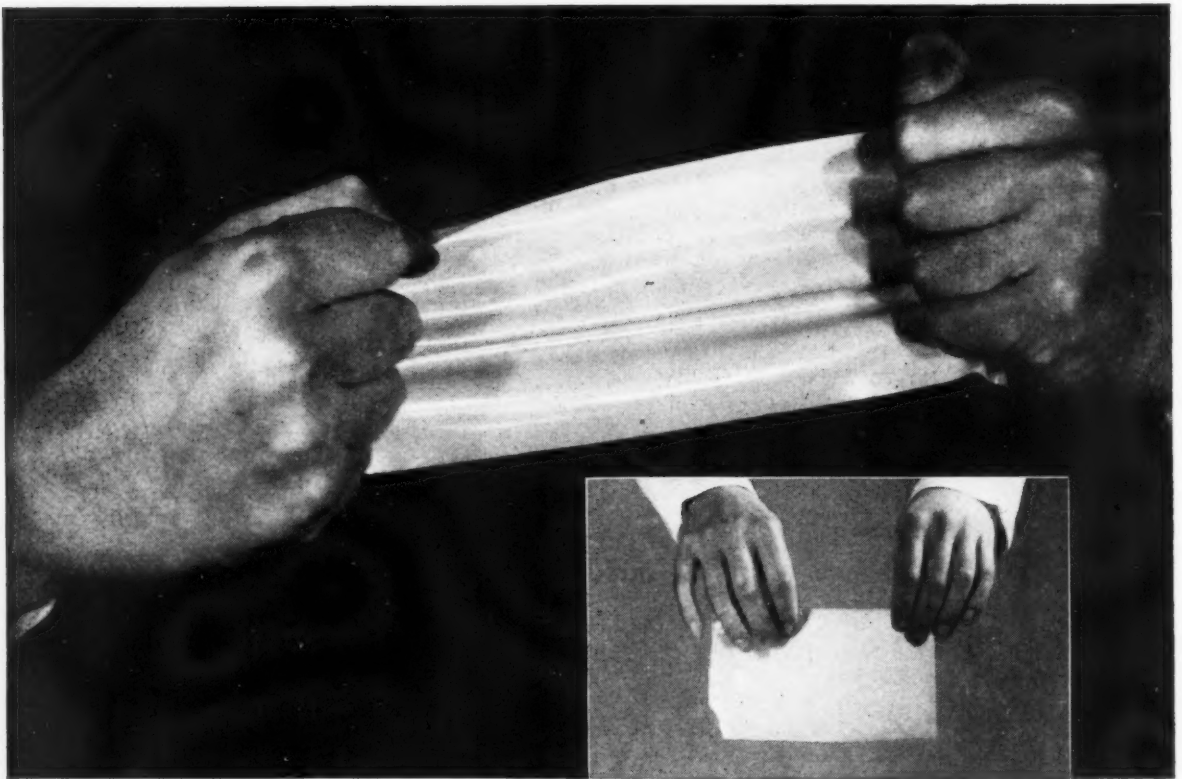
★ Quoted from Ministry of Fuel and Power Bulletin No. 12 and based on a 5,000 hours heating period.

INSIDE STORY



PAINT THAT STRETCHES

The illustration below shows not so much an accurate scientific experiment as a demonstration of the extreme flexibility of Kinsheen Plastic Emulsion Paint. A film of paint has been built up and is here shown being subjected to conditions many times as severe as those which would be experienced under natural stresses from expansion, flexible under-surfaces etc. This flexibility is only one of many special qualities of Kinsheen. Kinsheen gives a pleasing finish with a subtle sheen and has very great obliterating and covering powers. Why not write for further details or ask our representative to visit you?



sanderson's

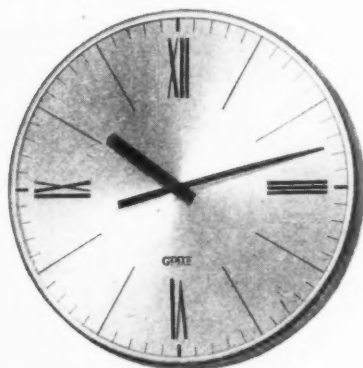


paints

A. SANDERSON & CO. LTD., HULL.
Specialists in Fine Paints.



The dial of this model is natural sunburst aluminium with black Gill Sans chapters and black hands. 9" or 12" dials.



This model is similar to the above but has black elongated Roman quarter chapters. 9" or 12" dials.

Changing Faces

2

new designs
leading the field in
contemporary styling.

These two models which have been added to our very successful range of contemporary clocks are outstandingly attractive and will appeal to those who are conscious of the trend of modern styling.

The shallow, spun aluminium case, finished satin silver, and the convex glass, give a very slim appearance to these surface fixing clocks. Both models are available for Synchronous or Master Clock operation. May we send you details of these attractive new models?

GENTS'
OF LEICESTER
Electric Clocks

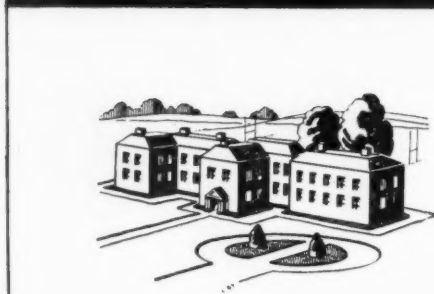
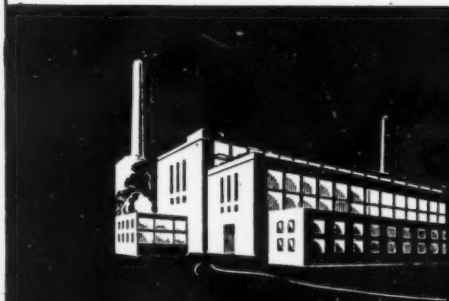
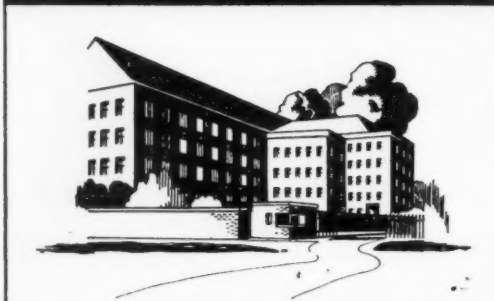
Comprehensive illustrated literature *FREE* on request:—

GENT & COMPANY LIMITED • FARADAY WORKS • LEICESTER

London Office and Showrooms: 47 Victoria Street, S.W.1.

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

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



Specify Sherwoods

Famous for paint manufacture since 1777.

Today, Sherwoods Paints are recognised
for their superlative quality as among

Britain's finest paints

SHERWOODS

EST. 1777

PAINTS LTD.

BARKING BIRMINGHAM CARDIFF LIVERPOOL
NEWCASTLE GLASGOW DAR-ES-SALAAM



Leading Architects consult INDUSTRIAL ENGINEERING LTD.

SPECIALISTS IN THE RECONSTRUCTION, SHEETING AND GLAZING OF ALL TYPES OF INDUSTRIAL ROOFS—INCLUDING WATERPROOFING BY THE MASTICON PROCESS

Industrial Engineering Ltd. have more than 30 years specialised experience in the maintenance, reconstruction and waterproofing, by the Masticon process, of industrial roofing, gutters and glazing. This practical experience is backed by a country-wide organisation, the services of which are at your command at all times.

Wherever your works are situated, a permanent staff of skilled labour is available immediately. Consultations with Technical Advisory Departments and District Representatives, inspection of roofs, a complete report, a specification of the work considered necessary, and estimates are available *without charge or obligation.*

Write for Brochure giving full details

INDUSTRIAL ENGINEERING LTD. • HEAD OFFICE: MELLIER HOUSE • ALBEMARLE STREET • LONDON, W.1 • Phone: HYDE PARK 1411
BRANCHES IN ALL PRINCIPAL INDUSTRIAL CENTRES



SMITH'S



*The most adaptable System of Suspended
Hollow Concrete Floor and Roof Construction
for large and small spans.*

Midland Associated Company & Licensees,
PARKFIELD CONCRETE PRODUCTS CO. LTD.,
St. Peter's Road,
NETHERTON, nr. Dudley, Worcs. 'Phone Dudley 4315.

SMITH'S

**2 WAY REINFORCED
FIREPROOF FLOORS**

SMITH'S FIREPROOF FLOORS LTD.
IMBER COURT, EAST MOLESEY, SURREY

Telephone: EMBerbrook 3300
Telegrams: TRIANCO EAST MOLESEY

THE BUILDING CENTRE



26 STORE STREET W.C.1



*Whatever the House
Large or Small
insist on---*

RISTS

CABLES

You can be sure of complete satisfaction from
Rists T.R.S. and V.I.R. house wiring cables.
Manufacturers of Cables for internal maintenance
wiring, electric fans, soldering irons, etc.

Write now for further details.

BRITAIN'S LARGEST MAKERS OF THERMOPLASTIC CABLES

RISTS WIRES & CABLES LTD.

LOWER MILEHOUSE LANE • NEWCASTLE-UNDER-LYME • STAFFS

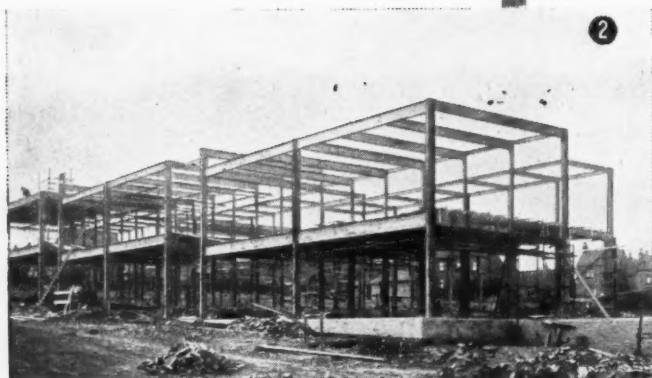


THE MIDLAND WOODWORKING CO. LTD. MELTON MOWBRAY

Specialists in high class Standard Joinery for the Building Trade

AP/MW.14

**specialists in
the design,
fabrication and
erection of
structural
steelwork**



1 New factory building for Messrs. William Cooke & Sons of Rotherham. 300 ft. x 120 ft. span.

2 The County Primary School, Crosland Moor, Huddersfield.

3 College of Further Education, Grimsby, in course of erection.

4 The completed College.

**Structural Steelwork
by AUSTINS**



JAMES AUSTIN & SONS

(Dewsbury) LTD

STRUCTURAL ENGINEERS · DEWSBURY · YORKSHIRE

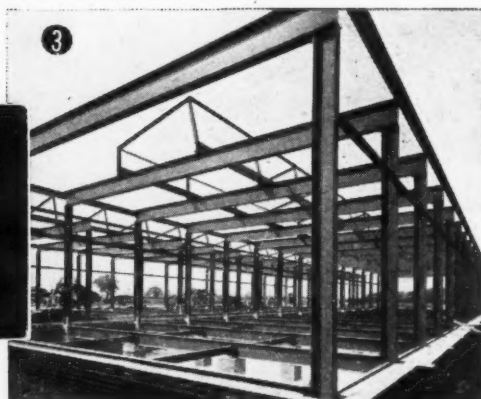
Telephone: 1750 (7 lines).

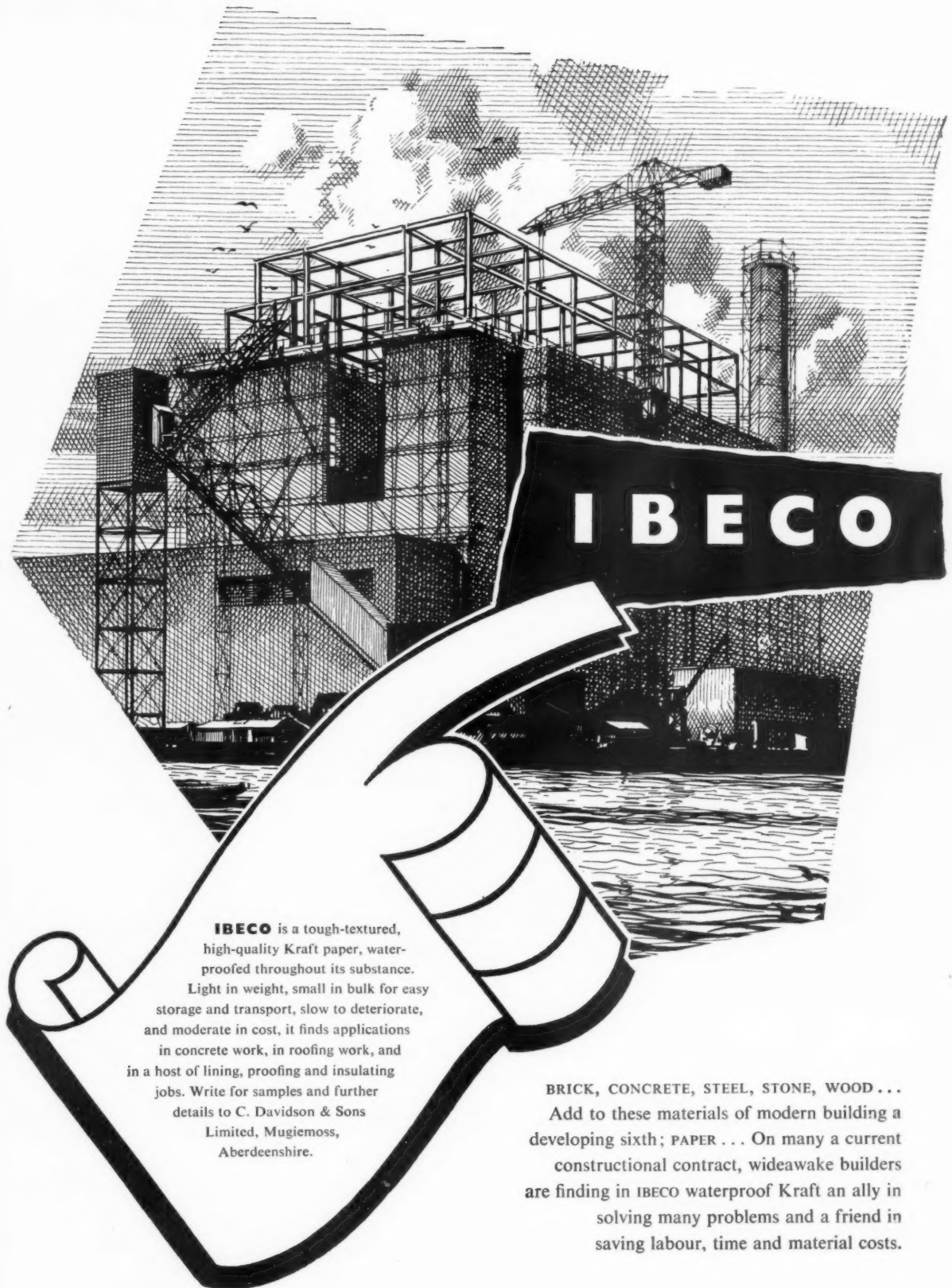
Telegrams: AUSTINS DEWSBURY TELEX.

Associated Companies:

STLEY BROOK & CO. LTD., ST. GEORGE'S WKS., HUDDERSFIELD

A. J. RILEY & SON LTD., VICTORIA WORKS, BATLEY





IBECO

IBECO is a tough-textured, high-quality Kraft paper, water-proofed throughout its substance.

Light in weight, small in bulk for easy storage and transport, slow to deteriorate, and moderate in cost, it finds applications in concrete work, in roofing work, and in a host of lining, proofing and insulating jobs. Write for samples and further details to C. Davidson & Sons Limited, Mugiemoss, Aberdeenshire.

BRICK, CONCRETE, STEEL, STONE, WOOD . . .

Add to these materials of modern building a developing sixth; PAPER . . . On many a current constructional contract, wideawake builders are finding in IBECO waterproof Kraft an ally in solving many problems and a friend in saving labour, time and material costs.

C. DAVIDSON & SONS LTD • MUGIEMOSS • ABERDEENSHIRE

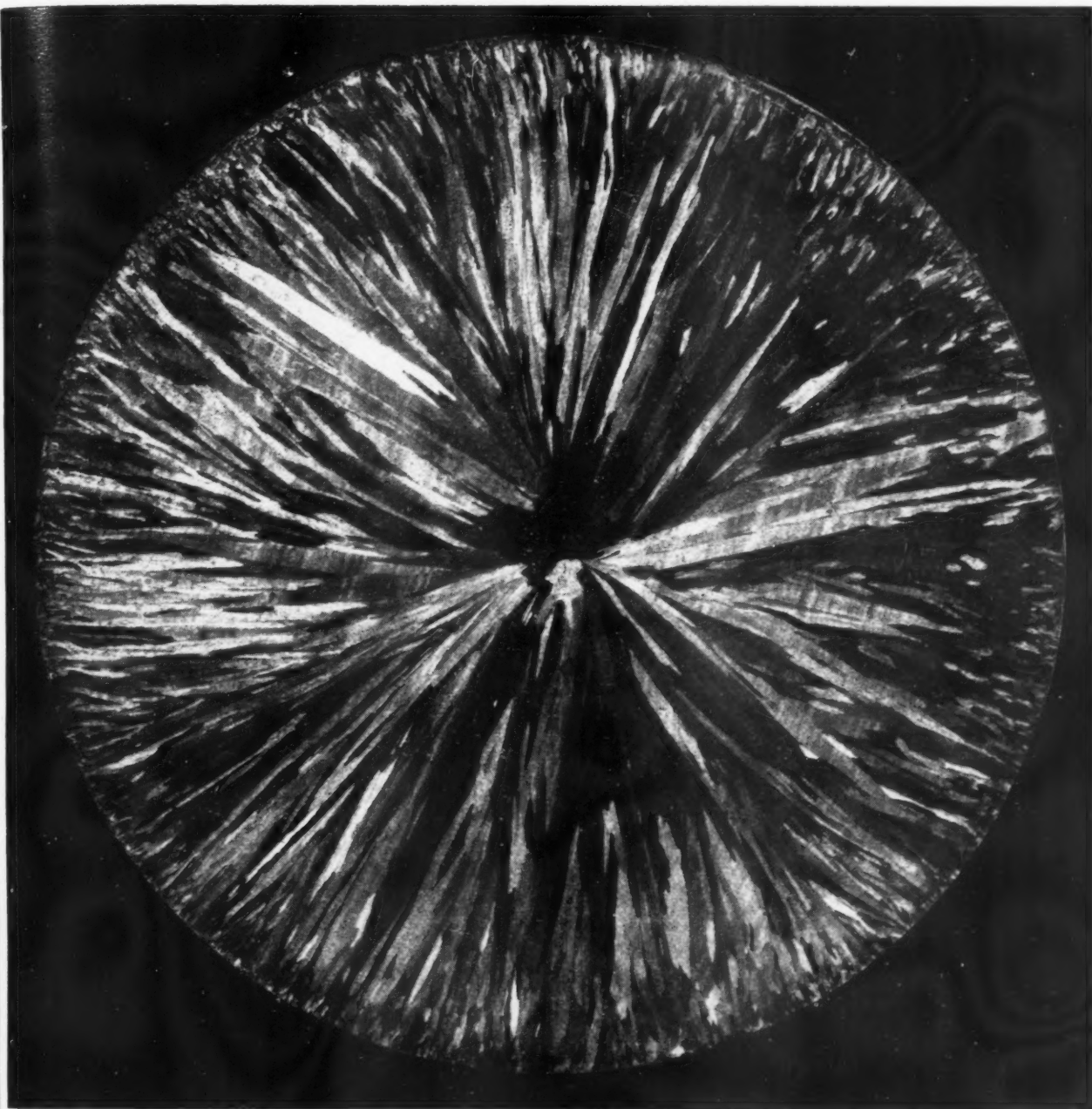
Rydura

*the ideal contemporary fabric
for seating, walls and furniture decoration*



'RYDURA' is the cotton fabric with the 'Profilm' finish, combining modern designs and colours with practical qualities. It is durable and virtually unstainable, and is easily cleaned with a damp cloth. The ideal covering for chairs and seating in the home, hotels, restaurants, bars, hospitals, schools and in fact all public buildings, as well as for ships, caravans and cars. A perfect wall surface, either applied direct (special adhesive available) or in the form of ready prepared panels. Decorative and hardwearing for all kinds of wooden furniture, such as chairs, tables, cabinets and wardrobes. Made in 48 inches width. Three qualities now available. Write for samples and further information.

'RYDURA' FABRICS ARE PRODUCED BY RYJACK PRODUCTIONS LIMITED
(Prop. The Calico Printers' Association Ltd.) Dept. AJ 89 Oxford Street Manchester 1



It will never be tested like this again

Wednesbury Copper Tubing owes its down-to-earth reliability to the most precise control of quality at every stage of manufacture. Copper tubing starts in the form of cylindrical "billets", about 5" in diameter. Before manufacture starts, the billets are checked by the laboratory. Slices about half an inch thick are etched before examination. If the etching reveals a long-ray sun-burst structure like that above, it means that copper tubes drawn from the billet will be strong and sound. This is just one of the many tests which ensure the highest quality in BSS Domestic Copper Tubing. So, when you buy or specify . . .

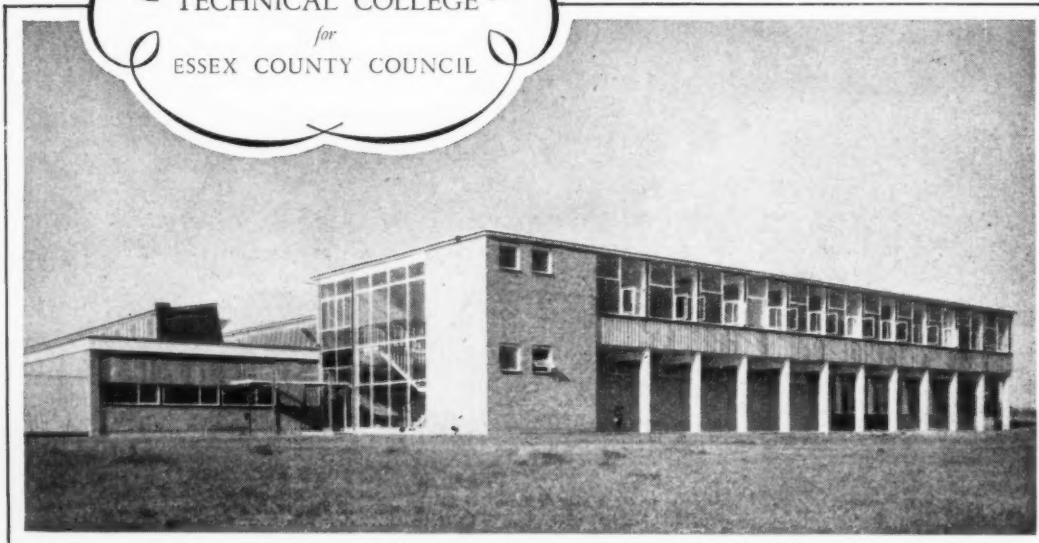
choose WEDNESBURY TUBE

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

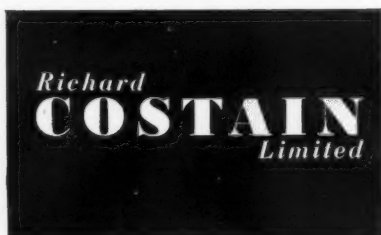
THE WEDNESBURY TUBE CO. LTD, BILSTON, STAFFS

THURROCK
TECHNICAL COLLEGE
for
ESSEX COUNTY COUNCIL

Architect:
H. Conolly, Esq., F.R.I.B.A., County Architect



*T*HURROCK TECHNICAL COLLEGE, recently completed by Richard Costain Limited, is contemporary in design and decorated in a variety of pastel shades. It has been equipped to provide training in mechanical and electrical engineering, and for the various craft courses of the City and Guilds of London Institute. The buildings are in steel frame construction with brick infilling panels and include a 2-storey main laboratory block, boiler house and caretaker's bungalow. Flooring and roofing were supplied by Stahlton Floors Limited.



*BUILDING AND
CIVIL ENGINEERING
CONTRACTORS*

AVENUE LODGE, 2 PALMERS AVENUE, GRAYS, ESSEX

Head Office: 111 WESTMINSTER BRIDGE ROAD, LONDON, S.E.1

Telephone: WATerloo 4977



more and more
board meetings
decide on
Bartrev



. . . because Bartrev is an essential Building material

Bartrev has a place in every building being built today. Its low cost, the fact that it doesn't cut to waste, and its tested strength and durability make it the first choice for ceilings, floors, walls, partitions and doors.

Bartrev, the chipboard supplied in *any length*, is available in five thicknesses— $\frac{1}{4}$ ", $\frac{3}{8}$ ", $\frac{1}{2}$ ", $\frac{5}{8}$ " and $\frac{3}{4}$ ". Delivery is good. For further information write to any of the registered distributors, or to Vere Engineering Co. Ltd., 3, Vere Street, W.1.

Registered Distributors

*The Merchant Trading Co. Ltd.
Wm. Evans & Co. (Distributors) Ltd.
The Metal Agencies Co. Ltd.
Montague L. Meyer Ltd.
L. P. Thomas Co. Ltd.
H. T. Tennison & Co. Ltd.
The British Door Marketing Co. Ltd.
C. V. Creffield & Co. Ltd.*

BARTREV

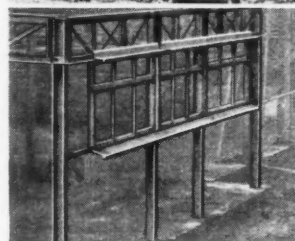
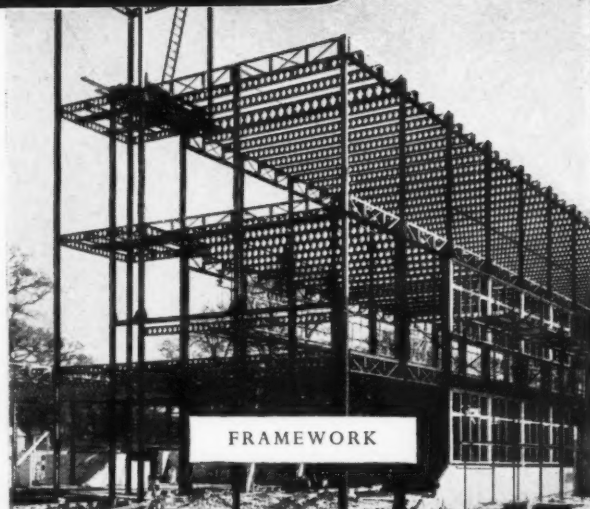
THE THERMAGARD MARK III SYSTEM

It's an Education . . .

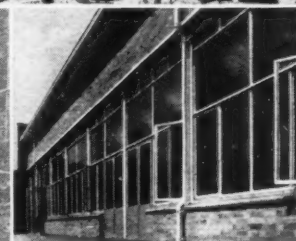


The Thermagard System was originally designed for the construction of primary schools and has now been extended to the construction of multi-storey secondary and grammar schools.

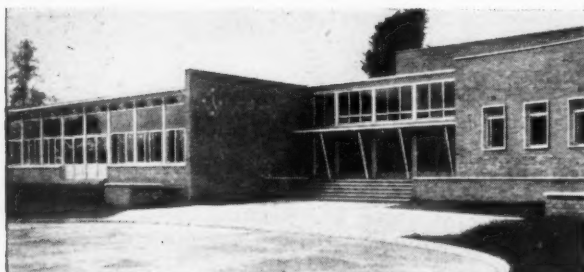
This modular form of construction permits considerable flexibility in planning and has resulted in a high degree of simplification and standardisation in the structural components of the building. It halves the time of the Architect and Quantity Surveyor and ensures manufacture and delivery of components to suit requirements at the site.



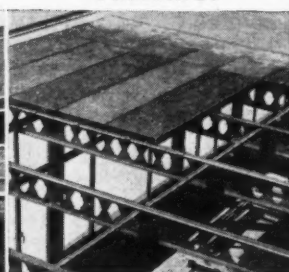
PRESSINGS



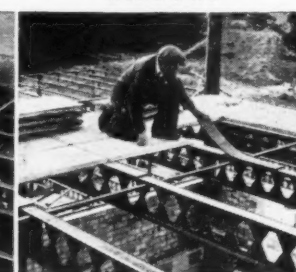
WINDOWS



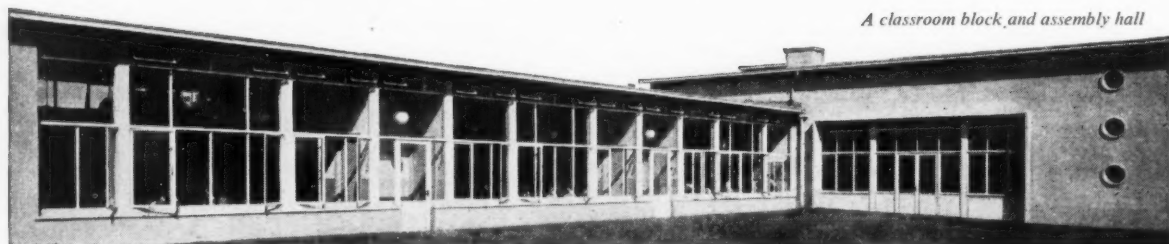
A main entrance and classroom block



ROOFS



FLOORS AND CEILINGS



A classroom block and assembly hall



GARDINER

Gardiner, Sons & Co. Ltd., Midland Works, Willway Street, St. Philip's, Bristol 2, and 8 William IV Street, Strand, London W.C.2

M-W.61

ONLY *POLYFILLA* STANDS UP TO THIS AMAZING TEST!

NEW DISCOVERY

POLYFILLA

**THE CELLULOSE FILLER WITH
THE PERFECT POSITIVE BOND**

POLYFILLA is an amazing NEW discovery. IT DOES NOT SHRINK OR EXPAND AND WILL NOT BECOME LOOSE OR SHAKE OUT. It BONDS itself to surfaces with strong elastic cellulose adhesion as it does NOT depend solely on mechanical cling of easily shattering plaster crystals. It is made by the makers of POLYCELL.



For plaster or brick—filling cracks or holes, large or small. Brush out. Slightly damp surface. Press Polyfilla well home so as to fill crack or cavity completely in one application.



Use as a Putty. Forms a resilient bond between wood or metal and glass. Easy to work. Does not follow the knife.

UNIQUE *POLYFILLA* ADVANTAGES

- **PREPARE AS MUCH AS YOU NEED**—it will stay workable for an hour or more.
- **NO need to cut back** or enlarge crack. Only fillers which expand require "cutting back" to give anchorage. *POLYFILLA* holds firmly in place by strong positive cellulose adhesion.
- **Won't shake loose by vibration.** Use for gaps between plaster boards, behind door frames, skirting boards, between floorboards, etc.
- **Produces a perfectly self-sized surface.** Needs no SIZING, oiling in or shellacking. Decorate directly on to the self-sized surface—no hot spot.
- **Plugs woodwork.** No need to use dowels. Where old hinge-plates, locks, etc. have been removed from doors, *POLYFILLA* will plug large holes and adhere firmly to the wood.
- **Grain-filling before staining, varnishing or polishing**—*POLYFILLA* is ideal for all these purposes.
- **Easy to mix.**

When used for **EXTERIOR WORK** or in wet places (e.g. behind sinks) apply a coat of paint in the usual way.

PATENT Appl. No. 37343/54

**ORDER YOUR STOCKS NOW FROM
POLYCELL PRODUCTS LTD.,**

84 Albert Street, London, N.W.1

Positive Bond means that Polyfilla bonds itself to plaster, brick or wood with strong cellulose adhesion. Look at this ordinary brick. After a hammer blow, strong enough to break brick, *POLYFILLA STILL ADHERES* to both parts! Nails hammered in have not split or broken *POLYFILLA* away. Clear proof of **POSITIVE BOND**. Screws take the weight of ordinary household fixtures without further preparation.

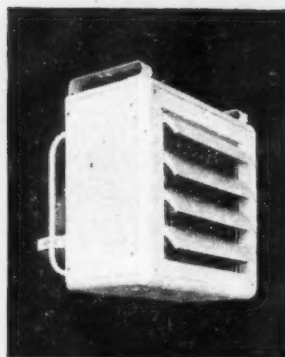




**Britain's leading manufacturers
of Heating, Ventilating, Cooling,
and Air Conditioning equipment.**

BIDDLE AIR TREATMENT

"creates the right atmosphere"



"UNIVECTAIR" UNIT HEATERS

These highly efficient units are ideal for workshops, canteens, stores, and similar industrial buildings. They are available in a wide range of sizes, and models can be supplied for use with steam, hot water, or electricity. Please write for further details to:—

F. H. BIDDLE LTD. (Sales Division of British Trane Co. Ltd.) **16, Upper Grosvenor Street, London, W.1**
Telephones: Hyde Park 0532-9 Telegrams: Efbiddle, Audley, London.

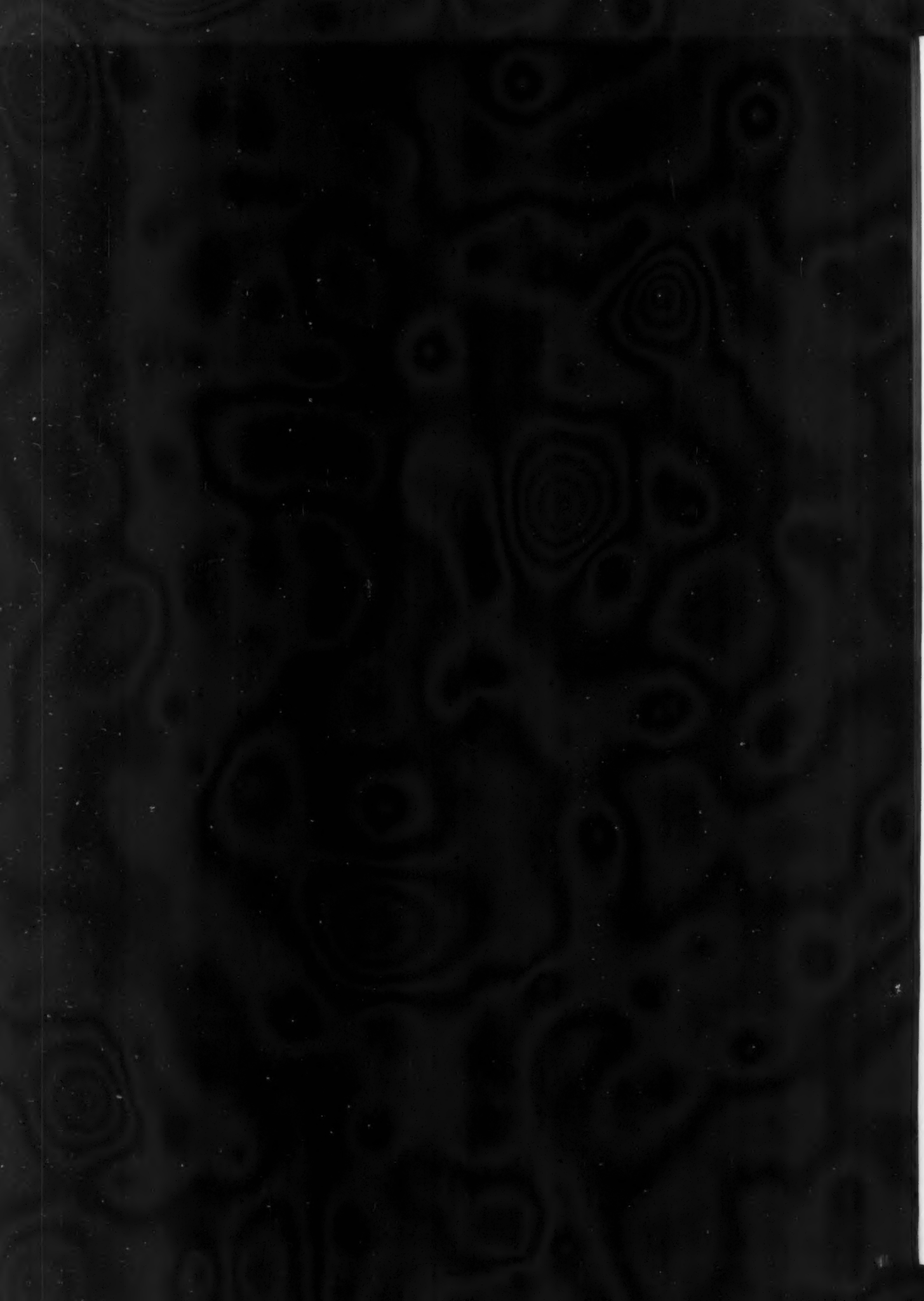
Not just another firm, but

ONE OF THE BEST NAMES IN JOINERY

producing wood goods of the highest
quality at competitive prices



The Midland Joinery Works Limited • Burton-on-Trent
Established 1921 Phone 5085 (4 lines)





where's the connection?

Consider the key.
Universally accepted, and
used with confidence.

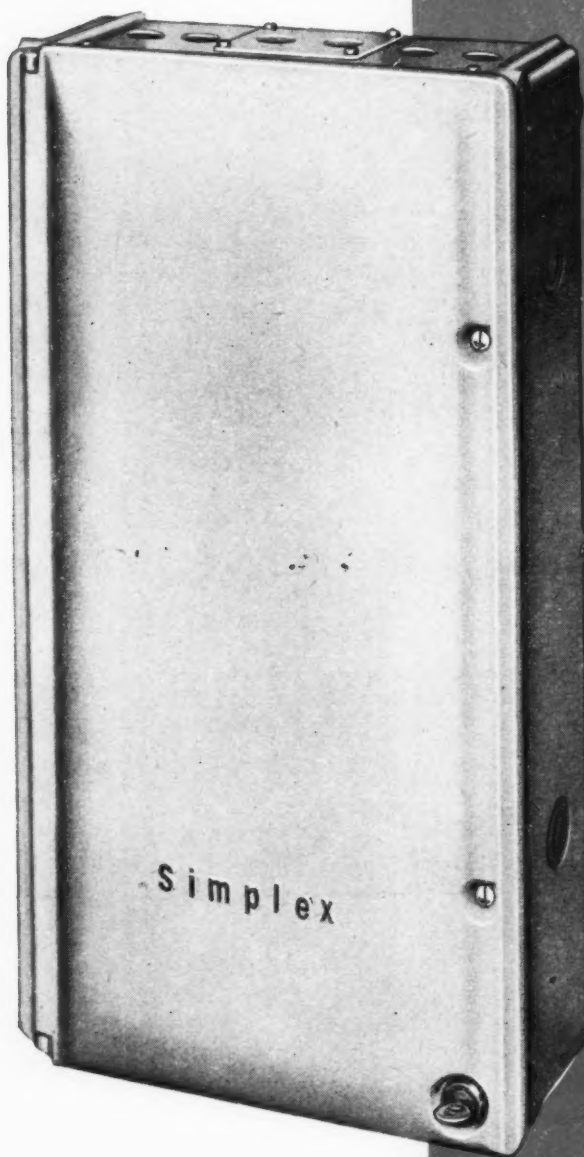
RAPID PRECAST FLOORS

are like that.
Time-tested and proved.
You just *know* from experience
they are
right for the job
and

you can rely on

RAPID

PRICE & CO. (GLASGOW) LTD., Inchinnan Rd., Renfrew. KINGSTON CONCRETE PRODUCTS LTD., Ryde Ave., Hull. WOOLAWAY CONSTRUCTIONS LTD., Lanelay Works, Pontyclun, Glam.
TARMAC LTD., "VINCULUM" DEPT., Ettingshall, Wolverhampton. JOHN ELLIS & SONS LTD., 21, New Walk, Leicester. RAPID FLOORS (WESSEX) LTD., 17, George St., Bath
THE RAPID FLOOR COMPANY LIMITED, AFRICA HOUSE, KINGSWAY, LONDON, W.C.2. TELEPHONE : HOLBORN 3274



Regent

**fuse boards
50 & 30 amp
500 volt**

surface or flush

.....
•
• Regent switchgear by
•
.....

Simplex

Ask for publication SW2068

Simplex Electric Co Ltd

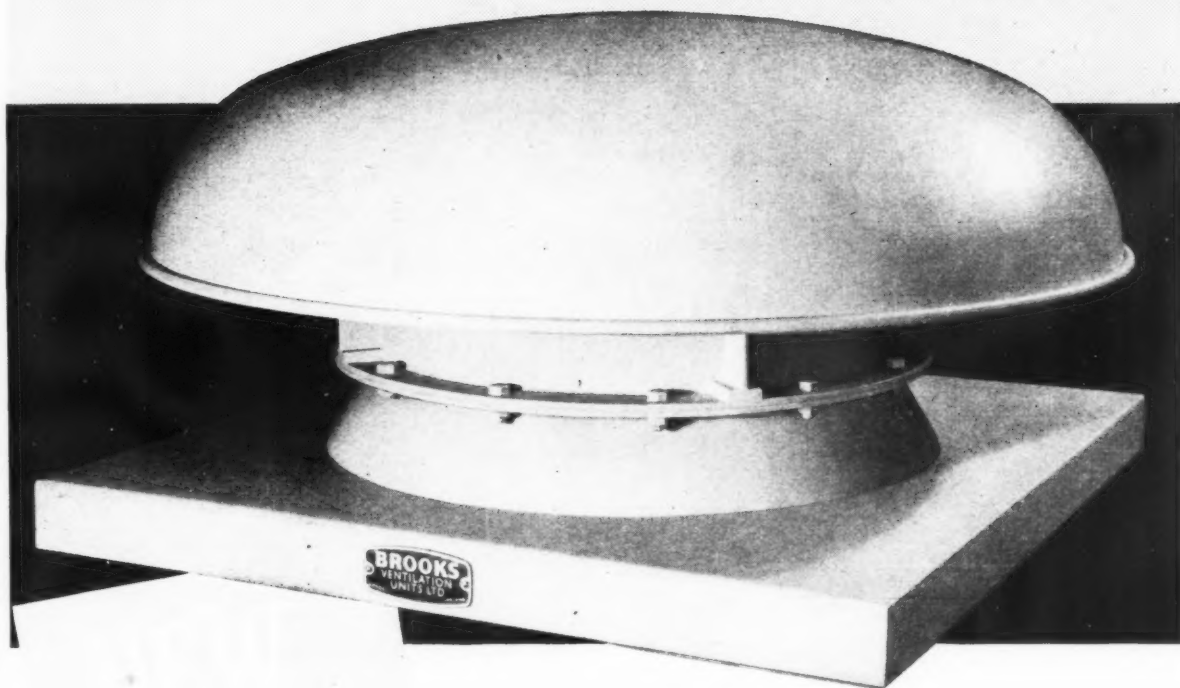
Oldbury Birmingham and branches

A T_U COMPANY

Low Silhouette

ROOF UNITS OF DISTINCTION

by **BROOKS**



Vertical Jet Extract Units with Unplasticised P.V.C. Discharge Heads and Auto-Shutters. Anti-corrosive Polythene bearings.

Brooks 'LIGHTWEIGHT' fixed-head units with Hot-Dip Galvanised or painted finish on sizes 12", 15", 18" & 24".

Multi-leaf quiet operating shutters available for sizes 12" to 48" inclusive.

Completely streamlined internally for high operating efficiency, the BROOKS 'low silhouette' fan-powered Unit combines positive high output ventilation with low power consumption . . . and outdates natural ventilators.

Designed primarily to cover $\frac{1}{4}$ " to 2" static water gauge range, the BROOKS 'low silhouette' Unit with Aerofoil multi-blade fan having extended lubricators outside casing, is at present available with spun weather caps 30" to 68" diameter.

Exhaust capacity range 500 c.f.m. to 25,000 c.f.m.

Fans 12" to 38" diameter.

BROOKS VENTILATION UNITS LIMITED

Trafalgar House, Great Newport Street, London, W.C.2

Tel: COVent Garden 1355-1356

SPECIALISTS IN FAN POWERED ROOF EXTRACT AND INPUT UNITS

B.2



A million pounds up in smoke

One of the most costly fires in recent years occurred in March last year at a large Birmingham warehouse. Practically the whole of the building was destroyed despite the prompt arrival and intensive attack of the City Fire Brigade.

What are the lessons of this fire? Investigations by the Fire Protection Association show that the division of the building by fire-resisting walls and floors would have helped to confine the fire and might have saved all but the compartments in which the fire started.

Plain gypsum plasterboard provides linings which resist flame spread. And insulating gypsum plasterboard gives a high degree of thermal insulation in addition to fire protection.

The properties of Plain and Insulating Plasterboard are described in a brochure entitled "Improved Thermal Insulation with Reduced Fire Hazard". May we send you a copy?

Please write to Gypsum Building Products Association, G.P.O. Box No. 321, London, W.1.



GYP SUM
PLASTERBOARD
plain and insulating
REDUCES THE
FIRE HAZARD

G.21



BY APPOINTMENT
TO HER MAJESTY QUEEN ELIZABETH II
BRICK MAKERS



ASHBURNHAM COURT

ASHBURNHAM ROAD • BEDFORD

Used in the construction of these flats were:

220,000 'Phorpres' Sandfaced Facings.

630,000 'Phorpres' Common Bricks.

Architects: Max Lock & Partners.
Partner-in-charge: G. J. Easton, A.R.I.B.A.
Consulting Engineer: F. J. Samuely, B.Sc.(Eng.), A.M.I.C.E., M.I.Struct.E.
Quantity Surveyors: Cyril Sweett & Partners.
General Contractors: F. G. Minter Ltd.



LONDON BRICK COMPANY LIMITED

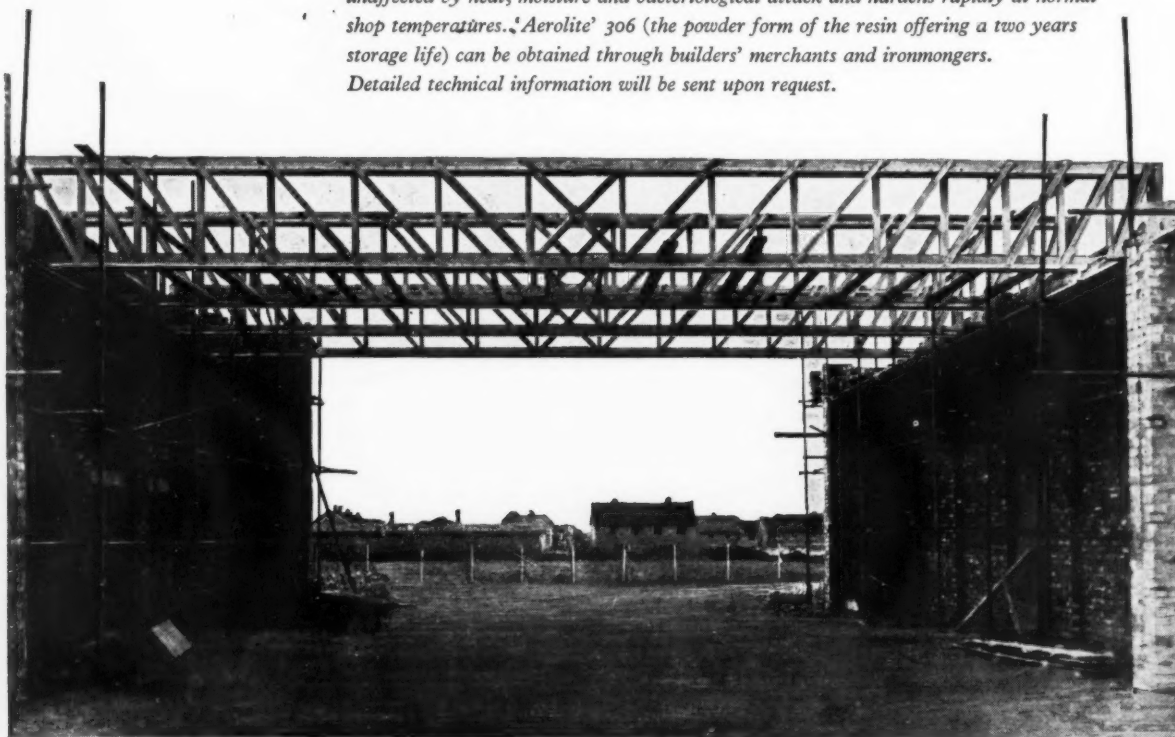
Head Office: Africa House, Kingsway, London, W.C.2. Telephone: Holborn 8282
Midland District Office: Prudential Buildings, St. Philip's Place, Birmingham, 3. Telephone: Colmore 4141
South-Western District Office: 11 Orchard St., Bristol, 1. Telephone: Bristol 23004/5
Northern District Office: St. Paul's House, 20-22 St. Paul's Street, Leeds. Telephone: Leeds 20771
LB47



Lighter sections yet stronger structures using 'Aerolite' 300

Tests to destruction have proved that a simple lap joint made with 'Aerolite' synthetic resin glue has a strength greatly exceeding that of a joint made by mechanical connection. This greater efficiency offers many other advantages. Smaller sections of wood can be used, with a corresponding reduction in cost, greater convenience in the production of pre-fabricated units and considerably easier handling on the site. 'Aerolite' is used extensively in the construction of box beams, lattice girders, roof trusses and in all woodworking where great strength, durability and economy are required.

'Aerolite' 300 synthetic resin glue is available with an extensive range of hardeners. It is unaffected by heat, moisture and bacteriological attack and hardens rapidly at normal shop temperatures. 'Aerolite' 306 (the powder form of the resin offering a two years storage life) can be obtained through builders' merchants and ironmongers. Detailed technical information will be sent upon request.



'Aerolite'—glued roof truss for the assembly hall of a new school at Marske-on-Sea.

*Architect: J. H. Napper, M.A., F.R.I.B.A.
Structural Engineer: D. W. Cooper, B.Sc.*

'Aerolite'

'Aerolite' is a registered trade name

glues for wood

AERO RESEARCH LIMITED

Duxford, Cambridge. Telephone: Sawston 187

AP 264-196



.. But "WHAT EVERY PLUMBER SHOULD KNOW"

is contained in the

CONEX CATALOGUE

of Compression Joints & Fittings



COMPRESSION
CONEX
JOINTS

Architects, Builders, Plumbers and Builders' Merchants will find the latest CONEX Catalogue an invaluable book of reference on all aspects of plumbing. A 64-page Illustrated Catalogue and Price List, it contains full details of the complete range of CONEX products and a wealth of other essential information, all clearly arranged for easy reference. Ask for CONEX Catalogue No. C.J.4.F.

★ SEND US A P.C. NOW FOR YOUR FREE COPIES

"CONEX FITTINGS AND POLYTHENE TUBE" FOLDER P.6

An informative guide to the use of CONEX Fittings and Polythene Tube for Cold Water Services. (CONEX is the joint for Polythene—approved by the B.W.A.)



"UNDER-NEATH THE BASINS" FOLDER W.6

Details of the CONEX range of Drawn Copper Traps and light-weight Waste Fittings, specially designed to facilitate quick and economical fabrication of complete Waste systems.



VALVE BROCHURE C.V.4.F.

Eight-page brochure on the complete CONEX-TERNA range of Brass and Gun-metal Valves—for use on water, steam, air, gas and oil services.





Unanimously agreed

BLACK • MAHOGANY • WALNUT • IVORY • PRIMROSE • 5 GREEN • JADE GREEN • POWDER BLUE • LAVENDER



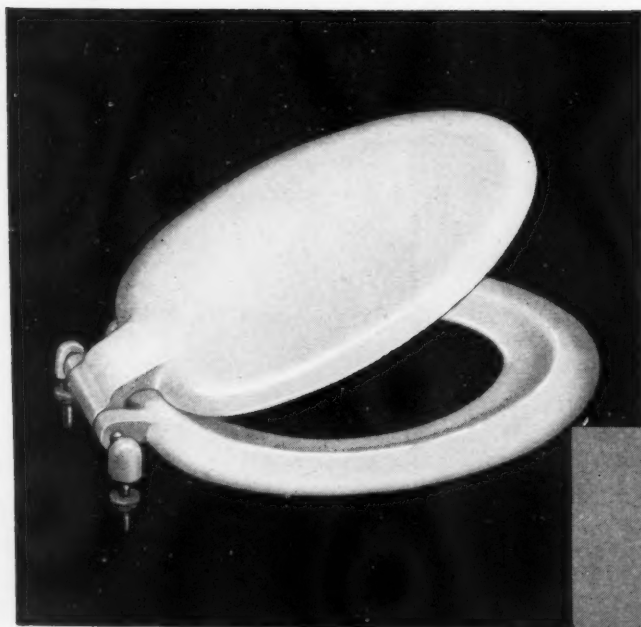
by all concerned —

BLUE • CORAL PINK • MARBLED PEARL • MARBLED GREEN • MARBLED BLUE • MARBLED PINK



on **QUALITY PRICE & VALUE**

• AMBER • TURQUOISE • HYACINTH • PEACH •



Housewives, retailers, builders, architects and merchants all approve the high quality and fine finish of CELMAC toilet seats. They are surprised that CELMAC prices are so keenly competitive and they are delighted to be offered such excellent value. Whenever you think of toilet seats, think of CELMAC and be sure to buy the best.



Made by
ROBERT M^CARD & CO. LTD.
CROWN WORKS • DENTON • MANCHESTER • ENGLAND
Telephone: DENTON 3837/8/9

Write for illustrated brochure describing our complete range
Available free on request

**MOULDED PLASTIC
TOILET SEATS**

DER

PINK

1 .



TS23



THE SPACE HEATER
OF TOMORROW...

The Sapphire '20' Balanced Flue Gas Space Heater is the result of British scientific research and development in the field of gas utilization. Here is the complete answer to modern requirements of maximum efficiency; warm, fresh air, free from products of combustion, *plus* the highest possible safety factor.


Sapphire "20"
Registered Trade Mark Fully Patented

Full data upon request to Sole Licensees:—

COWPER PENFOLD & COMPANY LIMITED

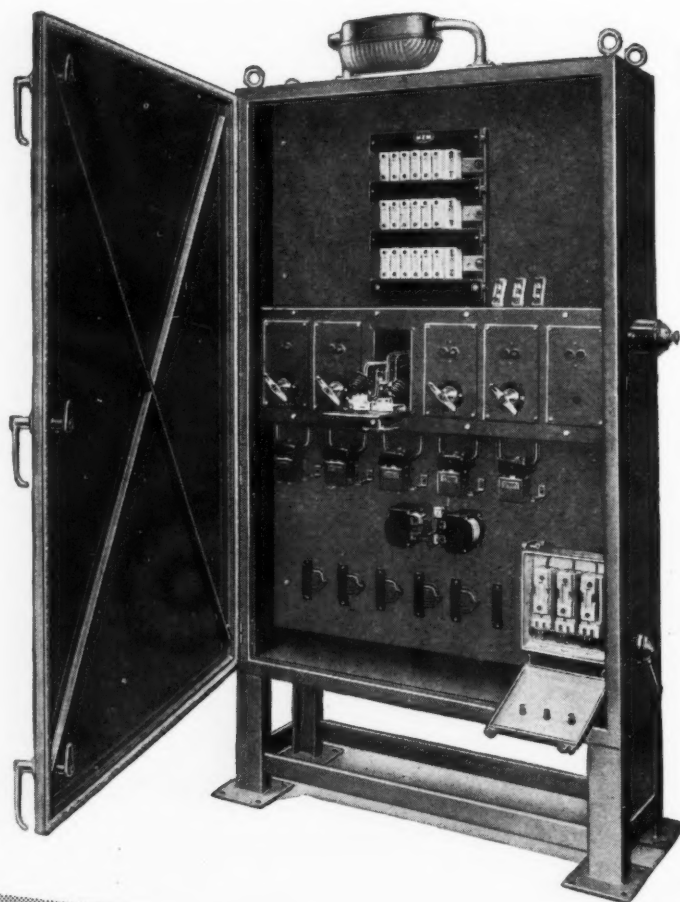
Sole Distributors

WILLIAM SUGG & COMPANY LIMITED

VINCENT WORKS, REGENCY STREET, LONDON, S.W.1 Telephone VICtoria 3211

Let MEM make the panel too

- Standard MEM units
- Compact design
- Easy maintenance



Weatherproof motor control cubicle for Oil Testing Laboratory, I.F.V., Farnborough. Consists of mains isolating switch fuse, and distribution fuseboard which feeds five 24 ADS/HR starters via rotary switches. The starters are arranged for remote control. Installed by the Ministry of Works on behalf of Ministry of Supply.



Switch, fuse and
motor control gear,
electric fires and localised
lighting equipment

**MIDLAND ELECTRIC
MANUFACTURING CO. LTD.**

SWITCHBOARD DEPARTMENT (Y)

TYSELEY, BIRMINGHAM 11.

BRANCHES IN LONDON AND MANCHESTER.

WHEN YOU'RE planning a big electrical installation, remember that MEM are experts on building complete L.T. switchboards as well as the smaller equipment. There are MEM specialists to help in designing your panels and there is a whole section of the Works devoted to building these made-to-measure jobs.

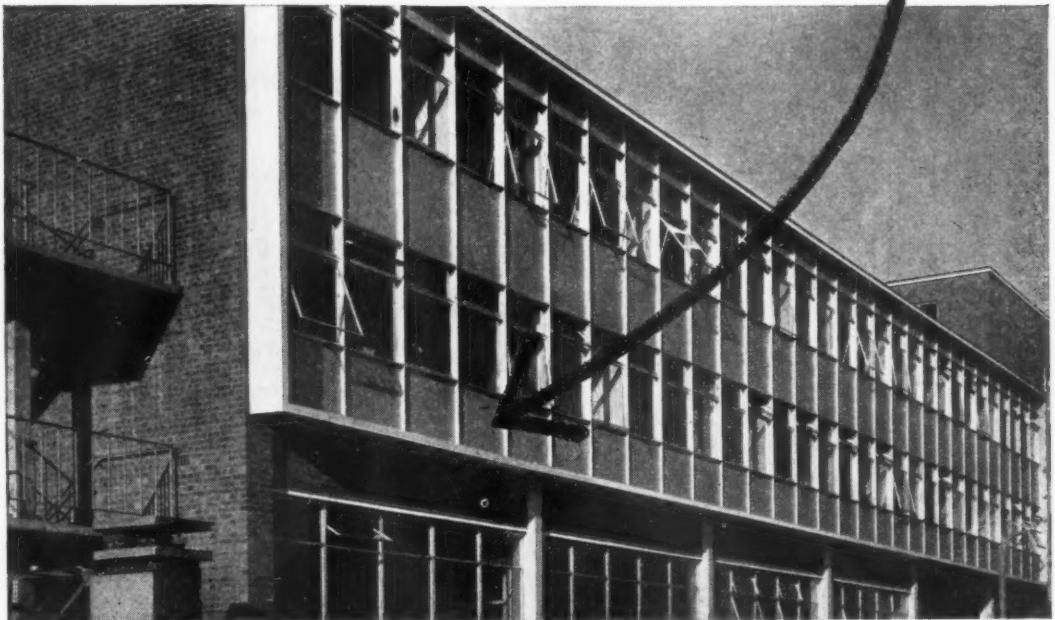
MEM make a wide range of Switchgear, Fuseboards, Bus-Bar Chambers, and Motor Control Gear required for such panels. You gain tremendously in having standard MEM units which are simple, robust and easy to maintain.

When your next switchboard comes up be sure to ask MEM to quote.

Timinium* **was chosen** **here**

* A range of aluminium alloys to British Standard Specifications manufactured by T I Aluminium Ltd.

We illustrate the way aluminium is setting the tone in modern building. T I Aluminium are among the major producers of aluminium alloys in the U.K. and to every constructional problem in aluminium we can supply the answer in one of the Timinium alloys. Our Development Department offers an advisory service covering all aspects of aluminium usage. Architects and builders are invited to make use of it.



Timinium alloy "Wallspan" curtain-walling by Williams and Williams Ltd., for T. Wall and Sons Ltd., Acton. Architects: J. S. Beard, Bennett and Wilkins.

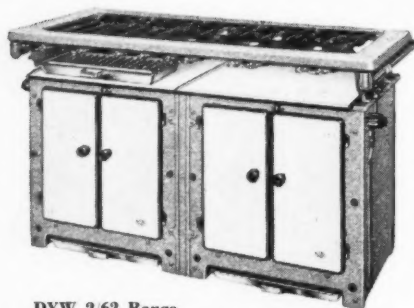
T I Aluminium Ltd.

ONE OF THE LARGEST U.K. MANUFACTURERS OF SHEET, CORRUGATED SHEET, STRIP, CIRCLES, PLATE, EXTRUDED SECTIONS AND TUBES IN ALUMINIUM AND ALUMINIUM ALLOYS.
Head Office: Redfern Road, Tyseley, Birmingham 11. Tel. Acocks Green 3333.
Offices in LONDON, BIRMINGHAM, MANCHESTER, LEEDS, GLASGOW, BRISTOL AND DUBLIN.



MAIN GAS COOKING APPLIANCES

**are used in restaurants
throughout the country**



DYW 2/62 Range

Two ovens, each with automatic heat control. Hotplate has 10 boiling burners or can be made up of a combination of boiling and grill burners.

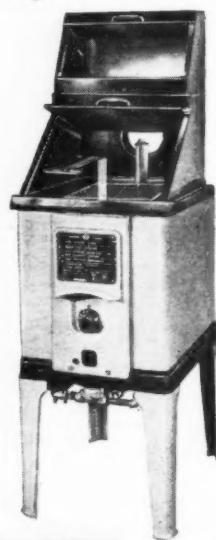
GG 225 Griller

An inexpensive griller fitted with two burners and having a grilling area of 15" x 8½". Available as table model with or without 4" counter stand; or fitted on a 36" high stand.



GF 91/R Fat Fryer

This deep fat fryer is fitted with automatic fat or oil temperature control. Cold zone and crumb well to pan. Available with or without chip box over pan.



R. & A. MAIN Ltd. Gothic Works, Edmonton, N.18 : Gothic Works, Falkirk

Note the name-made by **MAIN**

H.22



universal lighting

Lighting fittings in the modern manner for almost every interior can be found in the Mondolite series. Utilising a limited number of standard components and materials, a wide variety of Mondolite units can be arranged to provide general, diffused, or directional lighting effects. Whether your need is for tubular suspension, ring or radial pendants, recessed, wall, table or standard fitting.

Mondolite is part of a comprehensive range which includes Versalite, for directional lighting, Ultralux for general lighting, and Tubalux for fluorescent lighting—all to be seen at THE LIGHTING CENTRE.

