THE ARCHITECTS' JOURNAL

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THE ARCHITECTURAL PRESS

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★ 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, "Dyneley," Castle Hill Avenue, Berkhampstead, 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.	Reliance 7611, Ext. 1706
BC	Building Centre. 26, Store Street, Tottenham Court Road, W.C.1.	Museum 5400
BCC	British Colour Council. 13, Portman Square, W.1.	Welbeck 4185
BCCF	British Cast Concrete Federation. 105, Uxbridge Road, Ealing, W.5.	Ealing 9621
BCIRA	British Cast Iron Research Association. Alvechurch, Birmingham.	Redditch 716
BDA	British Door Association. 10, The Boltons, S.W.10.	Fremantle 8494
BEDA	British Electrical Development Association. 2, Savoy Hill, W.C.2.	Temple Bar 9434
BIA	British Ironfounders' Association. 145, Vincent Street, Glasgow, C.2.	Glasgow Central 2891
BID	Building Industries Distributors. 52, High Holborn, W.C.1.	Chancery 7772
BINC	Building Industries National Council. 11, Weymouth Street, W.1.	Langham 2785
BOT	Board of Trade. Whitehall Gardens, Horseguards Avenue, Whitehall, S.W.1.	Trafalgar 8855
BRS	Building Research Station. Bucknalls Lane, Watford	Garston 2246
BSA	Building Societies Association. 14, Park Street, W.1.	Mayfair 0515
BSI	British Standards Institution. British Standards House, 2, Park St., W.1.	Mayfair 9000
BTE	Building Trades Exhibition. 32, Millbank, S.W.1.	Tate Gallery 8134
CABAS	City and Borough Architects Society. C/o Johnson Blackett, F.R.I.B.A., Civic Centre, Newport, Mon.	Newport 65491
CAS	County Architects' Society. C/o F. R. Steele, F.R.I.B.A., County Hall, Chichester.	Chichester 3001
CCA	Cement and Concrete Association. 52, Grosvenor Gardens, S.W.1.	Sloane 5255
CCP	Council for Codes of Practice. Lambeth Bridge House, S.E.1.	Reliance 7611 Ext. 1284
CDA	Copper Development Association. Kendals Hall, Radlett, Herts.	Radlett 5616
CIAM	Congrès Internationaux d'Architecture Moderne. Doldertal, 7, Zurich, Switzerland.	
COID	Council of Industrial Design. 28, Haymarket, S.W.1.	Trafalgar 8000
CPRE	Council for the Preservation of Rural England. 4, Hobart Place, S.W.1.	Sloane 4280
CUC	Coal Utilization Council. 3, Upper Belgrave Street, S.W.1.	Sloane 9116
CVE	Council for Visual Education. 13, Suffolk Street, Haymarket, S.W.1.	Reading 72255
DGW	Directorate General of Works, Ministry of Works, Lambeth Bridge House, S.E.1.	Reliance 7611
DIA	Design and Industries Association. 13, Suffolk Street, S.W.1.	Whitehall 0540
DPT	Department of Overseas Trade. Horseguards Avenue, Whitehall, S.W.1.	Trafalgar 8855
EJMA	English Joinery Manufacturers' Association (Incorporated). Sackville House, 40, Piccadilly, W.1.	Regent 4448
EPNS	English Place-Name Society. 7, Selwyn Gardens, Cambridge.	
FAS	Faculty of Architects and Surveyors. 68, Gloucester Place, W.1.	Welbeck 9966
FASS	Federation of 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.	Chancery 7583
FPC	The Federation of Painting Contractors, St. Stephen's House, S.W.1.	Whitehall 3902
FRHB	Federation of Registered House Builders. 82, New Cavendish Street, W.1.	Langham 4341
GBPA	Gypsum Building Products Association, 11, Ironmonger Lane, E.C.2.	Monarch 8888
GC	Gas Council. 1, Grosvenor Place, S.W.1.	Sloane 4554
GG	Georgian Group. 16, Hanover Square, W.1.	Mayfair 5454
HC	Housing Centre. 13, Suffolk Street, Pall Mall, S.W.1.	Whitehall 2881
IAAS	Incorporated Association of Architects and Surveyors. 29, Belgrave Square, S.W.1.	Belgravia 3755
ICA	Institute of Contemporary Arts. 17–18, Dover Street, Piccadilly, W.1.	Grosvenor 6186
ICE	Institution of Civil Engineers. 1, Great George Street, S.W.1.	Whitehall 4577
IEE	Institution of Electrical Engineers. Savoy Place, Victoria Embankment, W.C.2.	Temple Bar 7676
IES	Illuminating Engineering Society. 32, Victoria Street, S.W.1.	Abbey 5215
IGE	Institution of Gas Engineers. 17, Grosvenor Crescent, S.W.1.	Sloane 8266


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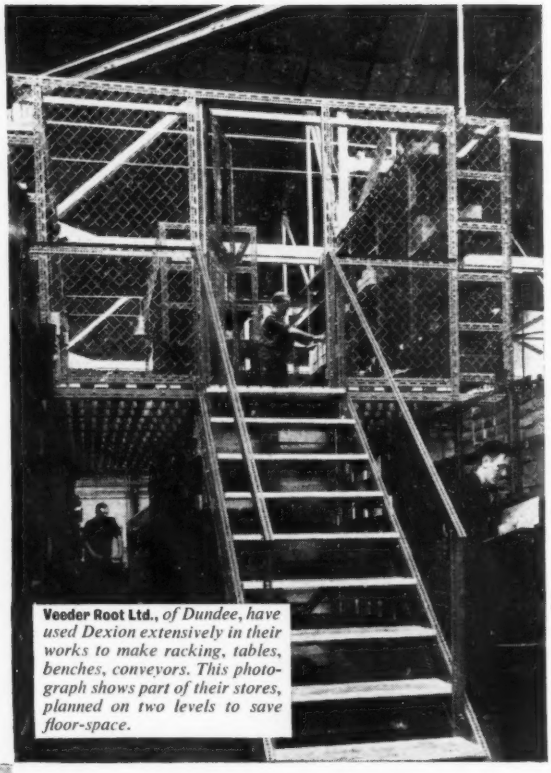
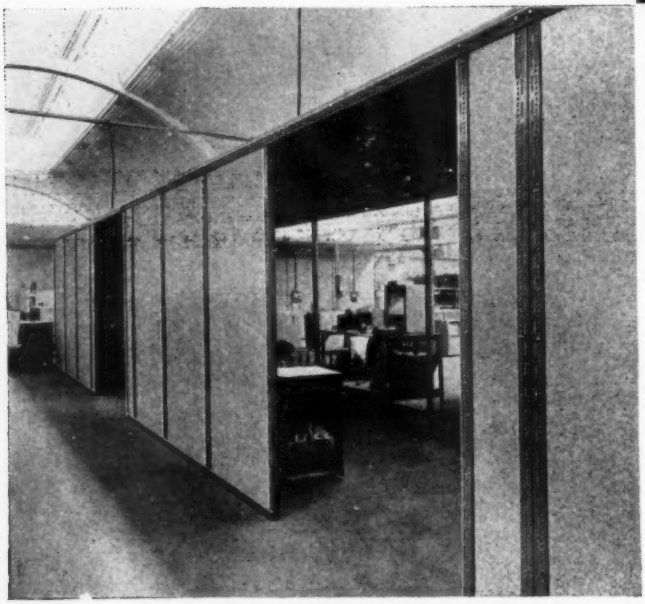


Veeder Root Ltd., *of Dundee, have used Dexion extensively in their works to make racking, tables, benches, conveyors. This photograph shows part of their stores, planned on two levels to save floor-space.*



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.*

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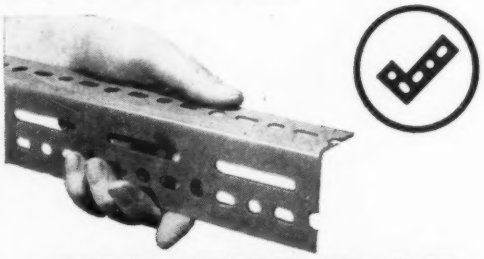

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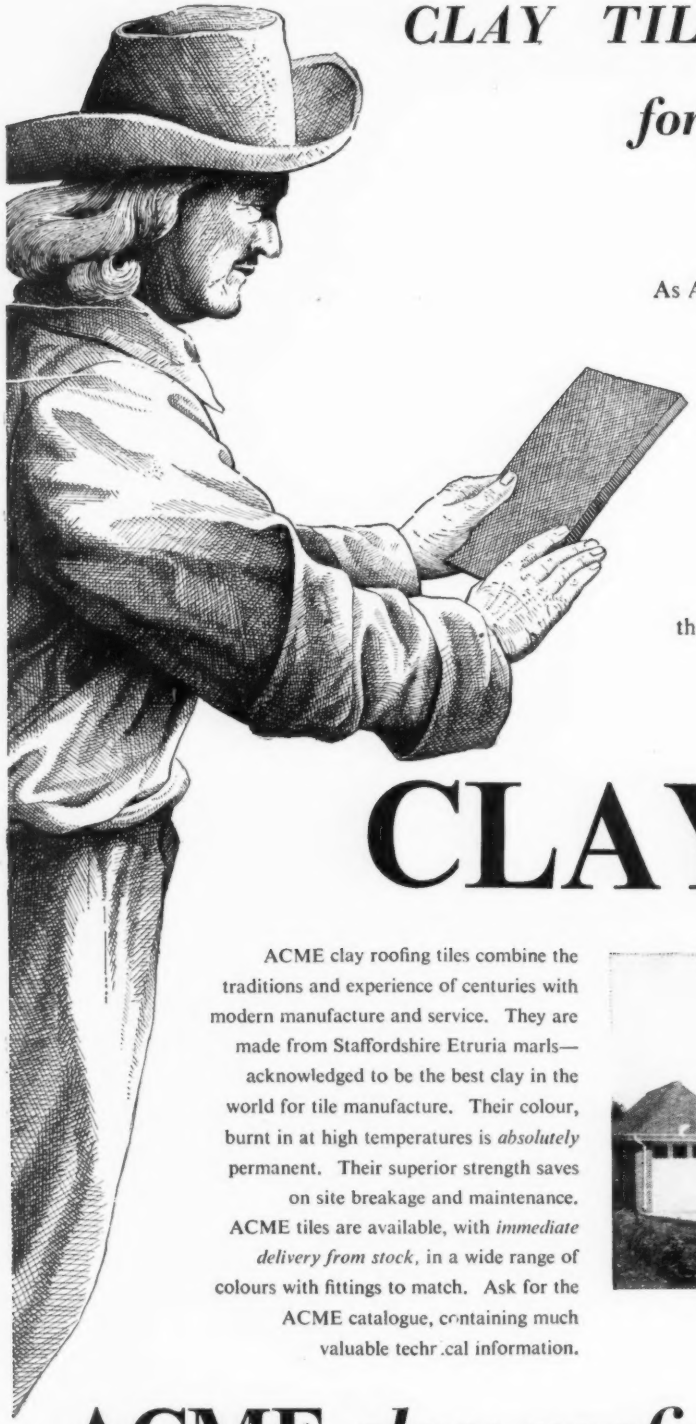

CLAY TILES —

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.

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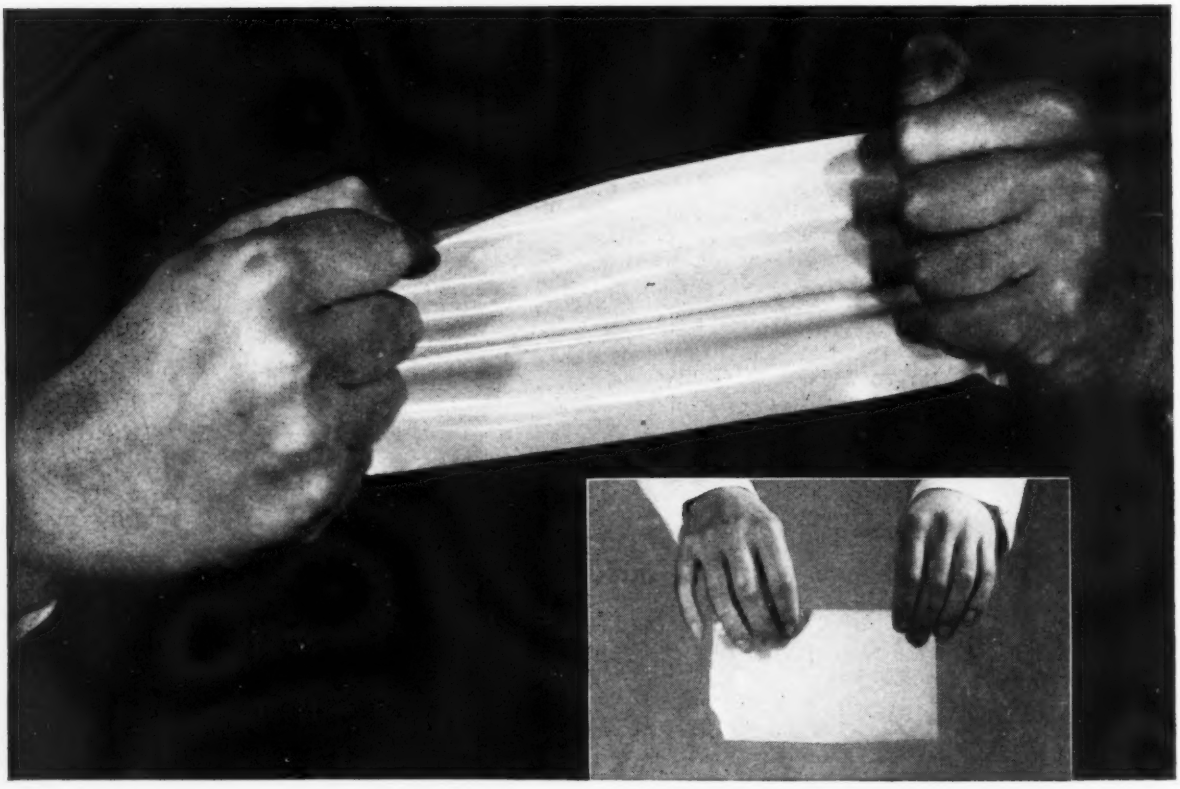
★ *Quoted from Ministry of Fuel and Power Bulletin No. 12 and based on a 5,000 hours heating period.*

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 KINGSTON paints

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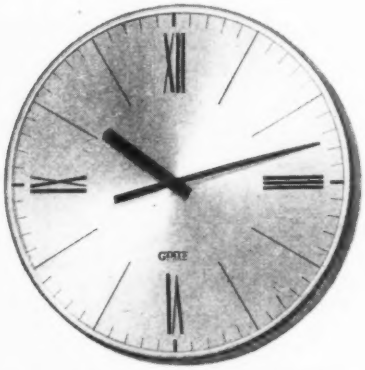
The dial of this model is natural sunburst aluminium with black Gill Sans chapters and black hands. 9" or 12" dials.



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

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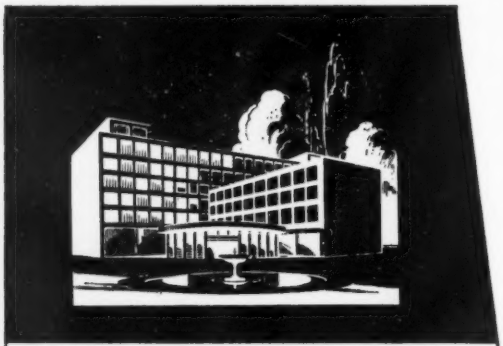

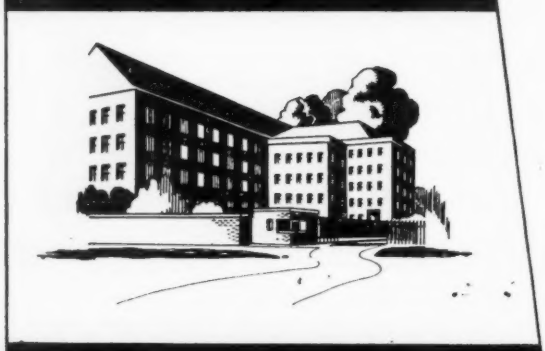

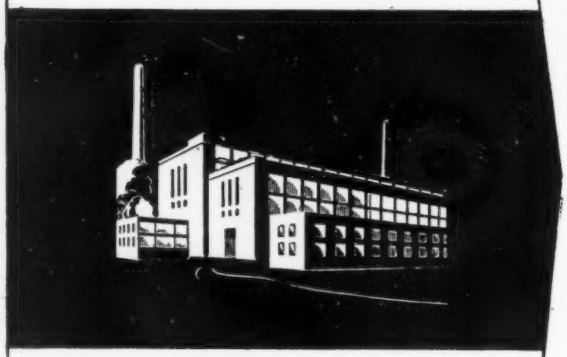

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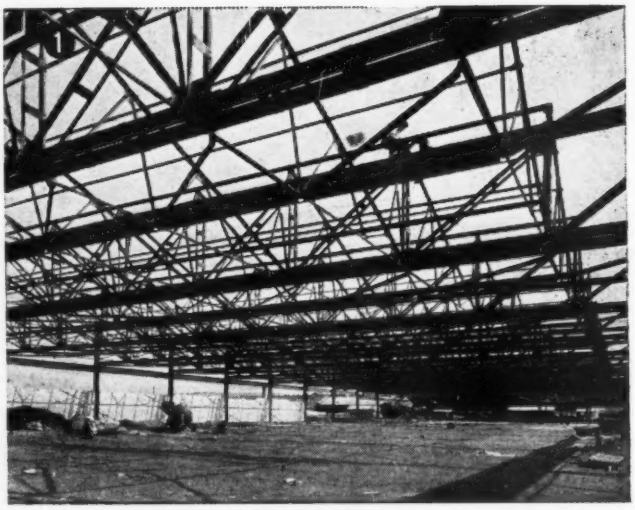
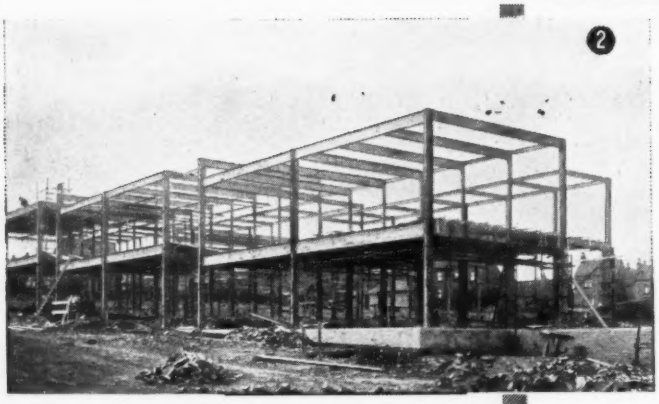
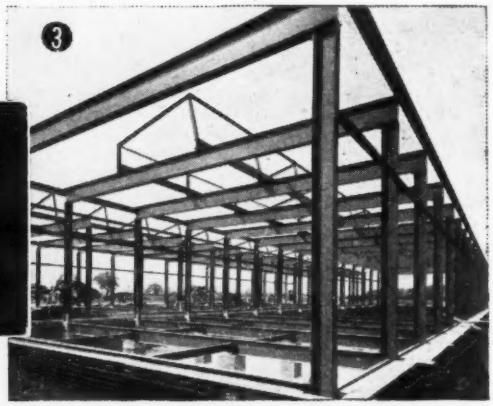




1. New factory building for Messrs. William Cooke & Sons of Rotherham. 300 ft. x 120 ft. span.
2. The County Primary School, Crosland Moor, Huddersfield.
3. College of Further Education, Grimsby, in course of erection.
4. The completed College.



