

# THE ARCHITECTS' JOURNAL



## standard contents

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

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*Wanted and Vacant*

No. 3421]

[Vol. 132

THE ARCHITECTURAL PRESS

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★ A glossary of abbreviations of Government Departments and Societies and Committees of all kinds, together with their addresses and telephone numbers. The glossary is published in two parts—A to Ii one week. Ii 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.: J. H. Holden, College of Art, Cavendish Street, Manchester 15	Langham 5533
ABS	Architects' Benevolent Society. 66, Portland Place, W.1.	Victoria 0447-8
ABT	Association of Building Technicians. 1, Ashley Place, S.W.1.	Whitehall 9737
ACGB	Arts Council of Great Britain. 4, St. James's Square, S.W.1.	Mayfair 7501/8
ADA	Aluminium Development Association. 33, Grosvenor Street, W.1.	Langham 5861
ARCUK	Architects' Registration Council. 68, Portland Place, W.1.	Langham 5721
BAE	Board of Architectural Education. 66, Portland Place, W.1.	Museum 5400
BASA	British Architectural Students Association. Building Centre, 26 Store Street, W.C.1.	Welbeck 4185
BC	Building Centre, 26, Store Street, Tottenham Court Road, W.C.1.	Ealing 9621
BCCF	British Colour Council. 13, Portland Square, W.1.	Redditch 716
BCIRA	British Cast Concrete Federation. 105, Uxbridge Road, Ealing, W.5.	Fremantle 8494
BDA	British Cast Iron Research Association. Alvechurch, Birmingham.	Hunter 1951
BE	British Door Association. 10, The Boltons, S.W.10.	Temple Bar 9434
BEDA	Building Exhibition. 11, Manchester Square, W.1.	Glasgow Central 2891
BIA	British Electrical Development Association, 2, Savoy Hill, W.C.2.	Chancery 7772
	British Ironfounders' Association. 145, Vincent Street, Glasgow, C.2.	Langham 2785
BID	Building Industries Distributors. 52, High Holborn, W.C.1.	Trafalgar 8855
BINC	Building Industries National Council. 11, Weymouth Street, W.1.	Garston 4040
BOT	Board of Trade. Whitehall Gardens, Horseguards Avenue, S.W.1.	Mayfair 0515
BRS	Building Research Station. Bucknalls Lane, Watford.	British Standards Institution. British Standards House, 2, Park St., W.1.
BSA	Building Societies Association. 14, Park Street, W.1.	City and Borough Architects Society. C/o S. A. G. Cook, A.R.I.B.A., Borough Architect and Director of Housing, Town Hall, High Holborn, W.C.1.
BSI	British Standards Institution. British Standards House, 2, Park St., W.1.	Holborn 3411
CABAS	City and Borough Architects Society. C/o S. A. G. Cook, A.R.I.B.A., Borough Architect and Director of Housing, Town Hall, High Holborn, W.C.1.	
CAS	County Architects' Society. C/o S. Vincent Goodman, F.R.I.B.A., Shire Hall, Bedford.	Bedford 67444
CCA	Cement and Concrete Association. 52, Grosvenor Gardens, S.W.1.	Belgravia 6661
CDA	Copper Development Association. 55, South Audley Street, W.1.	Grosvenor 8811
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
DIA	Design and Industries Association. 13, Suffolk Street, S.W.1.	Whitehall 0540
EJMA	English Joinery Manufacturers' Association (Incorporated). Sackville House, 40, Piccadilly, W.1.	Regent 4448
EPNS	English Place-Name Society. 7, Selwyn Gardens, Cambridge.	
FAS	Faculty of Architects and Surveyors. 68, Gloucester Place, W.1.	Welbeck 9966
FASS	Federation of Associations of Specialists and Sub-Contractors, 14, Bryanston Street, W.1.	Welbeck 1781
FBBDO	Fibre Building Board Development Organization Ltd. (Fidor), Stafford House, Norfolk Street, W.C.2.	Covent Garden 3006
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	Flush Door Manufacturers Association Ltd. Trowell, Nottingham.	Ilkeston 623
FLD	Friends of the Lake District. Pennington House, nr. Ulverston, Lancs.	Ulverston 201
FMB	Federation of Master Builders. 33, John Street, W.C.1. Tel.: Chancery 7583 (6 lines)	
FPC	Federation of Painting Contractors, St. Stephen's House, S.W.1.	Whitehall 3902
FRHB	Federation of Registered House Builders. 82, New Cavendish Street, W.1.	Langham 4341
GPDA	Gypsum Plasterboard Development Association. 11, Ironmonger Lane, E.C.2.	Monarch 8888
GC	Gas Council. 1, Grosvenor Place, S.W.1.	Sloane 4554
GG	Georgian Group. 2, Chester Street, S.W.1.	Belgravia 3081
HC	Housing Centre. 13, Suffolk Street, 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, 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
IHVE	Institution of Heating and Ventilating Engineers. 49, Cadogan Square.	Sloane 1601/3158
IIBDID	Incorporated Institute of British Decorators and Interior Designers. 100, Park Street, Grosvenor Square, W.1.	Mayfair 7086

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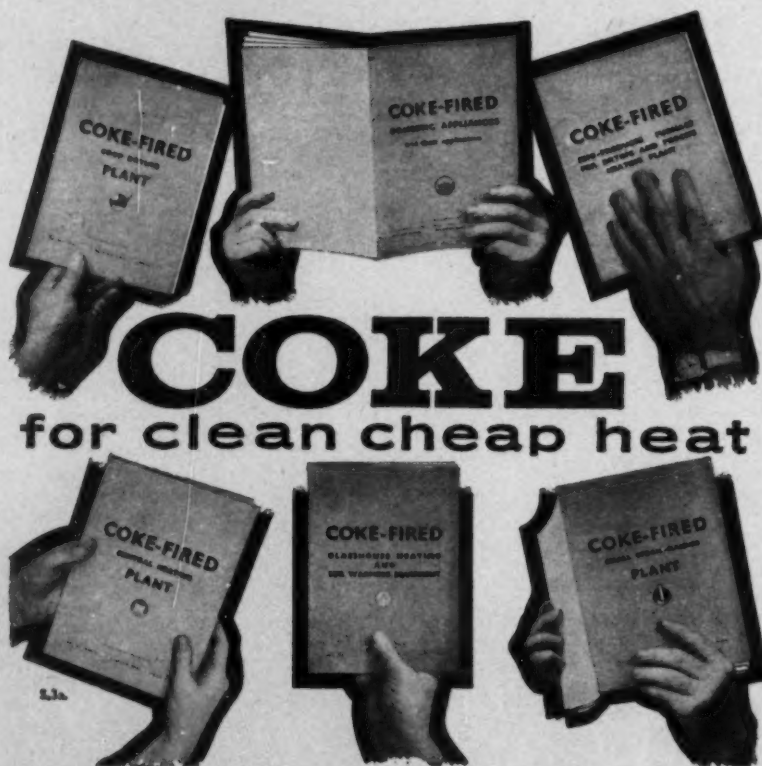
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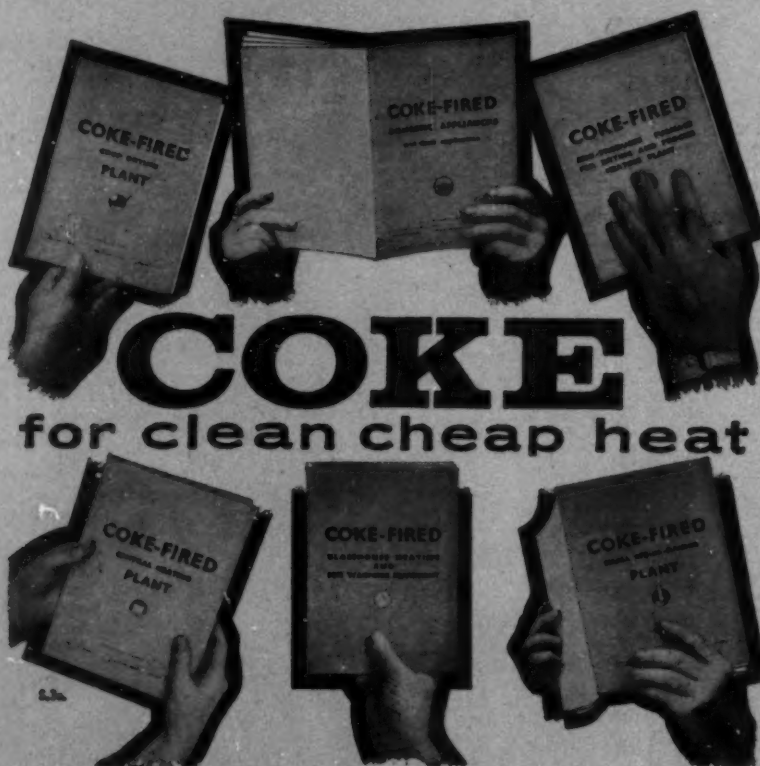
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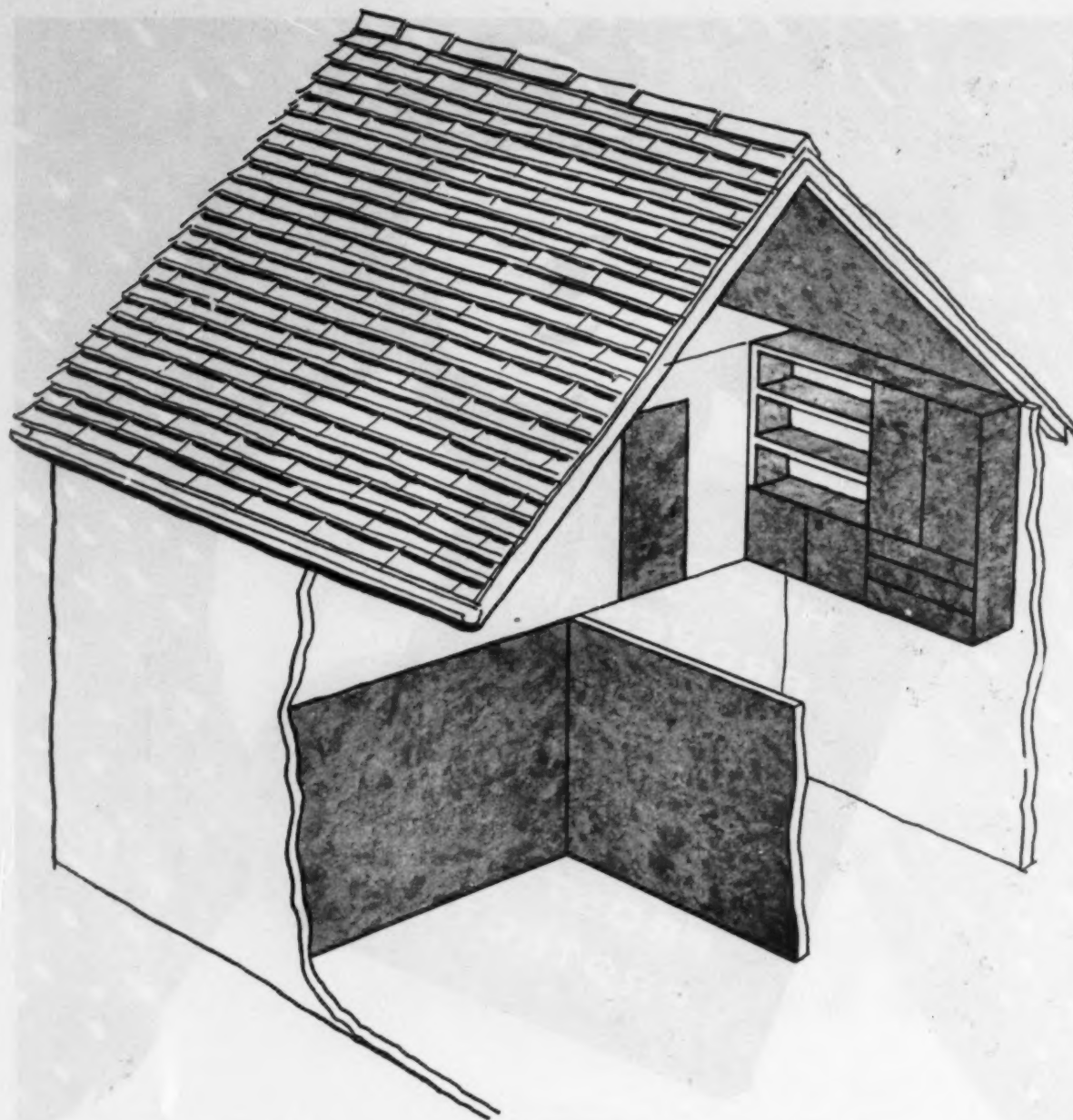
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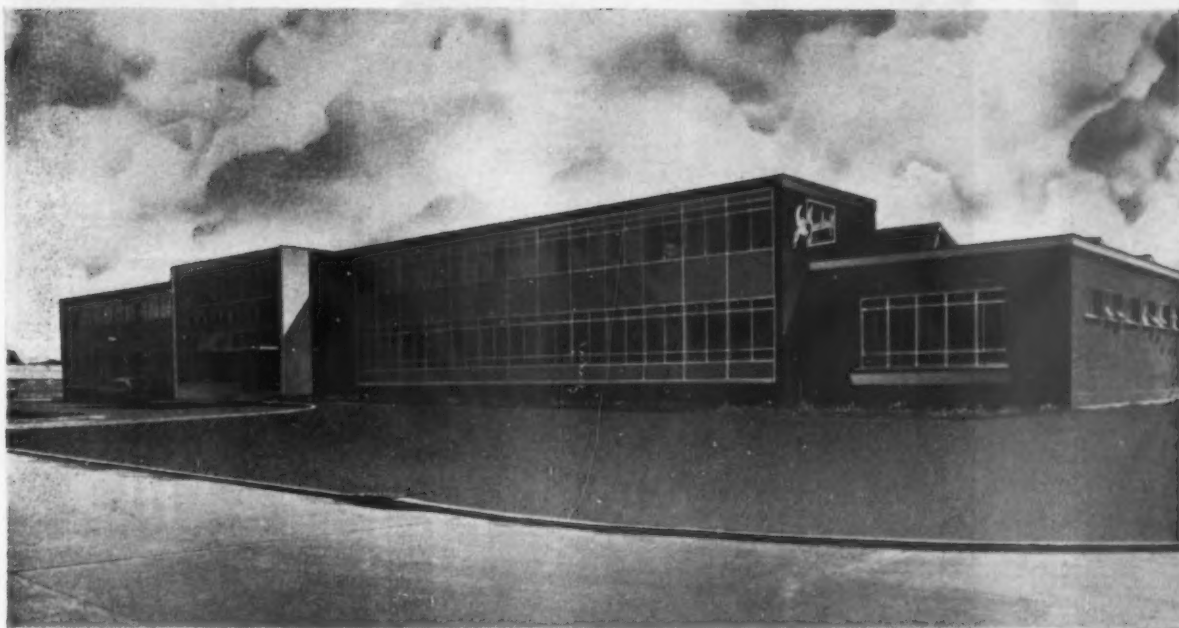
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- Reduced maintenance costs throughout the life of the building
- High degree of thermal insulation – aluminium reflects radiant heat, and is therefore an excellent insulant; it keeps heat in, and reflects sunlight away

specialisation makes available a vast store of technical knowledge and experience ready to be applied to any project, backed up by years of fabricating technique. To the user of every aluminium product ALCAN specialisation means a certainty of quality and the best value that money can buy.



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The illustration (top right) shows the troughed aluminium sheet used on the 22,000 sq. ft. roof of the Cardiff Arms Park South Stand which not only greatly reduces maintenance problems but enables a daring cantilever construction with a 50 ft. overhang. Designed by

W. S. Atkins & Partners. Roofing contractors: JOHN BLAND & CO. LTD., CARDIFF.

The 48 sliding doors of this 'wing hangar' at London Airport will never need painting because they are clad in mansard aluminium sheet. Although normally motorised, the considerable savings in weight enable one man to move – without difficulty – three of the 32 ft. high by 23 ft. wide doors coupled together. Constructed by MORFAX LTD. for B.O.A.C.

Consulting Engineers: Bernard L. Clark & Partners.

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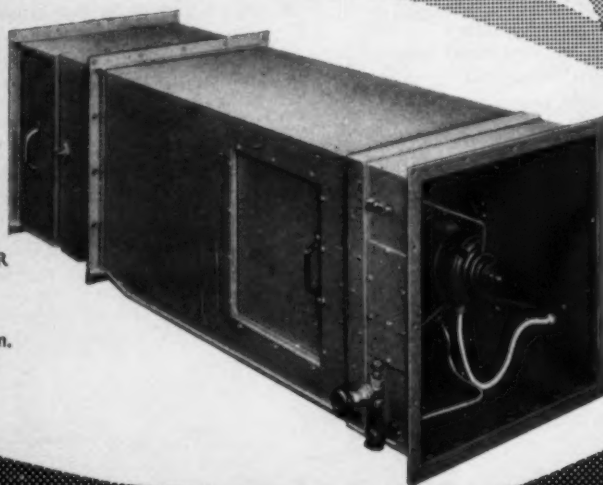
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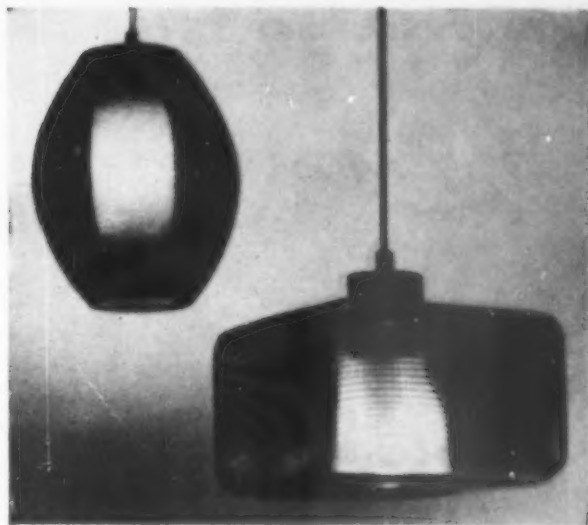
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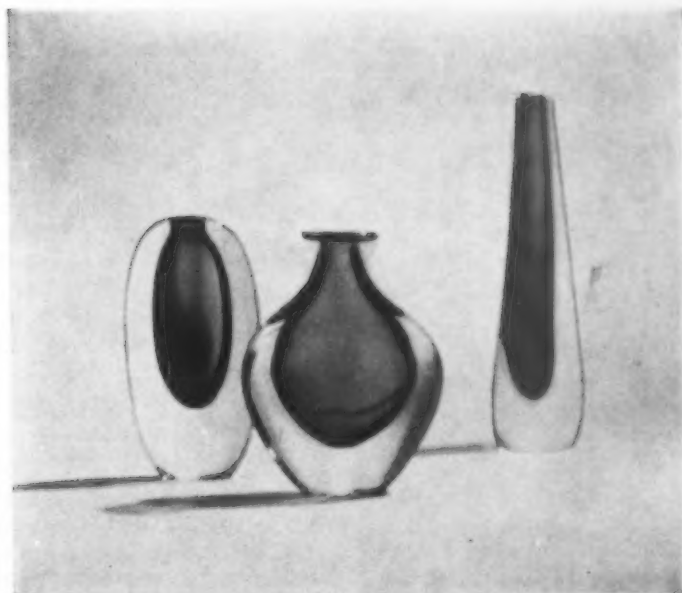
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# NAIRN ANSWERS YOUR QUESTIONS

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**Q** What thickness of linoleum do you recommend for different installations?

**A** Much depends on the amount of traffic to be expected. Nairn linoleum ranges in thickness from 6.7 mm to 1.4 mm. The 6.7 mm gauge linoleum ( $\frac{1}{4}$ " ) is best used in public buildings, theatres, cinemas, hotels and hospitals. In offices, schools and department stores, we recommend 4.5 mm linoleum ( $\frac{3}{16}$ " ) which is also suitable for hotels and hospitals. The 3.2 mm linoleum ( $\frac{1}{8}$ " ) is more suited to restaurants, cafés, shops and offices; for smaller offices, however, the 2.5 mm ( $\frac{1}{16}$ " ) is sufficient. (For greater detail, see the Nairn Design Book, mentioned at the foot of the facing page.)

*Left: Store at South End, Croydon. 6.7 mm contractor-cut tiles in heavy traffic areas; 3.2 mm sheet linoleum in stockrooms. One of a series of International Stores being laid with 6.7, 4.5 and 3.2 mm Nairn linoleum.*

*Courtesy: International Tea Co Ltd (Senior architect: W. J. Lee LRIBA, ARCS)  
Flooring contractors: Lewis Bros (Kings Cross) Ltd*



**Q** Does floor-warming affect linoleum? Is there any special technique for laying linoleum where floor-warming is installed?

**A** A screed surface temperature of up to 80° F, which is usually right for a floor-warming system, does not affect linoleum. As long as the floor is dry, the normal laying procedure is satisfactory. If you have a concrete floor, however, you should allow the normal drying time, run the heating system for a few days to dry out the floor, and then test it by hygrometer for moisture content. The heating should be turned off for one day before linoleum is laid, and should not be turned on again for two or three days after laying is completed, so as to allow the adhesive to mature.

*Left: 3.2 mm Nairn linoleum laid over electric underfloor heating system in London offices.*

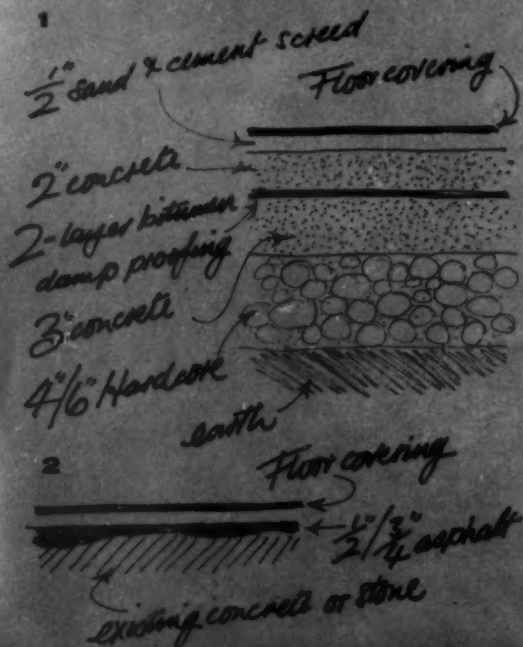
*Courtesy: Atomic Power Constructions Ltd  
Flooring contractors: Lewis Bros (Kings Cross) Ltd*

**Q** What makes a good damp-proof course for linoleum?

**A** There are four answers to this question:

- Hot-applied mastic asphalt or pitch mastic flooring, laid  $\frac{1}{2}$ " thick (BS Code of Practice CP 203 [1951]).
- Hot-laid pitch or bitumen in the form of a sandwich membrane, laid at least  $\frac{1}{2}$ " thick.
- Cold-applied pitch or bitumen solutions are impervious to water but not always to water vapour. It is essential to use high quality materials and to lay them strictly in accordance with the makers' instructions. High spots on the concrete must be well covered.
- On the Continent and in America, a sandwich membrane of polythene at least five-thousandths of an inch thick is being used more and more. Many of these installations are reported successful; but it is too early yet to recommend this method unreservedly.

*Left: 1 Recommended construction of damp-proof membrane 2 treatment of old floor built without damp-proof membrane.*





# ON LINOLEUM

**Q** What do you think of sealers on linoleum?

**A** As the cost of maintaining floors rises, so more people are using sealing varnishes. These may not eliminate polishing, but they make the need for it less frequent. Usually, sealers based on synthetic resins do not yellow with age as much as those based on natural oils, such as tung oil. In traffic lanes the sealer tends to wear off, and it is difficult to replace the lacquer so that it blends in with the surrounding surface. It may be necessary for the whole surface to be cleaned off and re-sealed to get a good finish.

**Q** Does the sub-floor need a special finish before linoleum is laid on it?

**A** No, it does not. No special finish is necessary. If the surface is firm, level, clean and free from rising moisture, linoleum will suit it perfectly. New concrete floors must dry out and be tested for dampness before laying. This is most important where lightweight screeds and concretes are formed *in situ*; these often take a long time to dry out, and may present a deceptively dry appearance on the surface.

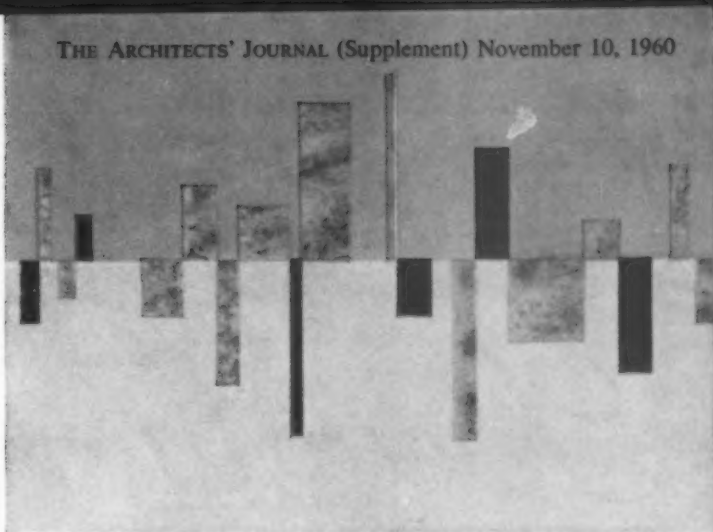


Taking hygrometer reading on a new concrete floor

## Next question?

The queries which we have answered on this page are the ones which architects most frequently ask Nairn representatives. You, too, can quickly get skilled advice and information on anything about floorcovering services—not only linoleum—from your nearest Nairn technical representative.

Meanwhile, if you'd like to read how linoleum can be—and has been—successfully used by modern architects, get a copy of Nairn's new Design Book, *USING LINOLEUM CREATIVELY*. The designs shown above are two of the many examples in this Nairn booklet of the creative opportunities which linoleum offers. We'll send you a copy free if you'll drop us a card.



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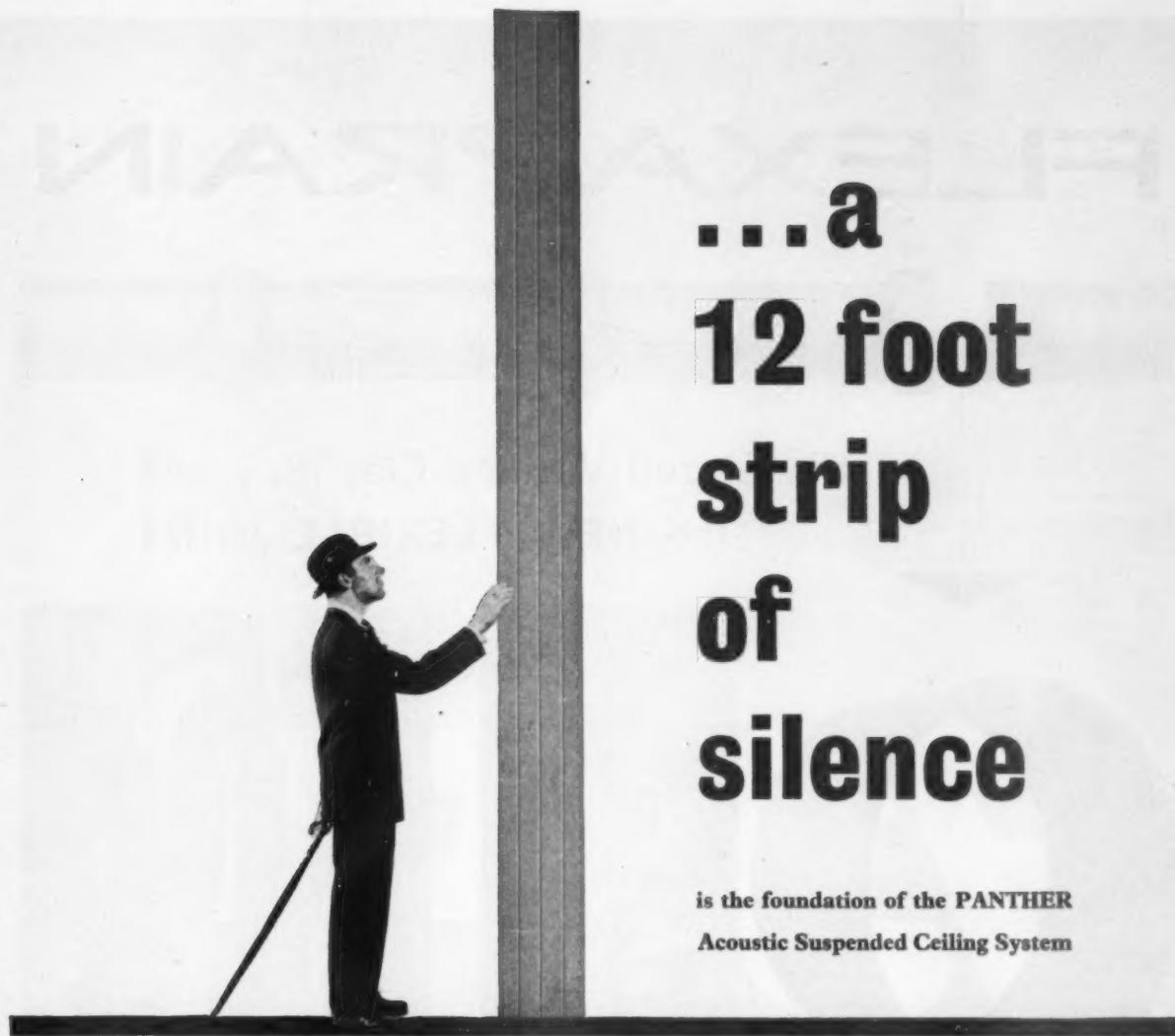
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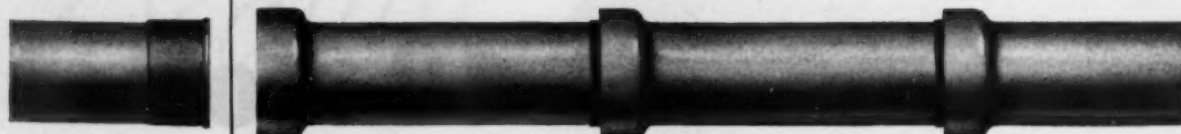


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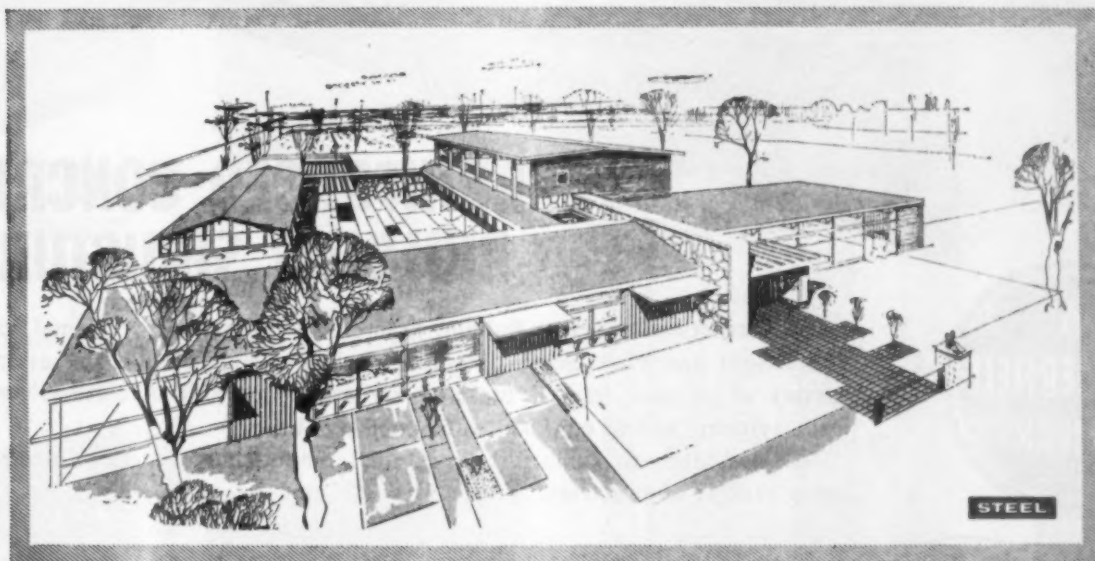
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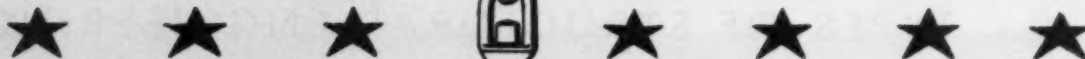
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List No. 902—double entry cable clamp.

MK have introduced a new range of boxes and clamps for M.I.C.C. cable. Single or double entry clamps are interchangeable with any of the boxes and are supplied separately with fixing screws and shakeproof washers. Steel boxes and cable clamps are zinc plated.

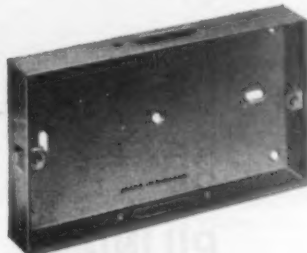
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## PLASTER-DEPTH BOXES FOR M.I.C.C. CABLE

These boxes have one clear entry and one knockout for attaching either single or double entry cable clamps.



List No. 3951 — Plaster-depth box with 2 1/2" fixing centres.



List No. 3952 — Plaster-depth box with 4 1/2" fixing centres.

## DEEP BOXES FOR M.I.C.C. CABLE

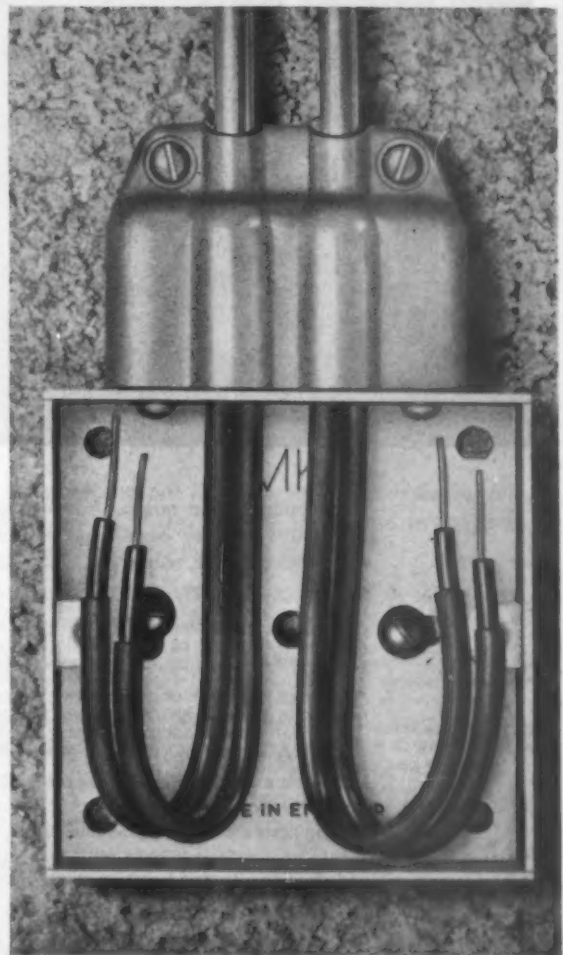
Deep boxes have one clear entry on one side and one knockout on each of the other three sides and one in the back to which can be attached a single or double entry cable clamp.



List No. 681 — Box to BS 1299/1363 dimensions having 2 1/2" fixing centres.



List No. 682 — Box to accommodate any two gang MK accessory.

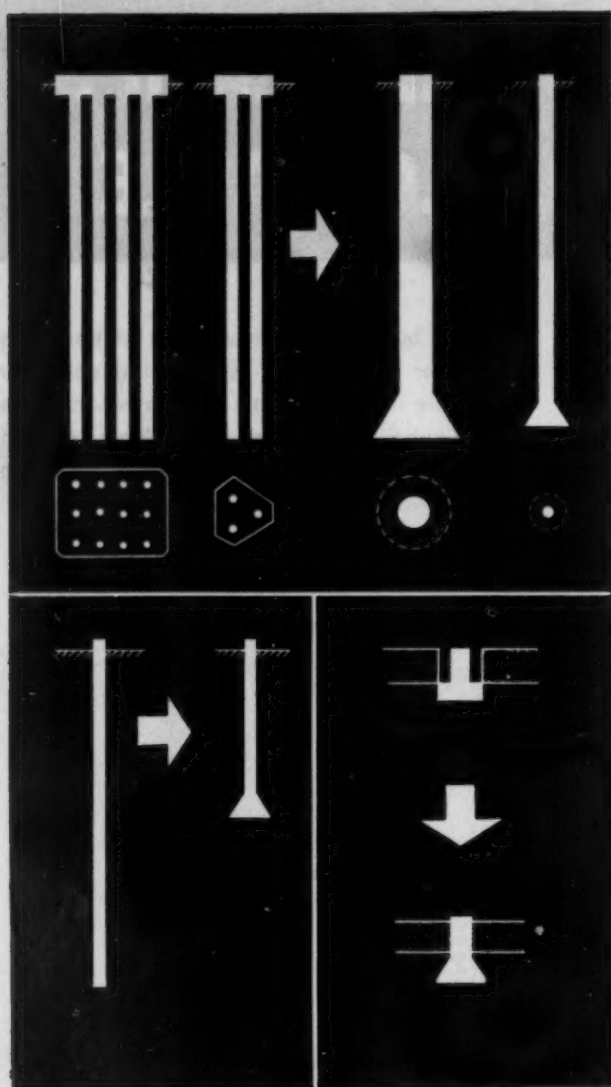


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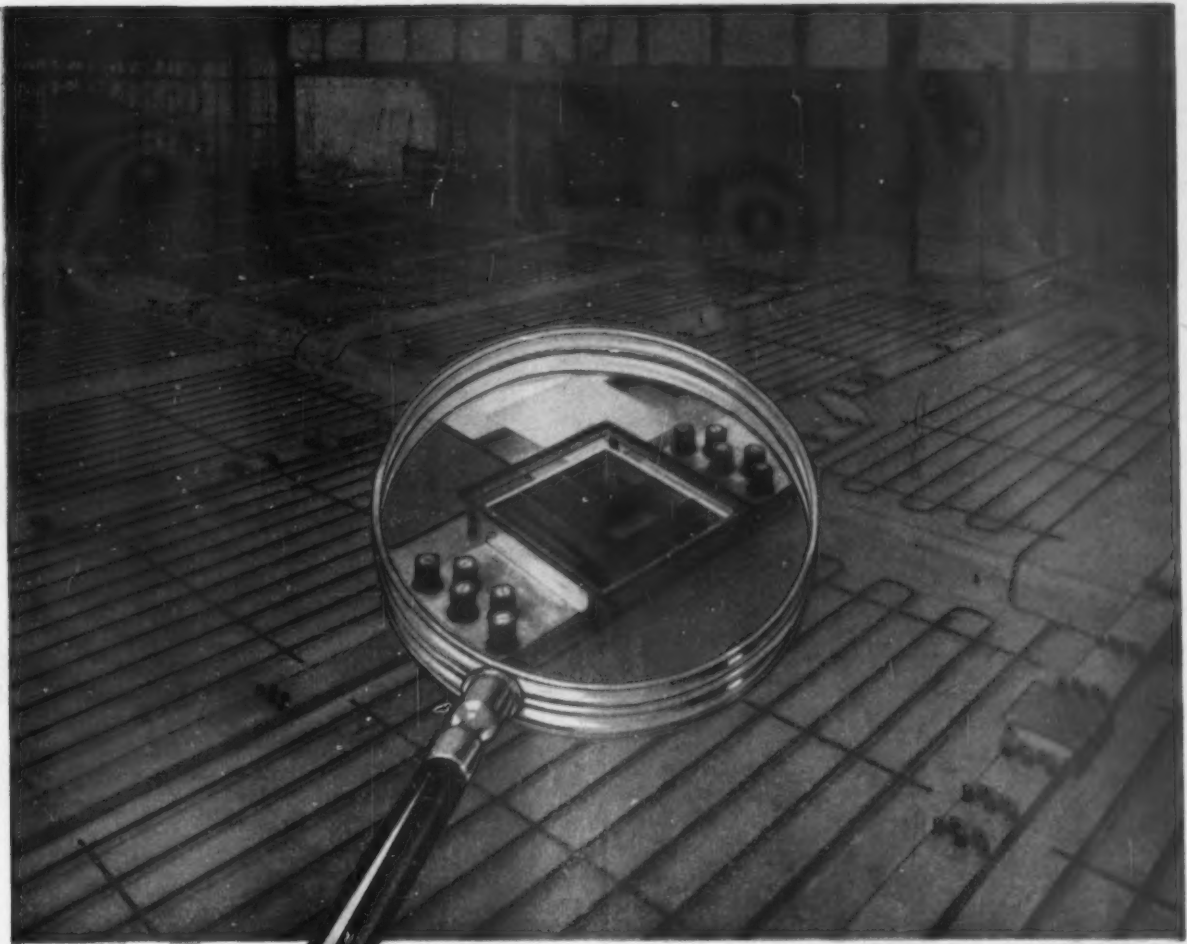
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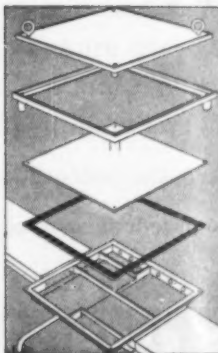
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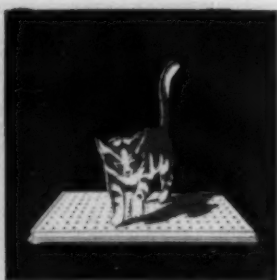
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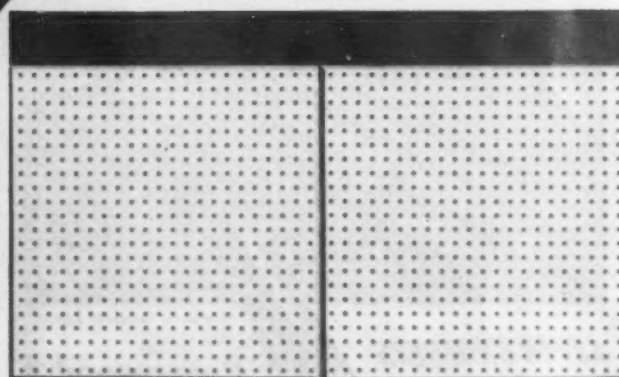
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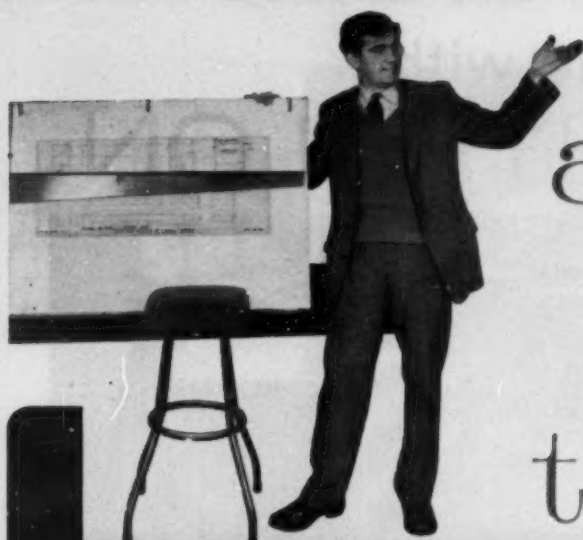


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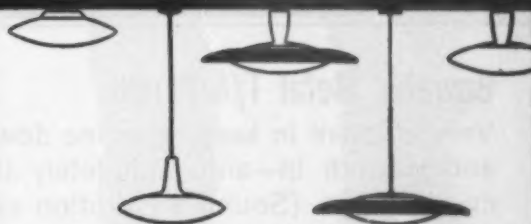
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Think of the money saved  
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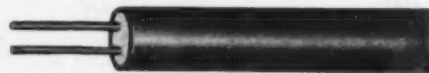
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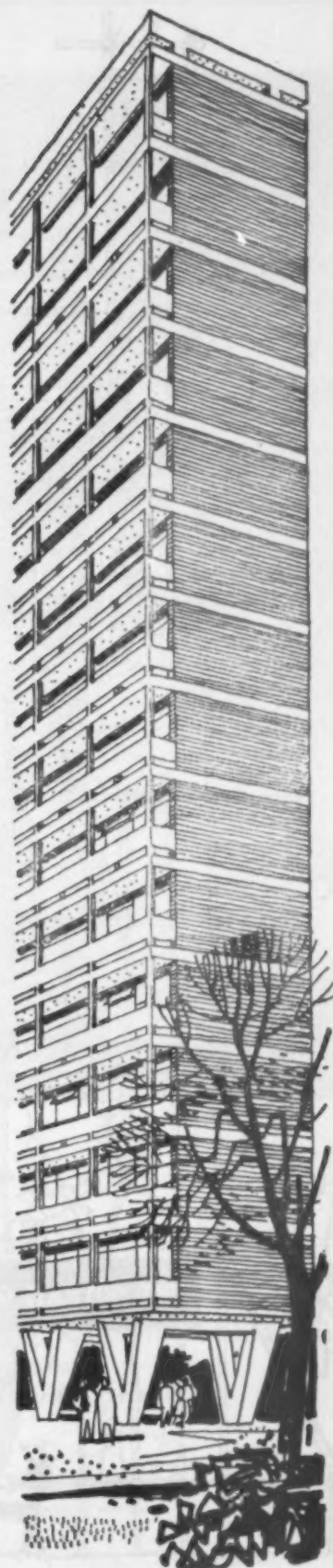
Costs naturally vary widely with the installation. However, assuming a 600 sq. ft. flat with 8 ft. ceilings the capital cost would probably be between £165 and £180, and the operating cost with gas at 13d. to 21d. per therm would be between 10/- and 16/- a week.