» MONDOLITE «

A range of lighting fittings by :—

TROUGHTON & YOUNG

TROUGHTON & YOUNG (Lighting) LTD., *The Lighting Centre*,
143 Knightsbridge, London, S.W.1. Phone KENsington 3444
And at 46 Rodney Street, Liverpool 1

R.F.W. 8

2

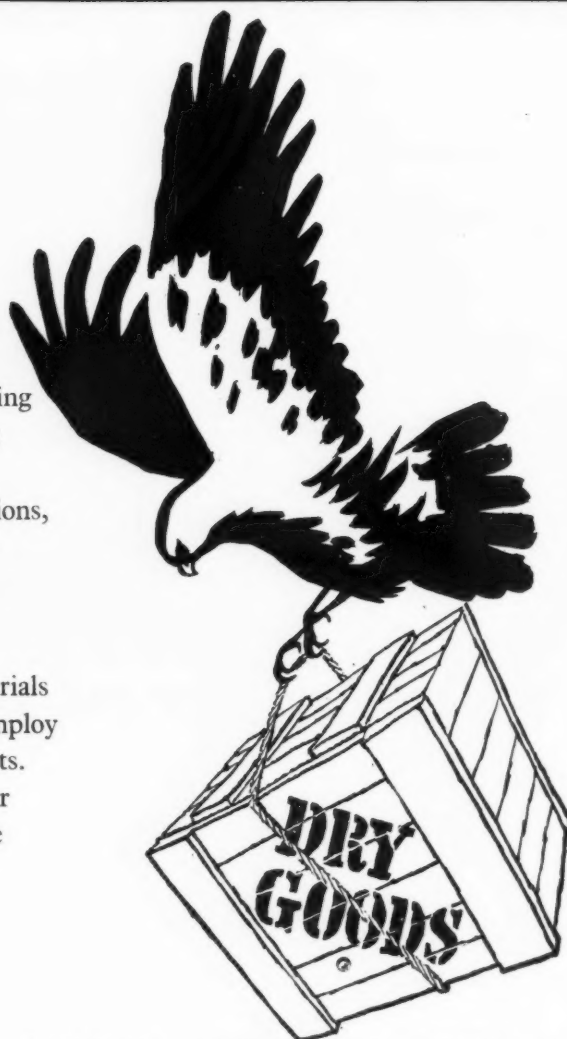
BUILDING RATIONALITIES

Many of the faults and delays in building are still due to poor, unequal or too rapid drying conditions.

Yet—modern competitive operations demand that a job should be economic and right first time.

Tons of water are put into the average house during erection. When complete, it needs much making good before it is handed over. Then the new occupant lives warily amid his temporary decorations, waiting through the first damp months with considerable anxiety and harassing the builder when something goes wrong.

What is more logical than to make sure that materials are water-free before they ever reach the site? Employ the maximum amount of factory-made components. They are made efficiently and inexpensively under controlled conditions. Drying-out is done at the works and a house can be *dry on completion*.



BLUE HAWK products include:

• **THISTLE** Plasters and Plaster Boards

• **PARAMOUNT** Plaster Boards and Partitions

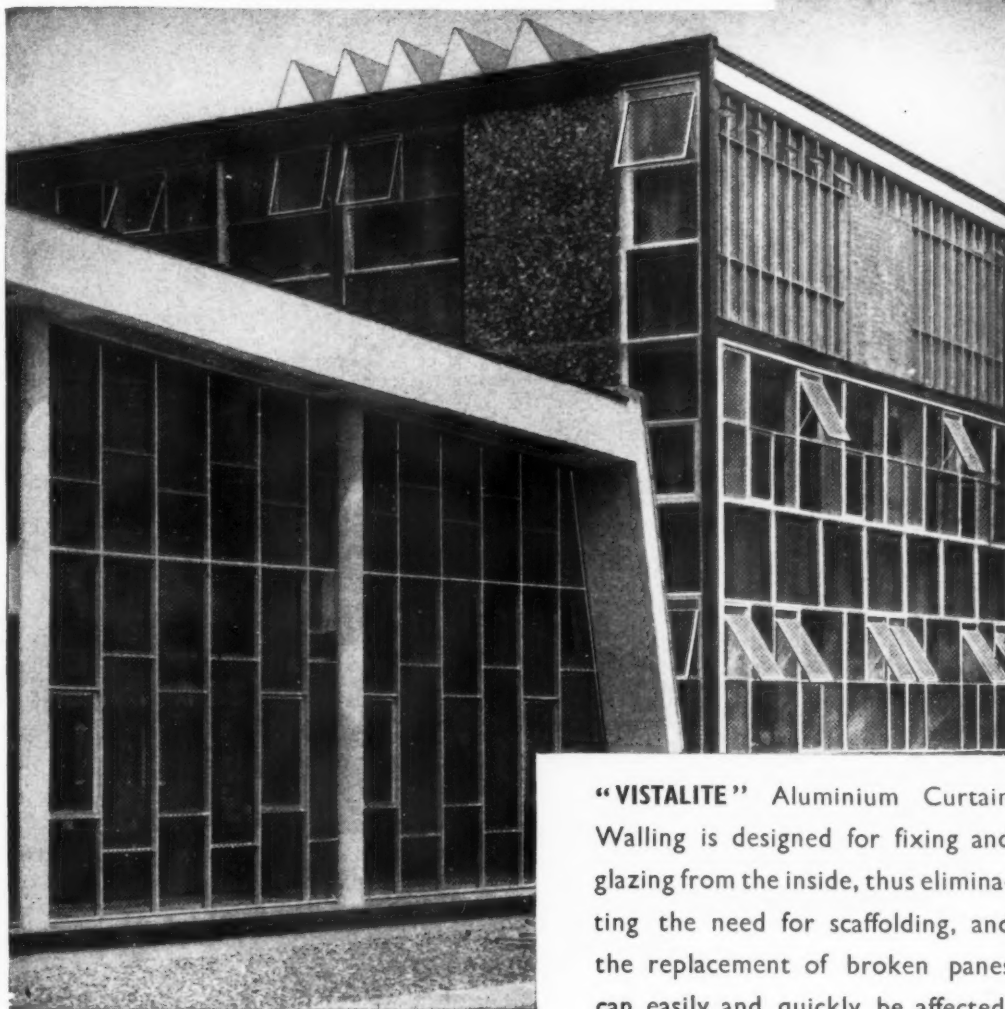
• **PHARAOH** Browning and Wall Finish Plasters

Write for details of Dry Linings to—

THE BRITISH PLASTER BOARD (MANUFACTURING) LIMITED

BATH HOUSE, 82, PICCADILLY, LONDON, W.1. Tel: GROsvenor 8311

'VISTALITE'



Curtain Walling at Holloway County School Extension

Architect: Dr. J. L. Martin, M.A., Ph.D., F.R.I.B.A.,
Architect to the London County Council, County Hall,
Westminster Bridge, London, S.E.1.

*Please write for illustrated leaflet
to Group Sales Office*

"VISTALITE" Aluminium Curtain Walling is designed for fixing and glazing from the inside, thus eliminating the need for scaffolding, and the replacement of broken panes can easily and quickly be affected.

**CURTAIN WALLING &
PURPOSE MADE WINDOWS**

BRITISH STEEL CONSTRUCTIONS GROUP OF COMPANIES
82 Holyhead Road • Wednesbury • Staffordshire • Telephone : WEDnesbury 1151/2/3



CARTER
interior
GLAZED TILES

THE CARTER GROUP

Carter & Co. Ltd. Poole, Dorset. Telephone: Poole 126
Carter & Co. London Ltd. 24 Albert Embankment, SE 11. Telephone: Reliance 1471
Manchester Office: 27 Brazennose Street, Manchester 2. Telephone: Blackfriars 2098
Art Pavements & Decorations Ltd. St. Paul's Crescent, Camden Town, NW 1. Telephone: Gulliver 2226
J. H. Barratt & Co. (1957) Ltd. Brotham Tile Works, Stoke-on-Trent. Telephone: Stoke-on-Trent 44717
The Marbolith Flooring Co. Ltd. 24 Albert Embankment, SE 11. Telephone: Reliance 2063
Commercial Marble & Tiles Ltd. Selborne Gardens, Newcastle upon Tyne 2. Telephone: Newcastle 831373
R. Campbell & Sons, 13 Steads Place, Edinburgh 6. Telephone: Leith 39188

A Service

**every architect
should know about**



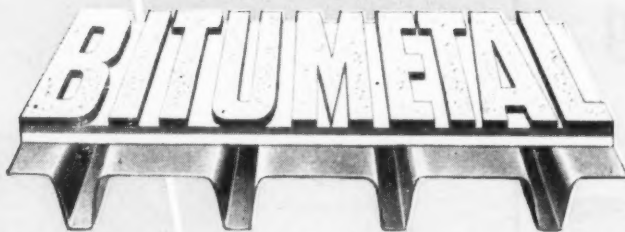
You are invited to make the fullest use of our Roofing Advisory Service—we believe it is the most comprehensive in the Roofing Industry.

Our nearest Area Manager can give you further details of this Service, which, of course, is entirely free and without obligation.

It Offers:

1. The services of a highly organized drawing office ready to prepare, in collaboration with yourself, complete working drawings.
2. The assistance of experienced roofing technicians to advise on every detail of modern roof construction.
3. The results of constant research in roof design and construction, and the accumulated knowledge of a large nation-wide Roofing Organization.

BRIGGS



ROOF PLUS CEILING PLUS INSULATION

**WILLIAM BRIGGS
& SONS LIMITED**

London, Vauxhall Grove, S.W.8 • Regd. Office, Dundee

Area Offices and fully equipped depots also at:

ABERDEEN • BELFAST • BRISTOL • DUBLIN • EDINBURGH • GLASGOW • LEICESTER • LIVERPOOL • NORWICH



PAINTER BILL SAYS

Whatever your plans...

Brolac, containing the waterproof medium *Hankol*, is the toughest high gloss finish. Retaining its superb gloss for years, it cuts repainting costs many times over.

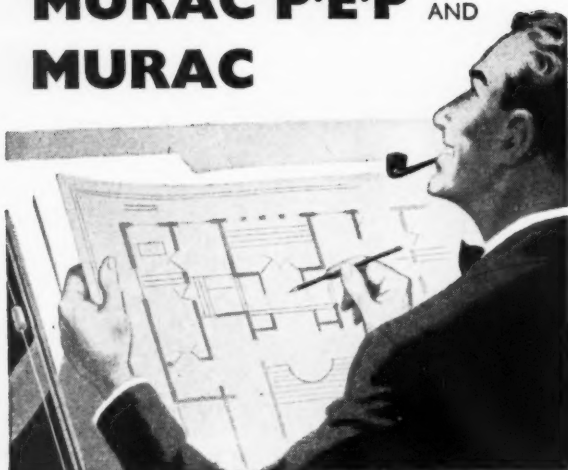
Murac P.E.P. (PLASTIC EMULSION PAINT) gives an outstandingly durable—and washable—matt finish with maximum safety on new work. Application costs are reduced by the elimination of the need for primer and undercoat and by quick drying — *recoating is possible in two hours.*

Murac Matt Oil Finish is as easy and economical to apply as oil-bound water paint, yet provides a long-lasting scrubbable surface of great beauty.

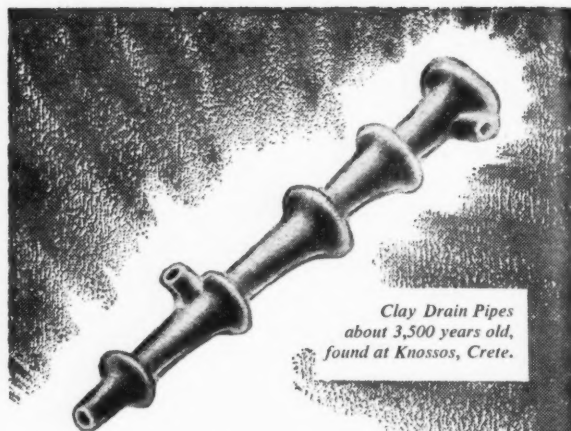
These three finishes, so economical in use, are available in wide ranges of toning colours and are thus an ideal trio for systematic decoration.

**...you save money
by specifying**

**BROLAC
MURAC P·E·P AND
MURAC**



JOHN HALL & SONS (BRISTOL & LONDON) LTD., HENGROVE, BRISTOL 4



*Clay Drain Pipes
about 3,500 years old,
found at Knossos, Crete.*

**FOR 3,500 YEARS
CLAY PIPES
have stood the test of time**

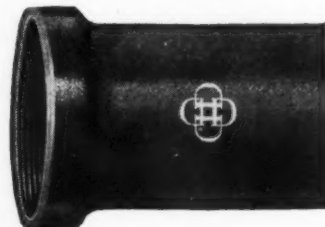
If clay pipes, used in Crete 3,500 years ago, are found to be in good condition, what must be the endurance of modern salt-glazed stoneware materials?

Sir Henry Doulton pioneered the Salt-glazed Stoneware pipe over 100 years ago. Its impenetrable nature enables us to predict that in another 3,500 years, or even longer, the antiquarian of the times, discovering a Doulton pipe, would find it to be unchanged.

There is security in

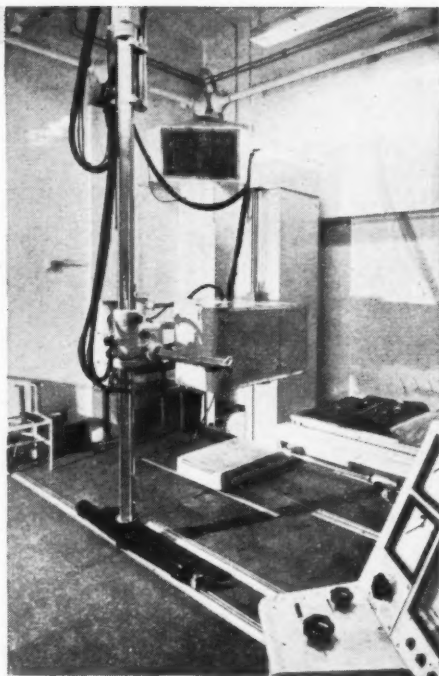
DOULTON DRAINAGE MATERIALS

PERMANENT
UNDERGROUND
RESISTANCE TO:
CORROSION
ACIDS
DETERGENTS
ROOT
PENETRATION
AND DECAY



DOULTON & CO. LIMITED
Dept. BEP, Doulton House, Albert Embankment,
London, S.E.1

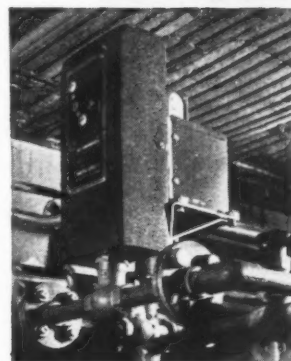
Royal
DOULTON
SALT-GLAZED DRAINAGE MATERIALS



Part of X-Ray Diagnostic Department at Westminster Hospital.



Electronic Control Panels in Plant Room.



Modulating Motorized Valve on Steam Supply to Reheater.

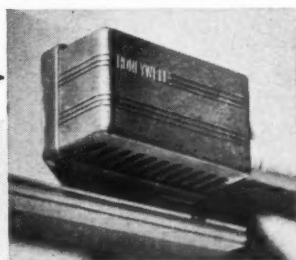
Honeywell five-zone air conditioning control for Westminster Hospital

An important feature of Westminster Hospital's new X-Ray Diagnostic Department is its 'Honeywell-Controlled' Air Conditioning Plant—installed by J. Jeffreys & Co. Ltd. Honeywell Electronic Modulating Controls maintain the precise temperature and moisture levels essential to the department's efficiency.

The dewpoint control system on the central plant ensures that air is delivered to the five zones with the required moisture content. Zone air heaters are individually controlled by electronic modulating systems — employing a

room thermostat and a thermostat in the delivered air supply—to maintain precise and stable space temperatures. The successful outcome is the typical result of Honeywell's imaginative approach to all specialist problems in heating, ventilating and air conditioning. For detailed information on Honeywell controls and their many applications, write to Honeywell-Brown Ltd., 1 Wadsworth Road, Perivale, Middlesex.

Sales Offices located in the principal cities of Britain and Europe: distributors throughout the world.



Honeywell Room Thermostat.



Honeywell

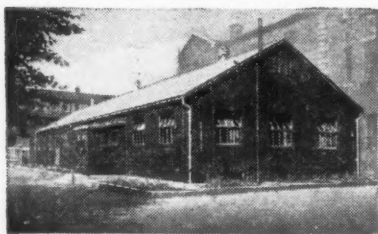
First in Controls



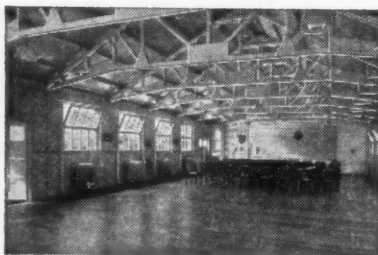
Reproduced by kind permission of the County Architect for Kent



PORTSMOUTH CITY COUNCIL
Class Room



PADDINGTON GROUP HOSPITAL
Nurses' Recreation Room



PADDINGTON GROUP HOSPITAL
Nurses' Recreation Room



WAKEFIELD GROUP HOSPITAL
Canteen

BUILDINGS

*ready for occupation
in three weeks*

EXTRA ACCOMMODATION QUICKLY AND CHEAPLY

HALL'S Wide Span Buildings—up to 30ft. in one single span—provide the complete answer to all who need extra accommodation. On a simply prepared site, these rigid and permanent buildings can be erected and ready for occupation in three weeks or even less. Prime cost is lower than for almost any other type of building and cost of erection is negligible by comparison.

These graceful, attractive buildings, approved by Architects and Councils all over the country, are in use—many, now more than twenty years old—for Hospitals, Schools, Canteens, Workshops, etc.

Hall's Wide Span Buildings are available in Standard single spans of 10 ft., 12 ft., 18 ft., 24 ft. and 30 ft. and in any length in units of six feet. Interior details such as walls, corridors, ceilings, etc., are 'made to measure' to suit particular needs.

Constructed by craftsmen from selected timber, kiln dried, and processed at Hall's great plant at Paddock Wood, these Wide Span buildings will last indefinitely. Architects and others interested are invited to visit Paddock Wood or write for illustrated brochure.

Plans supplied for Local and Government Authorities



ROBERT H. HALL & CO. (KENT) LTD, Industrial Division
33 PADDOCK WOOD, TONBRIDGE, KENT Telephone: PADDOCK WOOD 508

our business is tiles—

Redland tiles

the most durable, economical, efficient modern roof tiles.

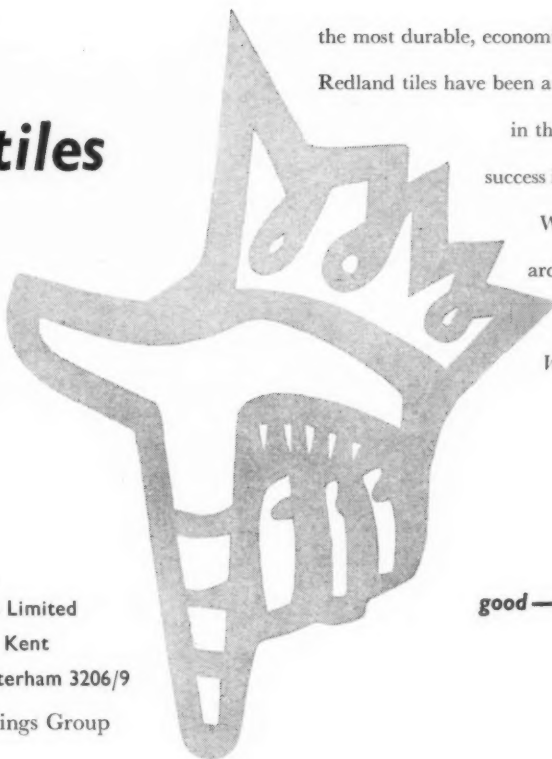
Redland tiles have been an enormous success

in the past. They are an even greater success in the present. And the future?

We are very confident: for what architect can afford to overlook

the excellence of Redland tiles?

Write for literature



Redland Tiles Limited

Moorhouse Nr. Westerham Kent

tel Westerham 3206/9

A Division of the Redland Holdings Group

good — for 50 years and more



House at
Hill Brow
Hove
Architect:
R. G. Garrett
A.R.I.B.A.



A CLOSE-UP OF WINDOW CONTROL

The more closely you examine an ARENS control the more you will appreciate its high standards of quality and performance. All ARENS controls are beautifully finished, with an attractive casing calculated to win the approval of all discerning architects. The unobtrusive conduit used can be painted to harmonize with the decorations, or concealed beneath the wall surfacing, as desired. Totally enclosed, precision-built mechanisms ensure accurate control and trouble-free service, and require scarcely any maintenance.

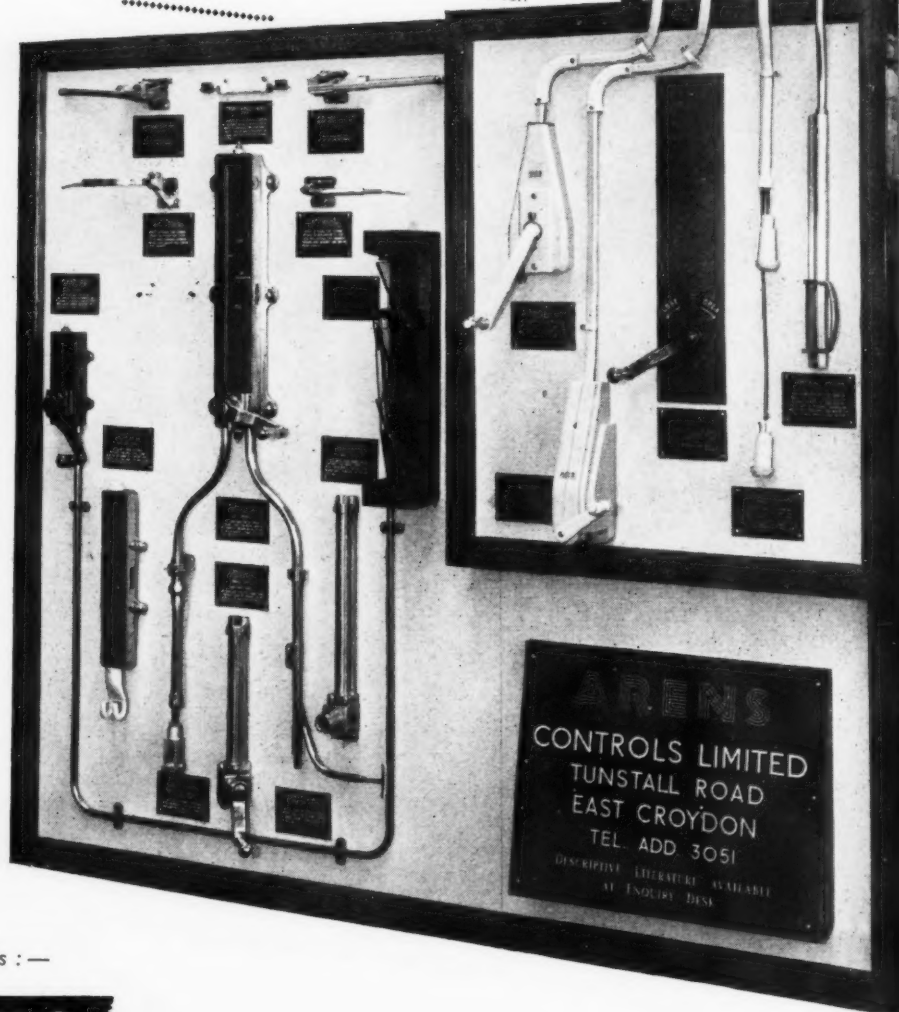
★ For further details please contact our Contracts Department.

Sole Manufacturers:—



ARENS WINDOW
CONTROLS are on
permanent exhibition
at the
BUILDING CENTRE

STORE STREET, TOTTENHAM COURT ROAD,
MUSEUM 5400. W.C.1



CONTROLS LIMITED

TUNSTALL ROAD · EAST CROYDON · SURREY

Telegrams: UNICONTROL, SOUPHONE, LONDON. Telephone: ADDiscombe 3051/4

OVERSEAS AGENTS:—

Australia: S. K. SHEPHERD, G.P.O. BOX 1,000-H, MELBOURNE.
New Zealand: L. J. FISHER & CO. LTD., 30 ANZAC AVENUE, AUCKLAND.
Rhodesia: CRITTALL-HOPE (RHODESIA) LTD., P.O. BOX 2301, WORKINGTON, SALISBURY.
Western Canada: WILLIAMS & WILLIAMS (WESTERN) LTD., VANCOUVER & WINNIPEG.
South Africa: WIRE INDUSTRIES STEEL PRODUCTS & ENGINEERING CO. LTD.,
OPHIRTION, JOHANNESBURG.

ED

URREY

be 3051/4

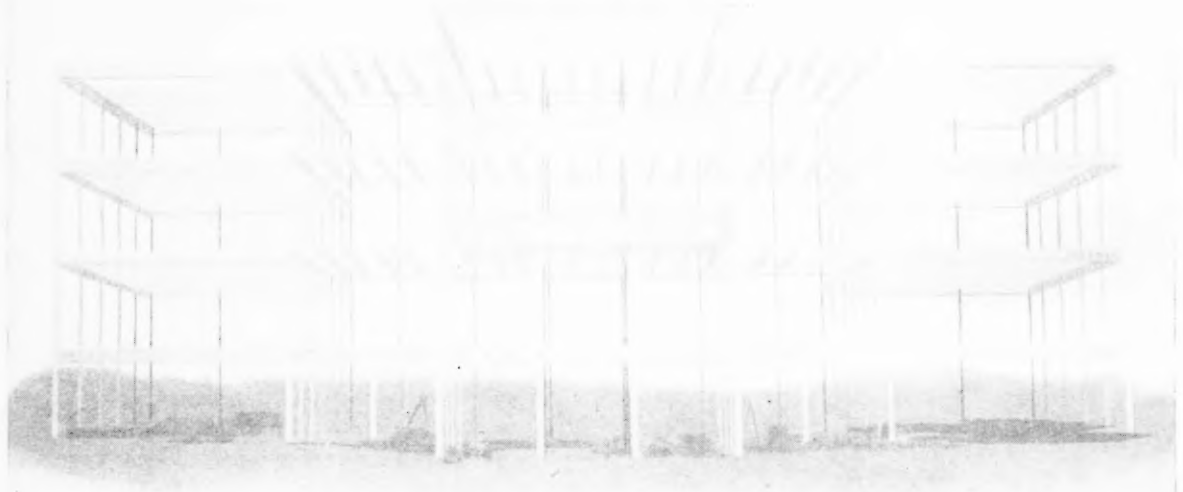
URNE.

LAND.

ISBURY.

NNIPEG.

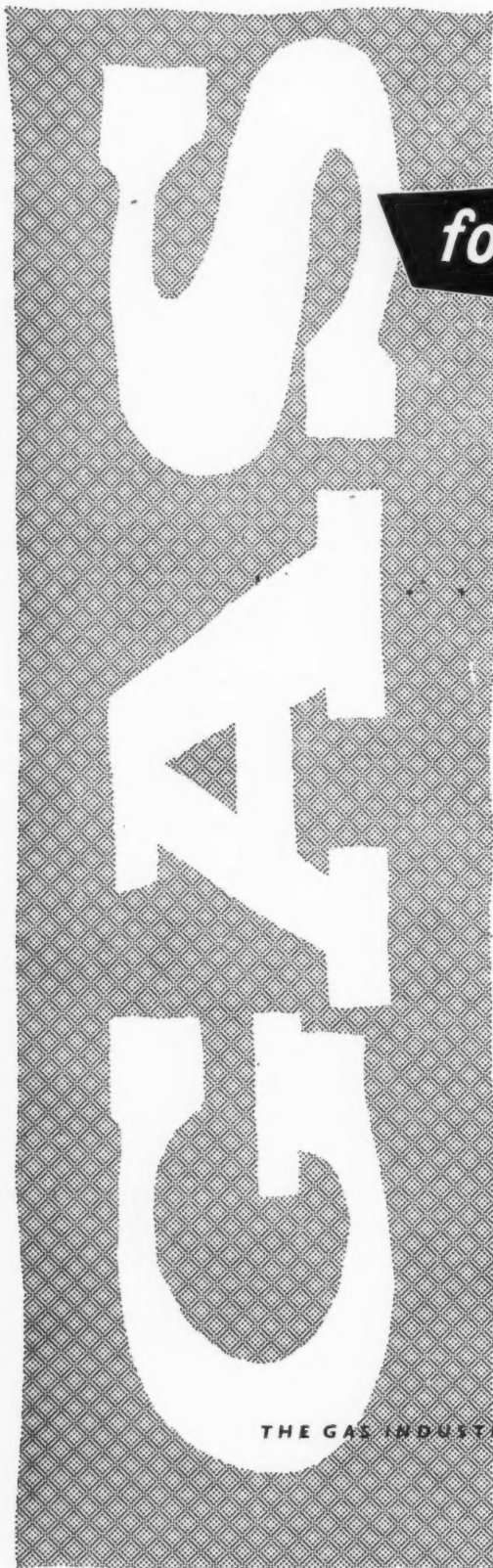
. LTD.,



**We design, fabricate & erect
structural steelwork**

UNITED STEEL STRUCTURAL COMPANY LIMITED

Associated with The United Steel Companies Limited
SCUNTHORPE · LINCOLNSHIRE



for smokeless heat –

By usefully harnessing three-quarters of the heat value in coal the Gas Industry offers two refined smokeless fuels, coke and gas.

In addition the chemical engineering process of gasmaking simultaneously converts the potential smoke in coal into useful products like coal tar and pitch—and without these, expensive chemical imports would be necessary. Each of the Area Gas Boards offers expert advice to architects, building authorities and all engaged in providing smokeless heat. The advice is based upon the pooled knowledge of all the Area Gas Boards and the users of coke and gas in other countries.

consult your area gas board

THE GAS INDUSTRY MAKES THE BEST USE OF THE NATION'S COAL

The Gas Council, 1 Grosvenor Place, London, S.W.1



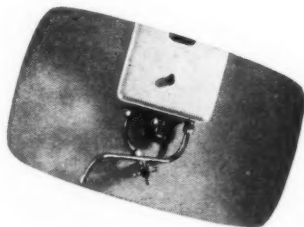
Clean hands

Adequate washroom facilities are essential to combat disease in the hospital, factory and office—and vital for clean food. Sometimes the demand is for large quantities of hot water continuously, day and night—or maybe it is needed instantaneously at irregular times.

But whatever the hot water requirement, the Heating Engineers at your Area Gas Board have had considerable experience in fitting thousands of different hot water installations and will gladly advise you on your problem.

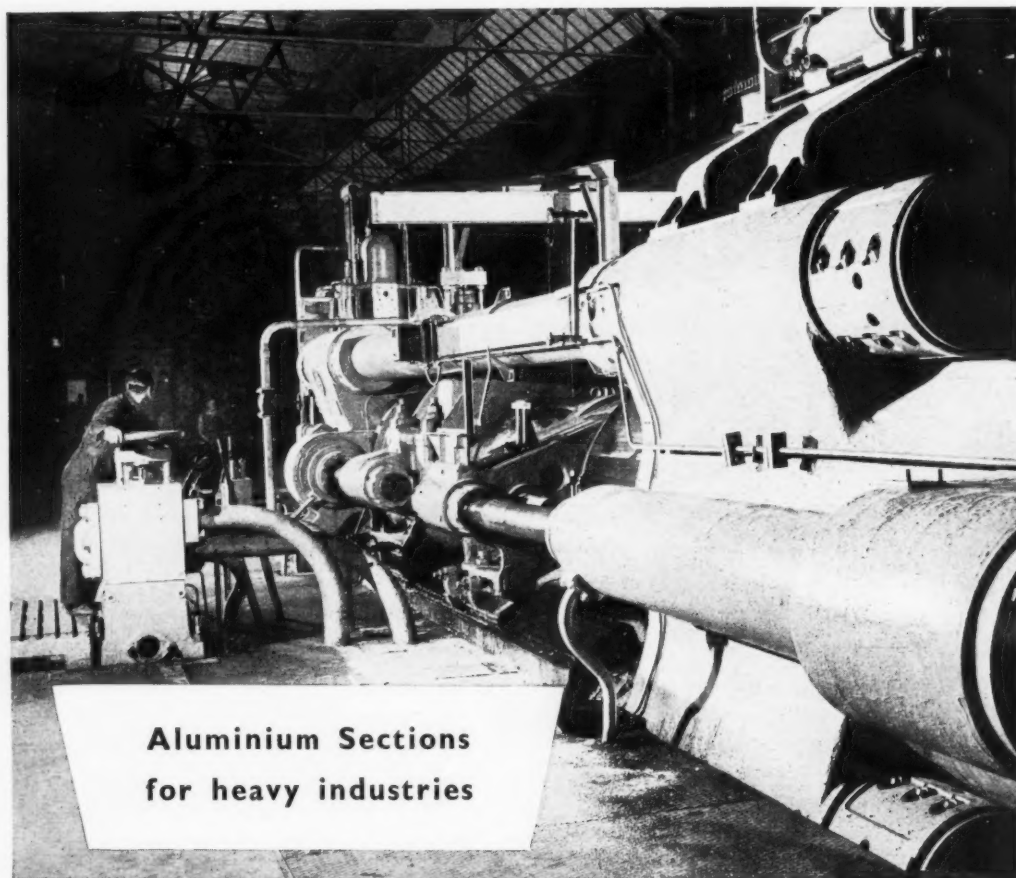
WHATEVER YOUR BUSINESS—The Gas Industry appreciates the needs of consumers for prompt service and for advice which accords with the customer's special circumstances and requirements. Each Area Gas Board offers efficient service to users of gas-fired equipment and can give expert advice based upon the pooled knowledge of all the Boards and of gas users in other countries.

—CONSULT YOUR AREA GAS BOARD



ISSUED BY THE GAS COUNCIL

THE GAS INDUSTRY MAKES THE BEST USE OF THE NATION'S COAL



**Aluminium Sections
for heavy industries**

Two additional extrusion presses, one of 5,000 tons and the other of 3,500 tons, have been installed at the Latchford Locks Works of the British Aluminium Company. These presses represent an important extension to the extrusion capacity of the aluminium industry in this country. They will be used to produce a wide range of sections for the road transport, building, ship-building and structural and general engineering industries.

Extrusions are available in sizes up to $13\frac{1}{2}$ " circum-circle and are specially designed to facilitate the economic use of aluminium in riveted or welded assemblies.



THE

British Aluminium

CO LTD

NORFOLK HOUSE ST JAMES'S SQUARE LONDON SW1

API38-1267



Used by more and more architects, the International advisory service helps the profession in the preparation and supervision of decorative schemes. This service includes the inspection of buildings, the preparation of painting specifications and colour schemes and regular visits to the site while painting is in progress. It is a service that saves the architect many hours of detailed work and ensures the best results.

Bulk tinting of paint with a high-speed mixer.

International Paints Ltd.

GROSVENOR GARDENS HOUSE, LONDON, S.W.1

TELEPHONE: TATE GALLERY 7070 (15 LINES)

Also: BIRMINGHAM, BELFAST, CARDIFF, GLASGOW, IPSWICH, LIVERPOOL, NEWCASTLE, RIPON, SOUTHAMPTON

1881



1956

MAIN FACTORY IN U.K. FELLING-ON-TYNE

ASSOCIATED FACTORIES IN

AUSTRALIA	SYDNEY	GERMANY	HAMBURG	NEW ZEALAND	WELLINGTON
BRAZIL	RIO DE JANEIRO	ITALY	GENOA	SPAIN	BILBAO
CANADA	MONTREAL	ITALY	TRIESTE	SWEDEN	GOTHENBURG
CANADA	VANCOUVER	JAPAN	KOBE	U.S.A.	NEW YORK
DENMARK	COPENHAGEN	MEXICO	MEXICO CITY	U.S.A.	SAN FRANCISCO
FRANCE	LE HAVRE	NORWAY	BERGEN	VENEZUELA	MARACAIBO



Controllable Convection* gives extra warmth in winter

This is the Bilston—the amazing new boiler that provides not only a constant supply of piping hot water, (plus a radiator or towel rail), but *extra room heat as required* to keep kitchens warm and cosy all winter long.

The secret of the Bilston is Controllable Convection*, which means that, by a simple regulating device, room heat can be easily controlled all the year round. No wonder housewives are

clamouring for this wonderful new boiler! Other features are the smart vitreous enamel finish, the small fuel-consumption and, above all, the easy installation of the Bilston—and its incredibly low price. For full details of this truly modern boiler, write to the address below.



* ONLY THE BILSTON HAS THIS AMAZING NEW FEATURE

BILSTON dual-purpose BOILER

BILSTON FOUNDRIES LTD., DEPT. AJ/DP3, BILSTON, STAFFORDSHIRE



Another Friendly Bar in Dublin



"The Punch Bowl", Booterstown, Co. Dublin.
Architect: Hubert P. Banahan Esq., B. Arch., M.R.I.A.I.
Contractors: Messrs. Dwyer & Daly Ltd. Dublin.



Sizes: 12" x 12", 36" x 12", 36" x 6", 9" x 9", 6" x 6". Special sizes cut to order up to maximum of 36" x 12". Thickness: 3/16" square edge or bevelled edge. 5/16" tongued and grooved or square edge. Shades: Light, Medium, Dark. Coved Skirting: 5/16" thick, in lengths of 36" 4" high, 1/4" radius cove.

Armstrong Cork Company Ltd.
Flooring Department,
Bush House, Aldwych, London
W.C.1.
Telephone: COVent Garden 1101

CORK was, indeed, a sound choice for the floor of this attractive Dublin bar. Not only is cork quiet, warm and comfortable underfoot; it is resilient and non-slippery, even when polished. The Armstrong's Cork Tiles were, of course, manufactured from only pure cork granules, and their cellular structure makes them extremely hardwearing. Their warm tones are quite permanent, and with simple care the flooring will stand up to a lifetime of heavy traffic. Prominent Architects, with many flooring materials at their disposal, repeatedly specify Armstrong's Cork Tiles for Hotels, Libraries, Hospitals, Showrooms, Offices and similar important undertakings. Cost is surprisingly low.

Armstrong CORK TILE flooring



"VITROLITE" gleams with matchless beauty—as permanent as it is hygienic. Because they are inherent in the glass, and not just applied to it, the colours never fail or wear off, and the smooth, fire-finished surface never crazes or loses its bright sheen. "Vitrolite" has many uses, and wherever it is used it brings beauty—to stay.

The colours are

GREEN, GREEN AGATE, PRIMROSE,
TURQUOISE, EGGSHELL, CREAM, PEARL
GREY AND IVORY, AS WELL AS BLACK
AND WHITE.

P I L K I N G T O N B R O T H E R S L I M I T E D



CONSULT THE TECHNICAL SALES AND SERVICE DEPARTMENT AT ST. HELENS, LANCs. (TELEPHONE: ST. HELENS 4001), OR SELWYN HOUSE, CLEVELAND ROW, ST. JAMES'S, LONDON, S.W.1 (TELEPHONE: WHITEHALL 5672-6). SUPPLIES ARE AVAILABLE THROUGH THE USUAL TRADE CHANNELS. "Vitrolite" is a registered trade mark of Pilkington Brothers Limited.



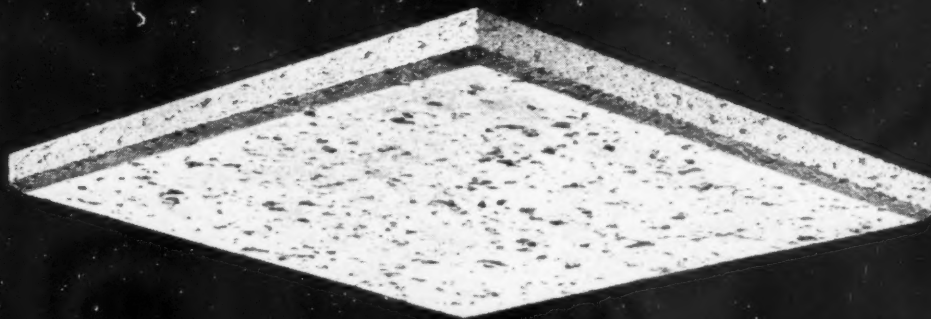


D



V.2

NEW: the first fissured tile in the country
... and it won't burn




GYPTONE acoustic tile

... so light it can be stuck

HIGH SOUND ABSORPTION	Sound Absorption Coefficients at frequencies (c.p.s.)					
	125	250	500	1000	2000	4000
	GYPTONE Tiles on Battens (N.P.L.)	0.15	0.40	0.70	0.80	0.85
GYPTONE Tiles stuck to background (assessed)	0.10	0.30	0.60	0.75	0.85	0.90
FIRE PROTECTION	TOTALLY INCOMBUSTIBLE: Surface Spread of Flame CLASS I					
THERMAL INSULATION	Thermal conductivity $k = 0.40$					

GYPROC PRODUCTS LIMITED

Head Office: Singlewell Road, Gravesend, Kent. Telephone: Gravesend 4251-4. Telegrams: Gyproc, Gravesend.
Glasgow Office: Gyproc Wharf, Shieldhall, Glasgow, S.W.1. Telephone: Govan 2141-3. Telegrams: Gyproc, Glasgow.
Midland District Sales Office: East Leake, Loughborough, Leics. Telephone: East Leake 231.
London Office: Bath House, 82 Piccadilly, London, W.1. Telephone: Grosvenor 4617-9.



ZYLEX and ASTOS

Keep a building warm and dry between them

ZYLEX Slaters' Felt

is a high-quality, bituminous felt with exceptional heat-insulation properties. It keeps warmth in, and draughts and weather out. In two grades: **Reinforced**, with a base of closely woven hessian, and exceptionally strong. Can be stretched directly over open rafters—saving the cost of a boarded roof. **Standard**, for boarded roofs, makes a clean, waterproof membrane under slates or tiles.

ASTOS

Asbestos Dampcourse

is the 100 per cent. permanent dampcourse, an impervious and imperishable barrier against rising damp. Composed of asbestos fibre and bitumen, it is capable of withstanding normal foundation settlement without risk of failure. Complies with B.S.S. 743/1951. In two grades: **Standard** and **Leadlined**.

Well insulated above and protected from rising damp below, a building stays warm and dry longer. There is no more certain way of guaranteeing this protection than by specifying ZYLEX Slaters' Felt and ASTOS Asbestos Dampcourse—two Ruberoid products for two important positions.

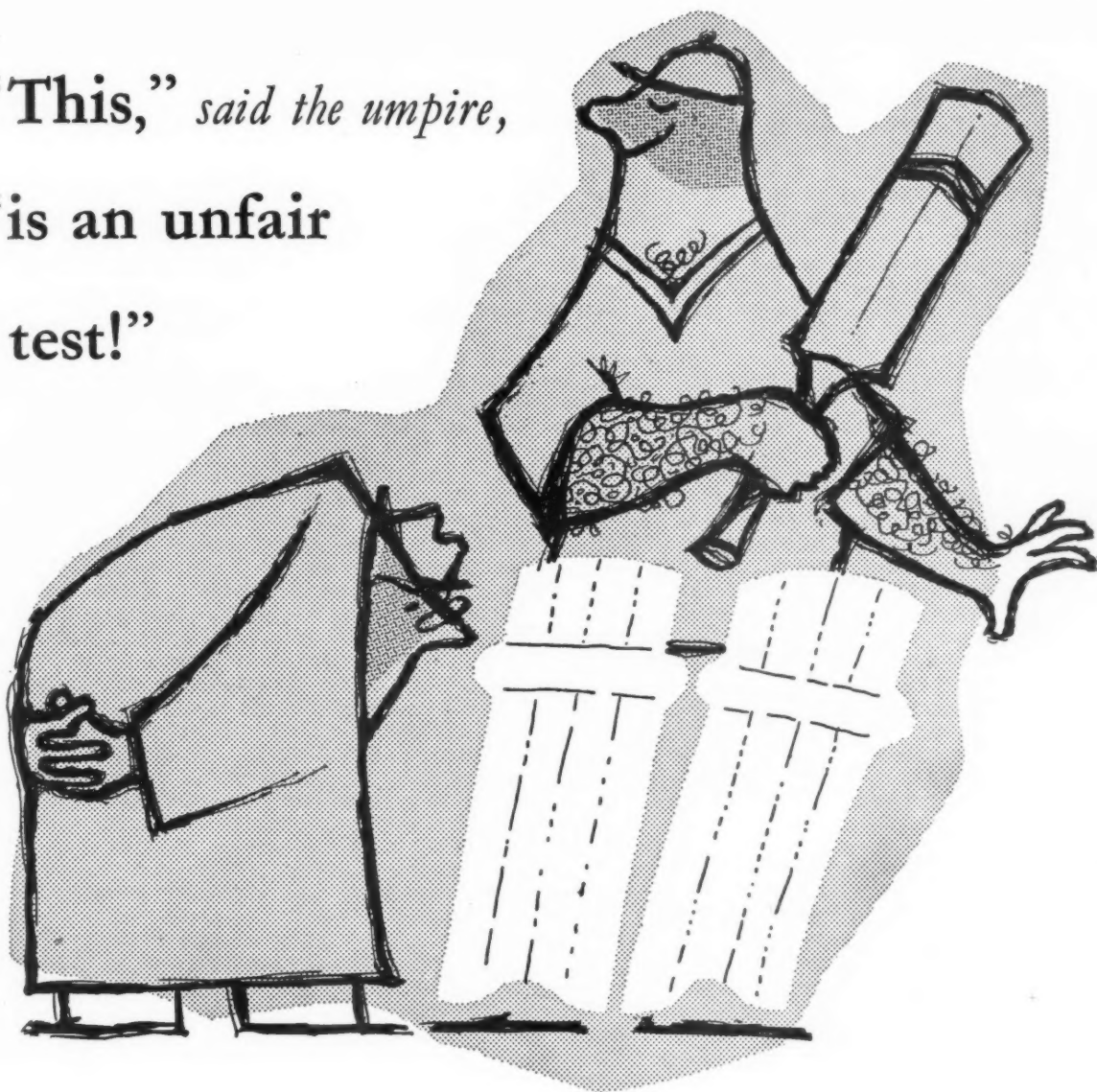
The reliable, tested qualities of these two products make all the difference to the effective protection of buildings. Many architects and builders, all over the world, make a point of specifying ZYLEX and ASTOS by name, to be absolutely sure of having the best materials. Make sure of the very best protection for that building of yours—specify ZYLEX Slaters' Felt and ASTOS Asbestos Dampcourse.

Further details, together with samples, will be gladly sent on request.

**THE
RUBEROID
COMPANY LIMITED**

2 COMMONWEALTH HOUSE
1-19 New Oxford Street, London, W.C.1

"This," said the umpire,
"is an unfair
test!"



From the first ball of the season to the last, the pads that protect the cricketers of a Home Counties club would do credit to a soap advertisement.

Yet they are whitened only once a year. Stains and ball marks wipe off time and time again.

The secret is that someone has discovered yet another unofficial use for Pammastic.

The best Emulsion Paint in the world, Pammastic is not of course intended for cricket pads. But this successful misapplication—'not out' after two seasons—demonstrates a point or two of importance:

Pammastic is tough, long-standing and scrubbable, and can be used *outside* as well as in, on almost any surface.

Furthermore, it needs no primer or undercoat, and dries in an hour with a fine matt finish.

Additional information as to the properties of Pammastic—and its notable complementaries,

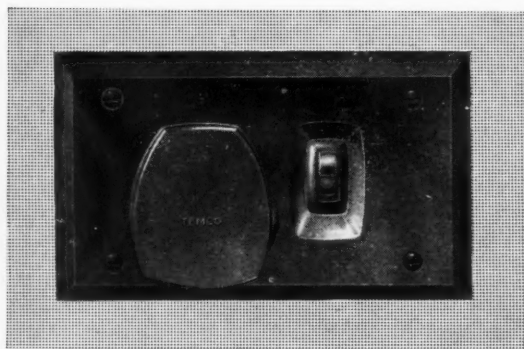
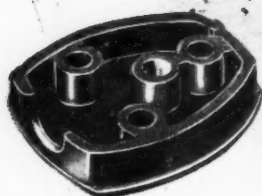
Pammel (the luxury gloss finish), Pammelette (superfine Eggshell finish)

and Pammatt (the superfine flat finish)—is available on request.

BLUNDELL PAINTS

BLUNDELL, SPENCE & CO. LTD., YORK HOUSE, 37 QUEEN SQUARE, LONDON, W.C.1

*Right at
every point*



HOW GOOD? TEMCO A.C. Switch Sockets conform to British Standards and I.E.E. Wiring Regulations. They are small, pleasing in appearance and are designed to give long and reliable service.

HOW EASY TO WIRE? Try for yourself and remember too that Heat Resistant Back Plates for the Surface Types are available to form an enclosure for the Cable Sheath.

HOW MUCH? Not nearly so much as their superb quality would lead you to think. The low cost of TEMCO accessories is proof indeed that the best is really the cheapest.

TEMCO

A.C. SWITCH SOCKETS & PLUGS

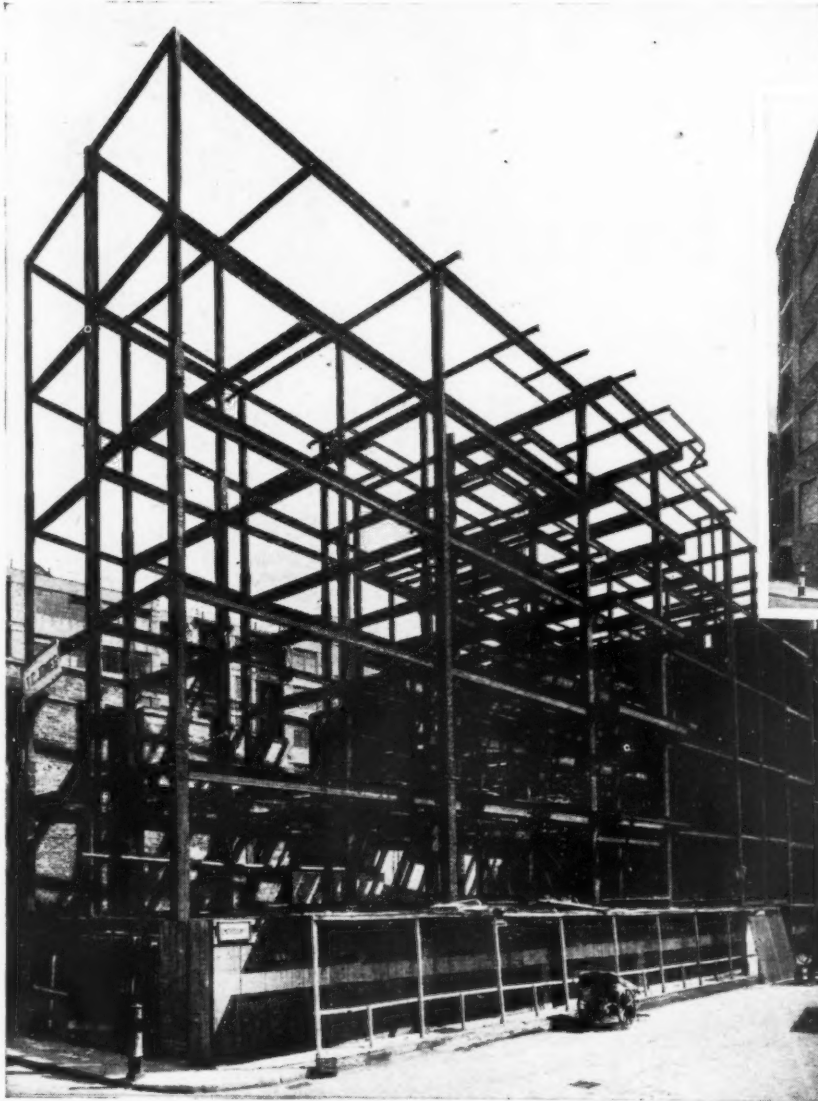
Please write for our fully illustrated catalogue

Manufactured by

TELEPHONE MANUFACTURING CO. LTD

and Marketed by their Sales Organization:

T.M.C.-HARWELL (SALES) LTD, 37 Upper Berkeley St, London W1 • Tel: PADdington 1867/9



Rebuilding after bomb damage of
Benbow Wharf, Bankside, London, S.E.1
for Messrs Beck & Pollitzer Ltd.

Architect: J. Roworth Hill, Esq. F.R.I.B.A.
Contractor: Beck & Pollitzer Contracts Ltd.

STEELWORK

by

T.C. JONES

AND COMPANY LIMITED

WOOD LANE, LONDON, W.12

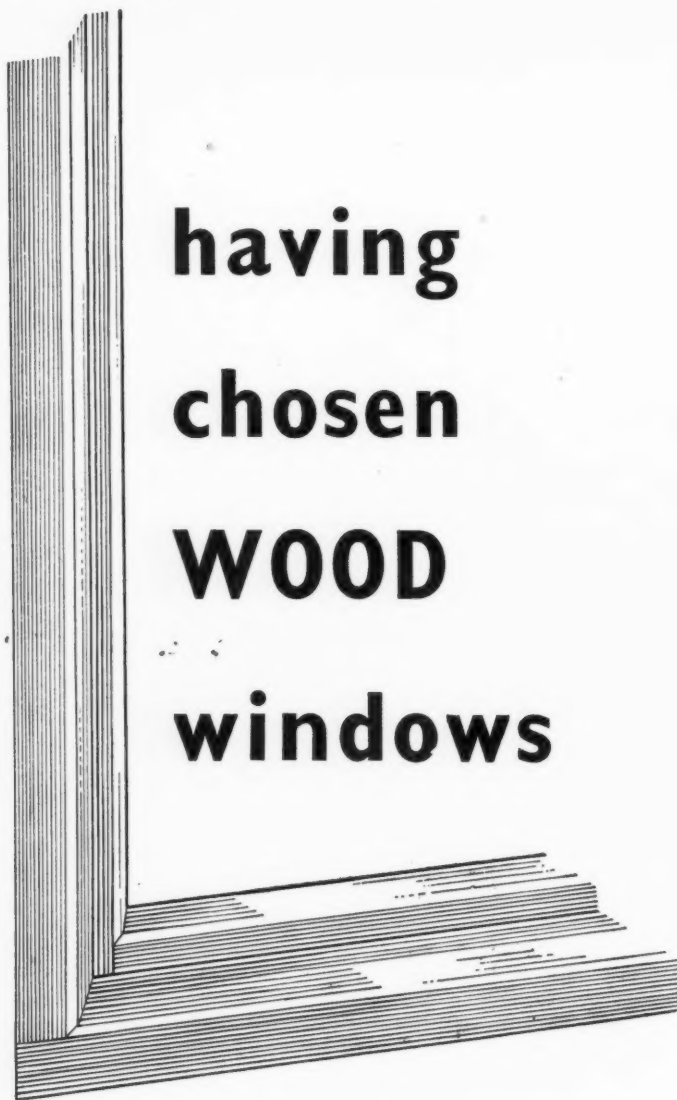
Bute Street, Cardiff. Tel: Cardiff 28786

55 JS 47



Tel: SHEPHERDS BUSH 2020

Treorchy, Glamorgan. Tel: Pentre 2381



having chosen **WOOD** windows

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



SHARP BROS. & KNIGHT LTD.

Head Office and Works :
BURTON-ON-TRENT

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



3 Staffordshire buildings

ROOFED WITH
WHEATLY



triton

MEDIUM BRINDLED PANTILES

Specimens of Wheatly burnt clay products may be seen at the Building Centre, London. They include Single-lap Roofing Tiles, Ridge Tiles (blue and red), Floor Quarries, Air Bricks and Briquette Fireplaces.

WHEATLY & COMPANY LIMITED

SPRINGFIELD TILERIES · TRENT VALE · STOKE-ON-TRENT

Telephone: NEWCASTLE (Staffs) 66251 Telegrams: WHEATLY, TRENTVALE



1. Ambulance Station, Newcastle-under-Lyme.
2. Nursery at Rotherwood, Stafford.
3. Ambulance Station, Kingswinford.

WH77

FRANKIPILE

FRANKIPILE

if you have

FRANKIPILE

a foundation

FRANKIPILE

problem

Illustrated booklets of technical information will be forwarded on request

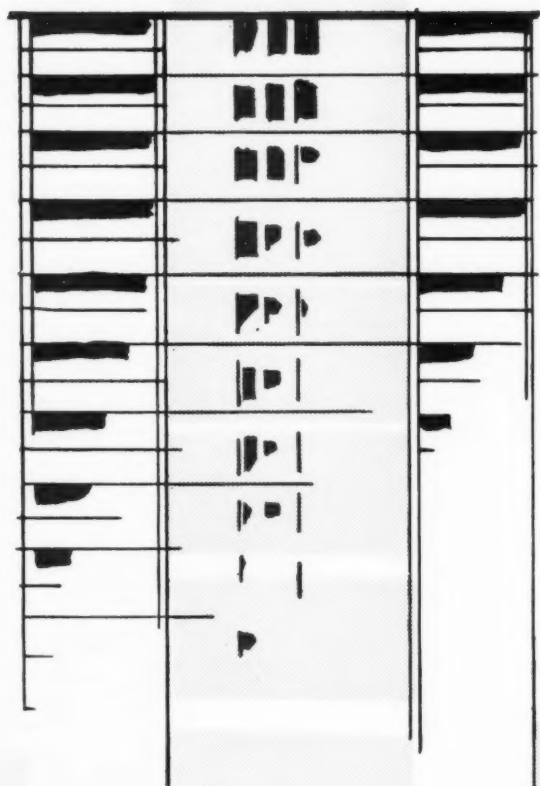
FRANKIPILE

THE FRANKI COMPRESSED PILE CO. LTD. • 39 VICTORIA ST LONDON SW1 • FRANKIPILE SOWEST LONDON
AND IN AUSTRALASIA • BRITISH WEST INDIES • IRAQ • RHODESIA • S. AFRICA

E

quest



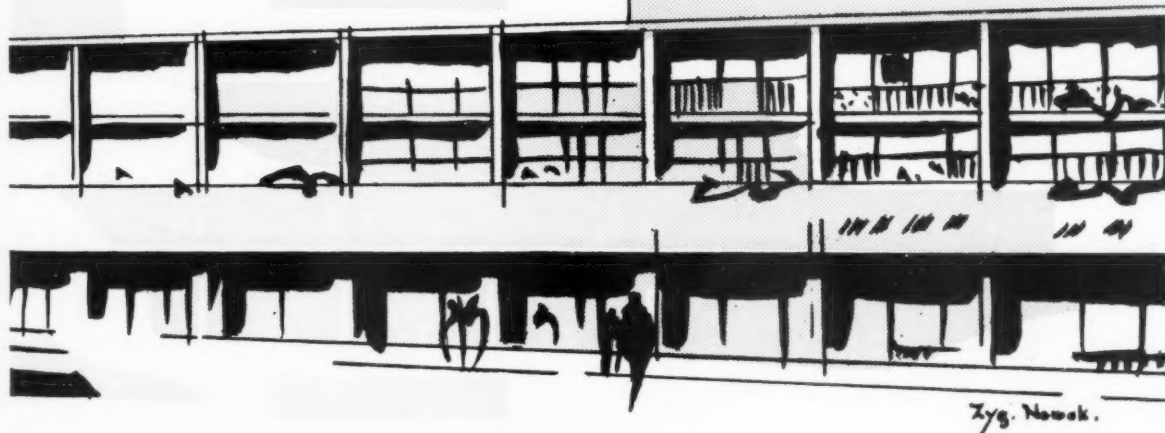


UNIT

*Are applying their wide experience
to present day building needs.*

CROSS-WALL CONSTRUCTION
CURTAIN WALLS
PRESTRESSED FLOORS
LIGHT PARTITIONS
MECHANICAL HANDLING
PREPLANNING
WORK STUDY
MODULAR CO-ORDINATION

Are helping to lower costs.



**THE UNIT CONSTRUCTION CO. LTD. BUILDING & CIVIL ENGINEERING CONTRACTORS
34 ST. JAMES ST. LONDON S.W.1. AND LIVERPOOL AND BELFAST.**

Canadian DOUGLAS FIR

pleasing appearance

easily worked

superior strength

one of the best known and most popular timbers in the world for heavy structural purposes and a wide range of other uses.



Some Special ADVANTAGES

- obtainable in large dimensions
- durable and decay resisting
- weathers evenly without checking, splitting or warping
- can be quickly and uniformly dried
- holding power of nails is high
- fine surface for paints, stains and varnishes
- has good glueing properties
- offers strong resistance to acid
- has remarkable beauty of grain recognised for its exceptional strength properties

TYPICAL USES

Heavy structural timber, piling, ship-building, masts, telephone poles, mine timbers, tanks and silos, railway sleepers, barges, doors and millwork, lath, furniture, cisterns, dock and harbour works, highway bridges, guard railings, etc.

FOR FURTHER INFORMATION concerning Canadian woods contact *The Commercial Counsellor (Timber), Canada House, Trafalgar Sq., London, S.W.1.*

WOOD ...

nature's best building material

Reproduced here is figure of Canadian Douglas fir.

This advertisement is one of a series featuring Canadian Spruce, White Pine, Western Red Cedar, Red Pine and Pacific Coast Hemlock.

T.I.M. - 2

CONCRETE CONTRIBUTIONS BY TWISTEEL



12-Storey Flats, Old Street, Finsbury. Architect: Joseph Emberton, F.R.I.B.A. Contractors for Reinforced Concrete: Holland & Hannen & Cubitts Ltd.

To make sure of the highest standards in concrete design and construction, at the lowest cost in steel, money and time, call in the TWISTEEL Design Service. Their specialist knowledge, backed by many years of practical experience, enables them to advise architects and engineers, with certainty, on every aspect of design and planning for every type of construction involving the use of reinforced concrete: and they can also supply the reinforcement.

TWISTEEL DESIGN SERVICE

43 UPPER GROSVENOR STREET, LONDON, W.1 • TELEPHONE: GROSVENOR 1216

AND AT BIRMINGHAM

MANCHESTER

GLASGOW

BRIGHTSIDE

CONDITIONED COMFORT....



THE CAMBRIDGE HOTEL · SOUTHSEA

*Architect: K. Hornsey, Esq., L.R.I.B.A.,
of Portsmouth & Brighton Breweries, Ltd.,
King Street, Portsmouth.*



The main entrance and principal rooms of this hotel are heated by low-temperature embedded panel coils in the floors or ceilings, supplemented by skirting heaters and recessed convectors with fresh air inlets. Cast-iron boilers, with automatic firing, feed the skirting heaters and convectors and provide a separate low-temperature system through a calorifier for the embedded panels.

Ventilation is by means of a system of extract ductwork in the false ceiling over the bar. There is a complete direct hot water supply system, from a separate boiler with an automatic stoker.

THE BRIGHTSIDE HEATING & ENGINEERING CO. LTD. SHEFFIELD

(Subsidiary of The Brightside Foundry & Engineering Co., Ltd.)