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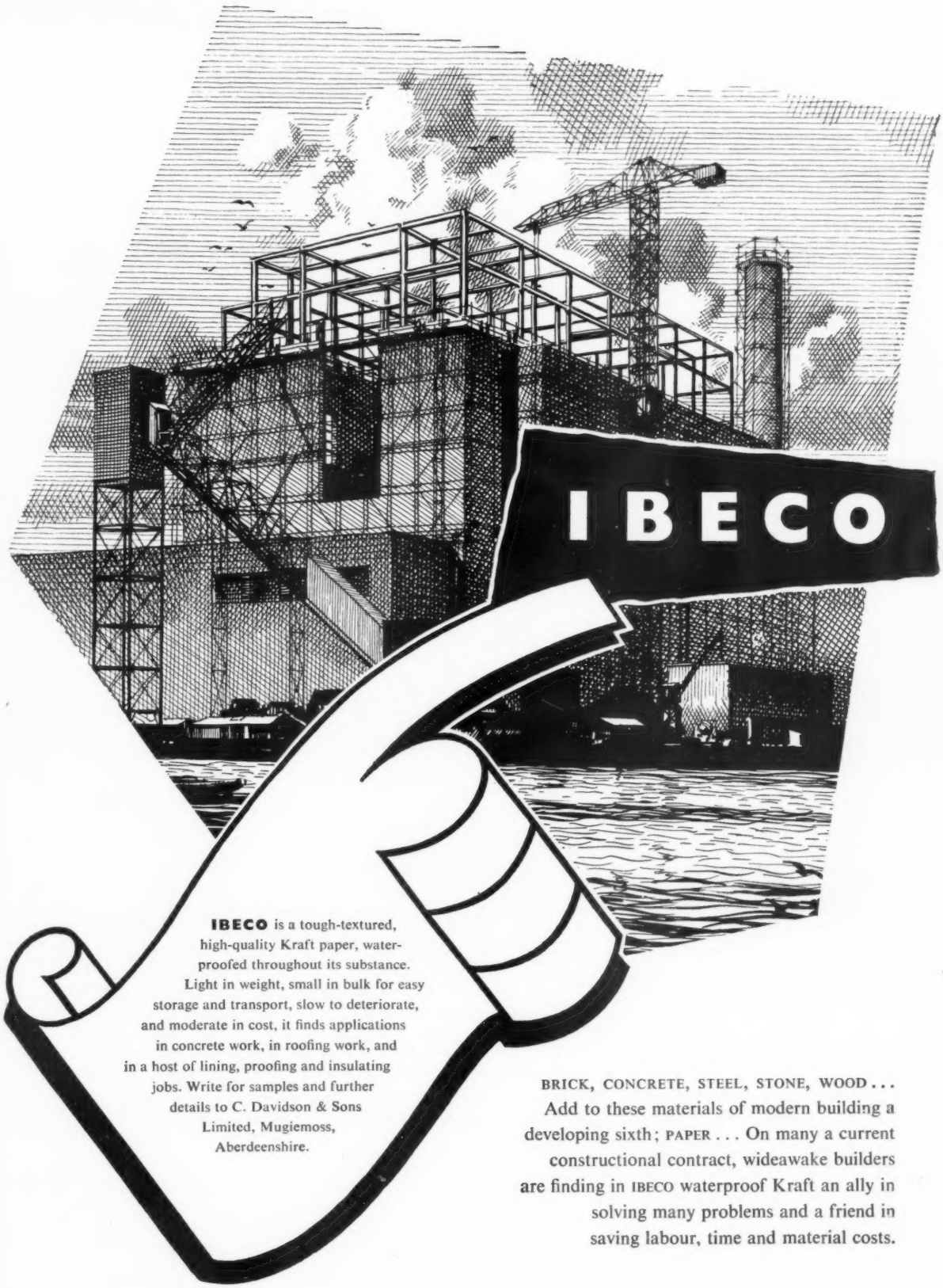

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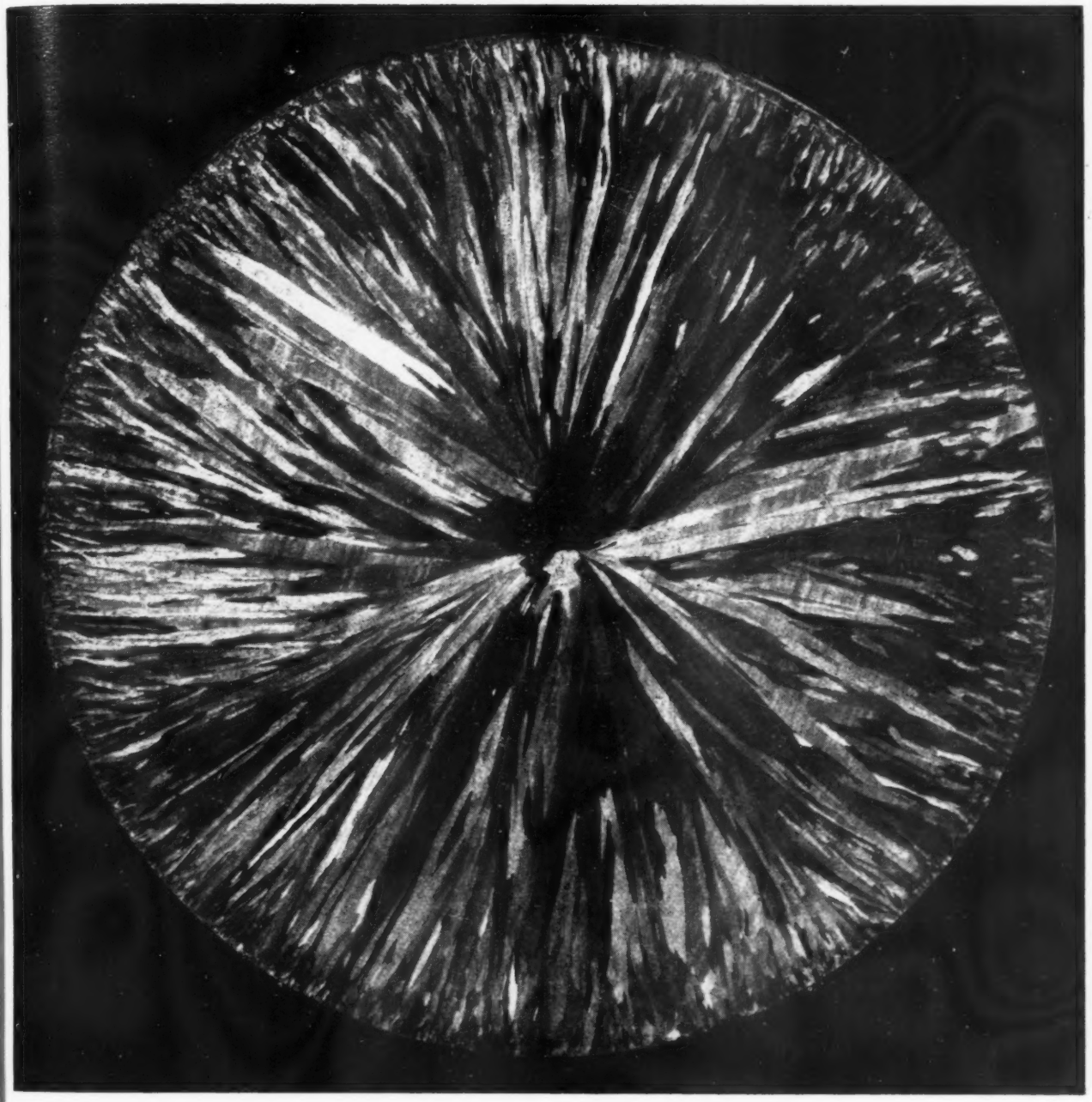

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Architect:
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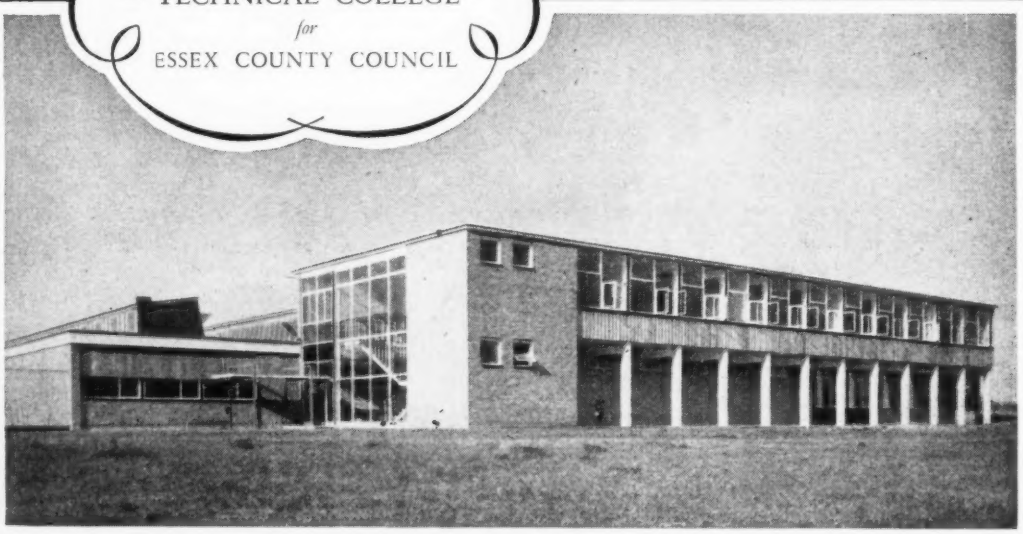

THURROCK TECHNICAL COLLEGE, recently completed by Richard Costain Limited, is contemporary in design and decorated in a variety of pastel shades. It has been equipped to provide training in mechanical and electrical engineering, and for the various craft courses of the City and Guilds of London Institute. 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.

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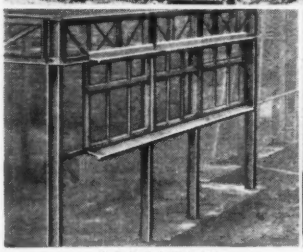
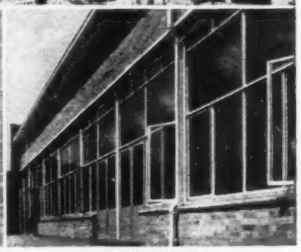
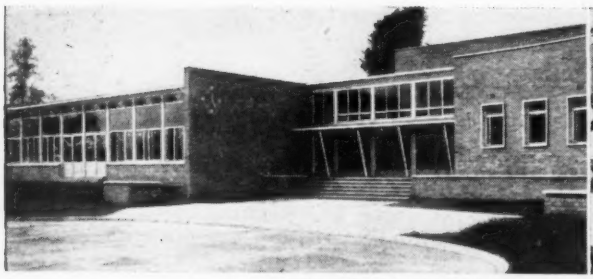


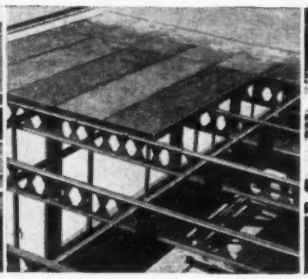
PRESSINGS



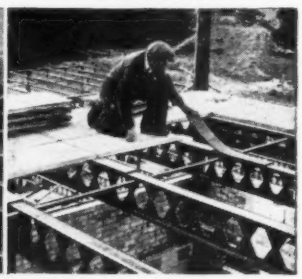
WINDOWS



A main entrance and classroom block

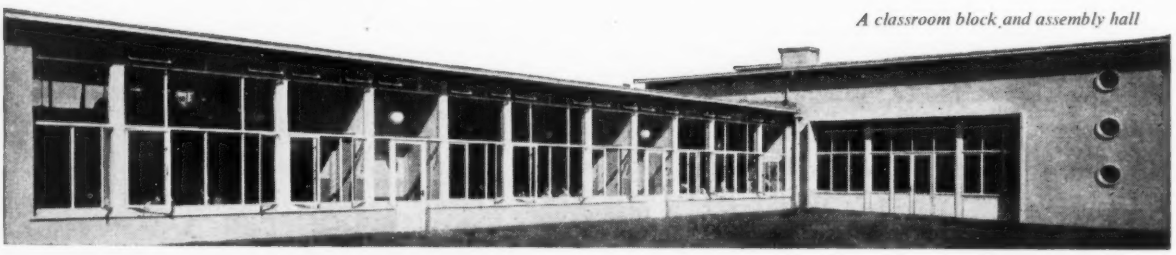


ROOFS



FLOORS AND CEILINGS

A classroom block and assembly hall



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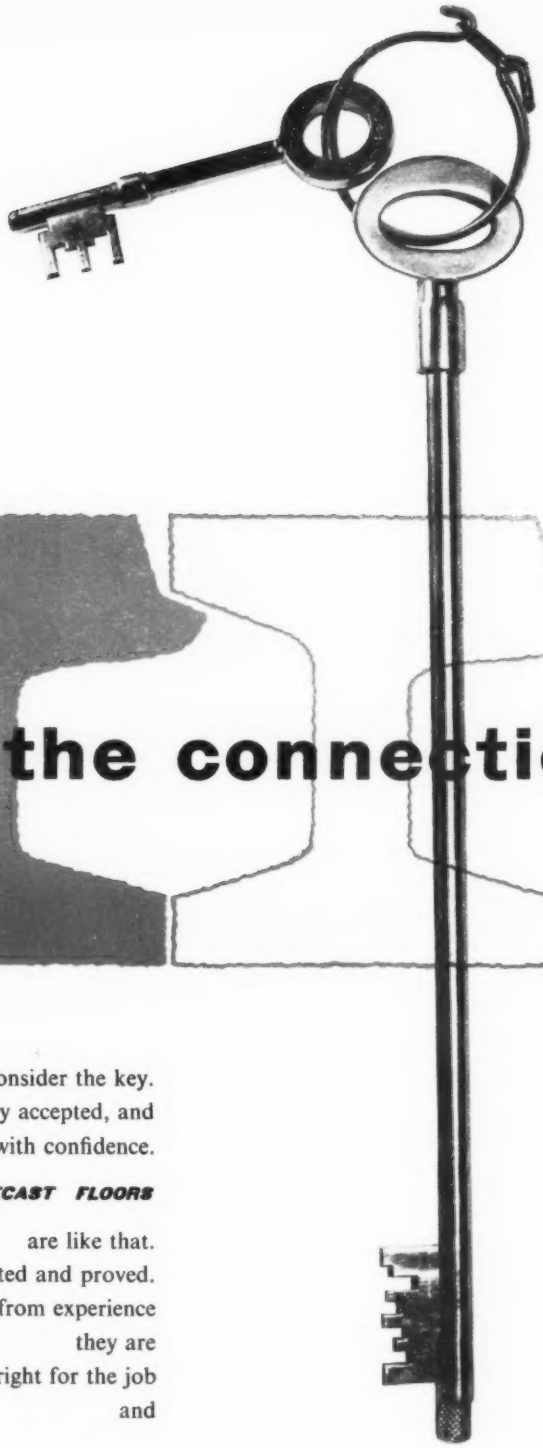

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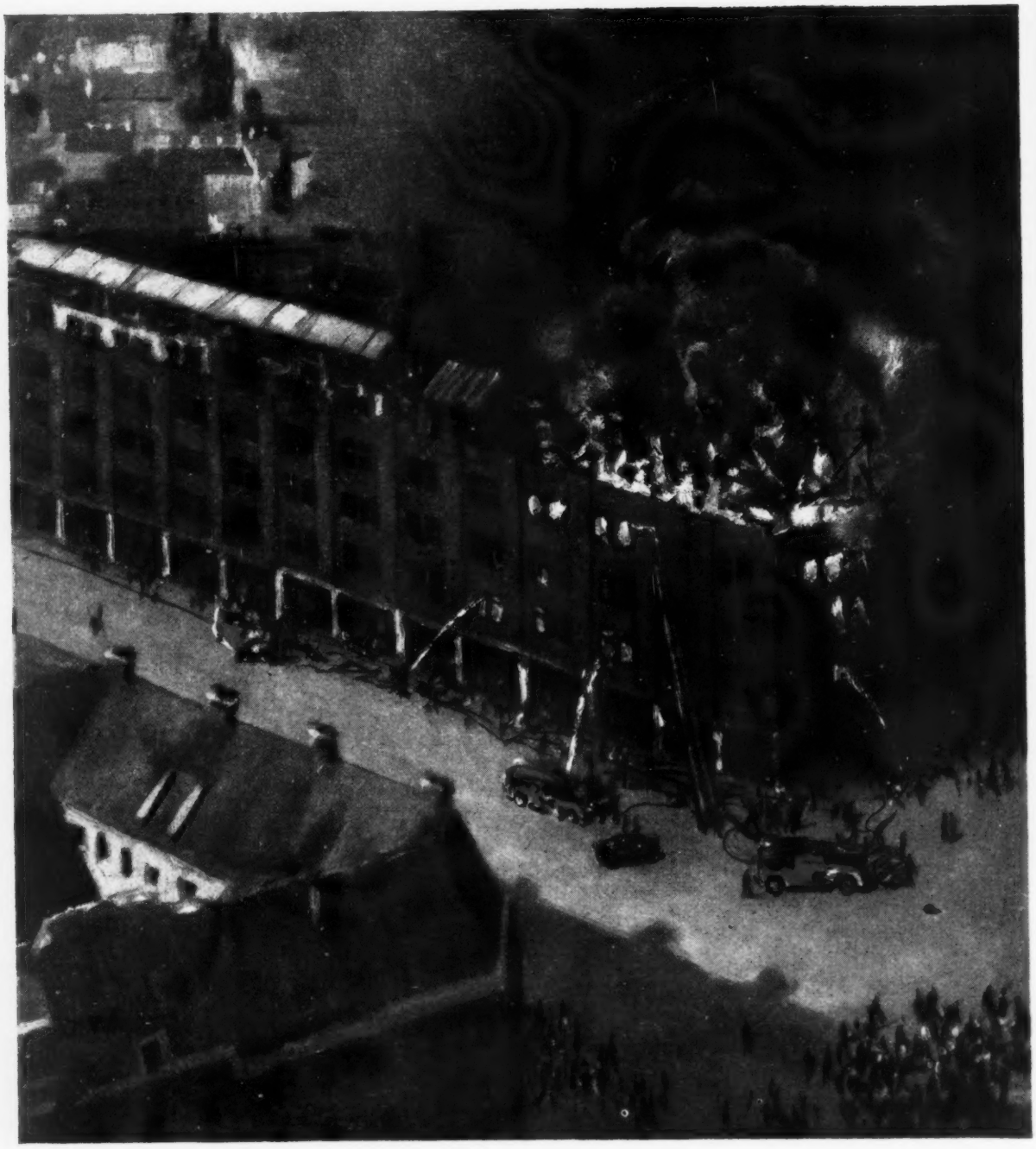

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One of the most costly fires in recent years occurred in March last year at a large Birmingham warehouse. Practically the whole of the building was destroyed despite the prompt arrival and intensive attack of the City Fire Brigade.

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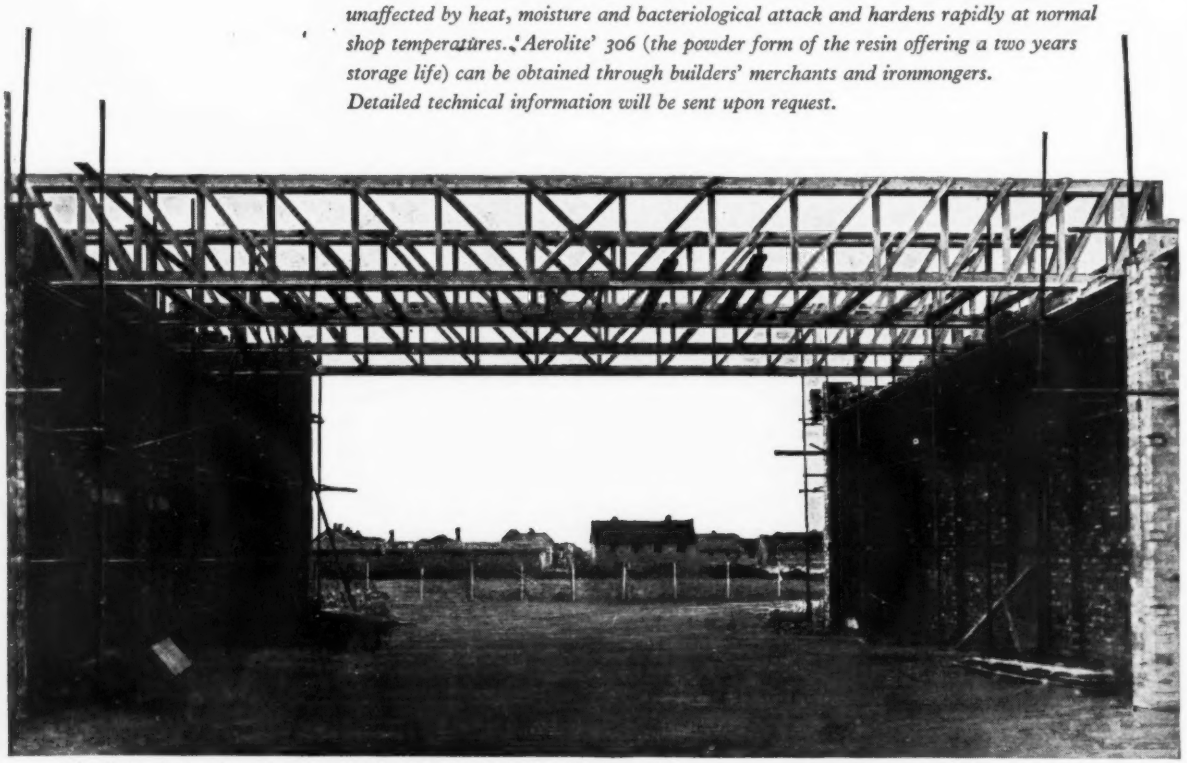

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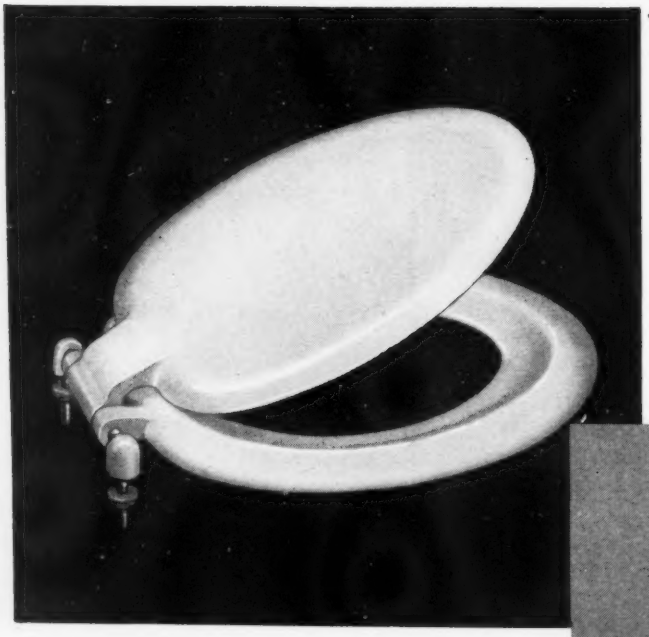

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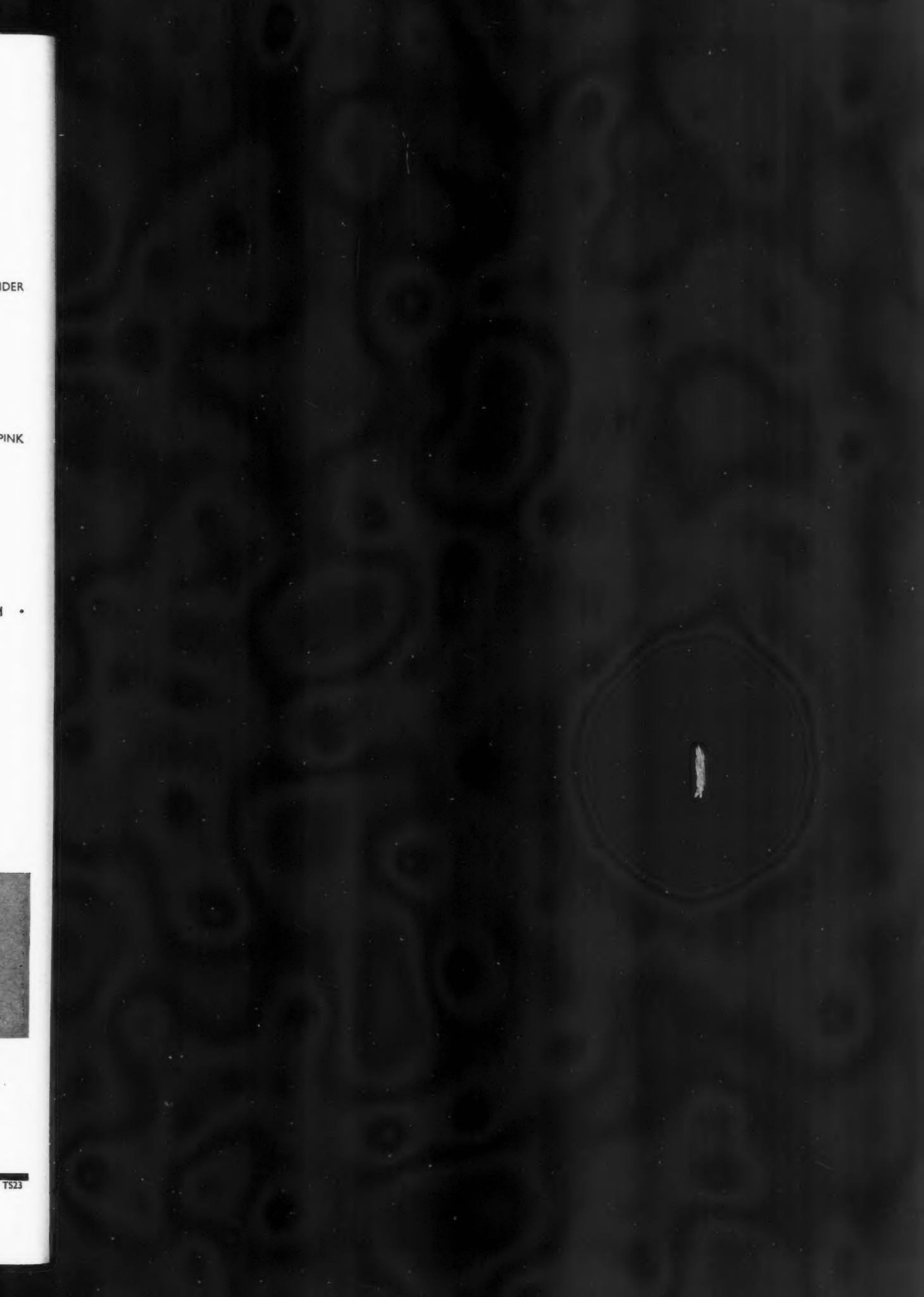