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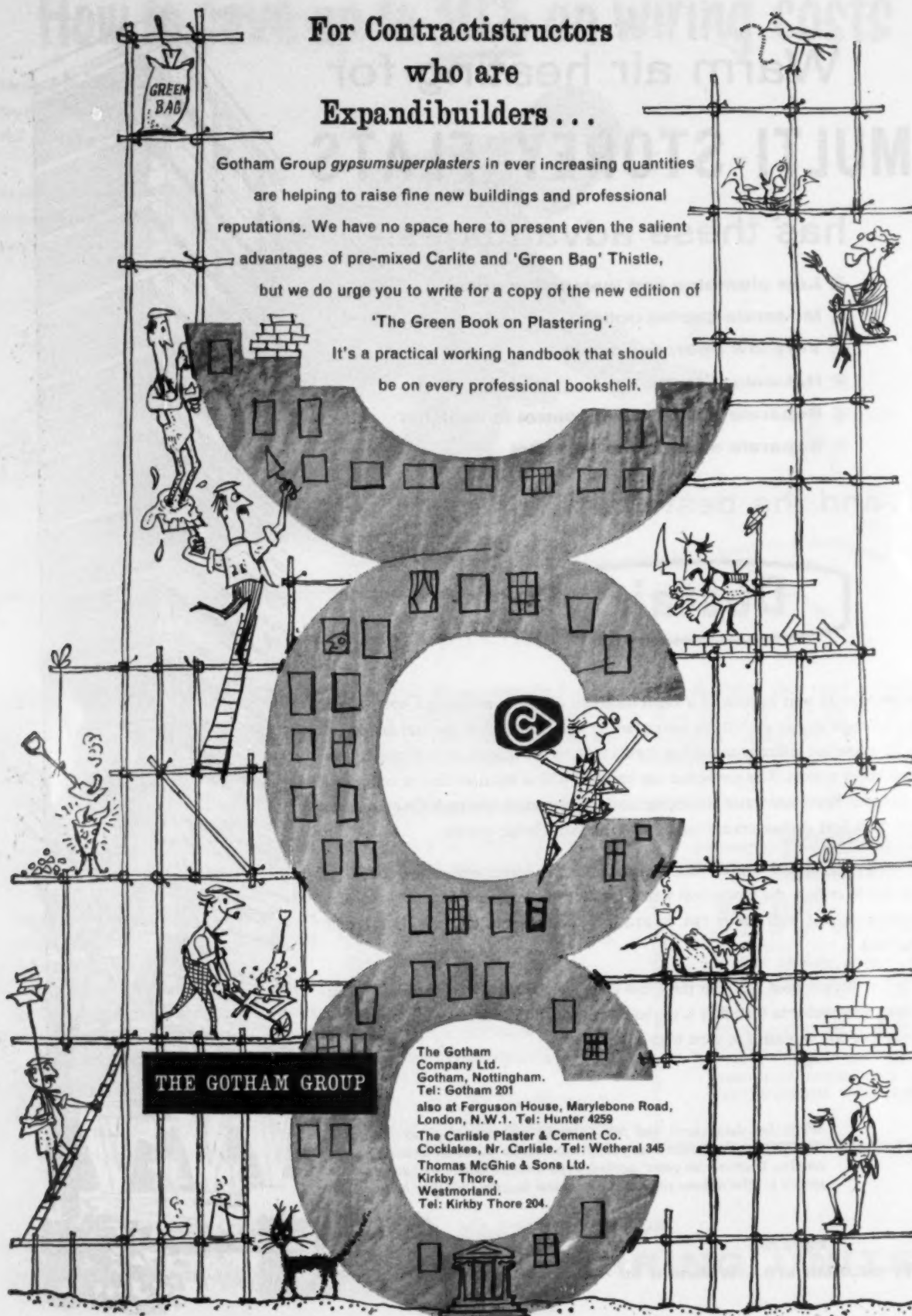


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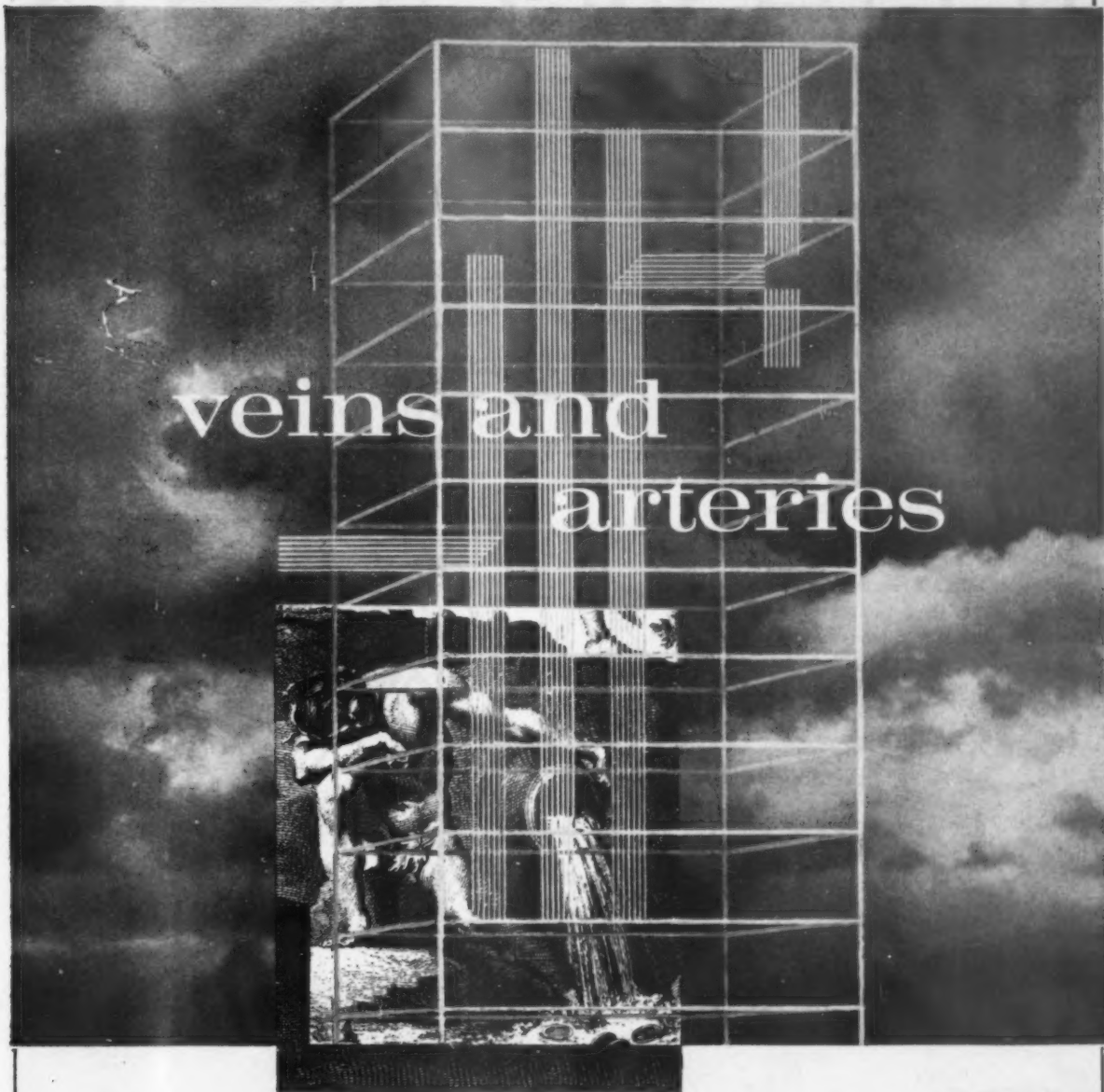
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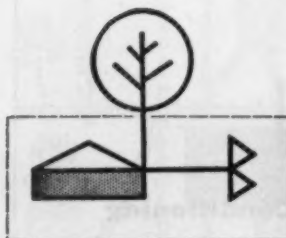
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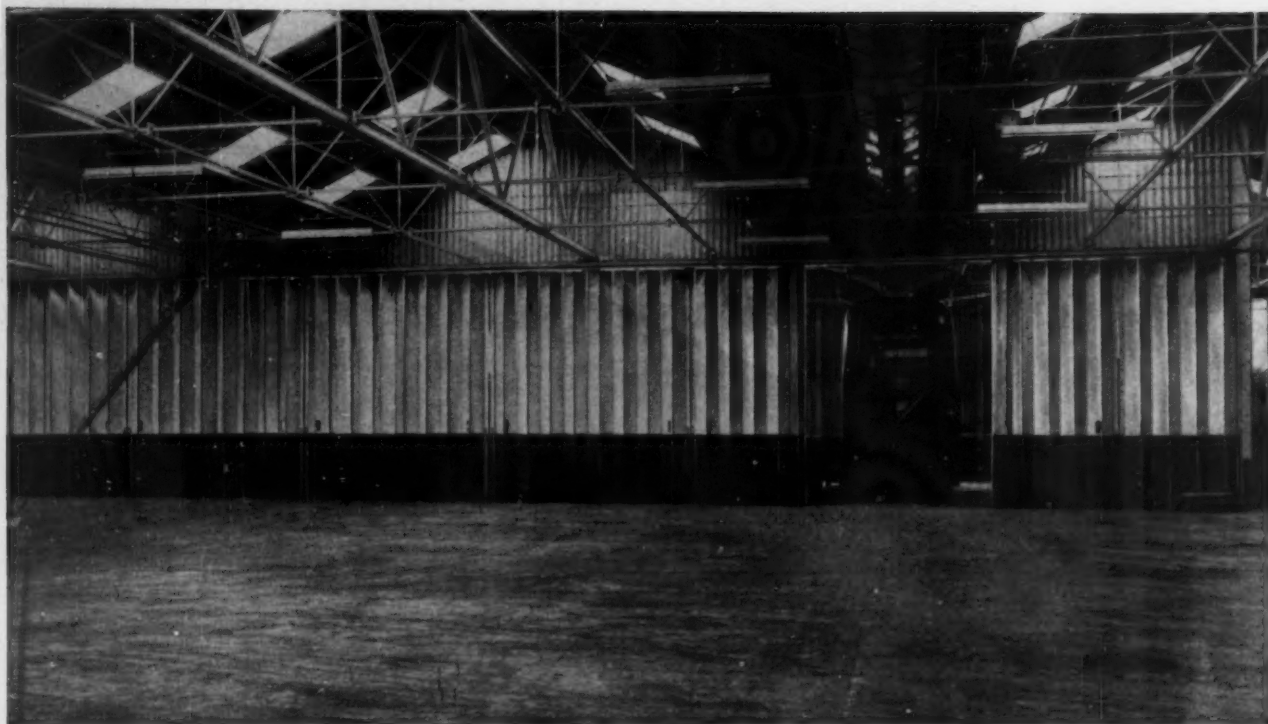
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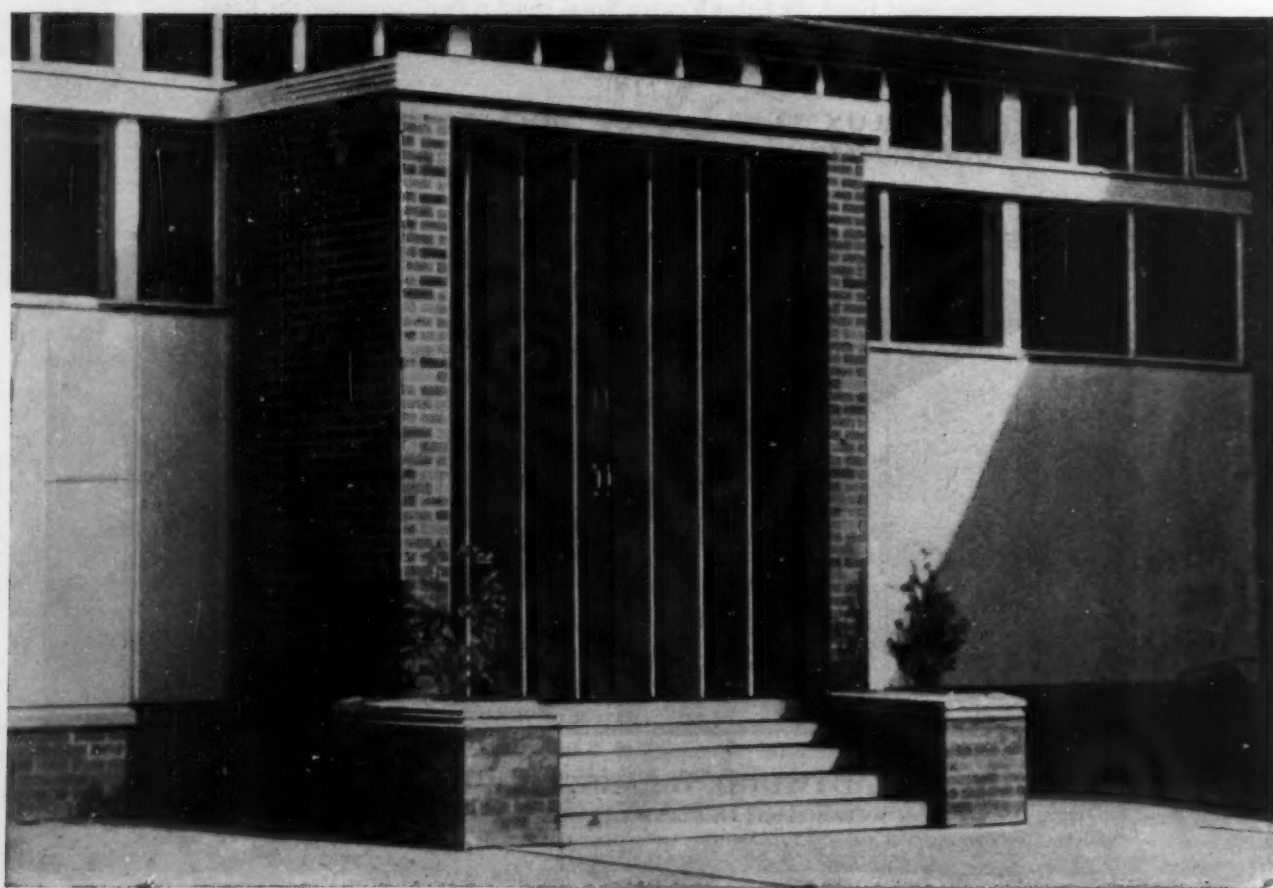
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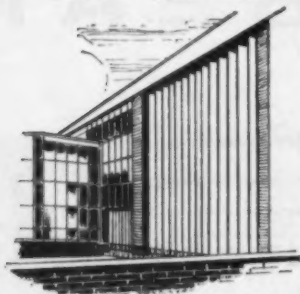
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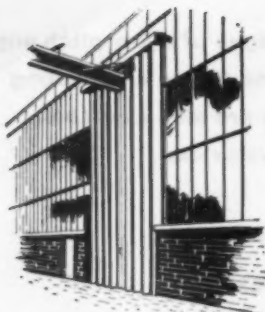


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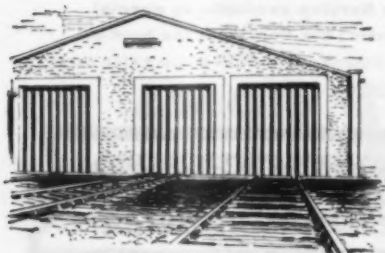


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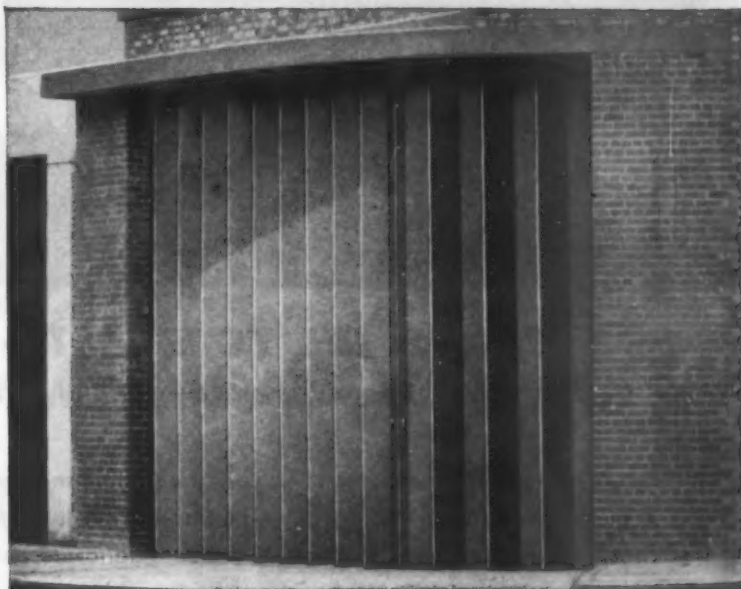


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meeting at an angle. Our latest  
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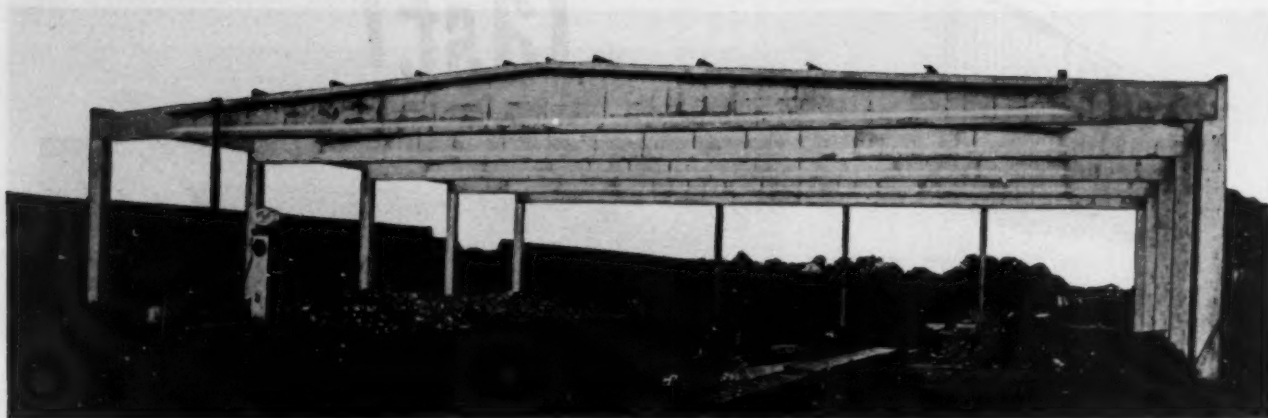
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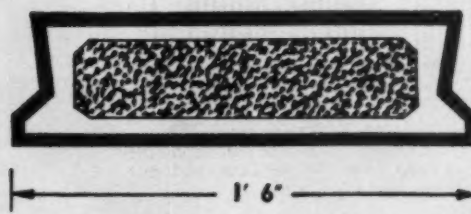
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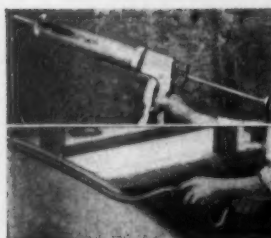
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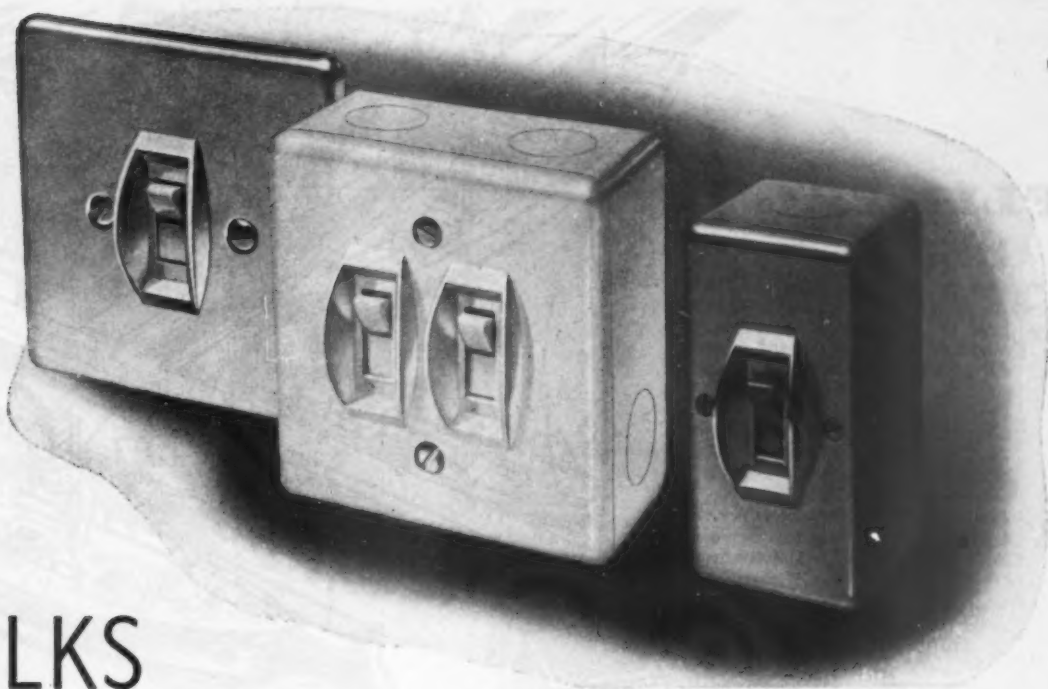
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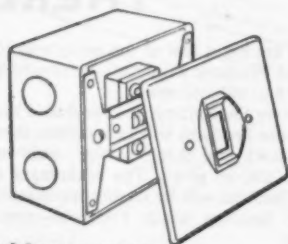
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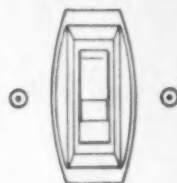
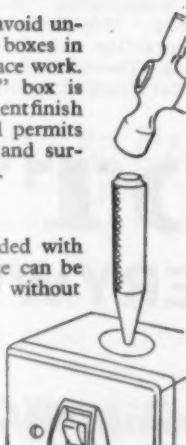


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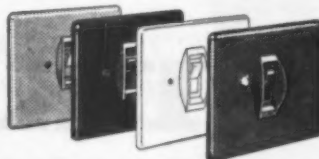


## Effective dolly protection

The dolly cannot be damaged owing to the raised side protectors which also add distinction to the design.

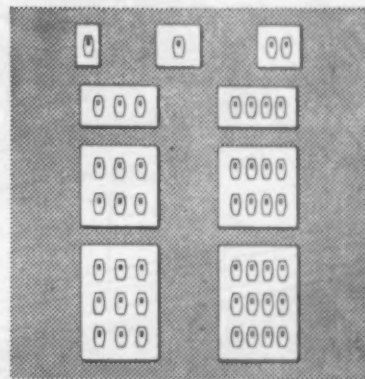
## Secret fixing

Where required for schools and institutions all models can be supplied with plate fixing by miniature Allen screws.



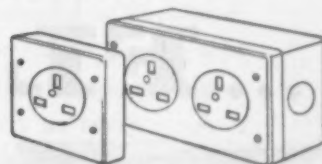
## Choice of finishes

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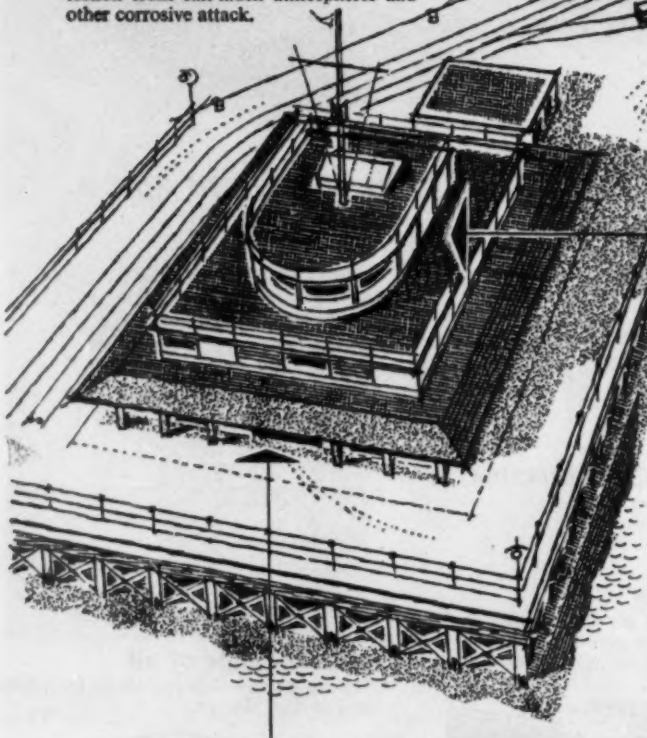
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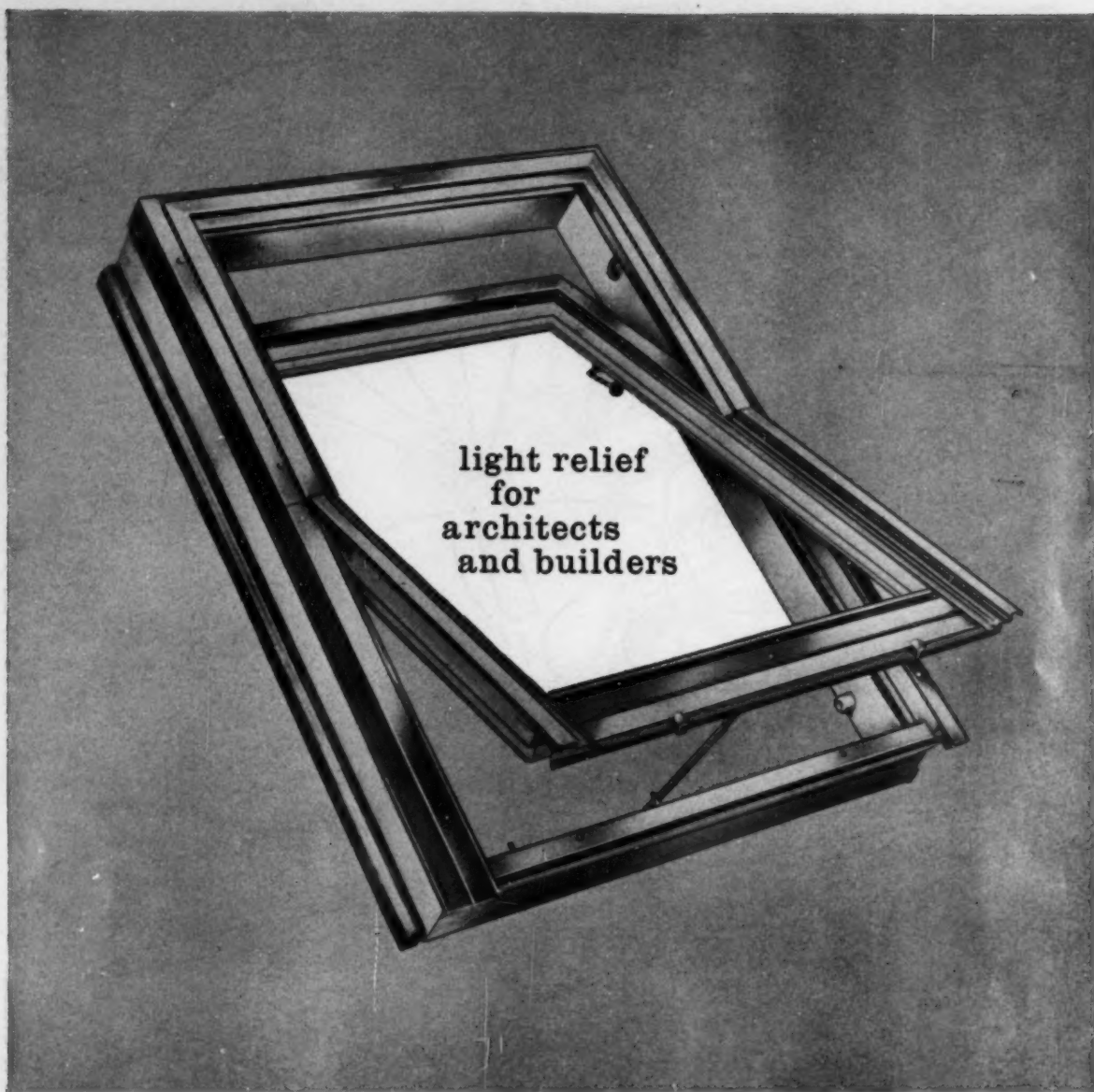
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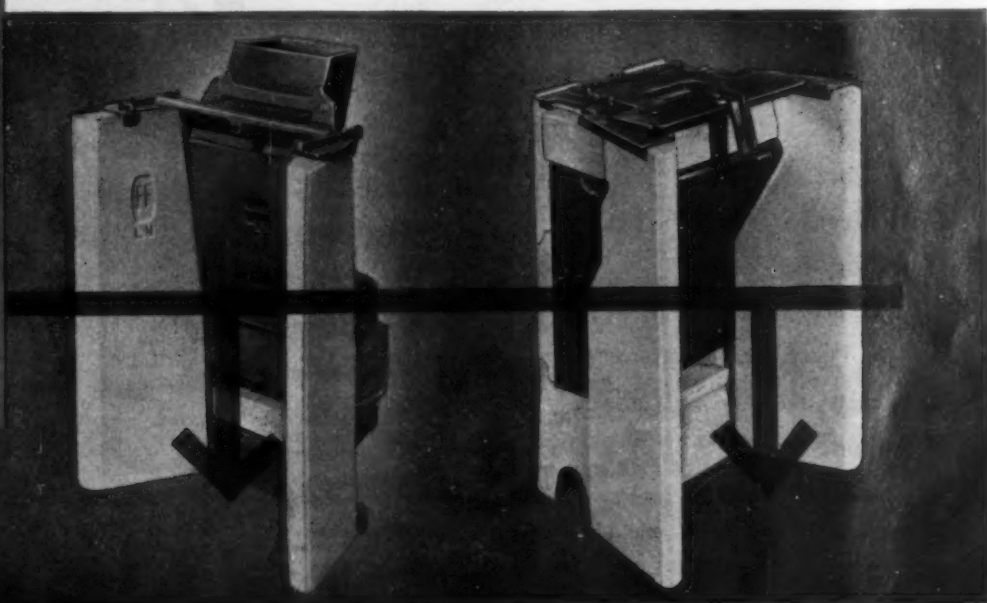
### SOFONO HIGH DUTY FLUE SET

**Materials, Finishes:** Flue set in refractory bricks. Cast-iron boiler damper frame, sliding damper. Sofono Inset fire in cast-iron, vitreous enamelled in choice of 8 colours. Mild steel ashpan. Boiler in cast-iron, wrought-welded steel or copper. Cast-iron throat restrictor. **Space Heating:** Rooms up to 1,500 cu. ft. **Boiler:** Max. maintainable — 18,000 B.T.U./Hr. **Domestic Hot Water:** Raises 18 gallons from 50° F. to 150° F. hourly. **Combined System:** Heats water through 30 gallon cylinder and heats 45 sq. ft. of radiators. **Radiators only:** Serves 80 sq. ft. **Fire:** Any 16" Sofono continuous fire suitable. Luminous gas ignition burner available. **Construction:** Stool for boiler; two-piece back brick to boiler flue; two cheek bricks. Cast-iron damper frame, sliding damper. Cast-iron or wrought-welded steel boiler has hand hole, and can be supplied bower-barfied. Two 1½" B.S.P. tapped holes both sides for flow and return. Plugged one side. **Combustion Control:** Adjustable ashpit door to fire. **Installation:** Brickwork opening 22½" wide x 13½" deep x 25" to underside of lintel. **Fire Opening in Surround:** 16" wide x 22" or 24" high. **Tools, Accessories:** Ashpan and tool for combustion control, lifting ashpan, operating flue damper and restrictor.