BELFAST, BIRMINGHAM, BRADFORD, BRISTOL, EDINBURGH, GLASGOW, LIVERPOOL, LONDON, MANCHESTER, NEWCASTLE, PORTSMOUTH

BP55

*Developed by C.A.S.
(Industrial Developments) Ltd.
Contractors: C.A.S.
(Contractors) Ltd.
Architects: Llewellyn Smith & Waters,
Chartered Architects*



PATENT GLAZING SPECIFICATIONS

DOUBLE PATENT GLAZING AT NEW S.P.D. DEPOT, PERRY BARR, BIRMINGHAM

The main problem at the new S.P.D. Depot at Perry Barr, Birmingham, was to provide a roof covering which would ensure the minimum amount of temperature fluctuation inside the building throughout the year.

To meet this condition, double patent glazing with two layers of $\frac{1}{4}$ " glass was specified. This prevents excessive build-up of heat in the summer while providing very effective insulation from the lower external winter temperatures.



ISSUED BY THE PATENT GLAZING CONFERENCE BURWOOD HOUSE, CAXTON STREET, LONDON, S.W.1



CONSTRUCTED OF RESIN BONDED PLYWOOD

provide the answer to the steel shortage

**these are some of
their advantages**

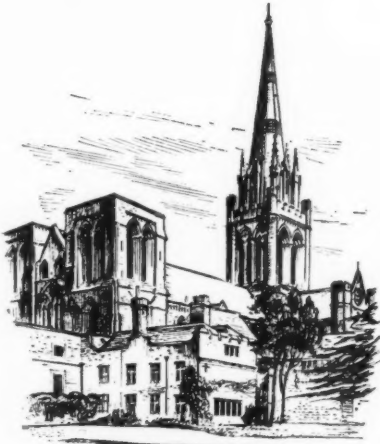
LIGHT AND EASY TO HANDLE. SIMPLE AND QUICK TO ERECT
SUITABLE FOR FIXING TO ANY TYPE OF WALL CONSTRUCTION
NEAT AND ATTRACTIVE IN APPEARANCE
READY FOR IMMEDIATE DECORATIVE TREATMENT
AVAILABLE IN SPANS UP TO 40' 0"

Standard Aero Beams are designed in accordance with C.P.112 to carry a maximum all-up load of 425 lb. per foot run. Beams can be supplied to any reduced load required. They can be used in conjunction with any lightweight roofing materials.

Full details and prices will gladly be given on request.

SECO LIMITED. 11 UPPER BROOK STREET, PARK LANE, LONDON W1. Phone : MAYFAIR 9080

COPPER



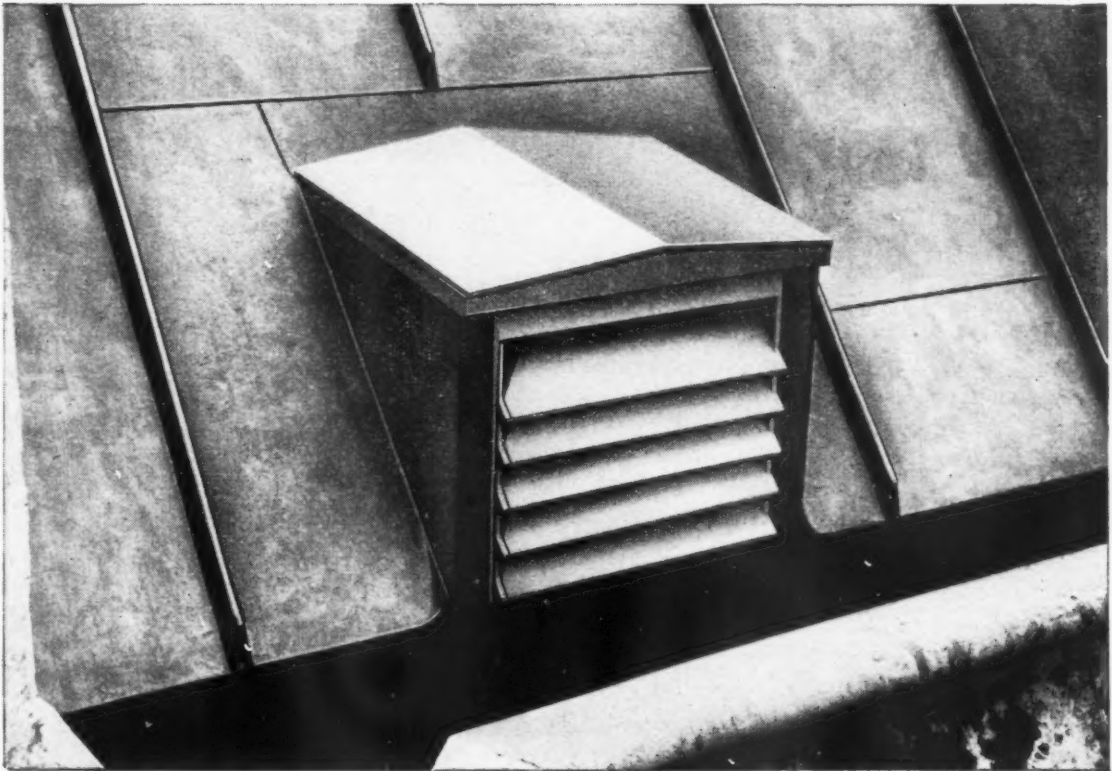
West front, Chichester Cathedral

makes a good job better

Roofings, flashings, damp-proof courses, gutters, and all pipe installations, are more durable and more attractive when made in copper.

The phenomenal length of life and the ease with which copper can be worked have long established its value as a building material. Copper roofing is not liable to creep; is light in weight, neat and highly resistant to fire; and the death watch beetle does not thrive under copper.

The attractive patina which forms on copper enhances the appearance of a building.

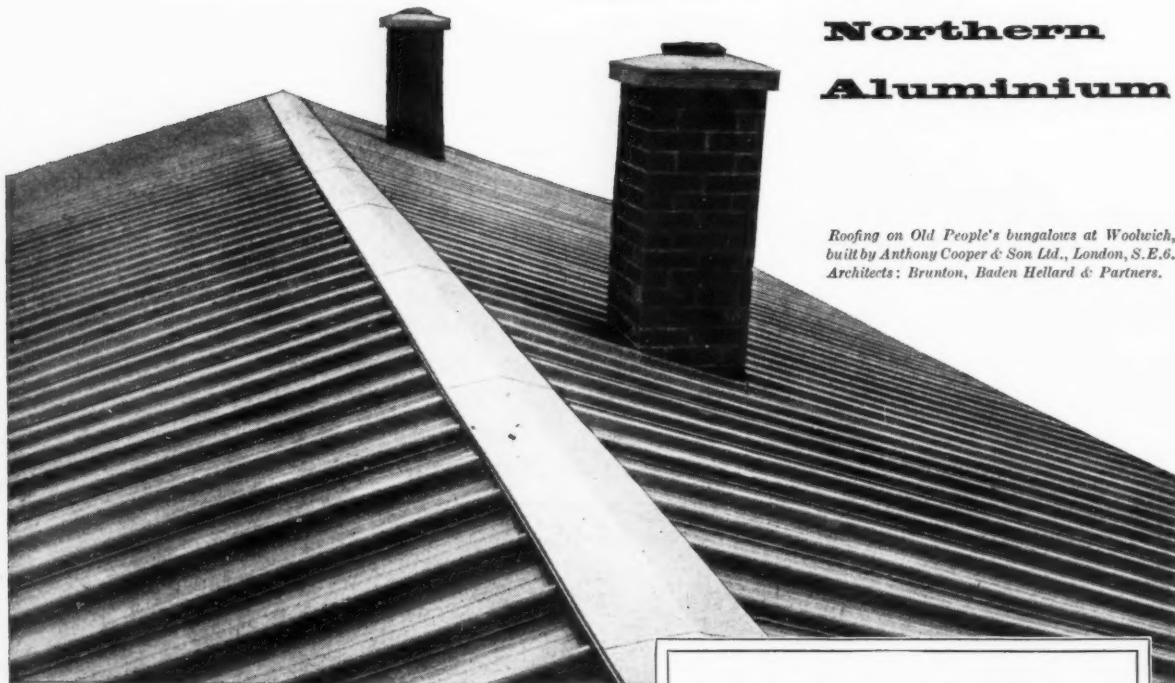


COPPER DEVELOPMENT ASSOCIATION

KENDALS HALL • RADLETT • HERTS • RADLETT 5616

TGA 856

Noral Snaprib Sheet is here used to roof three Old People's Bungalows at Woolwich. The building is sponsored by the British Plaster Board (Mfg.) Ltd., to show how non-traditional materials may be used for comfortable dwellings, quickly erected at low cost—with the help of



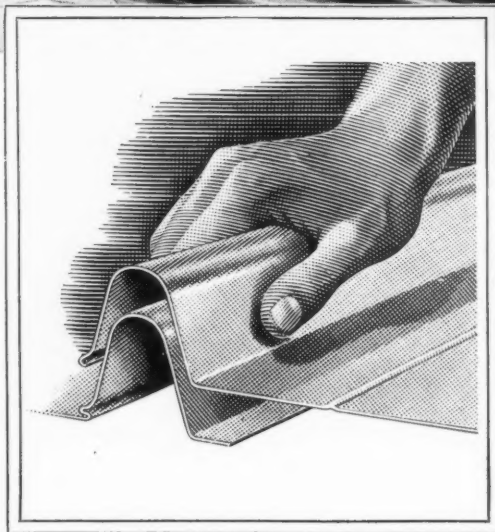
Northern Aluminium

Roofing on Old People's bungalows at Woolwich, built by Anthony Cooper & Son Ltd., London, S.E.8. Architects: Brunton, Baden Hellard & Partners.

Snaprib in Service

Using Noral Snaprib for this roof has brought considerable advantages in erection and service. With no external fastenings and no end laps, a leak-proof, low-pitched roof was possible, saving structural and insulating materials, while the simplicity of the fastening technique saved valuable erection time. Being of aluminium it is light—purlins give all the support required—and will have a long life. Adding to its good appearance is the light grey 'Pyluminized' finish, one of several in which Snaprib is supplied.

The 'Snaprib' system is fully covered by patents held by Cookson Sheet Metal Developments Ltd.



Northern Aluminium C O M P A N Y L I M I T E D

BIRMINGHAM
14 Bennetts Hill, Birmingham 2. Telephone: Midland 5236
BRISTOL
Peloquin Chambers, 18 St. Augustine's Parade, Bristol 1. Telephone: 20351
MANCHESTER
23 Princess Street, Manchester 2. Telephone: Central 9335
NEWCASTLE UPON TYNE
Groat House, Collingwood Street, Newcastle upon Tyne 1. Telephone: 20878

LEEDS
26-27 Park Row, Leeds 1. Telephone: 33621
LONDON
Bush House, Aldwych, W.C.2. Telephone: Temple Bar 8430
• LUTON
57 Bute Street. Telephone: 7364-5
• SOUTHAMPTON
16 Cumberland Place. Telephone: 25425

An ALUMINIUM LIMITED Company



FILLEX

Dockers new general
purpose filler
(ready mixed)



1 Fillex being applied over brickwork

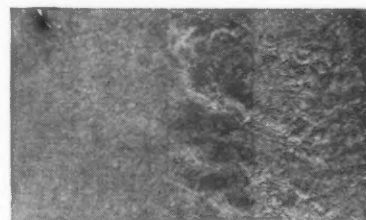
Here is a NEW general purpose filling compound, designed specially for the decorator.

FILLEX, which is supplied in ready-for-use paste form, can be used for filling in cracks in plaster and for skimming rough surfaces. It is suitable for most surfaces other than wood or metal.

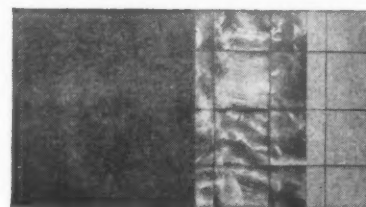
FILLEX

- is suitable for INSIDE and OUTSIDE work.
- has exceptional adhesive properties and can even be used on glazed tiles to produce a smooth surface for painting.
- has excellent keeping qualities (but should be protected from frost).
- is supplied in 4 lb. and 16 lb. tins.

PRICE: 4 lb. tins at 1/6 per lb.
16 lb. tins at 1/3 per lb.



2 Fillex being applied over textured paint surface



3 Application of Fillex to tiled surface

After **FILLEX**
finish off with...



DOCKERLUX
The finest Gloss
Paint in the
world.



OR **VYDOK**
The perfect
Emulsion Paint
in matt and
eggshell
finishes.



DOCKER BROTHERS LADYWOOD, BIRMINGHAM 16 • LONDON SHOWROOMS: 17 BERNERS STREET W.1



Architects : Messrs.

Wood Goldstraw & Yorath

Tunstall, Stoke-on-Trent.

CERAMIC TILES THE OBVIOUS CHOICE FOR A MODERN STAIRCASE

First impressions are important —

say 'Welcome' in your entrance hall with Ceramic wall and floor tiles.

A good beginning — impressive to the end.

Ceramic

T

I

L

E

S

Glazed & Floor Tile Manufacturers' Association • Federation House • Stoke-on-Trent

s.
Yorath
-Trent.

-Trent

LET'S GET HEATED, GENTLEMEN!

It's infuriating to have all one's beautiful ideas on interior decoration ruined by ugly, old-fashioned heating equipment. It's equally infuriating to the owner to have the newly decorated walls disfigured with dirty streaks.



The solution is simple. Specify 'Copperad' Convectors. They will adequately warm offices, showrooms, private houses and flats without in any way detracting from the appearance.

Simply and beautifully designed, 'Copperad' Convectors are thoroughly efficient and require the minimum of attention.

*May we tell you more
about Copperad Convectors?*

Copperad

HEATING

the first name in heating and ventilating

Copperad Limited HEAD OFFICE & WORKS: COLNBROOK, BUCKS.

Telephone: Colnbrook 521 (6 lines)

Telegrams: Copperad, Colnbrook

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

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

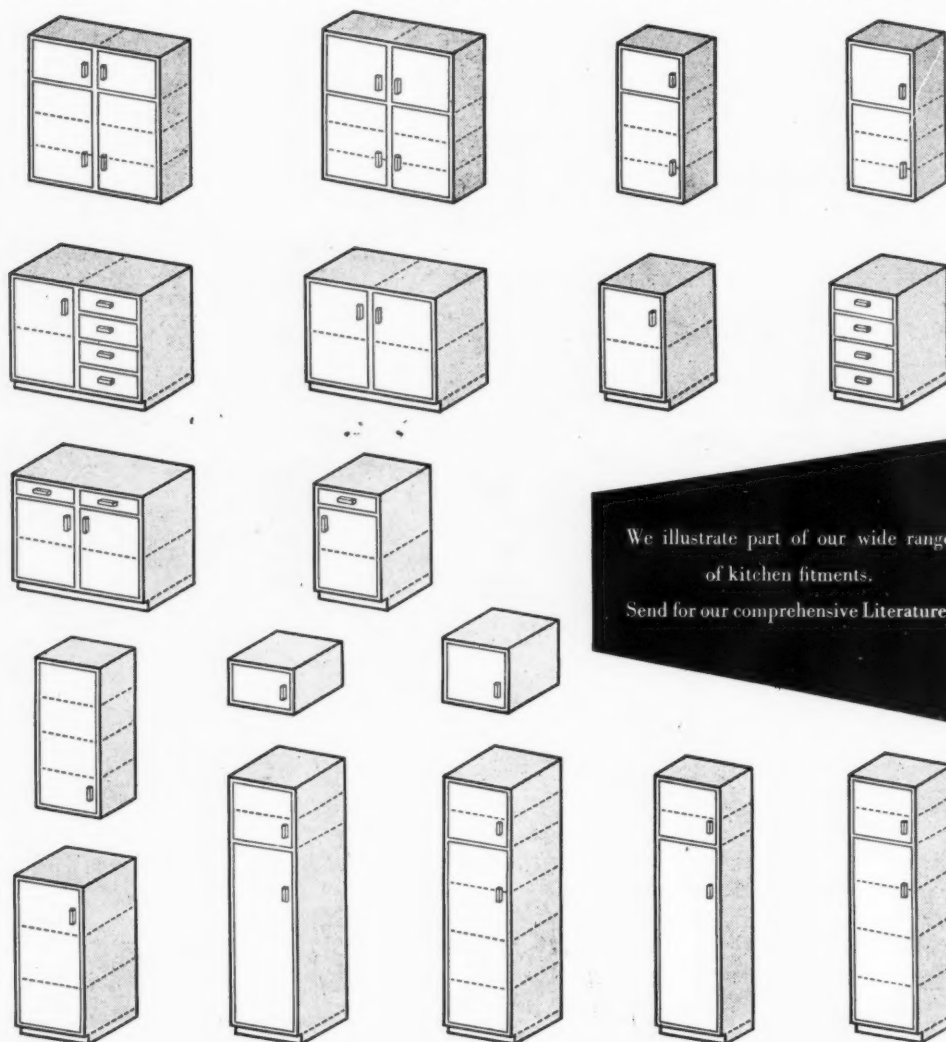
Birmingham Office:
1/7 Corporation Street,
Birmingham, 4
Telephone: 1
MIDland 1553

**Welsh &
South Western Office:**
Chesterfield Chambers,
Westbourne Place,
Queens Road, Clifton, Bristol, 8
Telephone: Bristol 3.3883

Representatives at:
BELFAST · MANCHESTER
LEEDS · NOTTINGHAM
NEWCASTLE-ON-TYNE
Also at: AUCKLAND (N.Z.)
JOHANNESBURG · LISBON
BRUSSELS · TORONTO
MELBOURNE

STANDARD KITCHEN UNITS

with a quality guarantee



We illustrate part of our wide range
of kitchen fitments.
Send for our comprehensive Literature.

QUALITY STANDARD JOINERY by

Windows, Doors, Stairs, Kitchen Fitments etc.

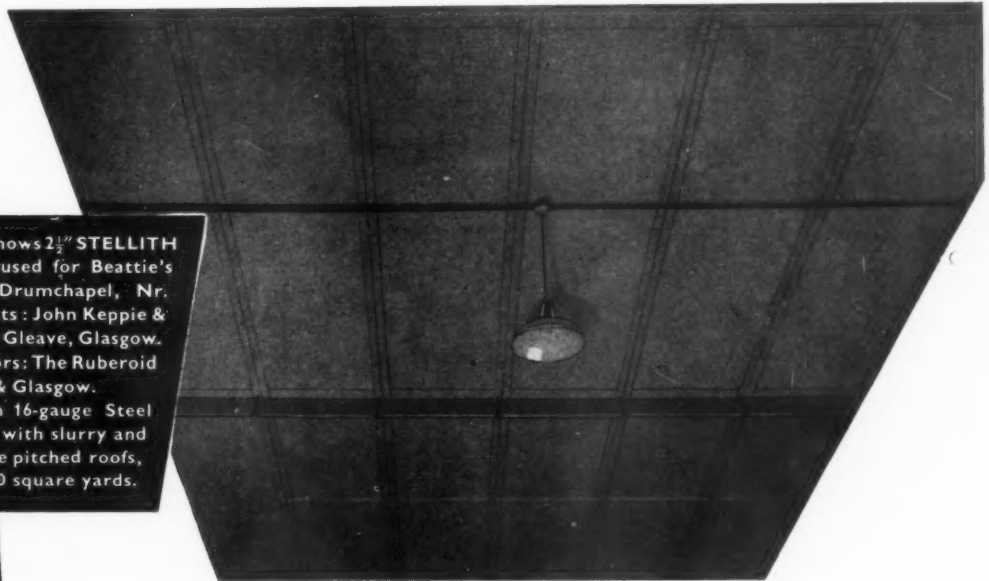
**BOULTON
AND PAUL**

BOULTON & PAUL LTD., RIVERSIDE WORKS, NORWICH

STELLITH reach a new ceiling in Wood Wool Slabs

INTRODUCING STELLITH COMPOSITE SLABS WITH SMOOTH SOFFIT

This photograph shows 2½" STELLITH Composite Slabs used for Beattie's Biscuit Bakery, Drumchapel, Nr. Glasgow. Architects: John Keppie & Henderson & J. L. Gleave, Glasgow. Roofing Contractors: The Ruberoid Co. Ltd., London & Glasgow. The Slabs, laid in 16-gauge Steel Tees and covered with slurry and felt roofing for the pitched roofs, covered over 1,500 square yards.



This special slab is for contracts where a smooth soffit is required, saving the cost of plastering and providing a smooth ceiling surface where any kind of decoration can be applied.

The new slabs can be supplied in 2½" or 3" thicknesses, consisting either of 2" STELLITH faced with ½" Insulation Board, or of 2½" STELLITH faced with ½" Insulation Board.

STELLITH Composite Roofing Slabs can be supplied with Channel Reinforcement for the 3" type or Unreinforced for both thicknesses.

Standard sizes:

6', 6' 8", 7' and 8' 3" x 2' for Unreinforced Slabs and 6', 6' 8" and 7' x 2' for Channel Reinforced Slabs.

 **STELLITH**

wood wool slabs and channel reinforced roofing slabs

STELLA BUILDING PRODUCTS LTD., TUDOR AVENUE, NORTH SHIELDS, NORTHUMBERLAND
Telephone: North Shields 1474/5

Telegrams: STELLITH, North Shields

IN THE INTERESTS OF
SPACE ECONOMY
TIME KEEPING
PREVENTION OF DAMAGE
ORDERLINESS
HOUSE PRESTIGE

CONSTRUCTORS

Regd. Trade Mark

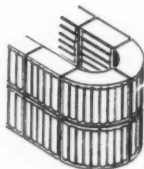
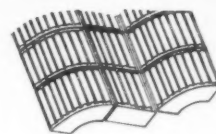
CYCLE PARKS

CONSTRUCTORS GROUP
Tyburn Road, Birmingham 24. Tel. *ERDington 1616
London Office: 98, Park Lane, W.1 Mayfair 3074
And at Manchester, Leeds, Bournemouth and Leicester

To park the largest number of cycles in the smallest possible space, install a Constructors cycle park. There are over thirty models for pedal and motor cycles. They meet the diverse needs of factories, offices, schools, cinemas, railway stations and other public places, outdoors or in, where space is at a premium. Write for illustrated catalogue No. AJ/201 which gives full specifications.

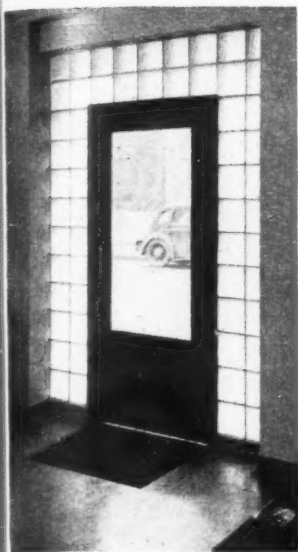
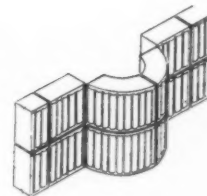
IDEAS

spring from H O L L O W

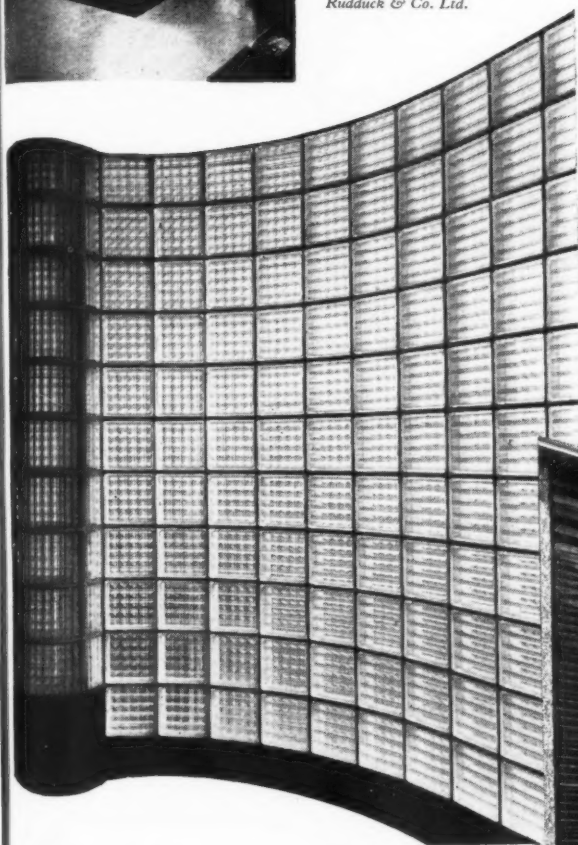


GLASS

B L O C K S



Messrs. Odells,
King St., W.1.
Architects: Kenchington
& Farns, F/A/A.R.I.B.A.
Contractors:
Rudduck & Co. Ltd.



Hollow Glass Blocks at
Victoria Coach Station, S.W.1.

Note application of corner blocks to form column.

Architects: Elliott, Cox & Partners, F.R.I.B.A. Contractors: Higgs & Hill Ltd.

INDIVIDUALLY attractive in design, cleanly translucent and readily adaptable to pattern and form, 'Insulight' Hollow Glass Blocks are almost boundless in their possibilities.

In addition to their everyday use for Windows, Borrowed Lights, Partitions and Staircase Treatments, they are effectively employed for Shopfronts, Counter and Bar Fronts.

Further applications include:—

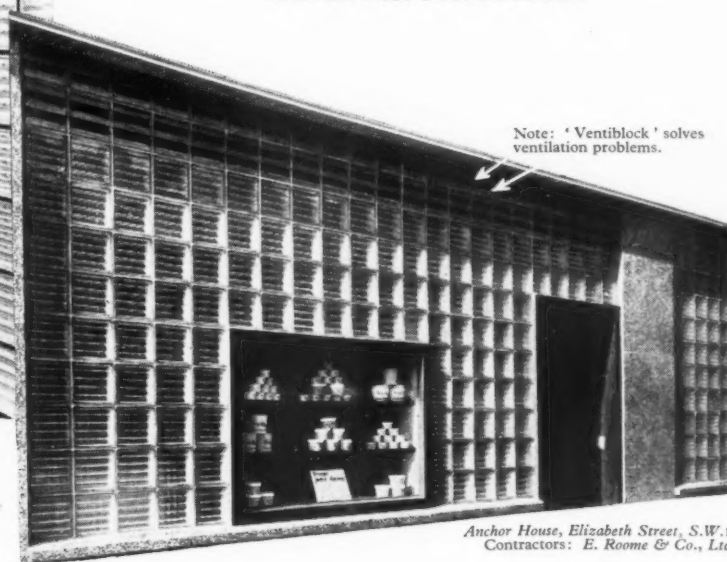
Ornamental Plinths, Stallboards, Columns and Pilasters, Architraves, Door Surrounds, Foyer Enclosures, Display Units, Exhibition Stands, etc.

Remember also that hollow glass blocks provide sound and heat insulation, and whilst admitting light ensure privacy. They need no maintenance and because of the hygienic qualities of glass are widely used where aseptic conditions are essential.

VENTILATION can be provided and symmetry preserved with the Clark-Eaton All-Glass 'Ventiblock'.

Complete installations undertaken by our skilled craftsmen.

PLEASE ASK FOR BOOKLET



Note: 'Ventiblock' solves ventilation problems.

Anchor House, Elizabeth Street, S.W.1.
Contractors: E. Roome & Co., Ltd.

JAMES CLARK & EATON LTD.

SCORESBY HOUSE, GLASSHILL STREET, BLACKFRIARS, LONDON, S.E.1.
Telephone: WATERloo 8010 (20 lines)



CANTERBURY: Orchard Street. Telephone: 5387 (2 lines)
EASTBOURNE: Waterworks Road. Telephone: 3980 (2 lines)
OXFORD: (H. Hunter & Co.), 6, Hockmore Street, Cowley. Telephone: Oxford 77455

BOURNEMOUTH: Kemp Road, Winton. Telephone: 280 (2 lines)
READING: Basingstoke Road. Telephone: 81681 (2 lines)

SEE OUR
EXHIBIT
AT THE
BUILDING
CENTRE



New Self-Service Food Hall, Bradwell, Newcastle-under-Lyme for Silverdale Cooperative Society Ltd.
Architects: Messrs. Hollins, Jones & Oldacre; Newcastle-under-Lyme.
General Contractors: Messrs. Joseph Jones Ltd.

Floors in

RICHARDS

CERAMIC MOSAIC

The most durable and dignified of all floor and wall finishes, Richards ceramic mosaic offers endless variety of design and colour. It is frost resistant and constitutes an ideal exterior material. Special non-slip surfaces are available.
(Mosaic Catalogue A.J. 63)

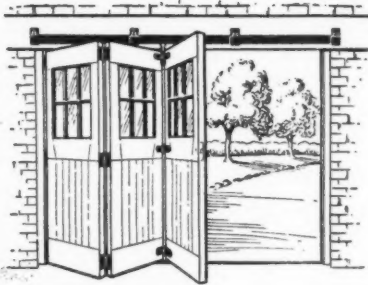
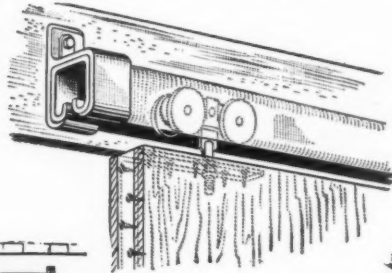
We are always pleased to welcome architects to our factories and to our London showrooms and the profession is invited to make full use of our Drawing Office and Design staff for any tiling project.

RICHARDS TILES LTD

Factories: TUNSTALL, STAFFORDSHIRE (Stoke-on-Trent 87215)

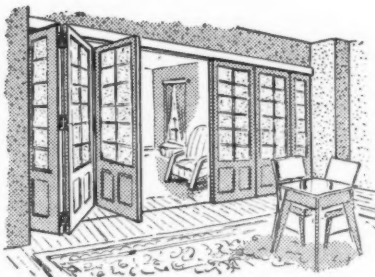
London Office and Showrooms: Grand Buildings, Trafalgar Square, W.C.2. (Whitehall 2488 & 8063).

SPECIFY THE ORIGINAL AND BEST SLIDING DOOR GEAR COBURN SYSTEM



END HUNG VEE GEAR

is used for exterior and interior folding and sliding doors and screens and is especially suitable when side walls may not be used. The example shown is our No. 197 VEE gear.

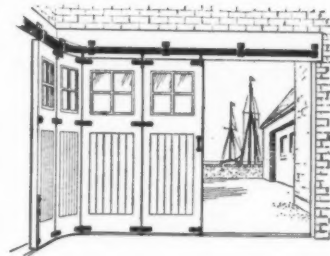


CENTRE HUNG VEE GEAR

is very suitable for interior use in private residences and public rooms. On the No. 600 VEE gear shown, the fittings are not visible on either face of the leaves.

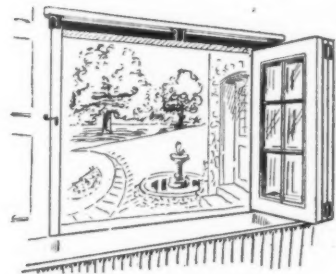
Before commencing joinery for "Vee" Gear, application should be made to us for formula drawings to enable correct leaf widths to be ascertained.

Write for drawing, catalogues, questionnaire and advice:—



ROUND-THE-CORNER GEAR

is ideal for use in garages and similar buildings. Our range varies from the lightest door size to a type suitable for bus garages.



WINDOW GEAR

as shown above is particularly suitable for any building where a maximum amount of fresh air is needed.

ALL COMPONENTS ARE OBTAINABLE FROM BUILDERS' MERCHANTS

The **BRITISH TROLLEY TRACK CO. LTD. COBURN WORKS · COPPERFIELD ST.**
LONDON · S.E.1.

Telephone: WATERLOO 4311 (3 lines), Private Branch Exchange.



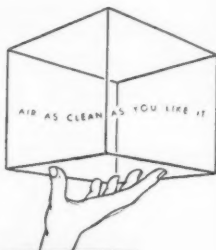
* OPERATION CLEANLINESS

Supplying clean air to the most stringent, or the most modest, specification, is a major part* of our business. For every need—medical, scientific, industrial, commercial, domestic—we can supply the right type of filter from our very wide range.

The combined experience and resources of ACI and our associates, American Air Filter Co. Inc., have produced the most comprehensive range of air filtering equipment available from any one single source.

That experience and those resources are yours—in full; why not get in touch with our nearest branch?

* We are specialists in every form of air treatment—and in harnessing air to work for industry.



ACI LTD.

Air Control Installations Limited

Ruislip, Middlesex.		Ruislip	4066 (8 lines)
London	Birmingham	Manchester	Glasgow
Welbeck	Midland	Central	Whitley Bay
1306	1185 & 1367	0679 & 0670	2304
			Central 2923



For smokeless **HEAT**

Anticipating the Nation's demand for clean air, the Area Gas Boards work unremittingly to make constant quality coke both easy to light and to keep alight.

From them specialised information booklets*

are yours for the asking, as is the expert advice of their

Coke Departments.

- ★ Coke-fired Central Heating Plant
- ★ Coke-fired Small Steam Raising Plant
- ★ Coke-fired Semi-producer Furnace for Drying and Process Heating Plant
- ★ Coke-fired Grass Drying Plant
- ★ Coke-fired Glasshouse Heating and Soil Warming Equipment
- ★ Coke-fired Domestic Appliances and their application

The Gas Council's 246-page official handbook,

'Coke Burning Appliances', price 12/6, should be in the hands

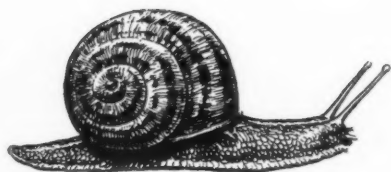
of all concerned with fuel service in the modern home.

THE GAS COUNCIL

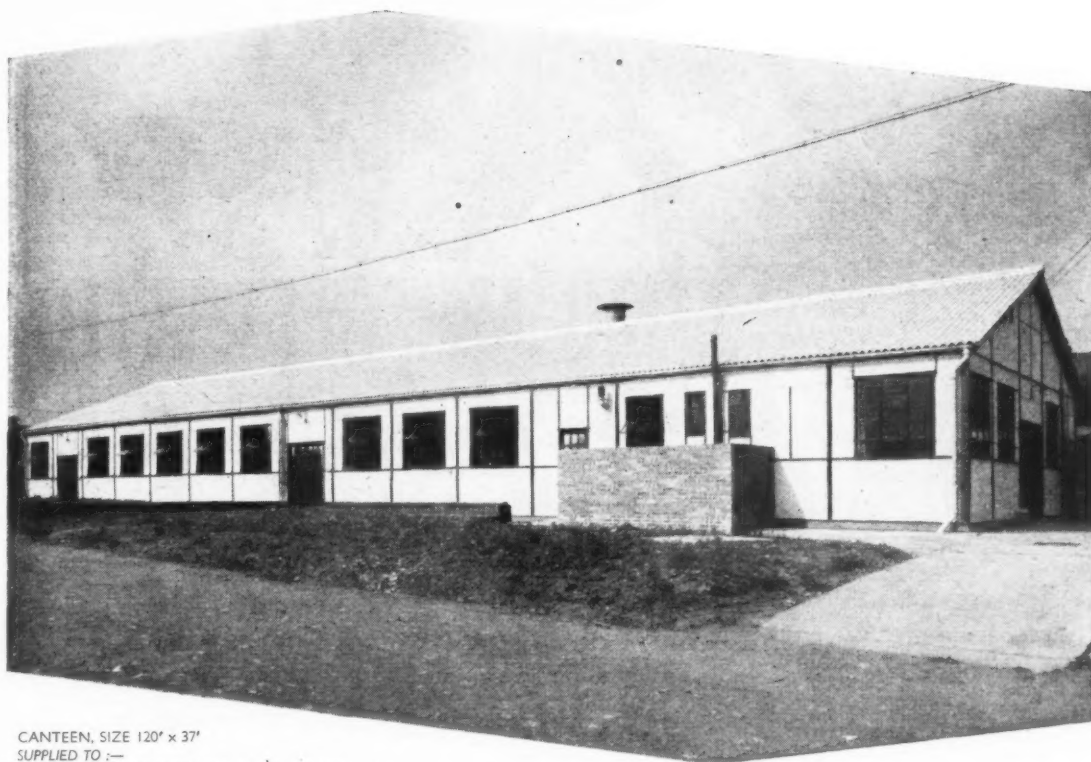
COKE DEPARTMENT

1 GROSVENOR PLACE, LONDON, S.W.1

This shell



provides cover for one housebuilder



CANTEEN, SIZE 120' x 37'
SUPPLIED TO :—
THOMAS HARRINGTON LTD., HOVE, SUSSEX.

OTHER TIMBER BUILDINGS
8' 10' 12' 15' 20' 25' & 30' WIDE
FOR SITE CONTRACTORS,
DORMITORIES, ABLUTIONS,
STORAGE, OFFICES,
ETC.

THORNS

BUILDINGS

provide cover for

ALL BUILDERS

Quickly!

PLEASE WRITE FOR CATALOGUE AND QUOTATION
GIVING DETAILS OR DRAWING OF BUILDING REQUIRED, TO:—

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

BD 751



ZINC METALLISATION

*-essential protection
against R-U-S-T*

Let's face it — the enemy of all steel windows is R-U-S-T. But whilst it is generally accepted that a good coating of zinc will give adequate protection, not everyone agrees which is the best method of applying it.

The John Thompson Zinc Metallisation Process is logical, positive, and effective — it cannot fail. It is carried out in three stages. First, the window is shot-blasted at a pressure of 80 lbs. p.s.i. to produce a meticulously clean and slightly roughened surface. Then comes the application of the essential protective zinc coating (99.5% pure) as shown above. Under the flame

of the oxy-propane spray gun the whole of the window and its frame, every nook or cranny where moisture can penetrate and collect, receives its heavy overcoat of rust-resistant molten zinc.

Finally, to seal this rustproofed surface, the window is passed through a zinc chromate primer bath and stoved at a controlled temperature of 400°F. Builders should note, therefore, that no additional priming coat is ever necessary with a Beacon Window. After installation it is ready to receive its finishing coats without further expense or delay — often saving as much as £4 on an average house.

Stage 2

Applying the zinc coating



JOHN THOMPSON BEACON WINDOWS LTD · WOLVERHAMPTON

Member of the
Metal Window Association

ON

ON
-T

whole of
nook or
rate and
coat of

surface,
a zinc
t a con-
Builders
Additional
with a
on it is
without
aving as

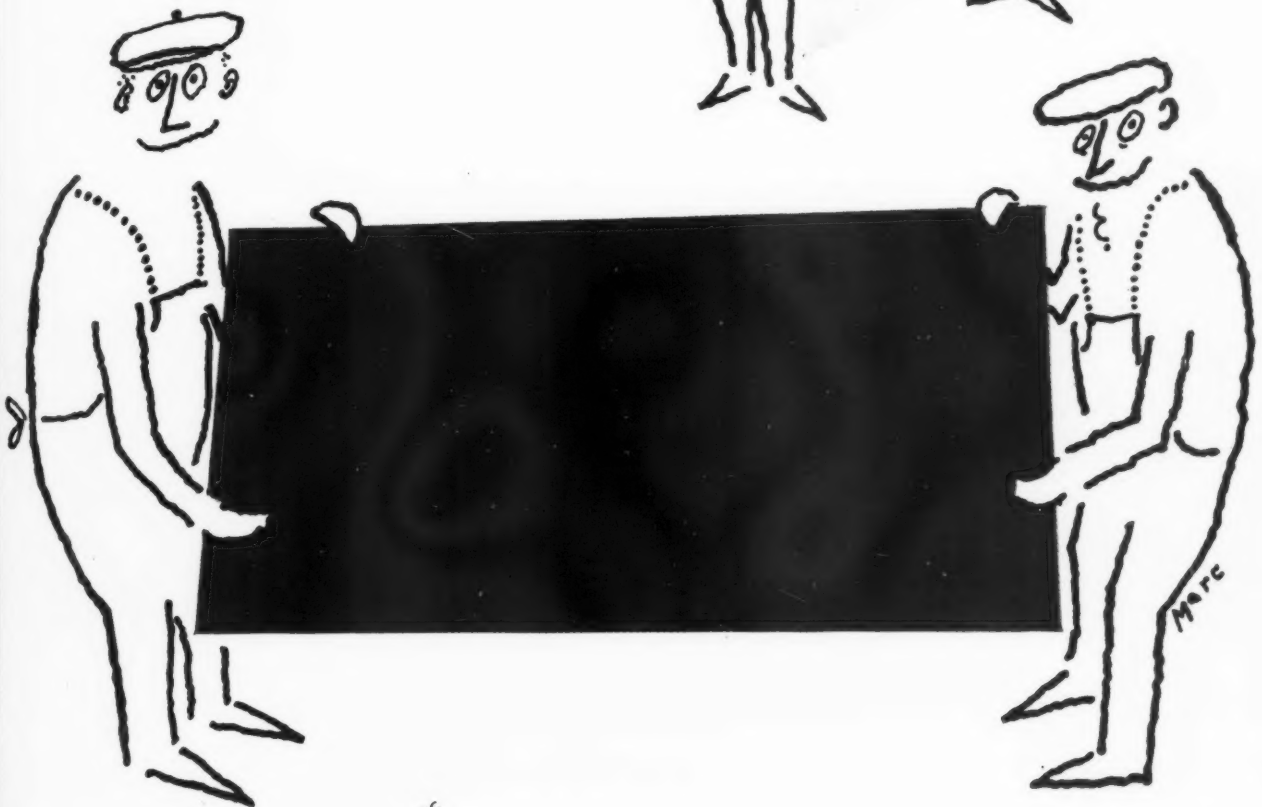
of the
Association

TON





Look for this identification when specifying FORMICA surfaces.



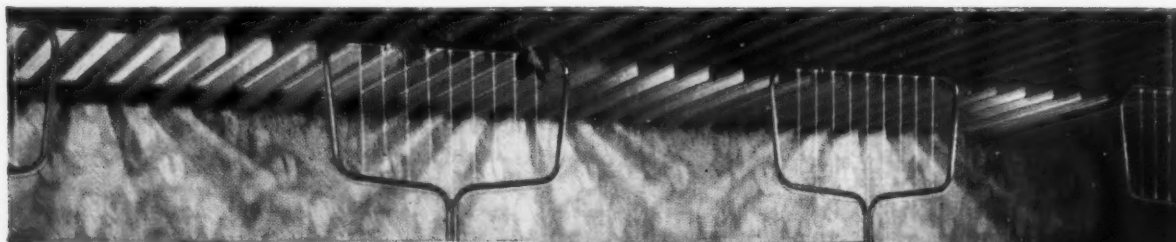
FORMICA for me!



FORMICA laminates are as sympathetic to the hand and the eye as any natural material. Immediately attractive, and . . . virtually proof against wear, virtually proof against damage. Their hard, clean smoother-than-eggshell surfaces will not stain, or chip, or crack, or dent, cannot be harmed by water or oil, resist all but the most mordant of acids and alkalis. They resist heat up to 310°F. and are proof—in one grade—against cigarette burns. They are absolutely non-porous. Over fifty subtle, fadeless colours. Two finishes—matt and glossy.

Write or phone to Thomas De La Rue & Co Limited, Dept. 11c, 84-86 Regent St, London W1

FORMICA is a registered trademark and Thomas De La Rue & Co Ltd is the registered user



Linoleum floor at Hotel Leofric, Coventry ★



For longest wear everywhere



... stands for The Linoleum Manufacturers' Association, 127 Victoria St., London, S.W.1. For further information write to the Association or to any of the following members:—

Barry Ostlere Shepherd Ltd., Kirkcaldy
Dundee Linoleum Co. Ltd., Dundee
Linoleum Manufacturing Co. Ltd., 6 Old Bailey, E.C.4
Michael Nairn Co. Ltd., Kirkcaldy
North British Linoleum Co. Ltd., Dundee
Scottish Co-operative Wholesale Society Ltd., Falkland, Fife
Jas. Williamson & Son Ltd., Lancaster

★ Linoleum installation by Korkoid Decorative Floors
★ An IND COOPE Hotel

Today, more than ever, architects are specifying linoleum because of its versatility as a *functional* decorative medium. Here, in the new Hotel Leofric in Coventry, linoleum sets the stage for the friendly yet elegant effect so desirable in hotels. It is performing—with the utmost good taste—a deliberate decorative duty. Yet linoleum is an extremely practical luxury too: no other flooring is more moderate in cost, so durable, and so easy to care for.

PLAN FOR

LINOLEUM

reum
um.
sets
e in
e—a
nely
e in



This Happens EVERYDAY . .

Burning, Scalding, Falling, Slipping and Bumping into objects, are amongst the many accidents that occur daily in large scale kitchens, and which, in many cases, result in serious injuries. A great deal can be done by careful planning and siting of equipment to reduce these dangers. Our experienced planners can advise you on how best to produce conditions under which accidents are far less likely to happen, so if you have a Kitchen Planning Problem from the supply of a single piece of equipment to the planning and installation of a complete Kitchen, our Planning Department is at your service.

Send now for a free copy of our Booklet, "Large Scale Kitchens and their Planning", a 32-page guide to planning for large scale catering.

★ **"Stotts of Oldham"**

VERNON WORKS OLDHAM

LONDON OFFICE
167, OXFORD ST., LONDON W.1.



THE ARCHITECTS' JOURNAL

No. 3193 Vol. 123 May 10, 1956

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

Subscription rates: by post in the U.K. or abroad, £2 10s. 0d. per annum. Single copies, 1s.; post free 1s. 3d. Special numbers are included in Subscriptions; single copies, 2s.; post free, 2s. 3d. Back numbers more than 12 months old (when available), double price. Half-yearly volumes can be bound complete with index in cloth cases for 30s.; carriage, 1s. extra.

MOTOR RACING:

*I, 2, 3, 4 . . .
GREEN!*

Last Saturday's International Trophy Race at Silverstone

The newspapers have given the facts—that British cars finished in the first four places. But a hundred and ten thousand people don't go to Silverstone's subtopian acres for the statistics—motor-racing, like architecture, is still more a sport than a science, and the "how" tends to be more interesting than the "what."

*

Though the "what" was unusually interesting this time. Three British organizations had brought to the line one, two and five native-built cars respectively, that were potentially as fast as the best of the visiting machinery. The presence, the mere existence, of these eight cars was a triumph of expensive enthusiasm, of amateur patronage in the eighteenth century mould. Rich individuals had emptied their pockets to produce cars capable of carrying British green to victory in international races—something that our moribund motor industry can't be bothered to do.

*

On form, though, the race ought to have gone to the Ferrari-Lancias, with world-champion Fangio to drive one of them, with two major victories this season and the industrial might of Fiat behind them. Just where the form went wrong is the Silverstone story. At the beginning, in the grip of some crazy com-



South Bank's Vertical Failure

Sir Howard Robertson was one of the team of designers of the UN Secretariat—the glass-sided slab of offices in New York, which, despite some faults of detail, set a standard for post-war office building. Sir Howard Robertson, working alone, has produced the design for office buildings, shown above right, and top, to house 6,000 workers of the Shell Petroleum Company on the South Bank. This site, so close to the centre of London, was, until now, debarred from achieving central London land values by being south of the river. Its clearance, following its use for the South Bank Exhibition, seemed the opportunity to show the London north of the river the great townscape possibilities, and the other advantages which accrue from comprehensive development. The first layout plans, produced by Dr. Leslie Martin, architect to the LCC, in 1953 (see above left, and the JOURNAL for October 22, 1953), showed a varied and potentially-interesting arrangement of concert hall, national theatre, hotel and offices. The dangerously arbitrary-seeming line of

offices, with tower block, in the rear of the block model, above left, is shown designed in detail above right, and top. In the process both vertical and horizontal blocks have become higher, and the tower block thicker. This may have been necessary in order to arrive at an economic solution for the clients, Shell, but in the process an intimate enclosure has become an indifferent light-well, the tall tower a squat monolith 330 feet high, and the 150-foot high office-blocks form an unreasonably-heightened skyline to the south and east of this famous site. The correct answer may have been another type of layout with more tower blocks. In this design the elevations are inoffensive but the massing is not, and the opportunity to show London what the UN Secretariat once showed New York—the exciting beauty of a functional, contemporary, office block—has been missed. Despite stilts and high-level pedestrian walkways, the standards made by the South Bank Exhibition, and the Royal Festival Hall in 1951, have not been continued.

pulsion. Mike Hawthorn went blinding into the lead at a pace which the sensitive BRM obviously wasn't going to stand for long, and on the thirteenth lap one rich amateur's dream, one massive income-tax relief, went out.

*

But in the meantime Stirling Moss had got past both the Lancias and, at the BRM's decease, was out in front. Now there should have been a classic Fangio pursuit. But it was soon obvious that the Lancia with its high-bred, singing exhaust-note, didn't have the steam to catch the Vanwall of Moss.

*

Now Moss had only to keep going—his lead over the second and third men was so long that he could concentrate on strategy and not bother with tactics. But he kept going at rather more than a hundred m.p.h., just inside the old record for a single lap. Round and round, lap after faultless lap—for those who found this sustained mastery boring there were such diversions as the collapse of a home-made grand-stand, and a giant US jet bomber floundering around with its wheels down. But mostly we just watched Moss, as the Vanwall went sneering by at intervals of one minute forty-five seconds—Moss sitting imperturbably upright, his head back, the rest of his person hidden from view in the neck-high bodywork of the Vanwall, which is one of the most characteristic wearers of the English new-look in racing cars, wide and bulgy at the front, tall and rounded in the tail—a New Brutalist vehicle, unlike the BRM which is Fine Art motor-car.

*

And so the laps ran out, the Vanwall lasted to the end and lapped everything that was still rolling, even the amazing Scott-Brown, the one-armed wonder, in his Connaught. Moss, who is one of the two best drivers in the game (Fangio is the other) had come within sight of his promised land—to clean up the Championship in a British car. And we, dozy and dazzled with the noise and speed, had got what we had come for year after year, and this time had not been disappointed.

REYNER BANHAM.



FILE THIS WEEK

Information Centre ... page 484
Timber Article. No. 9 in a series on "Design and Practice of Joinery" ... page 486

Buildings Illustrated. On of the two houses this week has under-floor heating; the other is a prototype for speculative building ... page 491

Working Details. A balustrade and a canopy from a school at Royston, Herts. ... after page 498

EDITORIAL BOARD: (1) *Consulting Editor*, F. R. Yerbury, O.B.E., Hon.A.R.I.B.A. (2) *House Editor*, J. M. Richards, A.R.I.B.A. (3) *Executive Editor*, D. A. C. A. Boyne. (4) *Editor Information Sheets*, Cotterell Butler, A.R.I.B.A. (5) *Editorial Director*, H. de C. Hastings.

TECHNICAL EDITOR: (6) Lance Wright, A.R.I.B.A.

SPECIALIST EDITORS*: (7) Planning (8) Practice (9) Surveying and Specification (10) Materials (11) General Construction (12) Structural Engineering (13) Sound Insulation and Acoustics (14) Heating and Ventilation (15) Lighting (16) Sanitation (17) Legal.

ASSISTANT EDITORS: (18) *Chief Assistant Editor*, Kenneth J. Robinson. (19) *Assistant Editor (Buildings)*, L. F. R. Jones. (20) *Assistant Editor (Production)*, W. Slack. (21) *Assistant Editor (Information Sheets)*, V. A. Groom. (22) *Assistant Editor (Costs)*, J. Carter, A.R.I.B.A. (23) *Photographic Department*, H. de Burgh Galwey, W. J. Toomey. (24) *Editorial Secretary*, Monica Craig.

* To preserve freedom of criticism these editors, as leaders in their respective fields, remain anonymous

The Editors

TO HELP YOU CHOOSE YOUR LEADERS

A NUMBER of candidates have been nominated to stand for election to the RIBA Council for 1956-7. As usual we are going to try to help voters in their choice by providing an opportunity for these candidates to make a brief statement on the issues with which, in their opinion, the RIBA Council should be particularly concerned during the next three years.

In the past we have asked candidates to reply to specific questions. This year the choice of subject is left to the individual. This invitation to make statements is extended to all those nominated for election, whether by the Council or by ordinary members. To ensure that these comments, which must be limited to about 200 words, are published in next week's issue, they must be sent in forthwith, preferably by telephone.

DEMOCRACY IN THE RICS

The now generally accepted procedure of publishing factual statements about the history of candidates for election to Council (as now carried out by the RIBA) and the publishing of the candidates' views (a service the JOURNAL performs, as indicated in the leading article above) is not yet, unfortunately, the custom in all professions. This simple and obvious democratic procedure is not yet the custom, for instance, with the RICS. In a letter to *The Builder* Arthur J. Willis draws attention to the fact that at a general meeting of quantity surveyors during their 1955 Conference a resolution asking for the publication of information on candidates standing for election was carried by a large majority. It transpires, however, that the governing body, the Quantity Surveyors' Committee, have decided that such action would be contrary to the policy of the Institution. We hope that they change their view. The reasons for giving information are well known and generally accepted by enlightened architects. It is one way to avoid the abuse of influence and privilege. It may be asked why the JOURNAL is concerned with the affairs of surveyors, who are not specifically catered for in our editorial policy. The reason is simply that we—as an architects' newspaper—are bound to be interested in the success of the building industry as a whole. And to be specific about the surveying profession, architects are beginning to require more from their surveyors than just a cube price, a bill of quantities and valuations for payment. There is a growing need for systematic

advice on problems of building economics; for something to be done about the decreasing amount of fully measured work in the average bill; and for closer co-ordination in the training periods of both professions. These are problems which call for collective, as well as individual action, and architects are interested to know what the surveying profession proposes to do about them. Because the interests of the two professions coincide, the rate of progress of the two professions must coincide also.



THE ARCHITECTURAL ROOM

Now that pompous neo-Georgian is on the wane, and pompous neo-modern takes its place in the Royal Academy summer exhibition, ASTRAGAL's sinews, taut for ceaseless battle on behalf of Summerson's new-Radicalism, flutter and sag from boredom and despondency. Of at least half the exhibits one knows that neither elevations and perspectives, nor even models, enable one to judge whether the design is really good or not. At the most one can probably only assess its degree of failure. The exhibition is, of course, for the layman, and the architect, if he is honest, only looks at it as one way of getting respectable publicity. The result now of this publicity-hunt, to ASTRAGAL's sensitive nostrils, is a strong scent of pure commercialism.

Of the exhibits, there is only one example of the President Sir Albert Richardson's work—at least in the Architectural Room. He avoids con-

tact with his despaired-of fellow professionals by exhibiting some of his paintings in the other galleries. And, unfortunately, there is no design by Raymond (Regency) Erith. There are several accomplished perspectives by Basil Spence of his university commissions and other designs of interest show an elegant, ground-hugging little hospital building by Gollins, Melvin Ward & Partners, small, but delicate in line and colour, and Gibberd's precinctual Market Square in Harlow, eagerly waiting for the cars to turn up and enclose it. Gordon Brown indicates the success he is achieving in the Far East; Elie Mayorcas introduces uncorrodable modernity into a gas works; and Gordon and Eleanor Michell's proposed shopping centre for Dudley, commissioned by Pilkingtons, gains prestige by being hung.

The greatest, in every sense, disappointment is the design by Sir Howard Robertson for the Shell offices on the South Bank. This is illustrated and commented on elsewhere in this issue. Of the other rooms ASTRAGAL has little to say. They are much as in all other years. Two things intrigued; the red-rimmed compelling stare of a young man painted, rather to ASTRAGAL's surprise, by the versatile Lowry, and the little Breughel monster which leers at Fonteyn in the lush Annigoni portrait.

EQUESTRIAN DISENCHANTMENT

Now that Sir Alfred Munnings has decided to take the rise out of modern art ASTRAGAL is happy to report that at least one modern artist is doing a nice job of taking the rise out of Sir Alfred's favourite subject. At the Hanover Gallery you can see the latest stages of Marino Marini's progressive disenchantment with the horse.

What a curious affair this has been.

Beginning as a sculptor of equestrian subjects that might have graced (if that is the word) the horrible axial town planning of Piacentini, Marini has worked his way back, over a matter of twenty years, from hero on noble beast to gent on ignoble beast, to peasant on vulgar beast (the one in the Tate, for instance) to clot falling off unruly beast and now, in this latest exhibition, to clot trying to restrain decrepit beast from foundering. Not that there is anything ignoble about this latest offering as a work of art—this vision of the man falling over backwards as the horse's head crashes on the ground (a head that is already a skull) and its legs crumple, is disaster raised to the level of a masterpiece, and shook ASTRAGAL so thoroughly that in retrospect the rest of the exhibition, however good, is hard to recall to mind.

RIBA'S AGM

This year's AGM passed off very quietly, no doubt in reaction to last year's fireworks. No one had taken on themselves—as Connolly has, in the recent past—the task of criticizing the annual report, so criticism was slow in coming. And when it came it was pretty decisively answered by last year's critics.

ACOUSTICS DOWN UNDER

Allowing himself one of today's most blissful pleasures in architectural lecture-hearing, ASTRAGAL went to hear Hope Bagenal give his acoustic tips for the Sydney Opera House competition. The occasion reminded him uncomfortably of the first day of a school design subject: the room was packed with inveterate student types of all ages, and after each Bagenal throat-clearance there was the usual incipient guffaw, stifled instantly when the oaf who thought a joke was developing realized that it wasn't. Hope Bagenal's first tip, which he gave with unconcealed relish, was that he had heard that there was a foghorn very near the Opera House site (just the thing for *Peter Grimes*) and that it would be very expensive to insulate against it—though whether assessors will give due weight to attempts to do so remains to be seen.

Questioned on the insoluble problem of what to do with an organ, he grinned from ear to ear and said that “for

architectural competition purposes it would be safe to show some big grille somewhere." On the critical question of what reverberation time to go for, he tipped 1.6 or 1.7 seconds full. (This is by way of a compromise between the Royal Festival Hall's 1.5 seconds full, which musical opinion now thinks is a bit short, and the 1.8 seconds full of the Vienna Opera House.) Sooner or later promoters of opera houses have to take a deep breath and decide whether they want to incline towards the music of Wagner and platform concerts which need a long reverberation or towards that of Mozart and "general repertory" (whatever that may mean in musical circles), which need a short one. For Hope Bagenal was emphatic that flexible acoustics could not make enough difference to get the best of both worlds.

*

The real trouble about the Sydney job is the seating. When the seating approaches the 3,000 figure the designer is hard put to provide enough exposed surfaces to offset the sound-absorbing audience (and thus keep the reverberation long enough) without placing these surfaces far enough apart to cause echoes. This is kind of Nature, because if places of musical entertainment get too big economic troubles set in and their walls resound not to Wagner or Mozart but to the crisp thwacks of the boxing match, if not to the barks and howls of the dog show.

BURSARY BAROMETERS

The RSA Industrial Art Bursaries for the year have been awarded and the winning and commended designs are on exhibition at RSA until May 18. The exhibition is always worth a look, not only as an indication of student talent to watch out for in industrial design, but as a barometer of fashionable form. It gives a good idea of the current rating of gimmicks, speed-whiskers, quartics, canted fronts, splayed legs and what-have-you, as well as a survey of the coming lads and lasses who can use them.

*

The bursaries themselves, which range up to £150, are intended to make promising students promise even more, by permitting them to travel and see things. Some of these tours are listed in the back of the current issue of the *Report*, and one observes that students



When this pier pavilion at Lowestoft was opened last week, by the Duke of Edinburgh, the local paper recalled ASTRAGAL's comments on the removal of "the endearing Edwardian joke" to make way for it. ASTRAGAL also commented (in May, 1950) on the limited two-architect competition held by the Lowestoft Corporation and promised to report back when something happened. Since then a lot has happened. The Corporation asked R. Corless, one of the two competitors, to think again, as it had revised its requirements. The other competitor, A. D. Cook of Norwich, pocketed his prize money and politely swallowed his chagrin at not being told if he was a winner or a loser. And Mr. Corless went ahead, as the partner-in-charge (of Skipper and Partners) and produced a design for the Corporation's final requirements—a building with an "all-purpose" hall, stage, lounge, restaurant, ground floor cafe, bar, service rooms, etc. The pavilion will be more fully illustrated later.

from disciplines as far apart as dress textiles and laminated plastics found something to see in Ravenna, while furniture and furnishing fabric students mostly went north to Scandinavia (good reason, though—Hälsingborg).

WISE SAWS IN CHELSEA

ASTRAGAL went to the annual meeting of the Chelsea Society, one of the most alive and intelligent of the voluntary civic societies which form the only opposition to public and private messing-up of our towns. He was a little dismayed to hear disapproval from the floor of the design of the Crosby Hall extension on the grounds that it did not conform to the existing style(s) of Cheyne Walk (heavy applause) and was reassured by the chairman's insistence on the obligation to build honestly in the style of one's own time.

*

The reason for ASTRAGAL's visit, however, was an admirable lecture by Peter Shepherd on trees in towns: which types of tree to plant, and what to do with them when they are planted. Peter Shepherd's points were so simple, so reasonable, and so obviously justified by the results shown on his slides, that one can't believe that anyone with either sense or humanity could possibly be responsible for the grotesque stumps that shame quite a

few London boroughs, among others. One of the simplest points is that lopping should be carried out flush with the trunk, so that the tree can heal the wound. Of course that means twice as much sawing, which means more time, which means more money, etc. . . . the old scapegoat of economy can be brought out to graze again.

EINAR FORSETH

For many of those who attended the opening last week of the exhibition of Einar Forseth's work at the Building Centre, a strong element of nostalgia must have been mixed with their respect for his versatility as a designer. That was certainly so for ASTRAGAL, who was the most impressionable of students when Stockholm Town Hall was the most admired building in the world and the Golden Room—lined with Forseth's mosaics—the most admired part of it.

*

I even seem to remember an exhibition of his work at the AA in the 1920s and a dinner in his honour. This exhibition—thirty years later—is concerned specially with Forseth's stained glass designs, which show that in style and technique he has not been left behind. Some of the semi-abstract designs in hewn glass and cement are far removed from the mannered decora-

tions with which his name is associated here. But then he is still a young man—it is astonishing to think that when he was commissioned to undertake his work at Stockholm Town Hall he was only 27.

LCC AS PATRON

I hope the LCC will get plenty of public support for their really enlightened move in voting £20,000 a year to be spent on works of art for their schools and other buildings. Much has been said and written lately about the need for the public patron to replace the fast-disappearing private patron, but it has needed the LCC, to whom we have learnt to look for leadership in matters like this, to set an example—and on a reasonably generous scale.