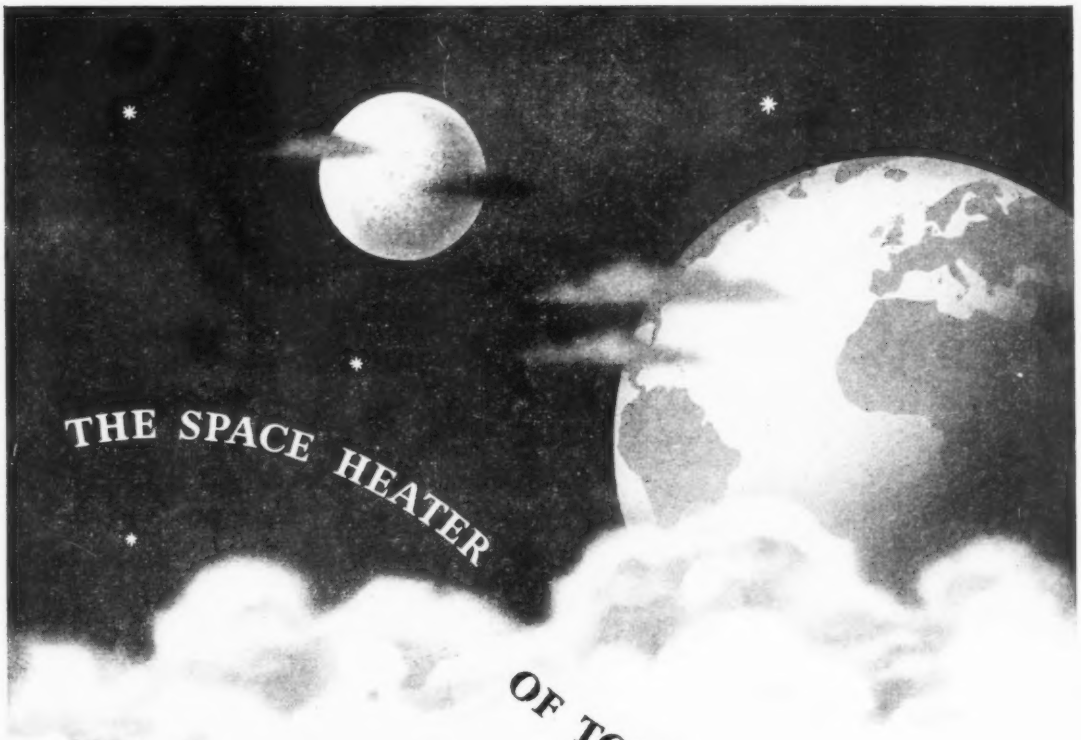

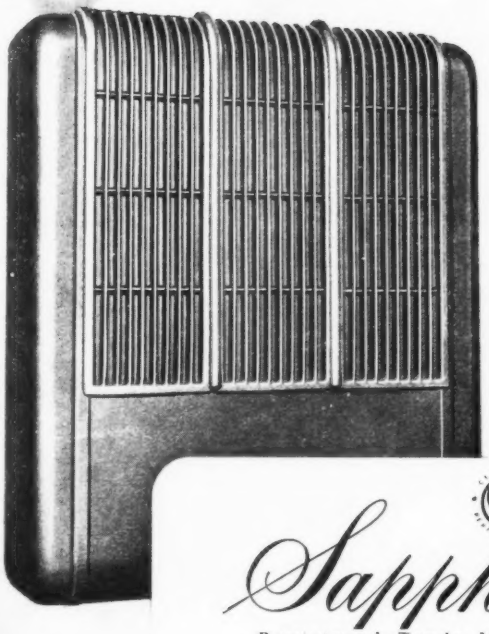

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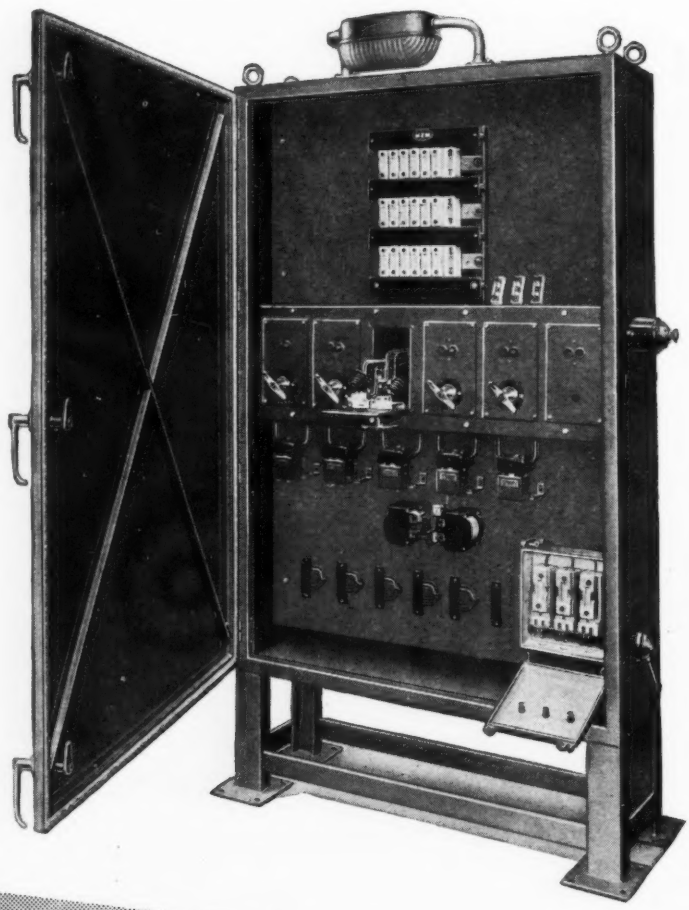

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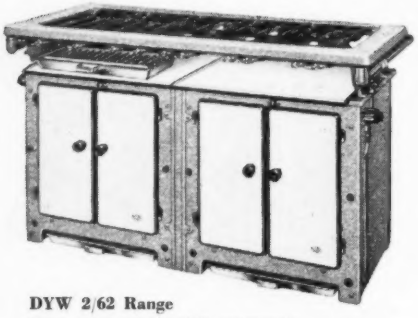

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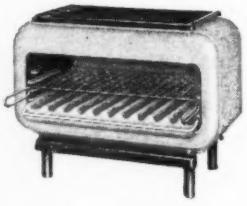
The extensive range of Main large-scale cooking appliances covers the specific requirements of every type of catering establishment. Highly efficient in use and economical on gas consumption, Main appliances are strongly constructed to withstand continuous heavy usage .... When it's a question of kitchen equipment, consult R. & A. Main, Ltd.

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.



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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.

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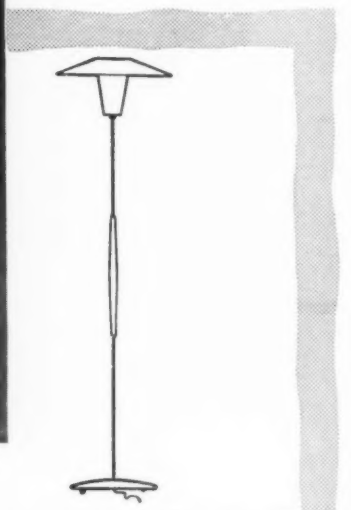

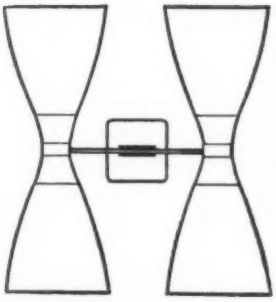

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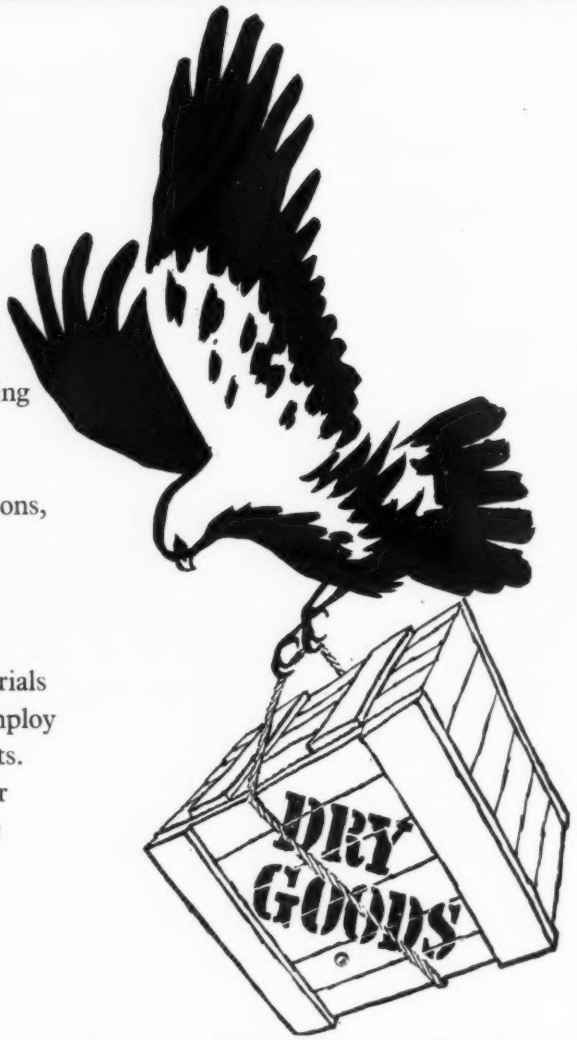

Tons of water are put into the average house during erection. When complete, it needs much making good before it is handed over. Then the new occupant lives warily amid his temporary decorations, waiting through the first damp months with considerable anxiety and harassing the builder when something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

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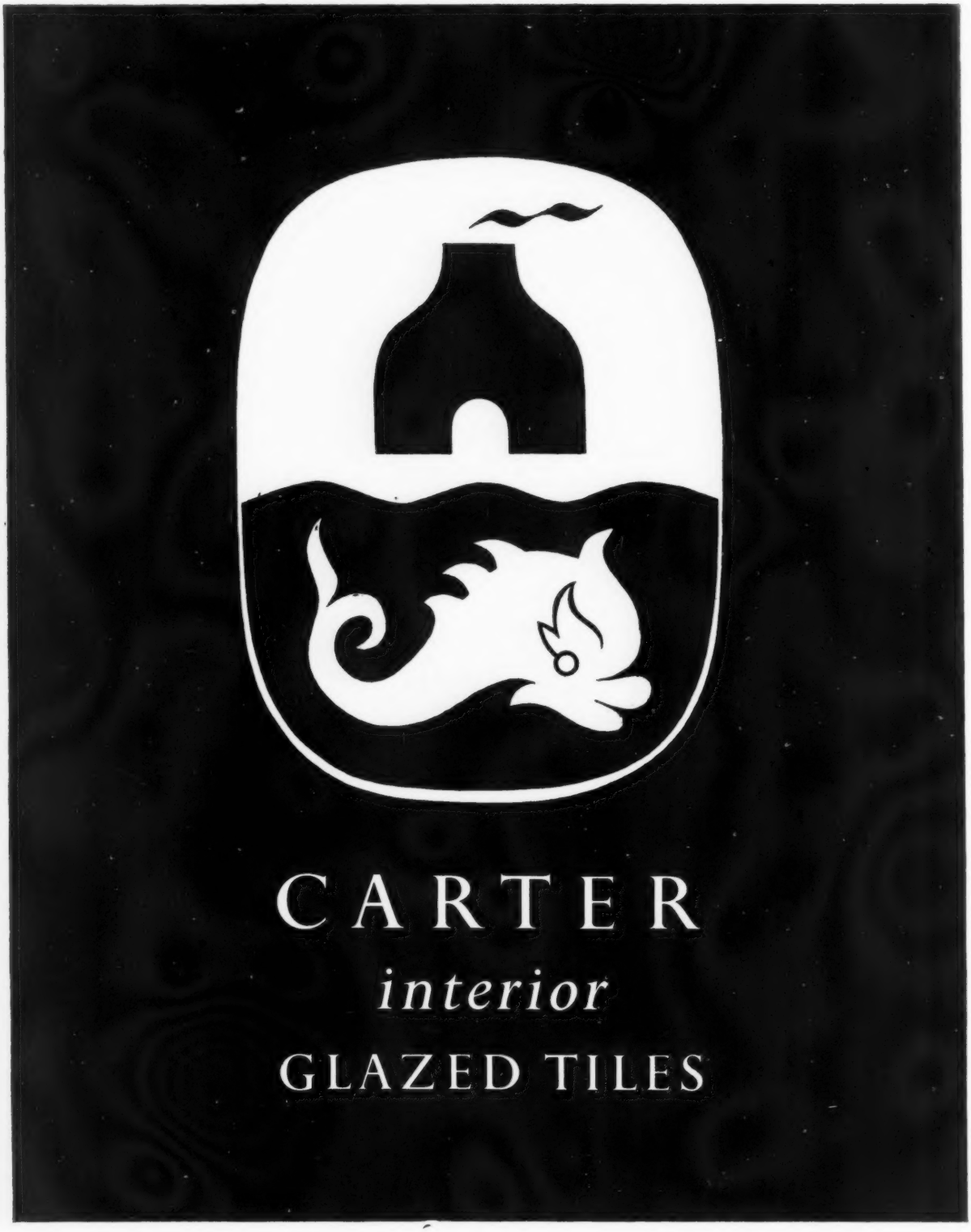

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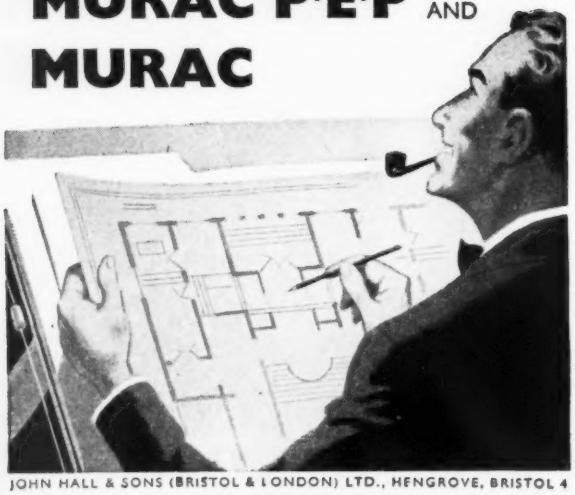

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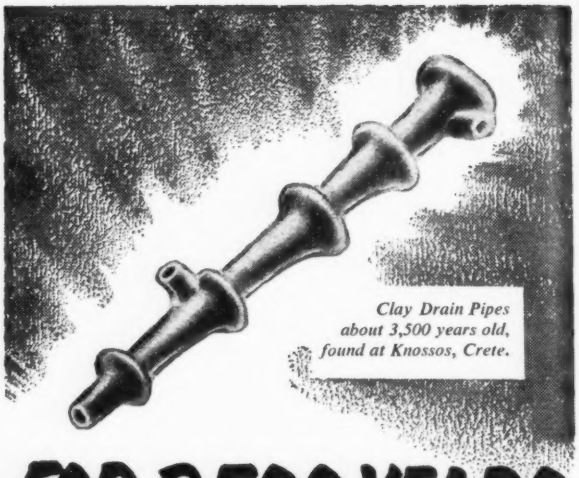

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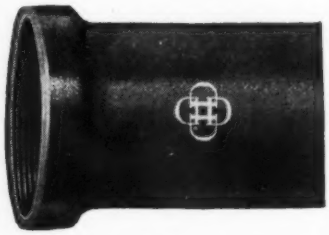

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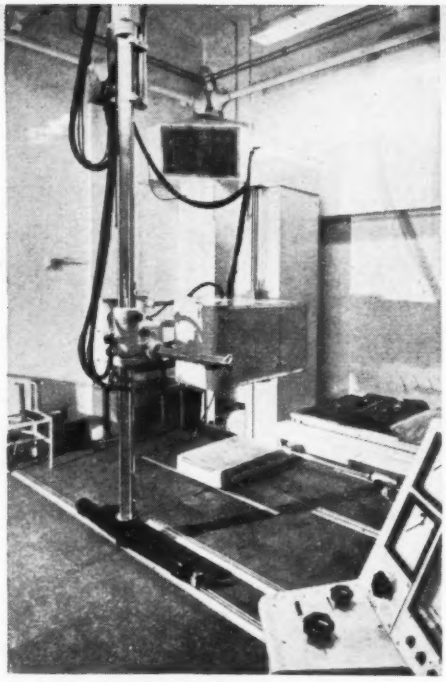
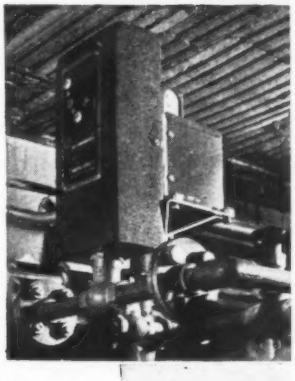


Part of X-Ray Diagnostic Department at Westminster Hospital.

Electronic Control Panels in Plant Room.



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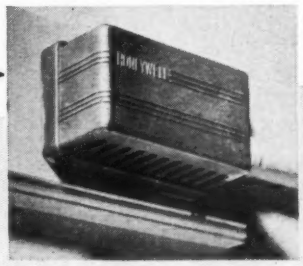

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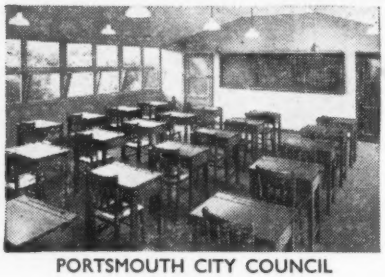

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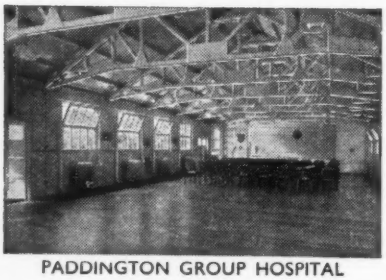

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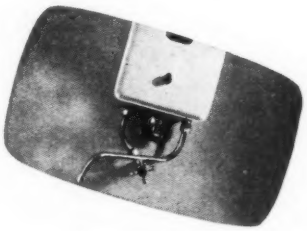

ISSUED BY THE GAS COUNCIL

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

Bulk tinting of paint with a high-speed mixer.

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.

International Paints Ltd.

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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, ¼" radius cove.

Armstrong Cork Company Ltd.
Flooring Department,
Bush House, Aldwych, London W.C.2.
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.

PILKINGTON BROTHERS LIMITED

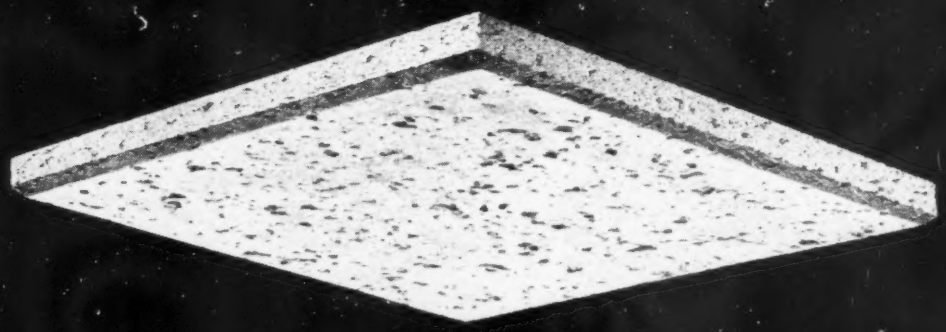
CONSULT THE TECHNICAL SALES AND SERVICE DEPARTMENT AT ST. HELENS, LANCS. (TELEPHONE: ST. HELENS 4001), OR SELWYN HOUSE, CLEVELAND ROW, ST. JAMES'S, LONDON, S.W.1 (TELEPHONE: WHITEHALL 5672-6). SUPPLIES ARE AVAILABLE THROUGH THE USUAL TRADE CHANNELS. "Vitrolite" is a registered trade mark of Pilkington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

D

THE ARCHITECTS' JOURNAL (Supplement) May 10, 1956

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	0.90
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					

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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.
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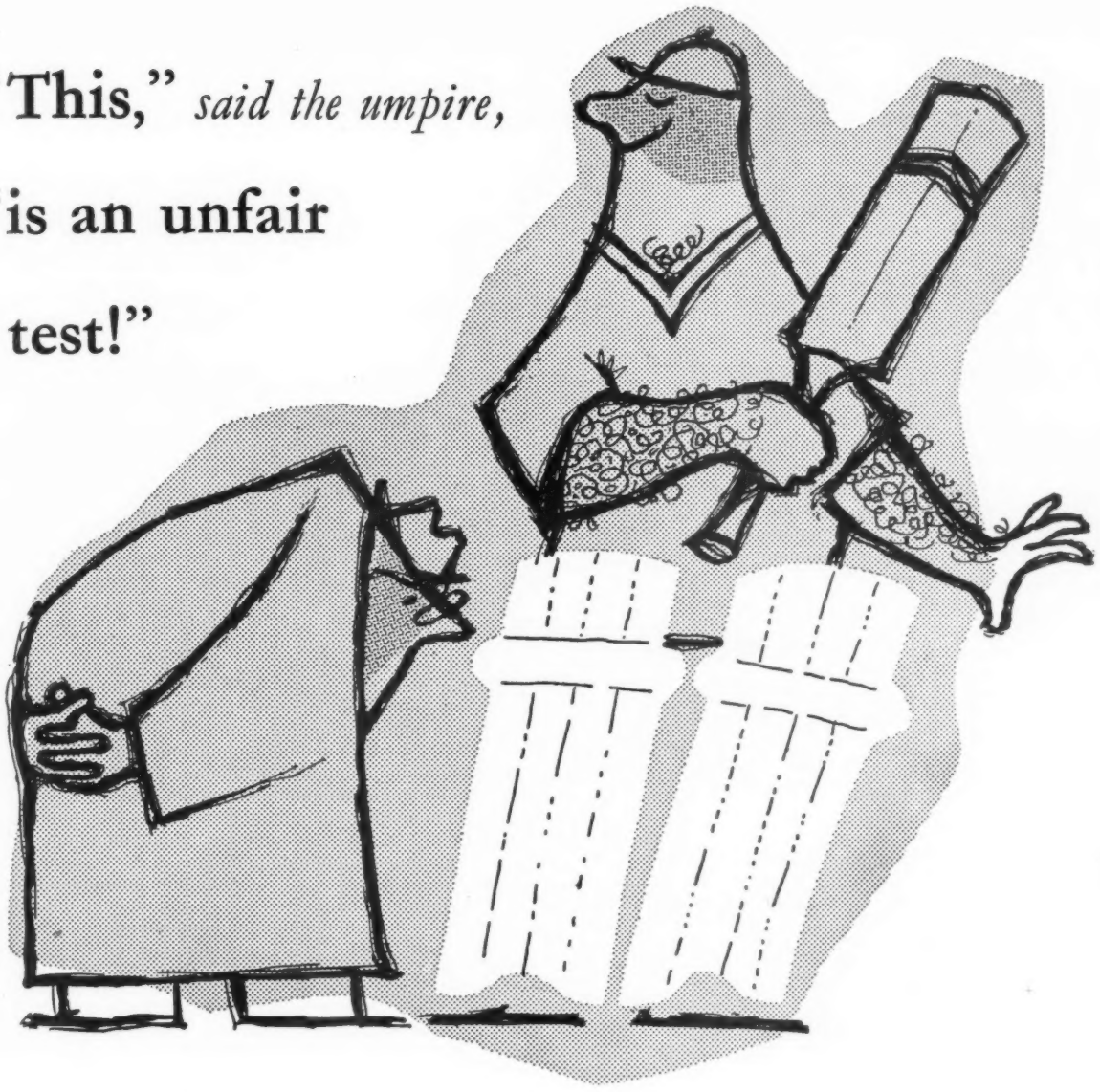
London Office: Bath House, 82 Piccadilly, London, W.1. *Telephone:* Grosvenor 4617-9.