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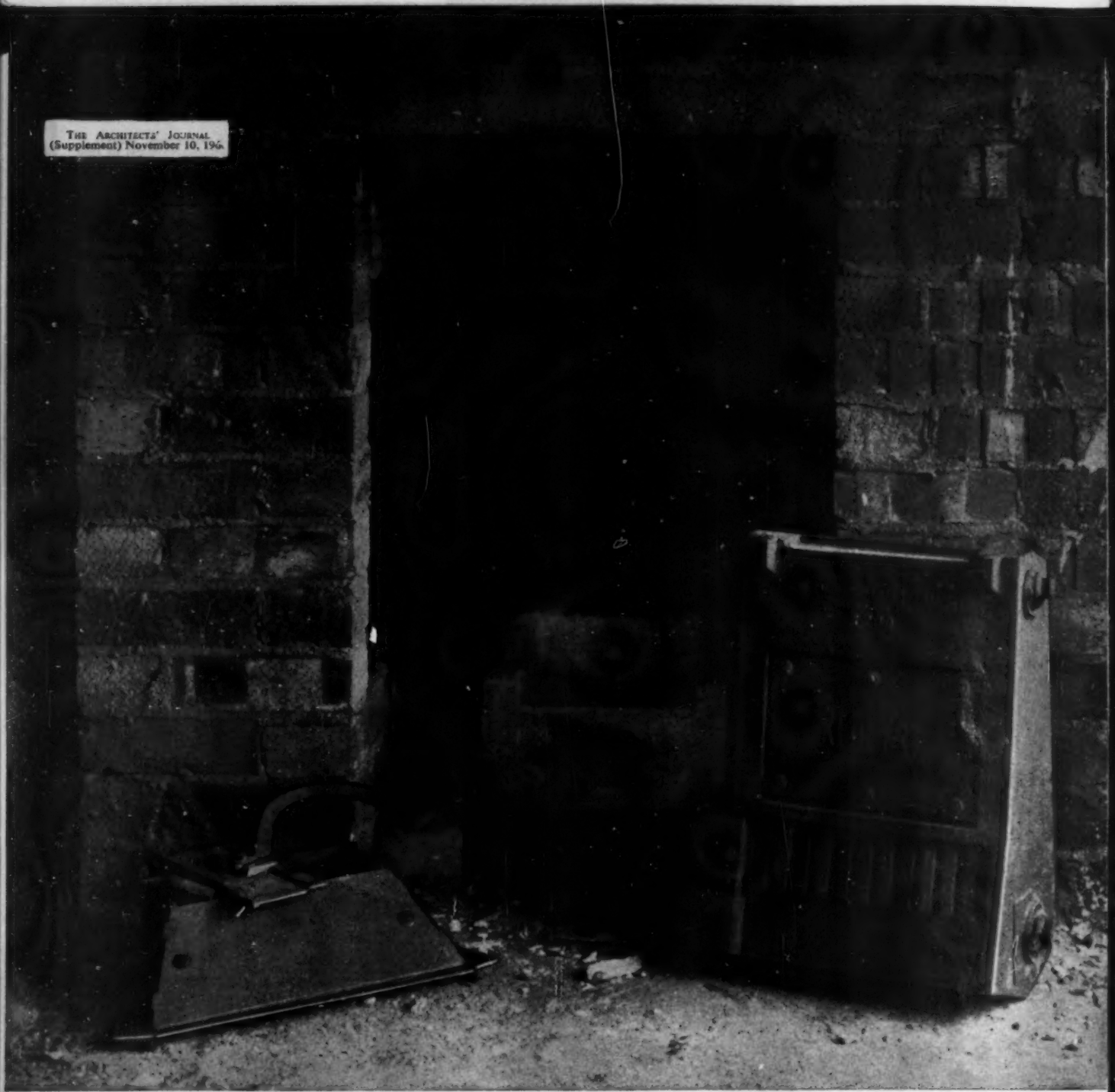
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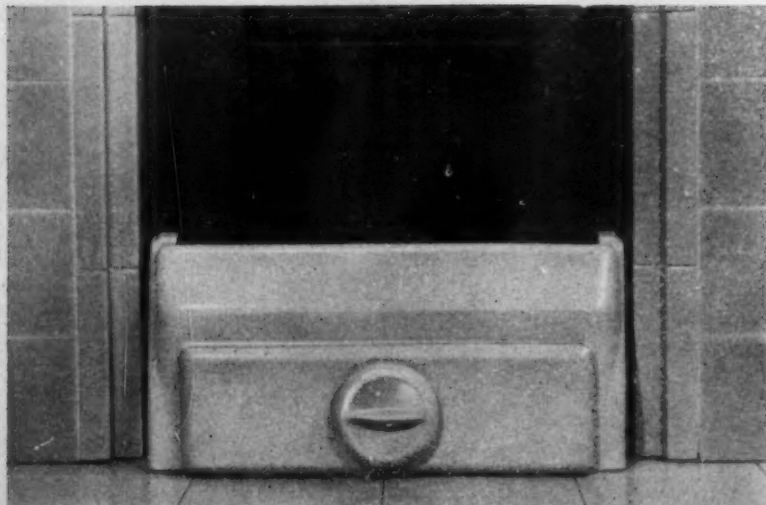
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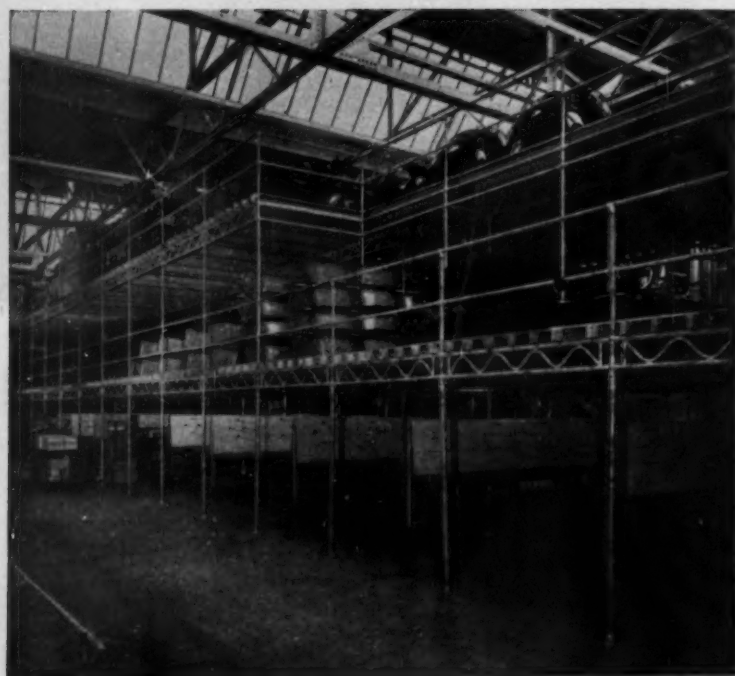
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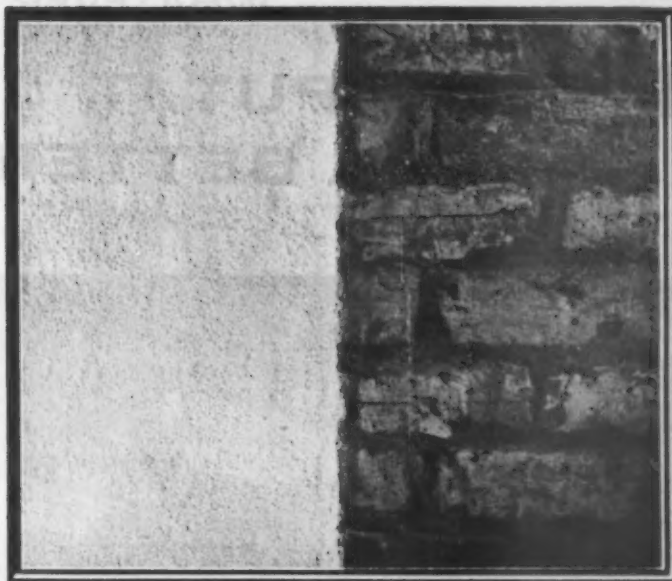
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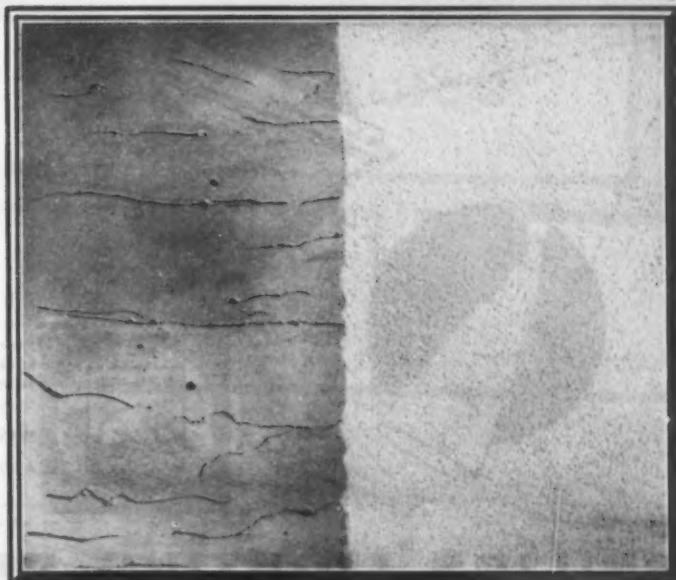
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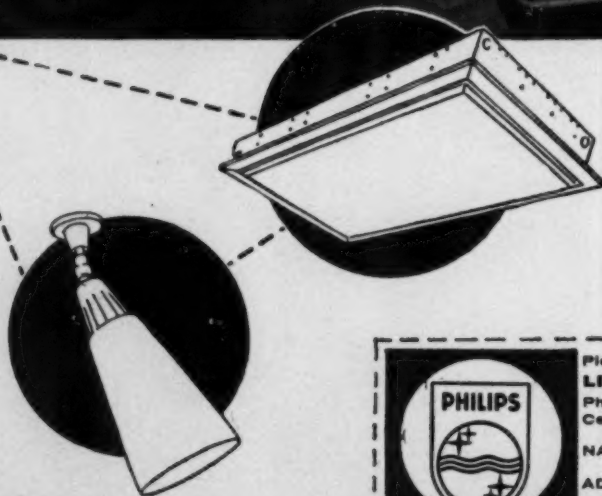


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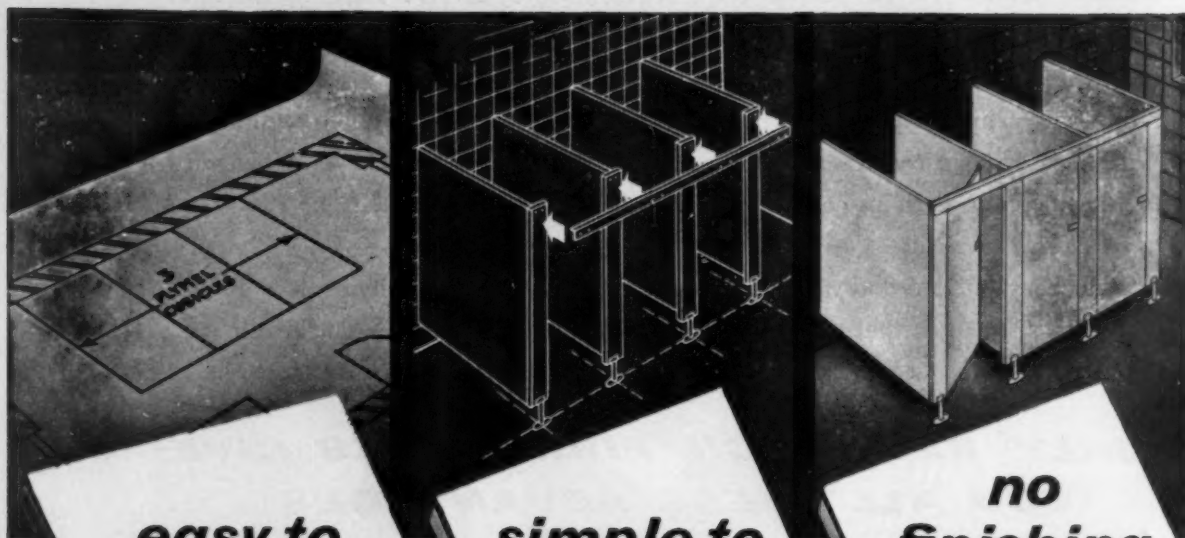
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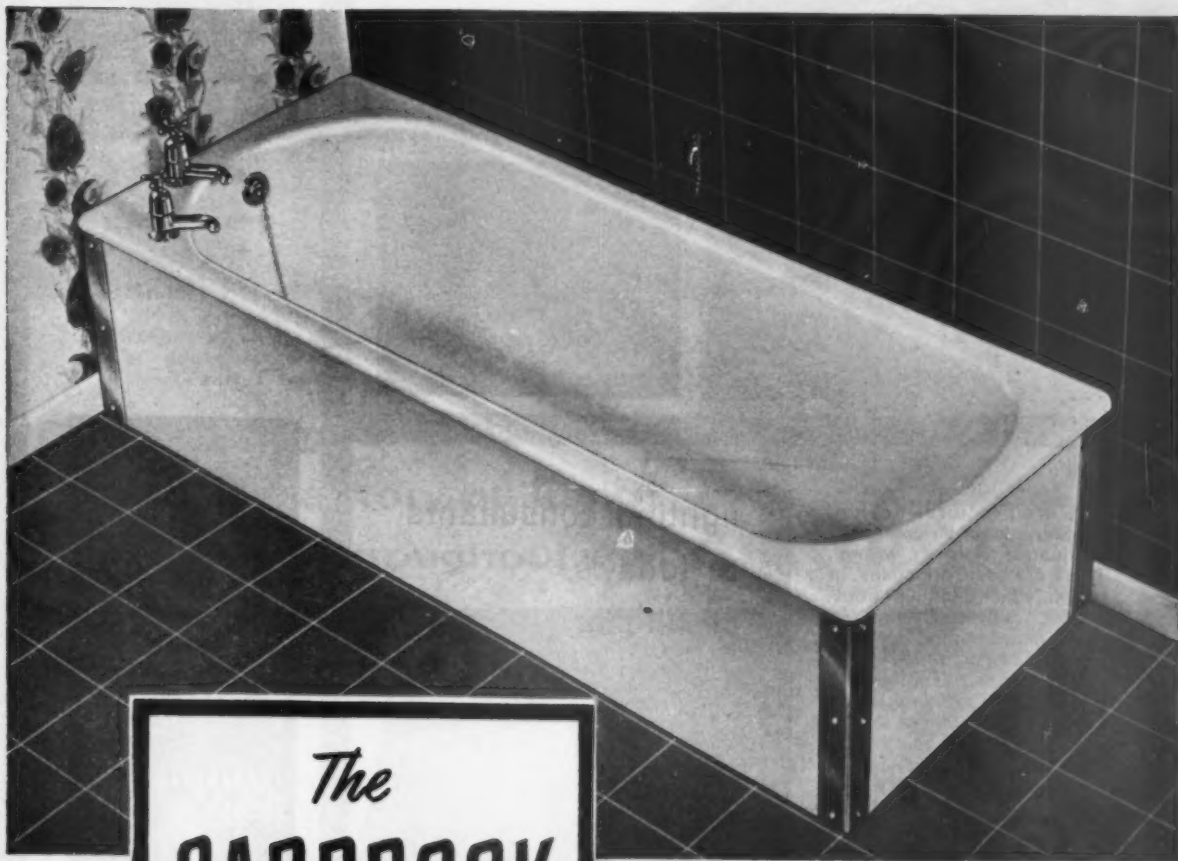
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A



B



C



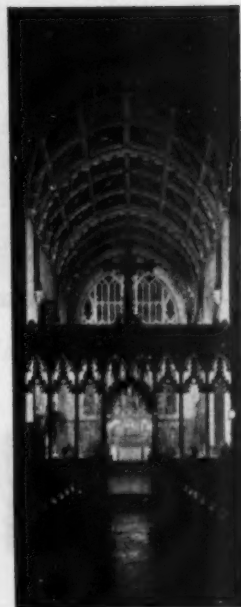
D

Like architectural design, lighting cannot be categorically judged 'right' or 'wrong'. There are basic principles, of course, which cannot be flouted, but it is precisely because of the nuances in effects and efficiencies of lighting that the Atlas Lighting Engineering Department is being called upon so frequently in a consultative capacity. In addition to a first hand knowledge of the latest lighting developments, Atlas lighting engineers have a real appreciation of the aesthetic/functional relationship in modern lighting... and the Lighting Specification which they produce without obligation in co-operation with the architect covers everything from an outline of design considerations to a complete costing schedule.

lighting consultants  
to today's  
architects



E



F

A Lighting trunking for Messrs. Avon Cosmetics Ltd. factory—Chartered Surveyors, Weatherall, Green & Smith, London, WC2

B Atlas Wafer fittings at Thorn House—Architect Basil Spence & Partners

C Royal Observatory, Herstmonceux—Architect Brian O'Rourke FRIBA

D Son et Lumière at HMS Victory, Portsmouth

E Passenger reception for Lincolnshire Road Car Co. Ltd.—Architect F. G. Frizzell ARIBA, AMTP, AILA

F Croydon Parish Church with Son et Lumière in Aurora.

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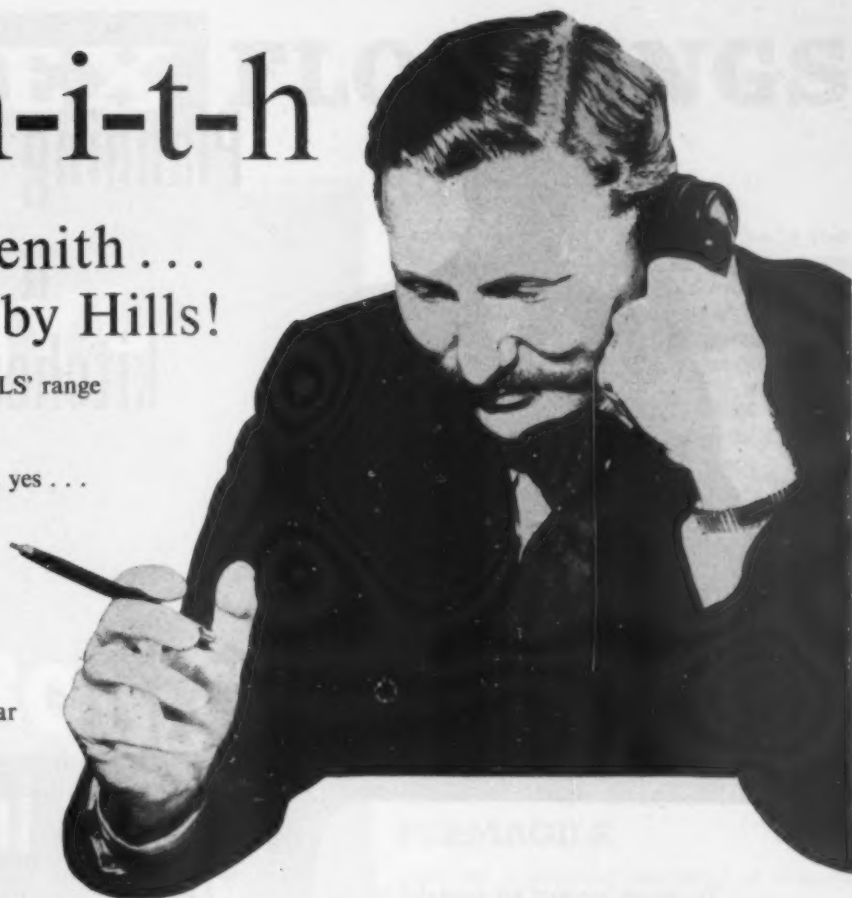
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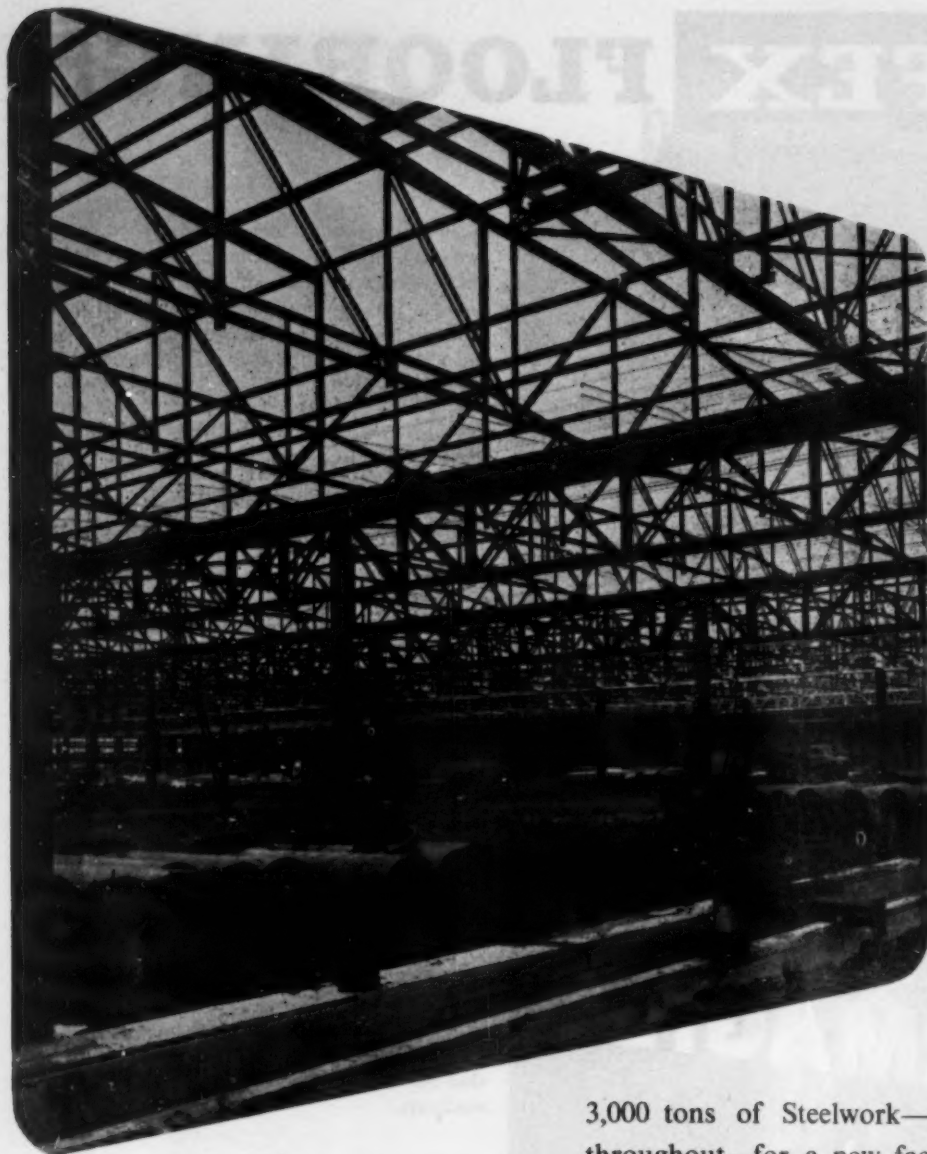
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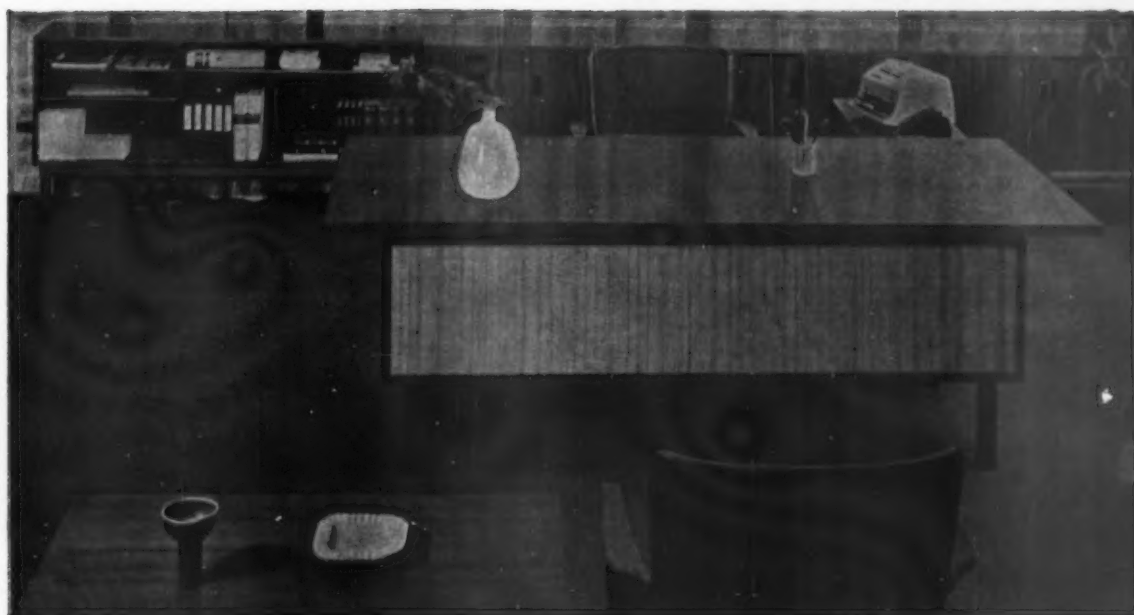


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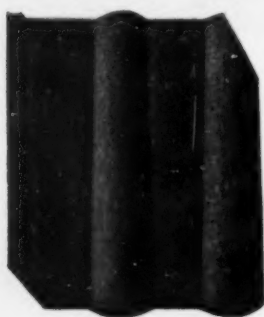
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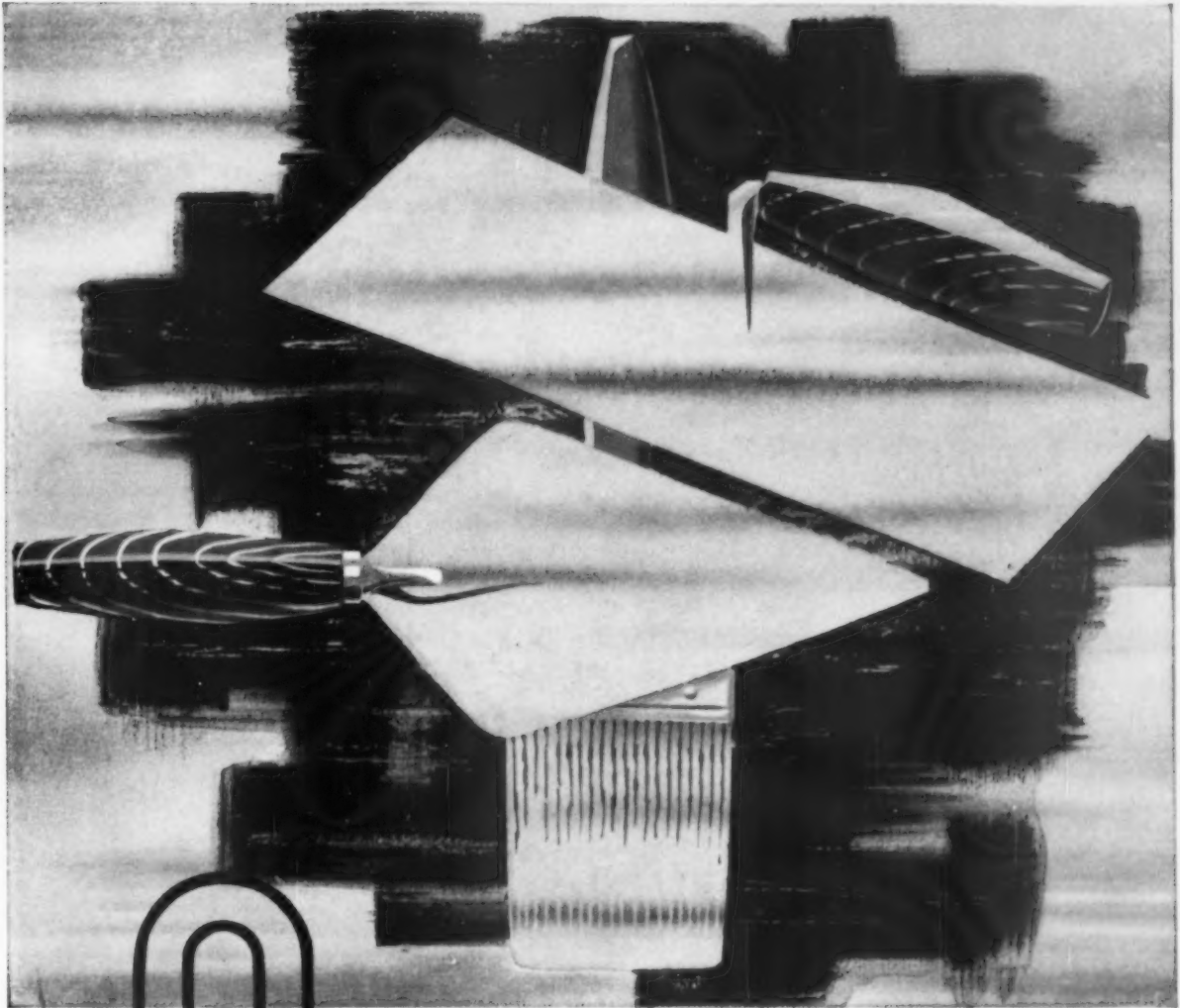


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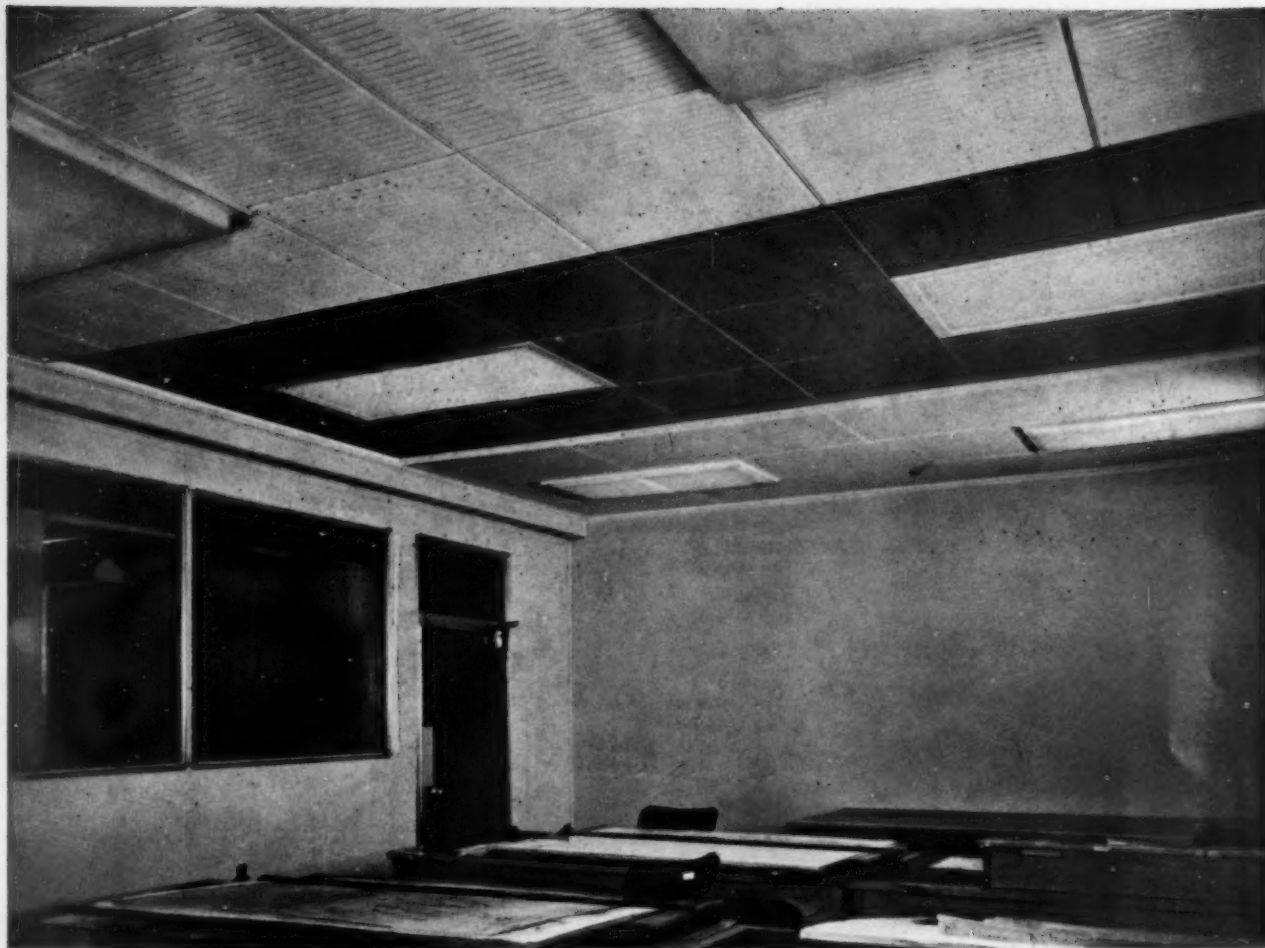
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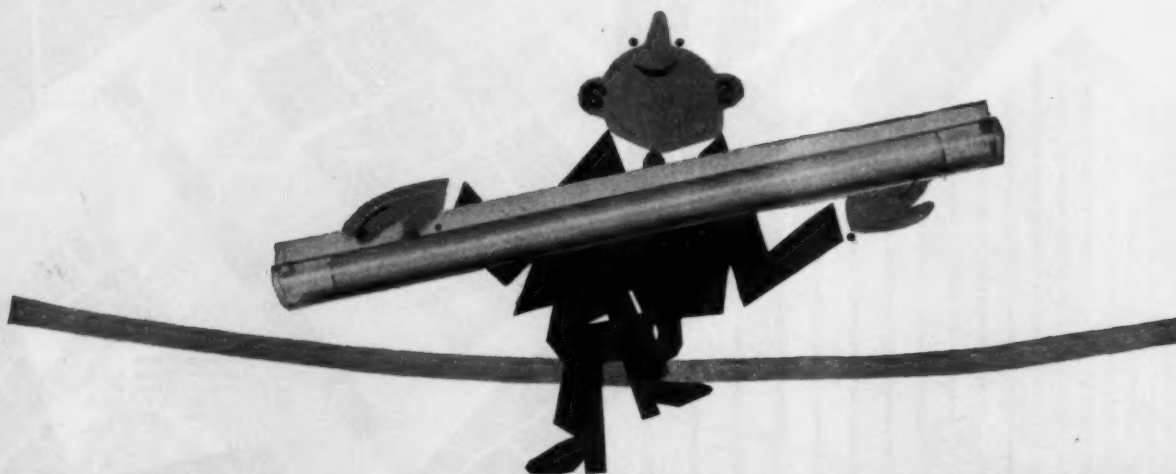
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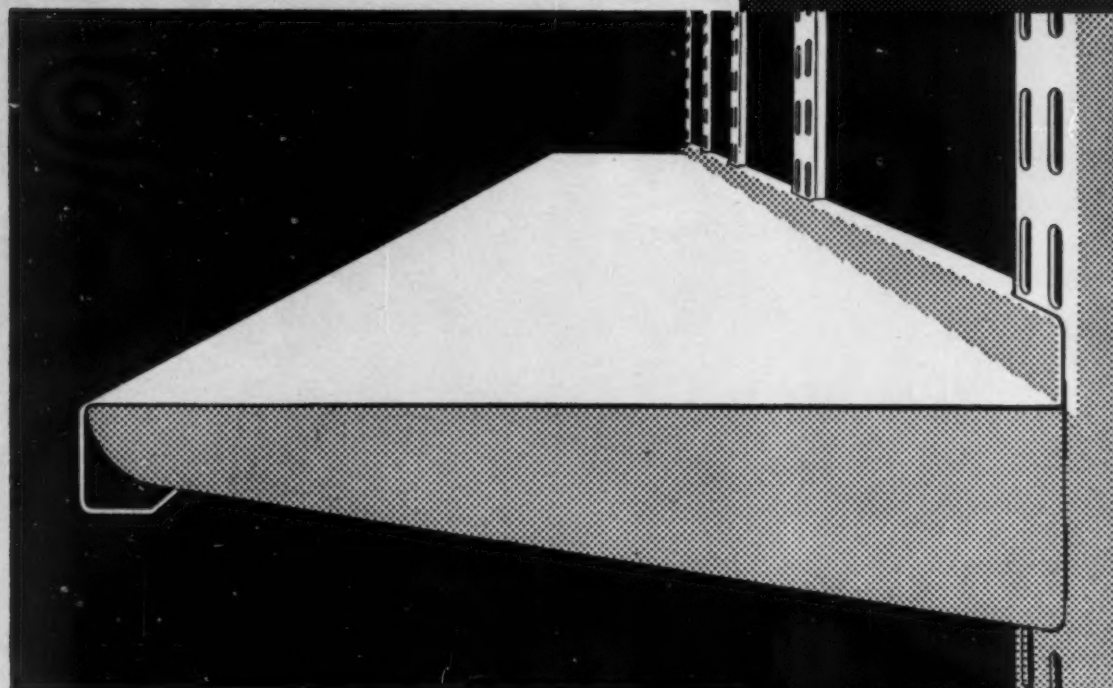
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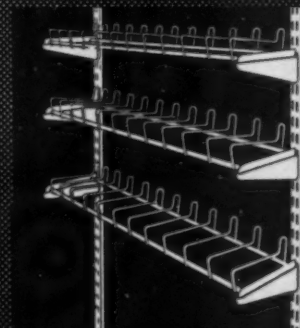
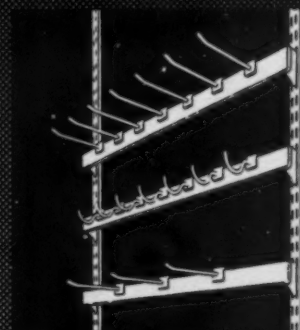
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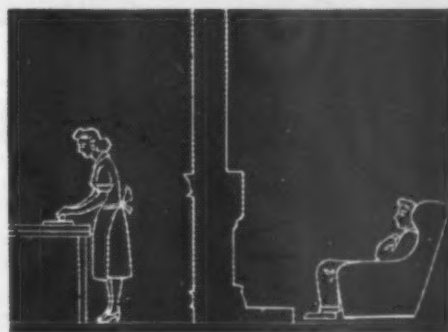
**Ministry approval.** The appliance is approved by the Ministry of Power and is included in the List of Recommended Appliances published by the C.U.C. and the Solid Smokeless Fuels Federation.

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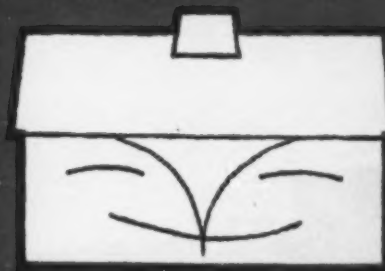
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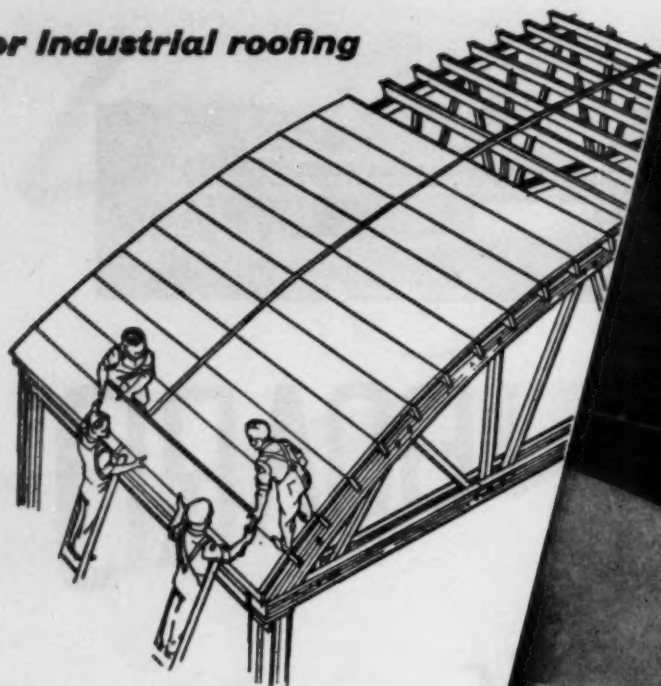
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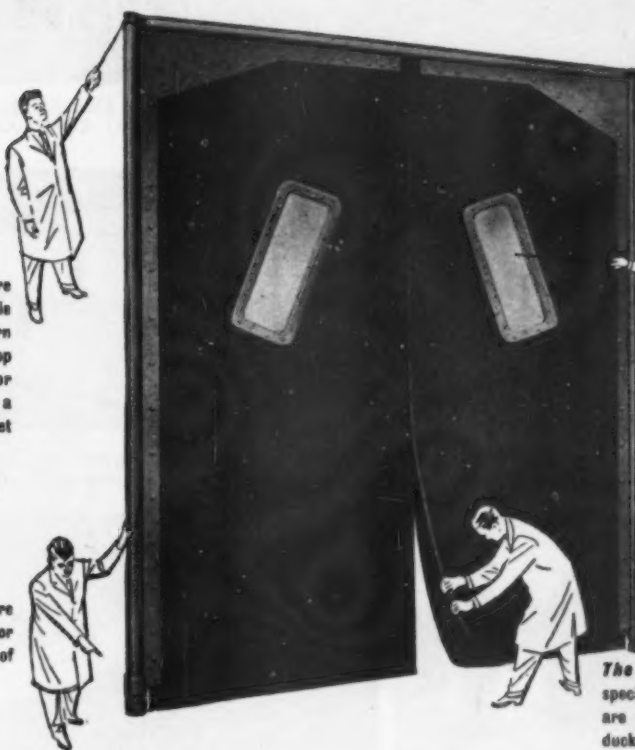
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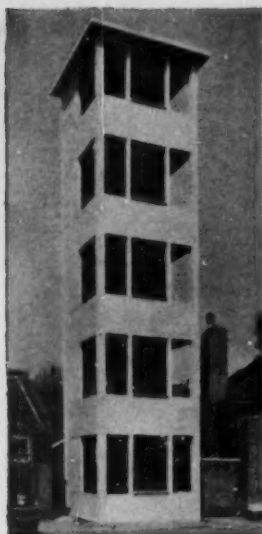
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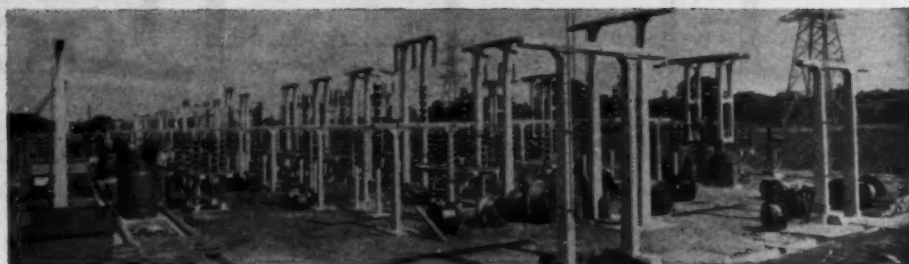
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Croft Precast Concrete Drill and Hose Towers (Photograph by courtesy of Birmingham Corporation Fire Service and "Birmingham Post").

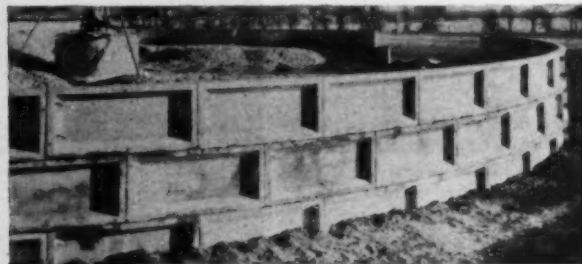
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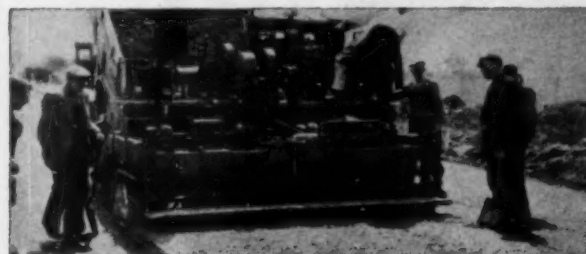
Croft Precast Granite Concrete Electrical Structures at the Penn 132 K.V. sub-station. Authority: Central Electricity Generating Board.