*

I hope, however, that this is only a beginning; not only in the sense that £20,000—impressive though that sum sounds—is but a small fraction of the Council's total expenditure on building, and the amount should gradually be increased as experience is gained of the proper relationship of art to modern architecture; but also in the sense that other local authorities—and Government departments—should follow. There are even instances of authorities withdrawing, on grounds of economy, grants for this purpose that they used to make. They should think again.

ARCHITECTURE ON THE AIR

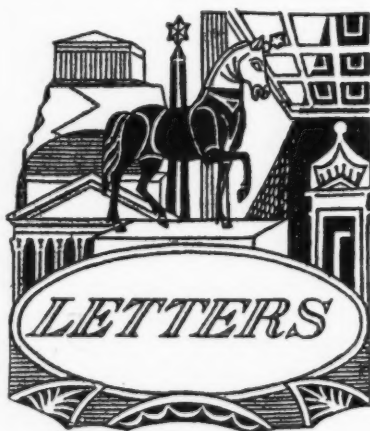
Two good talks on architecture on the wireless over last week-end kept ASTRAGAL happily enjoying a busman's holiday. The first was in the form of a discussion between J. M. Richards and Walter Gropius. The second a comment by Nikolaus Pevsner on Holford's proposed setting for St. Paul's. In the first J. M. Richards had largely to act as a feed in order to obtain the views of Gropius on the integration of industrialization in the American building industry (going ahead fast; examples: Lever building, Seagram building, Lakeside apartments); the wall (as a solid, it no longer exists); business men (they now look on modern buildings as good propaganda); English planning law ("a very strong step in a progressive direction"); new towns (too spread out); Holford's St. Paul's precinct ("no better way than that shown, a very subtle approach"); English schools (better co-ordinated systems than in the U.S., lower costs without loss of architectural quality).

Gropius also suggested that less rigid, "more rounded forms," were returning to the U.S. Unless some clever system of curved shuttering has been perfected, this would seem to be more a revolt against industrialisation than acceptance of it, but ASTRAGAL has a British reticence towards what Gropius described as "female" curves in architecture.

*

The other talk, by Nikolaus Pevsner, was a model of its kind. Step by logical step he showed how inappropriate any proposal save that of Sir William Holford's would be for the St. Paul's precinct. The arguments are, or should be, familiar to all architects and town planners. It only remains to hope that Pevsner's arguments will convince the sixty-odd MPs, *The Times* and one or two other lay people that they are trying to hold up one of the few inspired bits of post-war central area planning in the country.

ASTRAGAL



Architectural Assistant.

Another Architectural Assistant.

Reginald Kirby.

D. W. Lloyd.

F. I. G. Rawlins,

Secretary of Central Council for the Care of Churches

Keith J. McDonald.

Raymond Thompson

D. M. Dangerfield

The Unqualified Architect

SIR.—The letter "Wanted: Rewards for Unqualified" (April 5) sets out admirably the situation in which many experienced unqualified assistants have found themselves for many years.

The case for the competent experienced but unqualified assistant has for long been

ignored by the RIBA. Many of us form the backbone of thriving practices throughout the country, because not only of our will to work, but also for our practical experience which no school or university course can ever impart.

There can be no doubt whatsoever that experience is a most necessary qualification for assistants, we have only to glance down the "Situations Vacant" column in the JOURNAL and notice how many advertisers seek persons with experience, very often in preference to any qualification. In the majority of cases the salary offered is totally inadequate, just because of the unqualified clause. Our experience is not taken into account, when in actual fact it should be.

It would appear therefore that some minor professional qualification should be implemented at once to stop this outlawing attitude. This qualification would be based only on the number of years experience and on evidence of work actually carried out. It seems to me that perhaps a "Guild of Architectural Assistants" under the parent wing of the RIBA, is what would be desirable to help to solve the problem. Needless to say persons holding such a qualification could not call themselves "Architects," and it would only be used within the profession for the experienced assistant.

I have set out this idea in the hope that it may be taken up by the RIBA. I am quite sure it would be welcomed by many experienced assistants.

ARCHITECTURAL ASSISTANT.

Buckinghamshire.

SIR,—I entirely agree with your correspondent "Architectural Assistant" (AJ, April 5). As pointed out, the advertisements do show a demand for the unqualified assistant. This surely shows that this category of person is the backbone of the profession.

No one will dispute the fact that the principal of a firm, on whom our employment depends, is entitled to a high standard of living, but surely those who are capable of preparing drawings, etc., and running a £100,000 contract, with several other jobs to do at the same time, is entitled to a reasonable salary. How can a high standard of work be produced by those whose living standards are being kept down?

Who are the unqualified? Are they those whose mental capacity and learning is below average? The demand for them does not indicate this.

A large number of the "unqualified" are those who, like myself, had our training interrupted by the war, and on release from the services had to find work to support ourselves and families, with the result that we now have no spare time or money at our present rates of pay, for that extra study and instruction which is essential to pass the final examination, and so presumably demand a higher salary.

As your correspondent says, it is time a body, and who should be more fitted for the task than the RIBA, took an interest in those of us in architecture who are quite capable of doing as well as some who are qualified, but whose standard of living has gone down, whilst that of a very large section of the population has gone up.

ANOTHER ARCHITECTURAL ASSISTANT.
Birmingham.

Extensions At Bury

SIR,—No one connected with the Cathedral at Bury St. Edmunds will pay much attention to ASTRAGAL's ill-informed and somewhat impertinent remarks on Mr. Dykes Bower's enlargement scheme, except perhaps to note his belated admission that "contemporary glass boxes" are a "jolt to the eye."

REGINALD KIRBY.

Saffron Walden.

SIR.—I think ASTRAGAL oversteps himself in his condemnation of outragery when he criticizes the proposal to turn the "romantic chaos" of Bury St. Edmunds churchyard into the smoothness of a cathedral close. Churchyards sometimes have charm, but they are hardly the thing, at least on this scale, for a focal place in a city like Bury St. Edmunds. With the cathedral on one side, St. Mary's church opposite, and an irregular group of vaguely Georgian houses on a third side, together with the Abbey tower, this space lends itself admirably to urban landscaping in the English tradition.

I wonder if ASTRAGAL realizes that most of our vaulted cathedral closes were originally churchyards, smoothed and planted at some time. Wyatt did just that at Salisbury in the late eighteenth century. Where the "close" remains a churchyard, as at Winchester, the effect is not so attractive.

Bury is a charming town with Georgian houses along ordered streets of medieval layout, and a remarkable group of ecclesiastical buildings of which the cathedral forms a part. A cathedral close would be its crowning charm.

Bristol.

D. W. LLOYD.

Trees In Churchyards

SIR.—Your paragraph on page 173 of the issue for February 9, 1956, relating to trees in churchyards, make such curious reading to those seriously concerned with this subject that a few brief comments may be permissible.

Firstly, architects might be expected to agree that a basic responsibility rests upon the ecclesiastical authorities to safeguard the Church as an edifice. Large trees, closely adjoining any ancient building are known to deprive it of the sun and air necessary for its well-being. There is also the splashing and dripping—not to mention the choking of gutters with leaves—to be borne in mind. Again, the tendency for roots to undermine floors is common knowledge, and so are the risks to roofs and glass from falling boughs in high winds. All this, of course, refers to trees immediately near a church, and to keep a watchful eye, occasionally resorting to the axe when essential, is only to act with reasonable prudence. Administratively, this Council's pamphlet "The Care of Churchyards" makes it abundantly clear that no felling is allowed without the permission of the Dilapidations Board of the diocese, and that in any case of doubt the Director of Kew Gardens should be consulted.

Secondly, on the positive side, our pamphlet states (p. 32) that "the real business of the town churchyard is to make the city green with trees—only their trees must be carefully chosen." Then follow four recommended examples: the plane, the locust tree, and the two poplars (black and balsam). A number of others are listed, to make churchyards pleasant and fragrant.

There is no mention—still less encouragement—of ornamental gardens or rustic walling: on the contrary, a row of hornbeams or limes, carefully polled, is suggested as a screen in appropriate instances.

Generally, in spacious churchyards, where such exist, my Council not only delights in trees, but offers such help as it can to perpetuate them. Where precious buildings are directly endangered by them, however, it would have seemed likely that the support of responsible architects for precautionary measures would have been forthcoming. Yet to judge from the general tone of your paragraphs, it is not altogether certain how far this is so.

London.

F. I. G. RAWLINS.

Specialists In Building

SIR.—I have read, with great interest, the letters from Gordon Tomalin and W. Keith Thompson (AJ: Jan. 12 and Feb. 16) as their experience in these matters is so much akin to my own. For many years I have been instructed by some of the larger firms of architects to deal with all party wall matters arising from their schemes of re-development in London. These firms are glad, and wise, to be relieved of the research needed to establish the various owners and interests entitled to notices under the London Building Acts, and of the negotiations in settling of Awards, the determination of boundaries, etc.

The procedure laid down in the Act of 1939 is not particularly difficult to follow, but experience teaches a great deal in the proper time and manner of approach to adjoining owners to ensure that the architect gets a clear run at the moment when he is anxious to see his building go ahead. Early consultations on these matters, and surveys of the adjoining premises, can often result in the adding of many square feet to a site, by establishing that perhaps two external walls exist where it was believed that there was only a single party wall. Failure to appreciate that nearby windows may have rights of light, by prescription or previously-negotiated agreements, can result in major replanning being necessary in spite of the fact that the LCC may have approved the new scheme from their point of view.

Fees for these services can only be based upon the time and trouble involved but frequently it is found that a properly prepared notice and a suitable explanatory letter will give rise to immediate approval by an adjoining owner who might otherwise feel compelled to appoint a surveyor. Proper advice can thus often result in a net saving of costs, and time, out of all proportion to the fees incurred.

As to the responsibility for payment of fees for these specialized services, my own experience has been that the architects meet the charges in the first instance but pass them on to the building owner in their own account. The RIBA Scale clearly states that surveys of existing buildings and services in respect of party walls, are the proper subject for additional charges in accordance with the work involved. If this were not so, there would be no difference in fees for comparable contracts in open country or in difficult congested sites with party walls on three sides. This, clearly, would be inequitable.

London.

KEITH J. McDONALD.

Fire Risk With Wood Fibre Acoustic Tiles

SIR.—In your article entitled "Sound Insulation and Acoustics" (AJ, March 22 and 29) your Specialist Editor 14 apparently recognized that the fire risk with wood fibre acoustic tiles can be reduced if a fire retardant is used; but he goes on to say that "incombustible materials . . . can be used where low flame-spread danger is sought."

For the record, we should like to point out to your readers that the modern ammonium phosphate-synthetic resin *intumescent* retardant is quite adequate for treatment of wood-fibre acoustic board, and when applied at the correct coverage elevates the flame-spread resistance of the surface from Class IV to Class I of BS 476:1953. This type of retardant, which is widely accepted as being the most effective retardant for unperforated wood fibreboard, is by its *intumescent* the only one suitable for perforated tiles: under fire conditions the coating swells and seals the perforations. Wood-fibre acoustic tiles so treated are in widespread use throughout the world; they have been installed in buildings in the

London area, including the new London Airport buildings.

The loss of acoustic efficiency brought about by the use of the intumescent fire retardant is inappreciable; the coating itself is of a porous nature, and the holes in the board are not filled until a fire starts. Then, not only are the holes sealed, but the whole surface is insulated, thereby increasing the fire resistance of the ceiling. Under fire conditions in which an "incombustible" ceiling of perforated untreated aluminium and glass fibre would collapse, a wood-fibre-plus-retardant ceiling could still be standing. Should the aluminium fixing tees used in conjunction with wood-fibre board be exposed, these too are of course treated with the same intumescent retardant, which provides the thermal insulation necessary to delay softening.

RAYMOND THOMPSON.

Praise For The Journal

SIR.—May I add my contribution to the praise which you have already received for the new layout of the JOURNAL? As a third year student I find that the information gleaned from the technical press forms a valuable addition to the normal school lectures. I have often felt that a more workable method of presentation could be adopted which would help the "home-filer" as well as the practising architect, and the new JOURNAL seems to be the answer.

London.

D. M. DANGERFIELD.

OBITUARY

Dr. Oscar Faber

We regret to announce the death of Dr. Oscar Faber, the consulting engineer. Dr. Faber was born in London in 1886, was educated at St. Dunstan's, Catford, and City and Guilds University of London, and received his early training in the contracting world, eventually becoming chief engineer to Trollope & Colls.

He turned to consulting engineering in 1921, expanded into the firm of Oscar Faber & Partners in 1948, and was associated with such buildings as the Bank of England, South Africa House, Church House, Westminster, numerous industrial buildings, large span aircraft hangars and, more recently, the Houses of Parliament and the Royal College of Surgeons. His work abroad included some of the largest buildings in Shanghai, and works in Accra, Nairobi, and Dar-es-Salaam. He acted for the Turkish and Indian Governments in connection with the services and air-conditioning of public and government buildings. He was particularly interested in reinforced concrete, structural steelwork, aesthetics of buildings and civil engineering works, piling and raft construction, wharves and jetties. He read papers at several of the Institutions and was a Past President of both the Institution of Structural Engineers and Institution of Heating and Ventilating Engineers. He was a member or chairman of several Codes of Practice committees.

His most recent contribution was in connection with the composite action of concrete-encased structural-steel stanchions.

Dr. Faber wrote text books on concrete, steelwork and heating and ventilation of both an advanced and elementary nature.

CORRECTION

The editors regret that the half-tone block of six photographs on the face of information sheet 15.B5 (AJ, May 3) was printed upside down. The type numbers under the photographs should therefore read as follows:—left to right, F, E, D, C, B, A.

The RIBA Conference this month will be on "Architectural Economics," a subject which, last year, the JOURNAL invited five Guest Editors to discuss under the title "The Cost of Building." One technique for better cost control that they introduced to readers was Cost Analysis and Cost Planning. Since then we have published analyses of some thirty buildings. As preparation for the RIBA Conference we invited our cost advisors to re-examine the possibilities and

problems of the technique, to review the costs published so far and to suggest future developments. The first of their articles, by James Nisbet, chief Q.S. of MOE and one of last year's Guest Editors, explains the procedure of cost analysis and cost planning. He first points to the architect's changed role in society and then shows how our lack of cost knowledge and control is revealed by the wide range of total costs of otherwise comparable buildings.

ARCHITECTURAL ECONOMICS

COST ANALYSIS AND COST PLANNING

"An architect is not competent until he can persuade his client to spend more than he wishes."

This belief, so it is said, was held by Sir Edwin Lutyens, who had a reputation for overlooking the financial effects of his designs.

Lutyen's outlook may have been relevant in his day but it is out-of-keeping with present-day conditions and the architect who consistently overspends may find himself subject to severe criticism.

Why should this be? Why should the architect with his artistic abilities be tied to a budget when painters and sculptors are not similarly tied?

The answer, of course, lies in our changed and changing social, economic and technical conditions. Architecture is no longer a luxury but a necessity.

The architectural profession today is concerned with houses by the thousands, schools by the hundreds, hospitals, offices, factories and power stations, all of them vital to the well-being of the nation and adding to our fixed investment to the tune of several hundreds of millions of pounds per annum.

All of this is absolutely necessary. And behind this huge annual building programme there is a vast backlog of work still to be done. The signs of it are everywhere apparent. We can see them in the old and inconvenient buildings now used for purposes for which they were never designed. The houses—of all kinds—which have been utilized, but rarely converted, for offices, garages, schools, hospitals and restaurants. There is also the backlog of slum clearance in housing of which we need no reminding, and while the term has rarely been applied to schools the very fact that three-quarters of a million children in England and Wales are in schools built before 1870 and two million

in schools built between 1870 and 1903 is sufficient evidence that the school authorities also have a slum problem.

The architect therefore is entrusted with a great responsibility; with the creation of the facilities and the environment in which we can live happily and work well. But his responsibility does not rest there. He is also entrusted with the expenditure of several hundreds of millions of pounds annually. Since the amount of building we can have is only limited by our ability to pay for it, the architect must make sure that every penny is spent wisely and well and that nothing is wasted.

The architect, of course, has largely adjusted his procedures to the new conditions. Ever since the last war, great changes have taken place in the planning of buildings to meet current and anticipated needs. He has experimented with new materials, services and structural techniques to produce more useful and efficient buildings of all kinds.

We can say with confidence that the profession has acquitted itself well and that its status in public opinion has increased substantially. In evidence we can report that the profession is now employed for a greater proportion of building work than ever before. It has been claimed that before the war the proportion was only 5 per cent. and that now it is between 15 and 20 per cent. And we can also report that the profession is increasing in size at an average rate of about 6 per cent. and still there is a shortage of architects.

Yet, in spite of all this there is an undercurrent of criticism and it usually revolves around cost. The architect's control of cost—or his lack of it.

Notwithstanding the architect's successful attempts to come to terms with the scientific and technological revolution which is going on around us, he has been reluctant to accept the discipline of cost.

In the past the architect served a small élite—at first an aristocratic and later a mercantile society; societies, that were concerned with parading their taste or their wealth by building impressive mansions. The architect therefore was, in the main, a purveyor of style and thought primarily in terms of appearance.

The architect, however, is no longer building for a small and favoured group. He is building for, and is employed by, each and every one of us. He is building for the "Little Man" who pays in rates and taxes.

While the combined resources of the "Little Man" far exceed the resources of the now near-defunct wealthy patron, he is much more particular about the way his money is spent. He wants value for money—and he wants the amount of money fixed at a very early stage.

It is perhaps the latter—the fuzzy preliminary estimate and the high tender—which annoys the client more than anything else. For example, and here I quote from *The New Statesman* of December 31,

1955: the client is writing "I named my price for the house—£2,500. The architect lectured. He would sooner say £3,000. I agreed. 'Sensible fellow,' I thought, 'he's allowing himself a good margin.' He designed us a lovely house. 'We never dreamed,' we said when at last we saw the plan, 'that we could have such a house.' Eight months and ten tenders later we knew we had been right. It was beyond our reach by £1,000!"

From the architect's own point of view—from sheer self-interest—it is necessary for him to adopt a more responsible attitude to cost. He is not without competition. The spec. builder is ready to provide his client with a building for a fixed sum and no surprise extras—and if the competition has not been too keen we should remember that licensing was finally removed only a little over a year ago. There is also an increasing number of firms who will provide an "all-in" service of design and construction for a fixed sum. Nor should we forget that many of the largest firms of contractors now have their own architectural departments and that building for atomic energy may be cornered by one or two combines of large building and electronic organizations.

"But," many will say, "what more can we do? We are already building to rock-bottom standards."

In the remainder of this article I shall refer almost entirely to school buildings and their costs, and I apologize for this in advance. The reason, of course, is that the costs of schools are frequently and fully published, but the costs of other buildings are more difficult to obtain. I believe, however, that the conclusions one can draw from a study of school costs can apply in principle to most other types of building. In England and Wales local authority architects are required to design and build schools within two limits. On one hand, an upper limit of maximum cost for place and on the other a standard of quality as described in the Building Regulations. Between these two limits the architect is free to design as he pleases. That is to say, for a primary school with a maximum limit of £150 per place, the architect may provide 51 sq. ft. at £3 per sq. ft. or 38 sq. ft. at £4 per sq. ft., provided he satisfies the Building Regulations in both cases.

Costs for primary and secondary schools range from about 56s. to 74s. per sq. ft. floor area, and although many different factors contribute to the variation, the costs are not concentrated around one particular figure indicating a rock-bottom level to which every architect has to work. Instead, there is a very significant range of costs, they are evenly distributed between highest and lowest.

All the schools are designed to comply with the Building Regulations and therefore they comply with a certain standard of quality.

It is therefore reasonable to assume that some may have been designed extravagantly and that others could have been substantially improved without involving an unreasonable expenditure of money.

While the total cost per sq. ft. is a very good guide to the relative economy of various schools, it does not tell us why a school costs what it does, and it is

	A	B	C
	s. d.	s. d.	s. d.
Preliminaries and Insurances	6 10	1 8-9	1 10
Contingencies	1 11	11-3	9-7
Work below Ground Floor Level	5 10	5 5-9	3 9-7
External Walls and Facings	5 0	3 4-5	5 6
Frame	2 6	6 7-6	12 5-3
Upper Floor Construction	1 8	2-6	9-5
Staircases	5 2	5 10-5	3 1-3
Roof Construction	2	9-3	6-9
Roof lights	4 4	5 4-9	6 0
Metal Windows	7	1 0-4	7-8
External Doors	2 3	1 2-6	1 9-1
Ironmongery	—	4-3	7-1
Internal Partitions	2	4-8	11-9
Screens	1 1	3-1	10-2
W.C. Doors and Partitions	3 1	4 7-6	1 11-2
Internal Doors	1 2	2 4-8	11-9
Ceiling Finishes	1 6	1 0-1	1 5-1
Decorations	1 4	2 4	2 2-1
Cloakroom Fittings	8	2-3	6
Fittings	1 4	1 11	1 8-5
Gym Kit Lockers and Changing Room Benches	—	—	—
Kitchen Equipment	—	—	—
Plumbing (External)	5	1-5	10-9
Plumbing (Internal)	1 8	1 3-3	11-8
Plumbing (Sanitary Fittings)	1 1	1 2-3	10-3
Gas Installation	2	3-7	2
Electrical Installation	4 10	1 11-7	1 6-3
Heating Installation	6 8	5 4-9	7 5-3
Kitchen Ventilation	5	1-5	—
Drainage	1 8	1 11	2 2-2
Playgrounds and Paved Areas	1 8	6 8-2	1 11-6
NET COST	65 11	65 2-6	65 4-5
AREA	12,900	13,288	12,335

Fig 1. Cost analyses of three primary schools.

necessary to break down this cost into smaller and more convenient units.

The unit adopted is called an element.

For example: The functions of keeping out the weather and insulating the top of a building are performed by the element "Roof construction," irrespective of its specification. It doesn't matter whether it is a pitched timber roof or a flat roof of concrete and asphalt.

	SCHOOLS					
	A		B		C	
	s.	d.	s.	d.	s.	d.
Contingencies	1	7	1	0	0	10
Structure	31	6	28	9	31	0
Partitions	4	8	2	10	3	4
Finishings	7	7	11	0	7	2
Fittings	1	4	2	3	1	10
Services	18	1	13	10	15	5
Playgrounds	2	2	4	9	3	1
Net cost per sq. ft. floor area	66	11	64	5	62	8

Fig. 2. Costs of three schools with the elements grouped into seven headings. The total costs per ft. sup. of floor area are similar but the elemental costs vary noticeably.

Similarly, the exclusion of weather and the entry of light is performed by the element "Windows," irrespective of whether they be of metal, wood or patent glazing. The element also corresponds more or less with the sub-division of a building which an architect would consider in detail during the design process. A list of elements is shown in Fig. 1.

Three of the elements, "Work Below Ground Floor Level," "Drainage," "Playgrounds and Paved Areas," tend to isolate the effect on cost of site levels and the nature of the soil, and this allows a direct comparison to be made with similar elements in other analyses.

ROOF CONSTRUCTION		8 10	6-in. R.C. slabs 12 in. wide 25 ft. 0 in. span, 4 in. x 1 ft. 9 in. R.C. channel gutter, 3 in. foamed slag screed, 2 layers felt roofing. Assembly Hall Roof—metal decking, 1 in. insulation board, 2 layer of felt roofing.
Area	12,100 f.s.		
ROOF LIGHTS		1 3	Two skylights 6 ft. 0 in. x 8 ft. 0 in.; Three dome-lights 2 ft. 9 in. diam. Remainder patent glazing on timber curbs and framing.
Area	300 f.s.		
WINDOWS AND EXTERNAL DOORS		4 7	Blanks galvanized steel windows and doors to Classrooms. Standard galvanized ditto to other rooms. Oak entrance door 7 ft. 0 in. x 8 ft. 0 in.
Ratio Windows	0.240		
F.			
GLAZIER		0 7	24-oz. C.S. Glass to windows.
INTERNAL PARTITIONS		2 2	11 in. Brick cavity walls between classrooms. 9 in. brick walls to stores. 4½ in. brick walls to Lavatories.
Room Heights			
W.C. DOORS AND PARTITIONS		0 7.5	Galvanized sheet metal faced plywood and ironmongery.
No.	21		
INTERNAL DOORS		1 0	Frames: pressed metal. Doors: 1½ in. flush, and 1½ in. hardwood framed fully glazed double doors.
Single	46		
Double	10		
IRONMONGERY		0 9	Anodized aluminium to internal doors. Overhead door closures to double doors.

Fig. 3. Extract from cost analysis showing quantity, quality and cost of each element.

While the architect normally has little control over prelims. and insurances, the remainder are all directly influenced by his design and specification.

Uses of a cost analysis

What can we learn from a cost analysis?

1. We can see the distribution between the major groups of elements for schools of roughly similar total costs per sq. ft. (Fig. 2).

With a knowledge of the qualities of each of the schools this breakdown would prompt the question of whether there might be, for example, more value in spending less on Services and perhaps a little more on Fittings and Playgrounds in school A.

The relative importance of these figures will be apparent when one remembers that 1s. per sq. ft. represents approximately £600 on a Primary School and £2,200 on a Secondary School.

2. We can relate the cost of an element to its importance in the building.

The degree of importance attached to each element will, of course, depend upon the architect's assessment of quality and performance, but the following are given merely as examples (see Fig. 1).

School A. Electrics 4s: 10d. too high
School B. Heating 5s: 4 9d. too low
School C. Frame 12s: 5 3d. too high
Floor finishings 1s: 11 2 too low
Heating 7s. 5 3d. too high

3. We can compare the costs of the same element in different buildings.

	A		B		C	
	s.	d.	s.	d.	s.	d.
Floor finishes	3	1	4	7-6	1	11-2
Electrics	4	10	1	11-7	1	6-3
Heating	6	8	5	4-9	7	5-3
Playgrounds and paved areas ..	1	8	6	8-2	1	11-6

4. We can see for future schools how the cost could be allocated to get better quality and value.

School A. Spend less on Electrics and improve Decorations and Floor Finishes.

School B. Spend less on Playgrounds and Paved Areas and improve Heating Installation and Ironmongery.

School C. Spend less on Frame and improve Floor Finishes and Electrical Installation.

5. When a tender is received which is too high, a cost analysis will show where reductions can most profitably be made.

For example. In School C it would be more profitable to make reductions on Frame, Windows and Doors and Heating, than on Contingencies, Floor Finishings and Wall Finishings.

But, of course, at this stage it may be too late to adjust the costs of the elements which are really at fault and an unsatisfactory building is often the result.

Ratios

It will be noted that although the three schools have almost the same total cost per sq. ft., the distribution of cost between the elements is very different. The differences in cost of an element are, of course, dependent on two factors—Quality and Quantity.

When using the analyses, quality and quantity must be

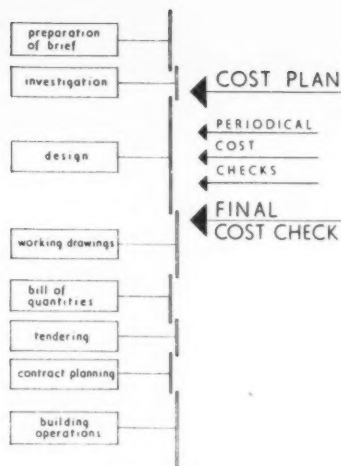


Fig. 4. Diagram showing the points in the programme of work where cost planning is employed.

taken into account and the cost analysis should indicate the *quality* of the element by a brief specification; and the *quantity* by area or ratio of area of element to floor area. See Fig. 3, which might be described as an abbreviated schedule of quantities for it shows quantity, quality and cost.

Preparation of the cost plan

The purpose of cost planning is to make use of the information provided in cost analyses to ensure proper balance of cost between the elements and to check the cost of a design as it develops.

At the end of the "investigation" phase or early in the "design" phase (see Fig. 4)—when the sketch plan is fairly stable—is probably the best time to prepare the cost plan. And to prepare it the following information is required.

- (i) The preliminary sketch design. For the purposes of a cost plan this need be no more elaborate than an outline plan.
- (ii) Floor areas and ratios similar to those shown on the full cost analysis, and calculated from the sketch design.
- (iii) An indication of the standard of construction, finishings, services, etc., required, in relation to other buildings which are familiar to both architect and quantity surveyor and for which cost analyses are available.
- (iv) A few full cost analyses of buildings of the same type. It is perhaps worth noting in passing that one or two detailed analyses are of much more value than any average or all-in figure obtained from the costs of a large number of buildings. The wide range of school costs quoted earlier illustrates the uselessness of the average cost for cost planning purposes.
- (v) Information relating to the site and functional requirements, e.g., permissible soil loadings, location of main services, required temperatures for heating, etc. Just as the rifleman has to aim off for cross winds so the architect has to allow for the upward drift in prices to hit his target cost.

That is to say if our target was 70s. per square foot, 66s. 6d. would be used for the cost plan and 3s. 6d.

would be held in reserve. The resulting cost should now be distributed to the various elements.

The choice of a cost for each element will be based upon the cost analyses available and how the specification meets his requirements. Few of the element costs shown in cost analyses will be accepted without alteration and they will have to be amended for: (a) differing standards of quality; (b) the quantity required; (c) fluctuations in price level.

The amendments for these three items can be made quite simply (b) from the areas and ratios (c) from the architect's or quantity surveyor's cost records and (a) will be the only one which will require judgment in determining the degree of amendment.

When each element has been allotted a share of the cost available they should be totalled to make sure they are possible within the total cost.

If the total exceeds the amount allowed the cost plan must be pruned until it comes within the target. If on doing this the architect is of the opinion that the quality of the building is too low then he must either reduce the area provided or obtain approval to higher cost limit. The value of being able to present a reasoned case on cost—which the cost plan provides—to the client as early as the end of the "investigation" phase will be only too apparent. The client will have much more confidence in the architect and the architect will be much more confident that what he designs will ultimately be built.

Use of the cost plan

When the cost plan has been completed the architect will have a cost limit for each element.

For example, in the case of the element "Roof Construction," 8s. might be allotted. This, when multiplied by the floor area might give a total sum of (say) £4,700. This could then be subdivided into 850 sq. yds. of roof decking with waterproof finish at £3 per sq. yd., 200 sq. yds. at £4 per-sq. yd. and 3,000-ft. run of eaves at 9s. per ft. run.

With this sort of information the architect can make a choice fully aware of its effect on the cost of a job. At regular intervals during the design stage it will be necessary to review the cost checks that have been made and to compare them with the cost plan. This is necessary in case it should appear desirable for an element to receive a greater proportion than the cost target allows. In such a case reductions would have to be made in other elements. On the other hand if savings became apparent a decision would have to be made as to how the extra money might be used to the best advantage.

At the conclusion of the design stage the element costs should have been decided with some assurance that the tender will come within the sum allowed. It would be prudent, however, to check the costs of the building as a whole before starting working drawings.

A favourable outcome of this final check will be the best assurance that working drawings and quantities can be prepared and tenders received without the haunting fear that distasteful reductions or unpleasant explanations will have to be made before the job can start.



RIBA

Points from the AGM

The following are some of the points that were raised at the annual general meeting of the RIBA, at 66, Portland Place, W.1, on May 1.

Leslie Watson said that members should be told as soon as possible about a subject briefly mentioned in the annual report: "RIBA Small House Designs." The standard houses which the RIBA was thinking of sponsoring were smaller than those already designed for development companies by several well-known and highly-esteemed architects. If the RIBA did not hurry up, he said, it would miss the boat in this very important matter.

E. D. Jefferiss Mathews said that details of the RIBA scheme could be published within a month, but it would be quite a time before it could become operative. No effort would be spared to push it on as quickly as possible.

Edward Jamilly had something to say about financial matters. For a learned institution, he said, 1.5 per cent. of the revenue was a low figure to spend on the best specialist library of its type in the country. He was particularly conscious of "gaps in the overseas publications." Mr. Jamilly also criticised the catering facilities. The canteen, he said, was again in the red, and one way of getting it out of the red would be an extension of its use. It could, he thought, be open for coffee and biscuits in the afternoons, and it could be given greater publicity.

Any increase in the allocation to the library (now £1,692) and the catering facilities would, said Mr. Jamilly, necessitate the getting of more money from somewhere. He could not say where that money should come from, but he wondered if the RIBA was in danger of becoming an over-administered unit. Administration expenses were £49,000 out of £104,000, and it was estimated that next year they would rise to £56,000. There was, he thought, a real danger of over-administering the unit and cutting down thereby on the necessary facilities in the way of books and greater use socially of the Institute.

Robert Townsend said that although the library had always been given all the money it needed, it might have to ask the Council for more money. It would be a great help, he said, if members would submit a list of books that should be available. The secretary said that the social use of the building had been under review by the appropriate committees for the last ten years. A major difficulty was the recruitment of staff. In any case it would not be possible to use the building extensively

during the next few years because of re-building operations next door. It was, however, a point which would be borne in mind.

T. E. Scott answered Mr. Jamilly's point about top-heavy administration. It was necessary, he said, to increase salaries in order to compete for staff on the open market. The figure of £56,000 included provision for additional staff to carry out the work which would be undertaken by the *ad hoc* committee, the committee which was set up after the last AGM.

W. A. Eden said "a grumble was raised to a howl of rage" when, shortly after the announcement of subscriptions going up, an advertisement appeared in the Press for "a new and rather vaguely-defined secretary." There was, he said, a great deal of questioning about the necessity for setting up a new highly paid post for a person who would obviously want an appreciable staff.

He went on to ask for an assurance that the Public Relations Committee did not, on upholding the proposition put forward in a letter to *The Times* by the hon. secretary of the Committee that the public has no right to criticize its architects, but could take them on trust.

F. G. Southgate said, in reply to Mr. Eden, that the sort of information that "the vaguely-defined secretary" would be looking for could be found in the full report of the *ad hoc* committee, which was published in last January's *RIBA Journal*. In reply to a question by J. Brandon Jones, he said it was felt better to have an investigator on the permanent staff than to employ somebody on a free-lance basis. "It was a little bit doubtful, we felt, whether members of the profession generally would have confidence in supplying information to an outside investigator."

G. Grenfell Baines spoke in support of Mr. Southgate, "who seems to be so much under fire." "Those who attended the last annual general meeting became aware that there are stresses and strains within the profession that cannot do the profession very much good and cannot in the end do architecture very much good either. There was quite an amount of emotion at that meeting, and many of us went away thinking very hard indeed. Twenty-four hours later I came across a piece of information that would have liked to have known at the meeting, and which would have helped a lot of people if they had known it. There are a tremendous lot of things that we do not know ourselves. We heard this afternoon that the building industry produced about £1,200 million worth of new work last year. We do not know how much of that work was done by architects. If we did know, we might know what the profession were earning as a whole. Some of the young people who are feeling stresses and strains might know whether there was any cake to share out at all before they start talking about something which might carve up the profession—never mind the cake."

There was something else we wanted to know, said Mr. Baines. If the profession was pretty evenly divided between private and official practice, as some reports said, it was important that the conditions of employment of the people in the two fields of practice should be somewhat equal, otherwise there would be more stresses and strains. But nobody could cost official practice. We needed to get to know about that. If any official department, unless it was doing a tremendous lot of repetition, was managing to do architecture at very much less than the scale of fees fixed by the Institute, there must be a lowering of standards somewhere. We had to find out these things. We had to know what was the true value of security in pensions to people working in official positions.

The *ad hoc* committee—a body of amateurs who were spending a lot of time on the matter—needed a full-time, top-level official to give the information and to say, "Look, chaps, until you produce 50 per

cent. of the new buildings in this country, you cannot have £1,000 a year." When the new officer got going perhaps these figures would be realistic, and some of those who asked questions would be reassured. The RIBA did not intend to waste money, but to use it to better the Institute and the profession generally, and finally to better architecture.

G. Oddie congratulated the *ad hoc* committee for the report they had produced.

Because the structure of the profession and the duties it had to perform in order to give full service to the people who employed it had changed since the war an investigation had become absolutely imperative. It was no good relying on willing horses to give what they could of their spare time in fighting with Government departments and other people who had to be presented with the true facts of the situation. A part-time consultant could have his eye on the ball for the time he was paid to have his eye on it, but after that he would lose sight of it.

T. E. Scott said that it was proposed to provide on the new top floor of no. 66 a somewhat larger canteen with a more efficient kitchen and it was hoped that canteen facilities, to which one member had referred, would be extended. Two additional committee rooms, and additional accommodation for the staff of the *ad hoc* committee and probably the public relations committee would be provided.

DOMESTIC HEATING

Institute's Conference

The two-day conference which was held by the Institute of Fuel at Church House, Westminster, on May 1 and 2 set out to consider such questions as "Why are we not getting the supply of solid smokeless fuel called for in the Simon Report of 1946?" "Why do we get only about two thirds of the heat value out of our coal that we ought to get (and that the Danes do get)?" "Why is it that we are still building houses to standards of insulation lower than those advocated by the Egerton Report of 1945?" and "Why is it that we are doing almost nothing to prepare for the great effort which will be required from everyone to implement the Clean Air Bill now being hurried through Parliament?"

The conference, writes an editor, was exceedingly well prepared. A volume containing the 46 papers which were the main substance of the work was published well in advance, and procedure during the two days of the conference was confined to summaries of the four sections into which these papers fell—Fuels, Appliances, Design of Dwellings and Smoke Control—followed by comments, criticisms and questions on the papers by members of the vast audience who attended. The points raised in this way were not taken up by the authors at the time but were recorded, and written replies by the authors are to be published in the autumn.

It is not possible to comment on the papers in this note. Together they comprise (or perhaps we should say *some* of them comprise) the most useful assembly of fact on this subject that has ever been made available, and for this reason the *JOURNAL* is planning to make a digest of all that is most reliable and to the point, to be published in about two months time.

Among the most important of the papers were an account by Sir Alfred Egerton of what has been happening in the field since the publication of the Egerton Report, a summary of Dr. Bedford's classic work on "Comfort Conditions," and two papers contributed by members of BRS on special

studies undertaken for the conference on how to provide "comfort conditions" in some typical semi-detached houses, the costs of the different alternative installations, the fuel they use and the insulation necessary. A criticism of many of the other papers and, still more, of so many of the contributions from the floor, is that the authors were evidently not aware of the facts which the BRS work established, and it was this, of course, which made some of the proceedings utterly confusing. As Dr. Foxwell so tactfully put it in his summary in the last session, their contributions were "promotional rather than factual." This was to be expected and it does not in any way diminish the worth of the conference. Two points among the many resolutions proposed by Dr. Foxwell seemed particularly good: namely that the Government (and particularly the Treasury) should remove purchase tax from really efficient equipment and should make a reasonable standard of insulation compulsory in all new buildings; and that in the operation of the Clean Air Bill fuel efficiency should be linked with clean air, and users of smoke-making equipment encouraged to make a quick and painless change over in the expectation of getting more heat at less cost.

RCA

Automation in a Russian Concrete Factory

It was appropriate perhaps that with the arrival of Bulganin and Krushchev on April 18 the Reinforced Concrete Association should choose that day to present at the Royal Empire Society two Russian films dealing with factory-made precast units for use in multi-storey buildings. The first film opened with a shot of a building site showing some fifteen mobile tower cranes busily employed in lifting precast columns, beams, panels of floor slab, staircases and panels of outer cladding, the heaviest items being the latter, two storeys high and weighing several tons.

Having displayed the end product, the cameras returned to the factory and followed the progress of each unit from raw material to the finished member. The two types of slab panels were particularly interesting. In the case of the floor slabs, approximately 12 ft. by 6 ft., the mould is sprayed with oil and the cage of reinforcement laid by machine. A unit carrying tubular steel cores moves along the assembly line and thrusts these from one end of the mould to the other. The concrete is then delivered over the assembly line and fills the mould which is promptly vibrated. The mould then moves along to a vacuum pad and receives pressure treatment and removal of excess water. In the final stage the cores are withdrawn and the mould moves forward into the steam curing chamber. From the curing process the slab is lifted out of its mould and stacked by gantry cranes which also service the road transport to site.

The wall panels had somewhat similar treatment but in the first place ceramic tiles were laid by hand on to a rubber mat on the bottom of the mould. This was the only manual operation in evidence.

Steel reinforcement for columns and beams was cut, assembled, jugged and stirrups welded on entirely by machine. In all units the whole assembly moved in the manner of one of our best car manufacturing plants and very few operators were to be seen, an occasional male or female button-presser seemingly controlling a whole cycle of operations.

Having seen the units being prepared and transported to site, we were then ready to see the building positively leap out of the ground. Precast foundation slabs were dropped into position on a bed of grout.

A quick check with a hand level and then outer wall panels followed. Inner precast foundations had a recess for the columns and a system of jiggling and jacking the columns into position. A dumpy level was seen in action at this stage of the job. With columns in position two storeys high, the precast beams followed, sliding through guides on to the shelf angles cast into the columns. After lining up, these were welded to steel inserts in the beams. Floor panels then appeared on the beams and were welded to inserts in the beam. The process was repeated as required and column joints consisted of a steel plate at the end of the upper column welded around its circumference to the plate at the top of the lower column. Throughout the building welding was the joining medium. The film was made in bright sunny weather and it would have been interesting to see the welders at work in the Russian winter. The cranes were sometimes female controlled and contact with the operators at the ground level was either by telephone or radio. The whole system appeared to be very massive and final appearance rough. It would have been interesting to have a close-up of the joints in the outer walls.

LCC

New Appointment for AJ's Ex-Guest Editor

Cleeve Barr, who was one of the JOURNAL's Guest Editors (Costs) for 1955, has been appointed deputy housing architect at the LCC, under H. Whitfield Lewis.

AA

New President

Gontran Goulden is to be president of the AA for its 110th session, commencing on June 1. Mr. Goulden, who has been chief technical officer and deputy director of the Building Centre since 1947, has been a member of the AA Council since 1949, and has been vice-president during the 1954-56 session.

BOOK REVIEWS

Two Masters of Our Time

In the short-hand thinking by which we are accustomed to stack information away in our minds, Eric Mendelsohn gets filed under *Expressionist* and Marcel Breuer under *Functionalist*, and there they are apt to get left. They are neither of them names that get bandied about at the noisier tables in the dining room at the AA; no one, I imagine, goes over their work for golden cuts: their names are rarely appended to the pious triologue "Corb-Mies-Grope" (or, for the over-forties, "Corb-Mies-Wright").

And yet . . . when one begins to go over the facts of history, rather than the fancies of modern movement legend, how they stick out! While Gropius was building log huts and talking handicrafts; while Mies was dreaming of glass towers and building hardly a thing; while Corb was still wondering whether to disown the house at Chaux de Fonds, and remembering—as he left a bicycle race—that he still hadn't put a staircase at that house at Vaucluse. While all this . . . Mendelsohn had already achieved the Einstein Tower and the Luckenwald Factory, two of the most original buildings of this century. And in the next phase it

was Breuer who, in concrete fact, designed most of the chairs, tables and other objects that constitute the tangible evidence that the Bauhaus was a school of design as well as a noble dream.

If it's proof that you want, it is to be found in two books (one a revision, the other spit new) that have appeared recently. One is the new edition of Arnold Whittick's *Eric Mendelsohn* (Leonard Hill, 46s.) and the other is Marcel Breuer's *Sun and Shadow* (edited by Peter Blake, Longmans, 50s.). The first is indispensable to any student of the modern movement; it documents the life and work of a variable and unconformist genius from his early sketches to the year of his death, 1953. It is difficult not to feel, as one pursues his career through the book, that his inspiration begins to cool after he was chased out of Germany by the Nazis. And he certainly did repeat himself in later years. But at least he didn't repeat other people, and the material that he repeated, the work of his years of achievement between 1919 and 1933, can be put alongside anything of the same years by the other Masters. Although this new edition of Whittick's book brings the working biography to completion, it adds very little to the criticism and evaluation of Mendelsohn's work. I have pointed out elsewhere* that it is possible to doubt that Mendelsohn was really an Expressionist for more than about four years of his active career, but Whittick lets this blanket label remain; he says nothing about any possible debt to Futurist architectural projects, nor to Gaudi, and he rather scouts the possibility of the Dutch visit of 1919 having altered his manner of designing. Nevertheless, for documentation of the man at work, this book is irreplaceable.

Sun and Shadow is a very different affair. It is infuriating to read because the text has been set sideways-on to the page, but it is worth the labour of holding open in defiance of the laws of nature. Again, the documentary coverage is full and satisfying, from early Bauhaus days to the Unesco, St. John's Abbey and de Bijenkorf projects. But the text is Breuer's own—except for the captions and a couple of historical surveys—and brings out the oft-forgotten fact that behind the functional and professional exterior of the man, there beats the heart of a romantic (it was Jack "Isokon" Pritchard who pointed out how often Breuer's terms of comparison are drawn from the opposite sex). He demands contrast, not compromise—*sol y sombra*, bull-fight language, not the *soleil et ombre* of the classical tradition. Of structural form he says "Is there a symbol comparable with the archaic column, the gothic arch, the renaissance dome? It is, perhaps, the cantilevered slab—light and slightly resilient in the wind." That could almost have been said by Mendelsohn, and it reminds us, therefore, that our accepted labels, such as *Expressionist* and *Functionalist*, are in need of constant overhaul.

REYNER BANHAM.

**Architectural Review*, August 1954.

DIARY

Bridges Are Beautiful. Exhibition of American steel bridges. At the Building Centre, Store Street, W.C.1. Daily, 9.30 a.m.—5 p.m. Saturdays, 9.30 a.m.—1 p.m. (Not open May 19 and 21). MAY 10-26

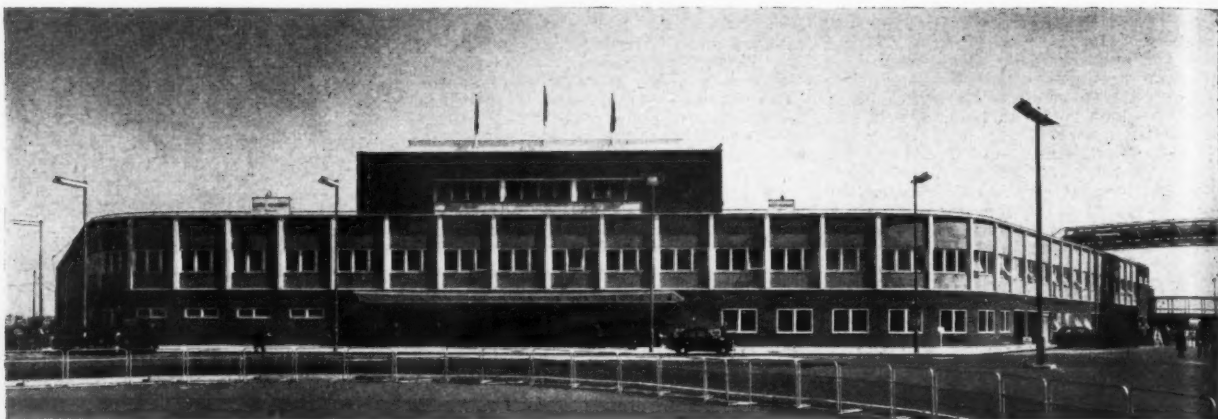
MAY 11 to 15

Architecture and the Local Community. Henry Morris. At the RIBA, 66, Portland Place, W.1. 6 p.m. MAY 15

The Mosaics of Ravenna. Illustrated talk by E. A. Remnant. At the AA, 34, Bedford Square, W.C.1. 6.15 p.m. MAY 17

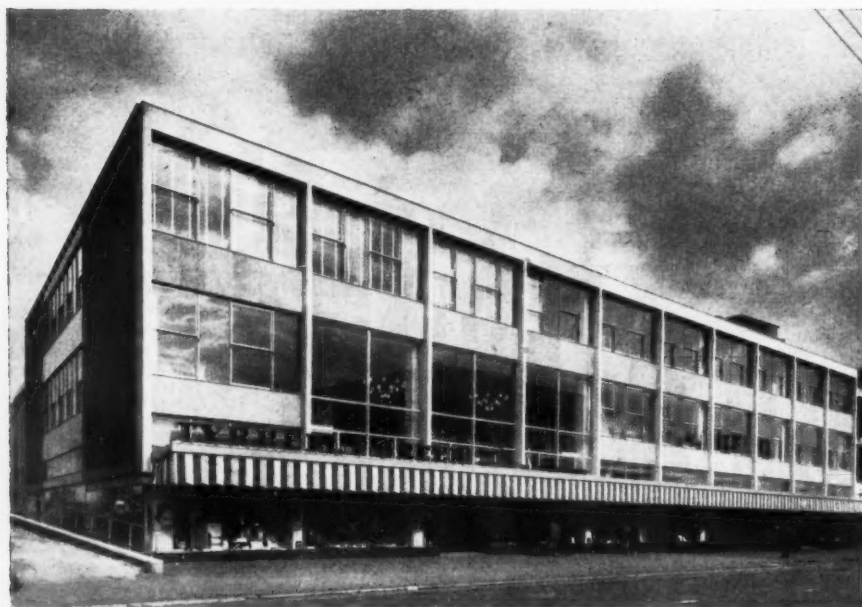
Burle Marx: Brazilian landscape architect. Exhibition at the ICA, 17, Dover Street, W.1. Monday to Friday 10 a.m.—6 p.m., Saturday 10 a.m.—1 p.m. UNTIL MAY 26

BUILDINGS IN THE NEWS



Queen's Building, London Airport

The Queen's Building, London Airport, which was opened to the public last week, was designed by Frederick Gibberd (partner-in-charge, A. J. Double, and associate architect for building, J. W. Grimes). This building is linked to the passenger handling building by an 80-ft. bridge, seen on the right, above, and occupies the eastern corner of the diamond-shaped central terminal area. Left, the exhibition hall through which spectators pass to reach the large roof gardens and terraces.



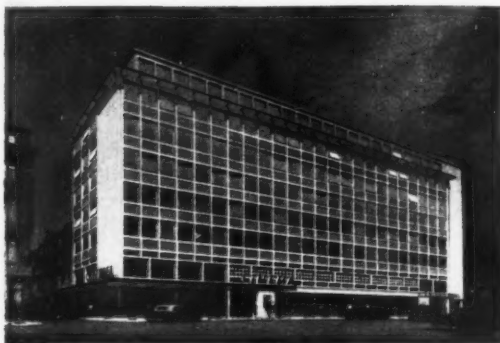
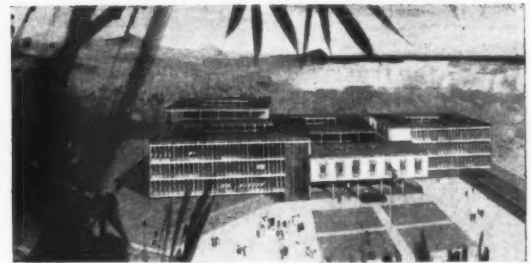
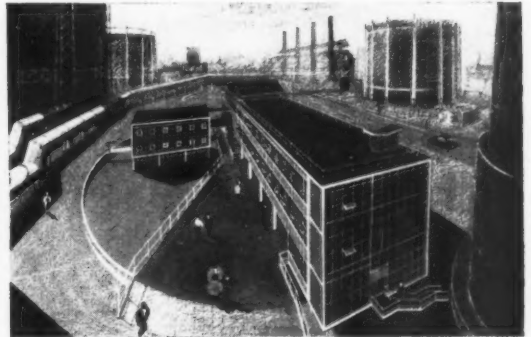
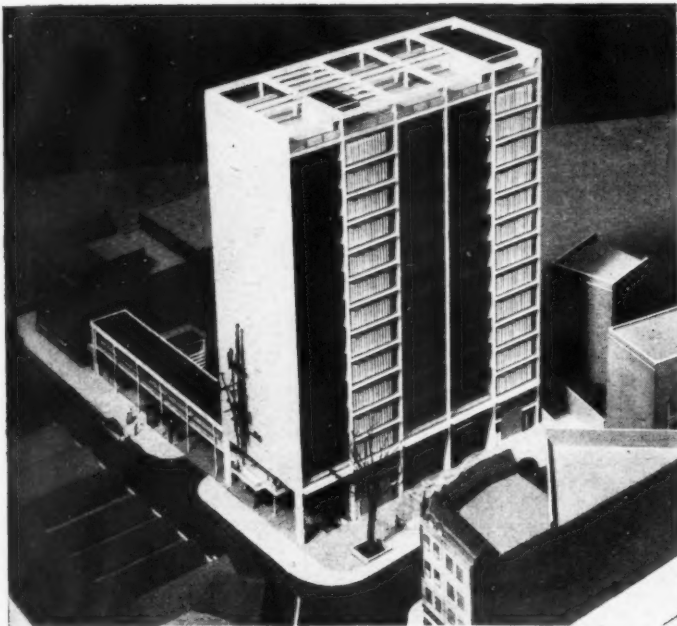
Department Store, at Southampton

The new department store for Messrs. Tyrrell & Green (a branch of the John Lewis partnership) in Above Bar Street, Southampton, was officially opened last Monday. The store, which was designed by F. R. S. Yorke, E. Rosenberg and C. S. Mardall, has been built in two stages, the first of which was opened in June, 1955, and provision has been made for an additional floor to be built over the whole site if required. The total floor area at present is 70,000 sq. ft. and the area of the site is 17,500 sq. ft. The building will be illustrated fully in a later issue of the JOURNAL.

Last year the President of the Royal Academy, Professor Sir Albert Richardson asked for more space for the architectural exhibits. In consequence the designs overflowed into a second gallery. This year the size of the exhibition has shrunk—not, we hope, as a consequence of

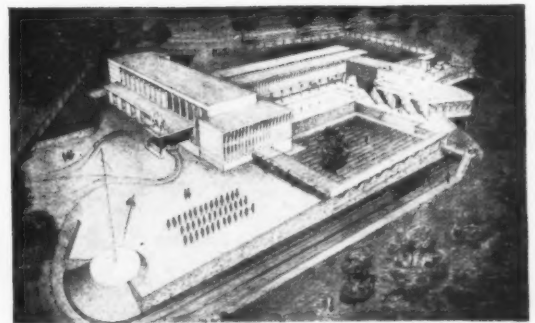
Sir Albert's tirades against modern architecture—and is contained once more within the Architectural Room of Burlington House. Twenty-four of the more contemporary designs from the hundred and ten exhibited are shown here and on pages 479 to 483.

ARCHITECTURE AT THE ROYAL ACADEMY: OFFICES



Top left, office block in Upper St. Martin's Lane, W.C.2, by Basil Spence, ARA. Top right, offices at Beckton gas works, for the North Thames Gas Board by Elie Mayorcas. Centre, right, central government offices at Jesselton, North Borneo, by R. Gordon Brown. Above, left to right: shops, offices and cinema in Shaftesbury Avenue, by Gordon Tait (Sir John Burnet, Tait

& Partners); a new headquarters building for English, Scottish and Australian Bank, Ltd., by Playne & Lacey; project for Grafton Galleries, by Newman, Levinson & Partners. Below left, proposed offices at Bethnal Green for the London Electricity Board, by Basil Spence, ARA. Below right, Uganda Legislative Council Building, Kampala, by G. Bodgener (Edward D. Mills.)



Cacti in peculiar pots and strange shaped chairs have raised many an eyebrow.

But **contemporary décor** also needs

modern paints—beautiful, fashionable pastel shades; paints that could not exist without Titanium Oxide, the whitest pigment known. Paints based on Titanium Oxide stay brighter longer, do not crack or flake and are unaffected by smog. It pays to remember that these modern paints need fewer coats, thanks to the extraordinary covering power of Titanium Oxide.



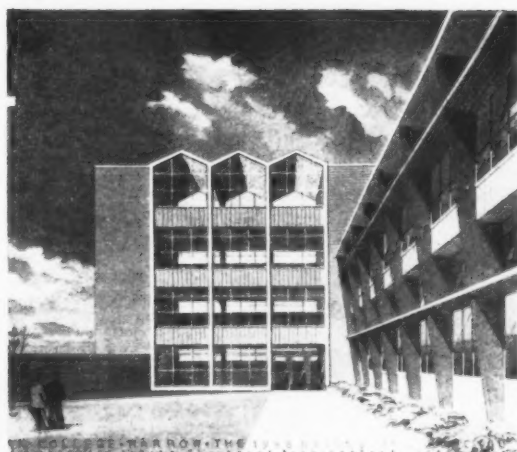
Issued in the interest of better paintwork by

**BRITISH TITAN PRODUCTS
COMPANY LIMITED**

COPPERGATE
YORK

Factories at Grimsby and Billingham and at Burnie, Tasmania. Agents in most principal countries.

ROYAL ACADEMY: SCHOOL AND UNIVERSITY BUILDINGS



Top, Leeds Central Colleges, by Yorke, Rosenberg and Mardall. Centre, left, Physics Building for Liverpool University by Basil Spence, ARA. Centre right, 1956 extensions to Salvatorian College, Harrow. Above left, secondary school at Soverby

Bridge, Yorkshire, by James Cubitt & Partners, in association with Hubert Bennett. Above right, Engineering Building for Southampton University by Basil Spence, ARA. Below, infants school at Basildon Kingswood, Essex, by Philip G. Freeman.





NSE

PARTITIONING

That's the beauty of N.S.E. Partitioning—we can run it up in next to no time, yet although when erected, it has a permanent appearance, it can just as easily be taken down for reassembling elsewhere.

N.S.E. experts are always at your service for free advice and information. Please send for the comprehensive catalogue, which covers the complete range of better value steel equipment made by N.S.E.

NORWOOD STEEL EQUIPMENT LTD.

149 BOROUGH HIGH STREET, LONDON, S.E.1.

Telephone: HOP 5033

NORTHERN OFFICES: 357, Oxford Road, Manchester 13.

Telephone: ARDwick 6693

WESTERN OFFICES: 3-5, Sussex Place, Ashley Road, Bristol, 2.

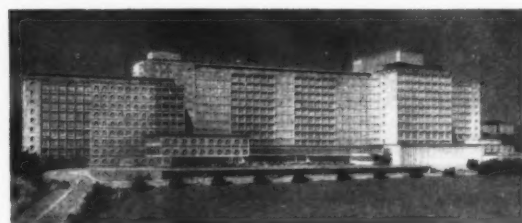
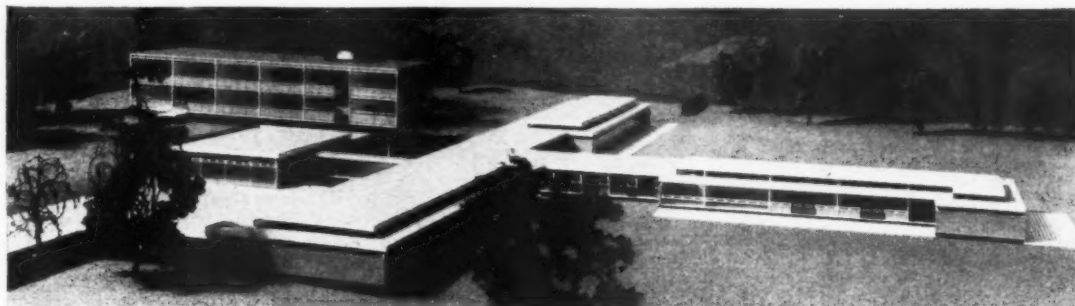
Telephone: Bristol 57408

THE NATION IS BEING PARTITIONED..... BY N.S.E.

ROYAL ACADEMY: CIVIC DESIGN, HOSPITALS AND HOUSING



Top, the Market Square for Harlow New Town Centre, by Frederick Gibberd & V. Hamnett. Above, a new waterfront for Hong Kong, by R. Gordon Brown.



Top, an admission unit for St. John's Hospital, Aylesbury, by Gollins, Melvin, Ward & Partners. Above, the new Kowloon hospital, Hong Kong, by Easton & Robertson. Left, residential development in Kensington Palace Gardens, by Guy Morgan & Partners.

You'll need this for reference

New EDISWAN Catalogue

This new catalogue of Electrical Accessories gives full details of all our well established lines plus a number of new additions to the range. Pages are arranged in handy reference style with illustrations, descriptions, catalogue numbers and prices alongside each other. Sections are shown by a tabbed index.



Some of the NEW LINES

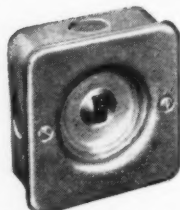
AVON Ceiling Switch

All moulded.
Nylon connector
gives extra
strength and
double
insulation.



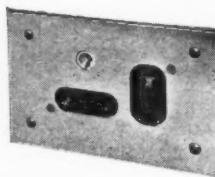
AVON Metalclad Switch Unit

Aluminium finished pressed steel box. A.C. only.
Nylon dolly.



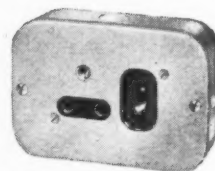
AVON Flush Switch Socket Outlet

with moulded or metal plate
Protected nylon dolly. 5
and 15 amp.



AVON Metalclad surface Switch Socket Outlet

Has protected nylon dolly.
5 and 15 amp.



EDISWAN Electrical Accessories

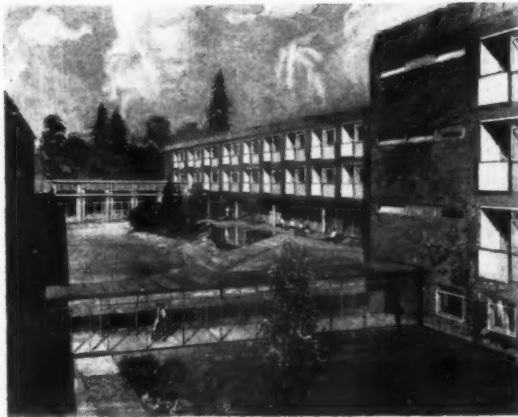
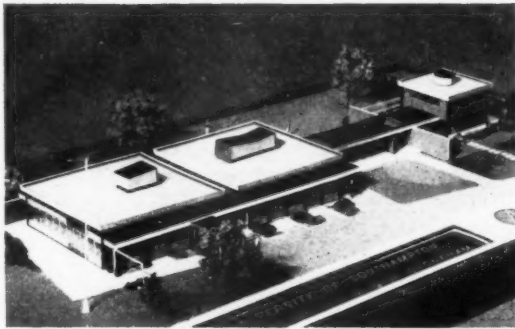
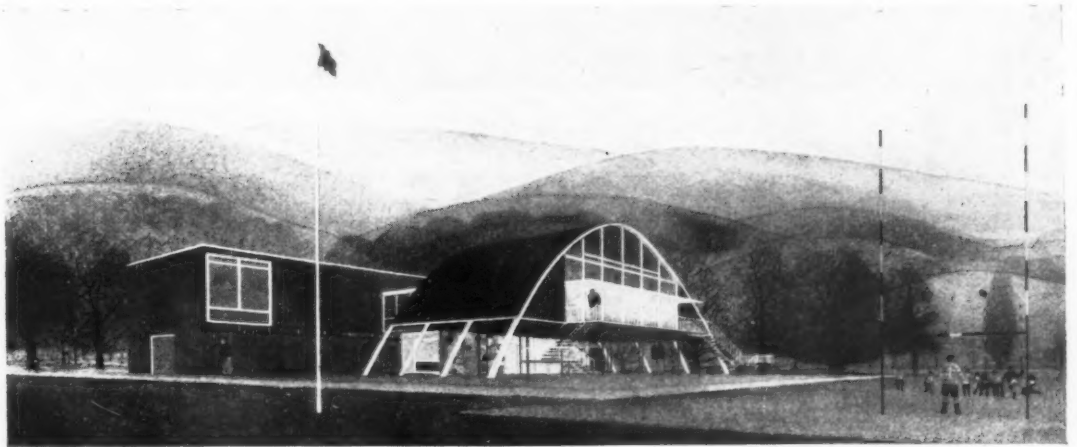
THE EDISON SWAN ELECTRIC CO. LTD. 155 Charing Cross Road, London, W.C.2. and Branches

Telephone: Gerrard 8660.