GT.1

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

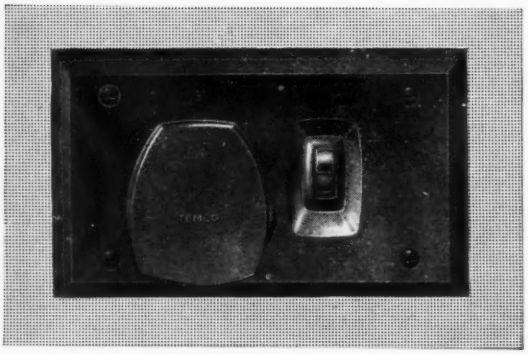


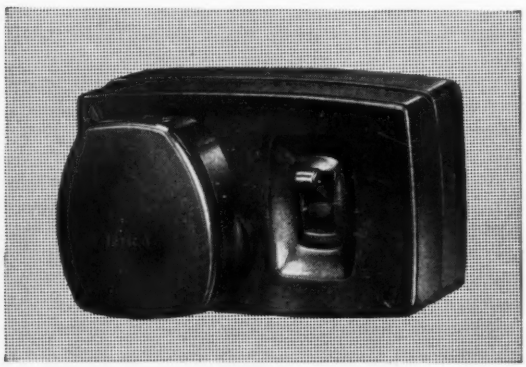
From the first ball of the season to the last, the pads
that protect the cricketers of a Home Counties club would do credit to a soap advertisement.
Yet they are whitened only once a year. Stains and ball marks wipe off time and time again.
The secret is that someone has discovered yet another unofficial 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

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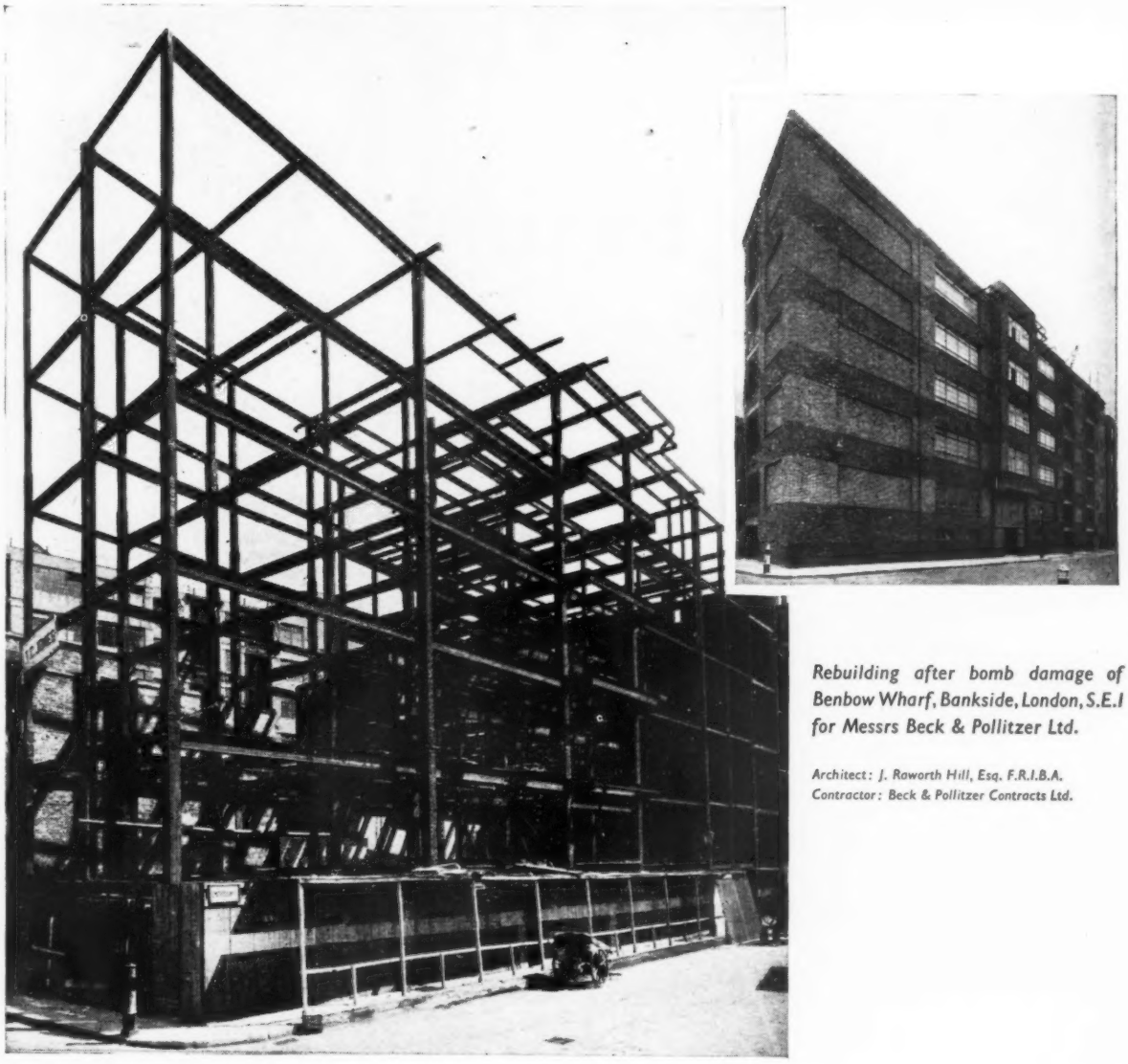

Rebuilding after bomb damage of Benbow Wharf, Bankside, London, S.E.1 for Messrs Beck & Pollitzer Ltd.

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

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by

T.C.JONES

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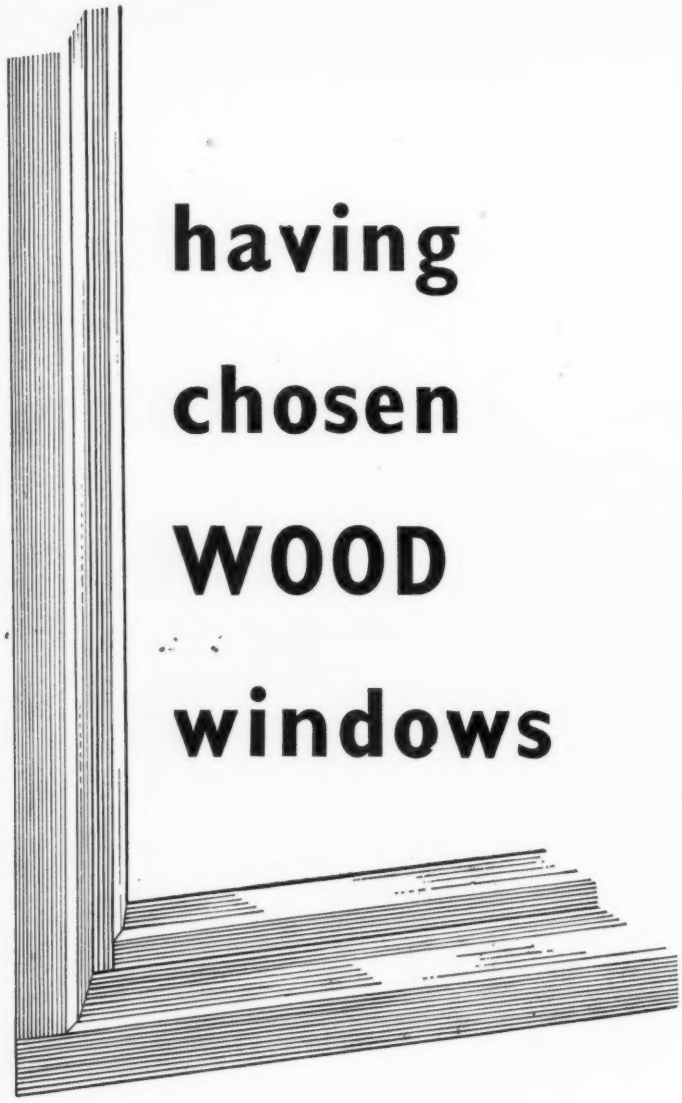

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3. Ambulance Station, Kingswinford.

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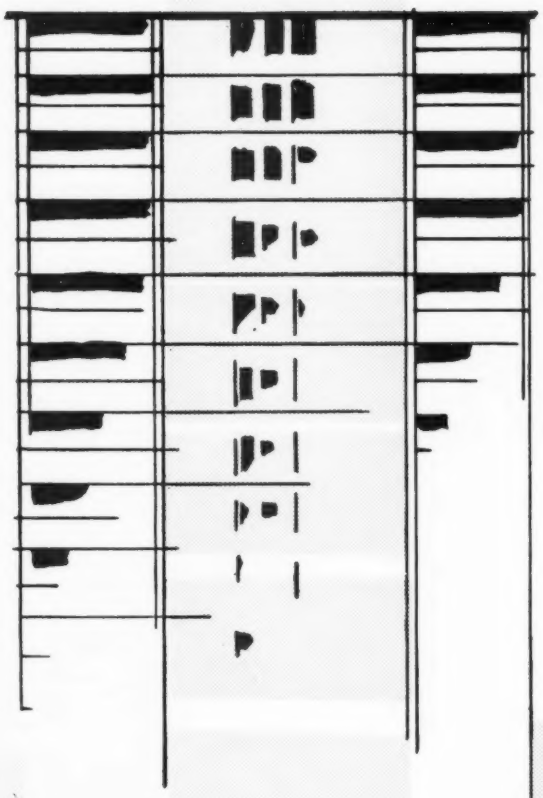

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CROSS-WALL CONSTRUCTION
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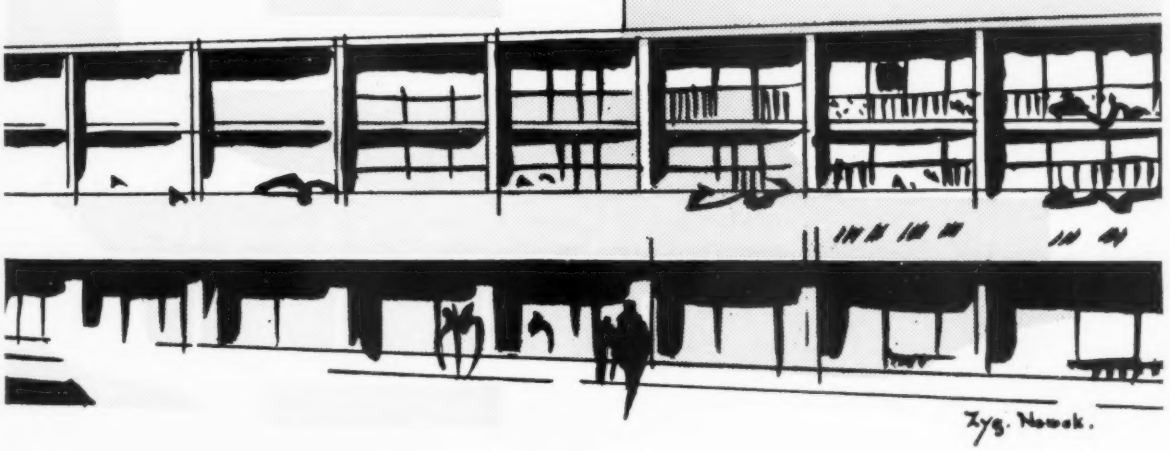
Are helping to lower costs.



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

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″

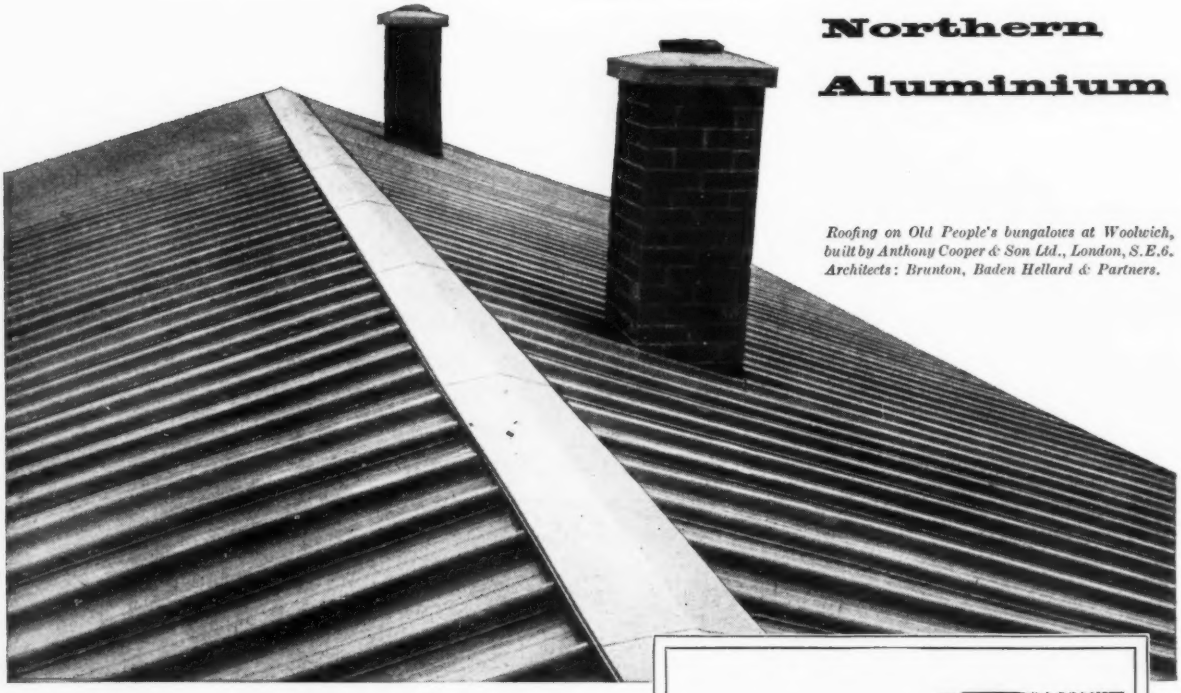
Standard Aero Beams are designed in accordance with C.P.112 to carry a maximum all-up load of 425 lb. per foot run. Beams can be supplied to any reduced load required. They can be used in conjunction with any lightweight roofing materials.

Full details and prices will gladly be given on request.

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

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

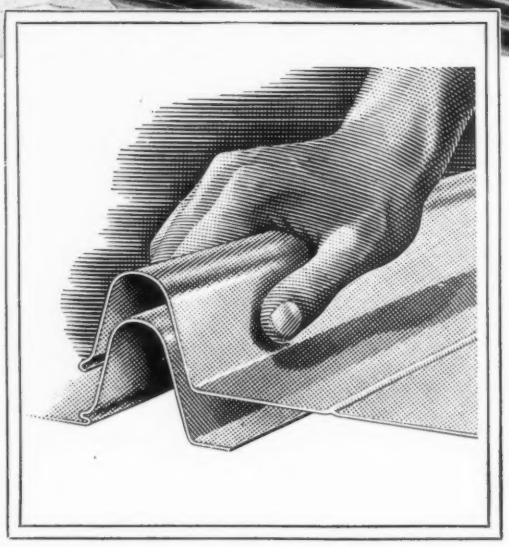


Roofing on Old People's bungalows at Woolwich, built by Anthony Cooper & Son Ltd., London, S.E.6. Architects: Brunton, Baden Hellard & Partners.

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.



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An ALUMINIUM LIMITED Company

FILLEX

Dockers new general purpose filler

(ready mixed)

1 Fillex being applied over brickwork

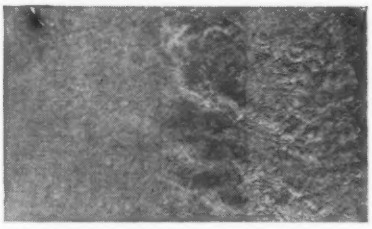
Here is a NEW general purpose filling compound, designed specially for the decorator.

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.

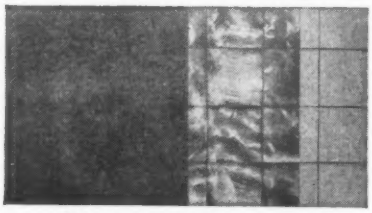
FILLEX

- **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

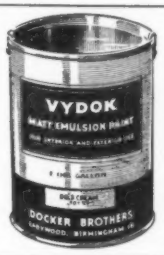


3 Application of Fillex to tiled surface

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.

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First impressions are important —

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

A good beginning — impressive to the end.

Ceramic TILES

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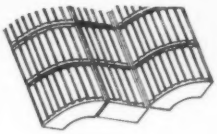
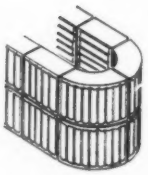
IDEAS

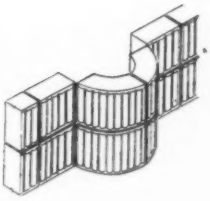
spring from HOLLOW

GLASS

BLOCKS







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

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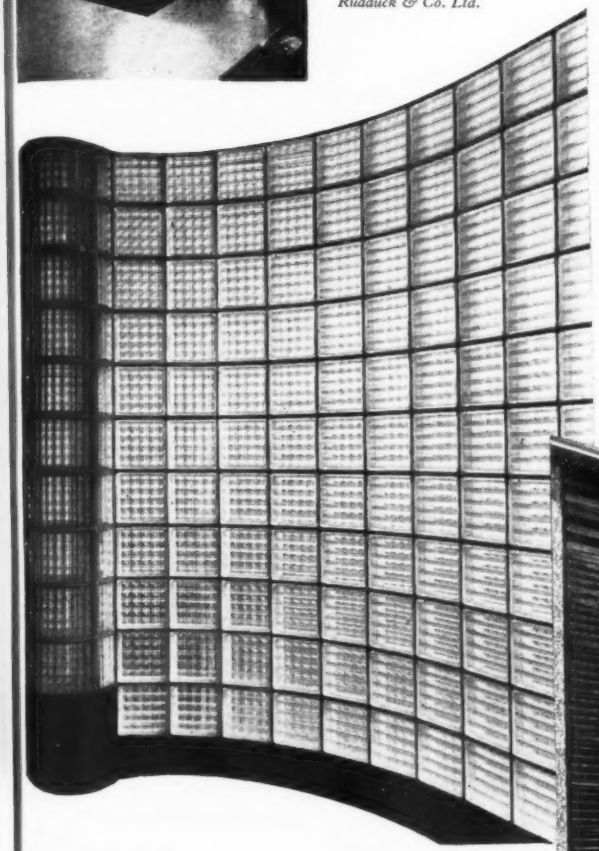
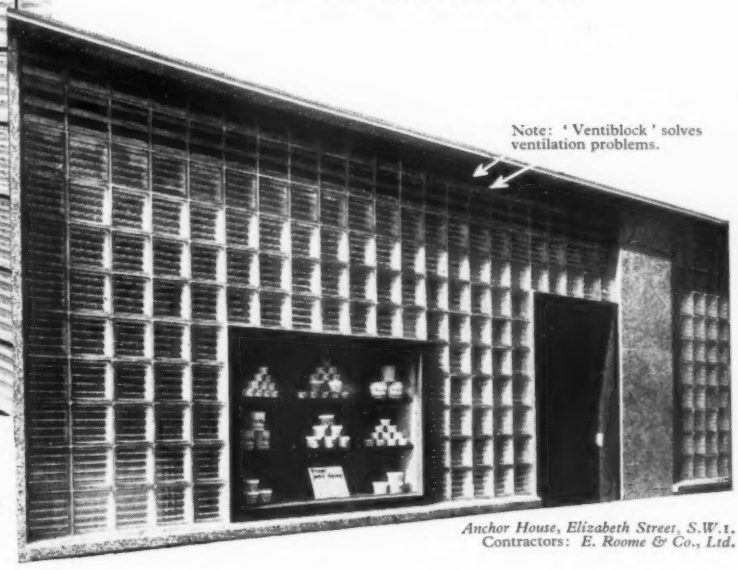


Hollow Glass Blocks at Victoria Coach Station, S.W.1.