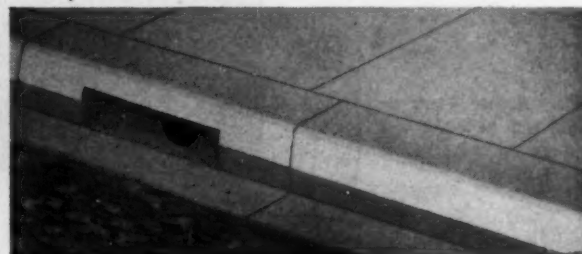
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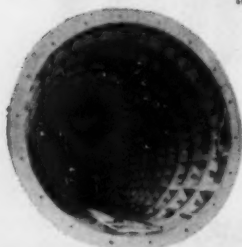
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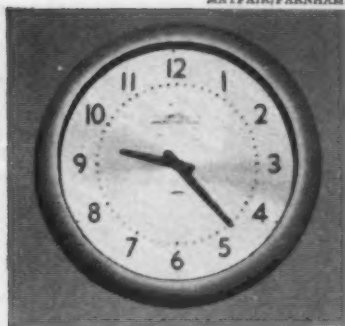
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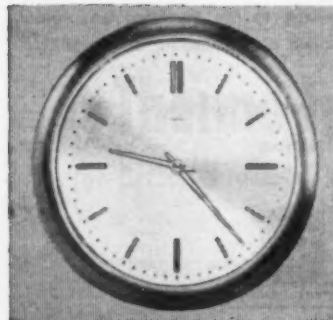


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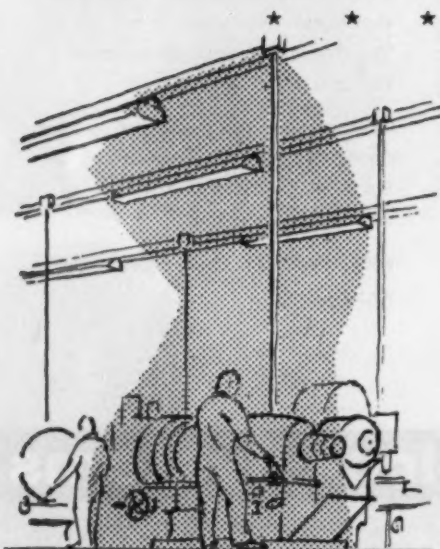
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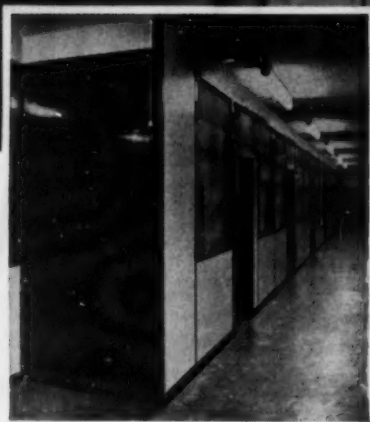
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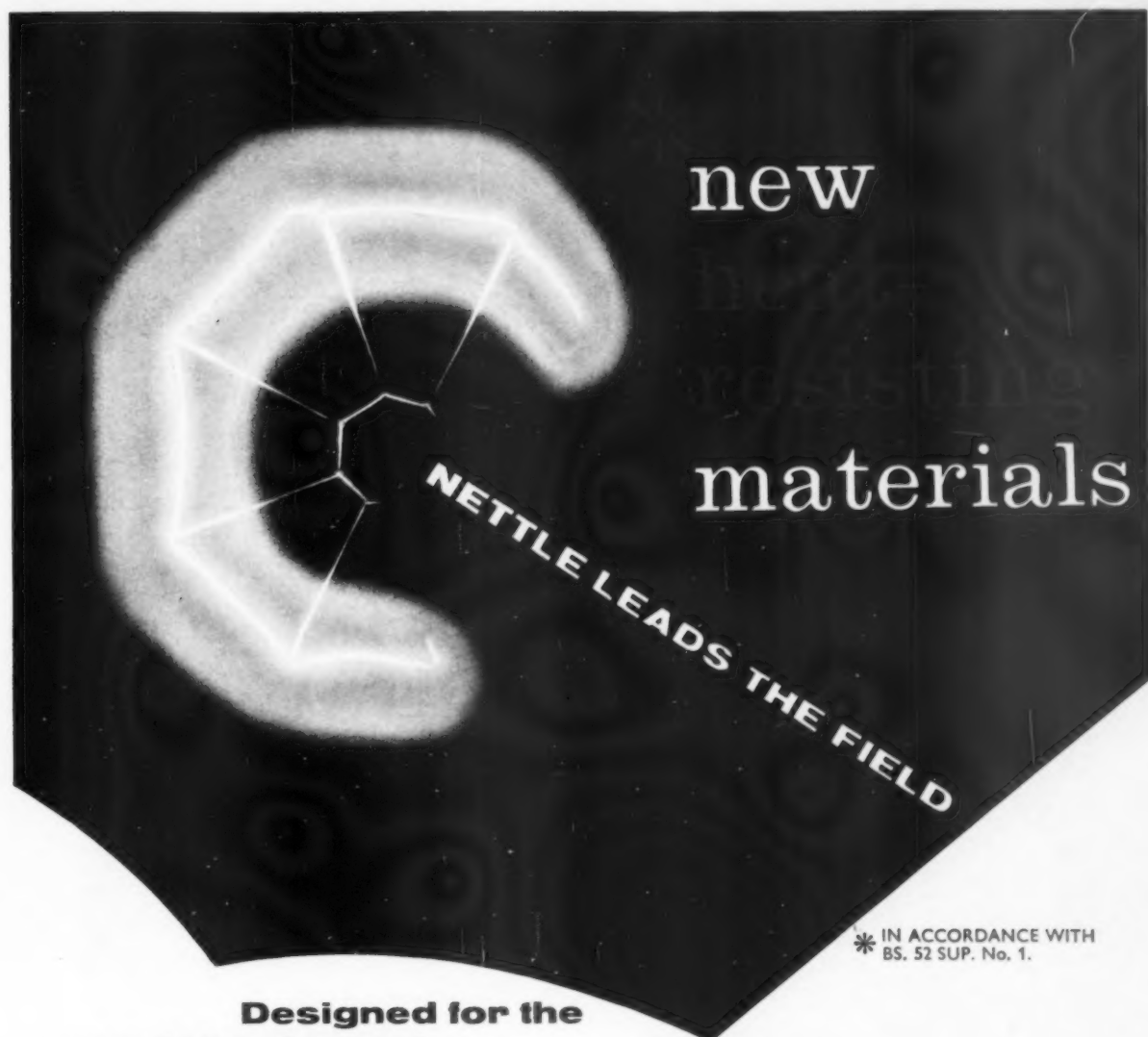


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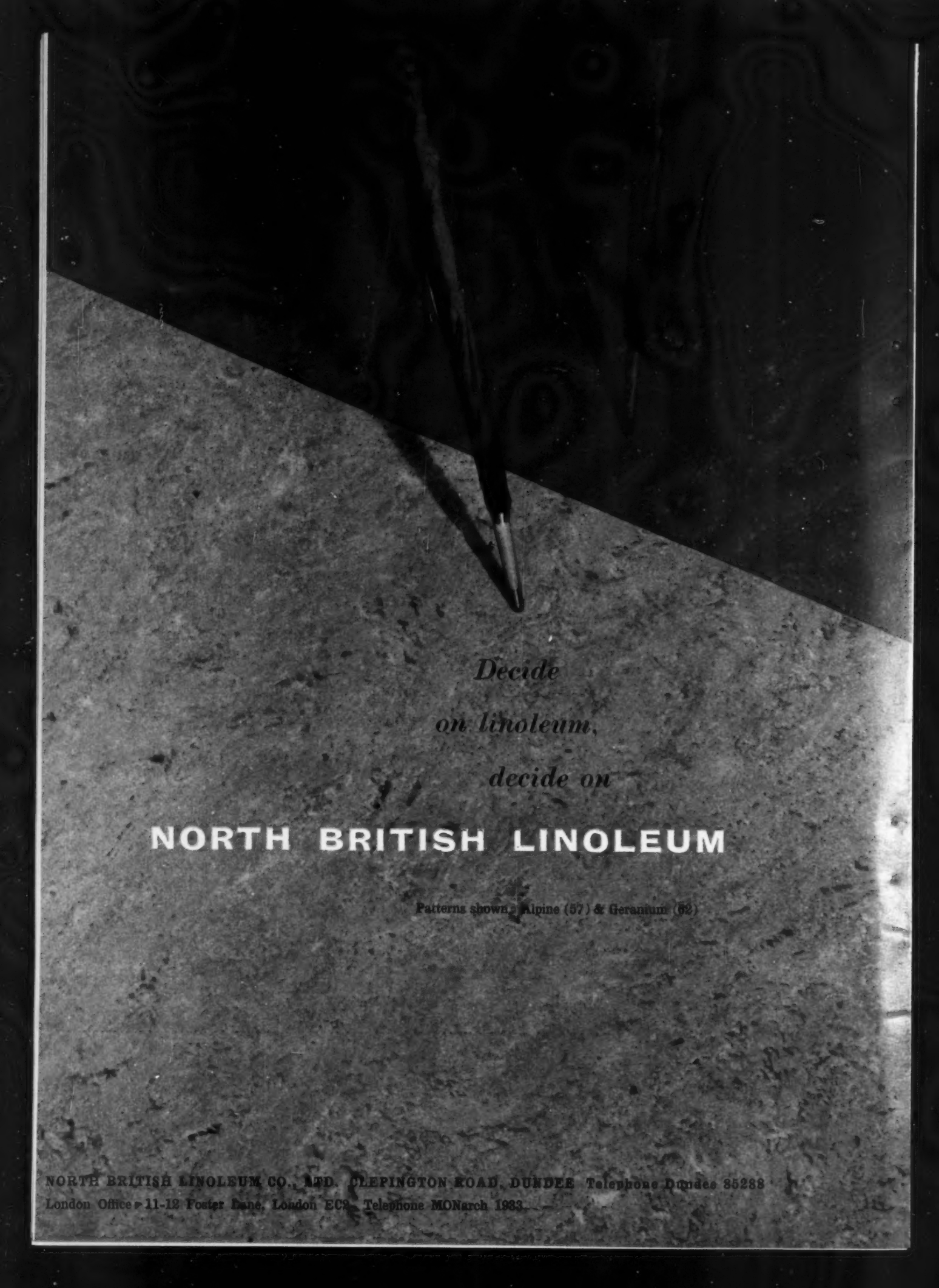
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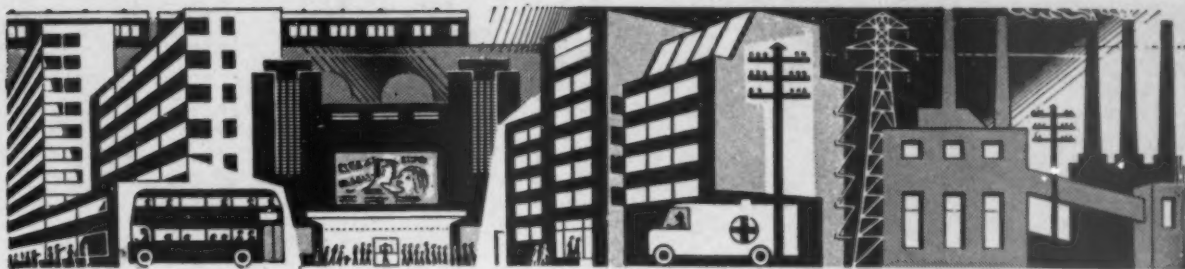
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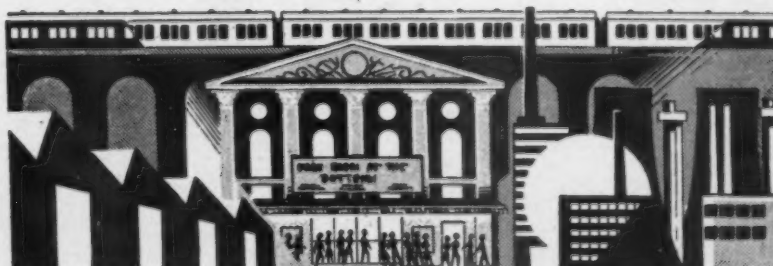
**THIS** LIGHT, robust cell, with its Planté positive and pasted negative plates, Porvic microporous separators and many other improvements in material and design, saves up to 50% of previously necessary battery space—yet performs its duties with greater efficiency and complete reliability. Specially designed for stand-by duties entailing discharge rates between, say, the 3-hour and the very high rates demanded for switch-closing purposes, it is ideal for trickle-charge operation and has all the remarkable length of life associated with the Planté type of construction.

The field in which the new cell is designed to replace current Planté types is a very wide one. Emergency lighting\*, switch operation and emergency supply in hospitals, theatres, cinemas and other public buildings, nuclear and conventional power stations, all rely on trickle-charged batteries. In Great Britain today such batteries occupy millions of cubic feet of valuable space. The new Chloride cell could free almost half of it.

\*The new cell will from now onwards be fitted in all Kespalite units—the Chloride Company's automatic emergency lighting system.

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THE ARCHITECTS' JOURNAL  
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# DESIGN FOR DAYLIGHT

## 'COXDOMES' MADE FROM 'PERSPEX' AT THE PRINCESS MARGARET HOSPITAL

**L**IGHT, airy and efficient — that's Swindon's new Princess Margaret Hospital. Letting in the daylight are these domelights — 'Coxdomes' made from 'Perspex' acrylic sheet. In fact they let in the light exactly where the Architect wanted it — and they will go on doing so indefinitely, regardless of weather or atmosphere. They were no trouble to install, because 'Perspex' is light enough and strong enough to be easily handled. Shaping them was no problem either, and they could

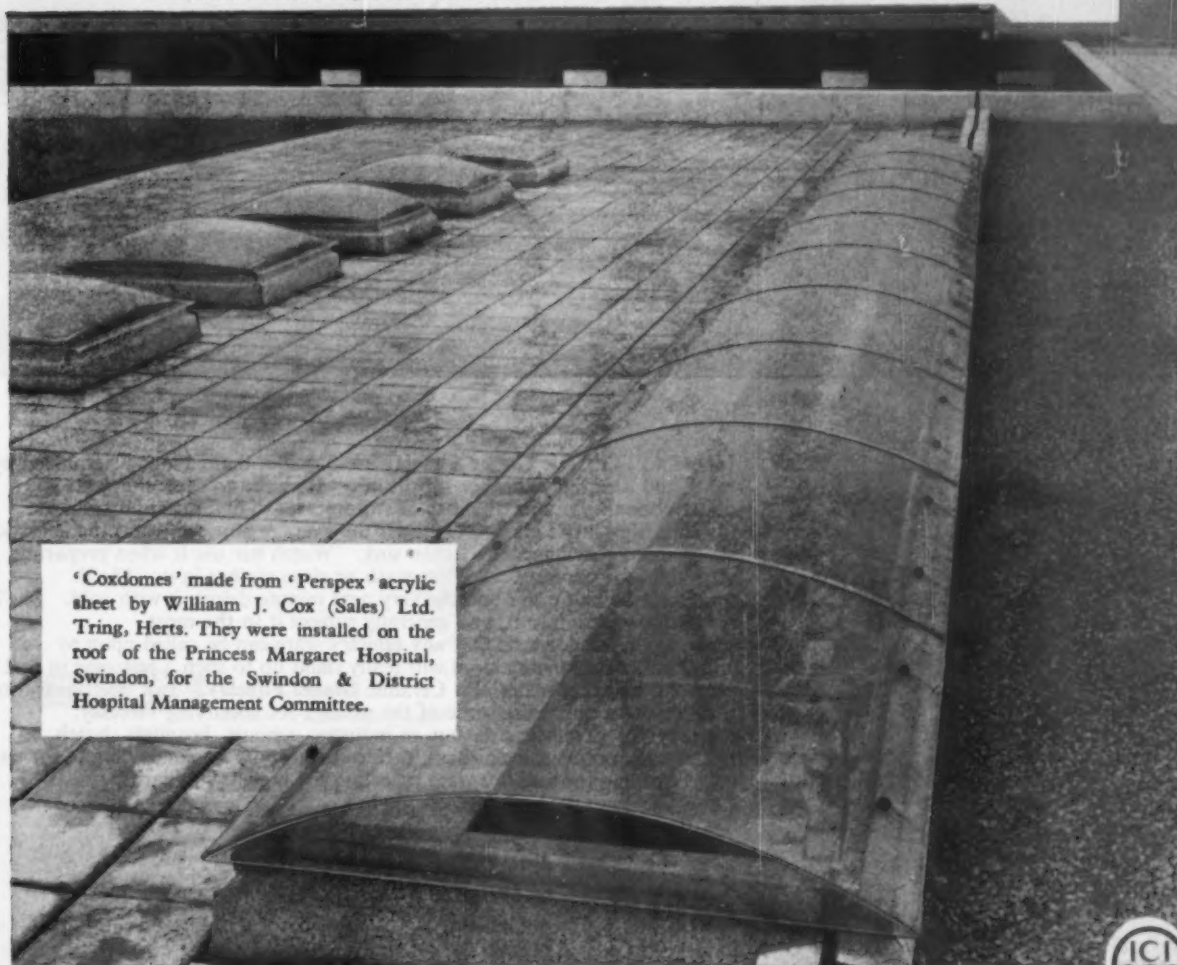
have been in any one of several opals of differing diffusion characteristics. They prove, from both the builder's and the designer's point of view, that 'Perspex' is the ideal material for domelights.

**'PERSPEX'**

*'Perspex' is the registered trade mark for the acrylic sheet manufactured by I.C.I.*

Architects: Powell & Moya, London, S.W.1

Contractors: Messrs W. E. Chivers & Sons Ltd., Devizes.



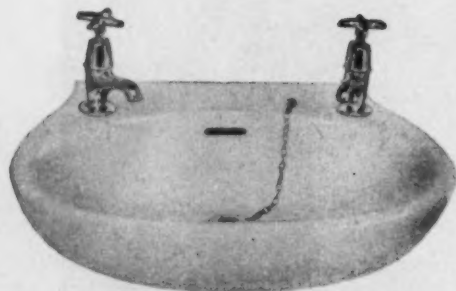
'Coxdomes' made from 'Perspex' acrylic sheet by William J. Cox (Sales) Ltd. Tring, Herts. They were installed on the roof of the Princess Margaret Hospital, Swindon, for the Swindon & District Hospital Management Committee.

IMPERIAL CHEMICAL INDUSTRIES LIMITED · LONDON · S.W.1





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*A fully illustrated booklet, published in the interest of more and better hygiene and sanitation is available on request.*

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*Free technical literature will be sent on request*

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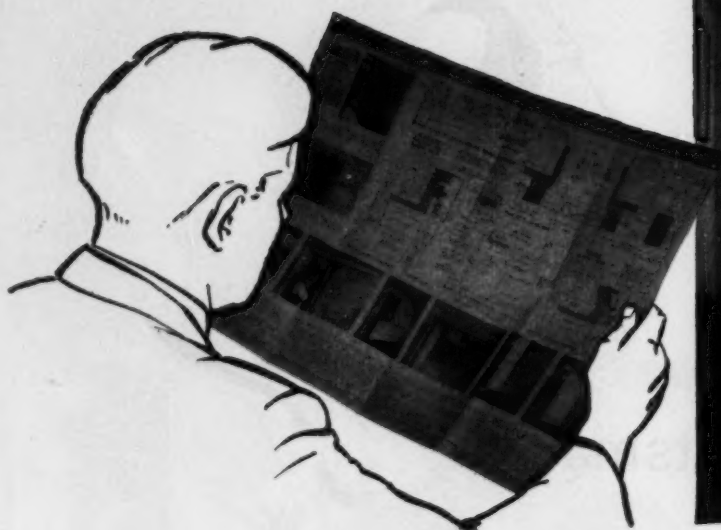
Head Office: Singlewell Road, Gravesend, Kent. Gravesend 4251/4 · Glasgow: Gyproc Wharf, Shieldhall, Glasgow, S.W.1. Govan 2141/3

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Above and to the left are illustrated two under purlin linings, the larger picture shows the Grecon de luxe finish using plastic capping and on the left the standard industrial finish.

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## Waterproofing in the presence of Sulphates

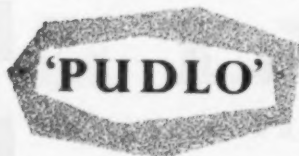
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the London County Council.  
Contractors:  
Gee, Walker & Slater Ltd.*

When soluble salts of sufficient concentration to cause disintegration of ordinary concrete are present in a damp site, there is the dual problem of preventing sulphate attack and of protecting the concrete in contact with the ground from penetration of dampness.

These conditions have been met and overcome on numerous sites by the use of 'PUDLO' Brand Waterproofing in combination with sulphate resisting Portland cement.

A typical instance is in the construction of blocks of flats for the London County Council at Derby Hill, Sydenham, London, S.E., where the reinforced concrete forming the cellular raft foundation and basement walls is composed: 1 part sulphate resisting Portland cement, 2 parts coarse washed sand, 4 parts non-porous aggregate  $\frac{3}{4}$ " down, with the inclusion of 3 lbs. 'PUDLO' Brand Waterproofing per 100 lbs. of cement.

Illustrations are of work in progress to 2 blocks.



CEMENT WATERPROOFING POWDER

The word 'Pudlo' is the registered Trade Brand of Kerner-Greenwood & Co. Ltd., by whom all articles bearing that Brand are manufactured.

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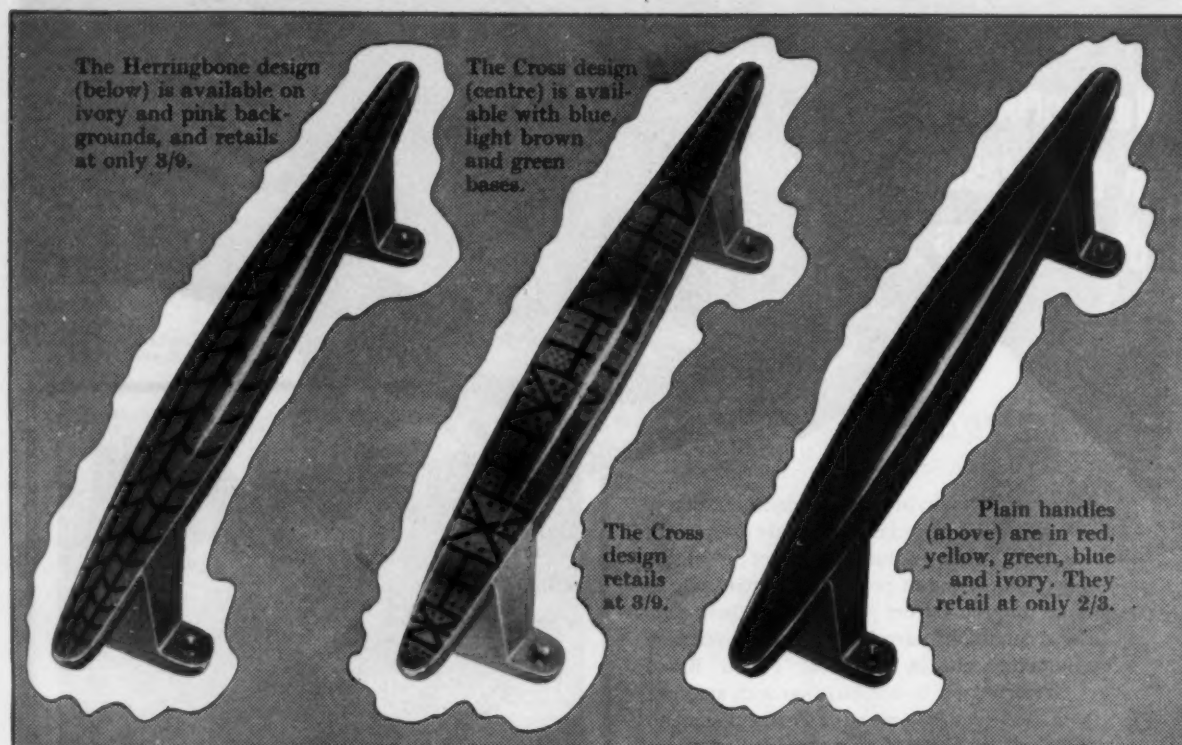
*Derby Hill Estate.  
Architect to the  
London County Council  
Hubert Bennett, F.R.I.B.A.*



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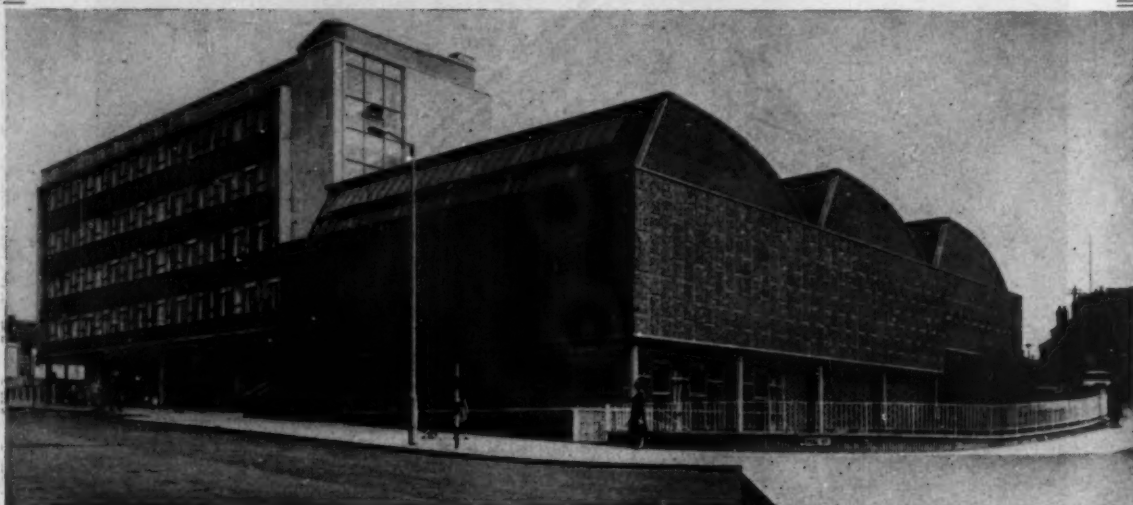
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*A. G. E. CHAPMAN, A.R.I.B.A., A.M.T.P.I.*

*Chief Assistant Architect:*

*N. C. DOWELL, A.R.I.B.A.*

*Architect In Charge:*

*J. A. RICHARDS, Dip. Arch., A.R.I.B.A.*

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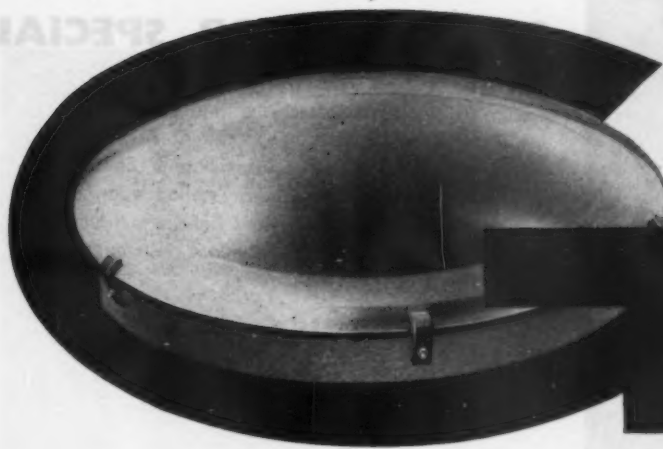
GLASGOW: (Bell 2444) MANCHESTER: (Ardwick 1691)



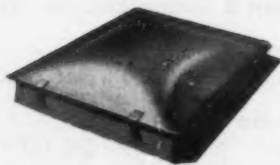
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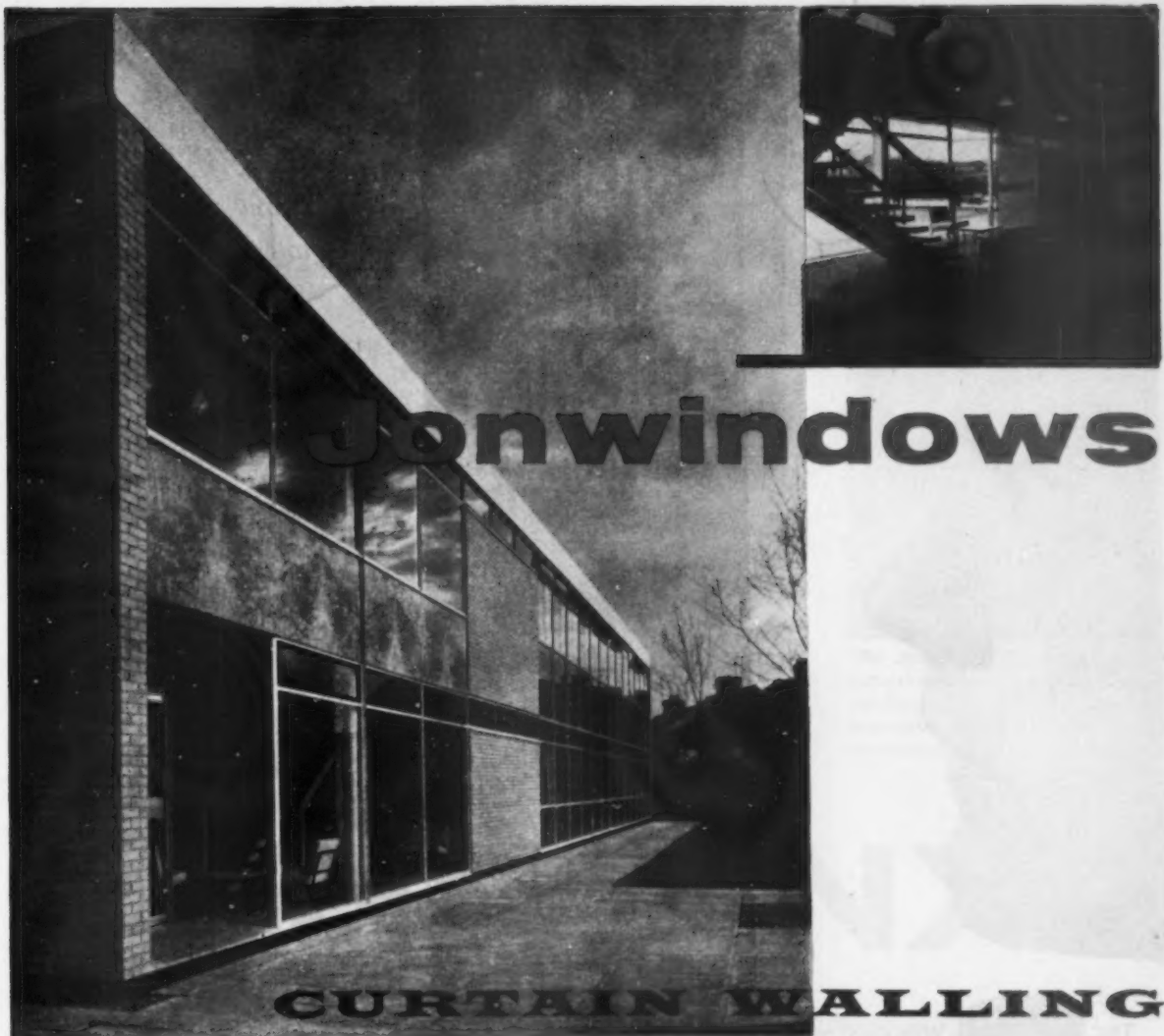
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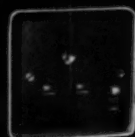
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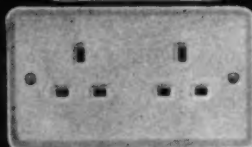
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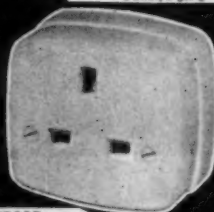
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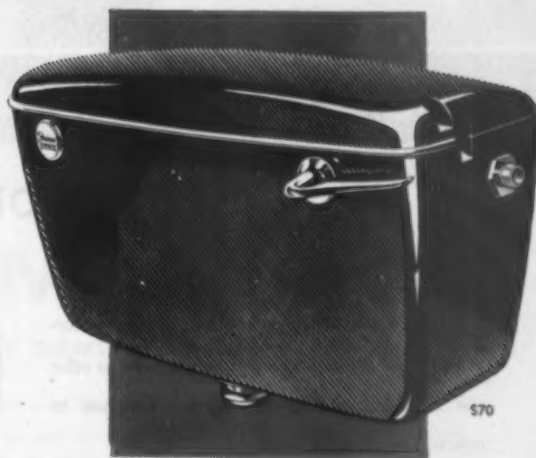
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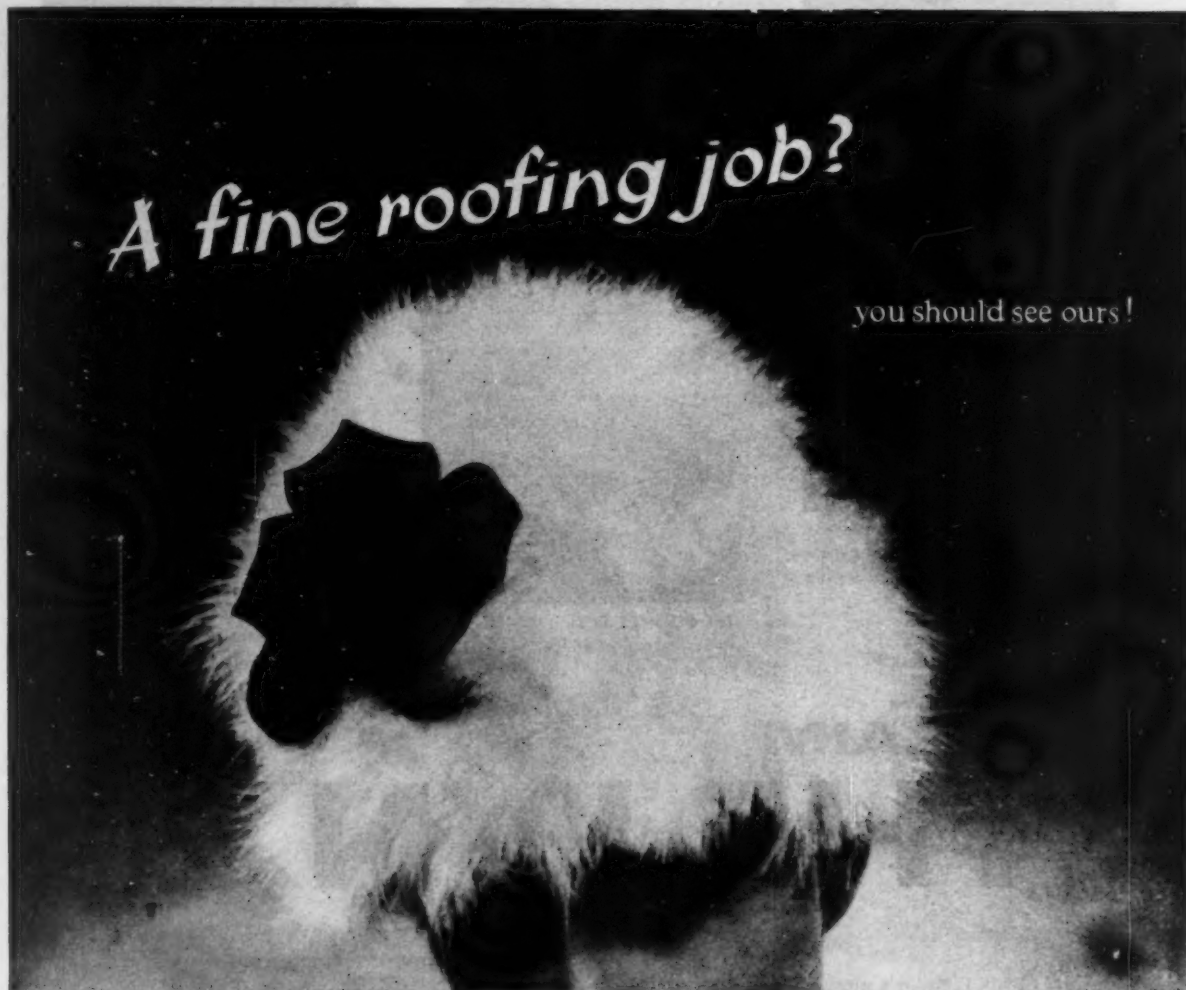


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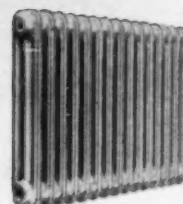
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shape your  
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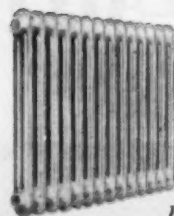
*Double Wall*



*Angle-Wall*



*3-Column*

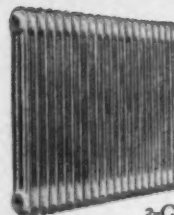


*Easy Clean*

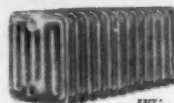
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*2-Column*



*Window seat type*

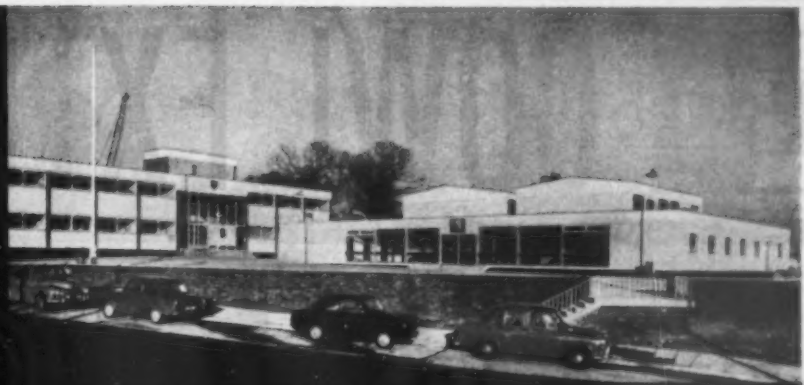
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Magistrates Court House and Police Station, Harlow New Town.  
Architect: Frederick Gibberd, C.B.E., F.R.I.B.A. — in association with H. Conolly, C.B.E., F.R.I.B.A.



Austin Motor Co. Ltd., Engineers Office Block, Longbridge.  
Architects: Harry W. Weedon, F.R.I.B.A., & Partners.



The Mansfield Building Society.  
Architect: W. Richardson White, F.R.I.B.A.



University College of Swansea, Natural Sciences Building.  
Architects: Sir Percy Thomas & Son, PP.R.I.B.A., A.R.I.B.A.



Multiple Shops, Stevenage New Town.  
Architect: L. G. Vincent, A.R.I.B.A., Chief Architect, Stevenage Development Corporation.



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Architect: G. S. Hay, F.R.I.B.A., Chief Architect, Co-operative Wholesale Society Ltd., Manchester.

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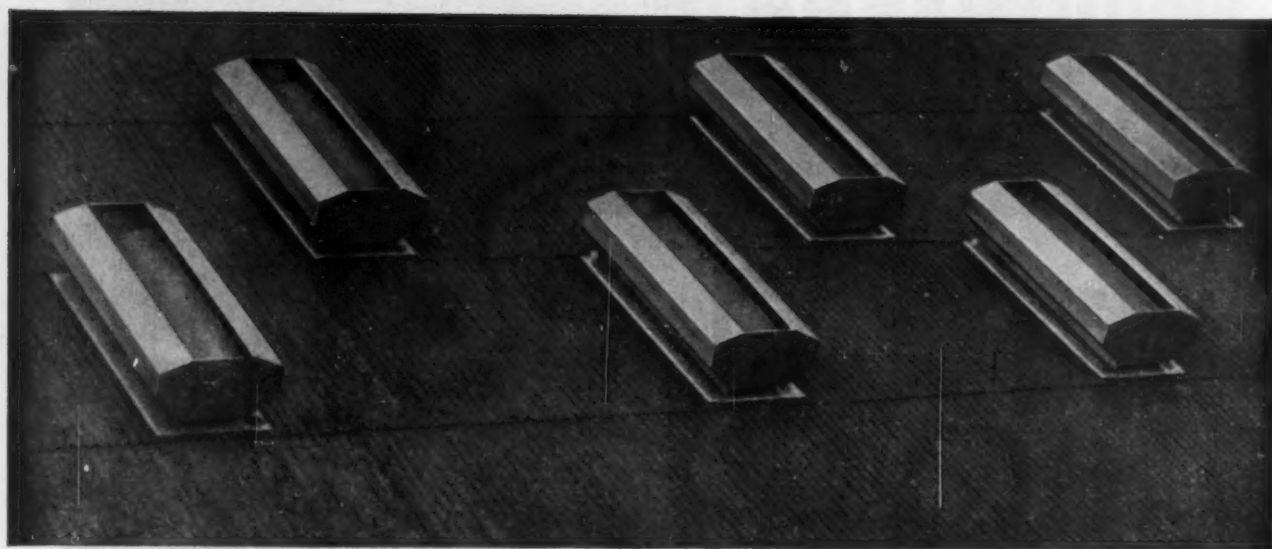
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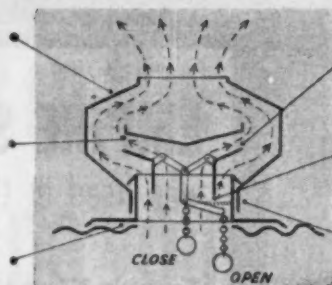
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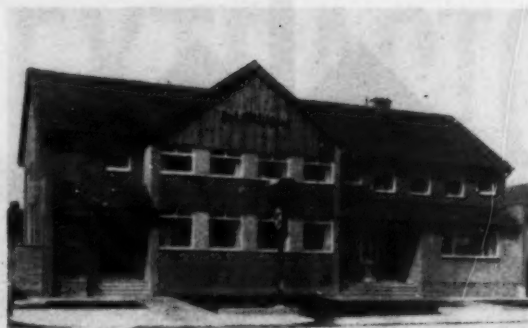
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Architects: L. Normington, Esq., M.Inst. R.A.

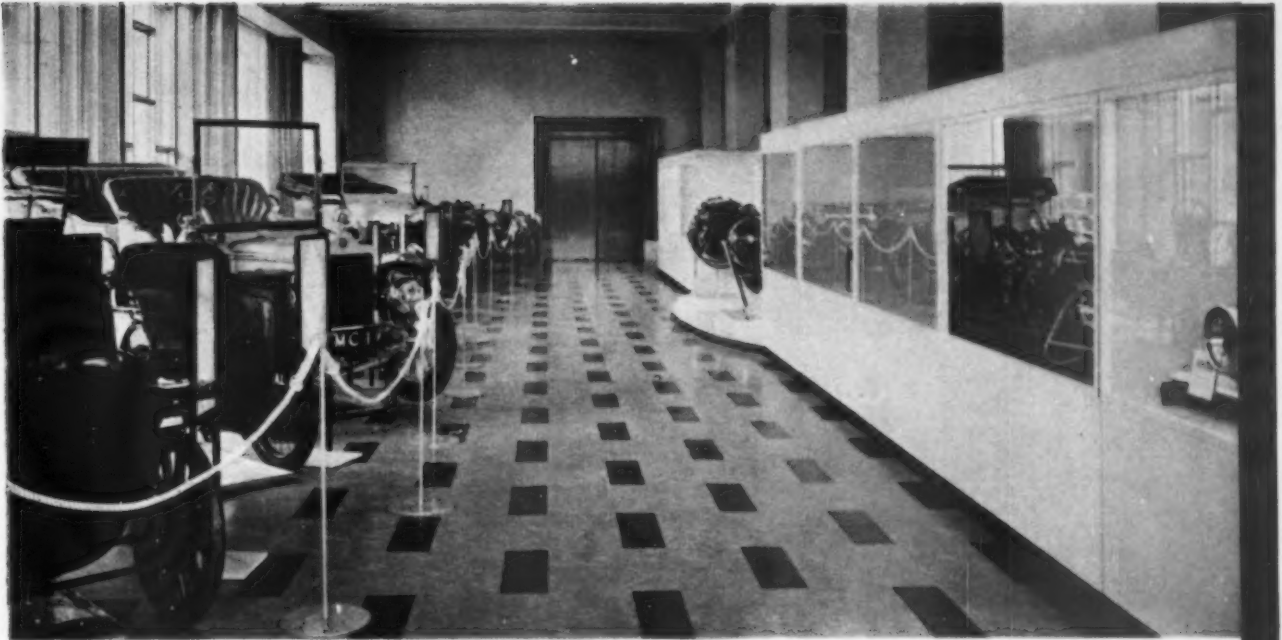
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The Architects' Journal

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NOT QUITE ARCHITECTURE

## *Artist's Life Talking Guitar Blues*

Disillusioned with the strife,  
And the Bomb of normal life,  
Thought a sculptor I should be,  
Went to classes, LCC  
(strum, strum)  
Tuesdays and Thursdays.