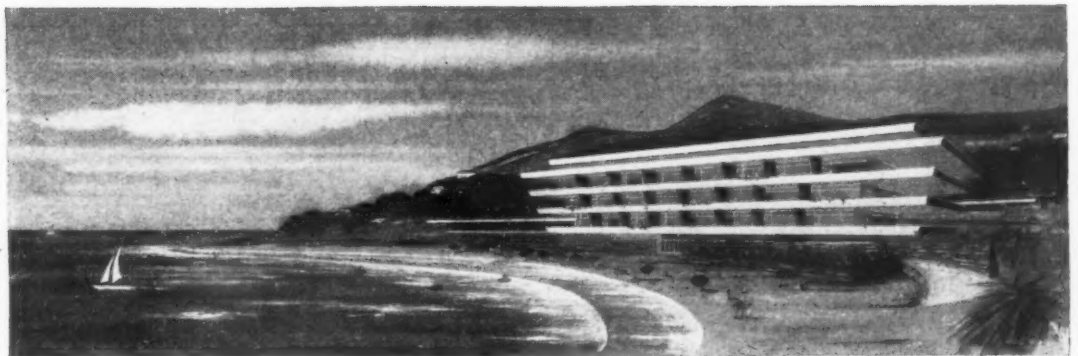
Member of the A.E.I. Group of Companies

Telegrams: Ediswan, Westcent, London.

ROYAL ACADEMY: SPORTS PAVILIONS, HOSTELS AND HOTEL



Top, proposed clubhouse at Cwmbran New Town, by Clifford Tee and Gale. Above, left, sports pavilion at North Stoneham for Southampton University, by R. H. Sims & P. J. Coles. Above, single men's residence for the Metropolitan Police, by Sidney J. Hanchet. Left, women's Hall for Southampton University, by Basil Spence, ARA. Below, hotel development scheme: Marche e San Marino, Italy, by Lionel J. Weaver

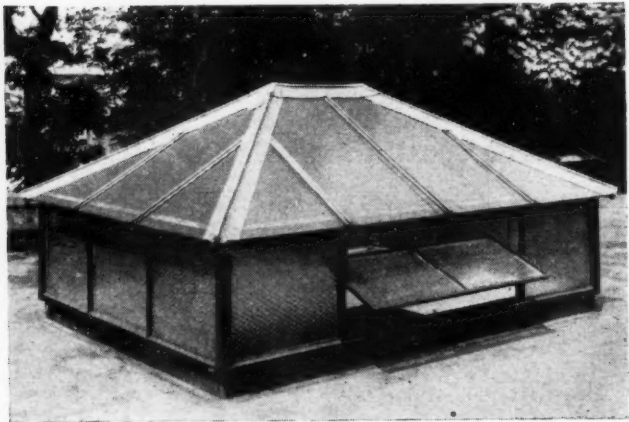


January	February	March	April
1	2	3	4
5	6	7	8
9	10	11	12
May	June	July	August

HOPE'S

Standard Lanterns

*for lower cost and
quicker delivery*




*4 weeks delivery
in standard sizes*

See Catalogue 197

HENRY HOPE & SONS LTD

Smethwick, Birmingham & 17 Berners St., London W.1

MEMBER OF THE METAL  WINDOW ASSOCIATION

FILE THIS WEEK



This week's Information Centre items for filing include reviews of the housing ministry's technical memorandum on the use of land for industry, the BRS digest on corrosion and damage to lead in valley gutters and a GPO booklet on telephone facilities in new buildings. The article for your files, on page 486, is a continuation of the "plywoods, boards and veneers" section of a series on the design and practice of joinery.

technical section

INFORMATION CENTRE

A digest of current information prepared by independent specialists; printed so that readers may cut out items for filing and paste them up in classified order.

3.31 planning: regional and national
INDUSTRIAL ZONING

The Use of Land for Industry (MOHLG Technical Memorandum). *Development Plans and their Provisions for Industry*. S. L. G. Beaufoy, C.B.E., P.P.T.P.I., F.R.I.B.A. (RICS Journal. Feb. 1956.)

Control of and provision for industrial development has always been a difficult problem in planning, and, ever since the widening of their powers by the 1947 Act, planners have been obliged to take a much more careful account of industrial proposals than ever before. Although their post-war experience with development plans and developers themselves has taught them a great deal, it is still probably true to say that technical knowledge has not advanced so far in this particular field as in some others. No one now disputes the fundamental importance of properly planned provision for industry, and even with full employment we should aim for at least a greater measure of balance in industrial structure when preparing the development plan for a town, but we have a long way to go before we can say how these things should be done. The Ministry of Housing and Local Government, in their Technical Memorandum on "*The Use of Land for Industry*," have provided what is probably the best handbook of guidance and information available so far on the methods that can be employed, so the address to be given by their Chief

Technical Officer to the RICS General Meeting this year was looked forward to with interest. Mr. Beaufoy, however, did not go much beyond the material already published by his Department. His review of the problems arising from economic structure and his analysis of regional industrial trends were useful summaries, even if they contained little that was new. He acknowledged that new factory development is still being attracted to the London region in direct opposition to the planning proposals for the area, but, apparently, was satisfied that this was due to the legitimate demands of the defence and export programmes, and maintained that the Barlow policy has not been shelved—in spite of alarmist reports to the contrary. He appeared to think that, in the long run, the advantages of decentralization were so overwhelming that voluntary movement by industrialists could be relied upon to bring about a better balance of economic and social life throughout the country. We would have liked to know how long the run was going to be and whether a move of 20 miles from London or 10 miles from Liverpool is decentralization.

His analysis of the development plans so far submitted produced some interesting results. From a selection of the land use surveys prepared for some 250 town maps it appears that industry then occupied just over one tenth of the total land in urban use. The average provision worked out at 3.76 acres per 1,000 population, although there were wide variations within the range of towns included in the sample. The planned proposals for these same areas provide for an increase in industrial land to about 5.2 acres per 1,000, the increase being about 40 per cent. in the county boroughs, 30 per cent. in the larger town map areas, and about 20 per cent. in the smaller ones. We shall have to wait until the next review of the development plans to see how far these proposals conform with reality.

One of the most difficult problems in assessing the amount of industrial land required is the density (in terms of workers per acre) at which new development can be expected to take place. A standard estimate of 50 workers per gross acre is often used. Mr. Beaufoy's figures tended to confirm this, since on eight large trading estates the den-

sity developed was between 30 and 60 workers per acre. It was found too that, on average, the factory buildings occupied only about one fifth of the gross acre, allowing 220 sq. ft. per worker in the buildings themselves. These figures are interesting by-products of analysis but obviously cannot be accepted as "standards" in any sense. It was disappointing to find that the density sample appeared to be based on conditions prevailing in 1948. Manufacturing techniques change so rapidly that a similar survey of premises built since, say, 1954, might give completely different results.

The complexity of industrial structure and the varying needs of industrial developers are often so great that the planner is sometimes almost in despair when attempting to include practical proposals for industry in his development plan. We have come a long way since the days when it was considered enough to zone the derelict site behind the gasworks for industry and hope it would be developed. But there still remains immense scope for further research. The Ministry, in their Technical Memorandum, have provided a useful start. The more active of the local planning authorities have had a great deal of practical experience in almost every aspect of the problems involved. The next step should be a comprehensive programme of research on a series of topics which both parties agree to be of urgent importance. It is only by getting to know all we can about the nature of the problems that we are faced with, that we can hope to solve them.

12.62 materials: metals

LEAD VALLEY GUTTERS

Corrosion and Damage to Lead in Valley Gutters. BRS Digest No. 84. January, 1956. (HMSO. 3d.)

Lead gutters can be corroded fast by rain-water dripping from lichen- and moss-covered roofs or new wood shingle roofs. Remedy: protect lead with bitumen or bitumen paint, kill lichens and mosses by fungicides given in Digest No. 47 (but keeping clear of those which contain copper). To avoid cracking in lead through local stresses, provide underlay, and don't use sheets more than 8 ft. long.



THIS American Bar at the Midland Hotel, Manchester was carried out by our Organisation to the instructions of the Staff Architect in accordance with the designs prepared by John Carter.

Architects are invited to consult us with the assurance that their schemes for Stores, Shops and all Architectural Decoration will receive faithful interpretation by an organisation with a long and varied experience.

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

Harris & Sheldon Ltd

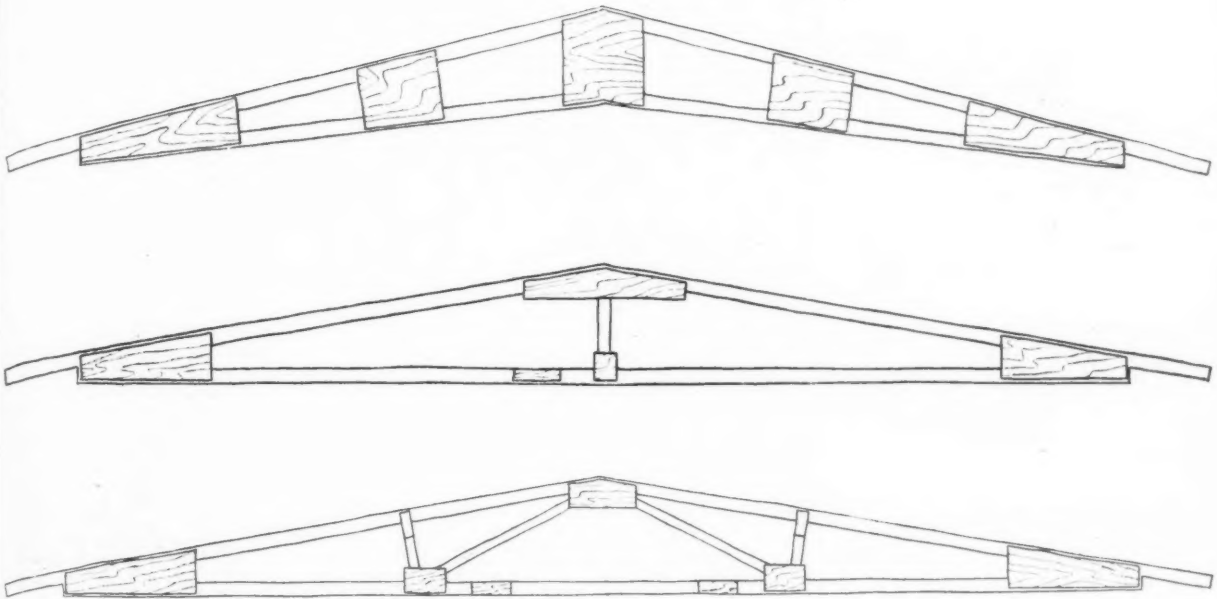
The organisation with a background of 75 years experience

BIRMINGHAM

LONDON

GLASGOW

technical section



Above, three types of glue nailed truss. Top, sloped truss: centre, Kingpost truss: bottom, W truss. Right, table comparing the weights and performance of the three glue-nailed trusses shown above with a conventional W nailed truss.

Span	New glue-nailed trusses Kingpost sloped W			Standard W nailed truss	
24' 8"	37	40	48	75	board ft.
	2 x 4	2 x 4	2 x 4	2 x 6	top chord
	2 x 4	2 x 4	2 x 4	2 x 4	bottom chord
	13	25	10	none	sq. ft. plywood
28' 8"	89	130	108	162	weight in lbs.
	69	42	56	87	board ft.
	2 x 6	2 x 4	2 x 4	2 x 6	chords
	16	25	10	none	sq. ft. plywood
32' 8"	156	150	142	185	weight in lbs.
	75	71	85		board ft.
	2 x 6	2 x 6	2 x 6		chords
	34	36	18		sq. ft. plywood
36' 8"	195	210	218		weight in lbs.
	IMPRACTICAL	IMPRACTICAL	94	IMPRACTICAL	board ft.
			2 x 6		chords
			40		sq. ft. plywood
40' 8"			265		weight in lbs.
			104		board ft.
			2 x 6		chords
			40		sq. ft. plywood
			287		weight in lbs.

Notes: All figures based on 3-in.-12 roof pitch. Sloped ceiling & W truss use 1/2" plywood gussets, kingpost uses cheaper 5/16" plywood. Conventional nailed trusses require about 175 nails.

manufacturer. In this connection it is interesting to note that the American Federal Housing Administration approves of the technique even in the hands of the small builder provided assurance is given that the glue nailing will take place in a temperature not less than 50° F.

26.121 services and equipment: miscellaneous TELEPHONE INSTALLATIONS

Facilities for Telephones in New Buildings. (G.P.O. Free.)

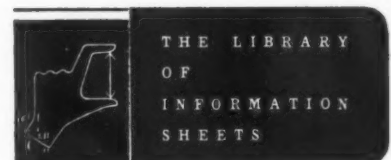
This booklet, which has been prepared "in collaboration between the Post Office and RIBA representatives," is a revised version of the booklet published under the same title in 1931. It is, on the whole, disappointing, and shows no sign of the fresh, critical approach which we expect from authentic architect-specialist collaboration. Describes lucidly and in some detail the wiring of offices (for a fuller account see AJ Nov. 18, 1954) but gives only a few generalised notes on hotels, flats, dwelling houses, hospitals and factories.

12.63 materials: timber GLUE-NAILED TRUSSES

Now you can save twice as much by switching to truss framing! (House and Home, February, 1956.)

The American Small Houses Council have been developing three new glue-nailed trusses, a kingpost truss, a sloped truss and

a W truss. These, as can be seen from the table, are considerably lighter than the standard W nailed truss; and whereas the latter could not span more than 28 ft. 8 in. owing to a lack of space for the required number of nails, the new W glue-nailed truss can span up to 40 ft. 8 in. The view of glue-nauling in the English trade seems to be that it can only be safely entrusted to the



26.J10 REFERENCE BACK

Readers are asked to note that the manufacturer's address is now 142, Old Shoreham Road, Hove, Sussex. Telephone: Hove 71388.

cut
this
out!

Can you afford to waste money by using outdated construction methods?

Take a look at the illustration on the right. All the costly shaded items are replaced by the one simple Finlock Gutter Unit shown below, with lintel cast in situ in the patent rear trough.

Maintenance costs? There are *none*.

If you have not seen the Finlock technical literature yet, why not send for it today? It covers the five types of gutter, the hot bitumen and aluminium lining service and the Finlock Sprocket. It all adds up to better building at lower costs.

and you
save all
the way
round

FINLOCK

FINLOCK GUTTERS LIMITED

Finlock House, Frant Road, Tunbridge Wells, Kent. Telephone: Tunbridge Wells 3396/9

Works at: Southborough, Kent; Royston, Herts; Cwmbran, S. Wales; Crewkerne, Somerset; Leeds, Yorks; Wakefield, Yorks; Musselburgh, Scotland; Belfast, N. Ireland

DHB/2499

technical section

13 MATERIALS: TIMBER

DESIGN AND PRACTICE OF JOINERY

by John Eastwick-Field and John Stillman

9 PLYWOODS, BOARDS AND VENEERS, 2

Last week John Eastwick-Field and John Stillman began their description of plywoods, boards and veneers by describing the various grades of plywood on the market, their uses, and the technique for handling them. This week they continue by giving the corresponding information for the different kinds of board: hardboard, chipboard and the rest. In a subsequent issue they will complete this aspect of their subject by discussing veneering and the use of plastics.

Hardboards

These boards come into the category of "fibre building boards" and consist of lino-cellulose fibres felted together and highly compressed. They vary in colour from light to dark brown and all of them provide large unbroken surfaces without grain, with at least one side always smooth. In joinery the "standard" and "super" grades of hardboard are often used as alternatives to plywood of equivalent thicknesses.

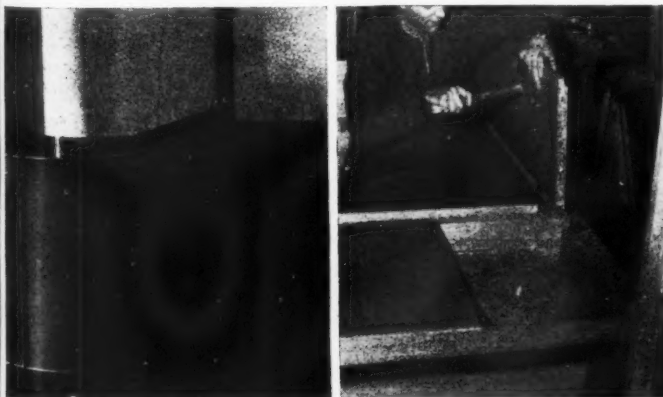
The following table shows the sizes and thicknesses in which they are commonly produced:

	lbs. cu. ft.		
Standard	min. 50	$\frac{1}{8}$ in., $\frac{3}{8}$ in.	4 ft., 5 ft. and 5 ft. 3 in. by 4 ft. to 18 ft.
Super	min. 50	$\frac{1}{8}$ in., $\frac{3}{8}$ in.	4 ft., 5 ft. and 5 ft. 3 in. by 4 ft. to 18 ft. and as floor tiles

In addition there are softer boards known as medium hardboards:

	lbs. cu. ft.		
Medium	30-50	4-12 mm. $\frac{1}{16}$ in., $\frac{1}{8}$ in. $\frac{3}{16}$ in., $\frac{1}{2}$ in., $\frac{3}{4}$ in.	3 ft., 4 ft., 5 ft. and 6 ft. by 4 ft. to 18 ft.

Left: hardboard used in the entrance to an office. This example shows how the material can be curved. Right: hardboard used as a facing to doors in cupboards.



The medium hardboards are often used as pin-up boards, and also as ceiling and wall panels and as underlays for floor coverings. The "standard" boards are widely used as sheet coverings in all forms of joinery and in the manufacture of flush doors: they are a most useful material for this purpose and their smooth surface provides an excellent ground for paints, provided they receive a suitable priming, but, like most materials, they move with changes in the moisture in the atmosphere and it is important to see that their edges are continuously supported and that as much support as possible is given over the whole surface of the boards in order to prevent bulging. This applies particularly to the thinner boards.

For positions liable to heavy wear and abrasion, the super hardboards are preferable to the standard grade. Being tougher, they are useful for tops, boat building, and even for flooring, and in this connection it may be noted that some varieties on the market are sold specially for floors and have colouring incorporated during manufacture.

Some of the boards are what is known as "oil tempered," a treatment which enables them to be used as shuttering for concrete and, if properly painted, in exposed positions.

"Standard" and super hardboards have been used for many years and their advantages and limitations are well recognized, but recently their range has been extended by the application or incorporation at the time of manufacture of a whole variety of special surfaces. These developments are likely to continue, and the only means of ascertaining what is available is to consult a stockist of wallboards. A recent visit to such a stockist produced the following: plastic faced, stove-enamelled, metal faced, wood veneered, embossed, perforated, and "leather faced" hardboards. Not all these boards are strictly connected with building joinery, but will certainly be used in shop fittings, and it will probably be the joiner's job to fix them.

Technique for Hardboard

The material is essentially a sheet material suitable for covering frames or for framed panels: it is not practicable to form joints in the material itself except possibly edge to edge tongued and grooved joints.

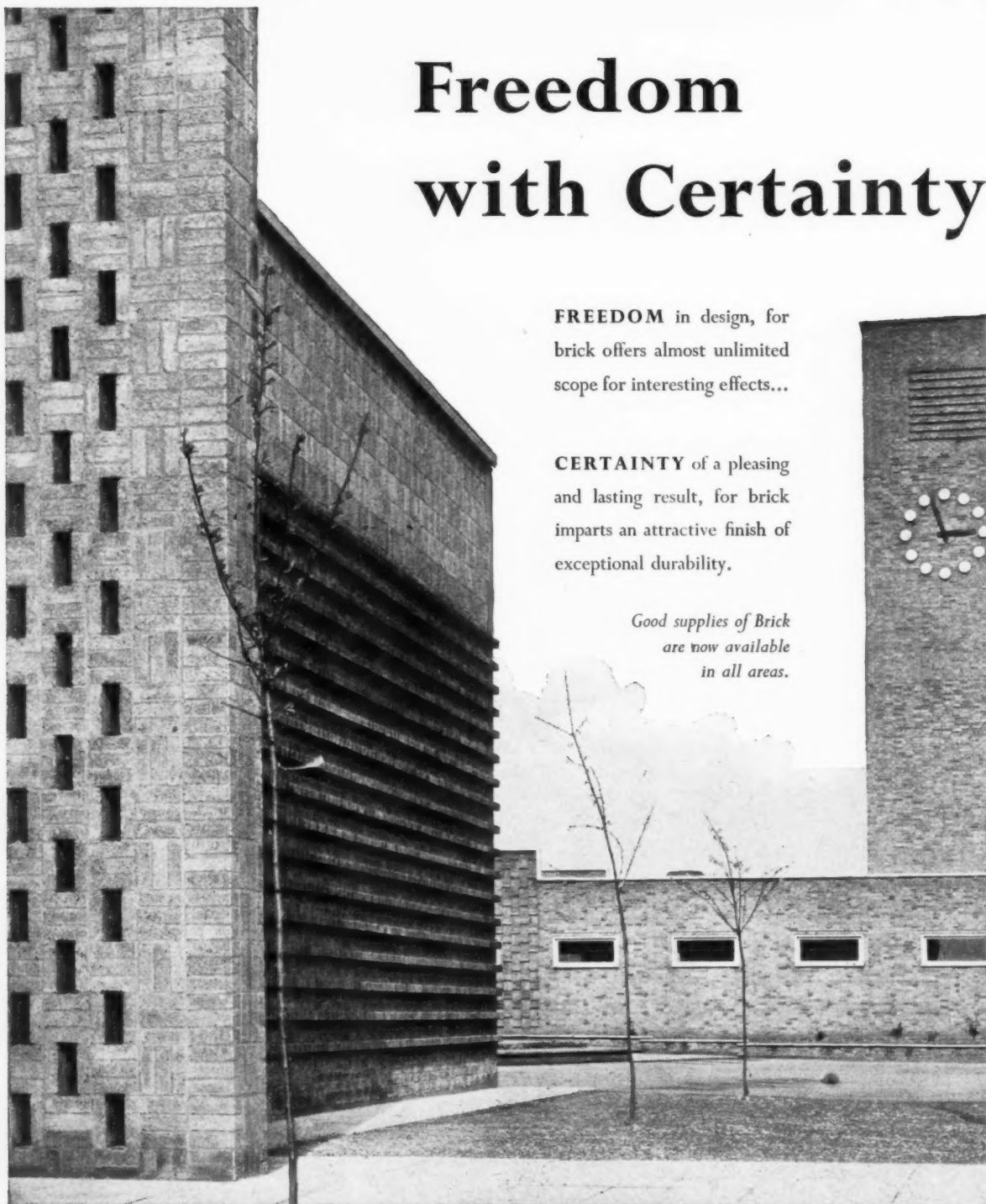
It can be cut to size with woodworking tools and it can be drilled, but it is not wise to smooth or plane the surface, though it is possible to plane the edges.

It can be readily bent cold, but requires fixing to a framework.

Chipboard

There have for some time now been on the market a number of boards made from wood chips. They are produced by bonding the chips under pressure with synthetic resins, and they can be used in certain circumstances as an alternative to natural timber, plywood and blockboard.

The range of uses to which the boards are put follows a familiar pattern—furniture and fittings, panelling,



Freedom with Certainty

FREEDOM in design, for
brick offers almost unlimited
scope for interesting effects...

CERTAINTY of a pleasing
and lasting result, for brick
imparts an attractive finish of
exceptional durability.

*Good supplies of Brick
are now available
in all areas.*

Hassenbrook Secondary School, Stanford-le-Hope, Essex. Designed by Gerald Lacoste, M.B.E., F.R.I.B.A., in association with Harold Conolly, F.R.I.B.A., County Architect
Assistant Architects: Kenneth Dod and Campbell Ross, A.R.I.B.A.

BRICK

for Modern Building
Issued by The National Federation of Clay Industries, Drayton House, London, W.C.1.

technical section



Chipboard: consisting of wood chips bonded under pressure with resin glues.

flooring, partitioning, doors and so on. They are also sometimes produced with decorative finishes, and are offered as a base for veneering. It is claimed for them that they can be worked with normal woodworking tools and that they can be nailed and screwed. In certain respects, such as the saving of labour, stability and resistance to flame spread, combustibility and fungal and insect attack, they claim to be superior to natural timber.

Some of the Continental boards come with a layer of finer chips on the two outside surfaces and coarser chips on the inside, the object being to produce a board lighter in weight but of equal strength and with a smoother surface and greater stability.

One board of British manufacture is made 4 ft. wide in a continuous process which permits any particular length to be supplied without cutting to waste: otherwise the standard size is 8 ft. by 4 ft., $\frac{1}{2}$ in. and $\frac{3}{4}$ in. thick.

Generally speaking all chipboards are considerably cheaper than plywood or blockboard, but in using them the following considerations should be borne in mind: (a) The material is not as strong in bending as blockboard or plywood. In practice this means that whilst it is satisfactory for vertical surfaces such as the sides of cupboards, it requires greater support than blockboard and plywood when used horizontally: under load, as in a shelf, deflection increases with time, especially if the material is not veneered. Even when it is veneered, it requires more support than solid wood shelving of equivalent thickness if it is subjected to any substantial load.

(b) Like natural wood the material moves with changes in the moisture in the air: there is no grain and the movement is equal in each direction: for a 30° change in relative humidity a typical piece moves approximately $\frac{1}{2}$ in. for every 12 in. width and length. African mahogany, which has average values for moisture movement, would, by comparison, move $\frac{1}{10}$ in. radially and $\frac{1}{8}$ in. tangentially but would not, of course, have any significant movement in length. In practice there are also significant changes in the thickness of chipboard: a panel let into a groove in a solid member might swell enough to split the member, and it might

be necessary to resort to making a saw cut in the thickness of the board to overcome the difficulty.

(c) Chipboard is variable in density and strength.

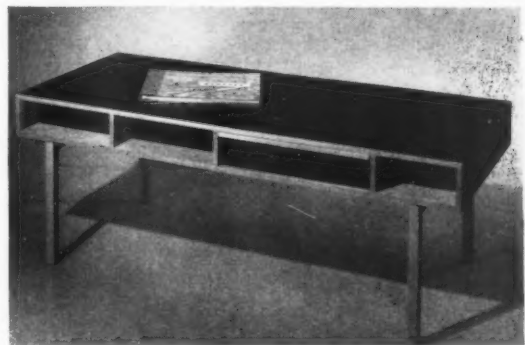
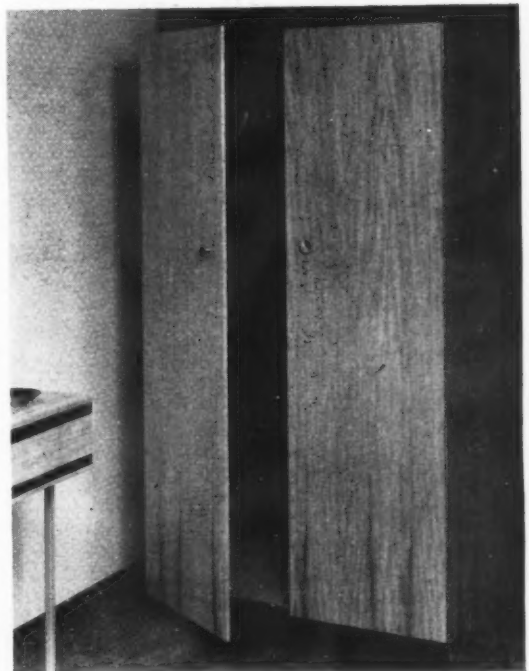
(d) Whilst it is possible to make dovetailed joints and mortices and tenons, they are not really appropriate to the material and simple sturdy joints such as tongues and grooves, loose tongues, laps and dowels are more satisfactory.

(e) Hinges and fittings can be adequately screwed to the material, and nails may be used in construction, but the holding power of screws is rather less than with some timbers; for instance, the holding powers of one No. 8 screw in the face are:

birch, 356 lb.

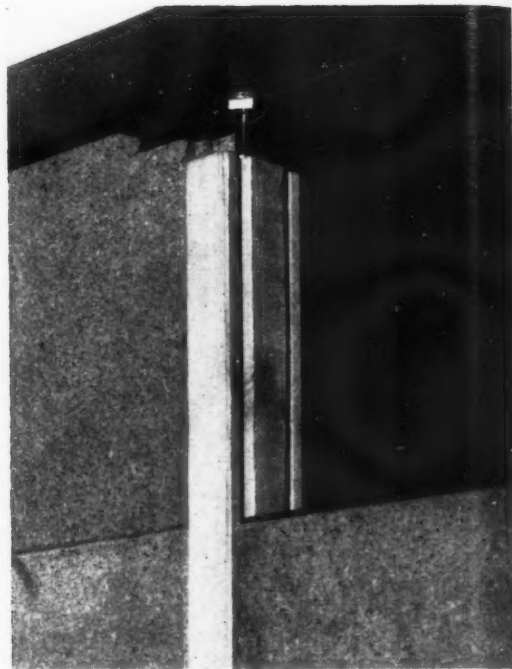
obeche, 183 lb.

chipboard, 180 lb. (and if screwed into edge, 155 lb.)



These two photographs show pieces of furniture made with veneered chipboard. They illustrate how the material can be used to advantage if it is considered as a "board," no attempt being made to imitate timber construction using narrow rails. The legs of the desk are of metal.

technical section



Above left: hand tools are not much used today when machines can do the work cheaper, nor is the dovetail a particularly suitable joint for chipboard, but this shows how it is possible to make such a joint, and demonstrates that chipboard can be worked to a large extent as natural wood. Left: planing the edge of a chipboard sheet (note that the sheet has already been grooved). Above: part of a system of partitioning. It is included to show how chipboard can be used for this purpose, and to illustrate the treatment of the joint: a hardboard slip locates the boards whilst the edge of the chipboard is chamfered to form a V.

Technique for Chipboard

Basically chipboard is worked and used in the same way as ordinary solid timber, but there are some slight differences in technique. High speed machine tools are an advantage; longer and thinner screws are advisable, though predrilling is not considered necessary; edges not covered in the construction should be covered by lippings; all woodworking joints are possible, but it is best to choose simple rebates, mitres and tongues. The material may be glued, veneered, painted, stained or polished in much the same way as plywood. It is essential, however, to follow the manufacturers' instructions carefully, more particularly since there is as yet no great experience of its use amongst joiners.

Blockboards and Laminboards

Blockboards and laminboards consist of a core of strips of wood, preferably quarter sawn, glued together and covered on both sides by one or by two fairly thick veneers. The difference between the two kinds of board is that in blockboards the strips are about an

inch wide, whereas in laminboards they are about $\frac{1}{8}$ in. The idea for making such boards derived from the practice in early cabinet making of veneering over panels made up of $\frac{1}{4}$ -in. sawnboards, 2 in. to 3 in. wide and glued edge to edge.

The thicknesses in which blockboards are available are $\frac{5}{8}$ in., $\frac{3}{4}$ in., $\frac{7}{8}$ in. and 1 in., and the standard sizes of boards are:

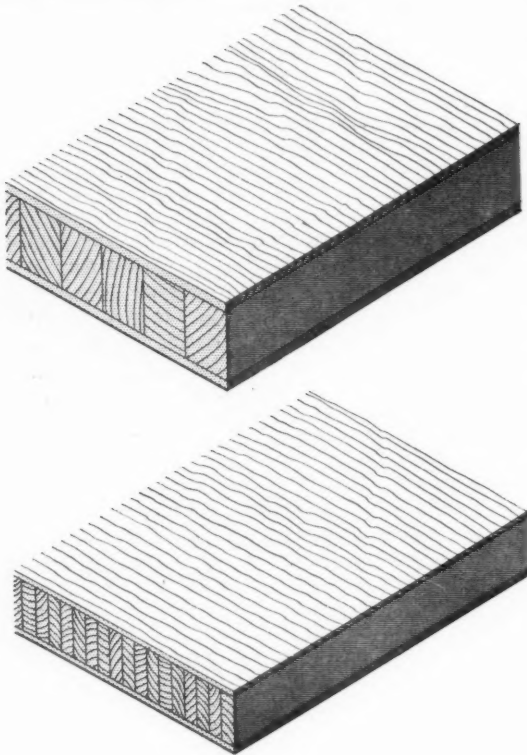
Lengths: 72 in., 60 in., 48 in.

Widths: 120 in., 96 in., 84 in., 72 in.

In blockboard with a single veneer each side, the width is the direction of the grain of the cores, and it is sometimes important that they should run in a particular direction, e.g., for shelving or partitions, is a safeguard when ordering blockboard to state exactly how it is to be used.

Laminboards are obtainable in similar thicknesses, but they are also obtainable $\frac{3}{4}$ in. thick and up to 2 in. They are less common and more expensive than blockboards, and in general are of a higher quality of manufacture.

technical section



Top: single veneered blockboard. Frequently the veneers are of hardwood and the cores are of quarter sawn softwood about 1 in. wide glued together. Above: laminboard. Usually of hardwood throughout, with cores of about $\frac{1}{4}$ in. width glued together.

Blockboards and laminboards are not as strong as plywoods of equivalent thicknesses, but have for long been used to replace the traditional edge-to-edge glued boards which formed tops and sides of cabinets and other fittings. Some makes can be procured in large sizes (up to 67 in. \times 185 in.) without joints, and they form an excellent base for veneers, especially when large unbroken areas are required.

The faces of the boards consist mainly of limba (BS name afara), birch or gaboos. Unlike plywood, there is at present no recognized grading, and it should be noted that neither kind of board is necessarily put together with weather-resistant glue. Blockboards usually have a softwood core, where laminboards are usually of hardwood throughout.

Technique for Blockboard

In almost all respects blockboard is similar to plywood in the way in which it is used.

Apart from not using it externally unless one can be sure that it is bonded with a phenolic glue, it is nearly always interchangeable with plywood. The joints used with it are the same, and so are the methods of lipping, except that for cheap doors to hanging cupboard doors, advantage may be taken of the direction of the cores being exposed on the tops and bottoms where it is not seen.

Battenboards

Battenboards are similar to blockboards except that the strips in their cores are not glued edge to edge, and are not generally used in high-class work.

Stripboards

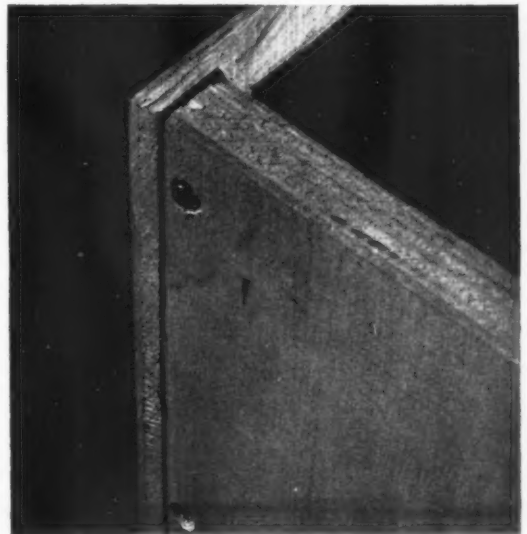
Stripboards are not manufactured in or imported to this country, but are similar in construction to blockboard, but with strips up to 3 in. wide.

Comparative Costs

Many factors influence the cost of materials, and it is rash to quote figures, but since everybody will want to know whether it costs more or less to use any one of the boards so far mentioned, we give below *approximate* figures (1956) for the supply of the materials. They make an interesting comparison.

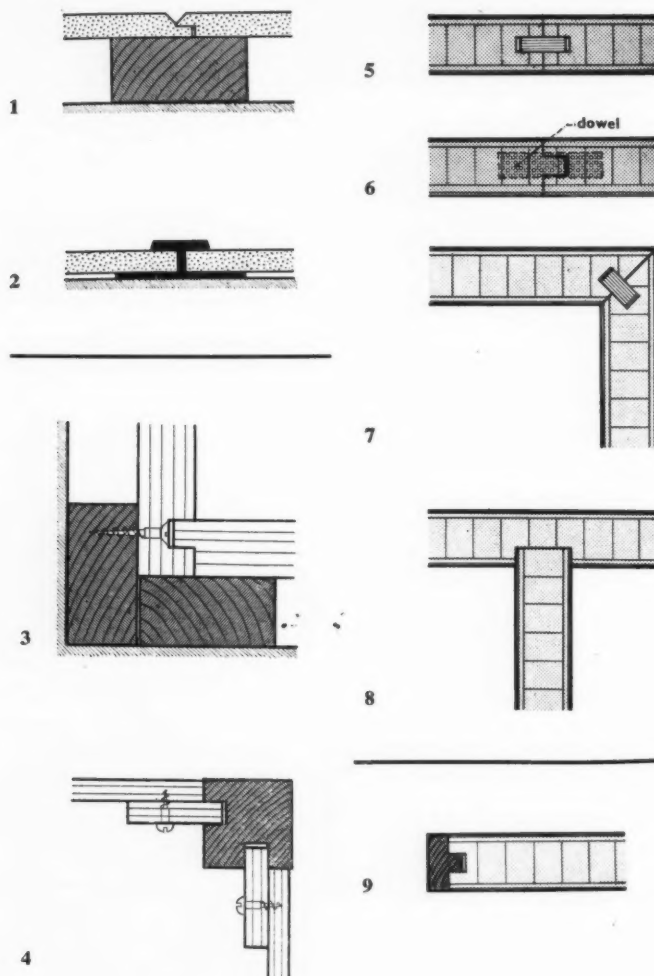
	100 sq. ft. (without lipping, veneering or other finish)
$\frac{1}{4}$ in. hardboard	60s.
$\frac{1}{4}$ in. Finnish ply	70s.
$\frac{1}{2}$ in. Douglas fir plywood (good two sides)	240s.
$\frac{1}{2}$ in. Finnish birch blockboard	230s.
$\frac{1}{2}$ in. Gaboon blockboard	251s.
$\frac{1}{2}$ in. Gaboon laminated board	301s.
$\frac{1}{2}$ in. Chipboard	110s. to 133s.
ex $\frac{1}{2}$ in. wrot softwood boards (joinery quality) glued edge to edge	approx. 200s.
ex $\frac{1}{2}$ in. wrot W.A. mahogany boards, glued edge to edge	approx. 450s.

As can be expected, manufactured boards are more expensive to buy than equivalent amounts of softwood, and in order to equate the costs with hardwood one would have to add the cost of veneering and lipping, but nevertheless there are many situations where, if manufactured boards are used, the thickness of material may be reduced, and the amount of labour involved in preparing and jointing solid timber may be



A typical joint between the side and back of a fitting. There is no effort made to conceal the joint, and reliance is placed largely on the screws. The illustration shows how plywood (the back) and blockboard are often used together, and also how the blockboard can be worked along the ends of the core (in this instance a simple rebate).

technical section



Top: typical joints for panelling in hardboard. 1. A lapped and V joint which makes a feature of the joint and allows movement particularly necessary with hardboard. 2. A typical extruded aluminium fixing strip shown as an example of the great variety of metal fixing and cover strips used in connection with sheet materials, particularly with hardboards and plastics. Above: secret fixing for cupboards in plywood or blockboard. 3. An internal corner secretly fixed to grounds. 4. A method of fixing panels secretly to a post.

avoided, thus making the final cost at least comparable and probably less.

To give a more practical indication the prices of a single board 8 ft. x 4 ft. with various treatments would be approximately as follows:

	£	s.	d.
$\frac{3}{4}$ in. blockboard not lipped, unpolished	4	0	0
$\frac{3}{4}$ in. blockboard lipped	5	16	0
$\frac{3}{4}$ in. blockboard lipped and veneered (veneer supplied at 1s. per sq. ft. and compensating veneer at 2d. per sq. ft.)	8	5	4
$\frac{3}{4}$ in. blockboard with decorative plastic veneer	17	16	0

Left: joints formed in the thickness of blockboard (also suitable for thick plywood and for chipboard). 5. Edge to edge joint with cross grained or plywood tongue. In so far as it is possible to obtain large boards one would naturally avoid this joint, but in very long runs or extra large panels it may be necessary. The scarfed joint (see previous article) would be used if the joint were to be made in manufacture. 6. An alternative to 1 with tongue and groove and dowels. 7. A common corner joint with a cross grained or plywood "loose" tongue glued in. Especially appropriate where veneered panels are used. 8. A simple housed joint.

Left: lippings (suitable also for plywood and for chipboard). 9. A standard lipping in which the lip forms a visible margin. If it is to be returned along two sides the corners would be mitred. This is the usual method of lipping if the panel is to be painted, but the margin usually shows. Even in veneered work the lipping is sometimes left exposed, and it is either matched to the veneer or purposely contrasted with it. 10. This is an alternative for veneered panels, where the panel is veneered after lipping. Although the veneer stops right on the edge, this is found to be quite satisfactory under most conditions, and has a much cleaner appearance. 11. A method of lipping which is frequently shown in textbooks, but which has certain disadvantages, principally that the size of the panel cannot be adjusted after manufacture, and it is therefore not suitable for doors which have to be "shot" in fitting.

FILE THIS WEEK



building illustrated

House at Mereworth, Kent

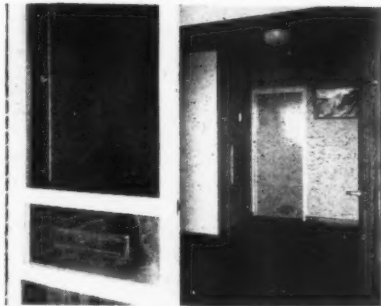
The first of these two homes for your files has a floor-heating system served by an oil-fired boiler. The second one, which was designed by an architect for his own use, is looked upon by the general contractors as a prototype for ventures in well-designed speculative building.

HOUSE

at BARON'S PLACE FARM, MEREWORTH, KENT

designed by JEREMY B. LOWE

consulting and executive architects, RAMSEY, MURRAY, WHITE and WARD



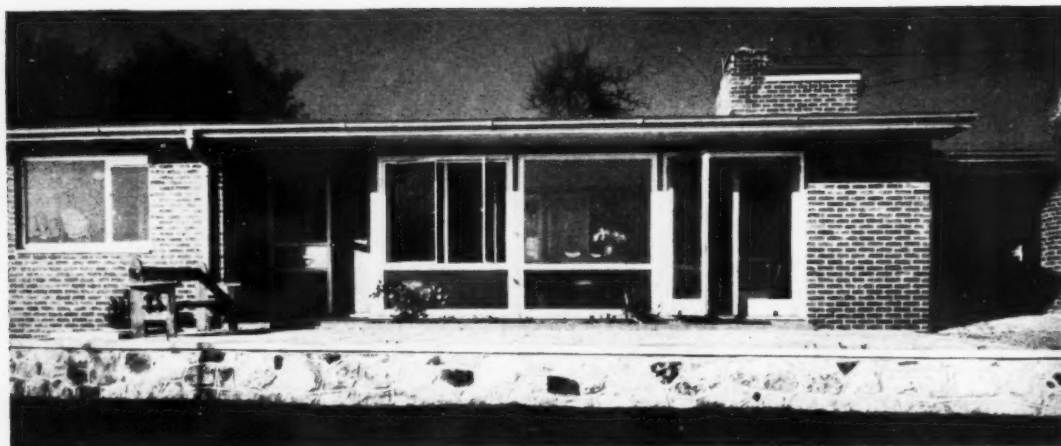
Main entrance and hall.

The clients, a retired doctor and his wife, for this house near Maidstone, required accommodation for one son and for other sons visiting at week-ends. The house had to be planned with as few steps as possible, no stairs and needed to be run without resident servants and with the minimum of housework. The house is warmed throughout by floor heating served by an oil-fired boiler, which was chosen to minimise the exertion of stoking.

House and garage from the south-east.

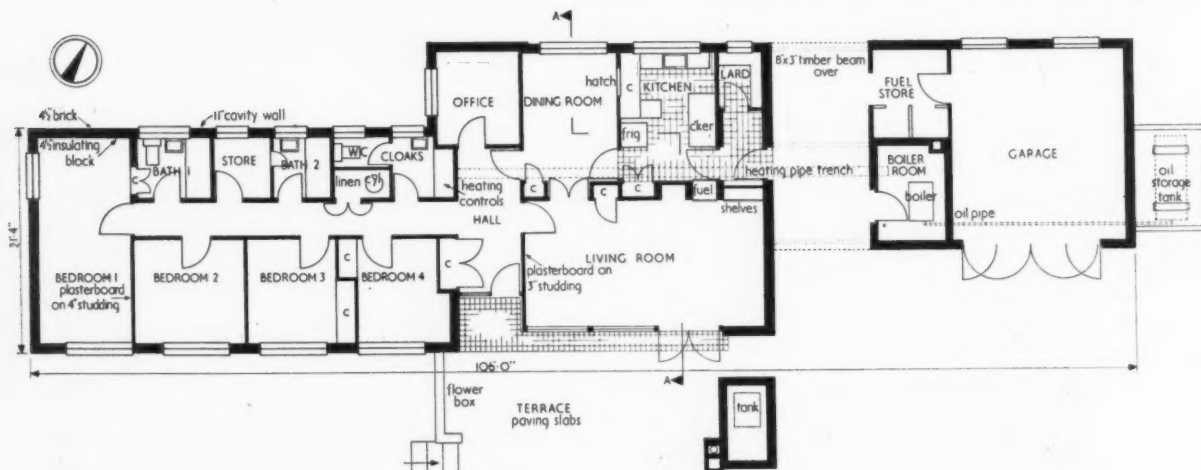


building illustrated



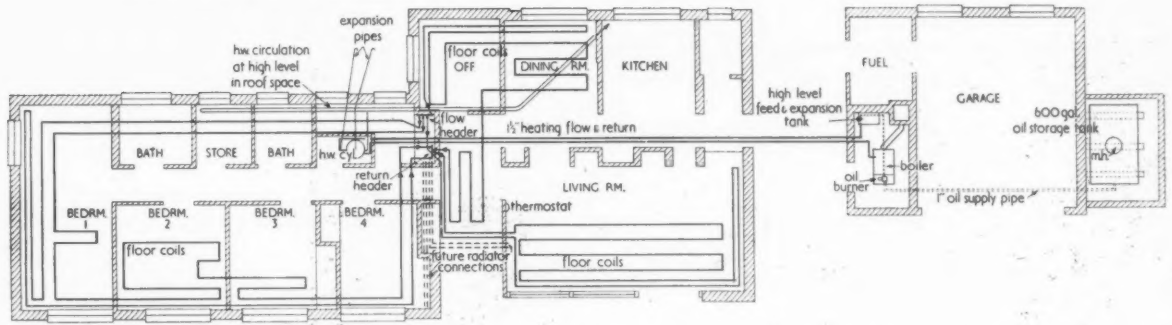
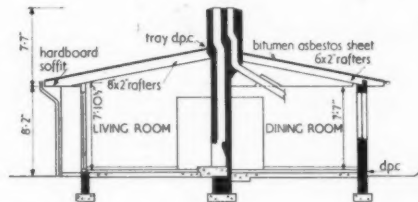
From the site there is an excellent view of the Weald of Kent with Rochester to the east, Charing to the south-east and Crowborough, Sussex, to the south-west. The house

is planned so that this view can be seen from the living room and from all the bedrooms. The clients required a large living room, a dining room served direct from the kitchen,

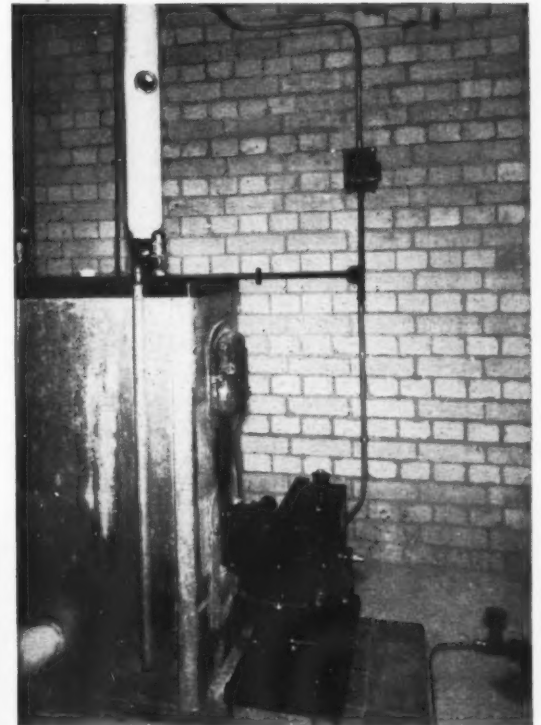
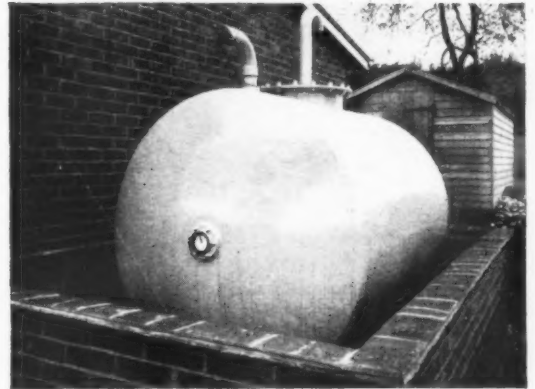


Ground floor plan, section A-A on next page [scale: $\frac{1}{16}'' = 1' 0''$]

building illustrated

Ground floor plans showing floor heating layout [Scale: $\frac{1}{16}'' = 1' 0''$]Section A-A [Scale: $\frac{1}{16}'' = 1' 0''$]

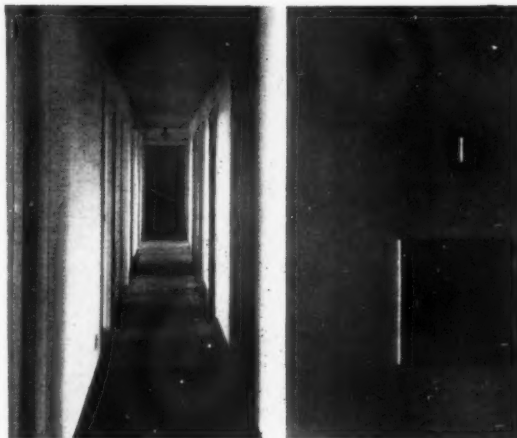
a bedroom wing (including two bathrooms) which would provide something of the privacy to be found in a two-storey house, a farm manager's office accessible direct from the hall and a double garage with covered access from the house. The boiler and fuel storage are sited so that oil fumes do not enter the house. Although ceilings have been kept as low as is permissible under the new Model Bye-laws, ceilings in the living room and certain bedrooms follow the roof slope to give additional height to the rooms. Various types of roof covering were examined with regard to appearance and cost, and it was decided that 3-ply bituminous felt was most suitable, particularly in view of the fact that the roof is very little seen from most points. The photographs on the opposite page show, top, part of the south facade with the main entrance, living room windows and the covered way linking house and garage, and bottom, the living room. The bookcase unit against the far wall was designed by the architects and erected by the general contractors. In the layout of the floor heating system the amount of heating surface was calculated to maintain background temperatures of 40° – 50° F. in the bedrooms and 55° in the living rooms, to comply with the clients' requirements, but pipes to provide higher tempera-



HOUSE

at MEREWORTH, KENT

designed by JEREMY B. LOWE



building illustrated



HOUSE

at MEREWORTH, KENT

designed by JEREMY B. LOWE

tures, if required, have been incorporated in the structure. The $\frac{1}{2}$ -in. bore heating pipes are encased in a composition sheathing to allow freedom of movement and are embedded in a 3-in. thick floor screed. A simple form of thermostatic control is provided by means of a room thermostat placed in the entrance hall. This acts directly on a motorised valve fitted into the main return header. All the control valves are situated in the base of the large cupboard in the cloakroom and the controls for adjusting temperature in individual rooms are situated in a box seen on the right in the bottom photograph on page 493. The main flow and return pipes are run from the control centre through an under-floor trench to the boiler. The boiler is a small cast-iron sectional type fitted with a fully automatic pressure jet type oil burner. Due to the resistance of the floor coils the system is accelerated, and the circulating pump is an immersed pipe-line model. The oil burner is suitable for burning light gas or diesel oil of 45 seconds viscosity and storage is in a cylindrical 600 gallon tank situated to the east of the garage. The feed line to the boiler is buried under the garage floor. In addition to the normal controls the oil burner is fitted with a clock control with variable setting to enable the burner to be cut out at

night, and to cut in again in the early morning when required. Domestic hot water is supplied by an extension of the main heating pipes in the centre of the house to a 35 gallon calorifier situated in the linen cupboard. A simple gravity system of circulating pipes, mainly in the roof space, carries the water to the bathrooms and kitchen. A single control valve enables the heating circuit to be isolated in the summer, when the boiler continues to operate for hot water supply only. The calorifier is also fitted with a 3 kW. immersion heater. The photograph top right, previous page, shows the oil storage tank, within a retaining wall. The wire seen on the left is part of a safety device which automatically cuts off the oil supply if the temperature rises dangerously high in the boiler room. Right, the cast-iron boiler against the internal garage wall. Below, the corridor leading to bedrooms and bathrooms. The photograph above shows the house from the south. The floor area of the house, garage, fuel store and boiler room is 1,800 sq. ft. and the cost is approximately £7,000. Cost per sq. ft. approximately £3 14s. This cost includes a drive. Heating and hot water system, excluding builder's work is £800. The estimated fuel consumption is approximately 1,500 gallons at a cost of £75 per annum.

CONTRACTORS

General contractors: J. A. Davison & Son (Builders) Ltd. *Sub-contractors:* Space heating and domestic hot water: Benham & Sons Ltd. *Electrical installation:* H. T. Barden. *Sliding door gear:* E. Hill Aldam & Co. Ltd. *Electric*

light fittings: The Merchant Adventurers of London Ltd. *Fireplace tiles (living room):* Carter & Company (London) Ltd. *Sanitary fittings:* Adamsez Ltd. *Door furniture:* A. G. Roberts Ltd. *Roof covering:* D. Anderson & Son

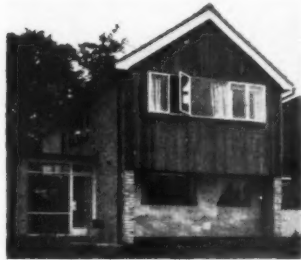
Ltd. *Drive works:* Chittenden & Simmons Ltd. *Metal parts for septic tank:* Burn Brothers (London) Ltd. *Cooker:* Aga Ltd. *Windows:* George Jeenings-Hamer (Windows) Ltd. *Accotile floors:* Armstrong Cork Company Ltd.

building illustrated

HOUSE

in WARREN ROAD, HAYES COMMON, KENT

designed by D. R. HICKMAN



From the north-east.

This house at Hayes was designed by the architect for his own occupation, after terms of reference had been agreed with the general contractors, Heals, who look upon this house as a prototype for further ventures in domestic building. A house was required that would, (a) arouse interest in good design, (b) serve as a backcloth to the general contractors' furniture and fittings, (c) be capable of being built in stages, (d) be economical in structure in order to leave more money for equipment and finishes and (e) demonstrate that there is great wastage in bad design.

The south facade.



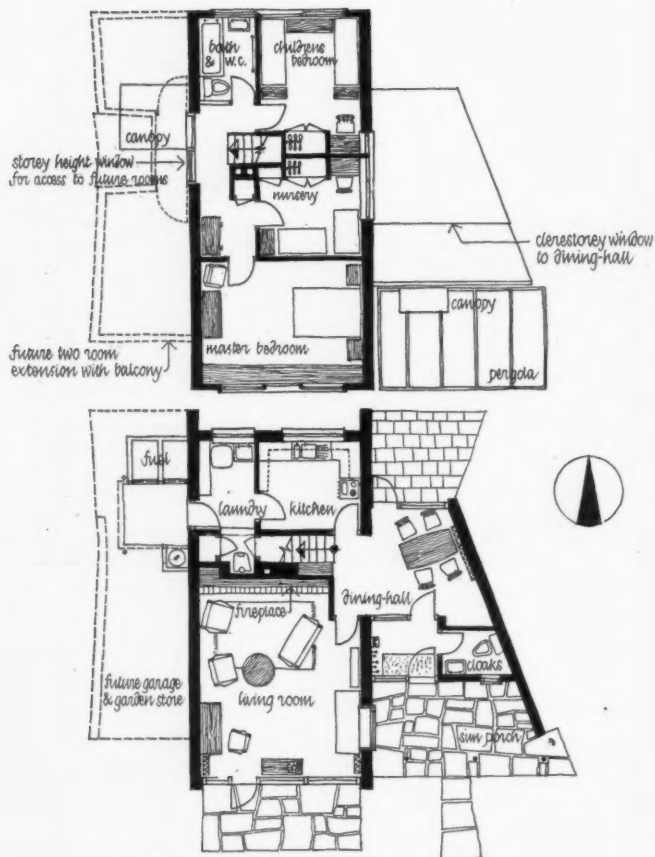
The site, of one-fifth of an acre, lies to the north of a service road and has a fall of 4 ft. across the frontage from west to east. There is a run of 150 ft. to the main services in the road. The accommodation provided in the house includes (ground floor) a living room, with windows facing south, a dining-hall with north window and clerestory lighting to the south, a kitchen, a laundry, and a cloakroom on the ground floor, and (first floor) two double-bedrooms, a single bedroom (shown as a nursery on the plan) and a bathroom-w.c. By making the following economies in the structural system the architect was able to spend more on a

high standard of finish. The foundations consist of three straight strips. The two flank walls carry all the loads of the main block, while other walls are non load-bearing and therefore require no foundations. The first floor gable ends are designed as trusses, spanning from wall to wall, so that the 15-ft. 6-in. wide living room window needs no lintol to carry the wall over. All joists span across the block and the straight-flight stairs run parallel to them, thus requiring no trimming. In the roof the timbers were designed mathematically, instead of by the usual rule-of-thumb method, and every rafter is trussed. All joists

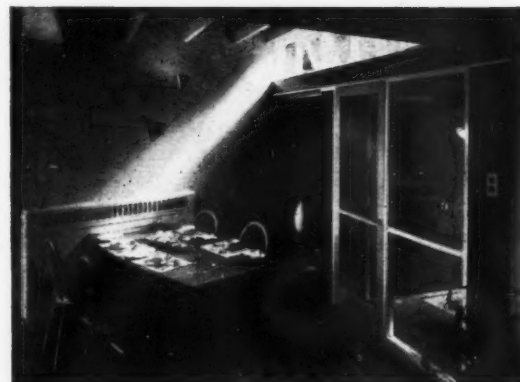
building illustrated



are bolted with double-toothed ring connectors and the result is a sturdy roof with no struts or purlins to obstruct the roof space. The main roof is a simple pitch involving the minimum of labour in the tiling, and openings in the



Ground and first floor plans (Scale: $\frac{1}{4}'' = 1' 0''$)



building illustrated

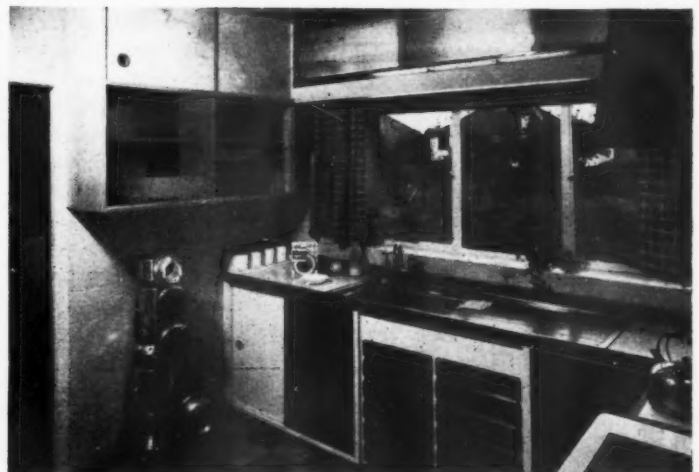
external brick walls are kept to the minimum as another economy. Wet processes such as bricklaying and plastering add to the expense of building by making the builder dependent on good weather to avoid the effects of frost and the water, more of which than any other building material is used in a normal house, and has to dry, causing shrinkage and cracks. To help combat these difficulties, a good deal of dry construction has been used in this house. Living room and bathroom ceilings are of medium hardboard in 4-ft. squares with bevel-edged butt joints, finished with flat white paint. First floor ceilings generally are of insulating board, requiring only a skim coat of plaster. First floor partitions are of a patent dry system, in many cases just painted. The timber gable end walls are further examples of dry construction. Considerable attention has been paid to insulation; the inner skins of cavity walls are of load-bearing insulating blocks, living room windows are all double glazed and linoleum on the ground floor is laid on $\frac{1}{2}$ -in. medium hardboard for warmth, resilience and sound insulation. A view of the back garden can be obtained from the front door through glazed screens to the lobby and the north window to the dining-hall. The top photograph opposite shows the living room, which has a recessed picture rail along the wall on the left and panelling below mantelpiece level on the far wall. Behind this panelling are cupboards and a fireplace, complete with ashpit and under-floor draught, in case an open fire is

HOUSE

at HAYES COMMON, KENT

designed by D. R. HICKMAN

ever required. Centre, opposite page, is the staircase and kitchen beyond, seen from the dining-hall, and bottom, the dining-hall showing clerestory lighting and glazed screen to the entrance lobby. On this page, below, the house from the south-east. On the right is the front door and sun porch. Centre left, the nursery, centre right, the main bedroom, which contains a dressing table fitment 15 ft. 6 in.



building illustrated



HOUSE

at HAYES COMMON, KENT

designed by D. R. HICKMAN

long under the south window. Bottom left (previous page) the children's bedroom, which also contains a built-in wardrobe and dressing table. Bottom right, the kitchen which is fitted with ample storage space with sliding doors and draw fronts designed without projecting knobs or pulls, which can catch dangerously in trailing apron strings. There is an extract fan and fume hood over the cooker and concealed lighting over all work areas. Wall finishes generally are emulsion paint and large areas of yellow tiling in the bathroom and kitchen. The first floor is of secret nailed deal strip, sanded and bourne sealed and needing only occasional rugs. The staircase treads are in Japanese oak. All internal doors are flush faced, those upstairs are gaboon faced on a semi-solid core and downstairs they are mahogany-faced on a solid core. All skirtings are of polished mahogany, fixed with brass cups and screws. Heating to all rooms and hot water is supplied by a solid fuel boiler feeding six radiators and a calorifier. Plumbing, including the soil stack, is all in copper and there are over 50 electrical outlets, which is about three times the normal provision for a house of this size. Above, the full-glazed south window of the living room with, extreme left, the plant window, which has adjustable plate glass shelves. Above right, the top of the staircase and first floor landing. The large window on the right will later form access to the extension on the west side. The house has an area of 1,220 sq. ft. The contract price was £4,150 7s. 9d., which includes about £400 for built-in furniture, terracing, extra electrical points, etc. The cost per sq. ft. was £3 8s. and per ft. cube 5s. 2d. The central heating and hot water installations cost £252. The site cost nearly £1,000.