Note application of corner blocks to form column.

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



Note: ' Ventiblock ' solves ventilation problems.

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

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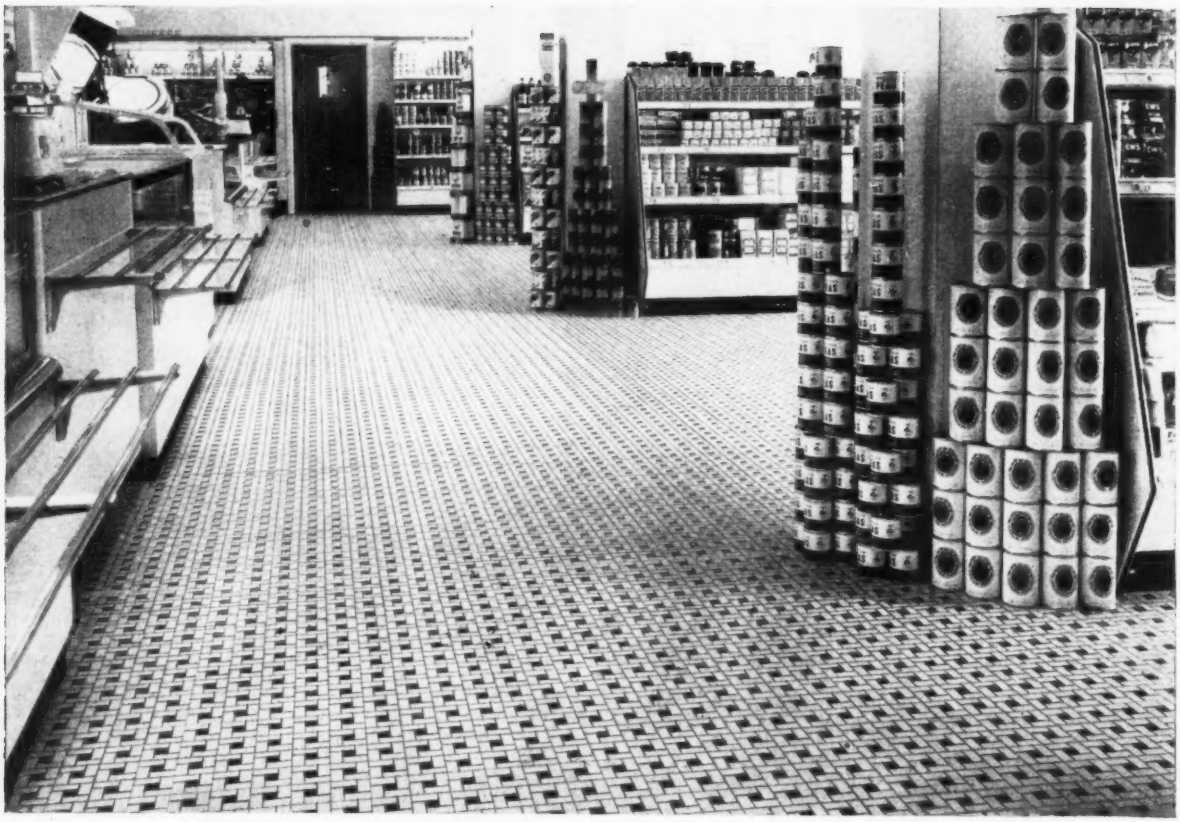
SEE OUR EXHIBIT AT THE BUILDING CENTRE



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.

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.

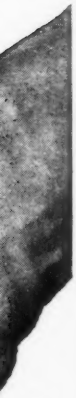
Finally, to seal this rustproofed surface, the window is passed through a zinc chromate primer bath and stoved at a controlled temperature of 400°F. Builders should note, therefore, that no additional priming coat is ever necessary with a Beacon Window. After installation it is ready to receive its finishing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

Stage 2
Applying the zinc coating

BEACON
METAL WINDOWS

Member of the Metal Window Association

JOHN THOMPSON BEACON WINDOWS LTD · WOLVERHAMPTON



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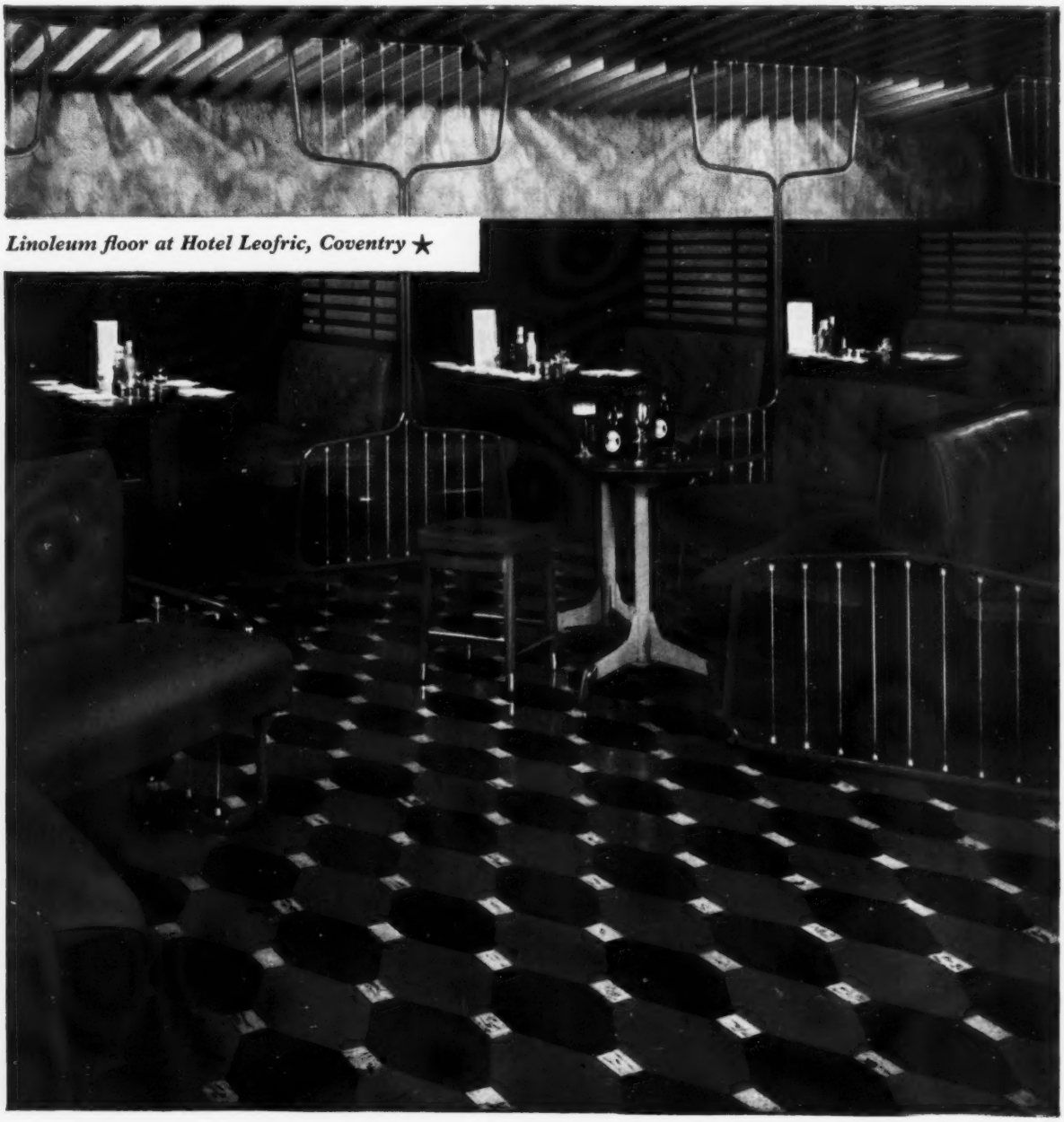

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THE ARCHITECTS' JOURNAL

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MOTOR RACING:

1, 2, 3, 4 . . .
GREEN!

Last Saturday's International Trophy Race at Silverstone

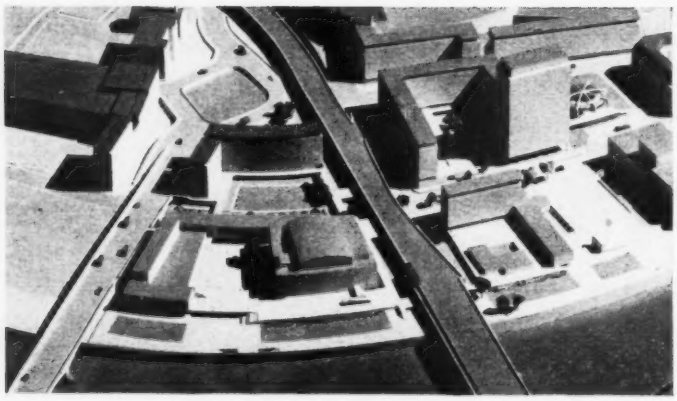
The newspapers have given the facts—that British cars finished in the first four places. But a hundred and ten thousand people don't go to Silverstone's subtopian acres for the statistics—motor-racing, like architecture, is still more a sport than a science, and the "how" tends to be more interesting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

x model, and top. cks have This may conomic intimate the tall foot high kyline to t answer re tower sive but London ork—the block— edestrian x Exhibi- not been

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

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 contact 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 step 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 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).

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.*

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 Shepheard on trees in towns: which types of tree to plant, and what to do with them when they are planted. Peter Shepheard'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

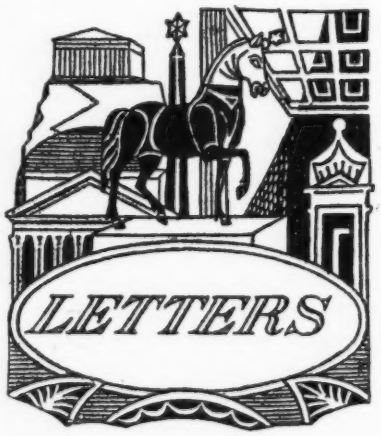
Two good talks on architecture on the wireless over last week-end kept ASTRAGAL happily enjoying a busman's holiday. The first was in the form of a discussion between J. M. Richards and Walter Gropius. The second a comment by Nikolaus Pevsner on Holford's proposed setting for St. Paul's. In the first 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 vaunted 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.

D. W. LLOYD.

Bristol.

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.

F. I. G. RAWLINS.

London.

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 redevelopment 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.

KEITH J. MCDONALD.

London.

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 intumescence* 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.

D. M. DANGERFIELD.

London.

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, æsthetics 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.

This article is based on a paper read before the Edinburgh Architectural Association.

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			10·8
Roof Construction	5 2	5 10·5	3 1·3
Roof lights	2	9·3	6·9
Metal Windows	4 4	5 4·9	6 0
External Doors			
Glazier	7	1 0·4	7·8
Internal Partitions	2 3	1 2·6	1 9·1
Screens	—	—	—
W.C. Doors and Partitions	2	4·3	7·1
Internal Doors	1 1	4·8	11·9
Ironmongery	9	3·1	10·2
Floor Finishes	3 1	4 7·6	1 11·2
Wall Finishes	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. × 1 ft. 9 in. R.C. channel gutter, 3 in. foamed slag screed, 2 layers felt roofing. Assembly Hall Roof:—metal decking, ½ in. insulafion board, 2 layer of felt roofing.
	Area 12,100 f.s.		
ROOF LIGHTS		1 3	Two skylights 6 ft. 0 in. × 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. × 8 ft. 0 in.
	Ratio Windows / F. 0·240		
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: 1⅜ in. flush, and 1⅞ 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

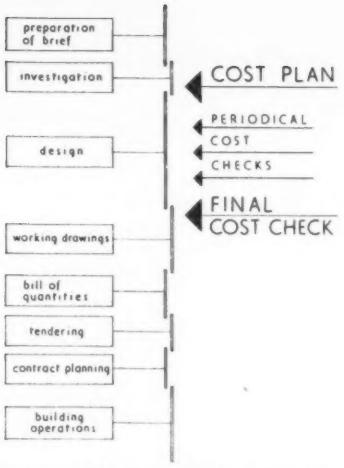


Fig. 4. Diagram showing the points in the programme of work where cost planning is employed.

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. Jeferiss 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 rebuilding 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 uphold 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 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 I 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 Kruschev 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, jigged 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 jigging 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 trialogue "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 in that house at Vaucresson. 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 Mende'sohn'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

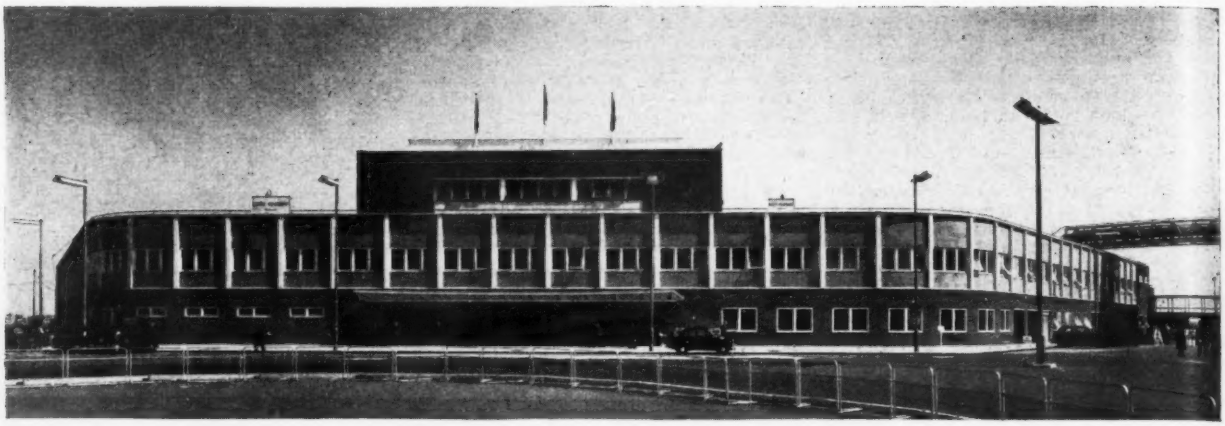
MAY 11 TO 15

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

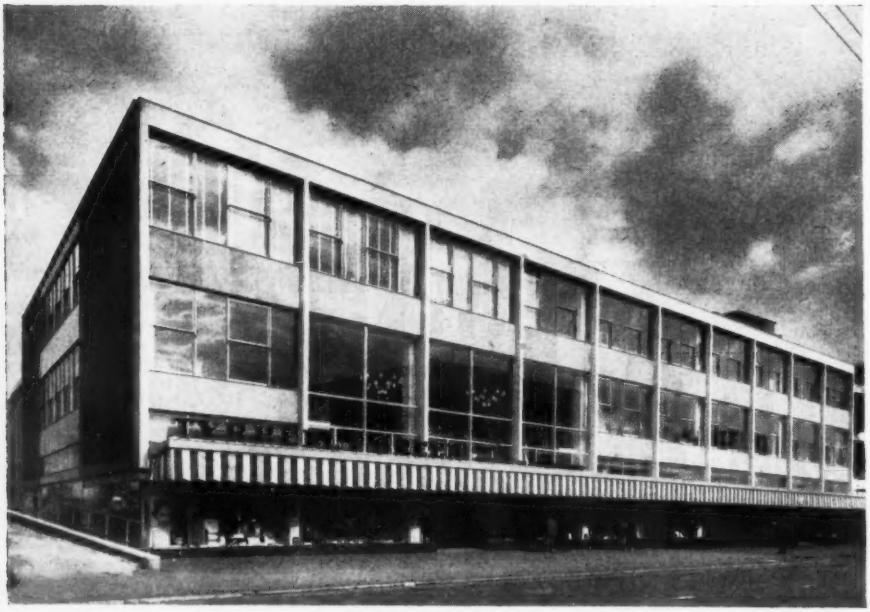
Burle Marx: Brazilian landscape architect. Exhibition at the ICA, 17, Dover Street, W.1. Monday to Friday 10 a.m.—6 p.m., Saturday 10 a.m.—1 p.m. UNTIL MAY 26

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.

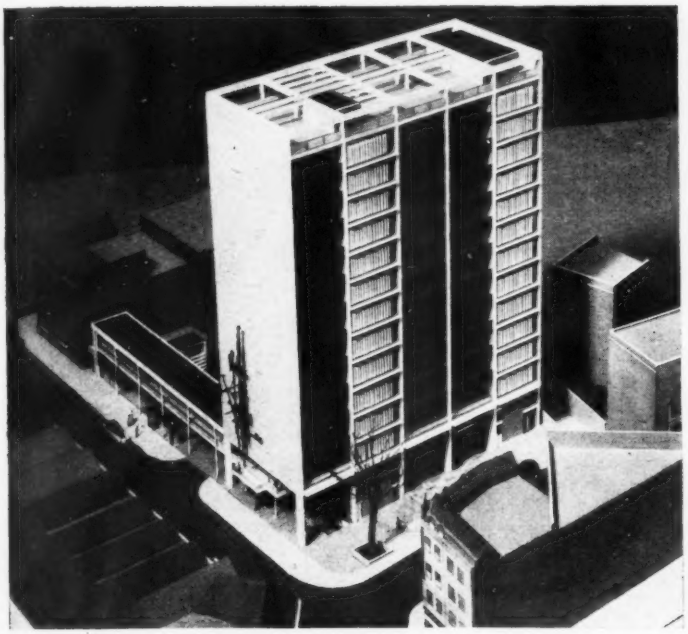


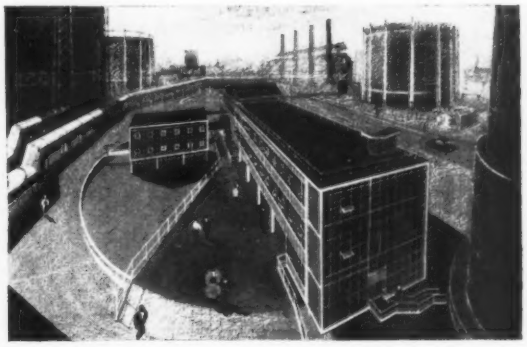
Department Store, at Southamptou

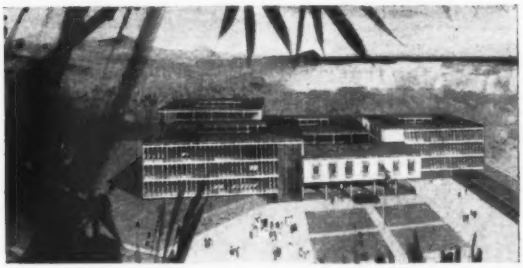
The new department store for Messrs. Tyrrell & Green (a branch of the John Lewis partnership) in Above Bar Street, Southampton, was officially opened last Monday. The store, which was designed by F. R. S. Yorke, E. Rosenberg and C. S. Mardall, has been built in two stages, the first of which was opened 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.

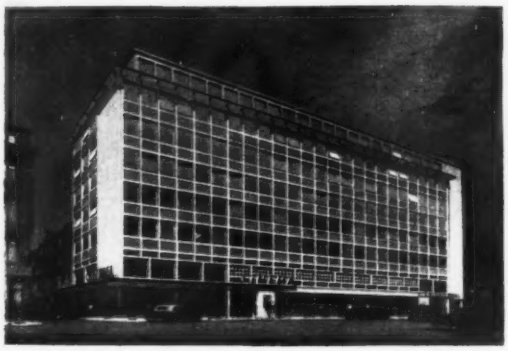
Last year the President of the Royal Academy, Professor Sir Albert Richardson asked for more space for the architectural exhibits. In consequence the designs overflowed into a second gallery. This year the size of the exhibition has shrunk—not, we hope, as a consequence of Sir Albert's tirades against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

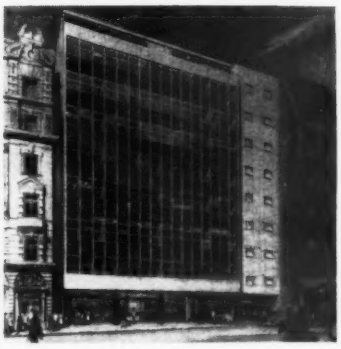
ARCHITECTURE AT THE ROYAL ACADEMY: OFFICES



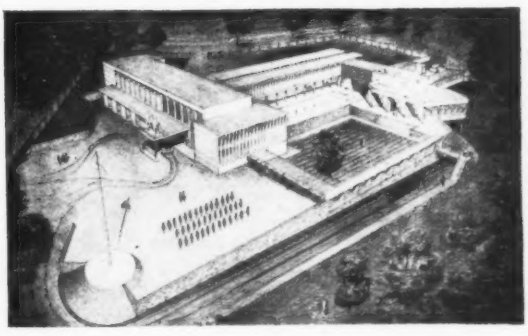




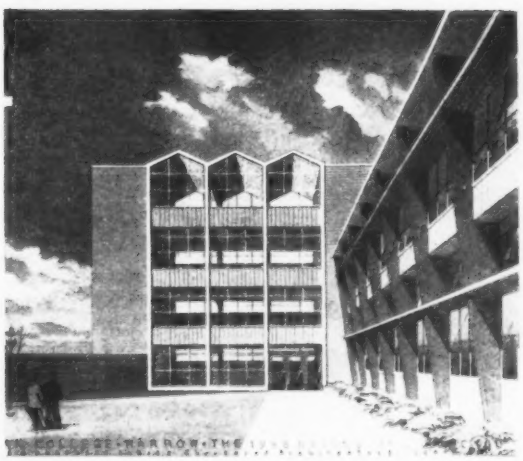




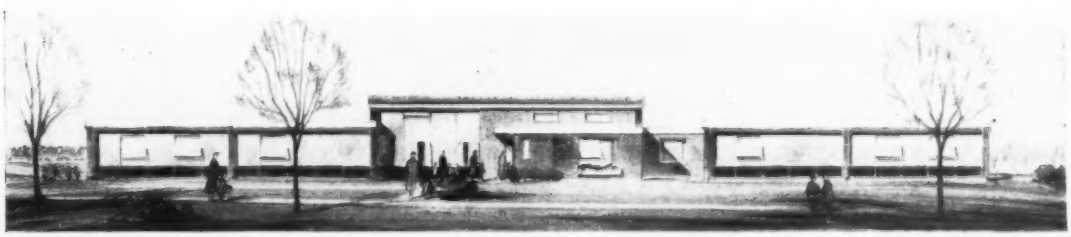
Top left, office block in Upper St. Martin's Lane, W.C.2, by Basil Spence, ARA. Top right, offices at Beckton gas works, for the North Thames Gas Board by Elie Mayorcas. Centre, right, central government offices at Jesselton, North Borneo, by R. Gordon Brown. Above, left to right: shops, offices and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