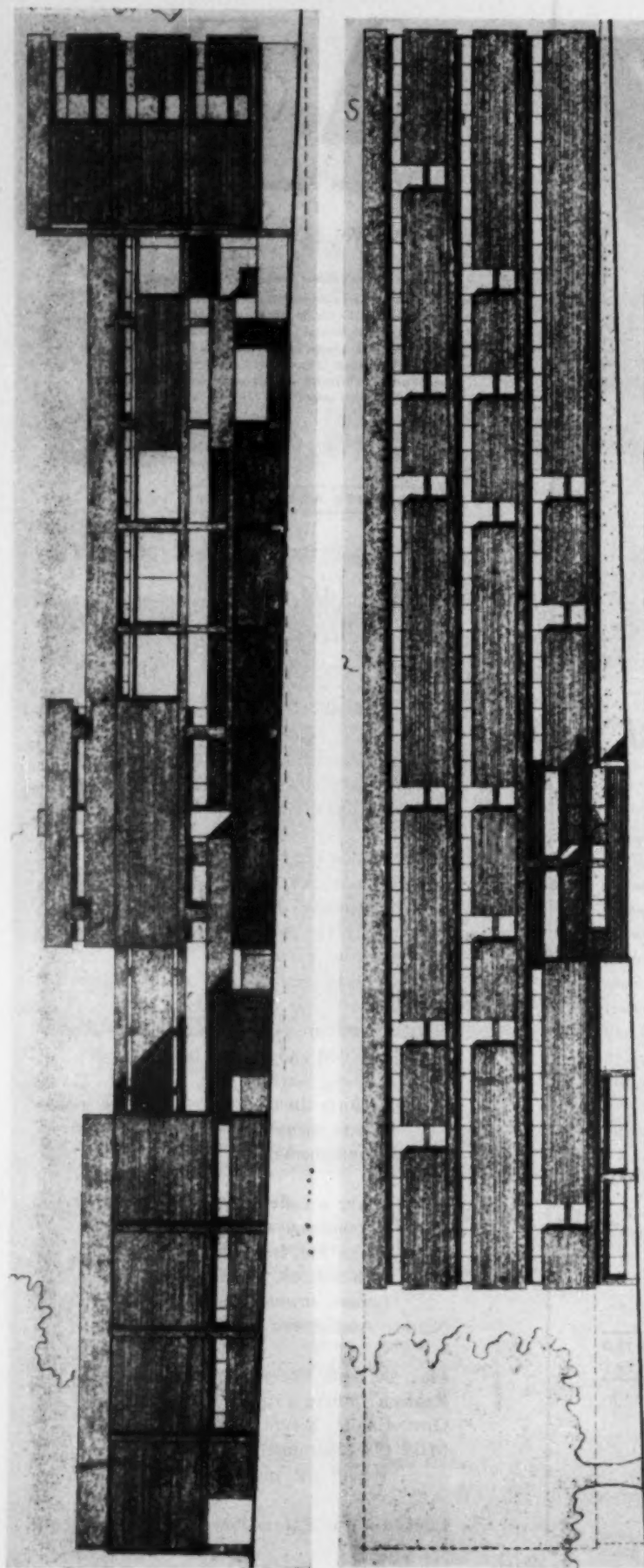
"Observation is the thing,"  
Said the part-time aesthete King,  
So I looked until I saw,  
Wondrously, the golden door.  
(strum, strum)  
Of perception, that is.

Started work in my back yard,  
Sweating blood and striving hard,  
Every evening, wet and fine,  
Realising form divine.  
(strum, strum)  
Strictly monumental.

Had to have a coffee bar,  
There I found my shining star,  
Female, nice kid, from the Slade,  
Thick with notions, and State Aid.  
(strum, strum)  
Neither Auntie; nor ugly.

Mac, she said, like you're not there,  
Realism? you're a square,  
Give. Emote. Set fire. Let go.  
Make the Innermost, like, show.  
(vamp till audience become  
restive)  
Looked it up: Expressionism.

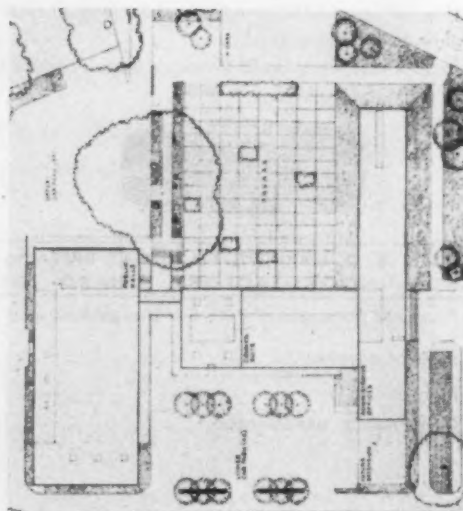




## Cutting Out The Bull

John G. Fryman, of Medmenham, Bucks., has won the Wokingham Town Hall competition with the design shown here (site plan, left, and N.W. top and S.W. elevations) and on pages 674 and 675. Assessor Clifford Culpin describes the design as a "simple, direct and economical solution of the problem." Also simple and direct are Mr. Culpin's competition conditions. He has avoided the fault of imposing rigid conditions with every single detail particularised. On the other hand the conditions include a number of forms which competitors have to detach, and fill in facts on floor areas, an outline specification of construction, finishes and fittings, and a short cost analysis, all to be submitted with their reports. In this way the assessor has made his task simpler, and a sound judgment more likely, because

the competitors' designs can be so readily compared. In addition, the assessor asked competitors to eschew highly finished drawings and elaborate presentation. Competition results have aroused considerable controversy in recent years. The Wokingham competition would not seem to deserve such a fate. The winning design, though doubtless capable of refinement, has the firm basis of a good plan, and the assessor has done his utmost to avoid waste of time and money, and the chance of being beguiled by presentation, by asking for dyeline prints. Because the publication of winning designs is almost as important as exhibiting the whole entry, we plead for one further improvement, that the lettering or keys on plans be written large enough to be legible when reproduced on an AJ size journal.



In the yard my form divine,  
Pretty? Yes, but not, like, mine  
Stretched the arms and shrunk the head,  
Made it say All Life is Dead.

(four bars tacit)

Like symbolic.

Then I lost my lady fair,  
To another, not so square,  
Shattered, lonesome, I walked far,  
Met another coffee bar.

(strum, strum)

More beards, too.

Beards all applied a scourge,  
To my heart's creative urge,  
Sculpture, each of them opined,  
Is a matter for the mind.

(strum, strum)

Different union, presumably.

Ruthlessly, each item gleaming,  
Searching hard for Inner Meaning,  
Took my bicycle apart,  
Used the bits to make some Art.

(plonk, PLONK)

Not too easy.

Duffels said it was a Truth,  
Ultimate, restrained and couth,  
Product of mentality,  
This, a New Reality.

(strum, strum)

Not Social, either.

Found myself, and I was free,  
Of the fiend security,  
Figs to forty-hour fools,  
Slaves to ITV and Pools.

(strum, strum)

Good, I thought.

But a neighbour paid a call,  
Offered me the wherewithall,  
To express my joys and fears,  
With his garden fork and shears.

(strum, strum)

i.e. go commercial.

Recognition meant the end,  
Never could I thus depend,  
Sent him home, with many thanks,  
Wrote for jobs to several banks.

(strum, strum)

Left-handed, anyway.

(strum, strum, strum alum  
alum aloingggg)

ALAN PLATER

## The Editors

### THE NEW TECHNICAL OFFICER

THERE are a number of borough engineers and surveyors who guide their architects and architectural assistants on the lightest of reins. The poor standard of design which nevertheless emerges is due to the fact that very few architects of design ability will run the risk of working under a chief who belongs to another, if related, profession. The RIBA can be accused of professional self-interest in its campaign to have chief architects appointed to 37 county boroughs and 90 non-county boroughs. Fortunately, however, in this instance self-interest coincides with public interest. RIBA fact finding has shown that well paid, highly qualified staff produce better designs, more quickly, at no greater, or even lower, cost, than poorly paid staff with low qualifications. As reported on page 671, £100m. a year is being spent on building programmes which are not directed by chief architects. This does not mean that much of the building work costing this sum is not handled by fully or partly trained architectural assistants. It does mean, however, that the necessary leavening of highly-skilled, imaginative architects is always absent. The more enlightened, progressive, local authorities (though not necessarily the largest) have created architectural departments. It should be every architect's duty to ensure that Press, public and councillors are made aware that a prerequisite of civilization is a designed environment, and the profession largely responsible for creating it is the architect, and in particular the local authority architect who must be in control of such a large and important portion of our national building programme.

### MUCH NEEDED ENCOURAGEMENT

Next year the first of a series of competitions for good housing design will be held by the Minister of Housing, Henry Brooke, in collaboration with the Royal Institute of British Architects. Two housing medals, one for urban and one for rural schemes, may be awarded in each of four regions in England and Wales for housing built by either public or private enterprise during the last five years. It is believed that the last system of housing awards was abandoned because of its administrative complexity. This new scheme, being smaller, may be simpler. In any event it must be greeted with wholehearted approval. Never has this country stood in more need for every inducement for higher design standards than it does now, as the Victorian sprawls become ripe for redevelopment and another wave of overspill is poured from the cities. A medal may be a modest reward and unnecessary for any professional man in the normal execution of his duty. There is no doubt, however, that these signs of official approval give encouragement to, and create interest amongst, housing committees and produce gratifying results far in excess of the trouble involved in organising them.



## SCRIPT-TEASE

ASTRAGAL was delighted to hear that the RIBA had cashed in on the topicality of Saarinen's nearly-completed Grosvenor Square Embassy by putting on a display of the architect's work. But wouldn't a lot of people feel they had been swindled if they toiled up to No. 66 and found nothing more than nine or ten inadequately-captioned pictures? Anyone who bothers to keep in touch with the world of architecture will have seen illustrations of all the buildings shown (ranging from the Lutheran College in Indiana, with its pitched-roof-and-whitewash imitation of a North European village, to the structural fun and games of the much-publicised ice hockey rink).

And for those who are not familiar with the buildings a better explanatory text is needed.

Why did the exhibition's arranger tell us how well the Law School at Chicago University mixes with adjacent pseudo-Gothic and pseudo-modern buildings without illustrating this interesting point? Why did he harp on the mobile lounges and the hanging roof of the Washington airport and fail to get down to some of the most interesting planning details—such as the acoustical advantages of the curved roof, which allows public announcements to be made with no confusing echoes, or the

ingenious separation of incoming and outgoing passengers? The most disappointing thing of all is the absence of any information about the Grosvenor Square building, which is illustrated with a photograph and a handful of blow-ups from what are doubtless Saarinen's first table-cloth sketches. We might attribute this to Institutional nervousness about a controversial building, but the adjoining display screen gives just as little information about the General Motors Technical Centre at Michigan.

Isn't it time the wider-awake boys at the RIBA employed a professional writer for their display scripts? If the material in this tiny exhibition had been presented well it would excite the most hard-bitten lay journalist. If architects want publicity for their profession they must use language that doesn't wrap their work in a kind of mystique.

## AFTER MIES, MINORU

There's certainly no mystique surrounding the work of Minoru Yamasaki, the American master of Reinforced Venetian Gothic and other styles in which structure is used decoratively. His presence next Tuesday at the RIBA (6 p.m.) deserves a good audience—not because he is a brilliant speaker (I've no idea if he is or not) but because some architects are almost certain to get cross with him and question his design ideas. He has said that he uses Mies's intensely moral sense of structure only as a point of reference. And that, surely, is something for the purists to get splendidly annoyed about.

Peter Blake, of *Architectural Forum*, believes that Yamasaki regards Mies and his followers as designers of "background" buildings—the backcloth against which he himself (and others) can show off more interesting work. If that isn't a good talking-point the RIBA has never had one.

## CRASH, BANG, SORRY!

For me the joke of the week was the publication of the year book of the Design and Industries Association. I'm not being unkind about this smart-looking book (cover: D. Dewar Mills; layout William Slack). No one would dare to antagonise an editor (Robin Mudie) who can write of design as

"a travail of futility, the pathological resultant of conflicting brute forces in the psyche, a striking of a match in the deep black crypts of the subconscious, a turning of the worm against the fact of total nothingness." No, the thing that amused me was a pull-out feature in which 10 people (critics, designers and manufacturers) gave their opinion of the brutal, near-Bauhaus dressing table which had such a prominent place on the CoID stand at this year's Furniture Exhibition.

When the Council displayed this piece—designed by Dorothy Goble as an LCC Central School student—I imagined somebody was pulling someone's leg. My own impression of the table was that it had been made with a do-it-yourself kit which had a few parts missing. Most of the DIA's invited critics agree that it hadn't been assembled well, and they say so with varying degrees of politeness. ASTRAGAL was about to take off his hat to the DIA for publishing these lively comments when he read in an editorial preface that "it is hoped that this feature will not be taken too seriously." Why, for heavens sake, not? If you ask people like Reyner Banham, Leslie Julius, Ian Nairn and George Him to express opinions, it is hardly good manners to publish their opinions with a note of apology.

If the DIA is to become the lively body which its year book hints it could be, it needs to associate itself with bold writing and speaking—not to disown it.

## LUVERLY CHATTER

Talking of the CoID—as nearly everyone was in the DIA book, with a series of punches pulled so hard they must have caused some nasty ruptures—the Council has just announced that the Duke of Edinburgh's Prize for Elegant Design for 1961 will be chosen next month (for announcement next May) by a panel that includes two newcomers. Sir Kenneth Clark, who is one of them, needs—as the saying goes—no introduction from me. And Miss Jane Drew will need no introduction to *Evening Standard* readers, who have just heard her opinions of life. "Sex life is necessary," she told Donald Edgar—for an article on





A model of the proposed new Shire Hall at Shrewsbury by the Shropshire County Architect's Department under Ralph Crowe, which will occupy a 9½-acre site. The main, six and four storey T-block will contain the Clerk's Department, Planning, Treasurer, Education, Health and Children's Departments. Architect's and Surveyor's Departments, etc., the two-storey block behind. The circular Council Chamber in front is linked to the main building by ante-rooms.

*Top Architect, Wife and Mother—* “but it couldn’t occupy a woman full time.” Elsewhere she is quoted as saying, “My architecture is a full-time absorbing interest. My family is the rest of the time. I think that in working with men, being a woman may help. But sex has nothing to do with a technical job such as putting up a building.”

Mr. Edgar confessed himself “fascinated.” ASTRAGAL’S tip for Top Women this week is: steer clear of fascinated reporters.

#### SHAKEDOWN FOR SHEIKDOM

ASTRAGAL, who would hardly dare to show his middle-ageing head at a meeting organised by the snappily-named “Junior Liaison Committee of the Joint Advisory Committee in the Building Industry,” sent a youthful spy along to last week’s session on *Building in the Desert*. The audience composed of young architects, builders and surveyors “interested in establishing some common meeting ground,” heard a Kuwait Oil Company director give a rambling account of his difficulties in a tiny sheikdom. After this talk, interspersed with bits of information about the history, geography, geology and inefficient building methods of the

place, the audience heard a brief, lively description by John Barton (of Farmer and Dark) of a palace his firm has designed for a local sheik. Just the sort of thing a young man ought to know.

#### SHIRE LUCK

Since this JOURNAL went to Press the Shropshire County Council have seen the design, shown above, for Shrewsbury’s Shire Hall. I hope they have approved it. Although Shrewsbury has hardly been a sleepy old town since traffic made sleep impossible, it is just the sort of place you might expect to find with neo-Georgian lumps of civic buildings. The department of the county architect, who designed the scheme, will have one very good reason for celebration if it goes through. It will replace the temporary hutted offices they have been housed in since 1948—offices for which planning permission expired two years ago.

The Nelson’s Column affair to the right of the picture is said to be the tallest Doric column in England. It was erected in 1816 to commemorate the part played by Lord Hill of Hawkestone in the Peninsular War. Will it be preserved? “Very much so,” was the alarming verdict of a young

woman in the county offices. Whether Lord Hill will be inside the grounds or make the centre of a traffic roundabout is yet to be decided.

#### NOVEL ENDING

Works of fiction rarely give a clear impression of their architectural settings—apart from detective stories which often give reassuring plans. One exception is the work of E. M. Forster, a novelist whose architecture and landscape are much more than a background to the action. In *Howard’s End*, for instance, a house and its surrounding countryside seem to reproach philistine and intellectual alike for losing sight of essential values under the stress of social change. It is ironic that the real-life scene of this book, “Rooks Nest Farm,” is being compulsorily purchased by the Stevenage Development Corporation.

#### THATCHNIK TO MATCHNIK?

It’s rather sad to hear that the Russians are catching up with us in architectural matters. Recent reports in *Izvestia* and *Pravda* say that in spite of the Khrushchev-inspired fight to eliminate the revivalist historical style, many city architects and their committees are fighting back against modern architecture. The reason? It is “out of character.”

ASTRAGAL

# LETTERS

*I. Chaikin, A.R.I.B.A.*

*Paul Reilly*

*William Crabtree, F.R.I.B.A.*

*R. H. Uren, F.R.I.B.A.*

*Peter Smith*

*H. H. Neville*

*Diana Rowntree, A.R.I.B.A.*

*Ray Miller*

*H. Anthony Clark, F.R.I.B.A.*

## WO Works Directorate

SIR: It is cheering to see that the taxpayer gets a chance of seeing how a Government Department is organised and even more heartening to see that Donald Gibson's organisation bears examination. However, in the presumption that its publication invites criticism, I hope I may dare offer a thought.

(a) Clerks of Works, who have, in the past been either Military or civilian, "deserve" a place in the diagram (2) as technician members of the team for the work of supervision.

(b) Maintenance of buildings as well as supervision of construction is, in my opinion, vitally necessary to the work of such an organisation and should not all be left to the small contractor. A direct labour organisation, which could be quite small, organised to deal with maintenance problems attached to Branches would help to fill gaps in long-term building knowledge. One gap which comes to mind, related to contemporary building, is the question of the behaviour of mastic jointing materials, and of course, there are many others.

Only large public organisations can give us the full benefit of knowledge of this kind, aided, perhaps by the BRS and, it possibly may not be too much to expect, from the Works Directorate—whose days as a War organisation, many of us would like to think, are numbered anyway.

I. CHAIKIN

Ham, Surrey

## Peter Jones

SIR: It is hardly necessary to correct the two slips in ASTRAGAL's caption to the photographs of Peter Jones and John Lewis (Paul for Charles Reilly and Wren for Uren), but I know my father, were he alive, would write to insist once more that the main credit for the exterior design of Peter Jones must go to his collaborator and former Liverpool student, William Crabtree.

PAUL REILLY

London, S.W.1

SIR: I must ask you to give this letter reasonable publicity regarding the extremely stupid mis-statements in ASTRAGAL's page in your current issue of THE ARCHITECTS' JOURNAL. Architectural journalists have surely a duty in these matters where an architect's work and reputation is concerned. It would surely be difficult for anyone to produce more mis-statements in a small compass than you have done.

The corrections should be that Peter Jones was NOT designed by Slater and Moberly. It was designed by Sir Charles Reilly and myself. Slater and Moberly were the executant architects. Paul Reilly had nothing to do with the design at all beyond perhaps being an interested spectator.

The John Lewis building illustrated was designed by Slater and Uren. I, myself, had this commission at an earlier stage but was sacked after a row with one of the directors of the firm.

WILLIAM CRABTREE

London, W.1

SIR: With reference to the substance of the remarks of ASTRAGAL in your paper of October 27, we naturally have no comments to make.

We should have thought, however, that the words underneath the illustrations might have been checked as far as their accuracy is concerned:

(a) Peter Jones was designed by SLATER & MOBERLY in consultation with WILLIAM CRABTREE and the late CHARLES E. REILLY.  
(b) John Lewis was designed by SLATER & UREN.

Perhaps you would be good enough to see that these errors are acknowledged in your next edition.

R. H. UREN

London, W.C.1

*The editors reply:* One omission, one slip of the pen and two misprints in the space of 40 words are, we feel, almost too much to apologise for. We can only hope this record will never be achieved again. Since there seems to be some uncertainty, however, about the actual designing of Peter Jones, we quote Dr. Pevsner's "London" in the "Buildings of England" Penguin series: "The design is of 1936 and was due to Slater & Moberly, or probably rather to W. Crabtree (with F. Singer) and Sir Charles Reilly."

## Chalk and Cheese

SIR: When will Astragal stop endeavouring to make comparisons between post-war schools and universities? To try to do so is dangerously close to a chalk and cheese comparison.

We must be thankful that, by accident or design, recent university development has avoided most of the characterless and tediously repetitive appearance of the so-called elegant post-war schools. By comparison the Victorian buildings of many of our red-brick universities positively sparkle.

Modern university buildings lack nothing in

the application of research and scientific development. They are the result of considerable research by architects and university departments, and one wonders whether any of the critics have taken the trouble to find out the departmental requirements for new buildings and what "makes them tick."

There is certainly an ever-present need for the pooling of information and experience by the universities, but having retained some degree of individuality in an architecturally monotonous age, they have little about which to be apologetic.

PETER SMITH

West Kirby, Cheshire

## Frost Tests

SIR: Mr. A. G. Elliott and I seem to be in agreement over the limitations of accelerated frost tests on mortar specimens. He has not, however, commented on my complaint regarding the statement in his company's advertisement, that a 1:1:6 cement-lime-sand mortar could be expected to disintegrate after a few seasons' exposure in actual use.

This is manifestly not the case; the use of mortar plasticisers should not be urged by drawing unwarranted conclusions from experiments.

H. H. NEVILLE

Welwyn, Herts

## Too Brief Chronicle

SIR: Dr. Banham's reasons for choosing his newspaper may not cause his readers much surprise, but it is a great surprise that he should choose this time, with the bell still tolling for the *Chronicle*, to knock *The Guardian*. I for one had always thought the heavy make-up concealed a Man of Goodwill rather than an Old Boy. However, if the shock of the *Chronicle*'s death had anything to do with Dr. Banham's decision to write in English, the paper will not have died absolutely in vain.

DIANA ROWNTREE

London, S.W.15

## Cost of Landscaping

SIR: Reading your description and studying the photographs of the Nurses' Home at Bellshill, has prompted me to write to you about an aspect of design which I feel rarely receives any mention in your appraisal of a new scheme. I refer to the spaces around the buildings which do not fully occupy the site.

THE ARCHITECTS' JOURNAL would be carrying out a valuable service to readers if more information was given about the treatment of these spaces—how much the existing features such as land form, views, trees, affected the planning and siting; what ground shaping was necessary; what sort of planting and why; what surface treatment, soft and hard; and an appraisal of the quality of such work.

In the cost analysis only such items as site clearance (with little reference to original conditions), car parks, and paths are norm-

ally mentioned. What about railings, fences, ground forming, topsoil, decorative paving, planting, grass seeding, tree surgery? All these things might have to be done to create a finished job of the site, and be paid for somehow out of the contract. More information on such items would most certainly be of interest to readers, and would at the same time help to bring attention to the need for consideration in detail of the treatment of these spaces.

RAY MILLER

Crawley

*The Editors reply:* Yes, a constructive suggestion.

## Wanted Men

SIR: As architects in private practice we read with sympathetic interest Astragal's report under "Wanted Men" (AJ, October 20), on the staff trouble which Mr. A. H. Clarke, Bristol's city architect, is experiencing.

One result of the general shortage of architectural assistants which we are experiencing frequently is the applicant who, having been offered an appointment at a higher salary than the one he is receiving, and having confirmed his acceptance in writing, nevertheless subsequently withdraws because his present employer has offered him still more money to stay on.

We feel this is doubly reprehensible, firstly on the part of the employer who offers financial inducement to an employee to break a contract, and secondly on the part of the employee who accepts such an inducement.

While we realise that in such cases we may well have the right to claim salary in lieu of notice, this would give no satisfaction for the frustration and inconvenience caused. In such cases we feel fortunate not to have unwittingly employed a person who has such a blatant disregard for business principles and whose word is evidently not his bond.

H. ANTHONY CLARK

Wrexham

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# NEWS

## RIBA

### Memorandum to Local Authorities

The RIBA this week returned to the assault on those, still numerous, local authorities with no architect's department, with a vigorous and well-reasoned memorandum in the question, addressed to the lagging local authorities, local authority associations and the Minister of Housing and Local Government.

The memorandum points out that failure to appoint chief architects inevitably result in lower standards of design and performance, indifferent siting and landscaping, and prevents economies which would be made possible by a continuous, co-ordinated building programme under the appropriate professional control.

Despite a steady increase over the last years, there are still 37 County Boroughs in England and Wales, with a total population of more than 3½ million, and a building programme around £100 million a year that have no chief architect. Among them are county towns such as Carlisle, Chester, Ipswich and Nottingham (now considering making an appointment). Brighton—our most famous historic watering place, many important North Country towns, and two Greater London boroughs, Croydon and East Ham.

Some 90 non-county boroughs, with populations over 40,000, are in the same position (including Cambridge and Cheltenham); and only five out of the 28 Metropolitan boroughs have a chief architect.

The memorandum points out that since the Housing of the Working Classes Act of 1890, local authorities have acquired responsibility for ever larger and more varied building programmes. "Thus any authority of substance may be found building art galleries and abattoirs, children's homes and cleansing depots, concert halls and conveniences, child welfare clinics and crematoria, police stations, passenger shelters, libraries, offices, museums, markets, theatres, swimming baths, and indeed almost anything that touches upon the essential needs of a civilised community." Yet building work is still frequently placed under the wing of the Engineer/Surveyor who was first technical officer in the field, appointed in the last century to provide essential health and sanitation services.

"A study of the declared reasons which prompted authorities to establish independent (architect's) departments is instructive," the memorandum goes on. "In essence they amount to a single conclusion—that better buildings would be obtained at no extra cost and in a shorter time. . . . Authorities have found it a help to have immediately at hand an architect to advise all committees on all building projects, thus often cutting out a previous waste of funds on abortive schemes.

"Co-ordination under a chief architect leads also to a necessary continuity and to the proper preparation and maintenance of records of performance. This officer has the salutary experience of living with his buildings over the years and profiting from the experience both as to design and construction and an increasingly accurate interpretation of committees' aims."

The document goes on to call attention to the record of architects in the Ministry of Education, who not only saved some £200 million on post-war school building but are acknowledged to have made Britain's new schools the finest in Europe. And it quotes Lewis Mumford's judgment on the LCC Lansbury Scheme as "a splendid example of urban building, the best I have found in England, and perhaps the best thing that has yet been done for the lower income groups anywhere."

### Royal Commission on Greater London

The Council of the RIBA is so much concerned at the recommendations of the Royal Commission on Greater London that it has decided to set up a Working Party under its Design and Planning Committee to study the Report and set out reasons for disquiet, consider what other bodies could be invited to discuss common points of view, and how the profession can bring forward further evidence to the attention of MPs and other persons concerned.

Sir William Holford told a Press conference last week that while the RIBA agreed that a Greater London Council was necessary it had assumed that such a council would deal with projects. But the way in which it was proposed to split the functions of the future local authorities for Greater London showed "no comprehension of how planning, building control or urban renewal is carried out."

He quoted the example of one body designing schools and engaging the teachers, while another builds the schools and sacks the teachers, and commented "the building control proposals seem appallingly confused." The Report suggested that the new municipal authorities should do a good deal of the building, and should therefore have architect's departments, but programmes and plans would be handed down from the Greater London Authority.

Asked whether he thought the Royal Commission's proposals would go through, or meet the common fate of Royal Commission reports and go into a pigeon-hole, Holford expressed the opinion that "political considerations" would see it through since it meant the replacement of the Labour London County Council by a Greater London Council with a Tory majority of 2 to 1.



## RIBA

*Holford's inaugural address*

Lively, intelligent inaugural addresses by RIBA presidents are still a novelty. Basil Spence broke the run of worthy post-war mumbles with the passion of someone proving that presidents did not have to be played out figure-heads. His successor, Professor Sir William Holford, has probably never made a really dull speech in his life, and in his inaugural speech he gave plenty of evidence that the new era ushered in by Sir Basil is here to stay for another two years at least. "How we need constructive achievement and an expanding horizon to set against the contracting future that the H-bomb and the Polaris missile hold out for us as an actual alternative" was an early remark outside the presidential tradition, and so was his choice of designer to quote an architectural philosophy: Luigi Nervi. "Nervi," said Holford, "sees more clearly than anyone that every problem of statics which is solved with economy and clarity becomes an additional tool in our hands to increase our sense of fulfilment and to challenge the future." Holford described architecture as the embodiment of hundreds of social programmes, aspirations and histories. And our cities, he thought, were compounded of business method, valuation, building organisation, social studies, art historical scholarship and aesthetic criticism. Later he referred to the architectural problems with which the RIBA is concerned. The first was preservation. While agreeing that "we are the trustees of posterity," he went on to warn against preservation which was motivated by fear of change. He then described at length the complex administration today of architectural commissions, and asked local authorities, and the RICS, to discuss further with the RIBA the problem of competition by tender for the development of cities so that they be fair, productive and not wasteful of effort. Professor Holford then discussed the RIBA's appeal to local authorities to appoint chief architects, and pointed out that memorable architecture, "which is badly needed if the urban scene is to regain something of its former quality," can seldom be achieved by committees or by non-architect officers with other overriding responsibilities.

## LCC

*Expanded Towns in Hampshire*

The plans of the LCC to co-operate with Hampshire County Council and local authorities in building expansions to three Hampshire towns, Basingstoke, Andover and Tadley, instead of going ahead with the projected New Town at Hook, were outlined at a Press conference at County Hall last week, by the chairman of the New and Expanding Towns Committee, Mr. W. G. Fiske.

During the period from 1956 to 1972,

London has to find accommodation outside for some 215,000 families: of these it is estimated that 100,000 will move out through private arrangements, 7,000 will move to the LCC's out-county estates, 22,000 to existing New Towns and 28,000 to expanding towns.

Population of the expanded Andover is to go up from 15,000 to 28,000, of which 10,000 will be rehoused under the Town Development Act; Basingstoke from 24,000 to 74,000 by 50,000, of which 42,000 will be rehoused under the Act; and Tadley—will go up from 7,500 to 12,500, of which 10,000 will be under the Act.

Building at Andover could start almost immediately, said Mr. Fiske, but Basingstoke's sewerage system had first to be greatly increased to cope with the new demands. Something like 85 per cent of the new building is to be houses with gardens. The expanded towns would take some 5,000 acres of land, whereas the new town at Hook would have required 8,000 acres.

On the figures of families requiring housing, it looks as if London needs expanded town schemes of this kind not as an alternative but as an addition to new towns: 50,000 families have yet to be provided for—the equivalent of two new towns somewhere. Mr. Fiske said that of these "9,000 would it was hoped go to a new town to be provided by the Council."

Asked whether the Hook New Town scheme, on which he said a great deal of work had been done, was to be published, Mr. Fiske replied that "something will be published, but we have not yet gone into details."

*Kensal New Town Development*

A comprehensive development plan covering a decaying area of North Kensington and Paddington is now being considered by the MOHLG. It is part of the First Review of London's Development Plan, and is to be carried out by the LCC in co-operation with Kensington Royal Borough Council. In discussion with Kensington, the LCC has modified some of the original plan, but it will still include zoning some 24 acres for housing purposes and an increase of open space in the area to the LCC's minimum standard of 2½ acres per 1,000 persons. Kensington will be responsible for part of the western area which is a logical extension of the borough's present housing operations.

The two authorities have been unable to reach agreement, however, on the question of housing density, and this problem the Minister of Housing will have to solve. The LCC considers a density of 100 persons per acre the maximum in an area which is short of open spaces: the Kensington Borough Council wants higher density to reduce the overspill problem.

## BRISTOL CITY CENTRE

*Protests at Private Development*

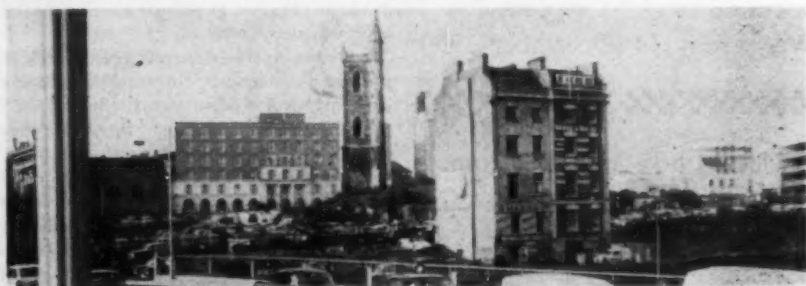
Bristol architectural students seized the occasion of the opening of an exhibition of the work of the City Architect's Department at the Building Centre, to protest to the council and appeal to the public against the piecemeal development of the city's blitzed centre.

This four acre site has been used as a car park since the war, was scheduled for civic buildings in the 1947 development plan, but is now being leased out in parcels for private development, by the council's planning committee. Such is the secrecy surrounding plans for the area that the first demand of students and of the Bristol Architects' Forum has been for the public to be informed of what is going on.

They found a distinguished ally in Sir Gordon Russell, who in opening the exhibition at the Building Centre, instead of offering some polite clichés, spoke out boldly about the danger that "Bristol might easily sink to the very lowest American standards, becoming one of those Middle Western towns with streets you can drive along without finding the centre of the town."

The students, who have recently formed a Bristol Anti-Ugly Group, have distributed 5,000 copies of a warning leaflet which asks, "Do you know that the Wine Street Car Park is about to be built on? . . . Two office blocks have been designed for this site . . . All this is being done before a comprehensive plan has been published."

Bristol Architects' Forum, at the beginning of October, sent a resolution of protest to the Planning and Public Works Committee, over the leasing of frontages on the Wine Street site to the Bank of England and to Norwich Union Insurance Company for office buildings. "This area," the resolution pointed out, "is at least as important to the citizens of Bristol as Piccadilly is to Londoners."



*Bristol city centre at present.*

## UNDER-PARK PARKING

### *Queen's Speech proposal*

An underground car park beneath Hyde Park at Speakers' Corner was one of the few surprises of the Queen's speech at the opening of Parliament on November 1: the Minister of Transport proposes to lease it for such development, which it was said would require no financial assistance from the Government, and "have little visible effect on the park."

A Bill is to be presented soon, in the hope that the work can be done at the same time as the Hyde Park Boulevard scheme is in progress. The AA has commented that the project is "almost the fulfilment of a dream," and a spokesman of Lex Garages Ltd. admitted that a complete, detailed plan for the project already exists and work could be started "almost immediately." Although the proposal in Parliament was for parking 1,000 cars, he believed that eventually accommodation could be provided for between 6,000 and 7,000, and the cost would be between £7 and £8 million.

A traffic expert, Mr. Nigel Seymer (whose letter to *The Times* on the same theme we publish below) made some calculations, however, as follows:

If parking space is provided at Speakers' Corner for 6,000 cars, and we assume mostly all-day parking, and that 50 per cent of cars leave in the evening peak hour, the leaving volume would be 3,000 vehicles per hour.

The lane capacity of a city street is 600 v.p.h., that of an urban motorway, 1,500 v.p.h.

Therefore, the leaving volume at the peak hour would take up five lanes of street, or two lanes of motorway: an addition to rush hour traffic which would nicely fill the new capacity to be provided at a cost of £5½ million by the Hyde Park Boulevard!

the number continues to increase as more office buildings are completed. Thus, taking Sir Owen's 1:4 ratio, we should have to have parking space for about 320,000 cars in the central area.

"If we assume that a modest 50 per cent of these cars would be entering and leaving this area during the morning and evening peak hours, this would mean inbound and outbound flows of about 160,000 cars per hour—in addition to other vehicles. Even assuming a design volume of 1,600 cars per lane per hour on an urban motorway (about the practicable maximum), we should need no less than 100 motorway lanes crossing the perimeter of central London to cater for such flows—or say 25 motorways each having four lanes available for the 'tidal flows.' Does Sir Owen advocate motorway construction on anything like that scale?

"The above calculation will serve to show the enormous scale of construction (with its attendant destruction) that would be involved in any thoroughgoing attempt to cater for large numbers of 'car commuters' in London's central area. It also demonstrates the close connection between parking capacity in a central area and the capacity of the streets (and motorways if they exist) to handle moving traffic within the area. It is vital to preserve a balance between the two. There is in fact a great danger, which has not yet been recognised, of providing too much parking space in central London, thus attracting ever more car commuters into the area, and thereby overloading the street system at peak hours. "Professor H. Myles Wright suggests that 'what is needed is a few brave decisions on the future of motor vehicles in and near big cities.' The bravest decision that Ministers could reach with regard to central London would be a decision to hold the amount of parking space in this area at roughly its present level; to make the use of this space for all-day parking prohibitively expensive (except for tycoons), so as to discourage car commuters; and to authorise an immediate start on the construction of the Victoria Line tube—to be paid for out of public funds, like the new tubes in Hamburg."

etc., had of course to be controlled. On the economic possibilities of a scheme, "the developer knows what's known," said Mr. Nicholas.

He spoke warmly of the importance of comprehensive development in city centres, however, which, he said, must change greatly under the impact of motor traffic, separating the pedestrian from vehicles. He welcomed such a project as that for the development at Hammersmith (AJ, November 3) which expressed the ideas he had been putting forward.

Of London's traffic problem he said: "I believe it may be found, as in other large urban areas, that there are large falls in property values behind the main road frontages and that a number of new 'freeways' could be developed at much less cost than might be expected." Yet new traffic junctions were still being built "to conceptions accepted in the age of the horse-drawn vehicle," only "with zebra crossings and pedestrian guard-rails instead of the horse trough."

Mr. Nicholas described Manchester's housing problem as "a planning tragedy": the city had 58,000 slum dwellings, a waiting list of 9,000 families, an increase of a thousand families a year, even allowing for migration, and this year only 1,085 new dwellings were being built.

He urged that new housing developments must take into account changing living conditions, in particular for the increase of leisure that seemed to lie before us.

"One cannot help but wonder whether some of our present delinquent troubles are being caused by a lack of understanding of what the young people of today want. It would seem to me that there is a growing spirit of independence at a much earlier age than heretofore, and that probably one of their main requirements is to have the necessary tools and materials so that they can provide the things they want by themselves for themselves."

Mr. Nicholas announced that the decision to hold a three-day instead of a two-day annual meeting, and to call it an annual meeting instead of a "spring meeting," was part of an effort the TPI felt should be made to do more to explain the planner's problems to the public. Even Ministers, he remarked, did not always understand where the planner came in.

He suggested a series of changes which would add to the effectiveness of planning teamwork and educate the public in planning problems: engineers, he thought, had too little broad education in the arts; he would like to see reciprocal examinations, with safeguards.

Exhibition facilities in local town halls, where projects could be displayed and examined by the public would help to make people aware of the problems.

And Mr. Nicholas wanted changes in the training of planners themselves. "They need to know enough to know when to get architectural advice," he said. And he urged that the planner who has had the chance actually to build a project is a better planner because he has learnt from experience "that good design saves money."