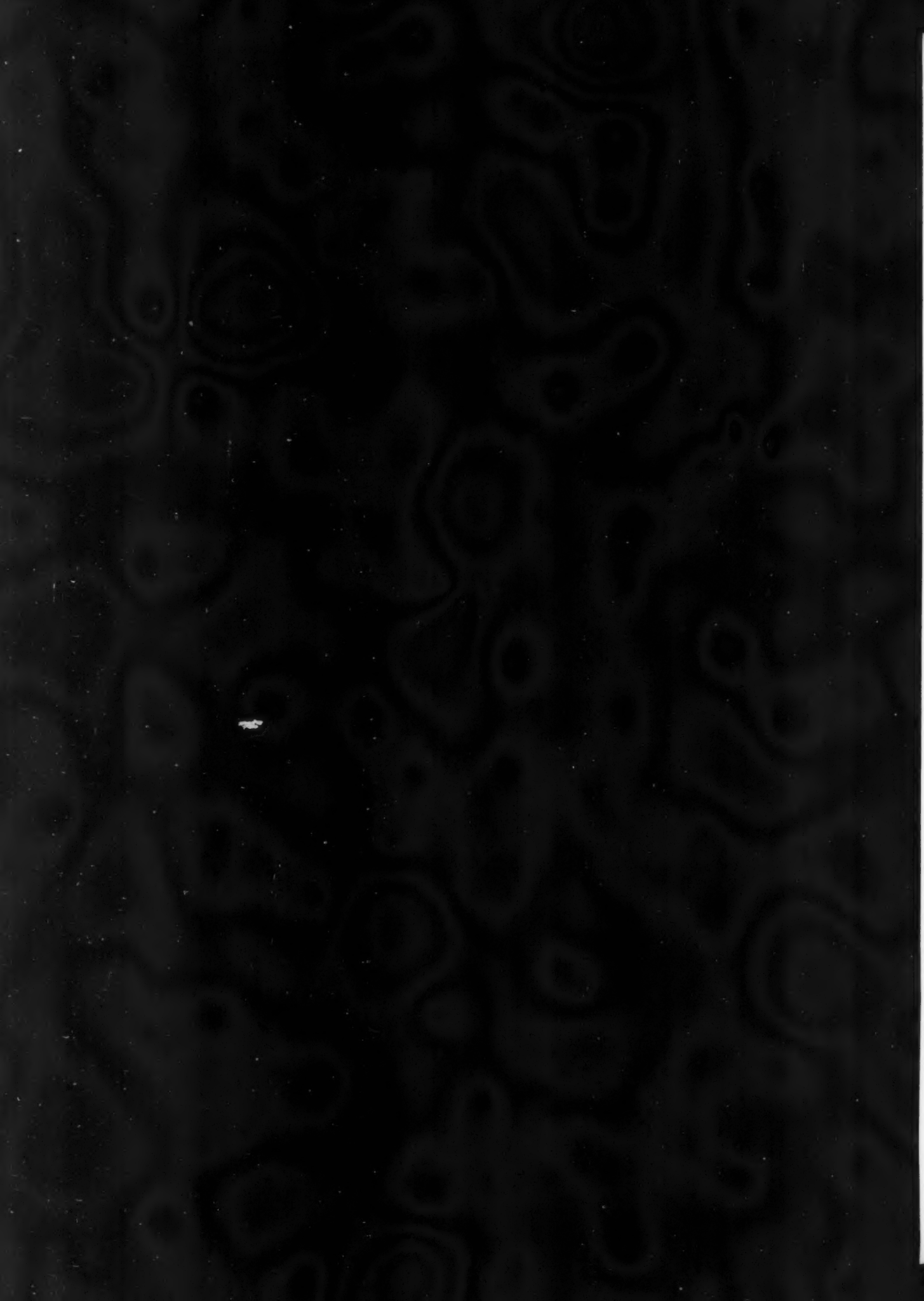


CONTRACTORS

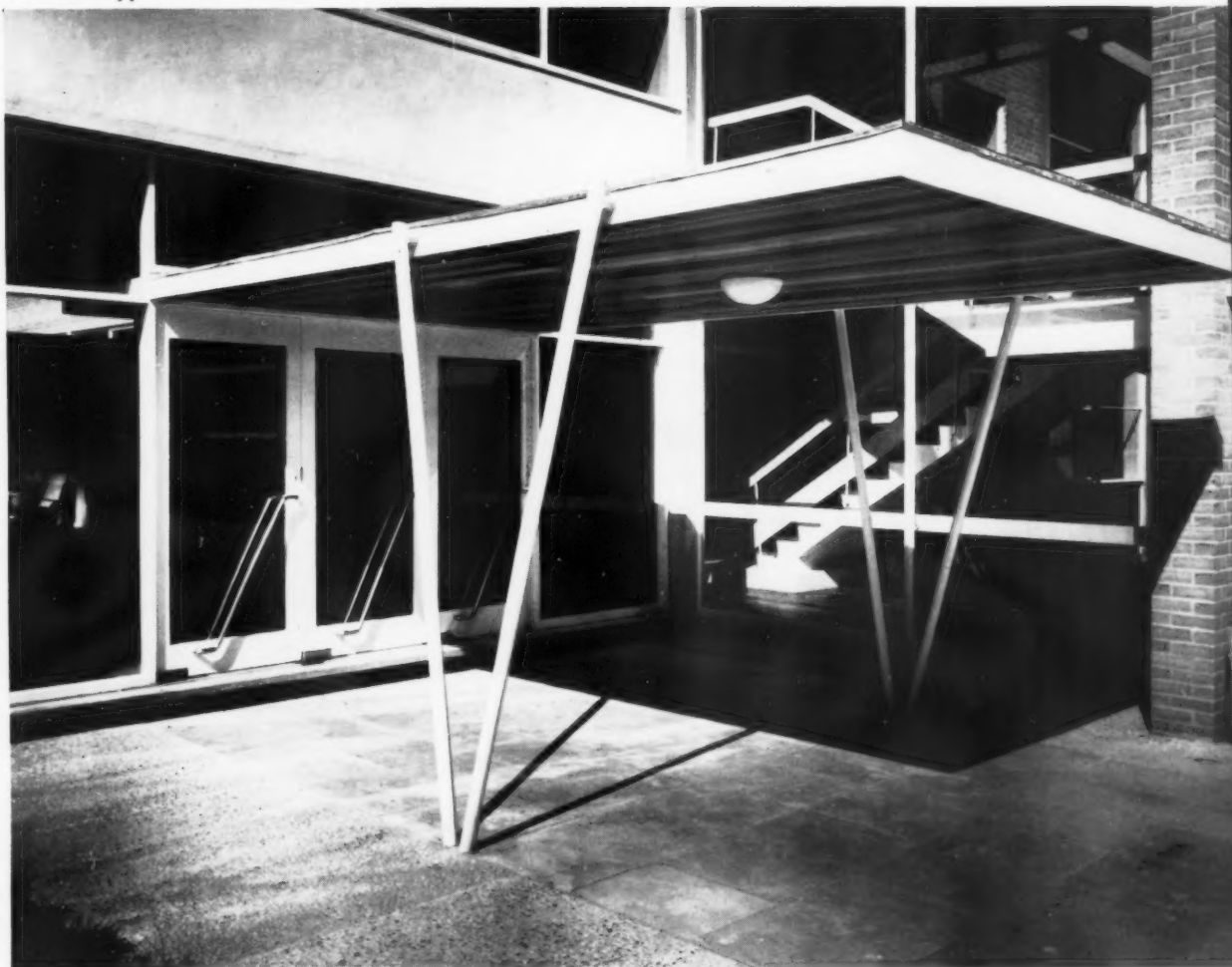
General contractors: Heal & Son Ltd. Sub-contractors: Roof tiling: Roberts Adlard Ltd. Roofing felt: Kent Asphalte Co. Ltd. Wall and floor tiling: A. H. Herbert & Co. Ltd. Plumbing and heating: K. Rollinson & Son. Electrical installation: S.E. Electricity Board. Lino flooring: The Lino Tile Co. Ltd. Nominated suppliers:—Metal windows and balustrades: Maclean & Co. (Metal Windows) Ltd. Doors: F. Hills & Sons Ltd. Door furniture: A. G. Roberts Ltd. Double glazing: Plyglass Ltd. Sanitary fittings: Stitsons Sanitary Fittings Ltd.



d. Sub-
lard Ltd.
Wall and
Plumbing
Electrical
o flooring:
pliers:—
an & Co.
s & Sons
d. Double
Stitsons



CANOPY: SCHOOL AT ROYSTON, HERTS

Richard Sheppard and Partners, architects

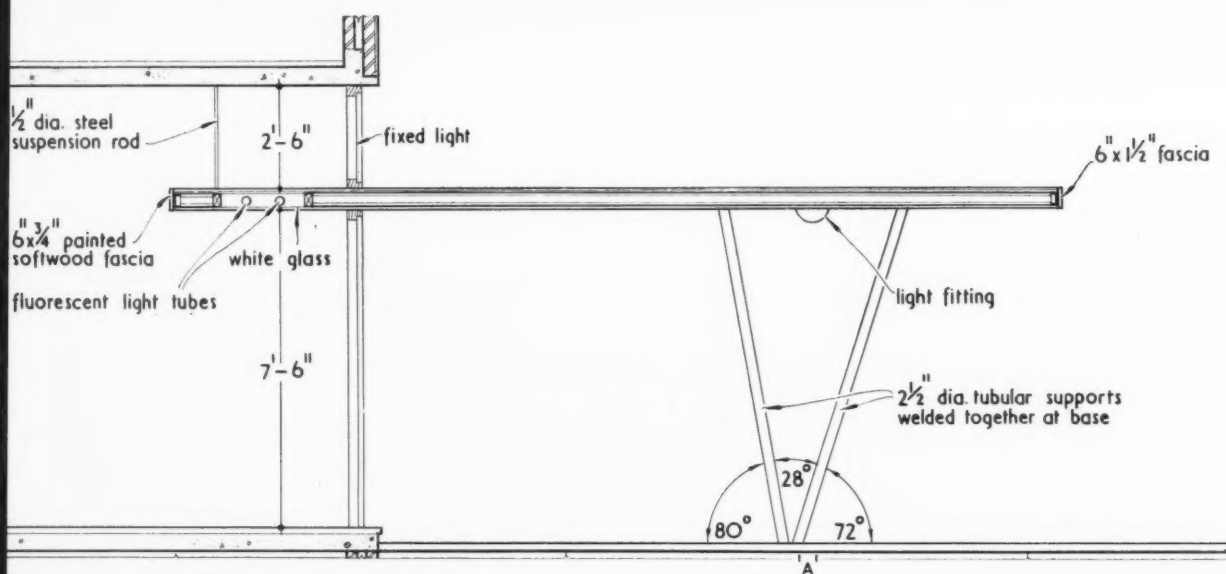
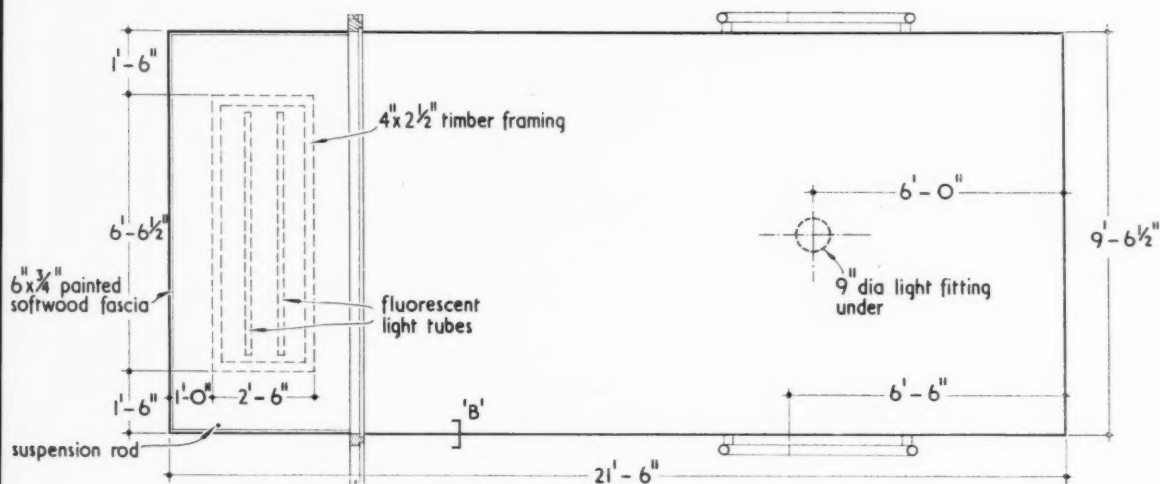
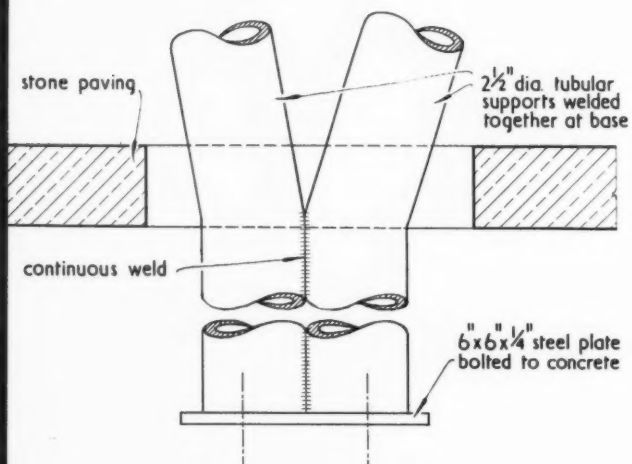
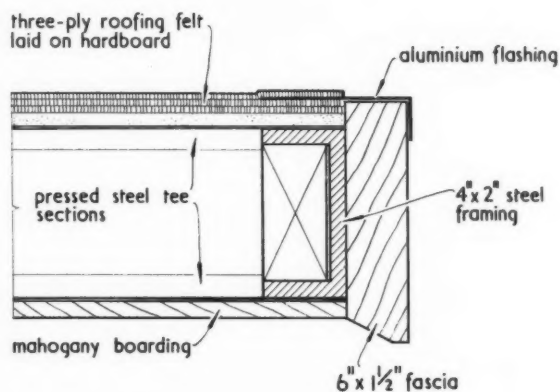
The canopy is framed in a 4-in. by 2-in. m.s. channel to which the tubular supports were shop-welded. 4-in. by 2-in. joists at 3-ft. centres span the short way of the frame, being scribed into the channels at both ends, and the structure of the frame is completed by a line of nogging which runs down the middle of the canopy, at right angles to the joists. The ½-in. dia. m.s. suspension rods which support the canopy inside the building are hung from 2-in. by 2-in. m.s. plates cast in the structural floor and are bolted to the top flange of the channels. The door head is bolted to one of the joists. The window frame directly above the canopy rests on the 3-ply felt roofing of the canopy and is bedded in mastic.

working detail

COVERED WAYS AND CANOPIES: 16

CANOPY: SCHOOL AT ROYSTON, HERTS

Richard Sheppard and Partners, architects

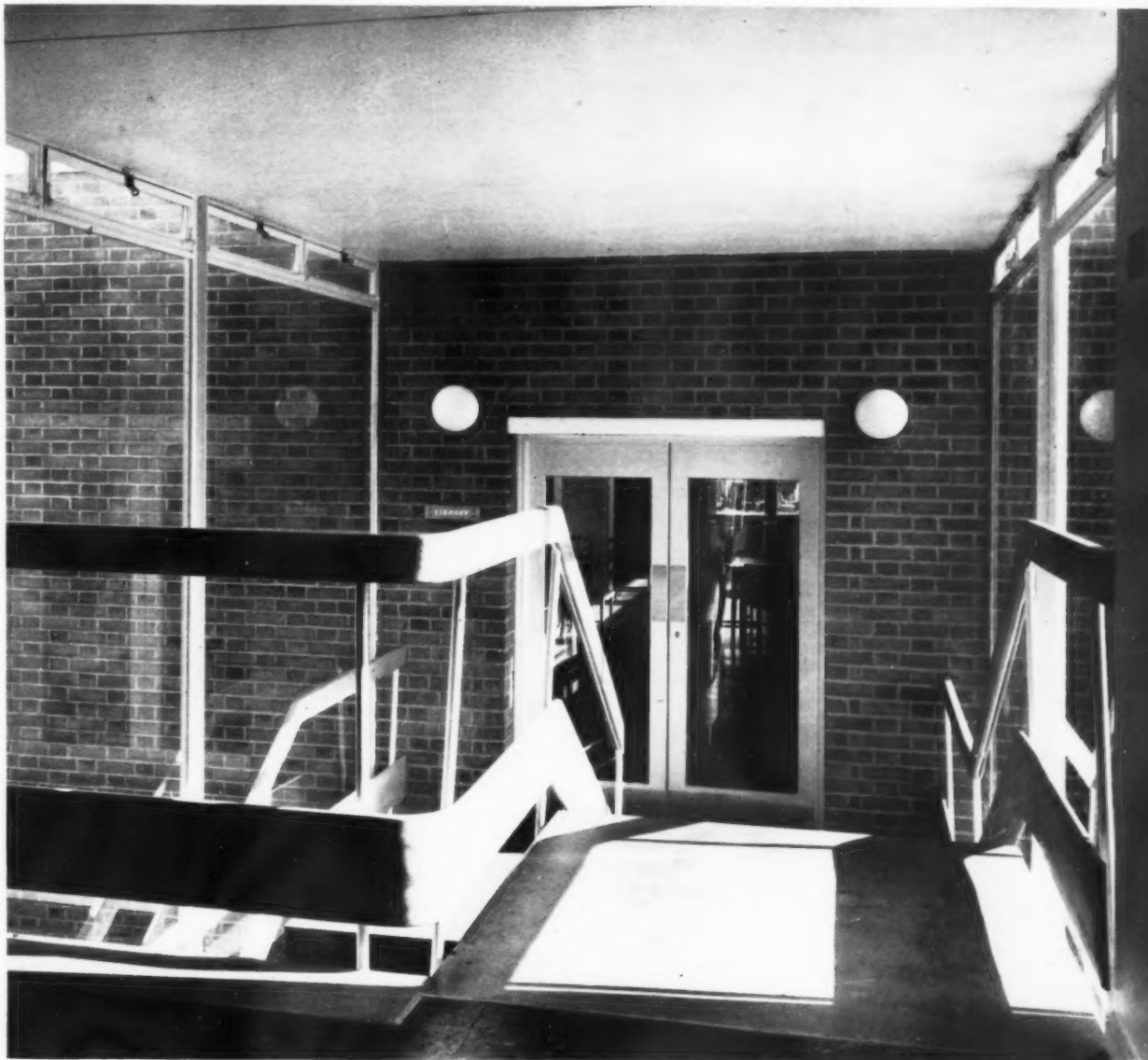
SECTION THROUGH CANOPY. scale $\frac{1}{4}" = 1'-0"$ PLAN OF CANOPY. scale $\frac{1}{4}" = 1'-0"$ DETAIL AT 'A'. scale $\frac{1}{4}$ full sizeDETAIL AT 'B'. scale $\frac{1}{4}$ full size

working detail

STAIRCASES: 23

BALUSTRADE: SCHOOL AT ROYSTON, HERTS

Richard Sheppard and Partners, architects



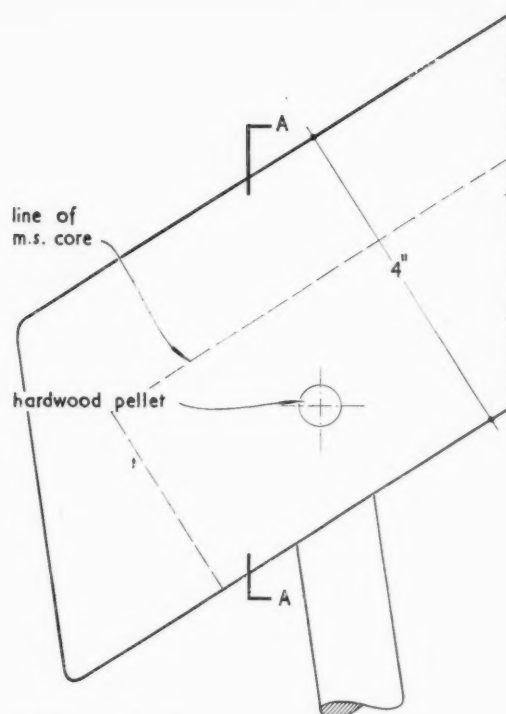
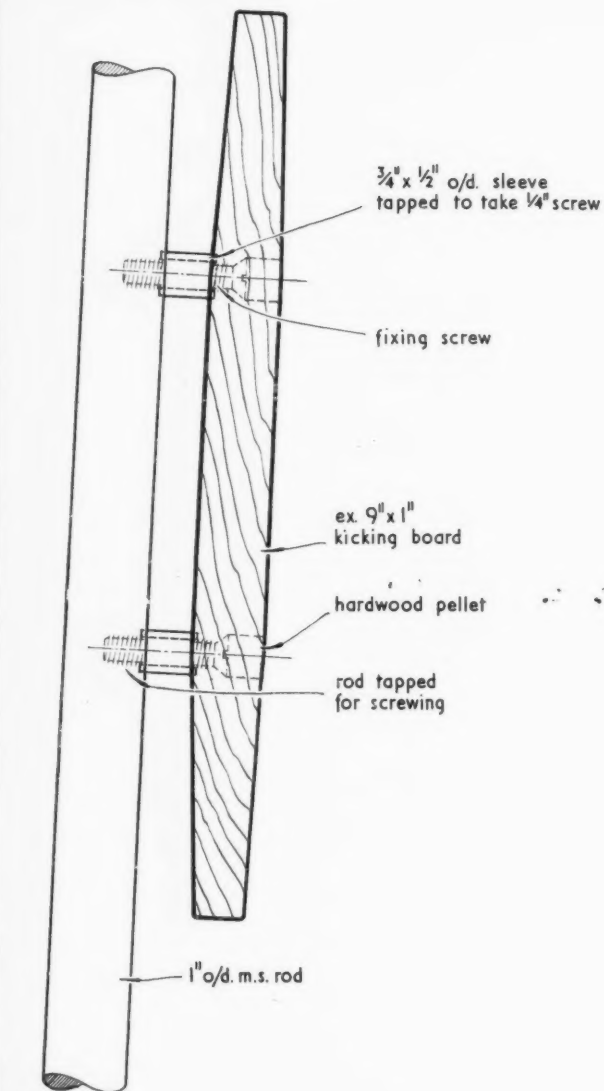
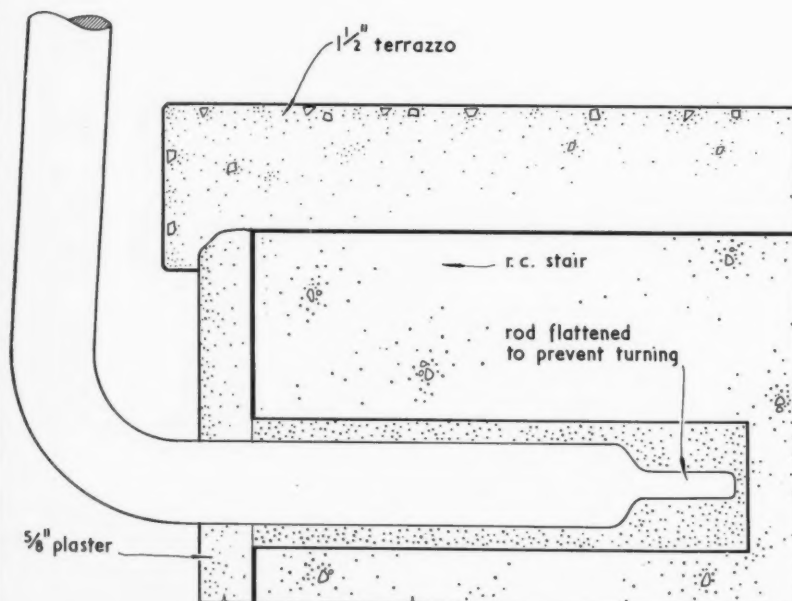
The object of the design was to provide a balustrade which can be easily cleaned, with few uprights but with a sufficient guard to prevent children falling through. The core rail and uprights were shop-welded; the handrail and kicking plate are opepe.

working detail

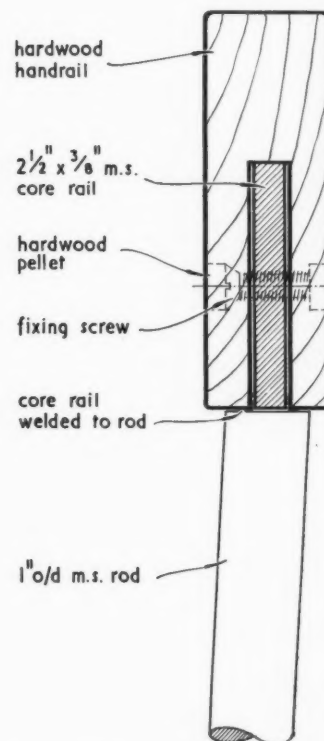
STAIRCASES: 23

BALUSTRADE: SCHOOL AT ROYSTON, HERTS

Richard Sheppard and Partners, architects

ELEVATION AT
END OF HANDRAIL. scale: half full size.

SECTION THROUGH BALUSTRADE. scale: half full size.

SECTION THROUGH
HANDRAIL AT A-A.

Announcements

PROFESSIONAL

Philip R. Middleton, A.R.I.B.A., has taken into partnership G. H. Fletcher, A.R.I.B.A. The practice will be carried out under the style of Philip R. Middleton & Partner from Norwich Union House, 17/19, Albert Road, Middlesbrough. (Tel.: Middlesbrough 44443.)

Roy H. Stephenson, DIP.ARCH., A.R.I.B.A., has been appointed staff architect to Morris Hedstrom Ltd., Suva, Fiji, and would be pleased to receive trade catalogues.

Noel Hunter, A.R.I.B.A., has moved to 19, Poltmore Road, Guildford, Surrey. (Tel.: Guildford 2090.)

A. J. R. Potter, Registered Architect, has moved to Three Trees, 77, Hillside, Banstead, Surrey, and will be pleased to receive trade catalogues. (Tel.: Burgh Heath 4379.)

Morrison, Rose & Partners, Chartered Architects & Surveyors, have taken new offices at 4, Wimpole Street, Cavendish Square, London, W.1. (Tel.: LAngham 8061.)

TRADE

Sir Patrick Hamilton, Bart., has been appointed chairman of The Expanded Metal Co. Ltd.: he succeeds his cousin, Lieut. Commander G. C. Hans Hamilton, C.B.E., who remains a member of the board.

David Wood, B.A., has been promoted to a directorship of Concrete Ltd., 16, Northumberland Avenue, W.C.2, and will be chiefly responsible for Southern Contracts Administration and Training.

The Minerva Detector Co. Ltd. has enlarged its research, development and production facilities and moved to Lower Mortlake Road, Richmond, Surrey. (Tel.: Richmond 6431.)

From May 1, 1956, Stonehouse Steel Equipment Ltd. will cease to trade as such and all communications should be addressed to the Pressed Metal Division, Williams & Williams Ltd., Roffen Works, Hooton, Wirral, Cheshire. J. A. L. Leyland, previously Sales Manager of Stonehouse Steel Equipment Ltd., has been appointed Sales Manager of the Pressed Metal Division.

The Universal Asbestos Manufacturing Co. Ltd. of Tolpits, Watford, Herts, have appointed P. H. Brown to be their Sales Representative in Lancashire (other than Manchester and Liverpool), Cumberland and Westmorland. He will be based upon the company's office at 196, Deansgate, Manchester. (Tel.: BLAckfriars 2466.)

F. Hills & Sons Ltd., Norton Road, Stockton-on-Tees, manufacturers of doors, windows and "Durette" plastic-faced plywood, have appointed J. Trevor Pattinson as their London area representative. His home address is: 58, Waldegrove Park, Strawberry Hill, Twickenham, Middlesex. (Tel.: POPesgrove 9355.)

H. J. T. Owen and G. L. Jones have been appointed to the sales staff of the Lighting Division of Philips Electrical Ltd. in the area covered by their Cardiff Branch.

"Pompeian," a product of the Lewis Berger Paint group, will now be marketed only by Sir W. A. Rose & Co. Ltd. It is available in a range of 34 colours and will not be sold retail, but only to the trade, Municipalities, etc.

Ian A. Mackenzie, A.R.I.B.A., has moved his office to Kempfield Court, Dingwall, Ross-shire.

The Cape Asbestos Co. Ltd., have opened new offices in Manchester at National Buildings, St. Mary's Parsonage, Manchester, 3. J. F. Callaghan is the Northern Office manager.

The Limmer & Trinidad Lake Asphalt Co. Ltd. have appointed M. H. Sandeman as Area Manager of their Ardsley Building Area at Common Lane, East Ardsley, Nr. Wakefield, Yorks. He was formerly Mastic Works Manager of the Birmingham Branch of the Company.

Howard Panton Ltd., Advertising Agents & Consultants, have moved to Panton House, Howard Street, London, W.C.2. (Tel.: COVent Garden 0231.)

CORRECTION

We regret that owing to a printing error the name "Ekco" was incorrectly spelt in the Ekco Ensign advertisement on April 12.

CRICKET FIXTURES

The following fixtures have been arranged for the season:—

Wed., May 16: AA v. Blue Circle, at Blue Circle Ground, Bromley.

Sat., May 20: AA v. Holmebury St. Mary (Away).

Wed., May 23: Vitruvians v. RIBA at Elstree.

Wed., May 30: AA v. Selwyn College, at Elstree.

Wed., May 30: LCC Architects v. LMBA, at Johnson & Phillips Ground, Kidbrooke.

Wed., June 6: AA v. College of Estate Management (Away).

*Demountable partitions by Compactom Ltd.
on the Fourth Floor, Time and Life Building W1*

*Architect:
Michael Rosenauer F.R.I.B.A.*

When
you
decide
to
divide . . .



■ ■ ■ you'll find the most suitable materials and
finishes for all requirements combined in Compactioning—
the complete, individual service of

COMPACTOM PARTITIONING

Write for full details to COMPACTOM LTD., OXGATE LANE, CRICKLEWOOD, LONDON, N.W.2

Telephone: GLAdstone 6633 (3 lines)

INFORMATION CENTRE

INDEX FOR 1955

An alphabetical index covering Information Centre items and special articles published in the Technical Section during the twelve months ended December 31, 1955, is being prepared. Readers who wish to have a copy—it is free of charge—should complete the form below and post it to the Technical Editor, THE ARCHITECTS' JOURNAL, not later than May 14, 1956. This form will not be acknowledged.

Please send me the Information Centre Index for 1955:

Name

(Block letters)

Address

(Block letters)

AJ 10.5.56

Fri., June 8: LMBA v. Blue Circle Sports Club, at Bromley.

Wed., June 13: RIBA v. AA, at Elstree.

Wed., June 20: AA v. R. D. Mudie's XI, at Elstree.

Wed., June 20: LMBA v. RICS, at Ibis Ground, Chiswick.

Wed., June 27: AA v. P. Winton Lewis's XI, at Thames Ditton.

Fri., July 6: Vitruvians v. NFBTE, at Old Deer Park, Richmond.

Mon., July 9: LMBA v. NFBTE, at Blue Circle Ground, Bromley.

Wed., July 18: RIBA v. LMBA, at Holloways AA Ground, Earlsfield.

Wed., Aug. 15: RIBA v. RICS, at Hinchley Wood.

Wed., Aug. 29: RIBA v. Club Cricket Conference, at Wimbledon CC.

Tues., Sept. 11: RIBA v. Blue Circle CC, at Wimbledon.

The Secretary of the RIBA Cricket Club would be pleased to hear from architects with cricketing ability who would be interested in joining the Club and who would be available to play in at least one or two of the Club's matches. Applicants should write to Derek L. Robinson, 140, Kenilworth Court, Lower Richmond Road, Putney, S.W.15.

R. M.

MOW: BUILDING STATISTICS

Each of the 110,000 or so firms engaged on building and civil engineering work, including specialist firms such as joiners and painters, have received from the Ministry

of Works a letter asking for information about the number of men employed and the value of work carried out in the first quarter of this year. This is the first occasion on which many firms have been called upon to complete this return. Advance copies were, however, sent out last February in order that firms could arrange to have the information ready to hand at the end of the quarter.

This return was devised with the co-operation of representatives from the industry and made as simple as possible, while providing the Government with the statistics needed to show the amount of capital investment in building and civil engineering and the size of the labour force involved.

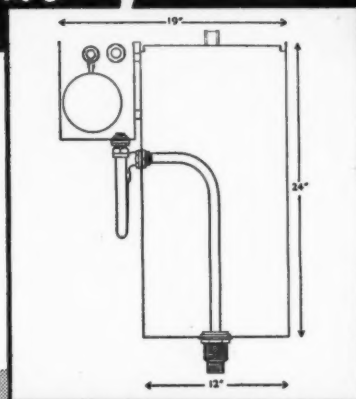
Information of this kind is provided every quarter from a sample of firms, but to ensure that the results obtained from the sample are reliable it is necessary on this occasion to send the return to every firm. Even the smallest firms in the industry play an important part: the total output of all firms employing under 20 men represents, for example, about one-third of the output of the whole industry. The total output of the industry now approaches some £2,000 m. p.a., (or £40 m. a week). These smaller firms are thus responsible for an output of over £600 m. p.a. Of the total output nearly £1,300 m. is for new building and civil engineering projects, forming about half of all the capital invested annually by private and public authorities.

The statistics obtained from this enquiry will be published in the digest of statistics—provisional figures appearing in June and final figures some months later.

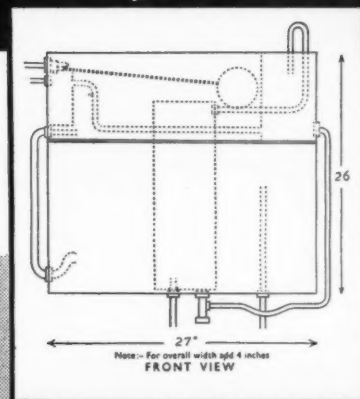
It is essential that the Government should know what is going on in this important industry and see how far the load is becoming more in balance with its capacity.

To get you out of HOT WATER Troubles

*Specified by
Local Authorities,
Architects and
Heating Engineers
throughout the
country.*



DURHAM



CALORIFIER

ROLYAT PATENT HOT WATER TANKS

THE ROLYAT TANK CO. LTD. • CROMWELL ROAD • YORK



ZINC DUST ... for Paints

For mechanical protection and electro-chemical defence against CORROSION

Corrosive conditions demand positive action. Only a zinc metal coating gives maximum protection to iron and steelwork. Zinc rich paint with a pigmentation of 92% to 95% provide this vital protection; its action is electrolytic; even if the paint film should be damaged the underlying metal is still protected by the adjacent zinc particles and the spread of corrosion is arrested. Zinc rich paint is non-toxic and is applied with ease whether for new work or for renovating. Specify a Zinc Dust from the Imperial Smelting range for use in your Zinc Rich Paint formulations. We will gladly supply a list of Zinc Dust paint manufacturers on application.

The steelwork of America's famous Mt. Hope Bridge is guarded by zinc paint. Erected in 1929, it is 5,000 feet long and is subjected to the most severe weather conditions. Zinc metal has been applied in the form of a zinc dust pigment in the priming paint and time has proved its excellent qualities.





**Catesbys laid
that much lino for
Humber Ltd
Coventry**

When you want over two and a quarter miles of lino supplied and laid, who do you turn to? Architect Thomas Mitchell B.Sc., A.R.I.B.A. for Humber Ltd, Coventry, got Catesbys on the job. Special skills are needed when laying vast areas of lino—over 4,000 sq. yds. in this case!—but with 60 years' experience behind them you'll find that Catesbys know the answer to most lino problems.

Catesbys Linoleum Contracts

TOTTENHAM COURT ROAD • LONDON W1 • MUSEUM 7777

HARMONY SUSTAINED

Bungalow at Higher Lane, Langland, Swansea. Designed by: Clifford G. Vaughan, Esq., L.R.I.B.A., Chartered Architect, 1 St. James' Gdns., Swansea.



Group of special Fittings

The large area of roof on a Bungalow is usually its most striking feature, and it is most important that harmony is sustained with the rest of the building and its surroundings. Dignus 11" x 7" Sandstorm Clay Roofing Tiles afford the answer—available in shades of Red and Antique colours which mellow to perfection. May we send you further details?

BEST QUALITY TILES ARE GUARANTEED FOR FIFTY YEARS

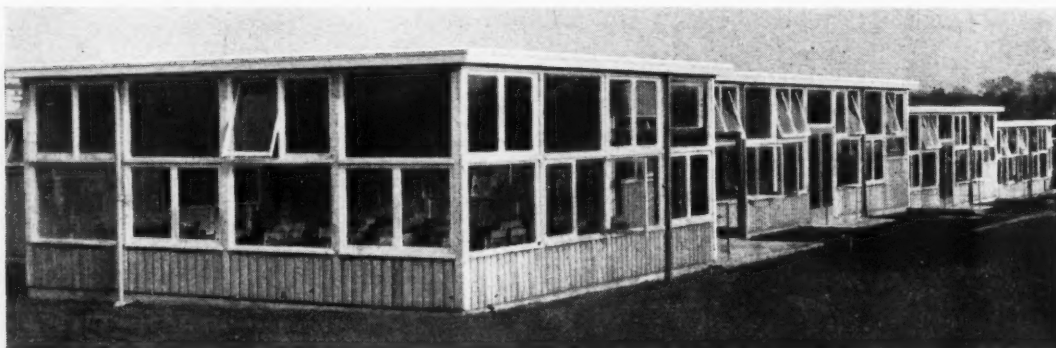
Maximum output maintained - continuity of supplies guaranteed.

DIGNUS *Tiles*
11" x 7" SANDSTORM CLAY ROOFING

DIGNUS LIMITED · KEELE · NEWCASTLE · STAFFS

PREFABRICATED *Schools*

SINGLE STOREY • DOUBLE STOREY • TREBLE STOREY



WEST WING CLASSROOMS

HOUSES

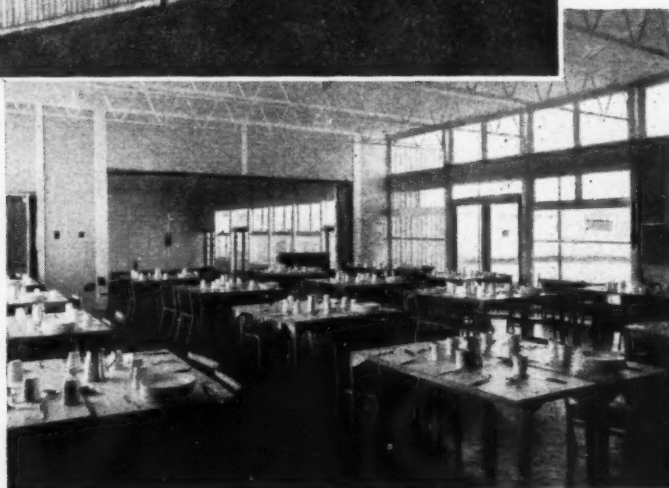
OFFICES

CANTEENS

MOTELS

ROOF TRUSSES

FARM BUILDINGS



DINING HALL

Availability • Less Cost • Speedy Erection • Quick Delivery



FRANK • W • TOOGOOD LTD *Timber Fabricators*

WINTERSTOKE ROAD • ASHTON GATE • BRISTOL 3

TELEPHONE BRISTOL 6-4222



LOG CUTTING FOR—



**THE
OUTSTANDING
ALL WOOD FIBRE
HARDBOARD**

ROYAL

RMML

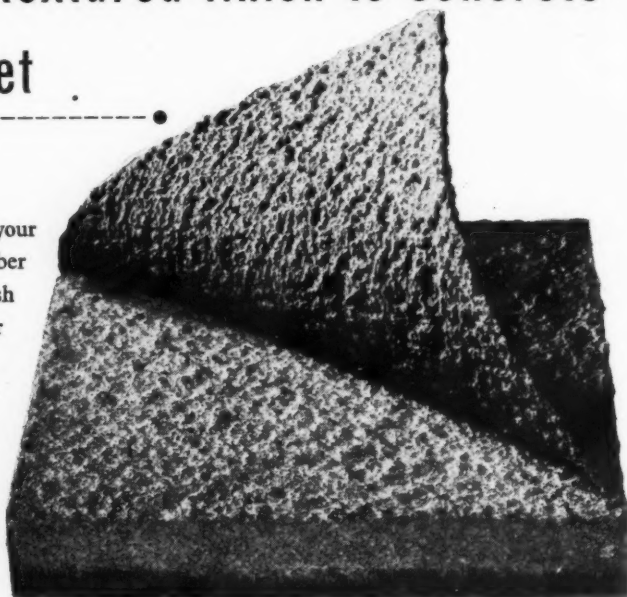
R M M L

SOFTWOODS FOR JOINERY AND BUILDING

NOW... A better textured finish to concrete with **LINATEX** Blanket

Here's a new process that greatly increases your scope when planning in concrete. Linatex rubber blanket gives a flawless, attractive textured finish without the trouble and expense of trowelling or spraying.

Linatex blanket is easily cut to shape and fitted to any type of mould—and it can be used time and time again. Its moderate cost and ease of application readily commends it to architect and builder alike.



Textured concrete tile by courtesy of the Mosaic and Terrazzo Precast Company (Staines) Ltd.

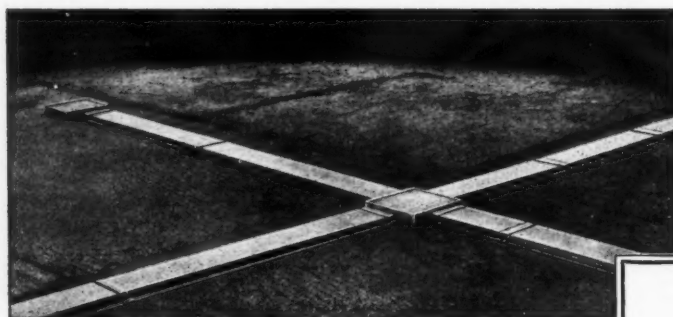
LINATEX

BLANKET

FOR TEXTURING CONCRETE



WILKINSON RUBBER LINATEX LTD., Camberley, Surrey, England. Telegrams: LINATEX, Camberley. Telephone: Camberley 1595



GREENWOOD-AIRVAC

UNDERFLOOR CONDUIT SYSTEM

For depths of screed $1\frac{1}{2}$ " and over
Rustproofed all-metal construction
Sizes from 4" x 1" to 12" x $1\frac{1}{2}$ "
Single or multiple divisions
One-way or multi-way junction boxes
Flyover separators if required
Floor outlets for future connections

PURPOSE-MADE for every job

Every contract for the Greenwood-Airvac Conduit System is purpose made in that the duct size, junction box design and other accessories are made to suit the individual application although based on a standard pattern throughout. This elasticity of design enables this versatile system to meet all the requirements of architects and contractors to the mutual benefit of all concerned.

Full details are given in the publication 'Greenwood-Airvac Conduit Systems' now available on request.



GREENWOOD'S AND AIRVAC VENTILATING COMPANY LIMITED · BEACON HOUSE · KINGSWAY · LONDON · W.C.2
Telephone: CHAncery 8135 (4 lines) Telegrams: "Airvac," London

The modern answer to
bicycle parking problems



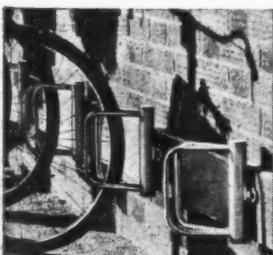
VelopA BICYCLE HOLDERS

Serrated arms grip
tyre only *
Unobtrusive and
space saving *
Indestructible *
Heavily galvanised
steel * Wide range
of models for any
wall, post, railing,
etc. * Easily
installed by unskilled
labour.

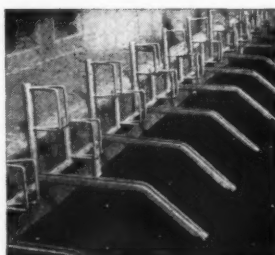
**SYMMETRY
STYLE
SIMPLICITY**



VelopA Bicycle Holders, 45°, at King's College, Cambridge,
specially made with extended upper bracket to suit recessed
wall.



Model RT. 45°, bolted to
timber beam.



Battery arrangement for
bicycles at 12-inch centres.

LE BAS TUBE COMPANY LIMITED

CITY WALL HOUSE, 129 FINSBURY PAVEMENT, LONDON, E.C.2

Telephone: Monarch 8322 Telegrams: Lebasco, Avenue, London

LONDON · MANCHESTER · GLASGOW · BELFAST

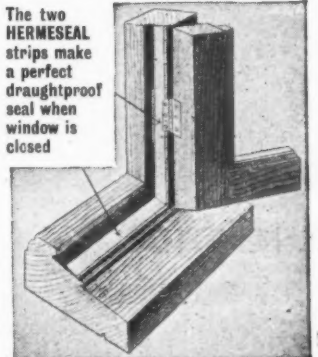
Two ways to HEAT CONSERVATION

① DRAUGHT EXCLUSION

will reduce the rate of cold
air infiltration through
doors and windows, which
is the source of all draughts,
by as much as 95%. This
in turn will cut down the
loss of heat through the
average window by at least
half, and through doors by
an even greater amount.

EXAMPLE: D/H Sash Win-
dows of wood, 5' 2" x 2' 8",
average length and width of
gap, 18' 0" x 1", average wind
speed 10 m.p.h.

The two
HERMESEAL
strips make
a perfect
draughtproof
seal when
window is
closed



BEFORE draught-exclusion	=	1903.0 cu. ft. per h.r.
AFTER " "	=	264.6 cu. ft. per hr.
PREVENTION achieved	=	1638.4 cu. ft. per hr. or 86.1%

② ROOF INSULATION



will reduce the loss
of heat through a
roof-area by at least
70%. This loss, in
the average house, is
about one-third of all
the heat lost in various
ways from the struc-
ture as a whole.

EXAMPLE: Average
"U" value of pitched
roof, tiles on battens,
attic space, plaster
ceiling below joists.
"U" = B.Th.U./sq. ft./
hr. °F. diff.

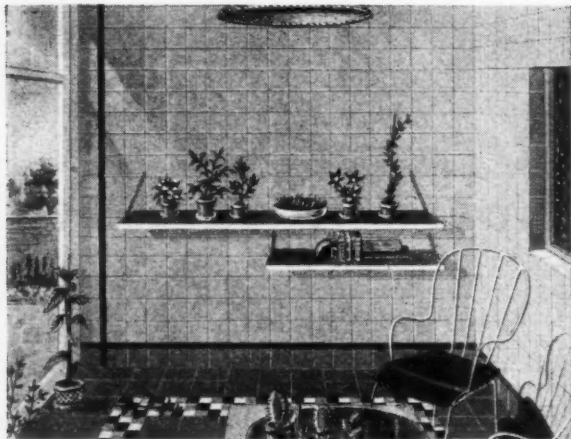
BEFORE insulation	(Desirable standard 0.20)	"U" = 0.56
AFTER insulation with 2" of pelleted mineral wool		"U" = 0.12
PREVENTION achieved	=	0.44 or 78.5%

Specify DRAUGHT EXCLUSION and ROOF INSULATION by
HERMESEAL. No higher degree of efficiency in the conservation of
heat and the saving of fuel can be achieved in any already existing
building. Surveys and installations are carried out by our own skilled
staff throughout the country. Write for full details.

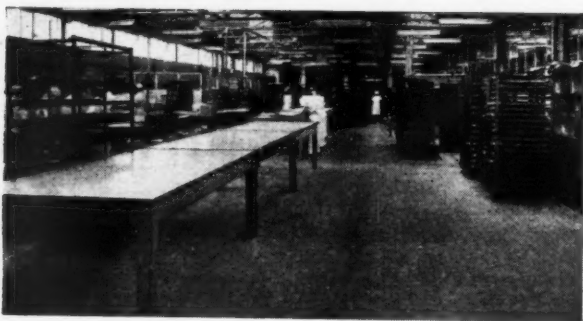
draught exclusion & roof insulation by
HERMESEAL
means warmer homes

BRITISH HERMESEAL LIMITED
Head Office: 4 PARK LANE, LONDON, W.1
Telephone: GROsvenor 4324 (5 lines)

House owners . . .



and factory owners . . .



get more wear from



Whether in the modern home or in the factory, Woolliscroft Double Ground Tiles are easy to lay, easier to maintain, lovely to look at and good for decades of wear. The secret lies in the double grinding which gives them a firmer, finer texture for extra toughness and ensures uniform size and finish. Such famous names as Allied Bakeries, Ford and Richard Thomas & Baldwins have wisely installed these extra tough tiles and you can recommend them to your customers with complete confidence.

EASY TO LAY · EASY TO CLEAN · LAST FOR GENERATIONS

GEORGE WOOLLISCROFT & SON LTD.

Dept. A. J. Hanley, Stoke-on-Trent

NOW !

BY ANY PROCESS!



SHARPER

white or blueprints

Strong...

Venus Pencil leads are pressure-proofed* for maximum strength

SMOOTH...

made by a special colloidal process* which removes all impurities

ACCURATE...

exactly graded in 17 different degrees of hardness

*Exclusive Venus Patents

Durable non-crumbling points; strong and smooth in action give lines uniform in weight and tone. Opaque lines for sharp, clear reproduction. No smudges. No "ghosts" from erasure. There's the right degree for your favourite paper. The result: sharper prints — by any process!

V

ENUS

DRAWING PENCILS

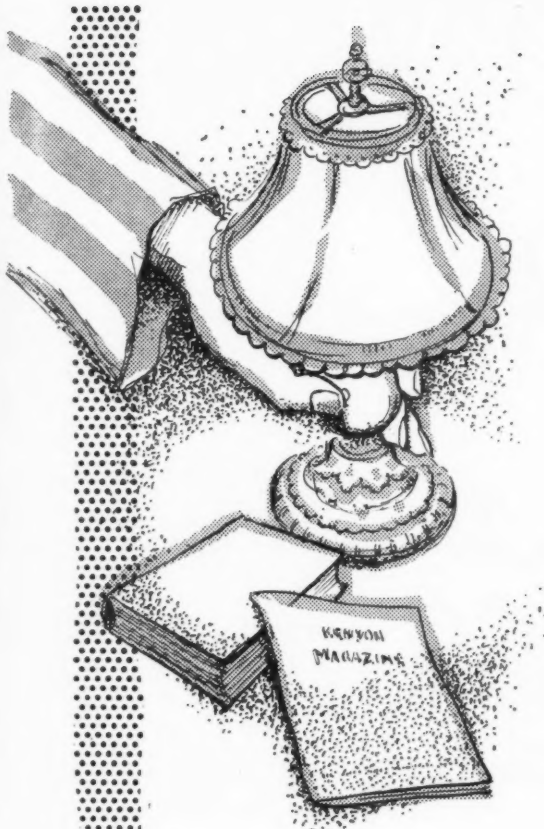


Use also Venus Soft Pencil Eraser

MADE IN ENGLAND - VENUS PENCIL CO. LTD. H

THE PENCIL WITH THE CRACKLE FINISH

VENUS PENCIL CO. LIMITED
LOWER CLAPTON ROAD, LONDON, E 5



GOOD NIGHT . . .

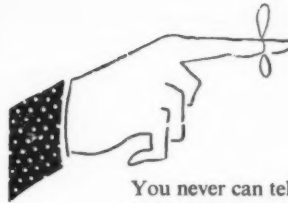
The outside world is all behind you now. Forget it. Lie back and sleep in the warm, silent security of your own little world—a bedroom insulated against extremes of cold and heat.

METAMICA

WALL AND CEILING FINISHES



WILLIAM KENYON & SONS (METAMICA) LTD.
DUKINFIELD · CHESHIRE.
Manufacturers of Building Insulation Material
V.46



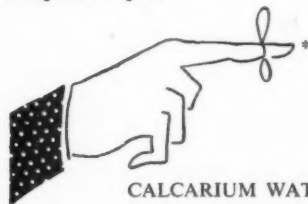
You never can tell what your thoughts will do
In bringing you hate or love,
For thoughts are things, and their airy wings
Are swift as a carrier dove.
They follow the law of the universe—
Each thing must create its kind,
And they speed o'er the track to bring you
back
Whatever went out from your mind.*

MORSE

FAMOUS FOR PAINTS & DISTEMPERS

IMPORTANT NOTICE TO ARCHITECTS

With a new factory completed in 1954 and new formulations in partnership with tried and trusted products such as CALCARIUM Water Paint and BELMURA Oil Bound Distemper we now offer Architects, Surveyors, Builders and Decorators a complete service in interior and exterior decorative materials at competitive prices.



CALCARIUM WATER PAINT
BELMURA OIL BOUND DISTEMPER
VELVODURE SUPERFINE ENAMEL
TUNGCRETE STONE PAINT ETC.,

Write for details and brochures
or information to

A. T. MORSE, SONS & COMPANY LIMITED

Jupiter Works, Plaistow, London, E.13
Telephone: Grangewood 4081

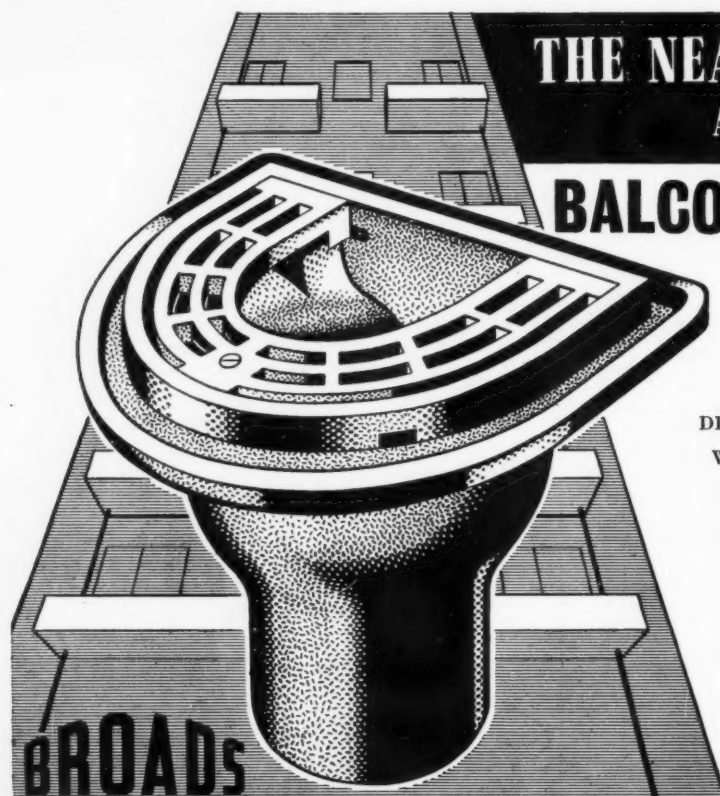
PROMPT SERVICE · TECHNICAL ADVICE

VENUS PENCIL CO. LTD. H

THE PENCIL WITH THE CRACKLE FINISH

VENUS PENCIL CO. LTD. H
also Venus Pencil Eraser

ED
ON, E 5



THE NEAT AND SIMPLE ANSWER TO BALCONY DRAINAGE

BROADS PATENT COMBINATION
BALCONY DRAINAGE UNIT IS
DESIGNED TO SIMPLIFY THE
DRAINAGE OF BALCONIES THROUGH
WHICH THE DOWN PIPE PASSES,
THUS PROVIDING A NEAT AND
UNOBTRUSIVE APPEARANCE.

Manufactured in various sizes to suit
rain-water pipe.

(PATENT APPLIED FOR)

INFORMATION SHEET SENT
ON REQUEST

BROADS

MANUFACTURING CO., LTD. 4 SOUTH WHARF, PADDINGTON, LONDON, W.2. TEL: PAD. 7061 (20 lines)

AN ASSOCIATION OF ARTIST CRAFTSMEN

MAKERS OF
PRINTING
BLOCKS

IN LINE
HALFTONE
& COLOUR



THE
ENGRAVERS GUILD LTD

ARTISTS
PHOTOGRAPHERS

WINDSOR HOUSE · CURSITOR STREET · LONDON · E.C.4

6 POINT PLAN TO SAVE ON BUILDING COSTS TUBULAR FRAMED BUILDINGS AND ROOF STRUCTURES

WITH



1 ECONOMICAL in material, time and labour

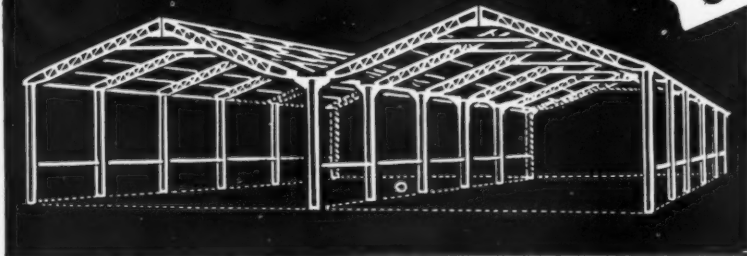
2 STRONGER than other steel sections of equal weight

3 EASILY ERECTED AND ASSEMBLED on account of light weight and special Salopian design

4 INCREASED HEADROOM AND GREATER STORAGE CAPACITY ensured by high level tie beam

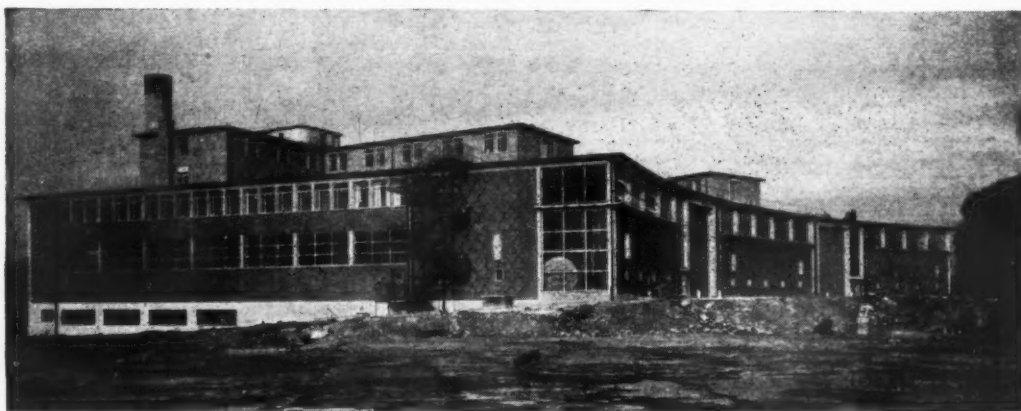
5 LOWER MAINTENANCE COST in paint and labour due to reduced surface area

6 STANDARD SPANS of 18ft., 27ft. 6ins., 34ft., 40ft., 50ft., and 60ft. readily available



Where additional accommodation is required quickly for offices, factories, canteens, schools, pavilions, etc. — Salopian Tubular Framed Buildings and Roof Structures can meet any specific requirement. Illustrated literature describing the wide adaptability of this medium is available on request — may we send you a copy?

SALOPIAN ENGINEERS LIMITED (Constructional Engineering Division), PREES, WHITCHURCH, SHROPSHIRE. Telephone: PREES 331-4



Two of the Rolling Shutters (shown on the right in the photograph) are each 25 ft. 2½ in. high and 18 ft. 7 in. wide. They are electrically operated.

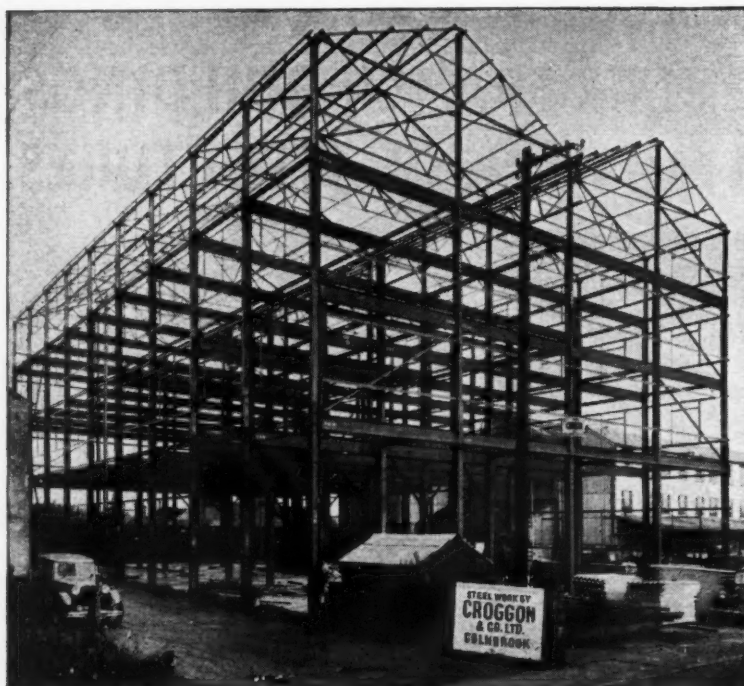
45 FIREPROOF DOORS and 35 ROLLING SHUTTERS

Were installed in the B.B.C. Television Centre at the White City by

DREADNOUGHT FIREPROOF DOORS (1930) LTD

26 VICTORIA STREET, WESTMINSTER, S.W.1

Telephone: ABBey 1411



STEEL FRAME BUILDINGS

We have a very long experience of problems met with in supplying and erecting steel framed structures of all kinds. Our advice is freely offered upon receipt of general details of your requirements, and your enquiries will be welcome.

CROGGON & CO. LTD.
ESTABLISHED 1835.

Croggon

Constructional Engineers. Galvanised Tank and Cistern Makers. Sheetmetal Workers. Woven Wire and Fencing Manufacturers.