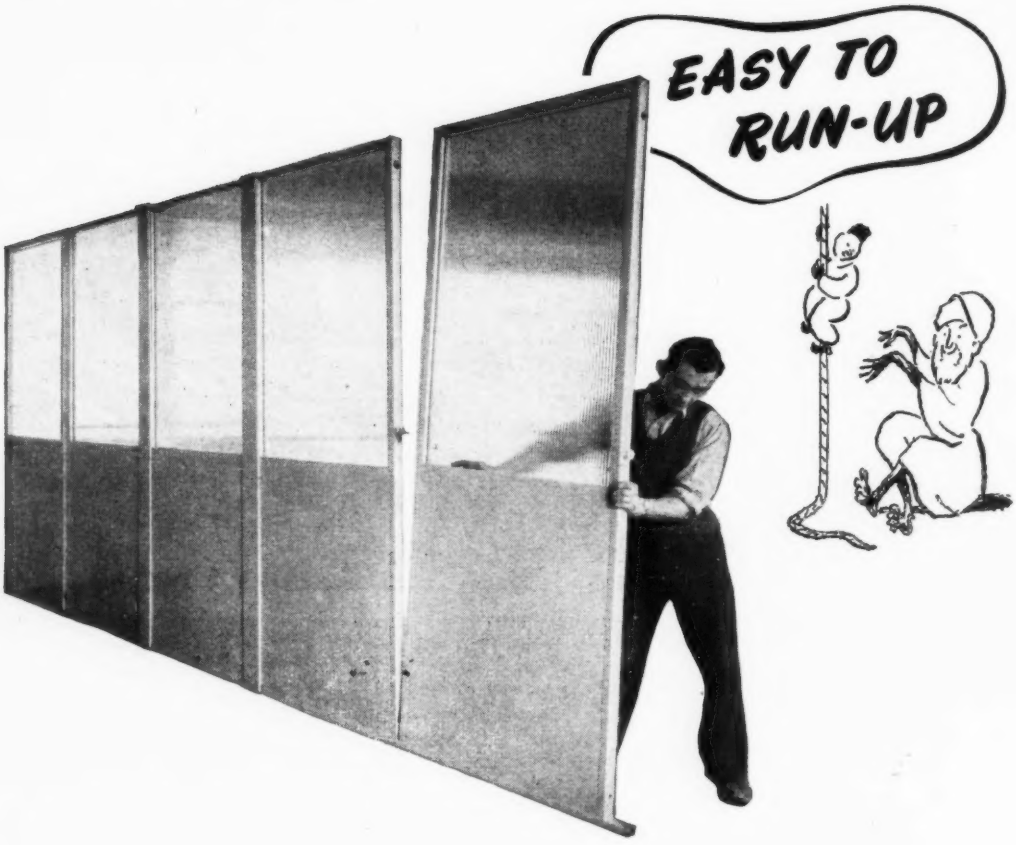


ROYAL ACADEMY: SCHOOL AND UNIVERSITY BUILDINGS



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 Sowerby 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.*





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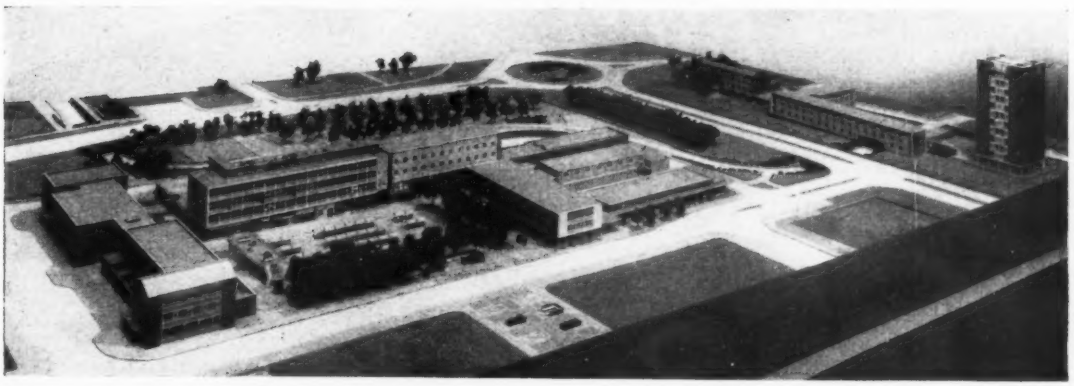
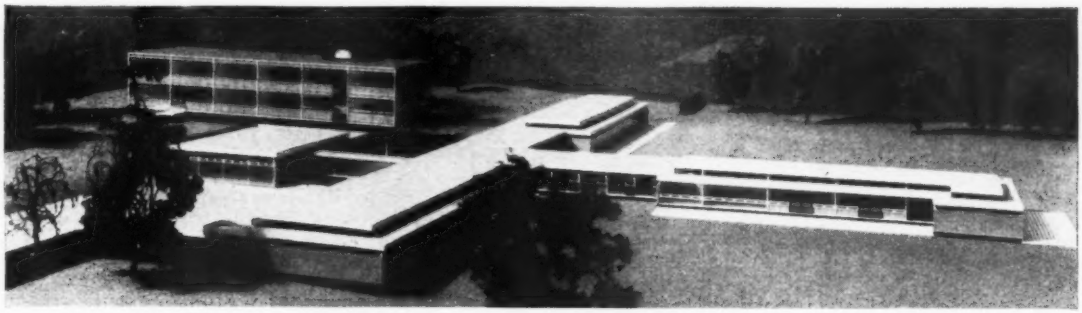
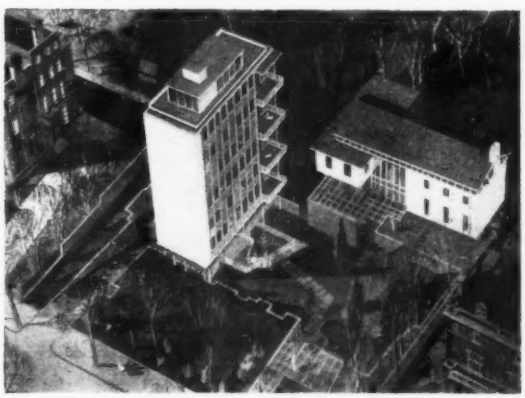
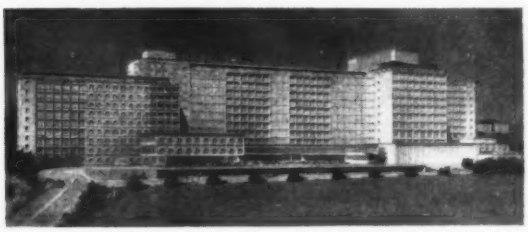
ROYAL ACADEMY: CIVIC DESIGN, HOSPITALS AND HOUSING



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.

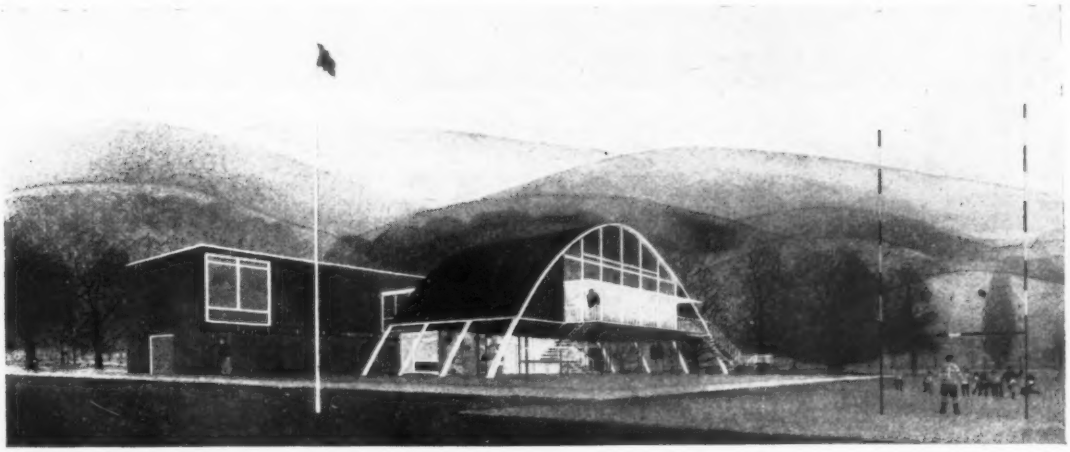


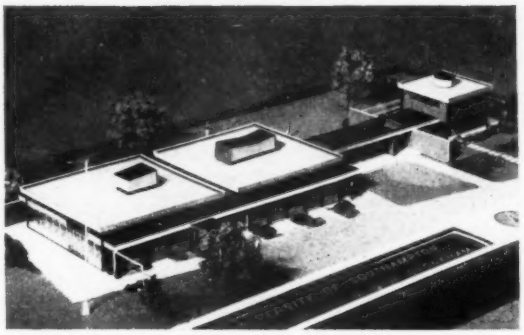


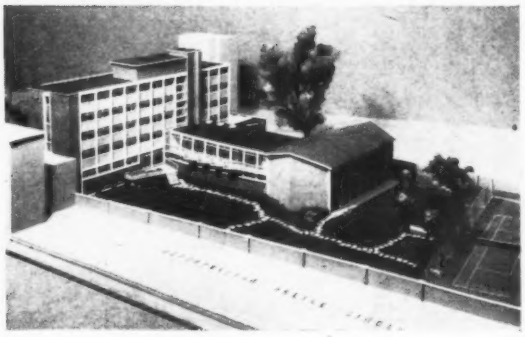


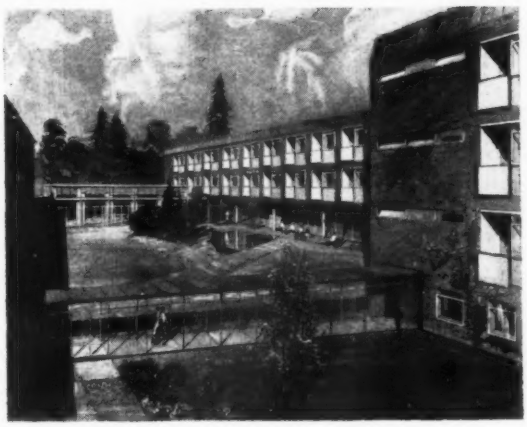
Top, an admission unit for St. John's Hospital, Aylesbury, by Gollins, Melvin, Ward & Partners. Above, the new Kowloon hospital, Hong Kong, by Easton & Robertson. Left, residential development in Kensington Palace Gardens, by Guy Morgan & Partners.

ROYAL ACADEMY: SPORTS PAVILIONS, HOSTELS AND HOTEL

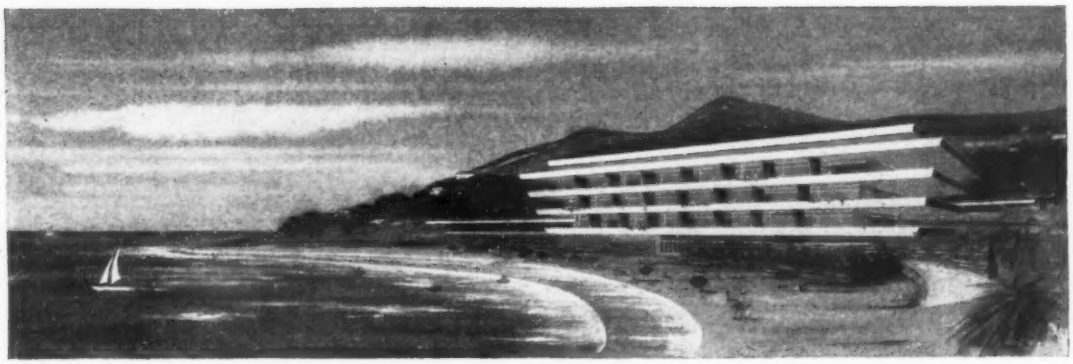








Top, proposed clubhouse at Cwmbran New Town, by Clifford Tee and Gale. Above, left, sports pavilion at North Stoneham for Southampton University, by R. H. Sims & P. J. Coles. Above, single men's residence for the Metropolitan Police, by Sidney J. Hanchet. Left, women's Hall for Southampton University,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



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 density 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 rainwater 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.

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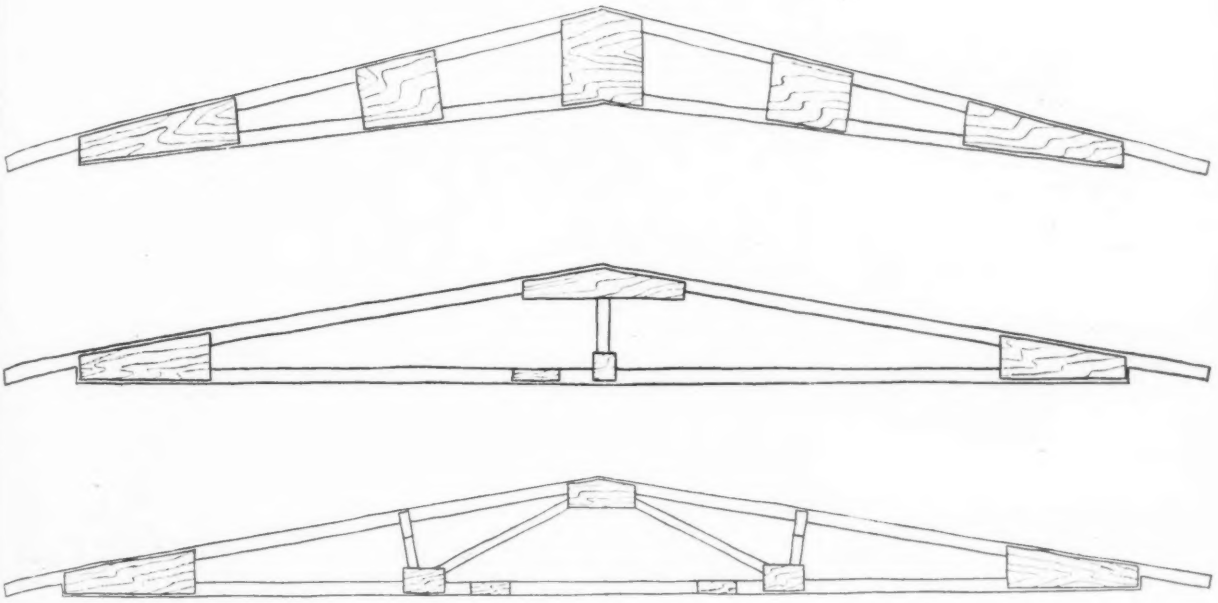
technical section



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
	89	130	108	162	weight in lbs.
28′ 8″	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
	156	150	142	185	weight in lbs.
32′ 8″	75	71	85	IMPRACTICAL	board ft.
	2 x 6	2 x 6	2 x 6		chords
	34	36	18		sq. ft. plywood
	195	210	218		weight in lbs.
36′ 8″	IMPRACTICAL	IMPRACTICAL	94		board ft.
			2 x 6		chords
			40		sq. ft. plywood
			265		weight in lbs.
40′ 8″			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.

12.63 materials: timber
GLUE-NAILED TRUSSES

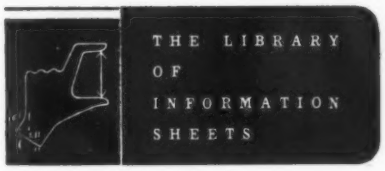
Now you can save twice as much by switching to truss framing! (House and Home. February, 1956.)

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-nailing in the English trade seems to be that it can only be safely entrusted to the 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.



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.

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.

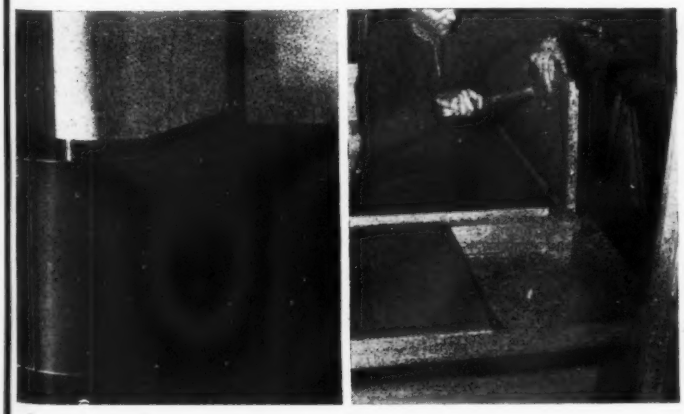
The following table shows the sizes and thicknesses in which they are commonly produced:

	lbs. cu. ft.		
Standard	min. 50	$\frac{1}{8}$ in., $\frac{5}{32}$ in.	4 ft., 5 ft. and 5 ft. 3 in. by 4 ft. to 18 ft.
Super	min. 50	$\frac{1}{8}$ in., $\frac{5}{32}$ 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. $\frac{5}{32}$ in., $\frac{1}{4}$ in. $\frac{5}{16}$ in., $\frac{3}{8}$ in., $\frac{1}{2}$ 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 fitments, panelling,

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.

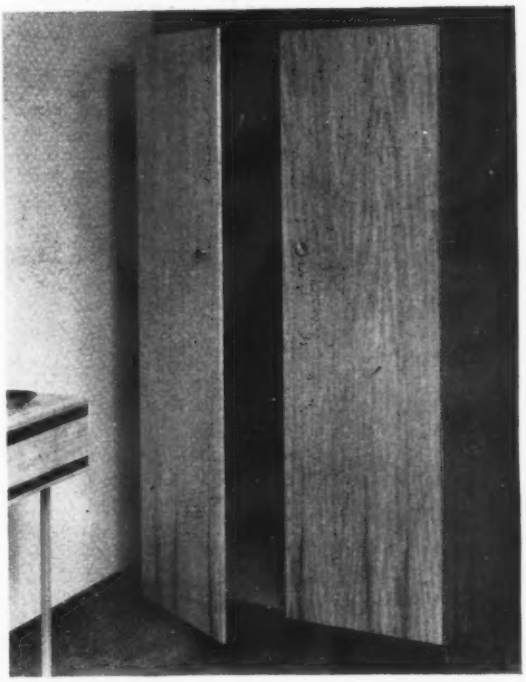
(*b*) Like natural wood the material moves with changes in the moisture in the air: there is no grain and the movement is equal in each direction: for a 30° change in relative humidity a typical piece moves approximately $\frac{1}{32}$ in. for every 12 in. width and length. African mahogany, which has average values for moisture movement, would, by comparison, move $\frac{1}{16}$ in. radially and $\frac{3}{16}$ 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.

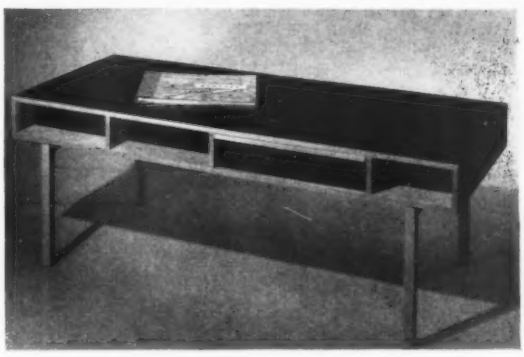
(*c*) Chipboard is variable in density and strength.

(*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:

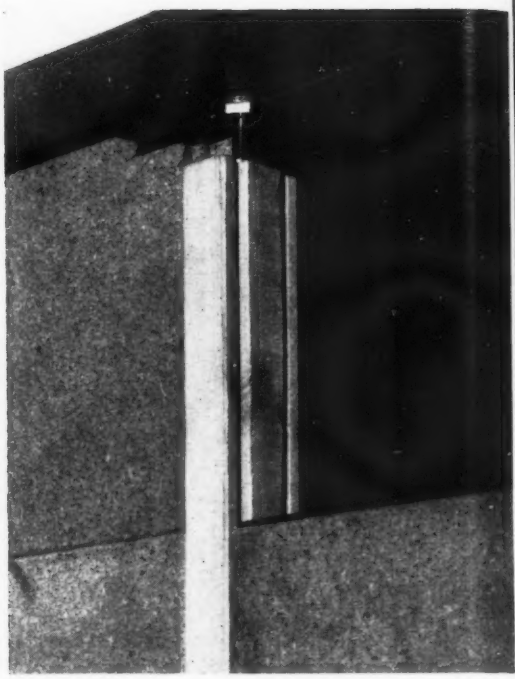
birch, 356 lb.
obeche, 183 lb.
chipboard, 180 lb. (and if screwed into edge, 155 lb.)





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 abou $\frac{3}{16}$ in. The idea for making such boards derived fro the practice in early cabinet making of veneering ov panels made up of $\frac{1}{4}$-in. sawnboards, 2 in. to 3 in. wid and glued edge to edge.

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

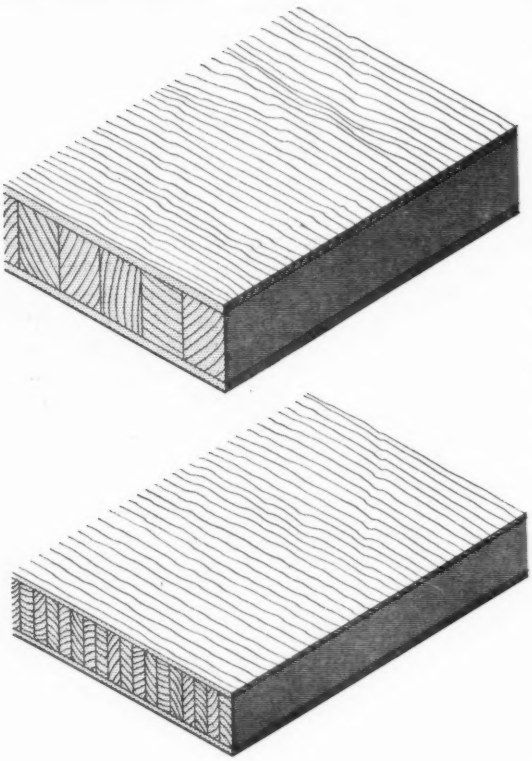
Lengths: 72 in., 60 in., 48 in.

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

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

Laminboards are obtainable in similar thicknesses, b they are also obtainable $\frac{3}{8}$ in. thick and up to 2 i They are less common and more expensive than bloc boards, and in general are of a higher quality of manu facture.