## PARKING SPACE

### *Times Correspondence*

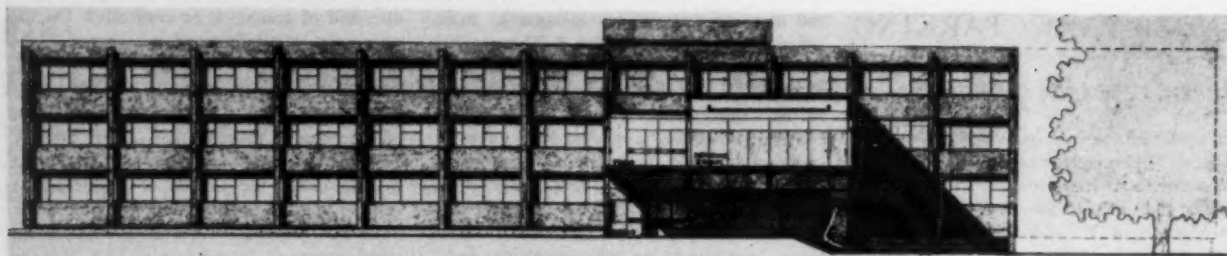
A letter from Sir Owen Williams, urging that new office buildings should have to include parking space for one car for every four employees, and a reply to it from Professor H. Myles Wright, of the Department of Civic Design of Liverpool University, were answered in *The Times* correspondence column on October 28 by the following practical calculations by Mr. Nigel Seymer:

"Sir Owen suggests that in new office buildings developers should be compelled to provide one car parking space for every four persons employed in the building. We may perhaps presume that he would also like to see garages built to cater for one in four of all those working in the central area of London. According to London Transport these number at least 1,270,000—and

## TPI

### *Presidential Address*

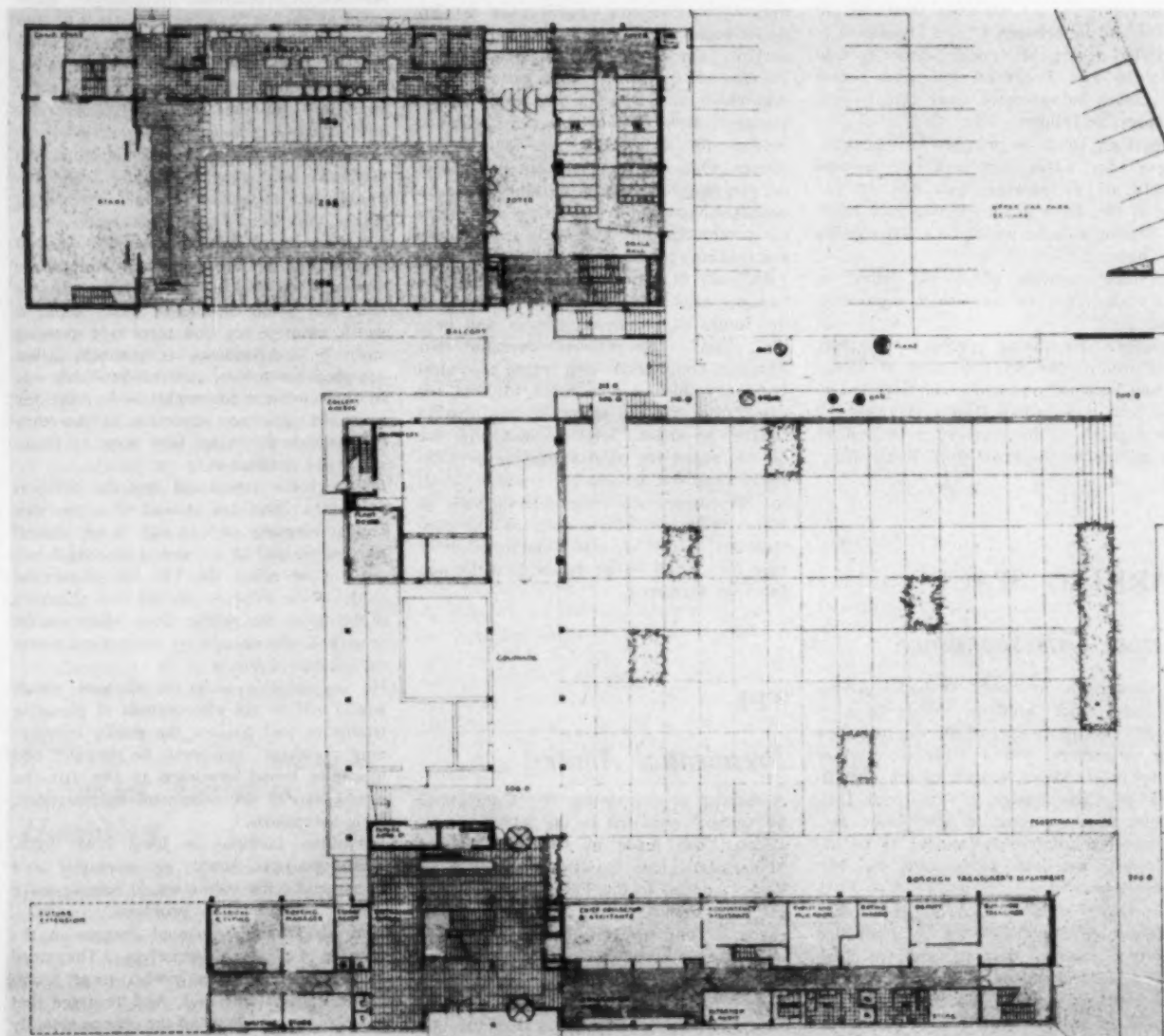
A defence of the system of "Competition by tender," criticised in the RIBA's recent circular, was made by Mr. R. Nicholas, Manchester's City Surveyor, in his presidential address to the TPI on November 1. In Manchester, he said, "We've been engaged in this nefarious activity," because it was the only way to determine the market value of a project. But he denied that the highest tender had been their first consideration. The problem was to satisfy the clients, which meant that not too much time could be spent on three-dimensional design, although land uses, block ratios,



Section through council suite, and north-east elevation of offices from pedestrian square

# Wokingham Town Hall

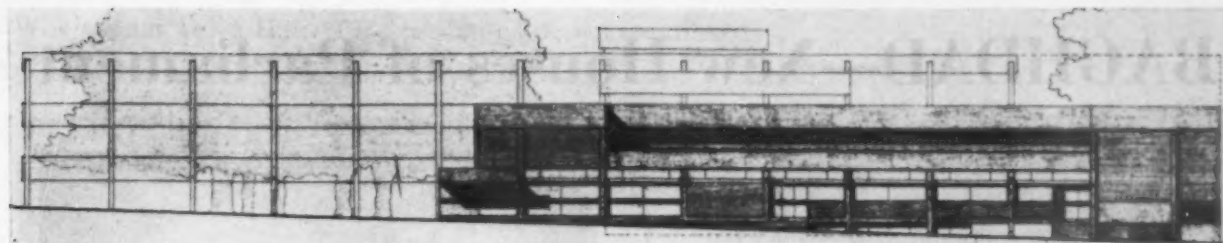
First premiated design by John G. Fryman



Ground floor plan, with pedestrian square and colonnade between the two main blocks







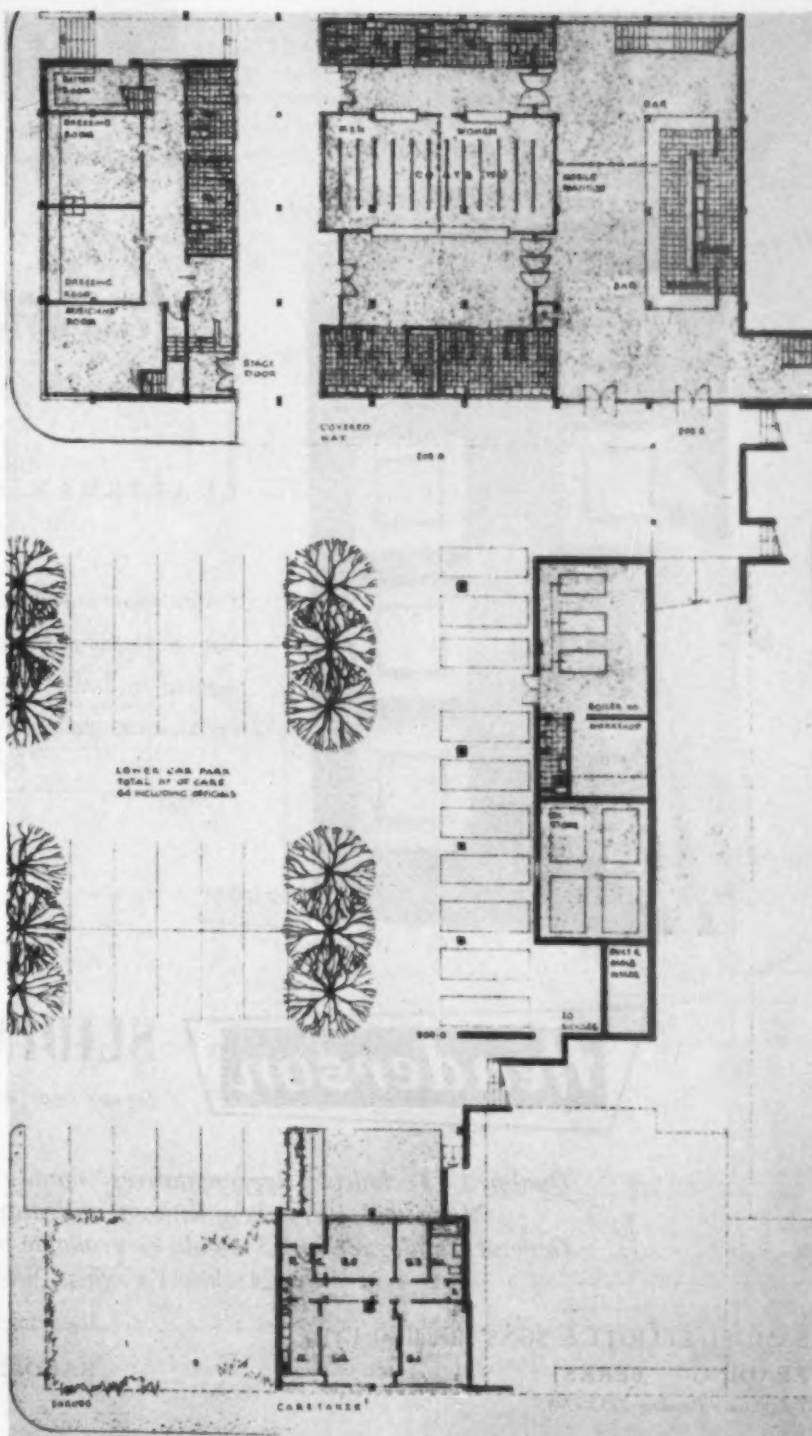
North-east elevation with public halls in foreground and office block beyond

## Competition

In this design for a new council suite, municipal offices and two assembly halls for the Borough of Wokingham the first premium of £1,000 has been awarded to John G. Fryman, the second of £500 to Grenfell Baines & Hargreaves, in association with David Rock and Robert Smart, and the third premium of £250 to William W. Ryder. The assessor, Clifford E. Culpin, F.R.I.B.A., M.T.P.I., also commended the entries by G. Edwin Schoon and Martyn J. Wheatley.

Wokingham is a Municipal Borough with a population of about 10,000. Its present town hall, a Victorian gothic structure, is on an island site in the centre of the market place, and cannot therefore be extended to meet present-day needs. For the new town hall the Borough has acquired a corner site of about two acres at the end of one of the main streets, roughly mid-way between the existing building and the railway station. The site is at present an open field with a downward slope of about 10 ft. from east to west, the only important feature being a central clump of mature trees.

In the conditions the assessor makes it clear that he is looking for a scheme which shows economical and workmanlike planning, an inexpensive structure which will weather gracefully without high maintenance costs, and a carefully integrated layout of buildings, roads, parking spaces and landscaping. The conditions, which are in almost every



Lower ground floor plan, showing key positions for boiler house and caretaker's flat

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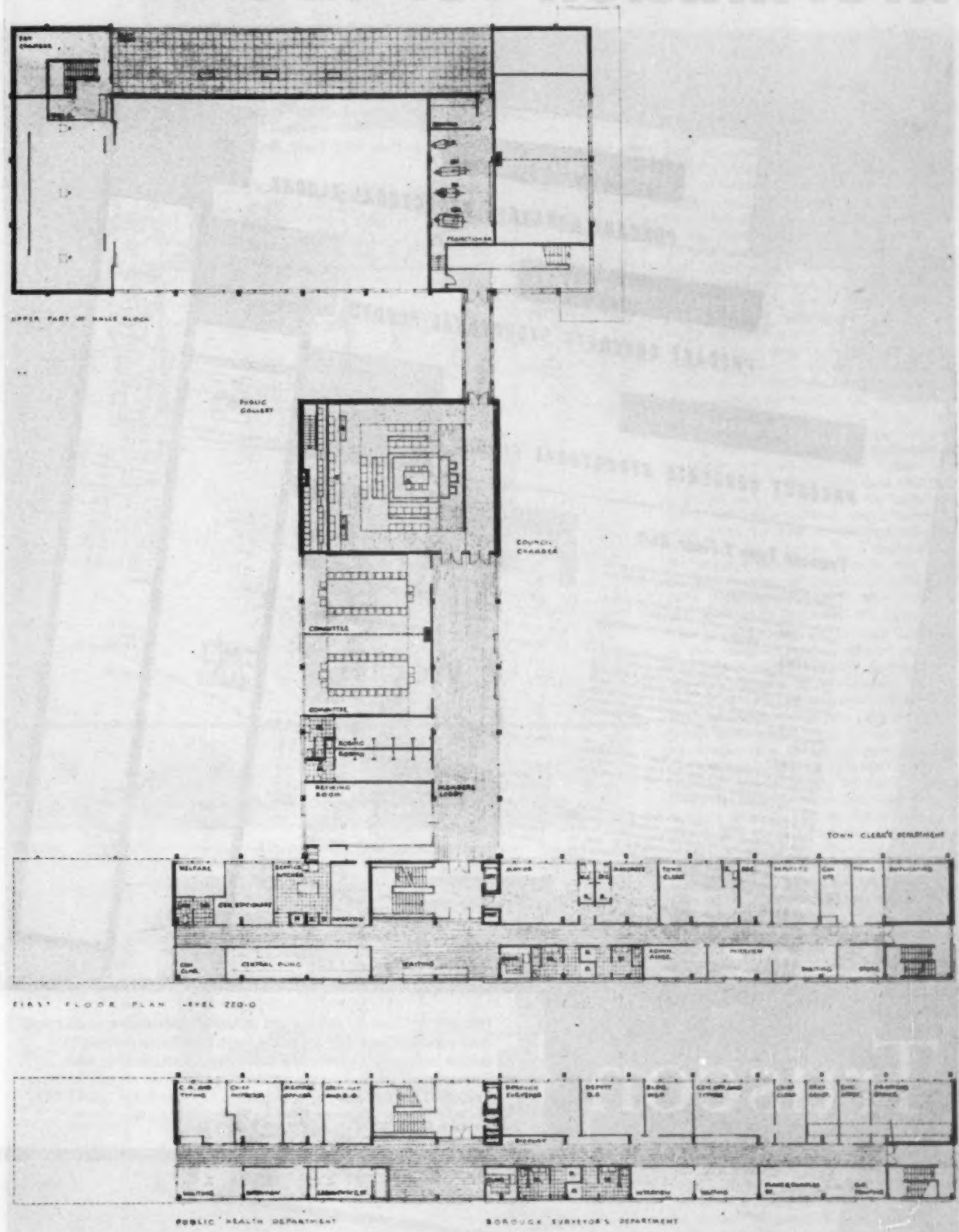
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Wokingham Town Hall: First premiated design (continued)



First and second floor plans. Principal offices are all arranged to look out over the pedestrian square





# Information for Architects

**Truscon REFERENCE SHEET**  
**PRECAST CONCRETE STRUCTURAL FLOORS**

**Truscon REFERENCE SHEET**  
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**PRECAST CONCRETE STRUCTURAL FLOORS**

## Truscon Type 1 Floor Unit

Purpose made precast concrete units of channel section. In-situ end filling is retained by metal end caps supplied with the units (Fig. 1).

Detailed working drawings, showing the placing of the units and ancillary fittings (Fig. 4) are supplied for each job.

Estimates are given for supply and fixing and for supply only.

### LOADING

The Truscon Type 1 unit is designed to carry superimposed loads on floors and flat roofs in accordance with chapter V, CP.3 (1952). Additional loads such as equipment, walls, and loads in excess of chapter V, CP.3 (1952) may be carried by means of  $\frac{1}{2}$  width units, additional in-situ reinforced concrete between spaced units, or by the addition of a structural topping. Superimposed loads of over 3 cwt. per sq. ft. have been carried in this way.

### WEIGHT

The absence of a bottom slab gives the Type 1 unit exceptional lightness—(compared with a solid slab a saving of weight as great as 60%)—enabling reductions to be made in the size of the supporting structure and foundations.

### SERVICES

The open soffit of Type 1 units allow the installation and servicing of plumbing, electrical conduits, drainage, lighting, etc., within the thickness of the structural floor, achieving the least possible depth from floor finish to ceiling (Fig. 5). Holes for services can be provided in the top slabs of units—openings up to 10" square being blocked out at works; holes, up to 3" diameter can be cut on site.

### FINISH

The tops of the units are roughened to receive a screed. The soffits, being cast on steel moulds, have a smooth surface, and require little further treatment when no ceiling is required.

### QUALITY

The concrete, reinforcing steel and workmanship comply with the requirements of CP.114 (1957).

**Figure 1: Sections of Type 1 units.**

**Table 1: Loading table for full width units.**

Unit depth	1 1/2" top slab		2" top slab		200 lb/sq.ft.
	Unit depth	Load up to 80 lb/sq.ft.	Unit depth	Load up to 100 lb/sq.ft.	
5"	11' 0"	10' 10"	58"	11' 2"	10' 0"
6"	13' 0"	13' 0"	64"	12' 10"	11' 7"
7"	15' 0"	14' 6"	74"	13' 11"	13' 4"
8"	16' 6"	16' 4"	84"	14' 10"	14' 2"
9"	18' 0"	17' 4"	94"	15' 8"	

**Table 2: Dead weights.**

Unit depth	Wt./sq.ft. with grouting	Wt./sq.ft. run unit only
5"	30 lb.	36 lb.
6"	33 lb.	40 lb.
7"	37 lb.	43 lb.
8"	40 lb.	46 lb.
9"	44 lb.	50 lb.
5 1/2"	41 lb.	48 lb.
6 1/2"	44 lb.	52 lb.
7 1/2"	48 lb.	54 lb.
8 1/2"	49 lb.	57 lb.
9 1/2"	52 lb.	60 lb.

**Table 3: Fire resistance.**

Fire Resist. in hours	Top slab thickness of precast unit	Top treatment	Ceiling construction	Fire test Report No.
4	1 1/2"	1" sand/cement screed	1" Gypsum plaster on HV-RIB Lathing	FROSI 483
2	1 1/2"	1 1/2" sand/cement screed	1" Gypsum plaster on metal lathing	estimate
	2"	2" sand/cement screed	none	estimate
	1 1/2"	1 1/2" sand/cement screed on 1" steel roof on	1" Gypsum plaster on 1" plaster board on timber battens	estimate

# Truscon

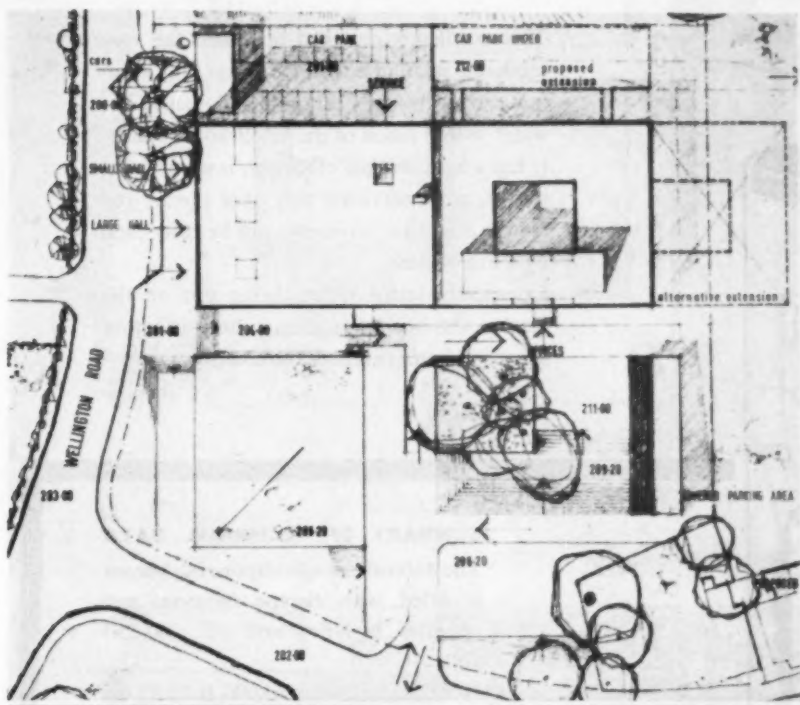
Henceforth Truscon will present technical information concerning their products and services in the form of reference sheets to British Standard A4 size. The first three sheets, dealing with Truscon precast floor units, are now available on request from Truscon Limited, 35/41 Lower Marsh, London S.E.1. WAT 6922

Also at: Birmingham, Edgbaston 4391-2-3 · Bristol 21861 · Glasgow, Central 0157-8  
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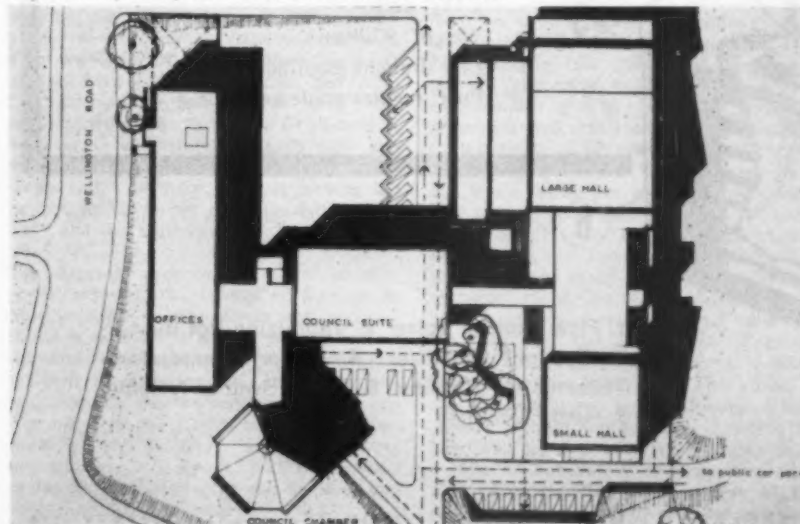
**Wokingham Town Hall: Second premiated design by Grenfell Baines & Hargreaves  
in association with David Rock and Robert Smart**



Above, the south-east elevation. Below, block plan showing the compact planning into one block



Above, the south-east elevation. Below, block plan showing how the council chamber is placed separately as an architectural tour de force



Third premiated design by William W. Ryder

respect a model example of how an architectural competition should be organised. They include a carefully written schedule of accommodation, showing the required relationship between the various rooms. Forms were provided for competitors to complete, so that the assessor was presented with a standard set of facts about each design in terms of areas, outline specification of internal and external finishes and fittings, and a brief cost analysis.

One must applaud the assessor for stating in the conditions that he is not interested in time-consuming or expensive presentation of the entries. To this end the number of drawings required has been reduced to a minimum, all in the form of dyeline prints. The only difficulty with these stipulations, rightly aimed at allowing competitors to concentrate upon basic planning problems rather than on the tedium of elaborate presentation, is that the drawings are not necessarily clear enough for exhibition or reproduction purposes. This, in fact, is the case with the winner: a most carefully worked out scheme is not at first sight easy to appreciate and inevitably suffers in reproduction. If it were stipulated that prints must be true to scale or in some other black and white version, and a lower limit were given for size of lettering, this problem could be avoided. It is regrettable, as the assessor says in his report, that despite his wishes, many of the entries were beautifully presented. However, this factor was not allowed to influence the decision.

The winning design by John G. Fryman is, as the assessor says, a simple, direct and economical solution of the problem posed. The key decision in its planning is to have the offices and the assembly halls as two separate blocks, with the council suite between at first floor level, the layout forming three sides of a pedestrian square open on the south-east side, the direction from which the site will normally be approached on foot. The clump of trees has been preserved so as to form the fourth and enclosing side. Changes of level across the site have been turned to advantage, the main car-parking area being at the lower end, screened from normal view. There is a second parking area at a higher level on the east side, also carefully screened.

As the assessor points out, entrances to both the office block and assembly halls have been cleverly contrived so that from either the upper or lower level car parks there is ready access. In addition, the short-term parking provision is particularly good, as are the admirable arrangements of service entrances. The office block is carefully planned so that all important rooms overlook the pedestrian square, not only to enjoy this contained view, but also to be free of traffic noise round the perimeter of the site. The council suite has an attractive members' lobby overlooking the square, and the chamber itself gains by its straightforward shape and practical arrangement. Below is a covered colonnade providing a direct link between office block and public halls, with the officials' covered car-park alongside. Both boiler house and caretaker's flat are carefully sited in key positions, the latter where its occupant can have maximum control of the service entrances and its principal rooms enjoy south sun.

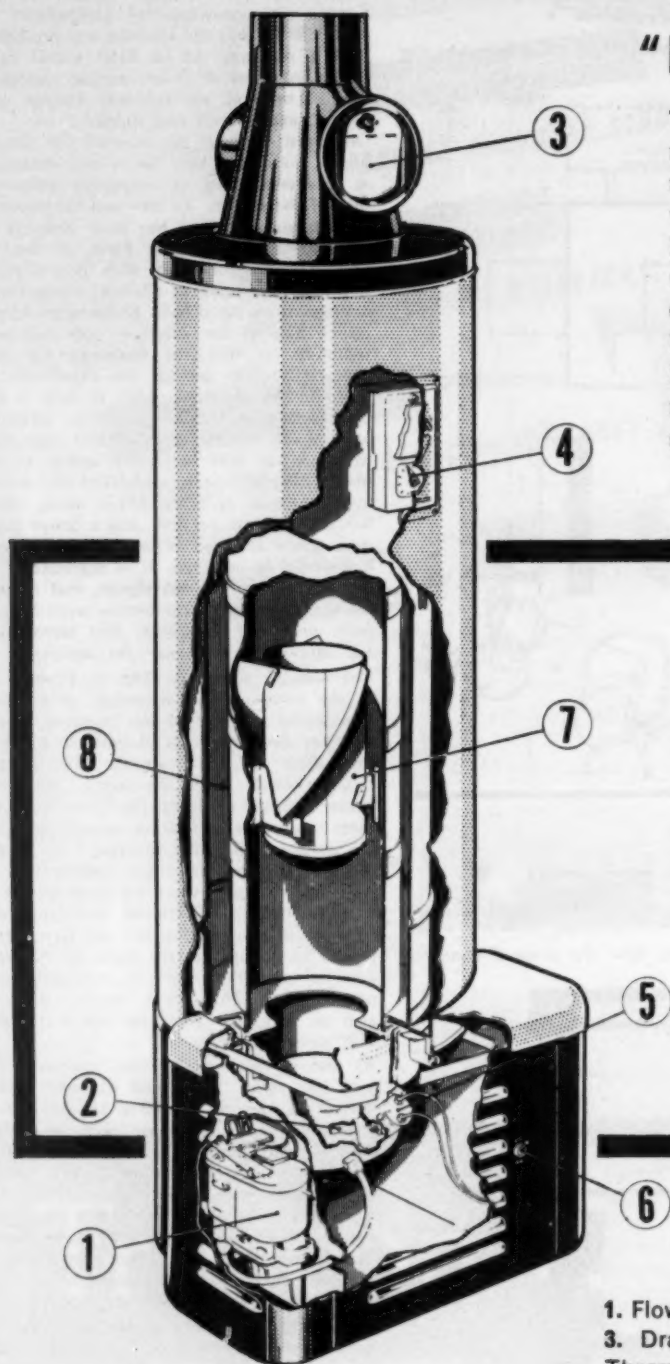
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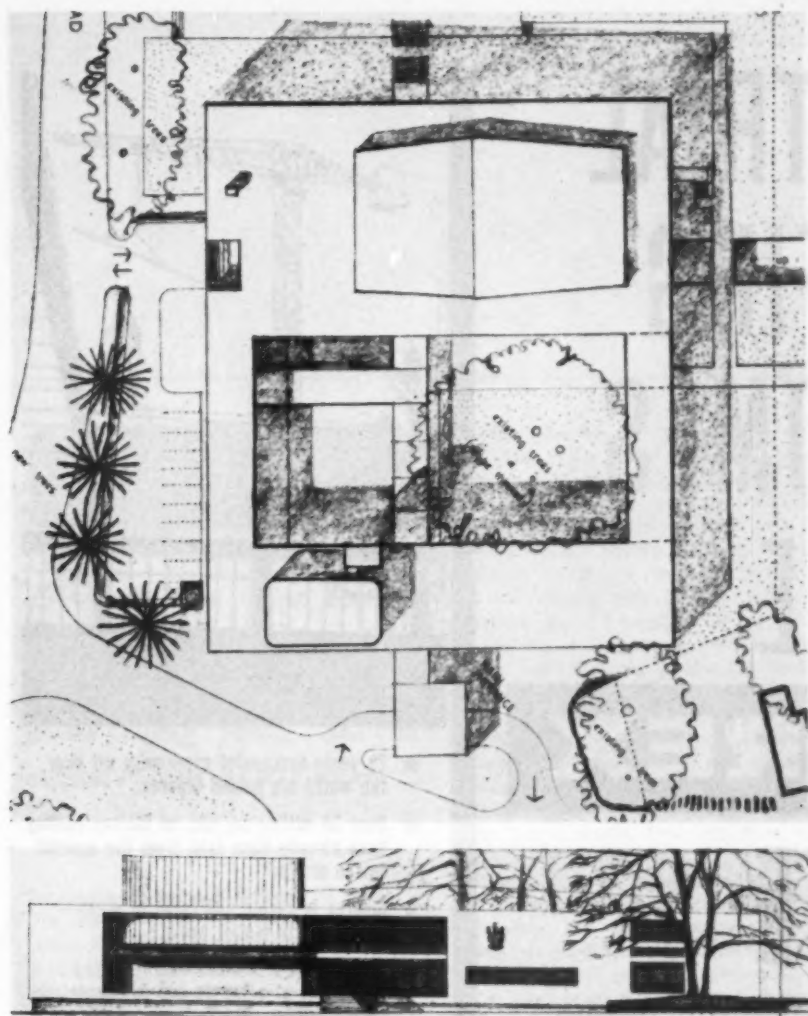
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## Wokingham Town Hall: Commended design by G. Edwin Schoon



Above, the south-east elevation showing how the council chamber is expressed externally. Below, block plan showing the general layout as a single block with a central court

One of the key factors stressed by the assessor is that in contrast to most of the other schemes, the Public Halls are planned with great economy. The two halls, together with their ancillaries of kitchen, cloakroom, bar and back-stage accommodation, are carefully arranged so that they can serve for a wide variety of functions. The circulation is, however, in some respects slightly tight, and the assessor suggests that minor improvements could be made, such as moving the paybox at the upper entrance to the large hall, and by widening the lobby to the small hall.

The structure proposed is reinforced concrete, with external facings of high grade blue brindled bricks. Where the concrete frame is exposed, it will in part be natural fair face, but bush hammered or otherwise textured in special areas. The elevational treatment the assessor regards as virile, and expressive of the functions of the various parts of the buildings, whilst the facing materials are in sympathy with the external architectural character of the building and echo their straightforward planning.

The winning design has been submitted with a carefully written report, showing that each of the important interiors has received con-

sideration as to its specific requirements, and that the planning has been developed from an understanding of functional inter-relationships between the various spaces. This has given the assessor the impression that the author of this scheme is a most conscientious architect who will serve the promoters well. He feels that the competitor's estimate of £211,600 is optimistic, but that with care at the working drawing stage, this figure should not be exceeded by 10%. The second premiated design by Grenfell Baines and Hargreaves in association with David Rock and Robert Smart, deliberately sets out to be much more monumental in character, the design being formed into one block made up of two units, one formed of the public hall, the other of the offices and council suite, the latter being on a courtyard plan. This scheme has the virtue, as the assessor points out, of freeing a large part of the site for landscaping, which has been well handled, and that the office block is very economical in its circulation. It is clear, however, that the designers of this scheme have not been able to overcome entirely the problems created by attempting to fit the accommodation into the particular monumental mould they have de-

veloped. The council suite, particularly the chamber itself, is too cramped, and circulation to the public halls is on a far too lavish scale. Even within their own terms of reference, the designers do not seem to have resolved completely the aesthetic problem they create by placing together what are virtually two quite separate blocks. The estimated cost of £294,335 the assessor regards as realistic.

The third premiated design by William W. Ryder is basically a layout on similar lines to that of the winner, except that the council chamber is treated as a separate block, on pilotis standing in water, so as to become the major architectural feature. The assessor rightly says that insufficient attention has been paid to costs generally, and that the expense of the council chamber is beyond the means of this relatively small authority. The estimated cost of £276,700 he regards, however, as being realistic, and he commends the layout, the cleanness of the planning, and the elevational treatment. The assessor also commended two other designs out of a total entry of 31. The scheme by G. Edwin Schoon is a courtyard plan, an essay in the monumental, with the volume of the council chamber externally expressed. Like the design placed second, there is overgenerous circulation round the public halls. The estimated price of £389,473 which partly results from this loose planning, the assessor regards as well above an acceptable cost.

The other commended design, by Martyn J. Wheatley, treats the offices, council chamber and public halls as three separate blocks round an open square, with the offices in the central position. The designer has produced an attractive layout with a careful handling of the levels. However, having public access to the large hall at the opposite end from the link to the rest of the building has caused a number of planning problems. In particular there is a mix-up between artists' and public circulation. As the assessor says, it is regrettable that the bad planning of this one section marred an otherwise good scheme.

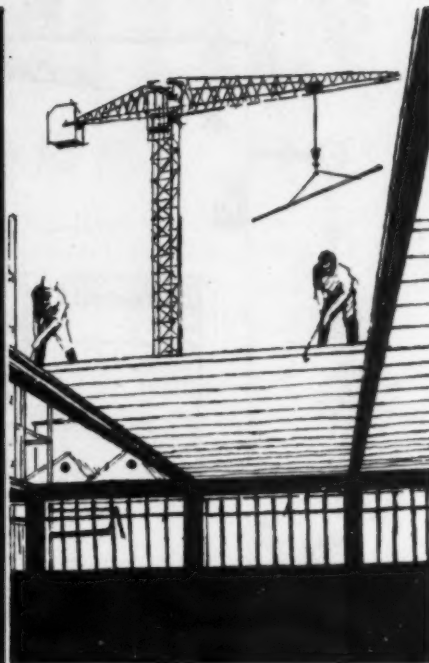
The biggest failing in most of the entries was that they tried to give Wokingham, an authority of modest size, something too monumental in character and scale. The attempt at monumentality, with rigidly designed buildings, often resulted in bad planning or excessive floor area, all of which reflected in the costs, although the conditions asked for an economical design. The assessor did not give a maximum figure for the scheme, apparently because he felt that this might be too limiting, but in answer to a question he stated that a lavish design would be unlikely to receive MOHLG approval. As an indication as to how wide of the mark in this respect were some of the submissions, he mentions that the most expensive scheme would cost more than four times the lowest estimate.

It is clear that the assessor, in framing the conditions, went to immense trouble to give competitors as much information as possible, so that the normal architect-client relationship was closely simulated. It is most encouraging to see that he has been able to select what he clearly stated he was looking for, an entirely realistic and workmanlike design, which despite its unpretentious presentation, is a very skilful answer to the problem.

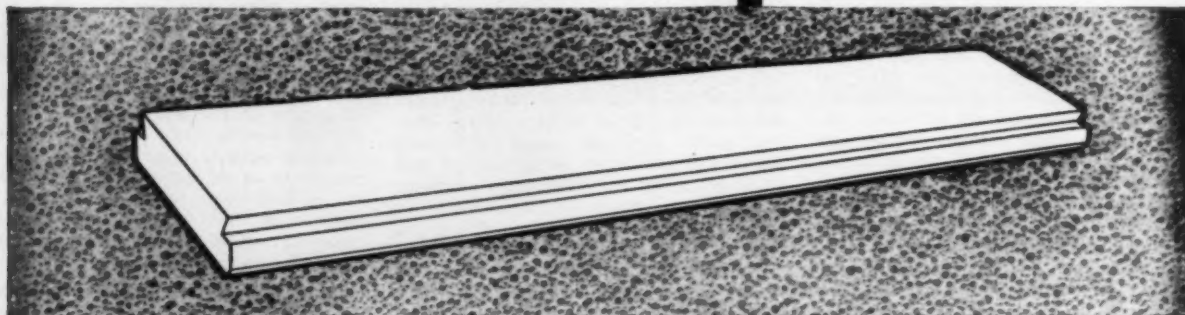
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## THE INDUSTRY

*This week Brian Grant describes a system of exhibition stands, a guide to acoustic materials, suspended ceiling panels, and an induced draught oil-fired boiler.*

**Exhibition stands and fittings**

The Raphic system of building exhibition stands (and many of the appropriate fittings) is based on a series of posts and rails which are used with coupling units such as angle tees, crosses and members to take up to six posts or rails at a single junction. In-filling panels in various materials are made in sizes up to 4 ft. by 8 ft., which can be used to make display panels, desks, shelving or cabinets. The whole assembly is easy to erect and equally readily demountable, so that touring exhibitions can be stored in a small space, or an existing stand can be re-erected in a modified form at other exhibitions. (*Technigraphic (Bristol) Ltd., Crews Hole Road, St. George, Bristol.*)



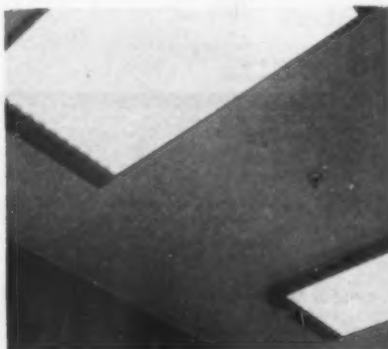
Technigraphic exhibition stands

**Acoustic materials**

Armstrong Cork now produce several different acoustic materials and have issued a guide dealing with them. Cushion-tone is a pine wood fibre tile made with four different surface designs and with a sound reduction coefficient between 0.55 and 0.80 and costing from 1s. 10d. to 3s. 6d. a square foot. Travertone is an incombustible mineral wool tile with a fissured surface and a sound coefficient between 0.70 and 0.80 and costing 4s. 6d. to 5s. 6d. a square foot. Both these materials are unsuitable for use where the humidity is high. Corkoustic is an all cork tile which is moisture resistant and has a sound coefficient of 0.43 to 0.45. Price is 3s. 10d. to 4s. 6d. a square foot. All three types can be used with a number of standard mechanical suspension systems, and Armstrong themselves also have some systems of their own. The guide contains tables of absorption coefficients for different types of ceiling as well as notes on maintenance and fixing. (*Armstrong Cork Co. Ltd., Acoustics Dept., Kingsbury, London, N.W.9.*)

**Suspended ceilings**

Panther suspended ceilings are built up with 12-in. wide perforated panels produced in lengths up to 12 feet. They are assembled with the usual construction of hangers, tees and clips, and can be supplied stove enamelled or plastic coated. Light fittings, heating and acoustical absorbents can be arranged as required. Cost is 42s. 6d.



Panther suspended ceiling

to 45s. a square yard. (*Panther Ceilings Ltd., Irvine, Ayrshire.*)

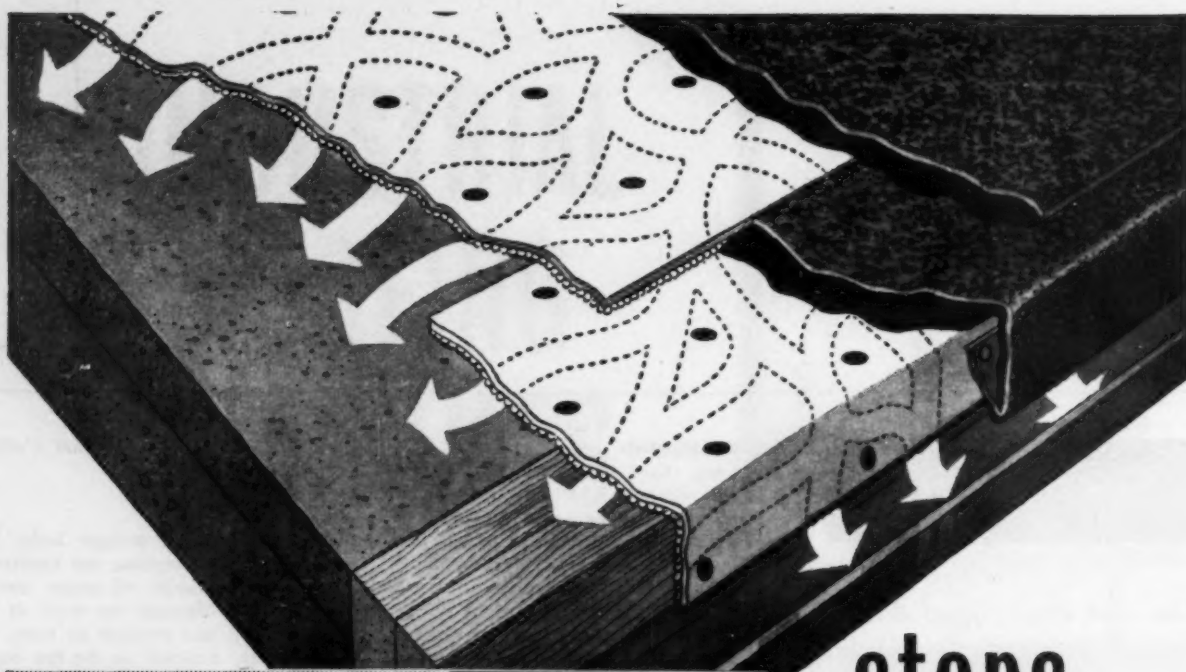
**Oil-fired boilers**

The Perkins induced draught boiler has been designed to overcome the limitations of the natural draught oil burner and at the same time eliminate the noise of the forced draught and pressure jet types. An induction fan, mounted on the flue outlet, pulls fresh air through the burner to give maximum combustion efficiency and precise control of draught. No long flue is needed and the outlet can be quite close to the ground. The boiler shell is adequately insulated and has internal water tubes arranged spirally for maximum heat transfer. Control is by thermostat, with any time controls that may be required: ignition is by a pilot burner which costs only a few shillings a month to run, and which the makers consider preferable to electric ignition. The boilers are produced in ratings from 35,000 to 70,000 B.Th.U. per hour at prices varying from £90 to £115. (*Perkins Boilers Ltd., Mansfield Road, Derby.*)



Perkins oil-fired boiler





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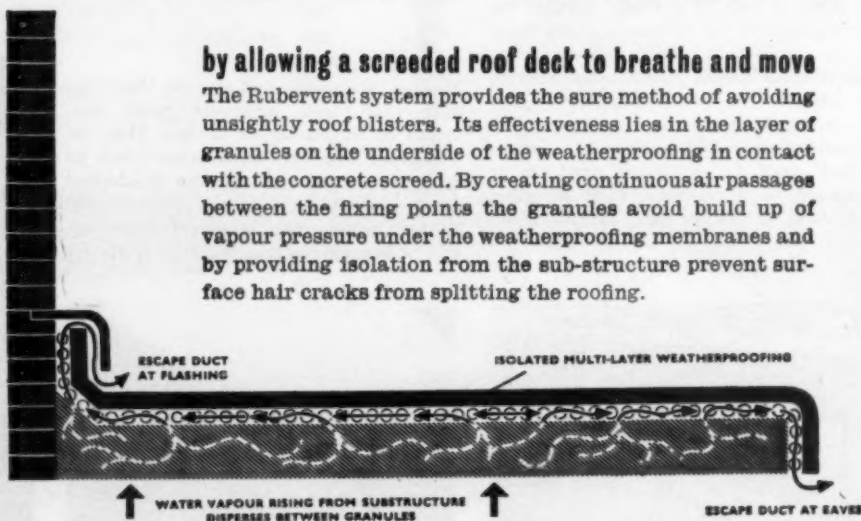


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The continued growth of car ownership, and the loss of life, convenience and amenity which are the by-product of the motor vehicle, prompts us to raise once more the issue of Radburn Planning. That is, the issue of whether or not we ought to plan the living areas of our towns so that the car is segregated from the passenger on foot. We have, therefore, asked the architect and sociologist, Paul Ritter, who has made a special study of this subject, to write a series of articles restating the Radburn proposition, examining how far current derogatory opinions of Radburn are attributable to the failure of British examples to fulfil the idea in its entirety, and putting forward new evidence which may make us think again.