Poyle Steelworks, Colnbrook, Nr. Slough. Colnbrook 99 • 230 Upper Thames St., London, E.C.4.
CENTRAL 4383 • 8 Cornhill, Liverpool. Royal 3868 • 7 John Street, Glasgow. Bell 2983.

It's safe to specify

9"
FOSALSIL
BRICK
LINING

for every boiler flue

MOLER PRODUCTS LIMITED • COLCHESTER • ESSEX



in the **Royal Exchange**

This photograph, which was taken in the Royal Exchange, London, where a comprehensive A.F.A. system has been recently fitted, gives further evidence that A.F.A. blends into any decorative scheme. It is equally applicable to existing buildings as above or to the hundreds of new offices, factories and shops going up all over Britain.

The flush-fitting detectors are quite unobtrusive—yet if fire breaks out they call the Brigade at once to the exact location. May we send full particulars?



Photograph by kind permission of Royal Exchange Assurance and The Worshipful Company of Mercers.

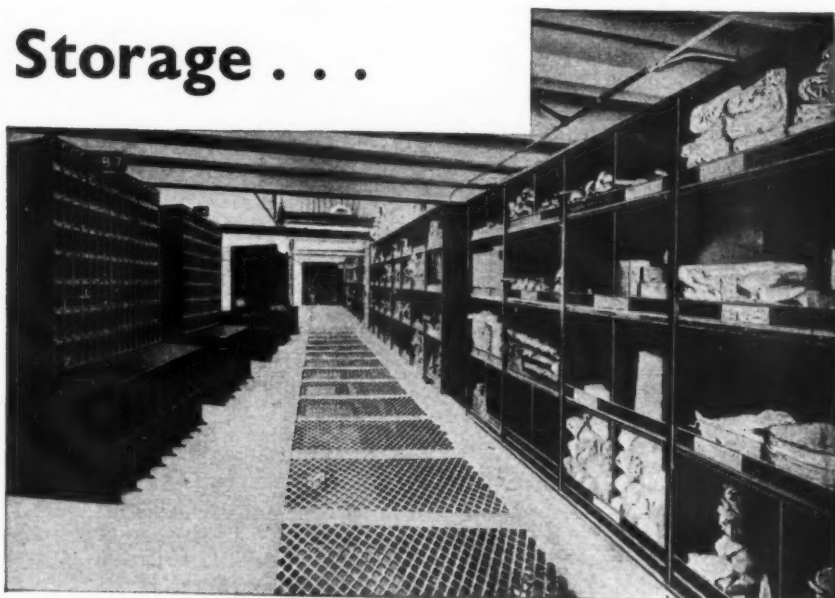


ASSOCIATED FIRE ALARMS LIMITED
CLAREMONT ROAD, WALTHAMSTOW, LONDON, E.17
SERVICE IN ALL MAIN CITIES

TAS/AF.62

For Orderly Storage . . .

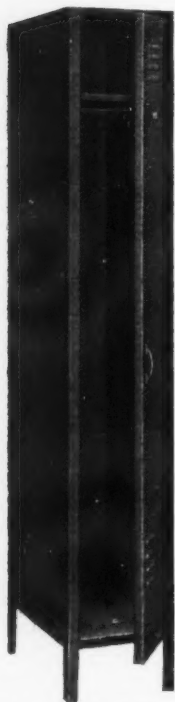
ORDERLINESS and efficiency go together. Harvey Steel Storage Equipment provides a solution to every problem of storing materials, components and finished goods in an orderly manner. Well designed, readily adjustable, strong and durable, Harvey Equipment embraces bins, racks and shelving planned to meet the special needs of every trade and industry.



Please ask for Catalogue No. A.J. 775.
G. A. HARVEY & CO. (LONDON) LTD.
Woolwich Road, London, S.E.7
Telephones: GREenwich 3232 (22 lines)

Harvey

**STEEL STORAGE
EQUIPMENT**



★ Mr. QUIN at Larkwood 4411 will answer your enquiries

Helmsman STEEL CLOTHES LOCKERS

Left—

STANDARD SIZE 72" x 12" x 12"

Fitted with modern streamlined "Slidex" Chromium plated handle with 3 point latching, lockable with padlock (Traditional 6-lever lock in lieu or in addition if required). Other sizes 18" and 20" deep (these two sizes have rails for coat hangers).

LIST PRICE (in nests of 4) £4 . 3 . 3 (per Locker) (Single £4 . 11 . 0)

Right—

FOUR - TIER LOCKERS

Size of each compartment approx. 16" high, 12" wide, 12" deep.
LIST PRICE £2 . 3 . 0 (per compartment) £8 . 12 . 0 (per Locker)

As manufacturers we can offer :

Discounts for quantities • Special quotations for complete installations
• Normal commercial credit terms to business undertakings
• Prompt delivery • Choice of six colours

Also Two-tier Lockers • Open-type Shelving • Closed-end Shelving
• Solid Back and Sides Shelving • Bin Units
• Cupboards • Work-Cabinets • Airing Lockers

FREE DELIVERY LONDON AREA



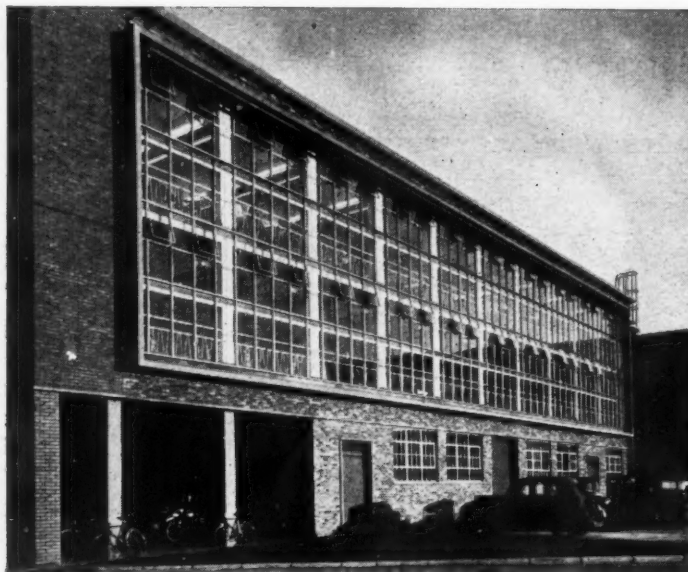
W.B.BAWN

& COMPANY LIMITED

BYRON WORKS, BLACKHORSE LANE, LONDON, E.17.



QUALITY AT THE RIGHT PRICE!



Architects: Fairbrother, Hall & Hedges, Edinburgh
General Contractors: Wm. Arnott McLeod & Co. Ltd.

Pictured above is the Drawing Office Window of the new Ferranti Research Laboratory at Edinburgh, where Teleflex Remote Controls are used throughout.

**FOR THE
HIGHER 'REACHES' OF
WINDOW CONTROL**

Instant accessibility to "out-of-reach" windows is ensured by the positive push-pull action of Teleflex cable. Housed within a neat rigid conduit, it operates accurately and without distortion throughout all directional changes. The flexibility of the Teleflex system also allows simultaneous multi-point operation from a single line transmission.

Please write for illustrated Catalogue.

TELEFLEX

TELEPHONE: BASILDON 22861

TELEGRAMS: TELEFLEX PHONE BASILDON

TELEFLEX PRODUCTS LIMITED : BASILDON : ESSEX

Maxheat
OVAL

**Tubular Electric Heaters
of course!**



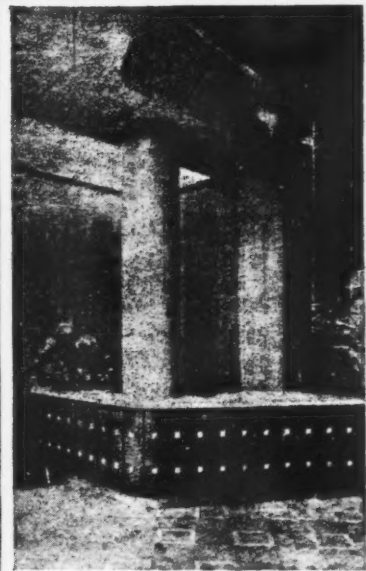
Photograph by courtesy of the L.C.C.

These heaters, each 1' 9" long, have been installed in the airing cupboards of the L.C.C. flats at the Alton Estate, Roehampton Lane, London. Maxheat can be supplied singly or in tiers up to 6, and in lengths up to 17 feet.

MAXHEAT — FOR BETTER SPACE HEATING

THE **Wardle** ENGINEERING CO. LTD.
Old Trafford, Manchester 16.

London Office: 34, VICTORIA ST., S.W.1. Tel: ABBey 4072 & 1356



**just
what
the
architect
ordered...**

... a genuine, high-grade, cloth-backed veneer; which will not warp, crack, shrink or expand; which can be applied direct—on flat or rounded surfaces; and which is available in a wide range of woods specially chosen for their versatility and beauty in use.

Flexwood is a superb material for interior decor, yet very reasonable in price. We shall be pleased to quote you for a complete installation on receipt of drawings.

flexwood

Alexandria Trading Corporation Ltd.,
121 London Wall, London, E.C.2—Telephone: Monarch 2272

best-made

plans

are best-made with
TURQUOISE

Precision grading, unmatched smoothness, non-crumbling points and super blackness! These four features make Turquoise the finest pencils for every type of drawing. 100% electronic graphite refined in the attrition mill to 1/25,000th inch ensures a uniformly black and opaque line which gives perfect reproductions. It also guarantees fast flowing smoothness, and points that resist breakage because millions more graphite particles are compacted into every length of lead. In 17 grades, always true, because each is made from a separate unvarying formula.

EAGLE
'CHEMI-SEALED' Super-bonded
TURQUOISE
DRAWING PENCILS
with 100% 'ELECTRONIC' Graphite

T5

EAGLE PENCIL CO., ASHLEY ROAD, TOTTENHAM, N.17

Prestex

COMPRESSION JOINTS

Measure success
in **MILLIONS**

In more than 20 years Prestex Compression Joints for copper tubes have been used by the million. Simple to assemble, fitted with only a spanner, they can be made and re-made with the same copper cone. They are completely safe, do not weaken the copper tube, or restrict the bore, and they cost less than any comparable joint. Approved by the Ministry of Works, Metropolitan Water Board and leading authorities.



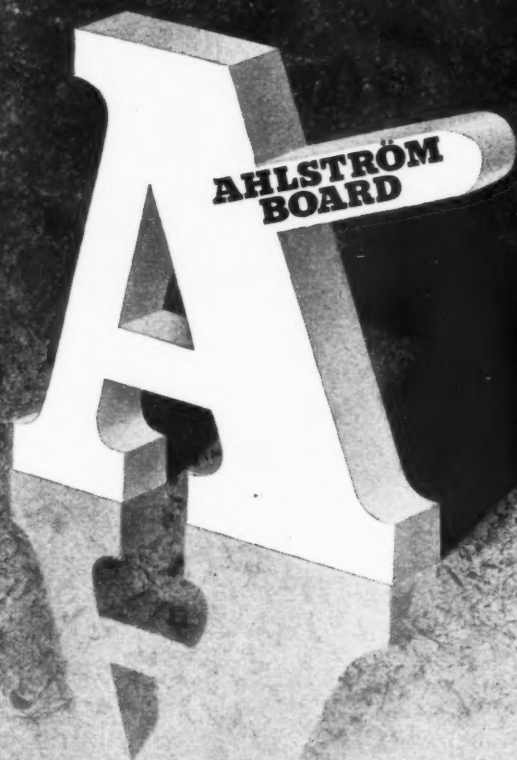
Full range of
patterns and sizes
1/8 in. — 2 in.

Send for the NEW 1956
Prestex Catalogue —
revised prices mean
new savings

PEGLERS
LIMITED

BELMONT WORKS DONCASTER

London Office and Warehouse:
PRESTEX HOUSE, MARSHALSEA ROAD, S.E.1



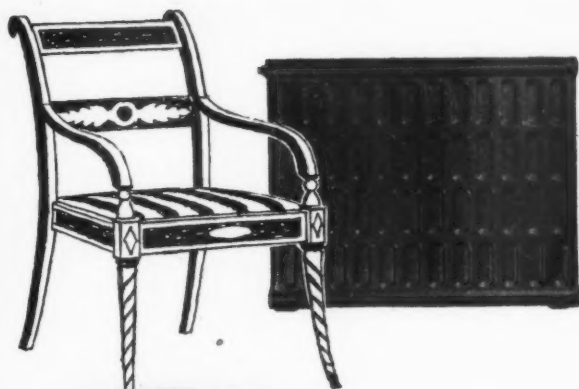
AHLSTRÖM

five three

the hardboard with the extra width

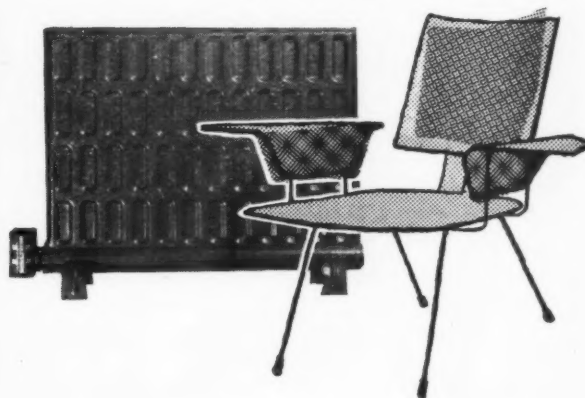
Enquire from your local merchants or from
Plywood & Timber Products Agencies Ltd.
City-Gate House, (East), Finsbury Square, E.C.2

Manufactured by A. AHLSTRÖM OSAKEYHTIÖ, FINLAND



dimplex

harmonise



DIMPLEX ELECTRIC AND PRESSED STEEL WATER RADIATORS, with their attractive yet unobtrusive styling, harmonise with any decor, period or contemporary, and they provide central heating at its wonderful best.

DIMPLEX ELECTRIC RADIATORS PROVIDE all the benefits of central heating without installation or maintenance costs. Completely portable, they are available in eight colours, and in various loadings from ½kw to 2kw. Permanently oil-filled, Dimplex electric radiators are thermostatically controlled—therefore most economical in use—and are, of course, suitable for every room in the house—bathroom and nursery included (towel rails extra). Dimplex electric radiators can be supplied with castor wheels (slight extra) or wall brackets, as an alternative to the standard type feet.

ONLY ONE-THIRD THE WEIGHT and with greater heat conduction than cast iron, Dimplex Pressed Steel Water Radiators are virtually unbreakable and they do not fracture in frosty weather. Ready-painted in a range of eight attractive colours, Dimplex water radiators are easily installed and do not require built-in wall brackets. The brackets supplied can quickly be screwed on to walls and partitions.

Note Dimplex Water Radiators are only recommended for use on closed circuits or in conjunction with a Calorifier.

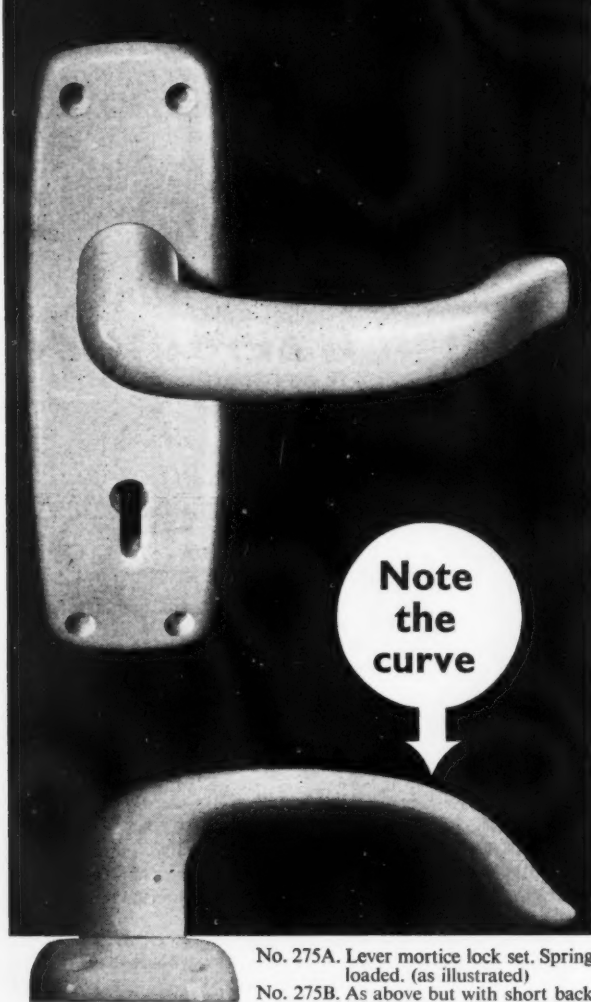
For heating offices, schools, clubs, shops, cafes, hotels, etc., specify Dimplex too!

Write for illustrated brochure AJ (6)

DIMPLEX LTD., MILLBROOK, SOUTHAMPTON, HANTS.

Factory Tel: Southampton 74425-9. Offices Tel: Totton 2481
London Showrooms: 17 Shepherd St., W.1. Tel: GROsvenor 1025/1254

The latest member of the Lacinoid range



No. 275A. Lever mortice lock set. Spring loaded. (as illustrated)
No. 275B. As above but with short back plate.

AN interesting feature of this model is the shape of the lever. It is curved, as shown in the illustration above, to avoid any catching in the user's sleeve.

The design as a whole is in keeping with the modern trend of decoration, beauty and simplicity going hand in hand.

Colours: Black, Brown and Ivory

LACRINOID

TRADE MARK

LACRINOID PRODUCTS LTD · GIDEA PARK · ESSEX

MCNEBB Tel: Hornchurch 2981

Prefatile

INTERLOCKING ALUMINIUM ROOFING TILES



House at
Bayley's Hill,
Sevenoaks
Roof fitted
with Prefatile
Interlocking
Tiles.

Architect:
Anthony
Branson,
A.R.I.B.A.
A.A. Dip.

*The Lightweight
Tile for Speed
Durability and Economy.*

- Laying speed 8-10 sq. yds. per man-hour.
- Great durability, minimum maintenance.
- Safe load 40 lb. per sq. ft. (24-Gauge).
- No fixing holes through roof surface.
- Exceptionally light weight.
- First Class appearance.
- Minimum pitch 9°.
- Low initial cost.

**AVAILABLE
FROM
STOCK**

Made in England by:

Prefatile (G.B.) Limited

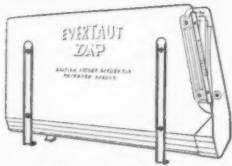
Further details on application to:

Dept. A.J. 78 BUCKINGHAM GATE, LONDON, S.W.1.

Telephone: Abbey 5291/2.

C 7399

The **EVERTAUT** **D.A.P. FILE**

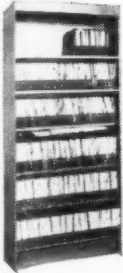


stands on its own!

EVERTAUT present D.A.P. the newest, most advanced design of office file with the most economical and space saving method of storage.

A New Lateral FILING SYSTEM with 8 Big Features

1. Economy of space.
2. Stands with its own support.
3. No major scrapping of existing equipment to install.
4. Adaptable for use anywhere.
5. Ingenious classification and signalling system.
6. Better visibility.
7. Better accessibility.
8. Economy in initial cost.

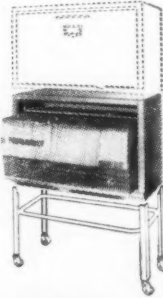


D.A.P. Files are available in Quarto and Foolscap sizes with a full range of index strips and coloured slides for clarity of identification.

Filestore cabinets can be nested together to any height. A stand fitted with domes or casters for mobility is also available. File store shelving is built up from standard light type of shelving.

Exclusive any-angle Visibility

The unorthodox design enables all files to be easily seen in the cabinet at the same time from any angle.



Filestore Shelving units from £8 2 7 (400 file capacity) and Filing Cabinets from £6 0 2, including tax. From all main office equipment dealers.

Save space • time
work • money with

**EVERTAUT
LIMITED**

Send for full details and illustrated leaflet to Dept. AB4
**EVERTAUT LIMITED, WALSALL ROAD,
PERRY BARR, BIRMINGHAM, 22B,**
or see it in our
London Showrooms: **KINGSWAY, W.C.2**

**D. A. P. FILE and
FILESTORE
EQUIPMENT**



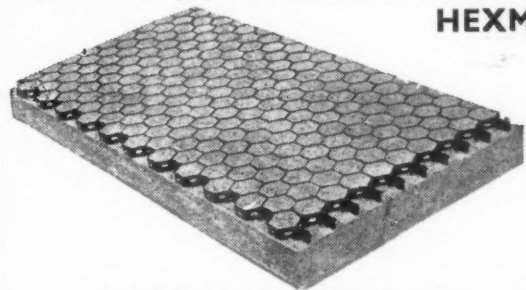
Intensified production outputs are subjecting floors of factories and works to heavy loads, vibration, and heat and are breaking them up, bringing an added burden for managements. See for yourself how **HEXMETAL** strengthens concrete floors.

flaws in your floors?

You'll have none of this worried feeling if you use **HEXMETAL** mats as shown below.

The **HEXMETAL** mats are laid and filled with concrete on top of the existing broken flooring, giving a trouble-free "pre-cracked" surface! There are many uses for **HEXMETAL**—almost certainly in your works, it will serve a valuable purpose. Write to us for all the news on

HEXMETAL



CAUSEWAY REINFORCEMENT LTD.

66, Victoria Street, London, S.W.1. Telephone: VICTORIA 8648 & 1873.



LATTICE BEAMS

- **ECONOMY**
- **RIGIDITY**
- **IMMEDIATE DELIVERY**

Write for full details and Data Sheets.

OF RIVETED AND WELDED CONSTRUCTION

Enterprising Architects continue to specify our Standard Beam system for modern Schools, Factories Canteens etc. It is most economical and allows freedom of design.

DESIGN SERVICE AND TRADITIONAL STEELWORK

Our Design Office are pleased to advise on the use of these Lattice Beams and to design and quote for the complete steelwork of any project.

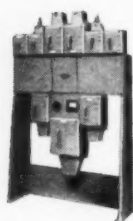
Sommerfelds

LTD.

LONDON OFFICE: 167 VICTORIA ST. S.W.1
TEL: VIC. 8843 AND 1000

WELLINGTON • SHROPSHIRE TEL. 1000

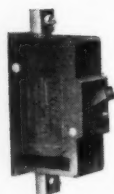
OUTSTANDING PRODUCTS IN THE **DORMAN** RANGE



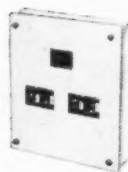
Dorman System of Switchboard Construction



"Flowline" Distribution Board



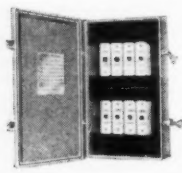
"Loadmaster" Miniature Circuit Breaker



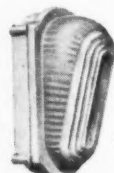
"Loadmaster" Distribution Board



"Safeset" Miniature Circuit Breaker



"ASC" Type Distribution Board



Tilted "Diopal" Prismatic Lighting Fitting



Dorman "Supergrip" Handlamps

Dorman products are backed by 75 years' experience in the design and manufacture of high quality electrical equipment and accessories.

The complete range of products embody the latest designs for high performance, efficiency and economy in installation. Dorman electrical equipment is giving satisfactory service all over the world.

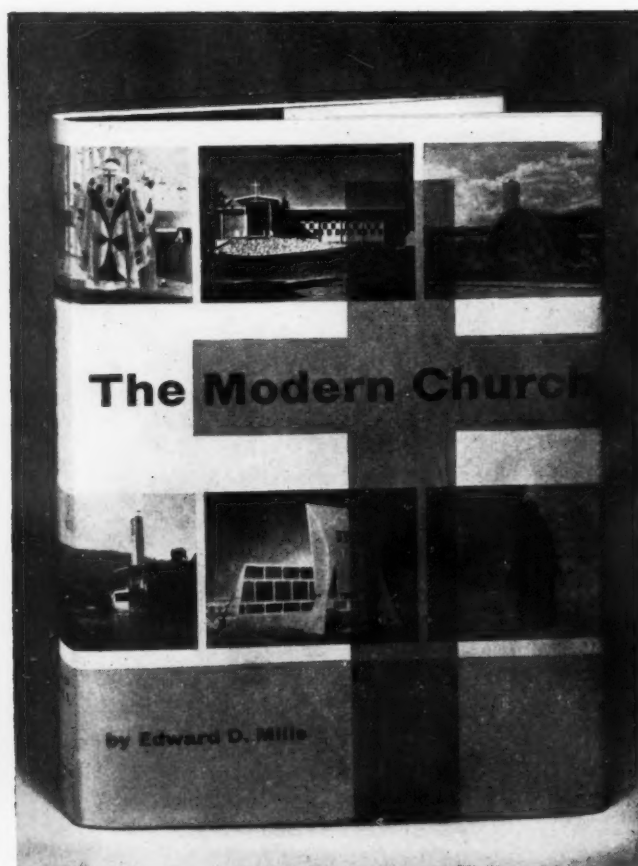
DORMAN & SMITH LTD.

THE WORLD'S BEST L.T. SWITCHGEAR



ORDSALL ELECTRICAL WORKS, MANCHESTER, 5

LONDON · GLASGOW · BELFAST



just published

The Modern CHURCH

BY EDWARD D. MILLS, F.R.I.B.A.

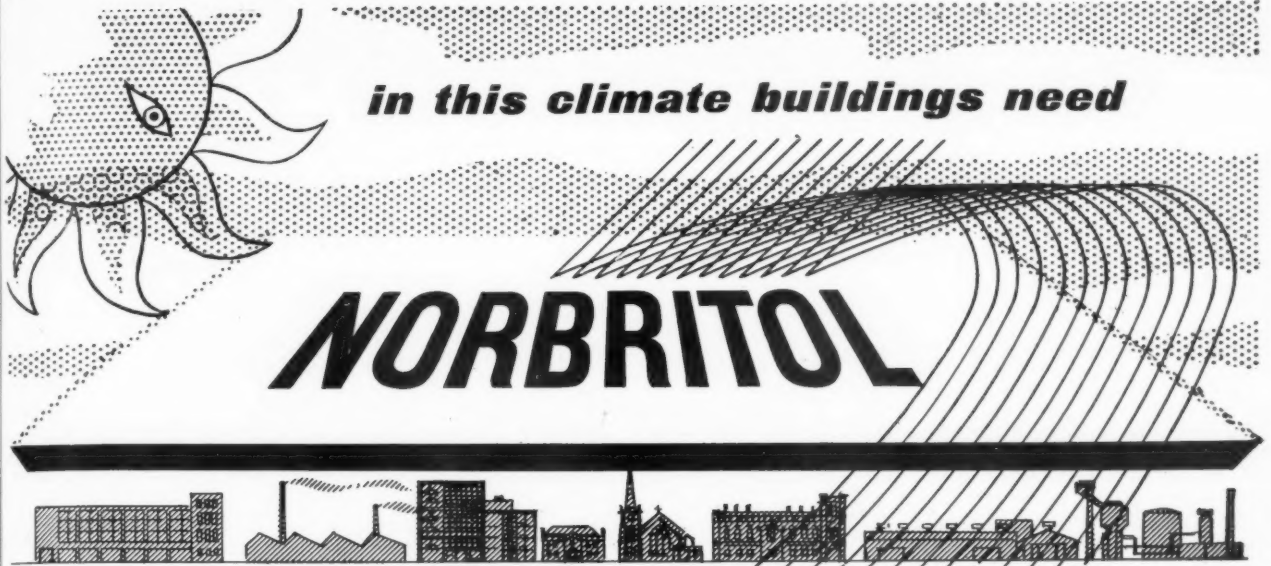
THIS IS A PRACTICAL BOOK about the design and construction of the twentieth-century church, the church specifically designed to fulfil the needs of the clergy and congregation of the present day. It is intended to be of value to members of the clergy and those concerned with church administration, as well as to all those architects engaged in the provision of new churches and subsidiary buildings for Christian communities of whatever denomination.

Of recent years many interesting modern churches have been built in all parts of the world, but little has yet been published about them. This book, one of the first to illustrate an extensive collection from among the most interesting examples and projects, shows how the architects have handled the problem of designing—to meet present-day needs, and in terms of modern building methods and materials—a building type with a very long historical tradition.

The author, a well-known practising architect, has expert knowledge and wide experience of the subject. Among his illustrations are photographs and plans of many of the most outstanding new churches in this and many other countries, including the work of such famous architects as Marcel Breuer, le Corbusier, Fritz Metzger, Oscar Niemeyer, Mies van der Rohe, Eliel Saarinen and Basil Spence. There are also some examples of stained glass by Fernand Léger and Henri Matisse, of sculpture by Jacob Epstein and Henry Moore, of murals by Graham Sutherland and Hans Feibusch and of other ancillary arts.

Size 9½ in. by 7½ in. 190 pages, including colour frontispiece and 64 pages of plates, with over 200 illustrations in halftone and line. Price 30s. net. Postage 1s. 3d.

THE ARCHITECTURAL PRESS, 9-13 QUEEN ANNE'S GATE S.W.1



in this climate buildings need

NORBRITOL

Architects, builders, property owners all welcome Norbritol, the new protective solution for stonework, brickwork and cement stucco. Norbritol deposits within the surface a film of water repellent silicone resin which enables it to withstand the action of rain, frost, and the destructive acids and soot of an industrial atmosphere. Specify Norbritol — it does an important job economically.

weatherproofing solution



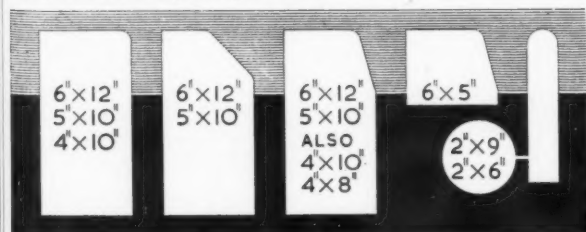
Write for details to :—
NORTH BRITISH CHEMICAL CO. LTD
(Paints Division) Droylsden, Manchester

ROAD KERB

to B.S.S. 340, (1950).

Hydraulically Pressed or Vibrated; Granite or Gravel Aggregate. Tool dressed to order. Radius kerb hydraulically pressed and vibrated.

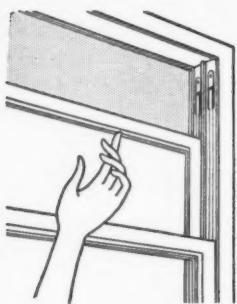
Stocks, including Channel, Standard Radii and Quadrant are held at our Works at Willenhall, S. Staffs., Kidsgrove, N. Staffs., Iwer, Bucks., Littlehampton, Sussex, Scunthorpe, Lincs., and Whitechurch, S. Wales. Full particulars and prices upon request.



TARMAC LIMITED VINCULUM DEPT

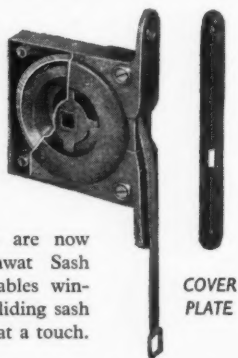
ETTINGSALL. WOLVERHAMPTON

Telephone: BILSTON 41101 (eleven lines)
LONDON OFFICE: 50 PARK STREET, W.1. GRO 1422



SASHES

glide at a touch



COVER
PLATE

Old-fashioned cords and weights are now widely superseded by the Beclawat Sash Balance. This modern device enables windows, hatches and other forms of sliding sash to be moved smoothly and quietly at a touch. Consisting of a **STAINLESS STEEL** tape housed in a parkerised steel or brass casing, spring operated and adjustable for accurate counter-balancing, the Beclawat Sash Balance is strong, durable and completely reliable.

BECLAWAT Adjustable Spring Tape SASH BALANCE



Full particulars from

Beckett, Laycock & Watkinson Ltd.

Acton Lane, London, N.W.10

FITTED CARPETS?

Two important factors
that make a vital difference

SKELLORN PLANNING

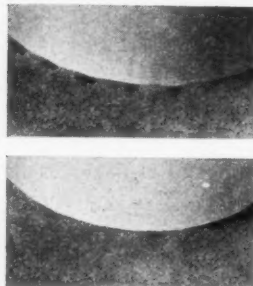
Carpet planning and fitting is a highly skilled trade and you cannot afford mistakes or sub-standard work on your schemes. So take no chances and always specify Skellorns to handle the work. They have been in the business for over seventy years, employ only the most experienced craftsmen and are experts in the use of "Smoothedge".

Smoothedge

The new "Smoothedge" tackless method of fitting carpets opens up new opportunities for the architect. Contours, awkward corners, curved staircases—all can be flawlessly carpet covered without the suspicion of a pucker. "Smoothedge" plywood strips with their angled rows of pins grip from beneath, penetrating only into the warp of the carpet. "Smoothedge" has revolutionised carpet fitting—it is something you must know about, so send now for explanatory literature. Simply complete the coupon below.



Carpet is hooked on to "Smoothedge" plywood strips; edges are tucked over and tightly sealed between strips and wall.



Top photo—with unsightly tacks. Below—a flawless finish with "Smoothedge."

To: James J. Skellorn Ltd.,
174 St. John St., London, E.C.1. (Clerkenwell 4677)

Without obligation please send me full details of "Smoothedge"

NAME

ADDRESS

**IF YOU BUILD
LOOK INTO
THIS**



There's nothing like **PRESSED STEEL GUTTERING** for permanence, efficiency and economy. Galvanised, aluminised or painted, up to 36" girth and $\frac{1}{8}$ " thick. Pressed Steel Gutters are first choice of "Old Hands" and "Skilled Hands" for construction jobs—as also are our Sliding Doors, Ridging, Flashings, etc. All are offered at keen prices, and special terms to Contractors.

**WRITE NOW FOR
FULLER INFORMATION.**

BAWNS PRESSINGS LTD.

CASTOR STREET, LONDON, E.14

Telephone: EASt 4422/3



FOR SAFETY AND COMPACTNESS
IN THE SMALLEST DUCT

Econa
MULTI-BRANCH SOIL UNITS
can help you...

ECONA MODERN PRODUCTS LIMITED
AQUA WORKS • HIGHLANDS ROAD • SHIRLEY • BIRMINGHAM

Telephone and Telegrams: Solihull 3070



From now on Lloyd Board will be known as

Bowater Board

HARDBOARD, INSULATION BOARD, ACOUSTIC PANELS, 'TALON' FIXING SYSTEMS

BOWATERS SALES COMPANY LIMITED (Building Boards Division)
BOWATER HOUSE, STRATTON STREET, LONDON, W.1. TEL: MAYfair 8080

CRC 1A



*Accommodation Problems?
ask PEELS*

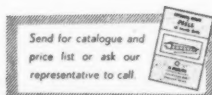


These handsome, sturdy buildings—one is a library, the other an estate office—are fine examples of Peel's craftsmanship. Designed with the accent on accuracy and constructed from highest quality materials, Peel's buildings can be erected with the minimum of time and labour. In addition to the wide range of standard designs, Peel's will design and construct buildings to individual specifications.

Free delivery within 200 mile radius



DEPT. AJ, H. PEEL LTD., MEARCLOUGH WORKS, SOWERBY BRIDGE, YORKS.
TELEPHONE: HALIFAX 81211.

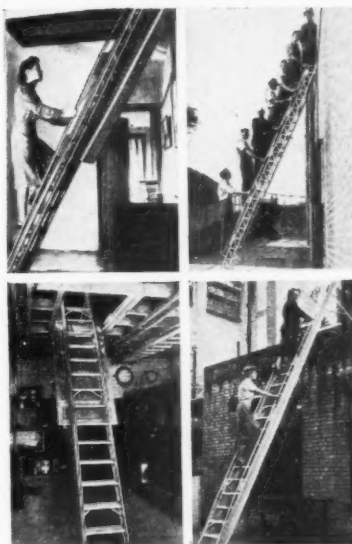


601/PEL

THE ARCHITECTS' JOURNAL for May 10, 1956

INCREASE HOUSE SPACE by 20%

WHY NOT SAVE £600 on a £3,000 JOB?



OR PROVIDE EASY
MEANS OF ESCAPE
FROM FIRE

BERNER'S PATENT
LOFT ACCESS STAIRS
and FIRE EXIT LAD-
DERS serve both purposes.

As installed in tens of thousands of homes by wise and satisfied clients, or as insisted upon for escape from FIRE by the L.C.C. and other authorities in blocks of flats in London and throughout Great Britain.



SPACE USED
IS MONEY SAVED

Write for fully descriptive catalogue (A.J.) and prices of the many different types varying from £15.0.0 upwards.

Our Loft Ladders are free of purchase tax.

LOFT LADDERS LTD

The first and original inventors of Loft Ladders and Loft Access Stairs
BROADWAY WORKS, BROMLEY, KENT
Tel.: RAvenbourne 2624

INFORMATION SHEETS
free on request.

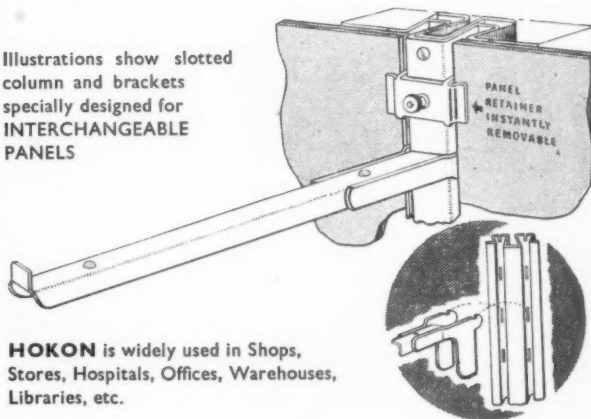


HOKON ADJUSTABLE SHELVING

The basis of the best
SELF-SELECTION
SERVICE UNITS

• Ideal for Bars, Cocktail bars, in fact
for shelving of all kinds

Illustrations show slotted
column and brackets
specially designed for
INTERCHANGEABLE
PANELS



HOKON is widely used in Shops,
Stores, Hospitals, Offices, Warehouses,
Libraries, etc.

Orders may be placed direct with us or through the shop-fitting trade.

CHURCH & CO. (FITTINGS) LTD.

36 MINSTER STREET, READING. Phone: 2035/6

Leeds Showroom: 62 ALBION STREET, LEEDS 1. Tel: 30173

Agent for Northern Scotland: G.T.A. Winram, 121 Crown St., Aberdeen. Tel: 23373

4497



Batley, smooth-sliding, trouble-free Up and Over Doors can be quickly and easily fitted to any width or height of opening. With finger-tip action, the door slides smoothly on ball bearing wheels, leaving an unobstructed opening with clear height of 6ft. 1in. There are no springs to lose tension; nothing to warp or sag. Will last a lifetime.

- Panelled with Aluminium Alloy, double crossed braced for strength and rigidity, or in exterior grade Mahogany Plywood, with grained finish to take varnish or paint.
- Size, 7ft. 6in. wide by 6ft. 3in. high.
- Price £18 delivered Free in England and Wales.

BATLEY
UP & OVER DOOR

Full details and literature from:—

ERNEST BATLEY LTD. 63 COLLEDGE ROAD, HOLBROOKS, COVENTRY.

Smith & Rodger

proudly announce
the appearance of

THEIR

Thixotropic *
paints

on the **BRITISH MARKET**
Two kinds are available

VITAGEL
HIGH GLOSS PAINT

and for those who wish a flat finish

VITAGEL
FLAT PAINT

*Quite new to this country.

Thixotropic Paint offers many advantages over ordinary paint. It sets in a weak jelly when left undisturbed, but becomes liquid when shaken or stirred. Transference from tin to job is simplified; running, sagging and curtaining are practically eliminated. Much easier to handle with less brush drag, durability and finish are first class. Write NOW for full particulars.

NO STIRRING · NO DRIPS · NO RUNS

SMITH & RODGER LTD

32-38 ELLIOT STREET, GLASGOW, C.3

Telephone: CITY 6341-2

Telegrams: "SMITROD" GLASGOW C.3

TRIANCO automatic boilers

—a complete range of domestic boilers
for every need!

Providing economic efficient central heating
and hot water supply with
these advantages.



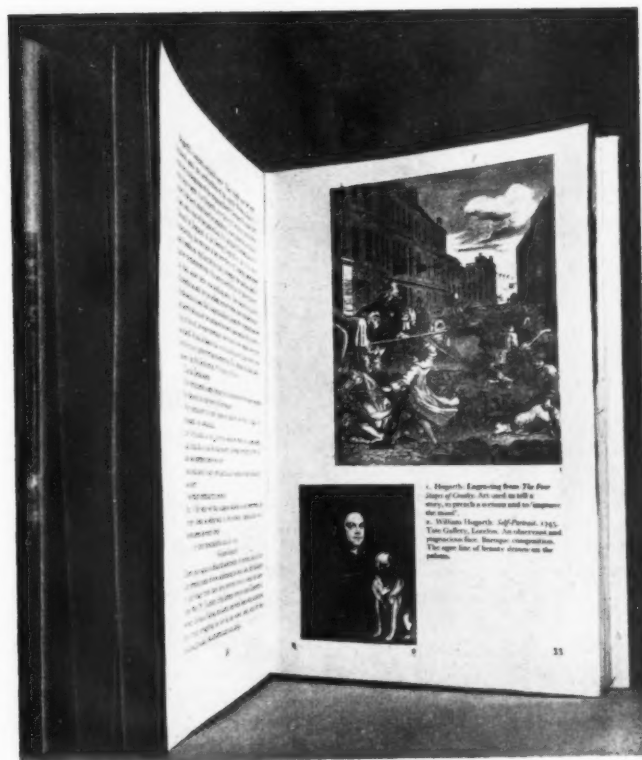
- ★ GRAVITY FEED from Large Hopper
- ★ THERMOSTATIC CONTROL
- ★ DECLINKERING WITHOUT DUST OR LOSS OF HEAT

Write for illustrated brochure to:—

TRIANCO LTD., Imber Court, East Molesey, Surrey. Tel.: Emberbrook 3300

RECOMMENDED BY THE BOOK SOCIETY

THE ENGLISHNESS OF ENGLISH ART



by Nikolaus Pevsner

THE 1955 REITH LECTURES, re-written to
almost twice their original length, and fully annotated. With
130 illustrations in line and halftone. 8 $\frac{3}{4}$ in. by 5 $\frac{1}{2}$ in. 208 pages.

Price 16s. net, postage 1s. 2d.

THE ARCHITECTURAL PRESS, 9-13 QUEEN ANNE'S GATE, WESTMINSTER, S.W.1.

CLASSIFIED ADVERTISEMENTS

Advertisements should be addressed to the Advt. Manager, "The Architects' Journal," 9, 11 and 13, Queen Anne's Gate, Westminster, S.W.1, and should reach there by first post on Friday morning for inclusion in the following Thursday's paper.

Replies to Box Numbers should be addressed care of "The Architects' Journal," at the address given above.

Public and Official Announcements

25s. per inch; each additional line, 2s.

BOROUGH OF ACTON BOROUGH ENGINEER & SURVEYOR'S DEPARTMENT

ARCHITECTURAL ASSISTANT
Applications are invited for this appointment. A.P.T. II/III (£595-£765 plus London allowance of £10, £20 or £30 according to age). The commencing salary will be fixed according to qualifications and experience.

Terms of appointment and forms of application may be obtained from the Borough Engineer, Town Hall, Acton, W.3, and applications must be returned to him by 28th May, 1956. 9861

COUNTY COUNCIL OF THE WEST RIDING OF YORKSHIRE

OFFICE OF THE COUNTY ARCHITECT
Applications are invited for appointments as ASSISTANT ARCHITECTS or ARCHITECTURAL ASSISTANTS in the grades shown below, the salary ranges of which are:-

A.P.T. I (£530-£610).

A.P.T. II (£595-£675).

A.P.T. III (£640-£765).

Special (£690-£840).

A.P.T. IV (£710-£885).

Applicants for Grades A.P.T. III, Special and A.P.T. IV should be registered Architects and Associate Members of the Royal Institute of British Architects, and have had good training in the design and construction of modern buildings. Applicants for Grade A.P.T. II should have passed the Intermediate R.I.B.A. examination.

Extensive and interesting programmes of first-class architectural work, with opportunities for taking responsibility and supervising work in progress.

The appointments are subject to the provisions of the Local Government Superannuation Acts and to the successful candidates passing a medical examination.

Applications may be obtained from this office and should be returned as quickly as possible.

HUBERT BENNETT,

County Architect,
Bishopgarth, Westfield Road, Wakefield. 9716

Poplar Borough Council invite applications for the following appointments:-

(a) PRINCIPAL ASSISTANT ARCHITECT, A.P.T. VI (£880-£1,080).

(b) ASSISTANT ARCHITECT, A.P.T. V (£795-£970).

(c) ARCHITECTURAL ASSISTANT, A.P.T. II (£595-£675).

(d) ARCHITECTURAL ASSISTANT, A.P.T. IV (£710-£885).

(e) JUNIOR ARCHITECTURAL ASSISTANT, H.G.D. (£180-£640).

plus £10/£30 weighting in each case.

Appointments (a), (b) and (c) are permanent and appointments (d) and (e) are temporary.

Applicants for appointments (a), (b) and (d) should have passed the R.I.B.A. Final or equivalent and applicants for appointment (c) should have passed the R.I.B.A. Intermediate or equivalent.

Application forms obtainable from the Borough Engineer and Surveyor, Poplar Town Hall, Bow Road, Bow, E.3, for return not later than first post, 22nd May, 1956. 9874

WAR OFFICE

Vacancies exist for DRAUGHTSMEN (ARCHITECTURAL) in the Directorate of Fortification and Works, Chesham, Surrey.

Candidates must have at least three years' Architectural training, experience in an Architect's office, and be of Intermediate R.I.B.A. standard.

A varied programme of design is undertaken, including married quarters, barracks, hospitals, school, clubs, layouts of estates and cantonments, for home and overseas.

Applicants must be British of British parentage. Salary: £479 (at age 21) rising by annual increases subject to satisfactory service to £746, plus overtime. Starting pay according to age, qualifications and experience. Prospects of promotion and establishment. Canteen facilities. Prospect of 5-day week shortly.

State age, full details and experience to War Office (C5D), Room 553, Northumberland House, London, W.C.2. 9858

CARMARTHENSHIRE COUNTY COUNCIL

Applications are invited for the appointment of PLANNING ASSISTANT. Salary A.P.T. III-IV (£640-£885), placing according to planning experience.

Applicants must be Corporate Members of the Town Planning Institute and/or other appropriate professional Institute. Possession of a car, for which casual user allowance would be payable, will be an advantage.

Applications, giving full details of training, qualifications, experience, present and past appointments and names of two referees, to be forwarded to the undersigned by 21st May, 1956.

W. S. THOMAS,

Clerk of the County Council,
County Hall, Carmarthen. 9934

**EAST SUSSEX COUNTY COUNCIL
COUNTY PLANNING DEPARTMENT**
Applications are invited for the appointment of a PLANNING ASSISTANT in the Headquarters Office at Lewes. The salary will be on Grade A.P.T. IV (£710 by increments of £35 to £885) commencing at a point within that grade according to experience and qualifications.

The person appointed will be engaged mainly in the Development Plan Section of the Department, and applicants should have an analytical approach to planning problems, and have had experience in the preparation of statutory town maps. Preference will be given to Corporate Members of the Town Planning Institute.

Applications on a form to be obtained from the County Planning Officer, County Hall, Lewes, must be sent to me by the 31st May, 1956.

L. S. JAY,

County Planning Officer,
County Hall,
Lewes. 9860

25th April, 1956.

HAYES AND HARLINGTON URBAN DISTRICT COUNCIL

Applications are invited for:-

(a) ARCHITECTURAL ASSISTANTS (PERMANENT) (two vacancies), Grade A.P.T. II, i.e., £595-£675 per annum. (b) SENIOR ARCHITECTURAL ASSISTANT (TEMPORARY), Grade A.P.T. IV, i.e., £710-£885 per annum, plus London "weighting" in each instance, 21-25 years £20 per annum, 26 years and over £30 per annum.

Candidates for (a) must have passed the R.I.B.A. Inter. Exam., good experience of housing work with local authority. Housing accommodation will be made available for one of these two appointments if necessary.

(b) Must be a Registered Architect, have good general experience in design and construction in relation to Municipal housing and other works, and capable of supervising large building contracts. The Council is unable to provide housing accommodation for this appointment. 5-day week.

Further particulars and form of application obtainable from the undersigned, which, when completed, must be returned as soon as possible.

GEORGE HOOPER,

Clerk and Solicitor.
Town Hall, Hayes, Middlesex. 9932

THE DEPARTMENT OF HEALTH FOR SCOTLAND

CHIEF ARCHITECT'S OFFICE

Applications are invited from ARCHITECTURAL DRAUGHTSMEN with considerable office experience for a non-pensionable post. Duties include assisting architects on housing projects, health buildings and schools.

Salary range £479-£746 (women £688) with placing according to age and experience. Form of application, obtainable from Establishment Officer, Department of Health for Scotland (Room 30), St. Andrew's House, Edinburgh, 1, must be returned by 31st May, 1956. 9884

BOROUGH OF HEYWOOD APPOINTMENT OF ARCHITECTURAL ASSISTANT

Applications are invited for the above-mentioned appointment in the department of the Borough Engineer and Surveyor, at a salary in accordance with Grade A.P.T. III (£640-£765) of the Scale of Salaries.

Applicants must have passed the Intermediate R.I.B.A. Examination and must have had experience in housing, general architectural work, quantities and final accounts.

The appointment will be subject to the provisions of the Local Government Superannuation Act, 1937, to the National Joint Council's Conditions of Service and to one month's notice in writing on either side.

The successful applicant will be required to pass a medical examination.

Applications, suitably endorsed, stating age, qualifications and experience, accompanied by copies of two recent testimonials, should reach the undersigned not later than 12 noon on Monday, 28th May, 1956.

Canvassing in any form will be a disqualification.

W. R. PARKER,

Town Clerk.
Municipal Buildings,
Heywood. 9829

19th April, 1956.

ANTRIM COUNTY EDUCATION COMMITTEE

ASSISTANT ARCHITECT

Applications are invited by the above-named Committee for the post of ASSISTANT ARCHITECT, on a salary scale of £730-£1,095. Applicants should be Associates of the Royal Institute of British Architects.

The point of entry on the salary scale will be determined according to the qualifications and experience of the person appointed.

The successful applicant will be required to contribute to the Local Government Superannuation Scheme.

Ex-Service preference. It is the Committee's policy to give special consideration to candidates who have served in Her Majesty's Forces.

Interviews arranged at centres to be agreed, and reasonable travelling expenses will be paid.

Applications, on prescribed forms, which may be obtained from the undersigned on receipt of a stamped addressed envelope (foolscap size), must be forwarded to the Education Office, 475/477, Antrim Road, Belfast, Northern Ireland, so as to be received not later than Friday, 25th May, 1956.

KENNETH A. MACCORMAC,

Director of Education. 9931

2nd May, 1956.

**BOROUGH OF LUTON
MECHANICAL ENGINEERING ASSISTANT**
wanted, A.P.T. IV (£710-£885). Experienced in design of low pressure hot water steam heating and ventilating installations. Knowledge of electrical installations an advantage. N.J.C. Service conditions. Forms from Borough Engineer, Town Hall, Luton, returnable 22nd May, 1956. Housing available. 9906

GLOUCESTERSHIRE COUNTY COUNCIL APPOINTMENT OF CLERK OF WORKS (AMENDED ADVERTISEMENT)

Applications are invited for the appointment of a Clerk of Works on the Temporary Staff to supervise the erection of new Schools, etc., in the Cheltenham/Gloucester district, at a salary of £14 per week.

Applications, stating age, experience, present position and salary, together with names and addresses of two recent employers to whom reference may be made, to be sent to the County Architect, Shire Hall, Gloucester, not later than 15th May, 1956.

GUY H. DAVIS,

Clerk of the County Council. 9997

STAFFORDSHIRE COUNTY COUNCIL EDUCATION ARCHITECT'S DEPT.

Applications are invited in respect of the following posts:-

TRAINEE CLERKS OF WORKS, at 11 gns. per week. Craftsmen with a broad interest in the building trade preferred. This presents an opportunity for training in supervisory duties under a Senior Clerk of Works. Candidates would be expected to take the Clerks of Works examination within approximately two years, and trainees would then be considered for appointment as qualified Clerks of Works.

TEMPORARY CLERKS OF WORKS, at 13 gns. per week. Fully experienced in all aspects of the building trade, and competent to supervise a number of projects with trainees sited at each job.

Applicants having replied to the previous advertisement need not re-apply.

Forms of application from the County Education Architect, Green Hall, Lichfield Road, Stafford, to be returned within 10 days of this advert.

(Sgd.) T. H. EVANS,

Clerk of the County Council. 9900

BOROUGH OF STOCKTON-ON-TEES BOROUGH ARCHITECT'S DEPARTMENT

Applications are invited for the appointment of TWO ASSISTANT ARCHITECTS, at a salary within Grade A.P.T. IV (£710-£885).

Candidates should have passed the Final Examination of the R.I.B.A.

Forms of application may be obtained from the Borough Architect, 23, The Square, Stockton-on-Teess, and should be returned to the undersigned not later than Friday, 18th May, 1956.

Housing accommodation will be made available if the successful applicants are married.

The department is responsible for all building work for the Corporation, and the Assistants appointed are required for the first instalment of the Municipal Buildings at £225,000, an extensive school building programme, the redevelopment of the Central Area of the Borough, and the construction of more than 500 houses and flats per year and ancillary building.

Canvassing disqualifies. Relationship to be disclosed.

JOHN B. HAWORTH,

Town Clerk.
Barclays Bank Chambers,
Stockton-on-Teess. 9902

28th April, 1956.

GOVERNMENT OF LEEWARD ISLANDS ARCHITECT-SCHOOL BUILDING PROGRAMME

To take charge of new school building unit; to design and supervise construction of new school buildings in St. Kitts, Nevis, Anguilla, to supervise preparation of drawings, bills of quantity, contract documents, and to supervise contractors during period of construction.

Contract appointment for three years. Salary £1,500 p.a. £250 p.a. gratuity on satisfactory termination of contract. Free passages for officer, wife, and three children under 18. 45 days' leave for each year of resident service.

Candidates must be A.R.I.B.A., with practical office experience. Experience in tropical school design will be an advantage.

Write Director of Recruitment, Colonial Office, London, S.W.1, stating age, qualifications and experience—quoting BCD 112/36/01. 9904

CITY OF NEW SARUM AMENDED ADVERTISEMENT

SENIOR ARCHITECTURAL ASSISTANT required in the City Engineer's Department. Salary within range Grade A.P.T. V (£795-£970).

Applicants must possess Final R.I.B.A. or equivalent, and have had experience in design and detailing of housing schemes, estate layouts and public buildings, and in the supervision and handling of contracts.

Pensionable post. Medical examination required. Housing accommodation provided.

Applications, stating age, present and previous appointment with salaries, with the names of two referees, to the City Engineer, The Council House, Bourne Hill, Salisbury, by 30th May, 1956.

Canvassing will disqualify. 9922

BOROUGH OF WORTHING APPOINTMENT OF ARCHITECTURAL ASSISTANT

Applications are invited for the appointment of Architectural Assistant on the permanent establishment of the Borough Engineer and Surveyor's Department, at a salary in accordance with A.P.T. II (£695-£675 p.a.).

Candidates should have passed the Intermediate Examination of British Architects, and should have had a sound experience in the preparation of Drawings and Specifications for Local Authority building contracts.

The appointment will be subject to the National Scheme of Conditions of Service of Local Government Officers, to the Local Government Superannuation Act, 1937, and to the successful candidate passing satisfactorily a medical examination.

Applications, endorsed Architectural Assistant, Grade II, stating age, status, qualifications, present and previous appointments, and experience with dates, and accompanied by copies of three recent testimonials, should be addressed to the Borough Engineer and Surveyor, Town Hall, Worthing, and should be received by him not later than 12 noon on Wednesday, the 15th May, 1956.

ERNEST G. TOWNSEND,
Town Clerk.

Town Hall, Worthing. 9911
April, 1956.

**HERTFORDSHIRE COUNTY PLANNING
DEPARTMENT. ASSISTANT ARCHITECT
PLANNER (Headquarters), Grade S.C.11, Special (£650-£775).** Qualifications required for S.C.11 are Intermediate Town Planning Institute or the Diploma of a recognised University. For "Special" Grade the Final Examination of the Town Planning Institute or Royal Institute of British Architects or a Diploma of a recognised University, plus one year's experience, is required. Promotion from S.C.11 to "Special" is automatic on obtaining the necessary qualifications, and a satisfactory report upon service. The successful applicant will be employed in the Planning Design Section at County Hall, and will be engaged in all aspects of architectural planning. Previous experience in this work will be an advantage. Forms of application from the County Planning Officer, County Hall, Hertford. These must be returned within 14 days of the appearance of this advertisement. 9914

SURREY COUNTY COUNCIL COUNTY PLANNING DEPARTMENT

Applications are invited for the following appointments at Headquarters at Kingston-upon-Thames:—

(a) **ONE PLANNING ASSISTANT, A.P.T. Grade V,** for work on the Development Plan, including Areas of Comprehensive Development (£735-£970).

(b) **ONE PLANNING ASSISTANT, A.P.T. Grade III,** Development Control (£640-£725-£765).

These posts carry a London allowance (normally £30) in addition.

Applications, stating age, experience and qualifications, together with the names of two persons to whom reference may be made, should be lodged with the Clerk of the Council not later than 24th May, 1956.

County Hall, Kingston-upon-Thames. 9910

ARGYLL COUNTY COUNCIL invite applications for the post of **ARCHITECTURAL ASSISTANT** in the County Architect's Department, salary scale APT IV-VI (£655-£870 per annum) with placing according to qualifications and experience. The post is superannuable. Applicants must have had a general architectural training, be capable of surveying, levelling, preparing detailed drawings and specifications and have had experience particularly in connection with Housing and Schools. Preference will be given to applicants who hold a recognised architectural qualification. The successful applicant will be given the tenancy of a four-apartment council house if required.

Applications stating age, experience and qualifications together with copies of two recent testimonials to be lodged with the County Architect, County Offices, Dunoon, within ten days of publication.

A. D. JACKSON,
County Clerk. 9957

SEDGEMOUNT RURAL DISTRICT COUNCIL ARCHITECTURAL ASSISTANT

Applications are invited for this post. Salary according to A.P.T. Grade III. Further particulars to be obtained from me. Closing date 24th May, 1956.

R. P. BURTON,
Clerk of the Council. 9886

Sedgemoor.
Stockton-on-Tees.
26th April, 1956.

THE DEPARTMENT OF HEALTH FOR SCOTLAND CHIEF ARCHITECT'S OFFICE

Applications are invited for a non-pensionable post of **ASSISTANT ARCHITECT**. Headquarters, Edinburgh. Age, 25-34. Salary range, £726-£1,140 (wages £1,065). Duties include housing, health buildings and buildings for Scottish Home Department, etc.

Further particulars and application form from Establishment Officer, Department of Health for Scotland (Room 30), St. Andrew's House, Edinburgh, 1. Closing date for applications, 31st May, 1956. 9885

COVENTRY CORPORATION requires PLANNING OFFICER (Development Control), A.P.T. V (£795-£970).

PLANNING OFFICER (Re-development), Re-habilitation and Suburban Development), A.P.T. IV (£710-£885).

PLANNING OFFICER (Development Plan and Research), A.P.T. IV (£710-£885).

PLANNING ASSISTANT (Central Area), A.P.T. II/III (£595-£765), subject to efficiency certificate at £675.

Additional local award £26 on salaries up to £795 in approved circumstances.

HOUSING ACCOMMODATION may be available. Application forms and details from City Architect and Planning Officer, Bull Yard, Coventry, returnable within 10 days of publication. 9953

NORTHUMBERLAND COUNTY COUNCIL COUNTY PLANNING DEPARTMENT

Applications are invited for the above appointment on A.P.T. Grade IV (£710-£885).

The person appointed will act as Assistant to an Area Planning Officer.

A.M.T.P.I. or equivalent qualification essential. Planning experience desirable.

Forms of application and further particulars may be obtained from the County Planning Officer, County Hall, Newcastle upon Tyne. Closing date for applications: 26th May, 1956. 9943

THE LONDON HOSPITAL, Whitechapel, E.1, requires JUNIOR ARCHITECTURAL ASSISTANT, salary £440 to £560 p.a. according to experience, plus London weighting. Post superannuable. Applications, stating age, present salary and brief particulars of experience, to be sent to the House Governor. Accommodation is available in Kensington if successful candidate is a woman. 9156

CITY OF BIRMINGHAM CITY ARCHITECT'S DEPARTMENT

Applications are invited for the following appointments:—

(a) **ASSISTANT ARCHITECTS, Grade A.P.T. IV (£795-£970 per annum).**

(b) **ASSISTANT ARCHITECTS, Grade A.P.T. IV (£710-£885 per annum).**

(c) **ARCHITECTURAL ASSISTANTS, Special Classes (£690-£840 per annum). Ad hoc scale.**

(d) **ARCHITECTURAL ASSISTANTS, Special Classes (£615-£695 per annum), Grade A.P.T. II.**

(e) **ARCHITECTURAL ASSISTANTS, Special Classes (£550-£630 per annum), Grade A.P.T. I.**

Applicants for posts (a) and (b) must be Associate Members of the R.I.B.A., or hold equivalent qualifications, and for posts (c), (d) and (e), must be suitably qualified in accordance with the Regulations of the National Joint Council for Architectural Assistants.

The commencing salary in all grades will be according to capabilities and experience.

The posts are permanent, subject to a medical examination, to one month's notice on either side, and to the Provisions of the Local Government Superannuation Acts and the Birmingham Municipal Officers', Widows' and Orphans' Pensions Scheme.

Applications, endorsed with the heading of the post, stating age, present position and salary, qualifications and experience, together with the names of two persons to whom reference can be made, should reach the undersigned by not later than 26th May, 1956.

Canvassing disqualifies.

A. G. SHEPPARD FIDLER,
City Architect. 9937

CIVIC CENTRE, Birmingham, 1.

NOTTINGHAMSHIRE COUNTY COUNCIL COUNTY ARCHITECT'S DEPARTMENT

Applications are invited for the following posts:—

ASSISTANT ARCHITECT. At a salary in accordance with Grade A.P.T. V (£795-£970 per annum).

ASSISTANT ARCHITECT. At a salary in accordance with Grade A.P.T. IV (£710-£885 per annum).

Applicants must be qualified and Registered Architects. Forms of application from Donald Gibson, County Architect, County Hall, Trent Bridge, Nottingham, to whom they should be returned as soon as possible and in any event not later than 25th May, 1956.