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 fitments. Some makes can be procured in large sizes (up to 67 in. × 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 gaboon. 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 cupboards, 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

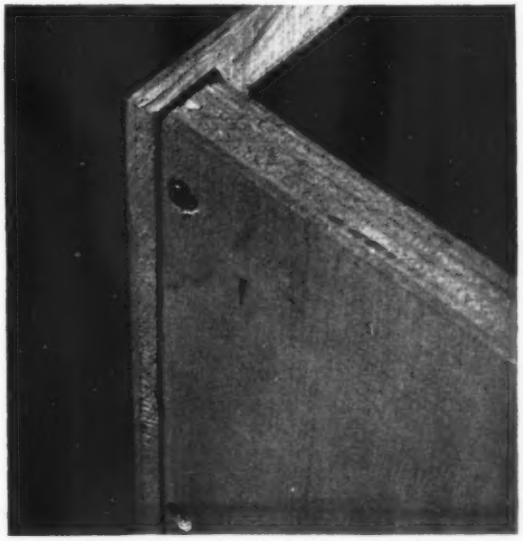
Stripboards are not manufactured in or imported to this country, but are similar in construction to blockboard, but with strips up to 3 in. wide.

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.

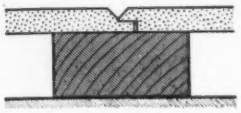
	100 sq. ft. (without lipping, veneering or other finish)
$\frac{1}{8}$ in. hardboard	60s.
$\frac{1}{8}$ in. Finnish ply	70s.
$\frac{1}{2}$ in. Douglas fir plywood (good two sides)	240s.
$\frac{1}{2}$ in. Finnish birch blockboard	230s.
$\frac{1}{2}$ in. Gaboon blockboard	251s.
$\frac{1}{2}$ in. Gaboon laminated board	301s.
$\frac{1}{2}$ in. Chipboard	110s. to 133s.
ex $\frac{3}{4}$ in. wrot softwood boards (joinery quality) glued edge to edge	approx. 200s.
ex $\frac{3}{4}$ 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 fitment. 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



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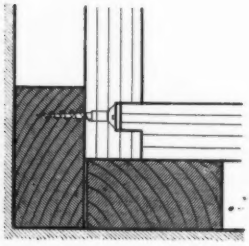

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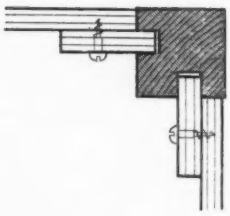

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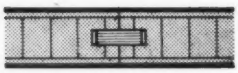
Top: typical joints for panelling in hardboard. 1. A lapped and V joint which makes a feature of the joint and allows movement particularly necessary with hardboard. 2. A typical extruded aluminium fixing strip shown as an example of the great variety of metal fixing and cover strips used in connection 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.



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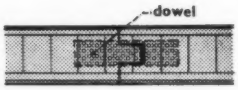

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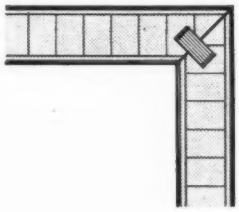

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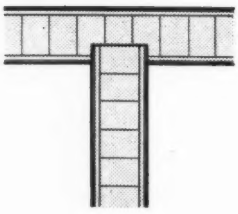

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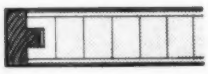
Left: joints formed in the thickness of blockboard (also suitable for thick plywood and for chipboard). 5. Edge to edge joint with cross grained or plywood tongue. In so far as it is possible to obtain large boards one would naturally avoid this joint, but in very long runs or extra large panels it may 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.



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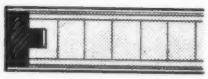

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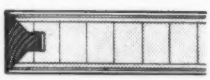


11

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.

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. × 4 ft. with various treatments would be approximately as follows:

	£	s.	d.
¾ in. blockboard not lipped, unpolished	4	0	0
¾ in. blockboard lipped	5	16	0
¾ in. blockboard lipped and veneered (veneer supplied at 1s. per sq. ft. and compensating veneer at 2d. per sq. ft.)	8	5	4
¾ in. blockboard with decorative plastic veneer	17	16	0

FILE THIS WEEK

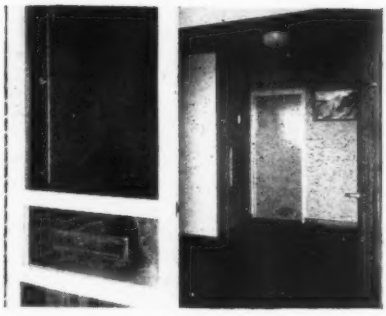
The first of these two homes for your files has a floor-heating system served by an oil-fired boiler. The second one, which was designed by an architect for his own use, is looked upon by the general contractors as a prototype for ventures in well-designed speculative building.

HOUSE

at BARON'S PLACE FARM, MEREWORTH, KENT

designed by JEREMY B. LOWE

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

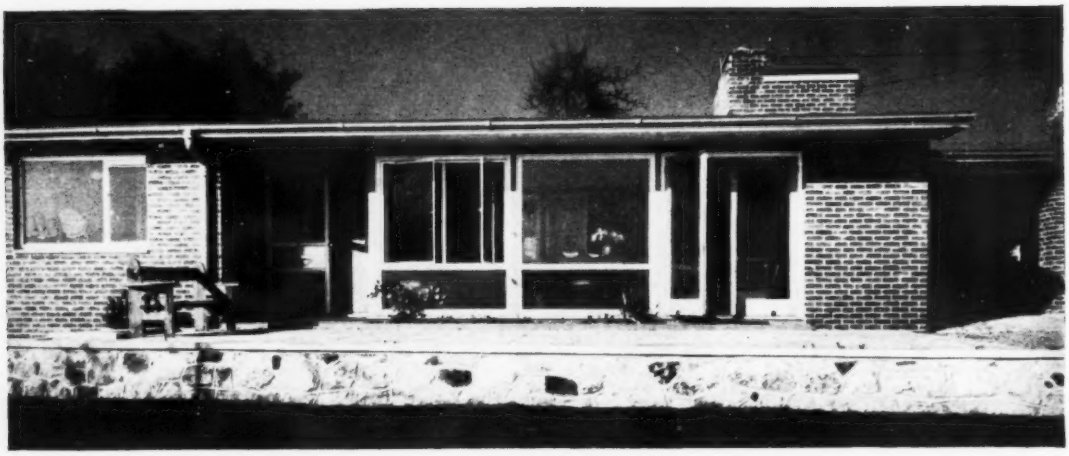


Main entrance and hall.

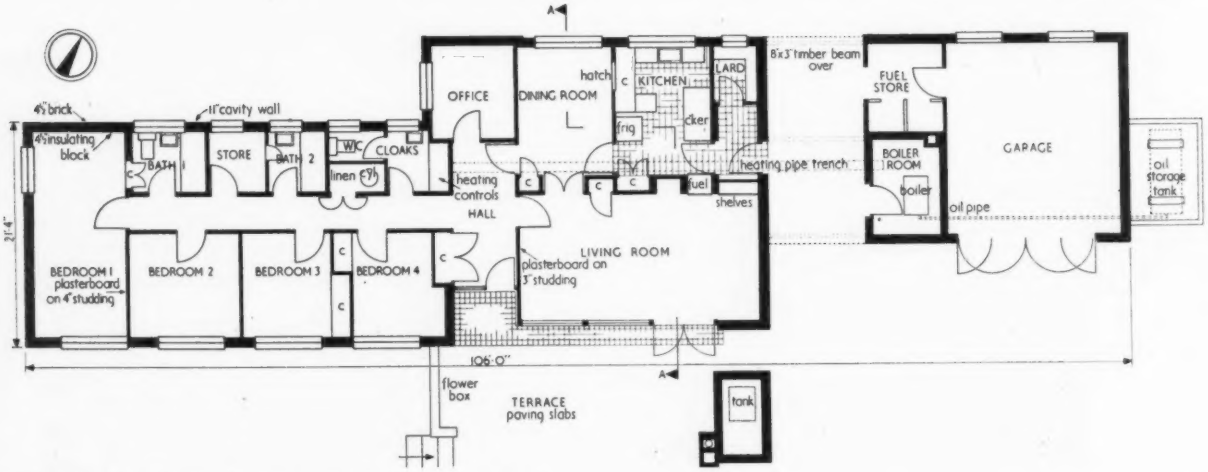
The clients, a retired doctor and his wife, for this house near Maidstone, required accommodation for one son and for other sons visiting at week-ends. The house had to be planned with as few steps as possible, no stairs and needed to be run without resident servants and with the minimum of housework. 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.

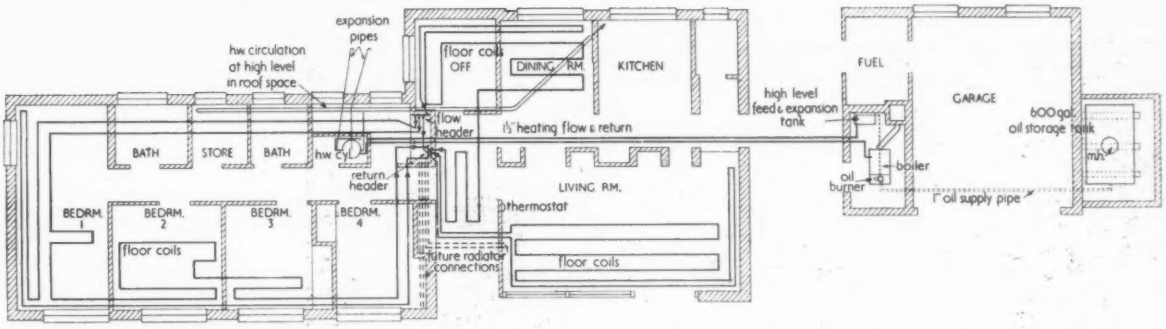
building illustrated



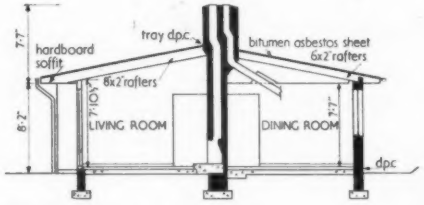
From the site there is an excellent view of the Weald of Kent with Rochester to the east, Charing to the south-east and Crowborough, Sussex, to the south-west. The house is planned so that this view can be seen from the living room and from all the bedrooms. The clients required a large living room, a dining room served direct from the kitchen,



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

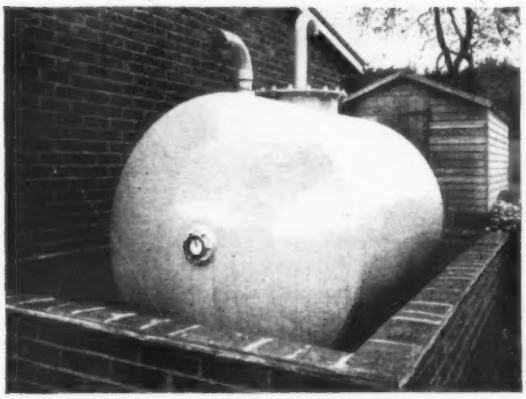


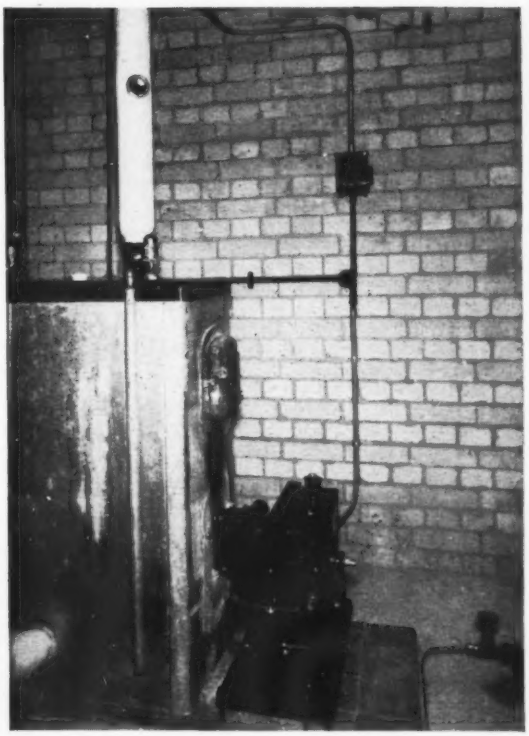
Ground floor plans showing floor heating layout [Scale : $\frac{1}{16}$" = 1' 0"]



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 ½-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

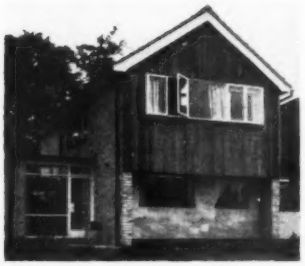
General contractors: J. A. Davison & Son (Builders) Ltd. *Sub-contractors: Space heating and domestic hot water:* Benham & Sons Ltd. *Electrical installation:* H. T. Barden. *Sliding door gear:* E. Hill Aldam & Co. Ltd. *Electric light fittings:* The Merchant Adventurers of London Ltd. *Fireplace tiles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

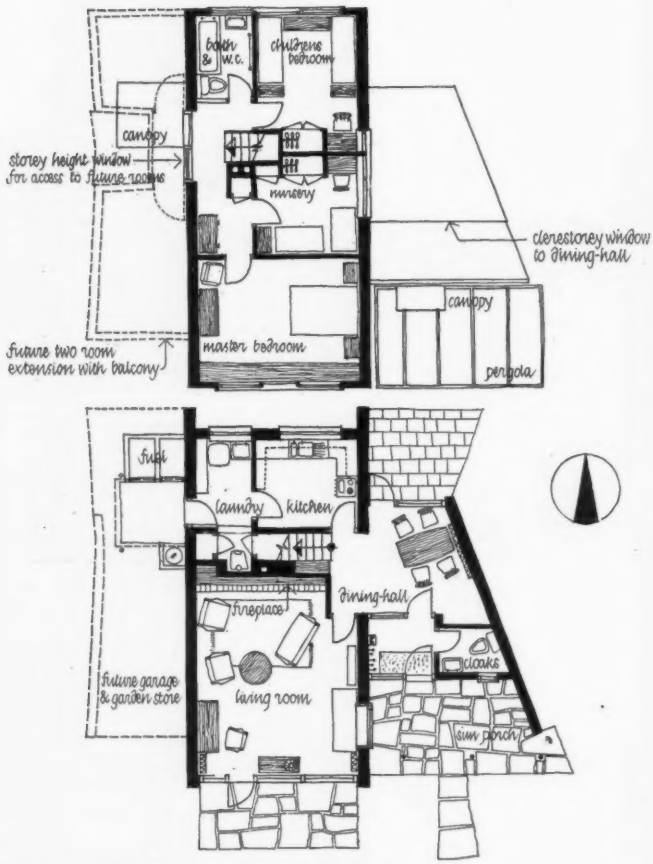
This house at Hayes was designed by the architect for his own occupation, after terms of reference had been agreed with the general contractors, Heals, who look upon this house as a prototype for further ventures in domestic building. A house was required that would, (*a*) arouse interest in good design, (*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.

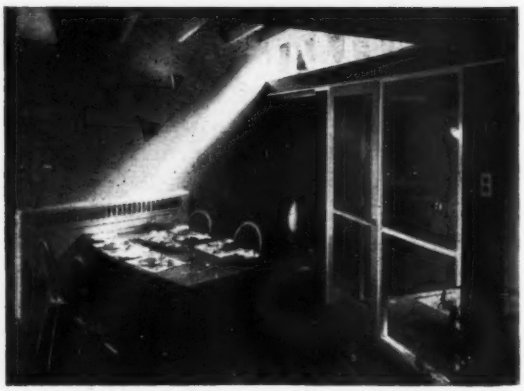
The south facade.

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





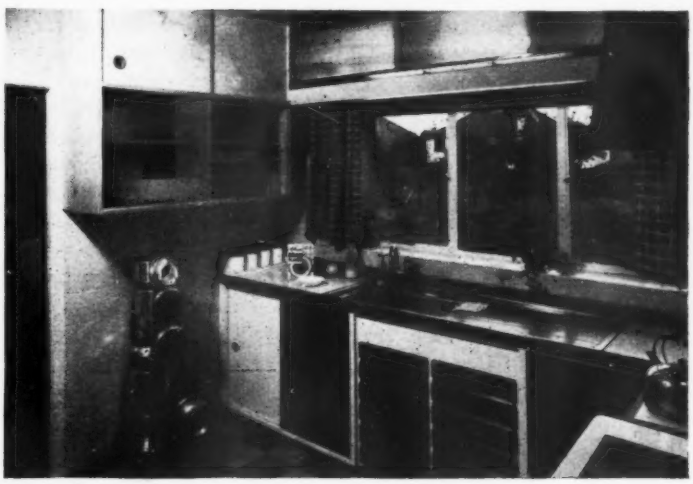
Ground and first floor plans [Scale: $\frac{1}{16}$" = 1' 0"]

building illustrated

HOUSE

at HAYES COMMON, KENT
designed by D. R. HICKMAN

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 $\frac{3}{8}$-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 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.

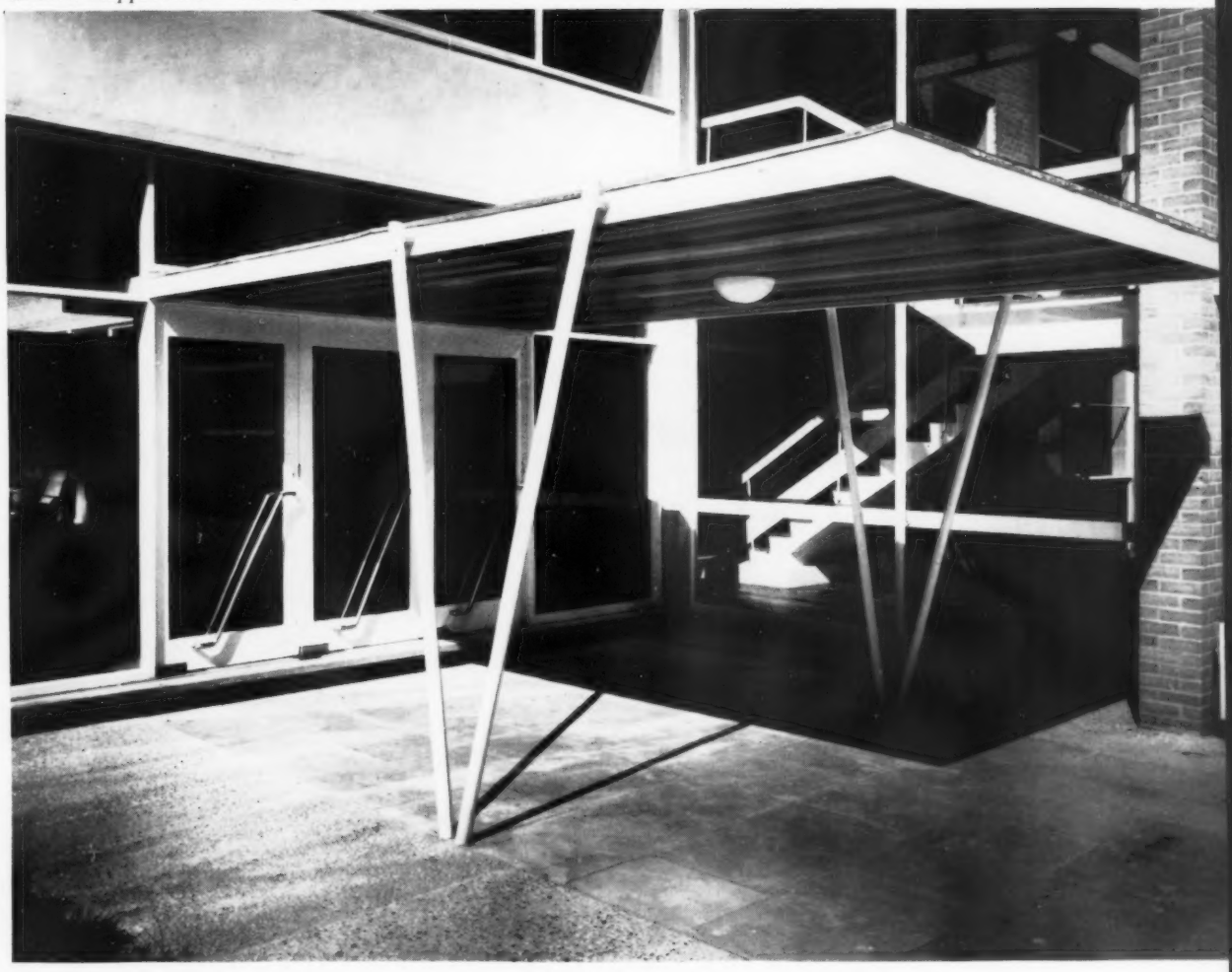
d. *Sub-*
lard Ltd.
Wall and
Plumbing
Electrical
o flooring:
ppliers:—
an & Co.
s & Sons
d. *Double*
Stitsons

working detail

COVERED WAYS AND CANOPIES: 16

CANOPY: SCHOOL AT ROYSTON, HERTS

Richard Sheppard and Partners, architects



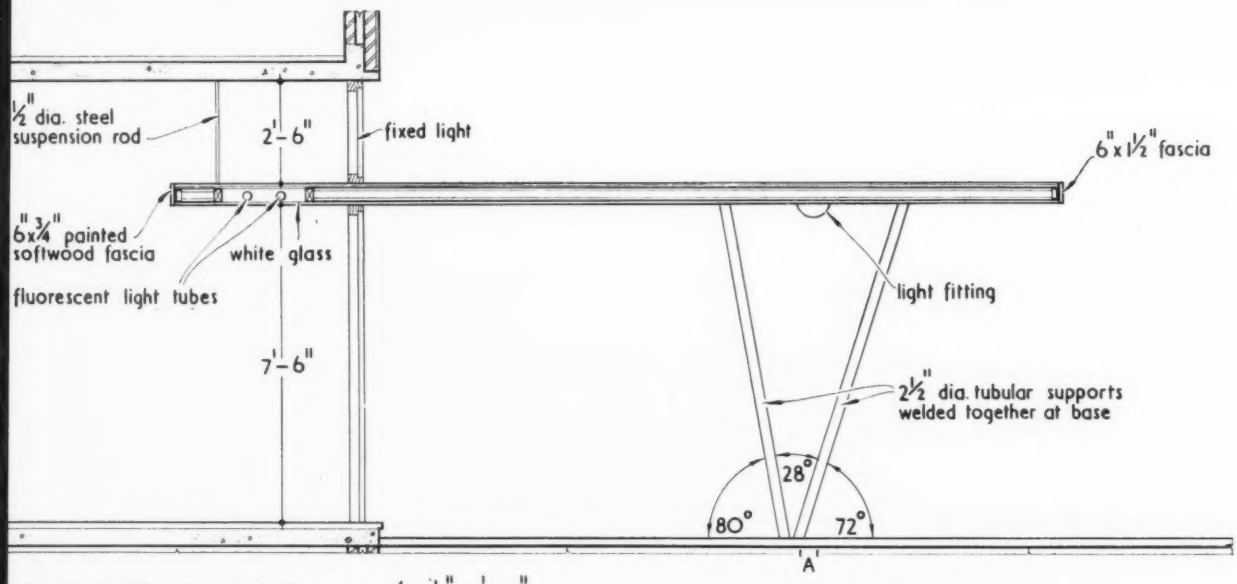
The canopy is framed in a 4-in. by 2-in. m.s. channel to which the tubular supports were shop-welded. 4-in. by 2-in. joists at 3-ft. centres span the short way of the frame, being scribed into the channels at both ends, and the structure of the frame is completed by a line of nogging which runs down 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