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## 6. PLANNING: SOCIAL AND RECREATIONAL

### Radburn planning : a reassessment, 1— the classic objections

In this first article Paul Ritter recalls what Radburn Planning is. He then sets down the classic objections to the ideas as made by British planners during the post-war period. Lastly he takes up these objections one by one and, taking evidence from surveys made by himself of British housing estates incorporating some of the Radburn principles, he considers how far the objections are justified. Parts of the surveys are published in later articles.

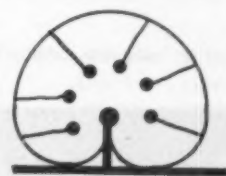
The Radburn idea originated in the enthusiastic discussions which took place shortly after the First World War among a small group named the Regional Planning Association of America. This group included Lewis Mumford, Stuart Chase, Herbert Emerich, Clarence Stein, Henry Wright and several others. Stein, Wright and some others created a

number of settlements of which Radburn, 16 miles from New York, was the first, which aimed to make it possible to live with (or "in spite of") the automobile.

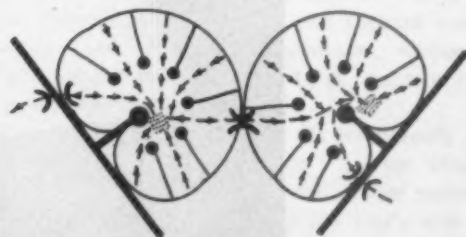
There are four elements in the Radburn idea:

#### Elements of Radburn Planning

1. The superblock, a large area (5-150 acres) with a road around it from which cul-de-sac service roads feed the interior. No road cuts right through.
2. Within the perimeter a separate system of paths and walks link all the dwellings with the places of gathering without cutting across roads.



3. The under-pass: Superblocks are linked by roads and walks which go under (or over) roads, whenever they meet.



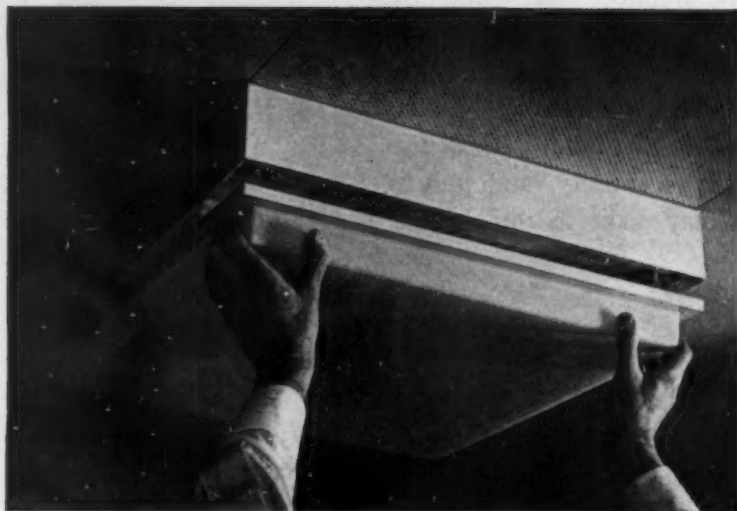
UNDERPASS



Fig. 1. Aerial view of the original Radburn, New York

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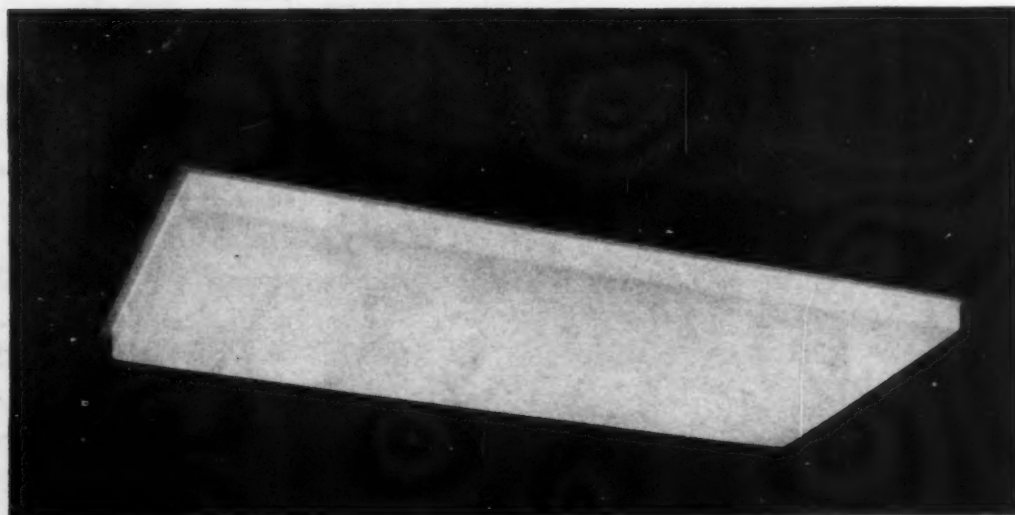


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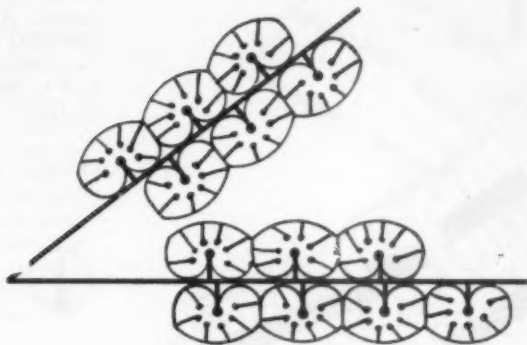


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## technical section

Lastly it is a principle of Radburn planning that roads and paths are designed to fulfil particular functions and not by rule of thumb.



### The Case against Radburn Planning

It is a commonplace among planning officers and among those who design housing in this country that the Radburn idea, though attractive, "does not work."

In 1955 Lionel Brett, speaking at an AA symposium on vehicles in housing areas said:

*... everybody knows that this ideal pattern, which isolates the neighbourhood centre (which is the main traffic generator) from the main traffic routes, doesn't work in practice, and that we must still accept the older pattern of residential units threaded by traffic routes (suitably safeguarded) rather than by-passed. The same objection applies I believe a fortiori to the Radburn idea in regard to the individual housing group. American experience has shown that the "mews" becomes the centre of life and fun; its hard surface attracts the children and everybody approaches the house that way. Garden gates may be used by afternoon pram-pushers, but this is an expensive luxury in terms of land. For we must remember that Radburn lay-outs are of their very nature low density, and give us no help in that direction. Indeed, I would say that for English conditions, the Radburn idea stands condemned for that reason alone, quite*



Fig. 2. The path side of Radburn layout at Cumbernauld

*apart from the lack of privacy in the garden, which I believe to be a basic English requirement.*

These opinions of Lionel Brett have been repeated by many others and have doubtless helped to form a climate of opinion unfavourable to the Radburn idea. But have they a basis in fact? Are they founded on experience of even the half-dozen or so estates in this country where Radburn Planning (or some aspects of it) has been tried out? Considering that the case in favour of Radburn was exceedingly strong the author has made a personal survey of these schemes with a view to finding out how the inhabitants used them, in what respects they fulfilled the Radburn aims and in what respects they fell short of them; whether criticisms were fairly attributable to the Radburn principles; and lastly, to make a collection of detailed planning and design ideas which might be useful to the further development of all Radburn schemes in the future. The last of these objectives forms the subject of a later article in this series. The preliminary discussion of the others here is usefully related to the criticisms epitomised by Lionel Brett.

### Isolation of Neighbourhood Centre

*... everybody knows that this ideal pattern, which isolates the neighbourhood centre (which is the main traffic generator) from the main traffic routes, doesn't work in practice. ...*

This criticism seems to have been made because, in some diagram representing the Radburn idea, the neighbourhood centre may have been shown literally in the centre of the superblock. But that is only for diagrammatic convenience. Provided it can be reached by a footpath system from every part of the "superblock," it can be attached to the ring road and in two of the English essays Willenhall Wood I, Coventry, and Greenhill, Sheffield, it is so placed.

### Children still play on the Road

*... American experience has shown that the "mews" becomes the centre of life and fun; its hard surface attracts the children and everybody approaches the house that way. ...*

Before turning to British experience in this, it is perhaps worth pointing out that American experience does not bear out this view. Clarence Stein in his documentation on American Radburn Plans in his book "Towards New Towns for America" discusses this point in detail. He testifies that some plans are used correctly, others not and puts forward reasons for the latter. Stein Eiler Rasmussen, writing on neighbourhood planning in the T.P.R., January, 1957, says of American schemes:

*"Two visits convinced me that the lawns really play the part they were intended to ... the children gathered on them and in the little private pathways behind the houses, and not in the roads with the motor traffic."*

British evidence, like American, is divided; but where children customarily play on the wrong side, this can

technical section

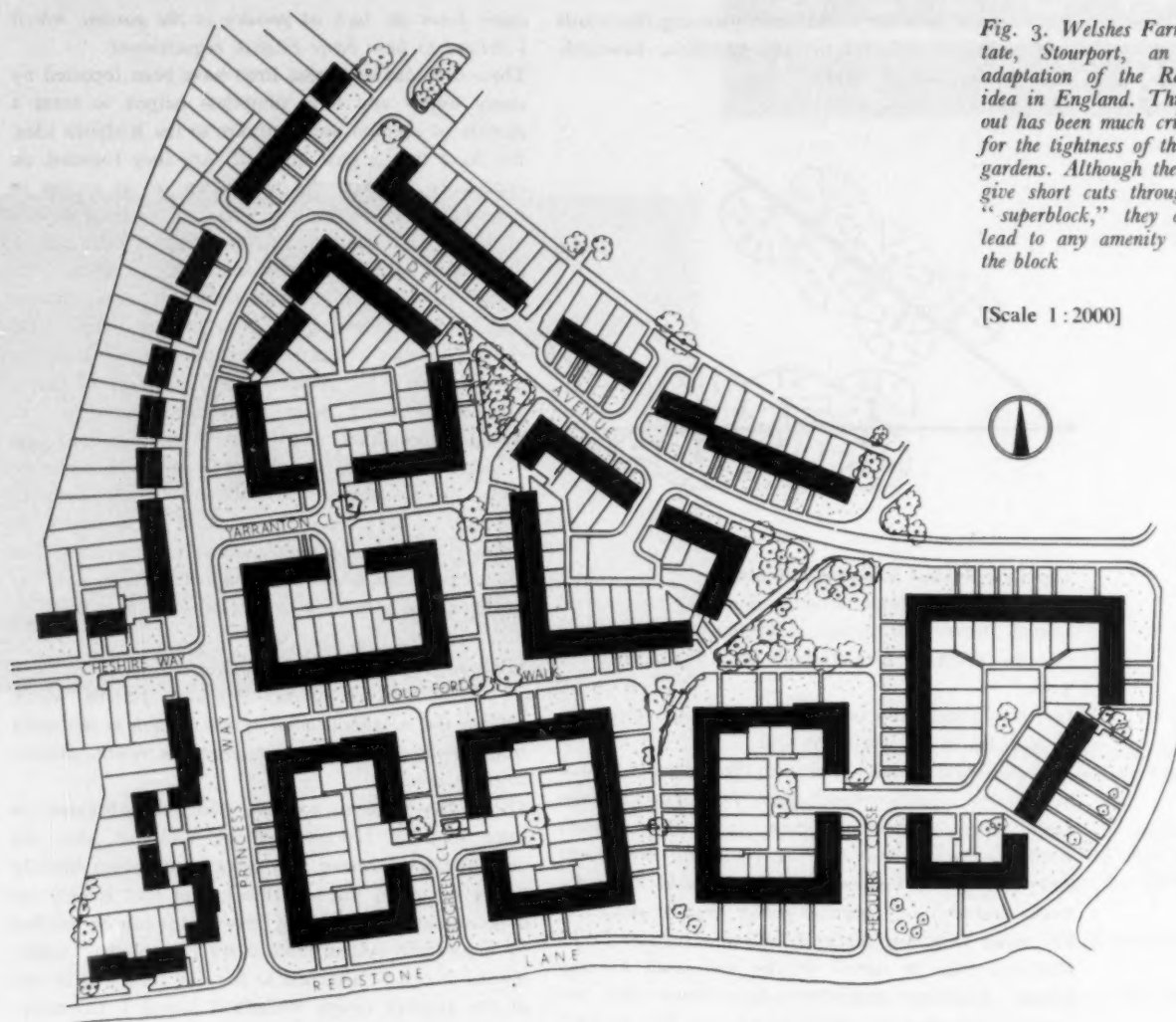


Fig. 3. Welshes Farm Estate, Stourport, an early adaptation of the Radburn idea in England. This layout has been much criticised for the tightness of the back gardens. Although the paths give short cuts through the "superblock," they do not lead to any amenity within the block

[Scale 1 : 2000]

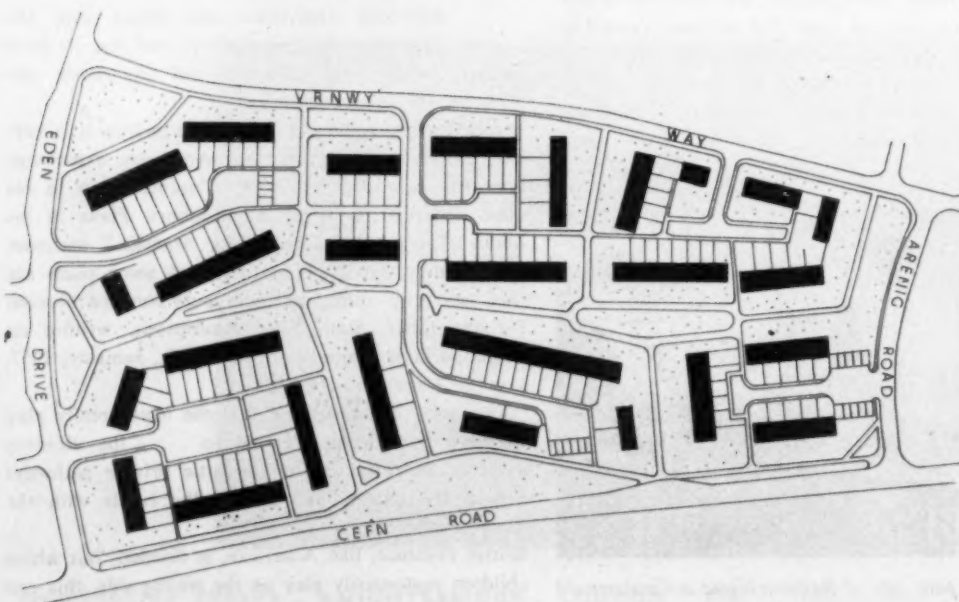


Fig. 4. Part of a Radburn Estate at Wrexham. Although traffic has been differentiated from pedestrians, it must be noticed that the main pedestrian route down the centre of the estate crosses a cul-de-sac; also that the pedestrian routes do not lead anywhere

[Scale 1 : 3000]

Fig. 5. Greenhill-Bradway Estate, Sheffield. Later in date than Stourport and Wrexham, this affords a better example of a Radburn "superblock." Segregation between roads and paths is virtually complete; the paths all lead to shops and public house within the block (to the school also, had it been built) and with few exceptions offer the shortest route  
[Scale: 1 : 5000]



be attributed with reasonable certainty to the scheme's failure to carry out some part of the Radburn programme. A common fault in England was one of timing. At three schemes (Northampton, Wrexham and Stourport) there was a delay in completing the play areas. This meant that the children had to *begin* by playing on the roadside and the habit once started is not easy to break. In fact, at Wrexham there was a more decisive reason in that the kitchens all faced on to the back. This meant that the mother could not see her children or hear their screams and cries for help unless they played at the back. By contrast, at Coventry, Willenhall Wood I, when the kitchen was at the front the children played at the front.

A further factor discouraging the use of the fronts in so many British schemes is that the spaces are designed badly, with long, straight undifferentiated paths. Children are susceptible to the character of a place: lastly, people were not told the ideas behind the plan at the time they move in.

#### People don't use Paths

*... everybody approaches the house that way. (The back). Garden gates may be used by afternoon pram-pushers, but this is an expensive luxury in terms of land.*

In so far as this is true in Britain it is due to the fact that the footpaths don't lead anywhere. Clearly, unless they provide the shortest or best route to the places where people want to go, they will only be used by the occasional pram-pusher, and perhaps by lovers, old people and those taking their dog for a walk. A subsidiary cause of non-use is that the foot-path system was often not complete until long after the estate was finished; that part of the path system (e.g. parks and schools) is often closed at certain hours and that, except at Cumbernauld, there is no "underpass" between "superblocks." This last point

is more important than may appear since the essence of Radburn is complete segregation, and thence the absolute safety of sending children unattended to school and shops, and if the system is interrupted by roads, then its chief advantage is lost.

#### Radburn necessarily low Density

*For we must remember that Radburn lay-outs are of their very nature low density. . . .*

This question is dealt with in the fourth article in this series where areas and costs of Radburn and non-Radburn schemes are compared. This shows that Radburn schemes are not of lower density than their counterparts. In fact the two earliest schemes (Wrexham and Stourport) are still, I believe, with densities of 84-85 habitable rooms per acre, the densest post-war two-storey housing in the country in actual use. To this must be added that Radburn schemes can, without difficulty, accommodate more garages.

#### Lack of Privacy

*... quite apart from the lack of privacy in the garden, which I believe to be a basic English requirement.*

Lack of privacy in this context means being overlooked by those who are passing in their cars to and from their garages and by those delivering goods. Examination of the British Radburn estates from this point of view shows two characteristic situations. In the older schemes there is less than a 25 per cent garage provision. Here, if fences are not high the gardens are overlooked and the visual effect is messy. In the second situation there is over 50 per cent garage provision. Here fences between garages are usually high and generally speaking the gardens are shielded from those venturing into the cul-de-sac. It must be questioned, however, if the back garden of any English housing estate can be said to be "private" in any real sense, and whether being overlooked



## technical section

by the tradesman is more inhibiting than being overlooked by the normal ring of back-bedroom windows of neighbours.

For some critics of Radburn schemes this is an issue of "front" and "back" and "clean" and "dirty." It is argued that the way of life of the English housing estate is based on the concept of the house facing the road. The bride enters, the coffin leaves by the front door; the vicar calls at the front door and is shown into the front parlour. The front is formal and clean, the back is informal and dirty. The Radburn plan (so it is argued) sins against this hallowed arrangement since anyone arriving or leaving by vehicle must arrive at the *back*.

A number of points must be made on this. First, though the "front-back" convention was firmly established in estates of the inter-war and post-war periods, you find a contrary convention in earlier housing where the "front" clearly faced away from the street. Second, that in practice the distinction between formal and informal, clean and dirty is blurred. If the gracious visitors approach from the front, so do the dust-cart and the manure lorry. Investigation of English Radburn schemes showed that in many cases the problem had not been solved, but that the solution lay in the choice of house plan, parking areas, and the co-operation of residents based on understanding. A return to this subject will be made in a later article of the series.

## Safety

Though the author produces evidence that Radburn planning leads to a better social life, the main point in its favour is that it gives complete safety from the motor vehicle. This is a great good, not only in itself, but also because it frees parents from fear. In conclusion, therefore, something must be said about the views of those who say that estates can be safe enough without 100 per cent segregation. The ordinary cul-de-sac to the front of dwellings

has been thought "safe enough" by many because only a little traffic enters and it has to slow down. The contemporary version of this, the small square, with the cul-de-sac leading into it, providing a formal setting without front gardens, is not essentially different.

The 100 per cent separation is not just extremism, it is decisively preferable\*. The danger from parking, starting and turning vehicles is considerable, not to speak of the damage to the car from children who have nowhere else to meet and play. The extra care asked from those servicing and supplying such areas every day and all day long is most unreasonable.

## Conclusion

The defects of the early Radburn plans in Britain are attributable, not to Radburn principles, but to specific failures to carry out those principles. At the time when Lionel Brett's criticisms were made (i.e., 1955) Radburn stock stood at its lowest. But shortly after, Willenhall Wood 1, Coventry, did much to restore confidence in the Radburn idea and it was indeed this example, joined to the need for close on 100 per cent garage provision, which led others to plan on Radburn lines. Since then there has been a reversion of interest to Radburn. Today, among the new towns, Stevenage has one scheme nearly finished, a second due to start and a third, a very large one, planned. Basildon, Harlow and Peterlee are planning on these lines. Other Radburn Estates have been completed at Hull, Beeston, Nottingham and Letchworth; and there are certainly many others in embryo. This persistent rise in interest is itself corroborative evidence that the criticisms of five years ago were unjustified.

## EVIDENCE OF INCOMPATIBILITY

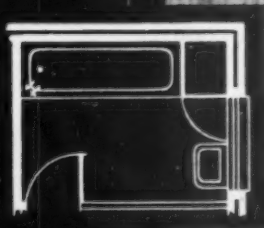
*Motor*  
big, heavy, hard,  
fast, strong, great momentum,  
reluctant to stop and start,  
mechanical rhythm,  
noxious exhausts,  
noisy,  
space-time scale vast,  
moves on predetermined lines.

*Man*  
small, light, soft,  
slow, weak, slight momentum,  
stops and starts easily,  
organic rhythm,  
ecologically harmonious,  
quiet,  
space-time scale intimate,  
meanders spontaneously.

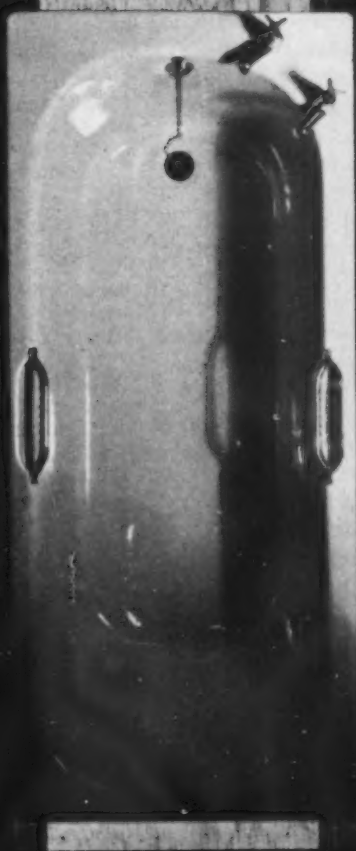


Fig. 6. Willenhall, Coventry

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and colours,  
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# Building Studies

This week we start a fresh series of cost analyses for buildings illustrated in the AJ. It is based on the improved breakdown into elements proposed by the AJ cost analysis study group, whose report we published earlier this year (7.1.1960). In their report the group reaffirmed the vital function of cost analyses in providing information for cost comparison, approximate estimating and, above all, for cost planning. This they defined as the process of designing a building with the final cost in view from the very earliest sketch design stage, or the budgeting of element costs to achieve a balanced whole. In their opinion the process of cost analysis is the only worthwhile source of information available. It is essential that architects should design with cost in mind, and for this they must be able to refer to analyses of other buildings. The group reviewed the AJ Buildings Illustrated series, which has now been running for five years, to see whether its value could be increased as a source of cost information for architects, quantity surveyors and builders. They put forward two detailed proposals. First, on the principle that the division of a building into elements is basically a division into distinct architectural functions, the group suggested revisions in the breakdown into elements. This improved breakdown has been adopted as the basis for the new series, and the accompanying table on this page shows the revisions which have been made. Second, the study group proposed that precise definitions should be provided for each element as a guide to those preparing analyses for publication, so that there could be an accurate basis for comparison. On pages 697 and 698 in this issue we give the definitions which in future will be used. These pages should be kept for reference in using the new series for cost planning. In addition, the group proposed that the scope of cost information should be considerably widened. A cost analysis can, of course, be as short as a condensed summary of the price of each element, but this would be of limited value. Or an analysis can be so comprehensive as almost to approach an elemental bill. Whilst naturally anxious to increase the amount of cost information given, for various reasons the AJ has not accepted the group's proposals in their entirety. First, we are always conscious that the series appears only through the full co-operation of the quantity surveyors concerned. The work involved in preparing an analysis is considerable and should not be increased unnecessarily. Second, there is obviously a limit to the number of pages which can be devoted to any one building. Third, cost information is undoubtedly of greatest value at the early stages in the design of a building, when the comprehensiveness suggested by the group is normally not required. Also, the additional information they suggested, beyond that given in the new series, can usually be calculated from the figures already included. Nevertheless we are conscious of the diligent and disinterested work that lies behind the proposals made by the AJ cost analysis study group, and it is thanks to their efforts that the new and improved series has been possible. The amount of cost information in these future analyses will be more comprehensive than before, as can be seen from the first example this week.

The start of this second series gives the AJ an opportunity to re-state that the aim is not merely to publish a number of

cost analyses. There are four further main objectives. First, the analysis ensures that there is a systematic summary of the detailed specification of a building. Second, there is the attempt to provide in photographic form an adequate visual record of both the exterior and interior of the building. Third, by plans, sections and details, we try to give an accurate impression of the planning and construction of the building. Fourth, and perhaps most important of all, we attempt to have an informed, explanatory and objectively critical appraisal of the building. The combination of all these techniques is unique in architectural journalism. In view of the increasing comprehensiveness of the information given in the series, they will in future be published in the AJ under the title "Building Studies." At the same time, each double spread in the articles will indicate that this is the second series of cost analyses, so that they can readily be distinguished from those based on the original breakdown into elements.

## Comparison of new elemental breakdown with that for previous series

NEW SERIES	PREVIOUS SERIES
1 preliminaries and insurances	1 preliminaries and insurances
2 contingencies	2 contingencies
3 work below lowest floor level	3 work below ground floor level
<b>STRUCTURAL</b>	<b>STRUCTURAL</b>
4 frame	4 frame
5 upper floors (including floor over basement)	5 external walls
6 roof	6 windows
7 rooflights	7 external doors
8 staircases	8 upper floors
9 external walls	9 staircases
10 windows	10 roof
11 external doors	11 rooflights
12 internal structural walls (cross walls)	12 glazing
13 partitions	<b>PARTITIONS AND FITTINGS</b>
14 internal doors	13 internal partitions
15 ironmongery	14 screens
<b>FINISHES AND FITTINGS</b>	15 internal doors
16 wall finishes	16 ironmongery
17 floor finishes	17 fittings
18 ceiling finishes	<b>FINISHES</b>
19 decorations	18 floor finishes
20 fittings	19 wall finishes
<b>SERVICES</b>	20 ceiling finishes
21 sanitary fittings	21 roof finishes
22 waste, soil and overflow pipes	22 decorations
23 cold water services	<b>SERVICES</b>
24 hot water services	23 external plumbing
25 heating services	24 hot and cold water installation
26 ventilation services	25 sanitary fittings
27 gas services	26 heating and ventilation
28 electrical services	27 gas installation
29 special services	28 electrical installation
30 drainage	29 lifts
	30 drainage
31 external works	31 external works



# Weeks Hall

Students' Hall of  
Residence for the  
Imperial College of  
Science and Technology,  
Kensington, London

This students' hall of residence,  
the first to be built by  
Imperial College, is a model  
example of this building  
type. It is also the first in our  
new and improved series of  
cost analyses (see opposite  
page).

(98)

728 · 54

architect

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AND PARTNERS

staff: partner in charge

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assistants

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consultants:

heating and ventilation

L. J. FOWLER

structural engineers

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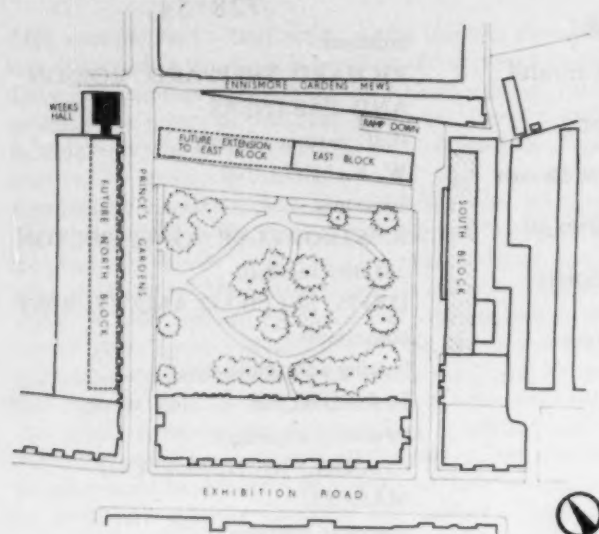
electrical engineers

J. A. BROWN AND PARTNERS

*South (left) and north (right) elevations. In the completed scheme the staircase tower forms a recessed link with the other halls on the north side of Prince's Gardens; these buildings will be the same height as Weeks Hall. The communal space is extended to the north, with its roof slab kept visually and structurally independent of the main building. Flues on the left tower are temporary extensions for the adjacent houses, which will be demolished and replaced by a further group of four halls of residence.*



## building study—2nd series

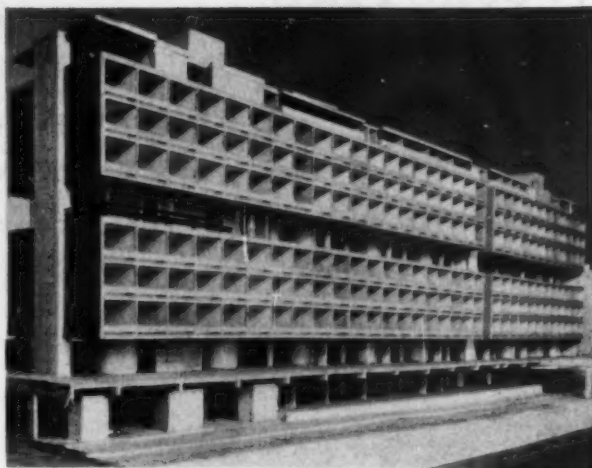


Site plan [Scale: 1 : 3000]

**APPRAISAL:** Weeks Hall is a prototype in a double sense. It is both one of the precursors in the vast national programme of university building now under way (£12 million annually, to increase the university population from 84,000 in 1948 to some 130,000 by 1970), which will include many new halls of residence, and the first of 13 halls around Prince's Gardens by Richard Sheppard, Robson & Partners for the Imperial College.

It has become a prototype for the Imperial College programme by an accident of site availability rather than by intention, and should not be judged as an isolated thing in itself, since it will eventually form an integral part of the total Prince's Gardens scheme (see plan and photo above). This accident has, however, given the architects a valuable chance to use the building as a vehicle for experiment, yielding lessons in time to be of use in the final planning of the rest of the complex of halls, housing 1,400 students, which will make up the total scheme.

The hall contains 69 students' rooms, 64 of them eight per set on eight floors over the open communal ground floor, topped by a penthouse flat for the warden. In one planning respect the building is not a prototype, since the vertical stacking of sets is a necessity created by the restricted ground area of the site. In later blocks, organisation of the sets horizontally into three or four three-storey staircase access units (each of 24 rooms), rising out of the social and recreational communal floors, will obviate the use of lifts for circulation within each hall, thus bringing the students into closer contact with one another as they move through the communal floor to and from the staircase. This horizontal planning of the halls results from a conscious attempt by the architects throughout the scheme "to encourage the student to extend his social experience and facilitate the development of a meaningful communal life." The cost of the hall was covered by a donation from Vickers Ltd., whose deed of gift entitles them to take over the hall in vacations for their own staff training courses, using the ground-floor conference room for lectures. The conference room seats a maximum of just over 50, which limits the numbers for these courses. This leaves some 15 to 20 rooms

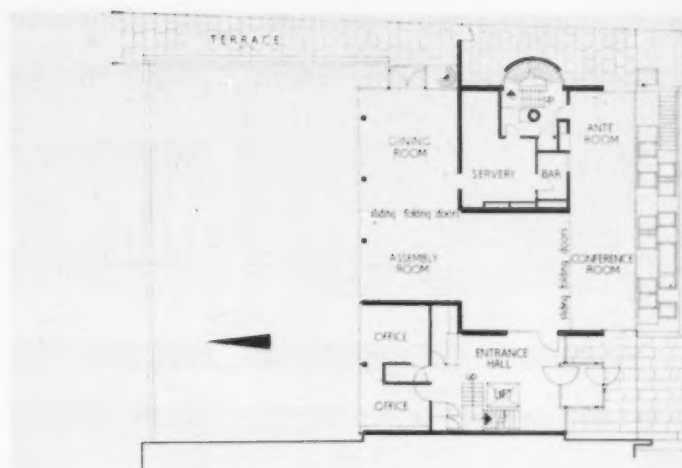


Architect's working model of the group of four halls proposed for the south side of Prince's Gardens. Out of the first and fifth floor communal galleries, with recessed full-height glazing surrounded by balconies, rise the elliptical staircases to the 24 study-bedrooms (eight per floor) in the three sets above

available for college students and allows student social life to tick over in vacations, instead of being brought to an abrupt and artificial halt by a total exodus at the end of each session. This is a functional point which may be of interest to architects and university "client" committees planning new halls elsewhere, if they are considering the obvious possibility of designing the halls for use as hotels or hostels for foreign students during vacations. A wealth of knowledge on other aspects of user requirements is being accumulated—and the research into study-bedrooms undertaken by the Weeks Hall team, which included building and furnishing several mock-up rooms, should be useful elsewhere—but there seems to be a need for some research into the use of communal facilities in halls of residence generally, to judge by the apparent vagueness of the Weeks Hall brief in this respect.

The temptation to over-design the study-bedrooms, neatly building-in everything for maximum space economy, has wisely been resisted. It should be possible to make "a room of one's own" distinguishable from everyone else's; and it seems right that the Weeks Hall students are left free to arrange their beds, desks and bookshelves as they please. The omission, therefore, of any provision for the universal student desire to stick all kinds of odd things on walls is unfortunate. Surely it could not make a big hole in the £120-per-room University Grants Committee cost-limit for furniture and fittings to provide a fair-sized pin-up panel? Without it the warden has a hard task, trying to enforce an unenforceable rule prescribing sticky tape as the only permissible pin-up method. It would be interesting to know the additional maintenance costs resulting from this small oversight.

In general, the quality of detailing and finishes, particularly the in situ and precast concrete, and the design of fittings is excellent. It is depressing to find that, in spite of the carefully controlled shuttering design and good finish, several students, the porters and, initially, the warden were unanimous in their disapproval of the internal board-finished concrete—"cheap," "unfinished," "like a prison" and "bit of a rough-oid job" being typical reactions. Will

Ground floor plan [Scale:  $\frac{1}{4}$ " = 1' 0"]

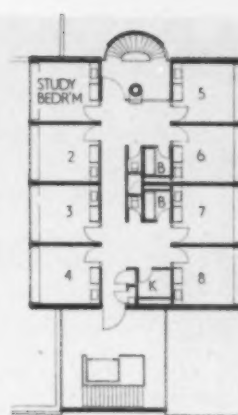
their attitudes change in time, and the general public gradually come to appreciate and enjoy the aesthetic of "materials as found," or will they merely accept it, without much pleasure, as one imagines they now accept the pot of paint Whistler once flung in their face?

The consistent effort to detail out untidy junctions and integrate many small things which commonly appear as applied afterthoughts (for example, the incorporation of the telephone shelf into the concrete wall at the entrance to each set, and of the street number into the precast rail by the main entrance) is noticeable everywhere. Anyone who has experienced the usual difficulties in meeting lift engineers' requirements will appreciate that the glazed lift shaft is a minor *tour de force*, though one wishes that the architects had attempted to get more glass into the lift cage itself.

The building is not without minor detail faults: for instance, the absence of any upstand to the edge of stairs and landings, where washing-down streaks the white-painted sides and soffits. One wonders whether the identical fenestration of north- and south-facing study-bedrooms can be fully satisfactory for both all the year round. The south-facing study-bedrooms are extremely hot in summer, which could have been prevented by projecting walls and floors on this side to form sun-breakers. The planning of the warden's penthouse flat shows signs of the familiar struggle with positions of ducts, vent stacks, tank rooms and structural bays dictated by the typical floors below.

Externally, the clear expression of the solidity of the precast concrete cladding, afforded by the deep recession under the study window seats, is one of the building's great assets. The only major criticism that could be entered is of the failure to express the initial concept of the building as "a mass of cells slung over an open communal ground floor" through setting the ground-floor glazing on the south (with its rather heavy structural-looking mullions) out on the same plane as the facade above—a mistake not repeated in the design of the later blocks.

The loving care, thoroughness and inventiveness evident in the detailing throughout the building ought to give the Imperial College trouble with a steady stream of prowling architects and students for years to come.



Typical upper floor plan



Plan of warden's flat



South/north section

#### CLIENT'S REQUIREMENTS

The money for this building was given to the Imperial College by Vickers Ltd., and the requirements were for a hall of residence with an individual character of its own, separate from but related to the halls already devised for the complete development of Prince's Gardens. The Hall was to have its own communal facilities, comprising common-room, conference room and dining areas, and a dwelling for the warden and his family was to be incorporated. Students were to have separate study-bedrooms with wash basins and built-in furniture, cooking facilities, laundry, trunk store, cleaners' rooms.

#### SITE

The building had to be integrated with the other halls to be built around three sides of the square (at first it was not anticipated that Weeks Hall would be the first part of the development to be completed) and it was positioned at the east end of the north side of the square so that it acted architecturally as a vertical stop to the long horizontal north block which will contain four halls. When it became clear that the building of the main scheme would be held up, the first three houses on the north side were demolished in advance. Until the north block is completed, Weeks Hall will not be seen in the context for which it was designed.



## building study—2nd series



Main entrance. Cornish granite aggregate is used for the precast units to cross-walls and edge-beams, white Norwegian quartz to study-bedroom under-window panels. Study-bedroom windows are untreated Burma teak. Metal windows are painted dark blue-grey. All curtains are lined

## PLANNING AIMS

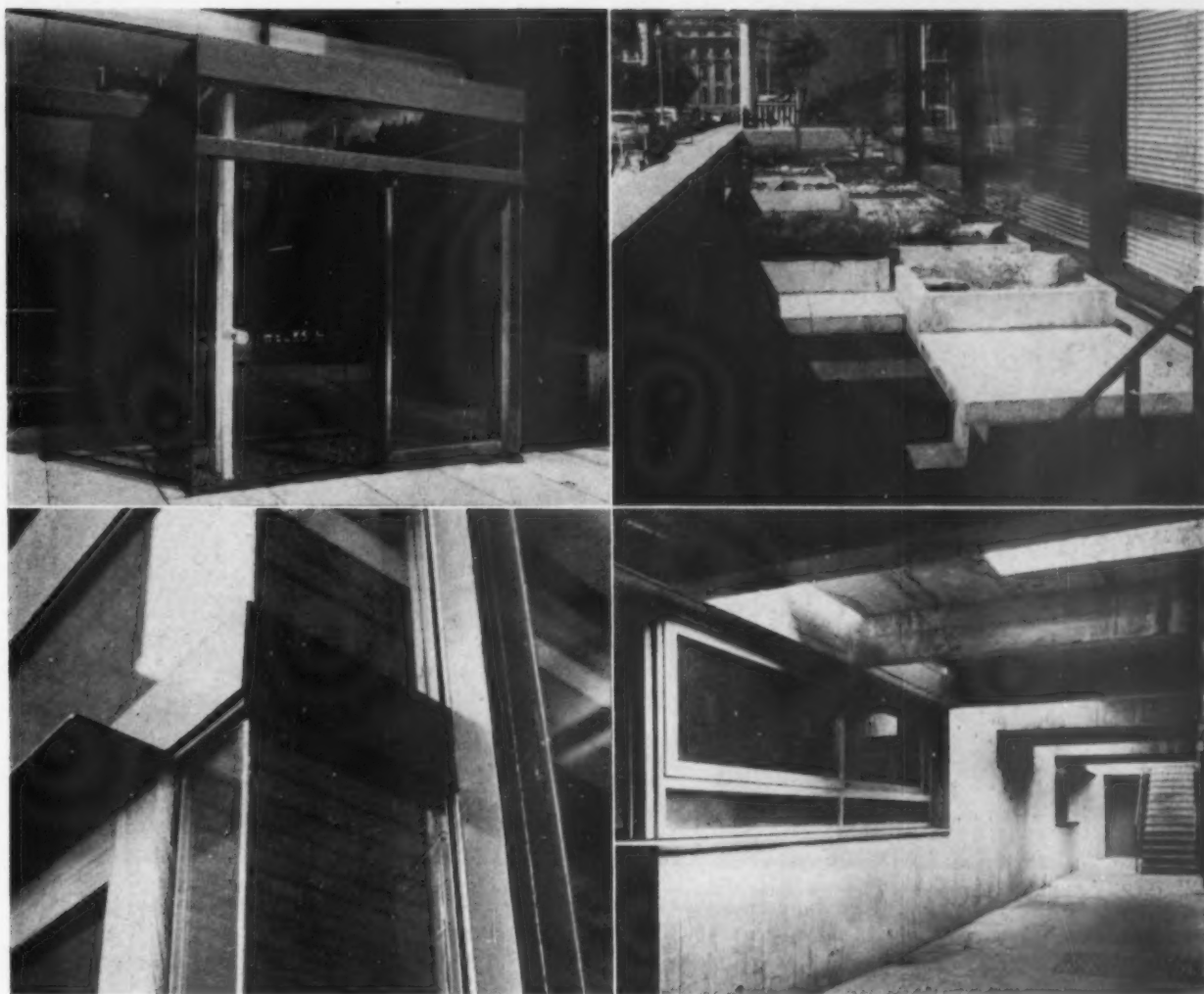
The main aim was to make possible a meaningful communal life by providing a framework within which the students would be encouraged to extend their social experience. The study-bedroom is the basic unit, and eight of these are grouped together to form a set with sanitary and cooking facilities. Eight sets are then placed vertically above each other, forming an eight-storey cellular mass of student cells raised above an open ground floor of communal spaces. The student can enjoy complete privacy in his own room, but its place in a set of eight rooms will not allow him to feel isolated. Intercommunication between sets is easy and the common-rooms on the ground floor form the social points where everyone meets everyone else. When the other halls are built the communal life will be further extended, as inter-hall communication will be very easy, and social meeting points for people living in different halls will be provided in the form of large common-rooms and refectories shared by all the halls. The nature of the site gives the planning and circulation at Weeks Hall a vertical emphasis, quite unlike the horizontal planning of the future halls.