A. R. DAVIS,
Clerk of the County Council. 9933

CITY OF PETERBOROUGH APPOINTMENT OF QUANTITY SURVEYOR, CITY ENGINEER'S DEPT.

Applications are invited from qualified QUANTITY SURVEYORS for the above appointment, at a salary of Grade II, A.P. and T. (£595 per annum, rising by four annual increments of £20 to a maximum of £675).

Applicants should have wide experience, including taking off bills for new schools.

Any further information can be obtained from the City Engineer and Surveyor (Mr. L. H. Robjohn, M.B.E., A.M.I.C.E.).

Closing date for receipt of applications: 19th May.

C. PETER CLARKE,
Town Clerk. 9948

Town Hall, Peterborough.
1st May, 1956.

COUNTY BOROUGH OF HASTINGS

Applications are invited for the following appointments in the Borough Engineer's Department:—

(a) **ASSISTANT ENGINEER, A.P.T. IV (£710-£885 per annum), A.M.I.C.E. or A.M.I.Mun.E.**

(b) **ENGINEERING ASSISTANTS, A.P.T. II (£595-£675 per annum).**

(c) **ARCHITECTURAL ASSISTANT, A.P.T. III (£540-£765 per annum), Intermediate R.I.B.A.**

(d) **TOWN PLANNING ASSISTANT, A.P.T. II (£595-£675 per annum).**

Applications, stating age, qualifications, present and previous appointments and salary, and the names of three referees, to be sent to the Borough Engineer, 37, Wellington Square, Hastings, not later than 28th May, 1956. Canvassing will disqualify. **N. P. LESTER,** Town Clerk, Town Hall, Hastings. 9941

CITY AND COUNTY OF NEWCASTLE UPON TYNE

CITY ARCHITECT'S DEPARTMENT

The City Architect will be pleased to receive applications for the following vacancies in the Quantity Surveying Section of his Department:—

(a) **SENIOR QUANTITY SURVEYOR, A.P.T. Division, Grade V (£795-£970).**

(b) **SENIOR ASSISTANT QUANTITY SURVEYOR, A.P.T. Division, Grade IV (£710-£885).**

The above are established posts, and will be subject to the provisions of the Local Government Superannuation Acts, 1937-1953, and to one month's notice on either side. Successful candidates will be required to pass a medical examination.

Applications, stating position applied for, age, particulars of training, qualifications, experience, present and past appointments, together with copies of two recent testimonials or the names and addresses of two persons to whom reference may be made, should be addressed to George Kenyon, A.R.I.B.A., A.M.T.P.I., City Architect, 18, Cloth Market, Newcastle upon Tyne, 1.

JOHN ATKINSON,
Town Clerk. 9929

Town Hall, Newcastle upon Tyne, 1.
1st May, 1956.

PADDINGTON BOROUGH COUNCIL ARCHITECTURAL ASSISTANT (£670 to £795 p.a.).

Candidates should be Inter. R.I.B.A. and be capable of preparing working and detail drawings and sketch drawings on smaller schemes. They should also be quick and competent draughtsmen, with an adequate knowledge of building bye-laws, housing manual standards and modern construction techniques.

Starting salary will be fixed according to qualifications and experience of the successful candidate. Applications (quoting A.285), stating age, qualifications, experience, past and present appointments, and names and addresses of two referees, should be received by me not later than 28th May, 1956.

W. H. BENTLEY,
Town Clerk. 9946

Town Hall, Paddington Green, W.2.

BOROUGH OF WALTHAMSTOW BOROUGH ARCHITECT, ENGINEER AND SURVEYOR'S DEPARTMENT

Applications are invited for the following appointments in the Borough Architect, Engineer and Surveyor's Department (F. G. Southgate, A.R.I.B.A., M.I.Mun.E., A.M.T.P.I.):

(a) **ARCHITECTURAL ASSISTANT, Grade I/II, A.P.T. Division (£650-£705, inclusive of London weighting),** with the commencing salary according to qualifications and experience.

(b) **ASSISTANT QUANTITY SURVEYOR, Grade II, A.P.T. Division (£625-£705, inclusive of London weighting),** with the commencing salary according to experience. Applicants must have had at least two years' practical experience.

(c) **JUNIOR ASSISTANT QUANTITY SURVEYOR, Higher General Division (£180-£250, exclusive of London weighting),** with the commencing salary according to age and experience. Applicants are required to have some knowledge of working up Bills of Quantities.

Applications, with the names of two persons for reference, should be received by the undersigned not later than first post on Monday, 28th May, 1956, endorsed "Architectural Assistant," "Assistant Quantity Surveyor," or "Junior Assistant Quantity Surveyor."

G. A. BLAKELEY,
Town Clerk. 9954

Town Hall, Walthamstow, E.17.

3rd May, 1956.

LONDON COUNTY COUNCIL ARCHITECT'S DEPARTMENT

Staff are required for varied and interesting work in the Voluntary Schools Section. Salary range between £520 and £817, according to experience. Intermediate standard desirable.

(1) **SURVEYING ASSISTANTS.** For preparation of specifications and estimates in connection with maintenance, alterations and minor improvements, and technical supervision of works.

(2) **ARCHITECTURAL ASSISTANT.** For preparation of schemes for development of new and existing school sites and scrutiny of plans and designs for new primary and secondary schools. Applicants should be interested in contemporary school design.

Application forms, returnable by 31st May, from the Architect (AR/EK/VS/2), County Hall, S.E.1. (856) 9977

KENT COUNTY COUNCIL invites applications for the following posts in the Planning Department:—

(a) **DIVISIONAL PLANNING OFFICER**, in the salary grade £1,035 to £1,307 p.a., which the County Council has been recommended to increase pursuant to the recent national award. Applicants must be Corporate Members of the Town Planning Institute, and must have had considerable experience in town and country planning. Applicants should express any preferences as to duties or location, which will be determined in the light of the qualifications and experience of the successful candidate and of other relevant factors.

(b) **ASSISTANT DIVISIONAL PLANNING OFFICER**. Salary within scale £640-£885 per annum. Applicants must be Corporate Members of the Town Planning Institute, or alternatively possess an appropriate degree or diploma, and should have had at least two years' experience in town and country planning. Applicants may express any preference as to duties or location.

National Scheme of Conditions of Service applies, and registered disabled persons will be considered if they hold driving licences.

Applications, together with the names of two referees, must reach the County Planning Officer, County Hall, Maidstone, not later than the 11th June, 1956. 9939

COVENTRY CORPORATION

requires ARCHITECT, A.P.T. V (£795-£970 p.a.), to work in an important new group undertaking development work in collaboration with Architectural Divisions, analysing comparative costs of new methods and materials, assessing results of completed schemes, and responsible for technical library and samples. If desired, a later opportunity may occur to transfer to normal architectural work. Housing accommodation may be available. Application forms, etc., from City Architect and Planning Officer, Bull Yard, Coventry, returnable within 15 days of publication. 9925

EAST RIDING OF YORKSHIRE COUNTY COUNCIL

Applications are invited for the appointment of an ARCHITECTURAL ASSISTANT on the permanent staff of the County Architect. The salary to be in accordance with Grade II. N.J.C. Scales (£595-£675).

Applications, giving particulars of qualifications and experience, age, past and present appointments and salaries, together with the names of three referees, should be sent to the County Architect, County Hall, Beverley, not later than Friday, 25th May, 1956.

THOMAS STEPHENSON,
Clerk of the Council. 9974

UNIVERSITY OF CAMBRIDGE, Department of Estate Management, require an ASSISTANT QUANTITY SURVEYOR. Applicants should have had considerable experience in abstracting and billing, measurement of variations, and dealing with final accounts. Preference given to applicants who have passed the appropriate examinations of the Royal Institution of Chartered Surveyors. The successful candidate will be placed in Grade III of the Department's Staff Grading Scheme. Salary scale £500-£740, plus family allowance £50 per child and pension rights. Commencing salary based on candidate's age and experience. Detailed applications to Administrative Officer, 74, Trumpington Street, Cambridge. 9964

UNIVERSITY OF CAMBRIDGE, Department of Estate Management, require a fully qualified ARCHITECT, with at least 5 years' experience in the office of a practising Architect. The successful candidate will be appointed to Grade II of the Department's Staff Grading Scheme. Salary scale £600-£1,000, plus family allowance £50 per child and pension rights. Possibility of advancement to higher grade. Interesting and varied work. Applications, giving full details regarding age, experience, and present salary, with copies of three recent testimonials, to Administrative Officer, 74, Trumpington Street, Cambridge, not later than first post, 21st May, 1956. 9963

COUNTY OF ESSEX BOROUGH OF WALTHAMSTOW—COMMITTEE FOR EDUCATION

Applications are invited for the appointment of SENIOR ASSISTANT ARCHITECT in the Office of the Education Architect, Mr. T. L. Rampton, A.R.I.B.A., A.R.I.C.S. Salary in accordance with A.P.T. Grade V, £795×£35 increments to £970 per annum, plus London weighting of £30 (under 26 years of age £20).

Applicants must be Associate Members of the R.I.B.A. and have had experience in the design and construction of schools. Experience in contract administration and control of staff an advantage.

The appointment is superannuable and subject to medical examination.

Applications on forms to be obtained from and returned to the Borough Education Officer, Town Hall, Forest Road, Walthamstow, E.17, within two weeks of the appearance of this notice. 9960

KENT COUNTY COUNCIL require SURVEYING ASSISTANTS, with experience in land and property acquisition by Local Authorities. Salary within scales £530-£615, £595-£675, or £660-£740, according to qualifications and experience. Preference given to holders of R.I.C.S. or similar qualifications. Application forms from County Architect, Springfield, Maidstone. Closing date: 21st May, 1956. 9959

Architectural Appointments Vacant

4 lines or under, 7s. 6d.; each additional line, 2s. CO-OPERATIVE WHOLESALE SOCIETY, LTD. ARCHITECT'S DEPARTMENT, MANCHESTER.

APPLICATIONS are invited for the following appointments:—

(a) **SENIOR ASSISTANT ARCHITECTS**, with experience of work on commercial and industrial projects. (Salary range £820 to £975 per annum.)

(b) **ASSISTANT ARCHITECTS**, capable of preparing working drawings from preliminary details. (Salary range £550 to £820 per annum.)

There is a five-day week in operation, and both appointments offer prospects of upgrading.

Applications, stating age, experience, qualifications and salary required, to G. S. Hay, A.R.I.B.A., Chief Architect, Co-operative Wholesale Society, Ltd., 1, Balloon Street, Manchester, 4. 3921

ARCHITECTURAL ASSISTANT required, up to Intermediate standard, Westminster office. Pension and Bonus Schemes. Five-day week. Write, stating experience, age, and salary required, to Box 9271.

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

ASSISTANT ARCHITECTS, WORKER-UP, AND SHOP FITTING DRAUGHTSMAN. Applications are invited from suitably qualified persons. Salary on a scale £485-£545 inclusive of L.W., with placing according to age, qualifications and experience. The posts are 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. 2824

ARCHITECTURAL ASSISTANTS required for small West End Office. Good salaries. Write to Box 9580.

GEORGE WIMPEY & CO., LTD.

The Architects' Department seek Architectural Staff enthusiastic to apply their knowledge to new construction techniques covering Houses, Multi-Storey Flats, Office, Schools and Industrial Buildings for contracts in the U.K. and Overseas.

Appointments range from ARCHITECTS to DRAUGHTSMEN, with special interest to those of ability, recognising the value of the designer and technician as an integral part of the production team.

Permanent appointments at Hammersmith; 5-day week.

FOR APPLICANTS INTERESTED IN WORK IN THE MIDLANDS, OUR REGIONAL OFFICES AT BIRMINGHAM AND MANCHESTER HAVE SEVERAL APPOINTMENTS OPEN FOR ARCHITECTURAL STAFF IN THE SAME RANGE AND ON A SIMILAR BASIS (EXCEPTING 5-DAY WEEK).

Salaries according to qualifications and experience, and subject to satisfactory service, there is a Pension Scheme for those wishing to make a career with the firm.

Applicants should write, giving brief particulars, to E. V. Collins, A.R.I.B.A., Chief Architect, 27, Hammersmith Grove, London, W.6 (Ref. R.65A). 9978

MONTREAL Canadian firm of Architects and Engineers engaged on large projects, require additional staff with qualified or unqualified with a minimum of six years' experience. Good salaries, bonus, health scheme, passage paid. Further details, quoting OSS.101/1, from O.T.S., 5, Weldon Crescent, Harrow, Middx. 9896

COVELL & MATTHEWS urgently require several ARCHITECTURAL ASSISTANTS. Salary range £650-£850. Work is varied and interesting, including hospitals, churches, housing. 5-day week. Apply in writing to: 34, Sackville Street, Piccadilly, W.1. 9895

CHIEF ASSISTANT required in Architect & Surveyor's Department of a London company for work in connection with industrial buildings. Applicants, age 30/40, must be A.R.I.B.A. and hold current driving licence. A sound knowledge of construction and experience in industrial work is essential, with ability to handle jobs through all stages from inception to completion. The successful candidate will be considered for permanency and pension scheme on completion of a six months probationary period. Starting salary £900/£1,000 p.a. plus cost-of-living bonus and luncheon allowance.—Reply, stating age, past and present appointments in chronological order, and experience, to Box 9898.

SENIOR ASSISTANT required for Head Office, Bristol. High standard of ability in contemporary design and construction and able to control contracts on own initiative. A wide variety of work where contemporary design is given full reign.—Apply in writing, giving experience and salary required, to Angus McDonald & Partners, Chartered Architects, 1, Unity Street, College Green, Bristol, 1. 9899

ARCHITECTURAL ASSISTANT, Intermediate Standard, for work on contemporary industrial, school and hospital buildings, is required in Kichade Office.—Reply, stating salary required and experience, to Moir & Bateman, F.R.I.B.A., A.M.T.P.I., Prudential Buildings, South Parade, Rochdale. 9901

THE British Thomson-Houston Co. Ltd. require ARCHITECTURAL ASSISTANTS, Intermediate or R.I.B.A. Final Standard, preferably with previous experience on projects of an industrial nature, for their Architect's office at Rugby.—Applications, stating age and full particulars, to: G. C. Knight, Esq., A.R.I.B.A., Works Architect, The British Thomson-Houston Co. Ltd. Rugby. 991

SENIOR ASSISTANT ARCHITECTS required. Must be capable of carrying out work from scheme to contract stage, with minimum of supervision. Interesting and varied work and good salary and prospects for suitable applicants. State experience and salary required.—T. Mellor, B.Arch., A.R.I.B.A., A.M.T.P.I., 8, The Old Market Hall, Lytham, Lancs. 9915

SOUTH AFRICA. Vacancies in substantial contemporary firm with offices in Windhoek and Cape Town for at least two ARCHITECTURAL ASSISTANTS. Salaries between £750 and £1,000 p.a., fare advanced on repayment, three weeks' annual leave on full pay plus ten days statutory holidays, bonus, no family accommodation.—Fuller details, quoting OSS. 98/2, from O.T.S., 5, Weldon Crescent, Harrow, Middx. 9911

ARCHITECTURAL ASSISTANTS with imagination and initiative required by Brighton office to London practice. Applicants should have progressive ideas and at least two years' experience after completion of training. Congenial working conditions; five day week; staff pension scheme. Salary by arrangement.—Apply Box 9917.

BUCKINGHAMSHIRE firm of Architects within 30 miles of London, with a varied practice, require Inter. and Junior qualified ARCHITECTURAL ASSISTANTS. House available. Five-day week. Salary according to age and experience.—Please write, giving full details, to Box 9918.

BUCKINGHAMSHIRE firm of Architects within 30 miles of London with a varied practice, require qualified QUANTITY SURVEYORS. Five-day week. Salary according to age and experience.—Please write, giving full particulars, to Box 9919.

ARCHITECTURAL ASSISTANTS required for Reading and Derby offices; should be good draughtsmen with contemporary outlook. Good salaries.—Write, Eric G. V. Hives, L.R.I.B.A., 3, Cork Street, Reading, or phone Reading 2768. 9920

ARCHITECTURAL ASSISTANTS and DRAUGHTSMEN required for large programme of School Buildings in unique new system of prefabrication in timber. Wide scope. Permanency. Pension scheme available. Offices 15 miles south-east of Charing Cross.—Write, stating age, experience and salary required, to Box 9908.

ASSISTANT ARCHITECT required to work on Schools, Hospital and Office Buildings, etc., in outstanding new system of prefabrication in timber. Wide scope for development. Permanency. Pension scheme available. Offices 15 miles south-east of Charing Cross.—Write, stating age, experience and salary required, to Box 9909.

MANCHESTER, 2. — Bernard Taylor & Associates, 16, Kennedy Street, have vacancy (caused by delayed National Service) for JUNIOR ARCHITECTURAL ASSISTANT, about Intermediate standard.—Tel. CEN. 6326. 9936

ARCHITECT with small varied practice in West London requires ASSISTANT for preparation of working drawings, running contracts, etc. Salary £600-£700, according to experience.—Write details, Box 9728.

SENIOR and JUNIOR ARCHITECTURAL ASSISTANTS required, with experience of good class work and capable of working under minimum experience.—Phone Plymouth 63377 or write Parker & Allen, 1, St. Andrew Street, Plymouth. 9942

SENIOR ASSISTANT required in West End Office; very busy on interesting commercial work. Must be prepared to take responsibility.—Please write, giving details of experience, etc. Box 9940.

ARCHITECTURAL ASSISTANTS, up to Final and Intermediate standard, required for design work on home and tropical buildings. Salary according to experience.—Apply E. J. D. Mansfield, A.R.I.B.A., Sir William Halsbury & Partners, Stanhope House, 47, Park Lane, London, W.1. 993

LONDON Consultants require immediately ASSISTANTS of both Inter. and Final R.I.B.A. standard for varied and interesting contemporary industrial projects. Responsibility given to applicants with good design sense and constructional ability. Apply, giving full particulars and salary required, to Box No. 408, Glover Advertising Ltd., 361, Oxford Street, London, W.1. 994

PIONEERING SPIRIT. — ASSISTANT ARCHITECT required, with hospital experience, for Kitimat, New town in developing North-West of Canada, planning expansion from 6,000 to 25,000 by 1962. Conditions raw, opportunities considerable. Salary in region of \$4,000 p.a.—Further details, quoting OSS. 93/3, from O.T.S., 5, Weldon Crescent, Harrow, Middx. 995

ARCHITECTURAL ASSISTANT wanted, Intermediate standard.—Write, stating age, experience and salary required, to A. I. Cripps, A.R.I.B.A., 18, Caversham Road, Reading. 9912

ARCHITECTURAL ASSISTANTS, of at least Intermediate standard and with some office experience, required.—Apply, with details of experience, age, and salary required, to H. Anderson, F.S.A., F.R.I.B.A., 27, Watling Street, Canterbury. Telephone Canterbury 2413. 9947

CAPABLE SENIOR ARCHITECTURAL ASSISTANT, age 26-30, required in busy Architect's office in the Home Counties. Competent to produce plans from actual surveys, specifications for construction, and maintenance and general duties. Also **JUNIOR ARCHITECTURAL ASSISTANT** (male or female) to assist in the above work. Apply in writing, stating age, previous experience, and salary required, to Box 9949.

CO-OPERATIVE WHOLESALE SOCIETY LIMITED, Architect's Department, Newcastle. (a) **ASSISTANT ARCHITECTS** capable of preparing working drawings and details from preliminary sketches. (b) **SHOPFITTING DRAUGHTSMEN** capable of site surveys, layout plans and details. Salary range £550-£820 per annum. Applications stating age, experience, qualifications and salary required to R. C. Steel, A.R.I.B.A., Chief Architect, Co-operative Wholesale Society Limited, 90, Westmorland Road, Newcastle-upon-Tyne. 9956

EXPERIENCED ARCHITECTURAL ASSISTANTS required for contemporary office, salary according to experience. C. H. Elsom, 10, Lower Grosvenor Place, S.W.1. VIC 4304. 9958

ASSISTANT BUILDING SURVEYOR required, preferably Intermediate standard.—Apply, stating age and experience, to Debenham, Tewson & Chinnocks, 8, Telegraph Street, Moorgate, E.C.2. 9927

SHELL-MEX and B.P. Ltd. require an **ARCHITECTURAL ASSISTANT** for work in the Southern Counties and based at their Southampton Office in connection with the development and construction of service stations, including the re-modelling of existing premises. Applicants should be at least Intermediate standard R.I.B.A. and state age, experience, qualifications and salary required, to—Staff Manager (Ref. D.73), Shell-Mex and B.P. Ltd., Shell-Mex House, London, W.C.2. 9928

ARCHITECTURAL ASSISTANTS required. Intermediate R.I.B.A. standard. Salaries according to ability. Superannuation scheme in operation.—Box 9968.

INTERMEDIATE Standard ARCHITECTURAL ASSISTANT required by Birmingham firm. Contemporary design. Salary from £500 p.a., according to experience. Concessions for study by arrangement.—Box 9966.

ASSISTANT QUANTITY SURVEYOR required by Sheffield Brewery Company. Preferably professionally trained and experienced in taking off and preparation of Bills of Quantities.—State full particulars and salary required to Duncan Gilmore & Co., Ltd., 10, Nursery Street, Sheffield. 9964

ARCHITECT'S ASSISTANT required by Sheffield Brewery Company. R.I.B.A. Intermediate.—State full particulars and salary required to Duncan Gilmore & Co., Ltd., 10, Nursery Street, Sheffield. 9965

CROYDON office. ARCHITECTURAL ASSISTANT required, with initiative, preferably qualified. Varied and interesting work. Write stating experience, age and salary required to George Lowe & Partner, 4 High Street, Croydon, Surrey. 9962

ARCHITECTURAL DRAUGHTSMEN required by Ilford Ltd. for staff architect's office. Applicants should have completed at least two years' office experience. Apply in writing, stating age, training and experience to Ilford, Ltd., Romford, Essex. 9976

ARCHITECTURAL ASSISTANT, intermediate standard with some office experience, required for small practice. Apply in writing to J. Godfrey-Gilbert, A.R.I.B.A., 1a, Linden Gardens, London, W.2, stating age, experience and salary required. 9975

ASSISTANT ARCHITECT required. Associate R.I.B.A. Experience of Industrial Work an advantage. Apply in writing to W. H. Lancashire & Son, 54 Campo Lane, Sheffield, 1. 9972

PRIVATE practice office has vacancy for **ASSISTANT** willing to take control of jobs. Work includes domestic, ecclesiastical, commercial and industrial, modern and traditional. Urgent. Send details age, experience and salary suggested to: Forsyth Lawson, Cunningham & Partners, 30, Horse Fair, Banbury, Oxon. 9970

ADAMS, HOLDEN & PEARSON require **ARCHITECTURAL ASSISTANTS** immediately. Write giving particulars of experience and salary required to 38, Gordon Square, W.C.1. 9971

ARCHITECTURAL ASSISTANTS, all grades, required in Progressive Office. Varied and interesting work at home and abroad. Good salary and prospects for Assistants with ability and initiative.—Arthur Swift & Partners, 16, Manchester Square, W.1. Tel.: Hunter 0354. 1939

NORMAN & DAWBARN invite applications from **ASSISTANTS** or **ASSISTANT ARCHITECTS** of Inter. or higher standard with at least 3 years' office experience. Interesting and varied programme of U.K. and overseas work. Write to 7, Portland Place, London, W.1, or phone Langham 8011. 9969

ASSISTANT required in Maidstone Office.—Write stating experience and salary, Box 9809.

ARCHITECTURAL ASSISTANT required. West End. Must be first-class constructional draughtsman. Box 9413.

ARCHITECTURAL ASSISTANTS, Senior and Junior required, preferably with London practice experience, office and factory buildings. Write, giving particulars of experience, etc., to Messrs. Bates & Shuning, 89, Chancery Lane, W.C.2. 9968

W. H. WATKINS, GRAY & PARTNERS require an **ASSISTANT** of Intermediate standard for work on large hospital scheme.—Write or phone Victoria 7761, 57, Catherine Place, S.W.1. 9805

ARCHITECTURAL DESIGN DRAUGHTSMAN (male) required by THE SHELL PETROLEUM COMPANY, LIMITED.

for their estates department, London office. Should be able to prepare working drawings for structural alterations and layout and equipping of large and small offices. Age 25/32. Salary according to experience and qualifications. Pension scheme. Canteen facilities, social and sports club activities.—Apply in writing, with full details, to Staff Dept. (R), The Shell Petroleum Co., Ltd., St. Helens Court, Great St. Helens, London, E.C.3. 9844

ARCHITECTS' ASSISTANT required, qualified or Final standard.—Apply, stating age, experience, and salary required, A. Bracewell & Son, 10, Barnton Street, Stirling. Tel. 1176. 9854

ASSISTANT, with experience of domestic work, wanted for small, growing practice.—Write brief details to Peter Cleveland, A.R.I.B.A., 23, De Walden Street, W.1. 9846

REQUIRED.—SENIOR ASSISTANT. Varied practice.—Details to Fry, Paterson & Jones, 28, Waterloo Street, Weston-super-Mare. 9818

SENIOR ARCHITECT required for work in South Wales on the design and co-ordination of industrial projects. Candidates must be qualified A.R.I.B.A.—Please write, giving details of previous experience and salary required, to Box No. 417, Glovers Advertising, Ltd., 351, Oxford Street, London, W.1. 9693

As a result of regrading of positions and salary scale increases, there are opportunities in this department for **ARCHITECTS, STRUCTURAL ENGINEERS, BUILDING SURVEYORS** and **DRAUGHTSMEN**. There is a full programme of interesting work. Starting points in the various scales according to qualifications and experience. Promotion by merit. The department is able to offer experience of the highest value and, to those interested, good prospects of a permanent career in the public service.

LONDON COUNTY COUNCIL

ARCHITECT'S DEPARTMENT

NEW BUILDING PROGRAMME—Housing, Schools and General Divisions.

A few vacancies in Grade II for good designers (qualified architects), capable of taking charge of large schemes.

A larger number of vacancies in Grade III for qualified architects able to lead small groups; for architectural assistants capable of taking various degrees of design responsibility; and for junior unqualified assistants and draughtsmen.

MODERNISATION, IMPROVEMENTS, ADAPTATIONS—

A large programme of modernisation of schools and housing with a wide range of improvements and adaptations of all types of building. For this work Grade III architects, architectural assistants and draughtsmen, and Grade III building surveyors and assistant surveyors are required.

STRUCTURAL ENGINEERING—

A few good designers required at Grade II level, also engineers Grade III, a few resident engineers Grade III, and a number of engineering assistants.

DISTRICT SURVEYORS' SERVICE—

Vacancies for structural engineers and building surveyors at Grade II, Grade III and assistant level.

GRADES AND SALARIES

Grade II £987—£1,184

Grade III £775—£987

Assistants (professionally qualified with short experience or unqualified and experienced) £620—£818.

Junior unqualified assistants and draughtsmen in a range from £5—£12 a week.

Application forms and further information from the Architect to the Council
London County Council
The County Hall, London, S.E.1,
quoting AR/EK/WJS/5 (369)

BRITISH RAILWAYS, EASTERN REGION MODERNISATION PLAN
VACANCIES exist in office of Architect, Eastern Region, King's Cross, for:—
TECHNICAL ASSISTANT. Salary range, £572-£910. Considerable experience in architectural procedure and practice and possessing organising ability. Professional qualifications or degree desirable.
ARCHITECTURAL ASSISTANTS. Salary range dependent upon age, experience, and qualifications. Should be of Intermediate R.I.B.A. standard.
 Five-day week, concessionary rail travel, and permanency after probationary period.
 Apply in writing to Chief Civil Engineer, British Railways, Eastern Region, King's Cross Station, London, N.1, giving full particulars of age, education, training and experience. 9825

HASTIE, WINCH & KELLY require **ARCHITECTURAL ASSISTANT**, able to take charge of medium-sized jobs, including Churches, Hostels, Factories, etc. Telephone for an appointment, WEL 8865, or write with particulars to 1, Bentinck Street, W.1. 6043

JAMES & BYWATERS urgently require **ASSISTANT** of Intermediate standard or higher, for detailing various types of buildings. Salary according to experience and qualifications.—Apply in writing to 5, Bloomsbury Street, W.C.1, or telephone Museum 9952. 9557

NORMAN-BAILEY & PARTNERS require capable experienced **ASSISTANTS** who are able to carry out jobs from start to completion. Contemporary and varied work.—Ring Victoria 7088 for appointment. 9802

RAMSEY, MURRAY, WHITE & WARD have vacancies for:—
 (a) **QUALIFIED ARCHITECT**, with at least 12 months' office experience since qualifying.
 (b) **ARCHITECTURAL ASSISTANT**, advanced student R.I.B.A., with at least 12 months' office experience.
 Salary to be agreed on the basis of qualifications and experience.
 Apply 32, Wigmore Street, London, W.1, or telephone WELbeck 1409. 9625

CO-OPERATIVE WHOLESALE SOCIETY, LTD. ARCHITECT'S DEPARTMENT, BIRMINGHAM.
APPLICATIONS are invited for the following appointments in a newly formed Branch Office. Interesting and varied commercial and industrial projects.
 (a) **SENIOR ASSISTANT ARCHITECT**, with experience in Store and Shop Design. (Salary range £820 to £975 per annum.)
 (b) **ASSISTANT ARCHITECTS**, capable of preparing working drawings and details from preliminary sketches. (Salary range £650 to £820 per annum.)
 Both appointments offer prospects of upgrading. Applications, stating age, experience, qualifications, and salary required, to G. S. Hay, A.R.I.B.A., Chief Architect, Co-operative Wholesale Society, Ltd., 1, Balloon Street, Manchester, 4. 3872

ARCHITECT'S CO-PARTNERSHIP require a qualified **ASSISTANT** with experience.—Write 44, Charlotte Street, London, W.1, or telephone LANgham 5791. 9776

"THE ARCHITECTS' JOURNAL" requires a full-time **DRAUGHTSMAN** to assist in the preparation of Information Sheets and Working Details. First class draughtsmanship, knowledge of building construction and a keen interest in the compilation of technical information. Write to the Editor (Information Sheets), 9, Queen Anne's Gate, S.W.1, stating age, architectural training, and experience. 913

ARCHITECTURAL ASSISTANTS required for St. Albans office for work on School, Commercial and Housing projects. Should be good draughtsmen with contemporary outlook. Good Salaries. Write to Box 9579.

ARCHITECTURAL ASSISTANT required in busy London office with varied practice. Good salary and prospects for suitable applicant. 5-day week. Write, giving particulars of age, qualifications, experience, etc., to Box 775, C/O 7, Copie Street, W.C.1. 9313

SEELY AND PAGET have two vacancies in their City office for **QUALIFIED/UNQUALIFIED STAFF**. The work is varied and covers Ecclesiastical, Colleges, Schools, Domestic and General Work. Salary range £330-£783.—Telephone in the first instance CENTral 0321. 9681

ARCHITECTS, SENIOR ARCHITECTURAL ASSISTANTS required immediately for a wide variety of work. Salary range £700-£975 per annum. Superannuation scheme. Application should be made in writing to Kenneth F. Masson, A.R.I.B.A., Chief Architect, S.C.W.S. Ltd., 76, Morrison Street, Glasgow, C.5. 9491

ARCHITECTURAL ASSISTANT of Intermediate standard, preferably with previous office experience, required immediately for busy general practice in Home Counties. Travelling expenses to interview paid.—Write, stating age, experience and salary required, to Box 9796.

BOISSEvain & OSMOND require **JUNIOR ARCHITECTURAL ASSISTANTS** with a contemporary outlook. They should be good draughtsmen with some office experience. Excellent opportunities for rapid advancement for the right man; it is our policy to give responsibility commensurate with ability. Please telephone HOL 3381 for appointment. 9797

ARCHITECTURAL ASSISTANTS required by West End office with varied practice. Not less than Inter. standard and 3 years' office experience. 5-day week. Bonus scheme.—Write Welch & Lander, 38, Gloucester Place, Portman Square, W.1. 9822

ARCHITECTURAL ASSISTANTS urgently required for interesting and varied work on industrial, commercial and housing projects.—Please apply, giving full details of age, training and architectural experience, and stating whether or not housing accommodation would be required, to Chas W. Fox, F.R.I.B.A., 22, Parkway, Welwyn Garden City, Herts. 9759

JUNIOR ARCHITECTURAL ASSISTANT of Intermediate standard required in small, busy office with varied practice. Opportunity to show initiative and to gain varied experience by working on contracts from sketch to completion.—Apply, stating age, experience and salary required, to G. H. B. and Roy Goud, A.R.I.B.A., Hurlingham Chambers, Station Road, Clacton-on-Sea. 9745

ARCHITECTURAL ASSISTANTS required in busy office with much varied work. 5-day week. Previous office experience desirable.—Write, stating experience and salary required, to Graham Crump & Denis Crump, F.A.R.I.B.A., 43, George Street, Croydon. 9896

EXPERIENCED DRAUGHTSMAN required for Drawing Office dealing with design of houses, shops, factories, etc., and estate layouts. As main work at present is housing estate development on a large scale, experience in that sphere is essential. The post is permanent and pensionable.—Apply H. C. James, Ltd., Builders, 183, High Town Road, Luton, Beds. 9894

J. M. AUSTIN-SMITH & PARTNERS require a **SENIOR ARCHITECTURAL ASSISTANT**, to organise and run varied industrial and commercial contracts. Salary will be according to age, also length and type of experience, but within the approximate range of £775 to £850.—Apply by telephone or letter to 29, Sackville Street, W.1. Regent 6183. 9669

RONALD WARD & PARTNERS require several **ARCHITECTURAL ASSISTANTS** with contemporary outlook and willing to use own initiative. Salary range £500 to £800. Interesting and varied work, home and abroad. Congenial working conditions.—Apply 29, Chesham Place, Belgrave Square, S.W.1. Telephone Belgrave 3361. 9189

JUNIOR DRAUGHTSMAN required, with good knowledge of building construction. State experience and the salary required to Messrs. Winter & Pickering, L./A.R.I.B.A., Chartered Architects, 114/115, Holborn, London, W.1. 9873

VINCENT BURR and Partners urgently require **ARCHITECTURAL ASSISTANT** of approximately Intermediate standard. Great scope for future promotion. Large and varied practice. Salary according to experience.—Telephone Museum 2201 for appointment. 9926

SHERWOODS PAINTS LTD. have a vacancy for a man of high ability and personality able to influence Architects, Local Authorities, etc., to specify their products. The successful candidate should have experience in contacting such Authorities in the London area. The position carries a progressive four-figure salary and expenses. Membership of superannuation scheme.—Write in strict confidence to the Sales Manager, Decorative Materials Division, Sherwoods Paints Ltd., Barking, Essex, and attach a typewritten, chronological summary of qualifications and experience. 9465

Made to fit . . .

SHINING DURABILITY,
 SUPERB FINISH,
 MODERATE COST

Expert Stainless Steel
 Fabrication for all uses

an
 Associated
 Metals job
 in Stainless Steel

A TYPICAL RANGE OF STAINLESS STEEL
 SINKS MADE FOR A FACTORY CANTEN

Associated Metal Works
 (GLASGOW) LTD.

30 ST. ANDREW'S SQUARE, GLASGOW, C.1

LONDON: 7 GROSVENOR GARDENS, S.W.1.

'Phone: VICTORIA 1977/8

And at BIRMINGHAM, LIVERPOOL,
 MANCHESTER, NEWCASTLE, BELFAST
 and DUBLIN

'Phone: BELL 2004-6

'Grams: "STAINLESS, GLASGOW"

Scores of doors to choose-

Send for our illustrated literature and choose your doors from the largest and most varied stock in the trade. Over 40 designs and 172 items.

BRYCE WHITE & CO. LTD.

Head Office: St. Mary's Road, Langley, Bucks. Tel: Langley 232, SOUTHALL 2231
 Also at Southampton, Bristol, London

Architectural Appointments Wanted

4 lines or under, 7s. 6d.; each additional line, 2s.

ARCHITECT, 20 years' design and management experience, housing, commercial and industrial work, seeks responsible position. About £1,500 p.a. A.R.I.B.A., A.M.T.P.I. London preferred.—Box 9907.

INTERESTING, responsible, post sought by well-qualified woman Associate, residing N.W. London. 42 years' experience. Work concerned with health or education preferred. Salary £750.—Box 9935.

AFTER August, I should like a short-time post abroad, to do some Architecture and contract-running. First-class qualifications and very wide experience. Present salary in W. Africa, £1,600, plus private fees. All letters will be answered.—Box 9951.

ARCHITECT, A.R.I.B.A., seeks permanent senior position in progressive office. Ten years' comprehensive experience including schools. Box 9979.

STUDENT, R.I.B.A. (26), with 5 years' office experience, at present in Cornwall, seeks employment in contemporary London office and can be interviewed by appointment on May 22, 23 or 24 by writing to Box 9973.

Other Appointments Vacant

4 lines or under, 7s. 6d.; each additional line, 2s.

BUILDING or STRUCTURAL DRAUGHTSMAN required by Specialists in Prefabrication for interesting work on a number of timber building components. The successful applicant will have an opportunity of entering into the design of a new product in its early stages of development, and taking part in a development programme.—Applications, giving fullest possible details of career to date, including present salary, to be sent to G. R. Bonella, A.R.I.B.A., Messrs. H. Newsom, Sons & Co., Ltd., Carr Lane, Gainsborough. 9981

OPPORTUNITY

for
TOPLINE DESIGNER/DRAUGHTSMAN

with
LEADING SHOPFITTING ORGANISATION
EXCELLENT prospects with unlimited scope offered by nationally-known London Shopfitters to man of creative ideas with genuine enthusiasm for contemporary store design. Permanent, progressive post with exemplary working conditions. Non-contributory pension scheme. Five-day week. Staff restaurant.—Box 9177.

Services Offered

4 lines or under, 7s. 6d.; each additional line, 2s.

THE SITE SURVEY COMPANY, BLACKHEATH, S.E.3. Specialists in all types of Architectural and Engineering Surveys, grid and contour lay-outs. Telephone LEE Green 7444-5. 9018

GOOD LETTERING is essential for Commemorative Wall Tablets, Foundation Stones, etc. Designs prepared and estimates given for the finished work in any suitable material. Renowned as a Centre for Lettering since 1934. Sculptured Memorials, 67, Ebury Street, S.W.1. 9170

ARCHITECTURAL MODELS—Highest workmanship guaranteed from my team of expert modellers. Send plans for quotations to W. Roberts, 13, Campden Grove, W.8. 9659

TYPEWRITING/DOPLICATING.—Specifications, etc., undertaken by experts. Reasonable charges. Stone's Secretarial Services, 446, Strand, Tem. 5984. 9081

SURVEYS, levels and detailed drawings for new or alteration projects, reports, specifications for repairs, etc. L1V 1839. 2866

QUANTITY SURVEYOR, London, W.1, requiring work, offers services to Architect or Architects to reciprocal advantage.—Box 9812.

SMALL West End Practice can undertake work for other Architects. Presentation, Working Drawings, Perspectives.—Box 9726.

SURVEYING and levelling of building sites and measured drawings undertaken by experienced Surveyor at moderate charges.—Box 9905.

PRIVATE Architect, Hampshire, able at present to give assistance to others. 25 years' general experience. Distance unimportant.—Box 9921.

GENERAL ARCHITECTURAL ASSISTANCE, part-time or by arrangement, given by experienced qualified Architect to the profession, with good references. London area only.—Box 9950.

CHARTERED QUANTITY SURVEYOR (retired) will take overflow work at per job or hourly rate. Take off to completed bill.—J.H.S., 58, Fairholme Road, W.14. 9955

PART-TIME assistance offered to Architects and Consulting Engineers in preparation of Drawings and Structural Design, by experienced Architect and Structural Engineer.—Apply Box 9930.

Property & Investment

TO BUILDERS, ARCHITECTS AND DEVELOPERS.

We are instructed to acquire for Clients with a Quarter Million Pounds available for Permanent Investment anywhere in London or Provinces.

PARADES OF SHOPS or OFFICE BUILDINGS UNDER CONSTRUCTION AND SHOP SITES

Developments taken over in any stage of construction, and agreed value of Land and Works (if any) so far undertaken will be paid IMMEDIATELY with BALANCE AGAINST CERTIFICATES, or Building Contracts would be taken over so that Vendor has no further financial obligation in either event.

ARCHITECTS WILL BE RETAINED

Particulars and Plans to Surveyors:
NORMAN HIRSHFIELD & PARTNERS

85, George Street, W.1,
WEL. 9145 (5 lines).

who will immediately inspect all propositions. 3432

For Sale & Wanted

4 lines or under, 7s. 6d.; each additional line, 2s.

RECONDITIONED Ex-Army Huts and Manufactured Buildings. Timber, Asbestos, Nissen Type, Hall Type, etc. All sizes and prices. Write, call or telephone: Universal Supplies (Belvedere) Ltd., Crabtree Manorway, Belvedere, Kent. Tel.: Erith 2948. 1474

ESTD. S.W. 1898

IRON STAIRCASES
STEELWORK

FARMER
& SON LIMITED

BALUSTRADING
FENCING

FABRICATORS IN STEEL

STAIRWAY HOUSE, COURTHILL ROAD, LEWISHAM LONDON S.E.13. PHONE: LEE GREEN 4334-9.

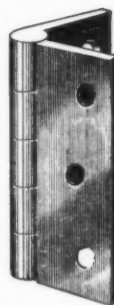


When silence is supremely golden, we bless the breathless hush of a door opening and shutting on Baldwin's cast iron hinges. Smooth and silent, strong and efficient, Baldwin's cast iron hinges are made with old-time thoroughness for year after year of trouble-free service.

BALDWIN

Sole Manufacturers:
ARCHIBALD KENRICK & SONS LTD., WEST BROMWICH, STAFFS

M-W-74



PRICE REDUCTION

WRITING
TABLES
NEW

4' 6" x 2' 6" x 2' 6"
use for reception/
office slightly soiled,
have many uses.

OFFERED AT
£6

delivered London area

Cash on delivery. Reduction for quantities.

HOMEBYS LTD., 30 CITY ROAD, LONDON, E.C.1



OFFICE TABLES
5' x 2' 6" £6/10/0

Other lines available.

MON 4881

EXCEPTIONAL offer 3rd floor at 94, New Bond St., W.1. 1,300 sq. ft. 4950 p.a. Long lease available, perfect natural lighting suitable for drawing office. Tel. GRO. 6601. 8231

PHOTO-PRINTING MACHINE. One Hand-operated Horizontal Photo-printing Machine (M.V. lighting) by J. Halden, Ltd. Good condition. £50 o.n.o.—British Filters, Ltd., Cox Green, Maidenhead. Telephone Maidenhead 4144. 9945

OAK.—Following demolition of very old mill, owner offers quantity Oak Beams; various lengths and girths. Excellent condition. Colbatch Clark, Badnage, Canon Pyon, Hereford. 9944

STEEL PORTAL FRAME BUILDINGS. For immediate delivery from stock. 30 ft. and 40 ft. single span or multiple spans, in heights of 9 ft., 12 ft., 15 ft. and 18 ft. to eaves. Fully conforming with B.S.S.449 and Code of Practice. Framework only or complete buildings. S.I. Buildings, Ltd., 238/240, Abbey House, Victoria Street, London, S.W.1. Tel. ABBey 3964, and Ruskin Chambers, 191 Corporation Street, Birmingham. 9924

Miscellaneous

4 lines or under, 7s. 6d.; each additional line, 2s.

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

MY Committee would appreciate the lease or loan of dry storage space for the Ball props anywhere within easy reach of London. The space required is about 12 ft. 6 in. x 8 ft. 6 in. x 6 ft. 6 in. Unfortunately accommodation in the basement at the R.I.B.A. is no longer available. 9923

170 FT. of pine panelling 4 ft. high. Two oak staircases (3 flight and 2 flight). Three grained marble fireplaces. Three overmantels with bevelled mirrors. Apply Parsons, Welch & Cowell, Sevenoaks. Tel. 55066/7. 9967

SPACE to live. Anyone with about £1,000 interested in sharing conversion of large house at Great Bookham, Surrey, with two young architects, please phone Elmbridge 2731. 9961

Educational Announcements

4 lines or under, 7s. 6d.; each additional line, 2s.

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.B.I.B.A. M./A.M.T.P.I. (Prof. Sir Patrick Abercrombie in sand.), prepare Students by correspondence, 10, Adelaide Street, Strand, W.C.2. TEL. 1603/4.

COURSES for all R.I.B.A. EXAMS. Postal tuition in History, Testimonies, Design, Calculations, Materials, Construction, Structures, Hygiene, Specifications, Professional Practice, etc. Also in general educational subjects.

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 Phone: KEN 4477 and at Worcester

MODELS

First class Architectural models made to Architect's drawings and specification. Photographs and quotations supplied on request. Architectural background.

ARCHITECTURAL MODELS, 114, Buckingham Rd., Heaton Moor, STOCKPORT.

Tel. HEA. 2094.

COMBROOK FLOORING CO.

Parquet, strip and block floors laid. Old floors repaired, re-surfaced, polished and waxed. Specialists in all types of wood flooring. Estimates free. Enquiries to:

37, Spring Lane, Combrook, Warwick

GIMSON LIFTS

Service is available throughout the country. Technical literature will be sent on request.

GIMSON & CO. (LEICESTER) LTD.
VULCAN ROAD, LEICESTER

Phone: Leicester 60272

Grams: Gimson Leicester

PERMANITE ROOFING FLOORING & TANKING

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.
15, TRAFFIC STREET, NOTTINGHAM
LONDON: 1, CARTERET STREET, WESTMINSTER, S.W.1
MANCHESTER: 10, MOUNT STREET
BRISTOL: 11, STDENHAM ROAD, COTHAM, 1

MODELS

ESTAB. 1883.

John B. THORP

FOR 98 GRAY'S INN ROAD, W.C. TOWN PLANNING PUBLIC BUILDINGS ESTATES and INTERIORS

BY W.C. TELEPHONE: HOLBORN 1011

ARCHITECTURAL — contemporary

SIGN LETTERS

IN A VARIETY OF METALS & FINISHES

WARD AND COMPANY

120 CHELTENHAM ROAD, BRISTOL 6
TELEPHONE 21534

THE WORLD'S GREATEST BOOKSHOP

FOYLES

FOR BOOKS
FAMED CENTRE FOR

Books on Art & Architecture

Depts. for Gramophone Records, Music, Magazine Subscriptions, Foreign Stamps

119-125 CHARING CROSS ROAD WC2
Gerrard 5660 (16 lines) ★ Open 9-6 (incl. Sats.)
Two minutes from Tottenham Court Rd. Stn.

ARCHITECTURAL FOR MODELS

Completed Schemes, Planning Stage Models, Structural Design, Display Designers Mockups, etc.

CONSULT

LYNCH & BAKER LTD.

DISPLAY & MODELMAKING SERVICES

23 Oakleigh Court, Burnt Oak, Edgware, Middlesex. Colindale 1339

PATENT COMPOSITE STEEL-&-ASBESTOS

FIRE RESISTING DOORS

TO F.O.C. SPECIFICATIONS

"FIREMAN" regd.

"DURACHECK" regd.

★ send for data to manufacturers:

DURASTEEL LTD.
Oldfield Lane, Greenford, Middlesex.
Telephone: Wuxlow 1051

Suppliers to: BRITISH ELECTRICITY AUTHORITY, ADMIRALTY, MINISTRY of SUPPLY, MINISTRY of CIVIL AVIATION ETC. ETC.

HATHERNWARE

Have you seen the new stone-faced finishes, available in colours?

FAIENCE

THE TOUGHEST FAIENCE MADE

HATHERNWARE LIMITED, LOUGHBOROUGH, LEICESTERSHIRE

FIRST FOLD HERE

enquiry form

If you require catalogues and further information on building products and services referred to in the advertisements appearing in this issue of the Architects' Journal please mark with a tick the relevant names given in the index to advertisers overleaf. Then detach this page, write in block letters, or type, your name, profession or trade and address in the space overleaf, fold the page so that the post-paid address is on the outside and despatch. We will ensure that your request reaches the advertisers concerned.

Postage
will be paid
by
Licensee

FOLD HERE

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

BUSINESS REPLY FOLDER
Licence No. S.W. 1761

THE ARCHITECTS' JOURNAL
9-13 Queen Anne's Gate
London, S.W.1.

FOLD HERE

TUCK IN THIS END

PAGE		PAGE		PAGE	
Adams, Robert (Victor), Ltd.	127	Econa Modern Products, Ltd.	114	Northern Aluminium, Ltd.	68
Aero Research, Ltd.	28	Edison Swan Electric Co., Ltd.	86	Norwood Steel Equipment, Ltd.	85
Air Control Installations, Ltd.	78	Ellis School of Architecture	124		
Alexandria Trading Corp., Ltd.	107	Engravers Guild, Ltd., The	102		
Architectural Models	124	Everant, Ltd.	111	Patent Glazing Conference, The	65
Architectural Press, Ltd., The	112, 117	Evode, Ltd.	5	Peel, H., Ltd.	115
Arens Controls, Ltd.	44			Peglers, Ltd.	108
Armstrong Cork Co., Ltd.	51	Farmer, S. W., Ltd.	123	Permanite, Ltd.	124
Associated Fire Alarms, Ltd.	105	Finlock Gutters, Ltd.	89	Pilkington Bros., Ltd.	52
Associated Metal Works (Glasgow), Ltd.	122	Flexwood, Ltd.	107	Plywood & Timber Products Agencies, Ltd.	109
Austin, Jas., & Sons (Dewsbury), Ltd.	14	Foyle, W. J., Ltd.	124	Polycell Products, Ltd.	21
Automatic Pressings, Ltd.	127	Franki Compressed Pile Co., Ltd.	60	Prefatite (G.B.), Ltd.	110
		Furse, W. J., & Co., Ltd.	124	Pynford, Ltd.	2
Baldwin, Son & Co., Ltd.	123				
Batley, Ernest, Ltd.	116	Gardiner, Sons & Co., Ltd.	20	Rapid Floor Co., Ltd., The	23
Bawn, W. B., & Co., Ltd.	106	Gas Council, The	46, 47, 78	Redland Tiles, Ltd.	43
Bawns Pressings, Ltd.	114	Gent & Co., Ltd.	9	Rentokil, Ltd.	127
Beckett, Laycock & Watkinson, Ltd.	114	Gimson & Co. (Leicester), Ltd.	124	Richards Tiles, Ltd.	76
Biddle, F. H., Ltd.	22	Glazed & Floor Tile Manfrs. Association ..	70	Rists Wires & Cables, Ltd.	12
Bilston Foundries, Ltd.	50	Greenwood's & Airvac Ventilating Co., Ltd.	98	Rolyat Tank Co., Ltd.	92
Blundell, Spence & Co., Ltd.	55	Gyproc Products, Ltd.	53	Ruberoid Co., Ltd., The	54
Boulton & Paul, Ltd.	72	Gypsum Building Products Association	26	Ryjack Productions, Ltd.	16
Bowaters Sales Co., Ltd.	2, 115				
Briggs, William, & Sons, Ltd.	39	Hall, John, & Sons (Bristol & London) Ltd.	40	Salopian Engineers, Ltd.	103
Brightside Heating & Engineering Co., Ltd.	64	Hall, Robt. H., & Co. (Kent), Ltd.	42	Sanderson, A., & Co., Ltd.	8
British Aluminium Co., Ltd.	48	Harris & Sheldon, Ltd.	88	Seco, Ltd.	66
British Hermesal, Ltd.	99	Harvey, G. A., & Co. (London), Ltd.	105	Sharp Bros. & Knight, Ltd.	58
British Plaster Board, The	36	Hathernware, Ltd.	124	Sherwoods Paints, Ltd.	10
British Steel Construction Group of Companies	37	Hobbs, Hart & Co., Ltd.	2	Simplex Electric Co., Ltd.	24
British Titan Products Co., Ltd.	84	Homebys, Ltd.	123	Skellern, Jas. J., Ltd.	114
British Trolley Track Co., Ltd.	77	Honeywell-Brown, Ltd.	41	Smith & Rodger, Ltd.	116
Broads Manufacturing Co., Ltd.	102	Hope, Henry, & Sons, Ltd.	87	Smith's Fireproof Floors, Ltd.	12
Brooks Ventilation Units, Ltd.	25			Sommerfelds, Ltd.	111
Brown, Donald (Brownall), Ltd.	127	Imperial Smelting Corp., (Sales), Ltd.	93	Spencer, Lock & Co., Ltd. (Royal Board)...	97
Bryce, White & Co., Ltd.	122	Industrial Engineering, Ltd.	11	Stella Building Products, Ltd.	73
		International Paints, Ltd.	49	Stott, Jas., & Co. (Engineers) Ltd.	83
Canadian Government, The	62			Sugg, William, & Co., Ltd.	31
Carter & Co., Ltd.	38				
Catesbys Linoleum Contracts	94	Jones, T. C., & Co., Ltd.	57	Tarmac, Ltd.	113
Causeway Reinforcement, Ltd.	111			Teleflex Products, Ltd.	106
Celotex, Ltd.	7	Lacrinoid Products, Ltd.	110	Thompson, John (Beacon Windows), Ltd.	80
Church & Co. (Fittings), Ltd.	115	Le Bas Tube Co., Ltd., The	99	Thorn, J., & Sons, Ltd.	79
Clark, James, & Eaton, Ltd.	75	Linochem Manufacturers' Association, The	82	Thorp, John B.	124
Combbrook Flooring Co.	124	Loft Ladders, Ltd.	115	T.I. Aluminium, Ltd.	33
Compactom, Ltd.	91	London Brick Co., Ltd.	27	T.M.C. Harwell (Sales), Ltd.	56
Conex-Terna, Ltd.	29	London County Council	121	Toogood, Frank W., Ltd.	56
Constructors Group, The	74	Lynch & Baker, Ltd.	124	Trianco, Ltd.	116
Copperad, Ltd.	71			Troughton & Young (Lighting), Ltd.	35
Copper Development Association, Ltd.	67			Twistell Design Service	63
Costain, Richard, Ltd.	18				
Croggon & Co., Ltd.	104			Unit Construction Co., Ltd.	61
				United Steel Companies, Ltd.	45
Davidson, C., & Sons, Ltd.	15				
De la Rue, Thos., & Co., Ltd.	81	Main, R. & A., Ltd.	34		
Dexion, Ltd.	4	McArd, Robt., & Co., Ltd.	30	Venus Pencil Co., Ltd.	100
Dignus, Ltd.	95	Meta Mica, Ltd.	101	Vere Engineering Co., Ltd.	19
Dimplex, Ltd.	109	Midland Electric Manfg. Co., Ltd.	32		
Docker Brothers	69	Midland Joinery Works, Ltd.	22		
Dorman & Smith, Ltd.	112	Midland Woodworking Co., Ltd.	13		
Doulton & Co., Ltd.	40	Mills Scaffold Co., Ltd.	128		
Downing, G. H., & Co., Ltd.	6	Moler Products, Ltd.	104		
Dreadnought Fireproof Doors (1930), Ltd.	103	Morse, A. T., Sons, & Co., Ltd.	101	Ward & Company	124
Durastel, Ltd.	124			Wardle Engineering Co., Ltd.	107
				Wednesbury Tube Co., Ltd.	17
				Wheatly & Co., Ltd.	59
				Wilkinson Rubber Linatex, Ltd.	98
				Williams & Williams, Ltd.	3
				Wooliscroft, Geo., & Son, Ltd.	100
Eagle Pencil Co., Ltd.	108	National Federation of Clay Industries.....	90		
		North British Chemical Co., Ltd.	113		

For Appointments (Wanted or Vacant), Competitions Open, Drawings, Tracings, etc., Education, Legal Notices, Miscellaneous, Property and Land Sales, see 118, 119, 120, 121, 122, 123, 124.

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 _____

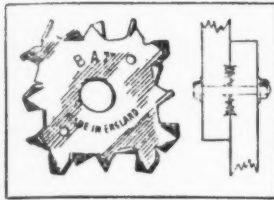
PAGE

.....	68	<input type="checkbox"/>
.....	85	<input type="checkbox"/>
.....	65	<input type="checkbox"/>
.....	115	<input type="checkbox"/>
.....	108	<input type="checkbox"/>
.....	124	<input type="checkbox"/>
.....	52	<input type="checkbox"/>
Ltd.	109	<input type="checkbox"/>
.....	21	<input type="checkbox"/>
.....	110	<input type="checkbox"/>
.....	2	<input type="checkbox"/>
.....	23	<input type="checkbox"/>
.....	43	<input type="checkbox"/>
.....	127	<input type="checkbox"/>
.....	76	<input type="checkbox"/>
.....	12	<input type="checkbox"/>
.....	92	<input type="checkbox"/>
.....	54	<input type="checkbox"/>
.....	16	<input type="checkbox"/>
.....	103	<input type="checkbox"/>
.....	8	<input type="checkbox"/>
.....	66	<input type="checkbox"/>
.....	58	<input type="checkbox"/>
.....	10	<input type="checkbox"/>
.....	24	<input type="checkbox"/>
.....	114	<input type="checkbox"/>
.....	116	<input type="checkbox"/>
.....	12	<input type="checkbox"/>
.....	111	<input type="checkbox"/>
b)...	97	<input type="checkbox"/>
.....	73	<input type="checkbox"/>
.....	83	<input type="checkbox"/>
.....	31	<input type="checkbox"/>
.....	113	<input type="checkbox"/>
.....	106	<input type="checkbox"/>
Ltd.	80	<input type="checkbox"/>
.....	79	<input type="checkbox"/>
.....	124	<input type="checkbox"/>
.....	33	<input type="checkbox"/>
.....	56	<input type="checkbox"/>
.....	66	<input type="checkbox"/>
.....	116	<input type="checkbox"/>
.....	35	<input type="checkbox"/>
.....	63	<input type="checkbox"/>
.....	61	<input type="checkbox"/>
.....	45	<input type="checkbox"/>
.....	100	<input type="checkbox"/>
.....	19	<input type="checkbox"/>
.....	124	<input type="checkbox"/>
.....	107	<input type="checkbox"/>
.....	17	<input type="checkbox"/>
.....	59	<input type="checkbox"/>
.....	98	<input type="checkbox"/>
.....	3	<input type="checkbox"/>
.....	100	<input type="checkbox"/>

that the

THE **BAT** PRODUCTS

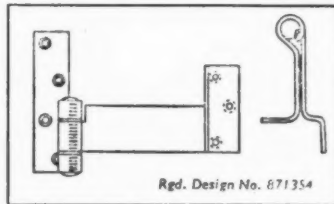
SQUARE TOOTHED PLATE TIMBER CONNECTORS



Modern structural timber design calls for the use of BAT Timber Connectors. Joints are doubled in strength. Timber sections are reduced. Rigidity is increased and weight saved by simplified designing.

IMPROVED DESIGN EASY-CLEAN CASEMENT HINGES

Special feature is the Arm Design which allows for interchangeability with the STORM-PROOF Butt Hinge fitting. Other types include the E.J.M.A. Hinge to BS644 and a light type.



Rgd. Design No. 671354

PRICES AND SAMPLES ON APPLICATION

Sole Manufacturers:

AUTOMATIC PRESSINGS LTD

BAT WORKS · BLACKHEATH · BIRMINGHAM

Phone: Blackheath 2085/6 (2 lines)

A.P. 230

RENTOKIL TIMBER FLUID KILLS WOODWORM

The best with the largest national use. RENTOKIL TIMBER FLUID is easy to apply by brush and injector. Kills ALL woodworm and protects against further attack. Order RENTOKIL TIMBER FLUID and DRY ROT FLUID in 5-gall. RENTOPAILS, the multi-purpose containers. From Ironmongers and Builders' Merchants everywhere.

Free technical advice:

RENTOKIL WOODWORM & DRY ROT CENTRE (AJ)
23, Bedford Sq., London, W.C.1. 'Phone LANgham 5455

Brownall

EASY-CLEAN LABORATORY FITTINGS

In: Chrome, Black-Bronze, Polished & Lacquered Brass Finish.

COMPRESSION Fittings for Hospitals and Industrial Building.

For 1 in. to 6 in. Tube.

Gunmetal Screwed Fittings to B.S. Table 1 and B.S.P. Threads.

Solder (Capillary) & Welding for all Heating Work.

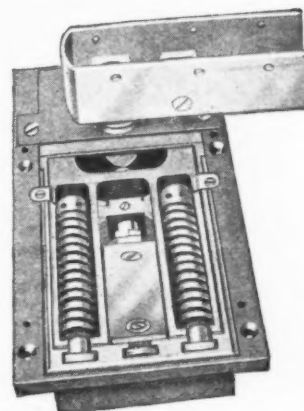
SEND FOR CATALOGUES, DATA AND PRICES, ETC.

HIGH JOINT STRENGTH FITTINGS

● IN NON-FERROUS METALS

Also finished in coloured plastic.

DONALD BROWN (Brownall) LTD.
LOWER MOSS LANE MANCHESTER 15
Tel. DEAnson 4754/5 Grams: DONABROW Manchester.



DOORS
NEED NOT
S-L-A-M

—specify

"Victor"
DOOR
SPRINGS

ALSO

- WINDOW GEARING AND FANLIGHT OPENERS
- 'X-IT' PANIC BOLTS
- LOCKS
- DOOR FURNITURE
- CASEMENT FITTINGS
- SPRING SASH BALANCES

"VICTOR" fittings are specified by all leading Architects.

An essential fitting with self-contained check for Public Buildings, Housing Schemes, Office Blocks, etc. In shallow and watertight floor patterns. Overhead types to suit every purpose.

ROBERT ADAMS (VICTOR) LTD
139 STAINES ROAD, HOUNSLOW, MIDDXX
Telephone: Hounslow 5714



YOU'VE GOT TO HAND IT TO MILLS

MILLS SCAFFOLD CO. LTD., (A Subsidiary of Guest, Keen & Nettlefolds Ltd.)
Head Office: TRUSSLEY WORKS, HAMMERSMITH GROVE, LONDON W.6 • RIVERSIDE 3011 (TEN LINES)

Agents & Depots: BELFAST • BIRMINGHAM • BOURNEMOUTH • BRADFORD • BRIGHTON • BRISTOL • CANTERBURY • CARDIFF
COVENTRY • CROYDON • DUBLIN • GLASGOW • HULL • ILFORD • LIVERPOOL • LOWESTOFT • MANCHESTER • MIDDLESBROUGH
NEWCASTLE • NORWICH • PLYMOUTH • PORTSMOUTH • PRESTON • READING • SHIPLEY • SOUTHAMPTON • SWANSEA • YARMOUTH



) **LINES)**
CARDIFF
ESBROUGH
ARMOUTH

Gate,
mbe.