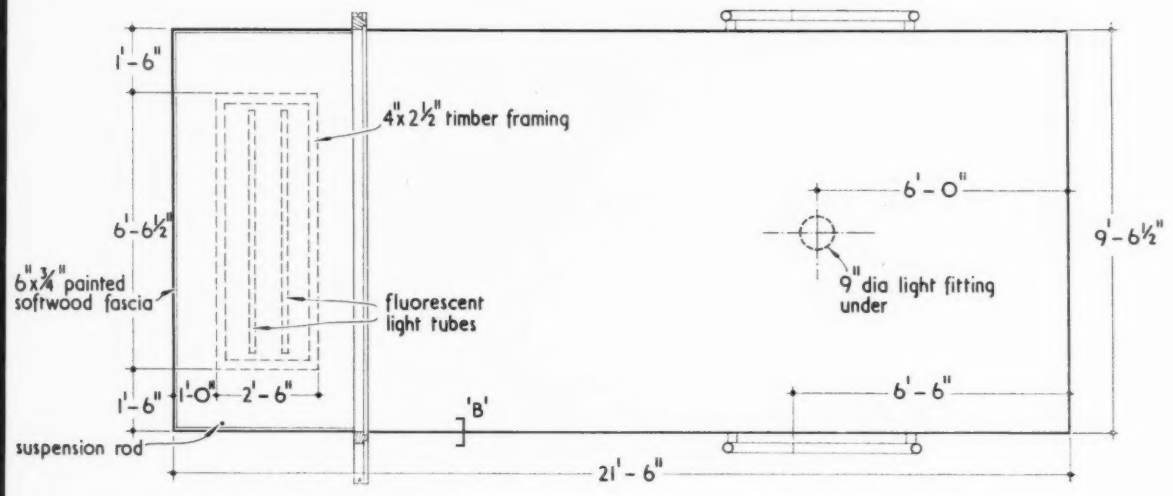
COVERED WAYS AND CANOPIES: 16

CANOPY: SCHOOL AT ROYSTON, HERTS

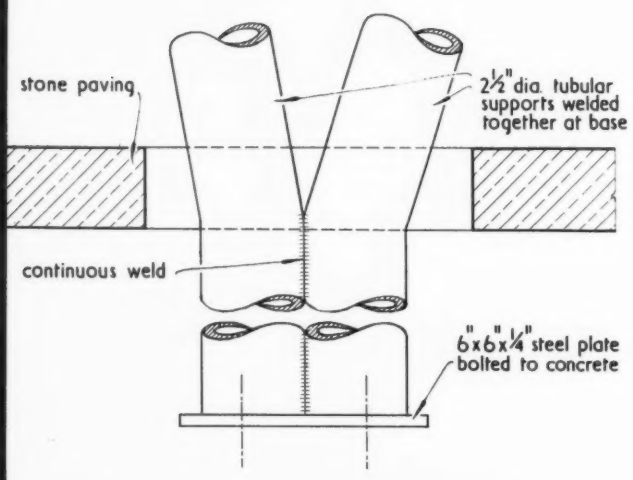
Richard Sheppard and Partners, architects



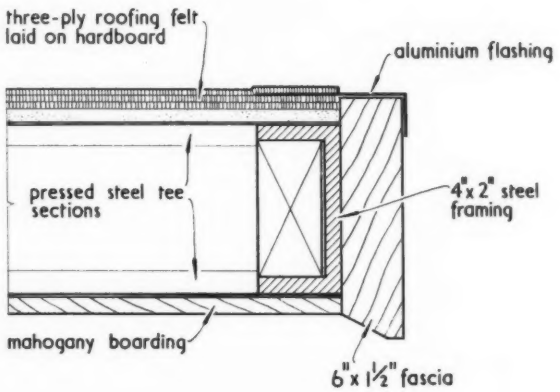
SECTION THROUGH CANOPY. scale ¼" = 1'-0"



PLAN OF CANOPY. scale ¼" = 1'-0"



DETAIL AT 'A'. scale ¼ full size



DETAIL AT 'B'. scale ¼ full size

working detail

BALUSTRADE: SCHOOL AT ROYSTON, HERTS

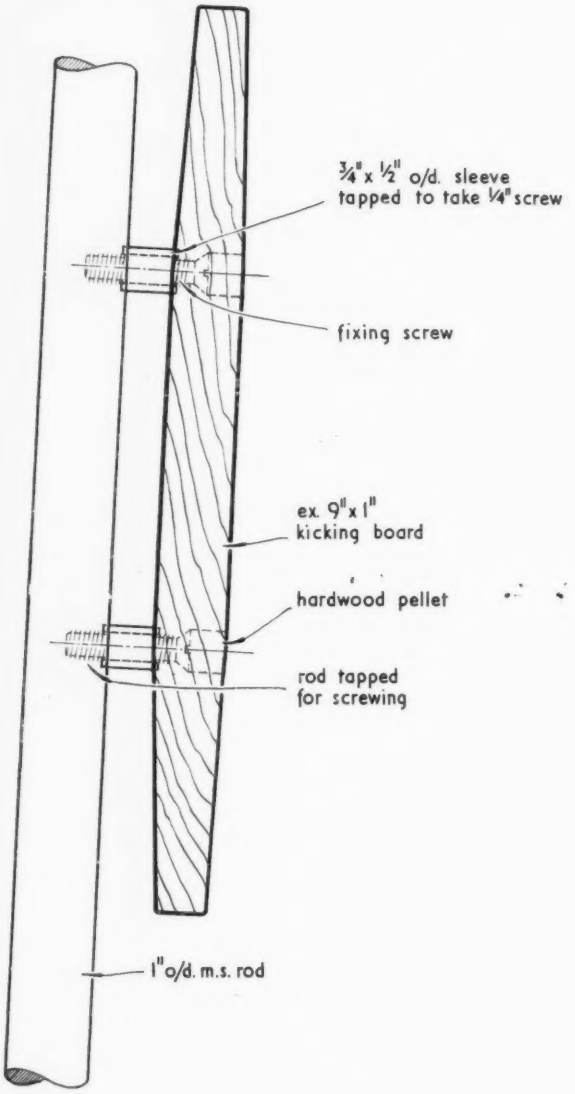
Richard Sheppard and Partners, architects

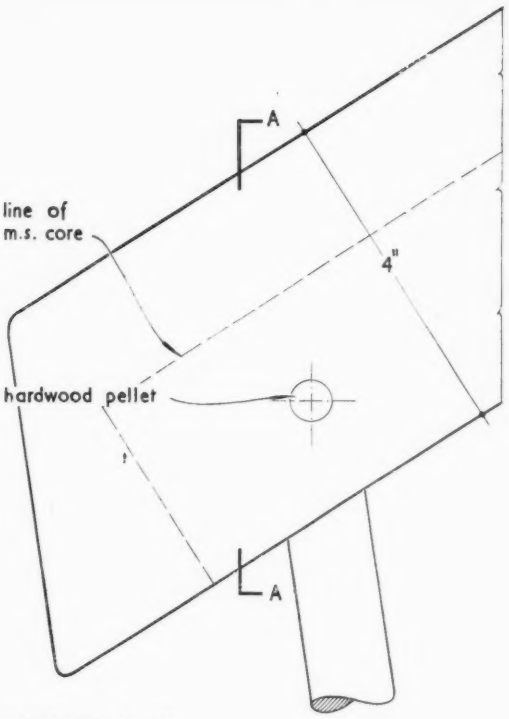
The object of the design was to provide a balustrade which can be easily cleaned, with few uprights but with a sufficient guard to prevent children falling through. The core rail and uprights were shop-welded; the handrail and kicking plate are opepe.

working detail

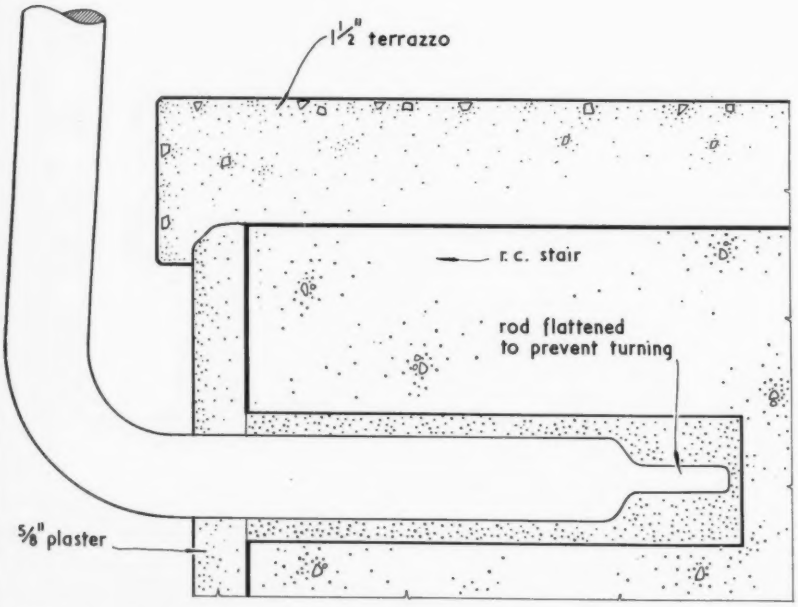
BALUSTRADE: SCHOOL AT ROYSTON, HERTS

Richard Sheppard and Partners, architects

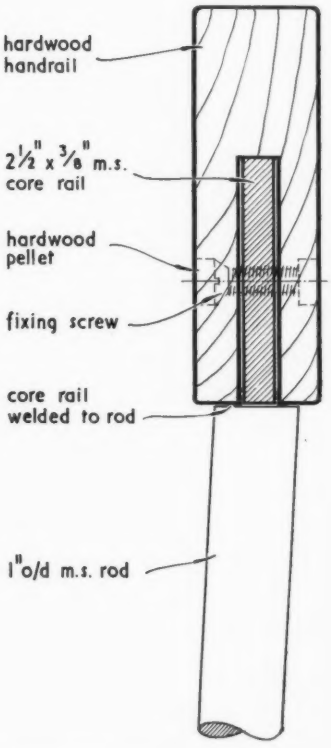




ELEVATION AT END OF HANDRAIL. scale: half full size.



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, Poltimore 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., Roften 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, Rossshire.

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).

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)

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Address .....
(Block letters)

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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

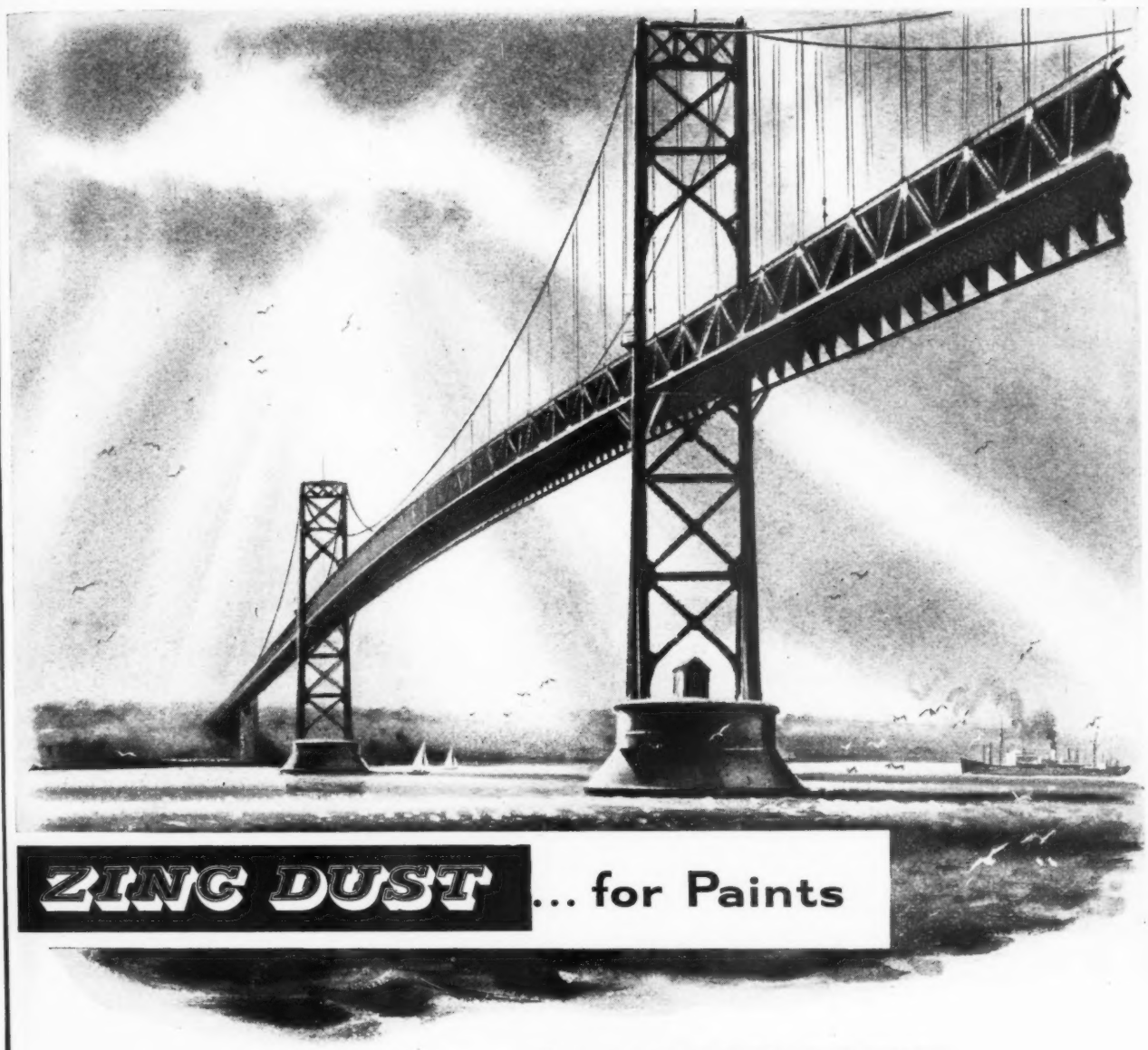
Each of the 110,000 or so firms engaged on building and civil engineering work, including specialist firms such as joiners and painters, have received from the Ministry of Works a letter asking for information about the number of men employed and the value of work carried out in the first quarter of 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.



ZINC DUST ... for Paints

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.

IMPERIAL SMELTING

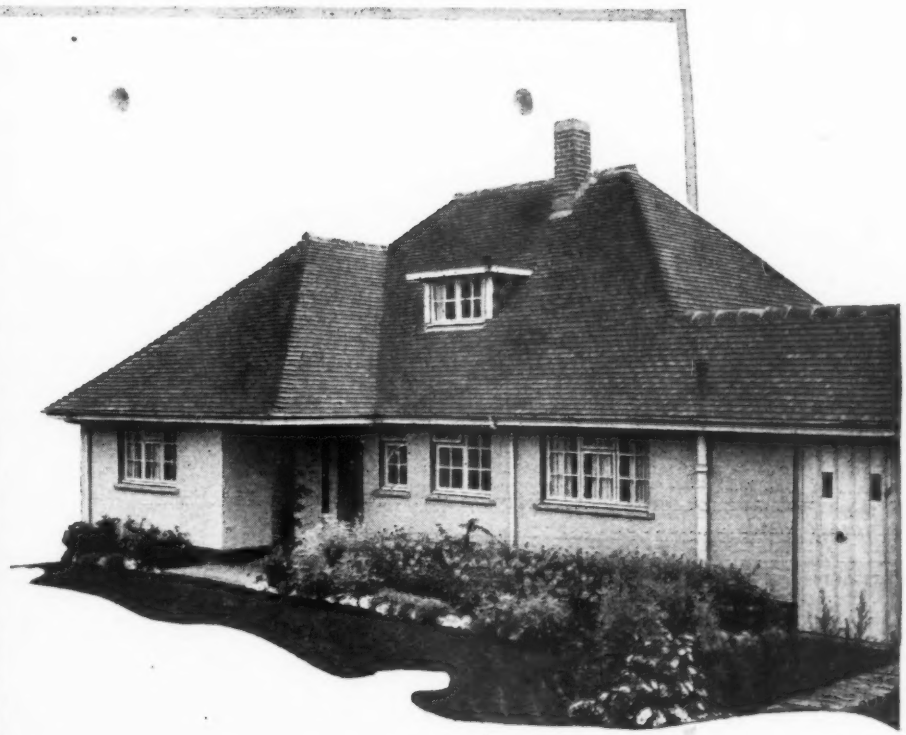
U.K. MEMBER OF THE CONSOLIDATED ZINC CORPORATION LIMITED

For mechanical protection and electro-chemical defence against CORROSION

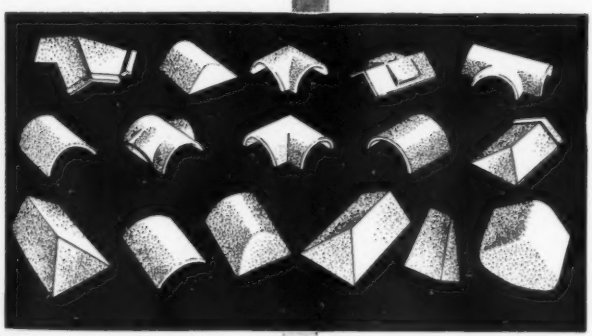
Corrosive conditions demand positive action. Only a zinc metal coating gives maximum protection to iron and steelwork. Zinc rich paint with a pigmentation of 92% to 95% provide this vital protection; its action is electrolytic; even if the paint film should be damaged the underlying metal is still protected 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.

IMPERIAL SMELTING CORPORATION (SALES) LIMITED · 37 DOVER STREET · LONDON W.1

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″×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″×7″ SANDSTORM CLAY ROOFING

DIGNUS LIMITED · KEELE · NEWCASTLE · STAFFS

dmDC 18

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/£1,060).
(*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, Chessington, 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 558, 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.
25th April, 1956. 9860

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.
19th April, 1956. 9829

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.

2nd May, 1956. 9931

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.

9897

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, 28, The Square, Stockton-on-Tees, and should be returned to the undersigned not later than Friday, the 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-Tees.
28th April, 1956. 9902

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 (£595—£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 16th May, 1956.

ERNEST G. TOWNSEND,
Town Clerk.

Town Hall, Worthing.
April, 1956. 9911

HERTFORDSHIRE COUNTY PLANNING DEPARTMENT. ASSISTANT ARCHITECT PLANNER (Headquarters), Grade S.C.11, Special (£560—£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 (£795 × £35—£970).

(*b*) ONE PLANNING ASSISTANT, A.P.T. Grade III, Development Control (£640 × £25—£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

SEDGEFIELD 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.

Sedgefield,
Stockton-on-Tees.
26th April, 1956. 9886

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 (women £1,085) 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, Edinburg, 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), Rehabilitation 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
SENIOR PLANNING ASSISTANT

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 £550 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. V (£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.

Civic Centre, Birmingham, 1. 9937

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.

Town Hall, Peterborough.
1st May, 1956. 9948

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.

Town Hall, Newcastle upon Tyne, 1.
1st May, 1956. 9929

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.

Town Hall, Paddington Green, W.2. 9946

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 (£560—£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—£500, 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.

Town Hall, Walthamstow, E.17.
3rd May, 1956. 9954

LONDON COUNTY COUNCIL
ARCHITECT'S DEPARTMENT

Staff are required for varied and interesting work in the Voluntary Schools Section. Salary range between £620 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 10s., 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.

County Hall, Beverley. 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 £800 × £40—£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—£610, £595—£675, or £690—£840, 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. 3871

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—£945 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 9680.

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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.

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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, 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, Welldon 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 Rochdale 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. 9903

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, Welldon Crescent, Harrow, Middx. 9916

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 9929.

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 Halcrow & Partners, Stanhope House, 47, Park Lane, London, W.1. 9931

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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

A 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.

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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 remodelling 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.

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ASSISTANT QUANTITY SURVEYOR required by Shefield Brewery Company. Preferably professionally trained and experienced in taking off and preparation of Bills of Quantities.—State full particulars and salary required to Duncan Gilmour & Co., Ltd., 10, Nursery Street, Sheffield. 9964

ARCHITECT'S ASSISTANT required by Sheffield Brewery Company. R.I.B.A. Inter.-standard.—State full particulars and salary required to Duncan Gilmour & Co., Ltd., 10, Nursery Street, Sheffield. 9965

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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

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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 & Sinning, 89, Chancery Lane, W.C.2. 2508

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ARCHITECTURAL DESIGN DRAUGHTSMAN (male) required by
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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

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Junior unqualified assistants and draughtsmen in a range from £5—£12 a week.

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Salary to be agreed on the basis of qualifications and experience.

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(Salary range £820 to £975 per annum.)

(*b*) ASSISTANT ARCHITECTS, capable of preparing working drawings and details from preliminary sketches.
(Salary range £550 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 qualified ASSISTANT with experience.—Write 44, Charlotte Street, London, W.1, or telephone LANgham 5791. 9776

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ARCHITECTURAL ASSISTANTS required for St. Albans office for work on School, Commercial and Housing projects. Should be good draughtsman with contemporary outlook. Good Salaries. Write to Box 9579.

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RONALD WARD & PARTNERS require several ARCHITECTURAL ASSISTANTS with contemporary outlook and willing to use own initiative. Salary range £500 to £860. Interesting and varied work, home and abroad. Congenial working conditions.—Apply 29, Chesham Place, Belgrave Square, S.W.1. Telephone Belgravia 3361. 9189

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Architectural Appointments Wanted

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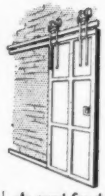

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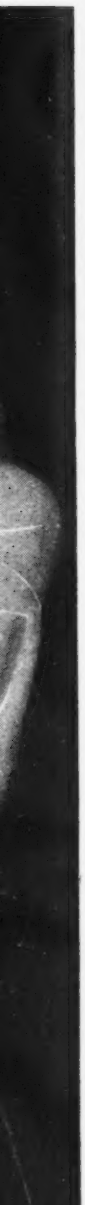

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