## SUMMARY

Ground floor area: 3,352 sq. ft.  
Total floor area: 27,190 sq. ft.  
Type of contract: RIBA.  
Tender date: July 1958.  
Work began: August 1958.  
Work finished: October 1959.  
Tender price of foundation, superstructure, installation and finishes, including drainage to collecting manhole: £118,275 4s 5d  
Final contract price (estimated): £123,060 0s 0d  
Tender price of external works and ancillary buildings, including drainage beyond collecting manhole: £4,766 15s 7d  
Final contract price (estimated): £2,940 0s 0d.  
Total (estimated): £126,000 0s. 0d.

## COST ANALYSIS

	Cost per sq. ft. s d
Based on estimated final contract price. (AJ revised elemental breakdown in use from November 10, 1960.)	
Preliminaries and insurances	3 8½
4.2 per cent of remainder of contract.	



*Left, top: the draught lobby at the main entrance. One white down-pipe drains the roof, the other houses the conduit to the only bell-push ever to be placed in the middle of a sheet of plate glass. Teak doors cost £20 compared with £80 had they been of unframed toughened glass. Left, bottom: draught lobby; corner detail, using standard rolled steel channels and butt-jointed plate glass. Right, top and bottom: new solution to an old problem. Although at first glance these concrete plant trays form a solid terrace between the conference room and the pavement, gaps between them give adequate light and ventilation to the basement area below*

#### Work below lowest floor finish

Bored piles average 35 ft. 0 in. long supporting ground beams and reinforced concrete slab.

No. of 15-in. piles: 20.

No. of 17-in. piles: 64.

*N.B.* It should be noted that the basement is constructed within an existing basement and does not include full excavation, tanking, etc.

#### STRUCTURAL ELEMENTS

##### Frame

Reinforced concrete beams, columns and 15-in. walls. Mix (1 : 2 : 4) and (1 : 1½ : 3), with Lee Moor sand when exposed to view at basement and ground floor level.

##### Upper floors

Reinforced concrete floors, 947 sq. yds. at 73s 10½d sq. yd.

7-in. and 9-in. prestressed-concrete floors, 1,364 sq. yds. at 54s. 10½d. sq. yd.

5 8 Prestressed concrete edge beam, 644 ft. at 26s. per ft. run.

##### Roof

6-in. to 9-in. reinforced concrete,

304 sq. yds. at 92s 11d sq. yd.

7-in. and 9-in. hollow tiled concrete, 268 sq. yds. at 85s. 1d. sq. yd.

Roof covered with two coat asphalt on felt underlay and lightweight screed and finished with white spar chippings.

2-in. to 4-in. cast iron rainwater pipes and fittings. Lead flashings.

1 10

##### Staircases

Main staircase, in situ reinforced concrete, 3 ft. 0 in. wide, 94 ft. 0 in. high.

Secondary staircase, precast concrete elliptical, 3 ft. 0 in. wide, 94 ft. 0 in. high.

Rubber combined tread and riser.

Metal balustrades.

Beech handrail to main staircase.

Cast iron spiral staircase from basement to ground floor.

5 11½

1 10½

3 2½

## building study—2nd series



Side entrance to the dining-room, at the north-east corner of the building

**External walls**

6-in. reinforced concrete wall, 167 sq. yds. at 79s 8d sq. yd.  
 8-in. reinforced concrete wall, 664 sq. yds. at 88s 11d sq. yd.  
 9-in. reinforced concrete wall, 93 sq. yds. at 96s 9d sq. yd.  
 Composite window units to ground floor, main and secondary staircase and penthouse. Generally glazed with  $\frac{1}{2}$  in. polished plate.  $\frac{1}{2}$  in. polished plate to ground floor south elevation. 672 sq. yd.  
 Precast granite aggregate cladding unit to fenestrated elevations, 458 sq. yds.  
 Ditto in continuous cladding to walls, 444 sq. yds.  
 Ditto but with Norwegian quartz aggregate to elliptical skin walls, 133 sq. yds.  
 One brick wall in fletton bricks built fair and pointed one side, 186 sq. yds. at 40s 3d sq. yd.  
 Ditto both sides, 42 sq. yds. at 42s 9d sq. yd.  
 Half brick wall in fletton bricks built fair and pointed one side, 167 sq. yds. at 24s 3d sq. yd.  
 Half brick wall in facings, 46 sq. yds. at 47s 10d sq. yd.  
 One brick wall in facings, 6 sq. yds. at 72s 4d per sq. yd.

**Windows**

Burma teak to basement and study-bedroom windows with sliding sashes, glazed generally with 32 oz. clear sheet glass.  
 Area of windows, 4,752 sq. ft.

13 3½

**External doors**

8 single doors.  
 2 pairs double doors.  
 Area of openings, 290 sq. ft.  
 Framed, ledged and braced doors, 23 sq. ft. at 10s sq. ft.  
 Softwood panelled doors, 141 sq. ft. at 12s 7d sq. ft.  
 Solid flush doors, 70 sq. ft. at 20s sq. ft.  
 Beech panelled doors, 26 sq. ft. at 16s 2d sq. ft.

2½

**Internal structural walls**

Reinforced concrete walls (1:1½:3) and (1:2:4) with Lee Moor sand to areas of fair faced concrete.  
 5 in. reinforced concrete wall, 437 sq. yds. at 76s 6d sq. yd.  
 8 in. reinforced concrete wall, 263 sq. yds. at 82s 2d sq. yd.

2 0½

**Partitions**

3 in. precast concrete partition, 1,390 sq. yds. at 19s 8d sq. yd.  
 Half brick wall in fletton bricks, 343 sq. yds. at 17s 9d sq. yd.  
 One brick ditto, 50 sq. yds. at 33s 3d sq. yd.  
 One brick ditto pointed both sides, 21 sq. yds. at 35s 9d sq. yd.  
 Softwood glazed screens, 129 sq. yds. at 117s sq. yd.  
 Softwood flush panels, 6 sq. yds. at 115s sq. yd.  
 Sliding and folding partitions and doors, 61 sq. yds. at 263s 3d sq. yd.

2 10½

3 3½





*The courtyard behind Weeks Hall. Although this was formed out of the basement of the previous building, the irregular cantilevered arches are new, the soffits taking their form from the original basement vaults which formed the basis for the shuttering*

#### Internal doors

41 single doors.  
67 single doors with 8-in. side panel.  
85 pairs double doors.  
Total area of openings, 3,714 sq. ft.  
Softwood panelled, 889 sq. ft.  
Beech panelled, 88 sq. ft.  
Hollow flush, 1,051 sq. ft.  
Firecheck solid core, 1,686 sq. ft.

#### Ironmongery

Brass butts.	Floor springs.
Mortice locks.	Overhead door closers.
Night latches.	Name plates.
Pull handles.	Card holders.
Lever handles.	Numerals.
Finger plates.	Door stoops.
Kicking plates.	
Panic bolts.	

*N.B.* Locks mastered to suit existing college master system.  
Ironmongery generally: anodised aluminium, locks bright galvanised Swedish.

Total of structural elements = 38s 6½d

#### FINISHES AND FITTINGS

##### Wall finishes

Plaster, 3,780 sq. yds. at 8s 8d sq. yd.  
Wall tiling, 179 sq. yds. at 38s 6d sq. yd.  
6 mm. plywood, 80 sq. yds. at 54s sq. yd.  
9 mm. plywood, 32 sq. yds. at 58s 6d sq. yd.

2 7½ 12 mm. plywood, 47 sq. yds. at 63s sq. yd.  
1 in. fibre boarding, 99 sq. yds. at 14s 3d sq. yd.  
½ in. plywood, 50 sq. yds. at 81s sq. yd.

##### Floor finishes

Sheet rubber with beech skirting, 372 sq. yds. at 73s 5d sq. yd.  
Linoleum with beech skirting, 22 sq. yds. at 30s 10d sq. yd.  
Asphalt with asphalt skirting, 22 sq. yds. at 21s sq. yd.  
Cork tiles with cork skirting, 1,467 sq. yds. at 35s 7d sq. yd.  
Maple strip with beech skirtings, 222 sq. yds. at 42s 9d sq. yd.  
Granolithic with granolithic skirting, 149 sq. yds. at 12s sq. yd.  
Quarry tile with quarry tile skirting, 169 sq. yds. at 41s 6d sq. yd.  
Precast concrete paving, 31 sq. yds. at 20s 9d sq. yd.

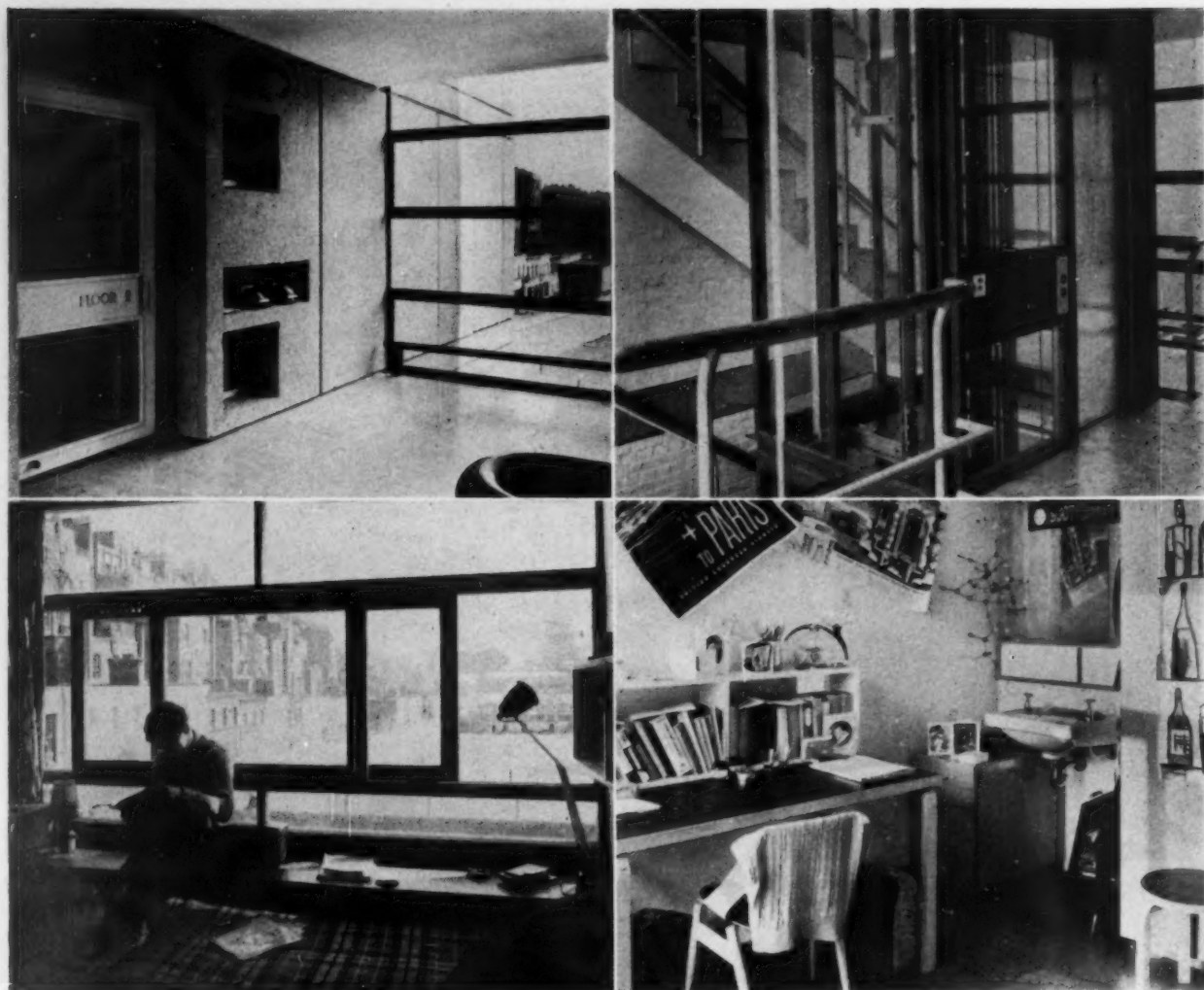
##### Ceiling finishes

Plaster, 1,200 sq. yds. at 7s 11d sq. yd.  
Plaster and bonding coat, 1,014 sq. yds. at 10s 1d sq. yd.  
Sprayed asbestos, 116 sq. yds. at 31s sq. yd.  
Columbian pine slatted soffit, 135 sq. yds. at 36s 3d sq. yd.

##### Decorations

Emulsion paint generally with some gloss paint on fair faced brick walls. Gloss paint on metal and

## building study—2nd series



Top, left: "the consistent effort to detail out untidy junctions and integrate many small things which commonly appear as applied afterthoughts, for example, the incorporation of the telephone shelf into the concrete wall at the entrance to each set. . . ." Note the metal staircase windows jamb housed into the joint between cladding panels, which also contain hidden vents to the larders behind. Top, right: the lift cage, made of rolled steel sections and glazed with polished wired plate glass. Stairs and landings are lit dramatically by vertical fluorescent tubes which rise through the well in an unbroken line from bottom to top. Bottom, left: in the study-bedrooms sliding windows can completely pass one another, so that all glazing can be cleaned from inside. The slot in the head provides a minimum of rainproof ventilation. As well as covering the heating unit, the full-length terrazzo window seat renders unnecessary the clutter of chairs for visitors, a bedside table or shelves and is popular with the students. Bottom, right: ". . . students are left free to arrange their beds, desks and bookshelves as they please. The omission of any provision for the universal student desire to stick all kinds of odd things on the walls is unfortunate"

softwood. Polish on hardwood and Columbian pine panelling and soffits.

Slate commemorative plaque, £95 os od.

**Fittings**

Standard E.J.M.A. kitchen units No. 12 at £5.

Wardrobes, 62 at £29.

Wardrobes, 8 at £45.

Cupboards, 70 at £15.

Locker units, 7 at £24.

Terrazzo drawer units, 7 at £8.

Benches, 50 ft. at £3 per ft. run.

Telephone kiosks, 2 at £40.

Terrazzo window seats, 883 ft. at 31s 4d per ft. run.

Bar and servery fittings.

Shelving in linen cupboards and stores.

Porter's desk.

**Total of finishes and fittings = 15s 0½d**

**SERVICES****Sanitary fittings**

Fitting	No.	
Toilet holders	24	1 3
Towel rails	91	
Lavatory basins	78	
Sinks	22	
Shower trays	9	
W.c. suites	24	
Urinal	1	
Baths	13	

**Waste, soil and overflow pipes**

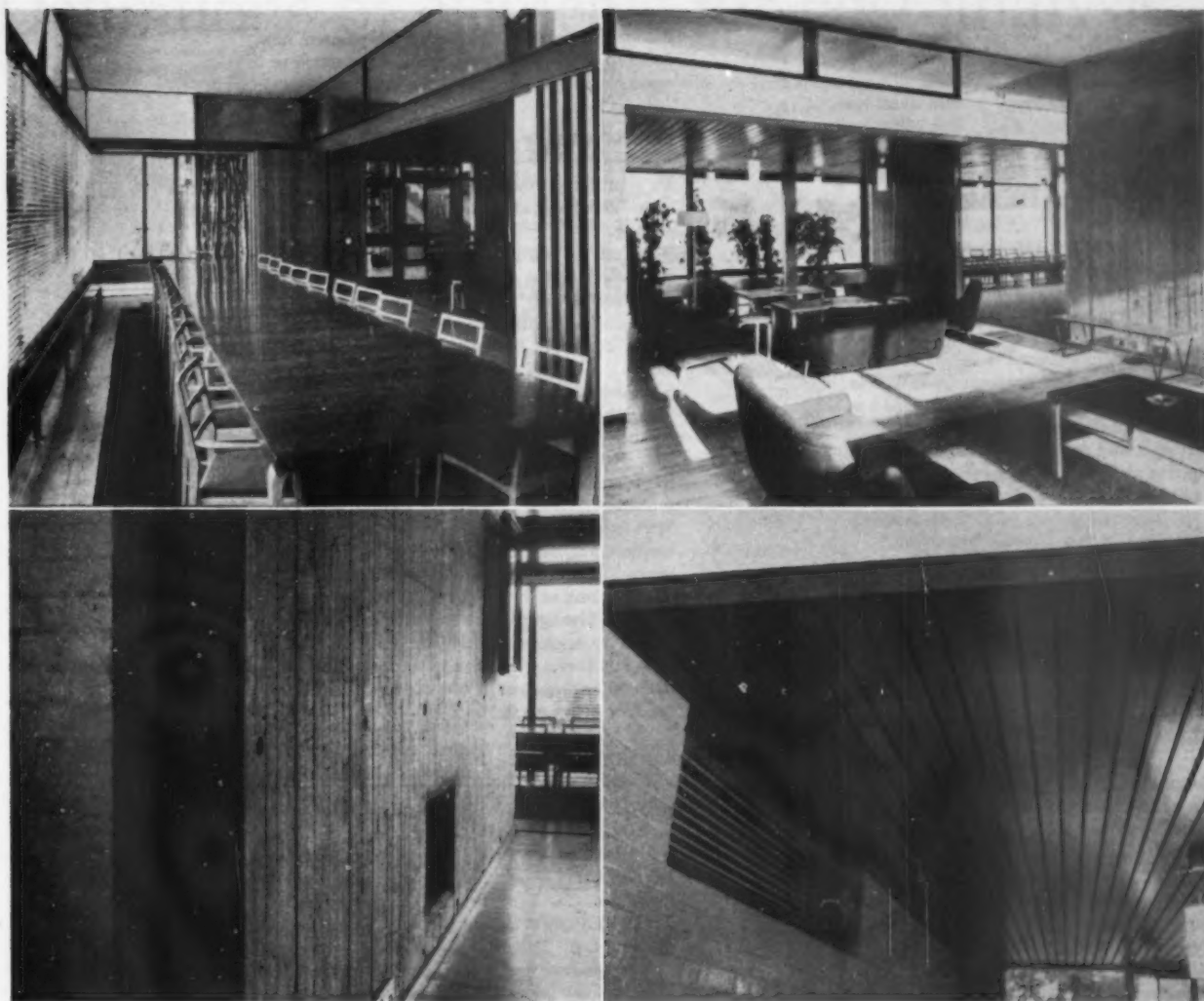
2-in. to 4-in. cast-iron soil pipes, copper wastes and overflows.

10

**Cold water services**

Served from tanks at penthouse level with

1 9



*Top, left: the ground-floor conference room. Timber louvres on the right conceal plenum inlets. Top, right: common-room, with dining-room beyond. All the main structural walls on the ground floor are natural board-finished concrete, so that their function and strength are clearly apparent, internally and externally. Bottom, left: pattern of boards, nail marks and shuttering bolts in an exposed structural concrete cross-wall on the ground floor. Arrises on plan have a 2-in. wide, 45-deg. splay. Bottom, right: ceiling of the common-room. This ceiling was prefabricated in sections, with the boards held by screws down through the battens above and then invisibly fixed by screwing up through the battens in the gaps between boards. The boards are thus unspoiled by nail holes.*

additional head tanks for penthouse floor.  
Distribution in vertical ducts to 217 points.  
Includes builder's work, 5½d.

#### Hot water services

Supplied from 2 calorifiers in basement from which circulation taken in vertical ducts to 192 points.  
Includes builder's work, 5½d.

#### Heating services

The heating to study bedrooms consists of specially designed convector heaters, recessed beneath window seats having stove enamelled front panels. A continuous free-standing convector has been placed in front of the full height glazing on the ground floor. This heater is specially constructed to allow curtains to pass behind and styled to blend with rooms. Forced warmed air heater cabinets have been placed within porter's desk and behind

west cross wall to heat the main staircase. Heat is at present provided by existing oil-fired boilers situated in an adjacent building. Two medium pressure hot water calorifiers are provided in the basement and will be linked to the remainder of the Prince's Gardens development at a later date. Separate heating control is provided for the north and south side and penthouse.  
Heat load: 100,000 B.t.u. per hour.  
Includes builder's work, 6½d.

#### Ventilation services

Mechanical ventilation is provided to the ground floor area. Four extract fans provided on roof to deal with internal w.c.s, bathrooms, etc., pantries and servery.  
Includes builder's work, 1½d.

#### Electrical services

Lighting points 319      Telephones 31

2 10

6 7½

2 5½

4 3½



## building study—2nd series

Switch points	265	Neon sign	1
Power points	103	Distribution board	8
Clock points	4	Main switchboard	1
Cooker points	10	Fire alarm bells	12
Loudspeaker points	2	Fire alarm pushes	12
Thermostats	15		
Includes builder's work, 1½d.			

## Special services

1 electric passenger lift. Load 900 lb. or 6 persons, speed 100 ft. per min., serving 11 stops.  
 1 hand powered service lift. Load 56 lb., serving two stops.  
 1 hand powered platform hoist. Load 896 lb., serving basement—ground floor.  
 Mild steel glazed lift enclosure, 102 ft. 0 in. high.  
 Internal automatic telephone system and public address equipment.  
 Dry riser and fire fighting equipment.  
 Raising and enclosing flues to adjoining property.  
 Includes builder's work, 1s 8½d.

## Drainage

4-in. salt-glazed stoneware in trenches, 2-in. to 4-in. cast iron under building.

Total of services = 27s 6½d

## Total per sq. ft. of floor area :

£123,060 (net cost, excluding external works)  
 27,190 sq. ft. (measured inside external walls)

## External works

Front basement pav. d with precast concrete. Flower boxes at ground level supported on concrete beams.  
 Precast-concrete boundary wall to match wall cladding. Metal gates and concrete stairs to basement.  
 Rear basement area grassed with precast paved surround incorporating service duct to adjacent building. Precast paving around building at

8 d ground level and brick walls around basement.  
 Basement area walls and party walls painted, new doors to vaults under pavements. Connection to sewer.

## COST COMMENTS

As a prototype building, this is something new as a cost study and most elements must be accepted without comparison.

What can be learnt? The average cost per student for this accommodation is £1,826. This seems plenty for an average space use of only 394 sq. ft. per person. (No wonder that single bed-sitter flats are not being built: they would hardly be an economic proposition by the time land costs were added.)

The structural elements might be examined with the Theological College analysed in AJ, June 19, 1958. Comparable elements total 38s. 5d. against Weeks Hall's 38s. 6½d. These are remarkably similar figures, although frame and elevations are quite different. There the comparison stops.

Wall finishes at 2s. 5d. are around the figure with which we are becoming familiar in flat construction. Similarly 2s. 2d. seems to be a fair average for decorations.

There seems to be no norm yet for space heating in these analyses. The figures here are of little use, as new independent boilers do not seem to have been fitted.

This is a useful set of figures and its value will come as the basis for comparison in costs of new residential halls which are now being planned.

## CONTRACTORS

General Contractors: Tersons Ltd. Sub-contractors—Lift enclosure: The Morris Singer Co. Ltd. Rubber flooring: Haskell Robertson Ltd. Piling: Cementation Co. Ltd. Lifts: Express Lift Co. Ltd. Fire fighting equipment: General Fire Appliance Co. Ltd. Precast concrete, cladding and stairs: Kendall's Stone & Paving Co. Ltd. Sliding and folding doors: Esavian Ltd. Balustrading: H. & C. Davis & Co. Ltd. Timber windows and wardrobes: Geo. Hammer & Co. Ltd. Terrazzo seat and drawer: Malacarp Terrazzo Co. Ltd. Internal telephone system: Siemens' Edison Swan Ltd. Metal windows: James Gibbons Ltd. Bricks: Pratt (Watford) Ltd. Locks: A. G. Roberts Ltd. Limpet spray: Turners Asbestos Cement Co. Ltd. Hand-operated hoist: Aldous & Campbell Ltd. Iron spiral stair, bridge and metal balustrade: Haywards Ltd. Acoustic panels: Coronet Engineering Ltd. Slate plaque: Bow Slate & Enamel Co. Ltd. Heating: Weatherfoil Ltd.



Interior of the elliptical secondary staircases. This staircase, precast in flights and bolted to the in situ concrete landings, is a prototype for the internal set stairs in later blocks. There is a 3-in. gap between the external wall and the stairs. Treads and risers are finished rubber combines, soffit and sides are left smooth concrete

# Definitions of elements for cost analysis

including notes given as a guide in completing the new AJ cost analysis form for publication

## General

Descriptions of the elements and their costs should include all the component parts as indicated by the definitions. The description of each element should be sufficient to leave no doubt as to what items the cost includes, and should also give some idea of the quality of the work.

In cases where the definitions cannot be followed, the description is to make clear what items the element cost covers. For example, if windows in curtain walling are included in external walls, the element

"Windows" should be marked "included in external walls."

If there is nothing to be put to a particular element, the word "Nil" should be shown against the heading. The floor area used for the calculation of element costs is to be the gross area of enclosed floor space measured within the internal faces of the external walls, overall partitions, stair wells, etc., except in the case of multi-storey dwellings in which it is to be the net area of the dwellings only. This should be measured to the inside face of walls enclosing the dwellings, excluding private balconies, public access space and other ancillaries. A statement of the gross area should, however, be given in these cases. The areas of walls, finishes, etc., are to be the net areas after deduction of openings.

Unit costs of items are, in sq. yds., the total cost (including small quantities and labours and other work in conjunction therewith) divided by the total quantity, e.g., each floor finish should include screed, skirtings, etc. Except for these unit costs and individually priced items such as fittings, all other costs of elements (and items shown separately within them such as builder's work) should be expressed to the nearest 1d per square foot of net floor area.

## 1 Preliminaries and Insurances includes

Priced items in Preliminary Bill and Summary excluding quantity surveyor's fees and contractor's price adjustments. Besides the cost per sq. ft. of floor area, the Element should be expressed as a percentage of the cost of the remainder of the contract.

## 2 Contingencies includes

Sums reserved for unforeseen expenditure. If the analysis is based on the final account no cost should appear against this element.

## 3 Work below lowest floor finish includes

Work below the underside of the screed including damp-proof membrane, relevant excavation, and foundations.

## STRUCTURAL ELEMENTS

### 4 Frame includes

Load-bearing framework of concrete, timber or steel. Main floor and roof beams, ties and roof trusses. Casings to stanchions and beams where these are for structural purposes.

### 5 Upper floors includes

Structural floors and balconies including structural screeds. Beams, other than main beams included in Frame.

This element should also include any suspended floors over a basement, in which case this fact should be stated. Further information required is the area and cost of each type of floor per sq. yd.

### 6 Roof includes

Construction of roof. Beams other than main beams in Frame.

Gable ends, internal walls above wall plate and parapet walls if any. Screeds and coverings. Gutters, flashings and rainwater pipes.

Also to be given is the area on plan of each type of roof, measured to the external edge of the eaves but excluding the area of rooflights, the area of glass in northlights and monitors, and the cost of each type of roof per sq. yd.

### 7 Rooflights includes

Frame, glazing and opening gear. The area of structural opening for each type of light measured parallel to the roof surface in sq. yds. should be stated. The cost of each type of light in sq. yds. is also required.

### 8 Staircases includes

Staircases and intermediate landings. Finishes to treads, risers, strings and soffits.

Balustrades.

Information required is the number and total vertical height of each type of staircase giving the width overall of the tread.

## 9 External walls includes

External walls of building excluding windows, doors and shop fronts. Curtain walling and sheeting rails giving horizontal and vertical spacing and fixings.

External applied finishes.

Lintels, sills and cavity damp-proof courses.

If the wall is self-finished internally this should be stated.

If proprietary curtain walling is used the area and cost should be given as a whole including opening lights.

The area of each type of wall excluding window and door openings and its cost in sq. yds. is required.

If basement walls are included this should be stated and the area and cost per sq. yd. given.

## 10 Windows includes

Sashes, sub frames and frames.

Glazing.

Ironmongery where fixed before delivery to site.

The area of clear openings in walls in sq. ft. Cost of each type of window per sq. ft. should be given.

## 11 External doors includes

Doors, frames and architraves.

Fanlights.

Glazing.

Ironmongery where fixed before delivery to site.

Also the area of clear openings in walls in sq. ft.

The cost of each type of door per sq. ft. The number of single doors and pairs of double doors.

## 12 Internal structural walls

N.B. This refers only to cross-wall construction. Often it is impossible to define which internal walls are load-bearing and which are not as in traditional house construction. In the case of cross walls the delineation is clear.

If the walls are self-finished this should be stated. The area of each type of wall excluding openings and its cost per sq. yd. should be given.

## building study—2nd series

Switch points	265	Neon sign	1
Power points	103	Distribution board	8
Clock points	4	Main switchboard	1
Cooker points	10	Fire alarm bells	12
Loudspeaker points	2	Fire alarm pushes	12
Thermostats	15		
Includes builder's work, 1½d.			

**Special services**

1 electric passenger lift. Load 900 lb. or 6 persons, speed 100 ft. per min., serving 11 stops.  
 1 hand powered service lift. Load 56 lb., serving two stops.  
 1 hand powered platform hoist. Load 896 lb., serving basement—ground floor.  
 Mild steel glazed lift enclosure, 102 ft. 0 in. high.  
 Internal automatic telephone system and public address equipment.  
 Dry riser and fire fighting equipment.  
 Raising and enclosing flues to adjoining property.  
 Includes builder's work, 1s 8½d.

**Drainage**

4-in. salt-glazed stoneware in trenches, 2-in. to 4-in. cast iron under building.  
**Total of services = 27s 6½d**

**Total per sq. ft. of floor area :**

£123,060 (net cost, excluding external works)  
 27,190 sq. ft. (measured inside external walls)

**External works**

Front basement paved with precast concrete. Flower boxes at ground level supported on concrete beams. Precast-concrete boundary wall to match wall cladding. Metal gates and concrete stairs to basement. Rear basement area grassed with precast paved surround incorporating service duct to adjacent building. Precast paving around building at

ground level and brick walls around basement. Basement area walls and party walls painted, new doors to vaults under pavements. Connection to sewer.

**COST COMMENTS**

As a prototype building, this is something new as a cost study and most elements must be accepted without comparison.

What can be learnt? The average cost per student for this accommodation is £1,826. This seems plenty for an average space use of only 394 sq. ft. per person. (No wonder that single bed-sitter flats are not being built: they would hardly be an economic proposition by the time land costs were added.)

The structural elements might be examined with the Theological College analysed in AJ, June 19, 1958. Comparable elements total 38s. 5d. against Weeks Hall's 38s. 6½d. These are remarkably similar figures, although frame and elevations are quite different. There the comparison stops.

Wall finishes at 2s. 5d. are around the figure with which we are becoming familiar in flat construction. Similarly 2s. 2d. seems to be a fair average for decorations.

There seems to be no norm yet for space heating in these analyses. The figures here are of little use, as new independent boilers do not seem to have been fitted.

This is a useful set of figures and its value will come as the basis for comparison in costs of new residential halls which are now being planned.

**CONTRACTORS**

**General Contractors:** Tersons Ltd. **Sub-contractors—Lift enclosure:** The Morris Singer Co. Ltd. **Rubber flooring:** Haskell Robertson Ltd. **Piling:** Cementation Co. Ltd. **Lifts:** Express Lift Co. Ltd. **Fire fighting equipment:** General Fire Appliance Co. Ltd. **Precast concrete, cladding and stairs:** Kendell's Stone & Paving Co. Ltd. **Sliding and folding doors:** Esavian Ltd. **Balustrading:** H. & C. Davis & Co. Ltd. **Timber windows and wardrobes:** Geo. Hammer & Co. Ltd. **Terrazzo seat and drawer:** Malacarp Terrazzo Co. Ltd. **Internal telephone system:** Siemens' Edison Swan Ltd. **Metal windows:** James Gibbons Ltd. **Bricks:** Pratt (Watford) Ltd. **Locks:** A. G. Roberts Ltd. **Limpet spray:** Turners Asbestos Cement Co. Ltd. **Hand-operated hoist:** Aldous & Campbell Ltd. **Iron spiral stair, bridge and metal balustrade:** Haywards Ltd. **Acoustic panels:** Coronet Engineering Ltd. **Slate plaque:** Bow Slate & Enamel Co. Ltd. **Heating:** Weatherfoil Ltd.



Interior of the elliptical secondary staircases. This staircase, precast in flights and bolted to the in situ concrete landings, is a prototype for the internal set stairs in later blocks. There is a 3-in. gap between the external wall and the stairs. Treads and risers are finished rubber combines, soffit and sides are left smooth concrete



# Definitions of elements for cost analysis

including notes given as a guide in completing the new AJ cost analysis form for publication

## General

Descriptions of the elements and their costs should include all the component parts as indicated by the definitions. The description of each element should be sufficient to leave no doubt as to what items the cost includes, and should also give some idea of the quality of the work.

In cases where the definitions cannot be followed, the description is to make clear what items the element cost covers. For example, if windows in curtain walling are included in external walls, the element "Windows" should be marked "included in external walls."

If there is nothing to be put to a particular element, the word "Nil" should be shown against the heading. The floor area used for the calculation of element costs is to be the gross area of enclosed floor space measured within the internal faces of the external walls, overall partitions, stair wells, etc., except in the case of multi-storey dwellings in which it is to be the net area of the dwellings only. This should be measured to the inside face of walls enclosing the dwellings, excluding private balconies, public access space and other ancillaries. A statement of the gross area should, however, be given in these cases. The areas of walls, finishes, etc., are to be the net areas after deduction of openings.

Unit costs of items are, in sq. yds., the total cost (including small quantities and labours and other work in conjunction therewith) divided by the total quantity, e.g., each floor finish should include screed, skirtings, etc. Except for these unit costs and individually priced items such as fittings, all other costs of elements (and items shown separately within them such as builder's work) should be expressed to the nearest 1d per square foot of net floor area.

**1 Preliminaries and insurances** includes Priced items in Preliminary Bill and Summary excluding quantity surveyor's fees and contractor's price adjustments. Besides the cost per sq. ft. of floor area, the Element should be expressed as a percentage of the cost of the remainder of the contract.

**2 Contingencies** includes Sums reserved for unforeseen expenditure. If the analysis is based on the final account no cost should appear against this element.

## 3 Work below lowest floor finish includes

Work below the underside of the screed including damp-proof membrane, relevant excavation, and foundations.

## STRUCTURAL ELEMENTS

### 4 Frame includes

Load-bearing framework of concrete, timber or steel. Main floor and roof beams, ties and roof trusses. Casings to stanchions and beams where these are for structural purposes.

### 5 Upper floors includes

Structural floors and balconies including structural screeds. Beams, other than main beams included in Frame.

This element should also include any suspended floors over a basement, in which case this fact should be stated. Further information required is the area and cost of each type of floor per sq. yd.

### 6 Roof includes

Construction of roof. Beams other than main beams in Frame. Gable ends, internal walls above wall plate and parapet walls if any. Screeds and coverings. Gutters, flashings and rainwater pipes. Also to be given is the area on plan of each type of roof, measured to the external edge of the eaves but excluding the area of rooflights, the area of glass in northlights and monitors, and the cost of each type of roof per sq. yd.

### 7 Rooflights includes

Frame, glazing and opening gear. The area of structural opening for each type of light measured parallel to the roof surface in sq. yds. should be stated. The cost of each type of light in sq. yds. is also required.

### 8 Staircases includes

Staircases and intermediate landings. Finishes to treads, risers, strings and soffits. Balustrades. Information required is the number and total vertical height of each type of staircase giving the width overall of the tread.

## 9 External walls includes

External walls of building excluding windows, doors and shop fronts. Curtain walling and sheeting rails giving horizontal and vertical spacing and fixings.

External applied finishes. Lintels, sills and cavity damp-proof courses.

If the wall is self-finished internally this should be stated. If proprietary curtain walling is used the area and cost should be given as a whole including opening lights. The area of each type of wall excluding window and door openings and its cost in sq. yds. is required. If basement walls are included this should be stated and the area and cost per sq. yd. given.

## 10 Windows includes

Sashes, sub frames and frames. Glazing. Ironmongery where fixed before delivery to site. The area of clear openings in walls in sq. ft. Cost of each type of window per sq. ft. should be given.

## 11 External doors includes

Doors, frames and architraves. Fanlights. Glazing. Ironmongery where fixed before delivery to site. Also the area of clear openings in walls in sq. ft. The cost of each type of door per sq. ft. The number of single doors and pairs of double doors.

## 12 Internal structural walls

N.B. This refers only to cross-wall construction. Often it is impossible to define which internal walls are load-bearing and which are not as in traditional house construction. In the case of cross walls the delineation is clear.

If the walls are self-finished this should be stated. The area of each type of wall excluding openings and its cost per sq. yd. should be given.

## Definitions of elements for cost analysis (concluded)

**13 Partitions** includes

All internal walls, screens and borrowed lights except where included under Internal Structural Walls.

Lintels.

If wall is self-finished this should be stated.

If room-dividing cupboards are treated as partitions this should be stated.

If proprietary partitioning is used the area and cost should be given as a whole, including doors, etc.

The area and cost per sq. yd. of each type of wall, excluding openings, should be given.

**14 Internal doors** includes

Doors, frames, linings and architraves, fanlights, glazing, and ironmongery when fixed before delivery to site.

The area of clear openings in walls in sq. ft., and the cost and number of doors, single and double, to be given separately.

**15 Ironmongery** includes

Supply and fixing of all ironmongery except that which is delivered to the site fixed (e.g. to metal windows).

**FINISHES AND FITTINGS****16 Wall finishes** includes

All preparatory work and finishes applied in situ to the internal wall. Surfaces which are self-finished should be described under the appropriate headings.

Area and cost per sq. yd. of each type of finish.

**17 Floor finishes** includes

All preparatory work, top finish and labours to form surfaces.

Skirtings.

Area and cost per sq. yd. of each type of finish.

**18 Ceiling finishes** includes

All preparatory work, finishes, applied in situ, and labours to form surfaces. Suspended ceilings and framings.

Cornices.

If a ceiling is a source of heat or light it should be included in the appropriate engineering service and reference to this made here.

Area and cost per sq. yd. of ceiling finishes.

**19 Decorations** includes

All decorations both internal and external, including wall mosaics, murals and sculptures. The total cost of these latter items or similar ones should be shown separately.

**20 Fittings** includes

All built-in equipment and furniture giving detailed list of what items are included.

All major or special fittings should be listed and priced separately, if possible with the quantity involved (e.g. cost per ft. run of benching).

**SERVICES****21 Sanitary fittings** includes

Supply and installation of fittings, including taps.

Number, type and quality of each fitting.

**22 Waste, soil and overflow pipes** includes

Traps, waste and soil pipes.

Stack pipes as far as gully or joint to drain at ground level.

Overflows.

**23 Cold water services** includes

Rising main, storage tanks, pumps and distributing piping to draw-off points and boilers. Builders' work in connection should be shown separately.

Number of cold draw-off points.

**24 Hot water services** includes

Any system for distribution of hot water including boilers, calorifiers, instantaneous heaters, piping to draw-off points and lagging. Builders' work in connection should be shown separately.

Number of hot water draw-off points.

**25 Heating services** includes

Any system for distribution and emission of heat including boilers, controls, radiators, piping and storage tanks, etc.

If the system is gas or electric it should be included here.

The cost of the following should be shown separately if it is possible.

(i) oil fuel tank and feed to boiler.

(ii) automatic stoking equipment to boiler.

(iii) gas service to boiler.

Builders' work in connection should be shown separately.

The heat load in B.t.u. per hour.

**26 Ventilation services** includes

Mechanical ventilation and air treatment plant, ducts and isolated fans.

Builders' work in connection should be shown separately.

**27 Gas services** includes

Installation from and including meter and distribution to outlets.

When a gas service is primarily for heating or for hot water it should be included under the appropriate element heading.

Builders' work in connection shown separately.

Number of outlets.

**28 Electrical services** includes

Installation from and including meter, switch gear, etc., and distribution to outlets and fittings.

The figures should be broken down as follows:

(i) meter and switch gear.

(ii) lighting installation.

(iii) power installation.

(iv) lighting fittings.

The number of points.

Services to such items as lifts, escalators, warning lights, clocks, etc., are to be shown separately if possible.

The total electrical load of installation. Builders' work in connection should be shown separately.

**29 Special services** includes

Lifts, escalators, cooking equipment, laboratory equipment, pneumatic tube message systems, sprinkler installation and fire-fighting equipment and other similar special services, and the information required is such as will indicate the extent of each service (e.g. for lifts, the number, capacity and speed of each and the number of stops should be given).

Builders' work in connection should be given separately.

**30 Drainage** includes

Soil and surface water drainage from foot of stacks to and including the last collecting chamber adjacent to building.

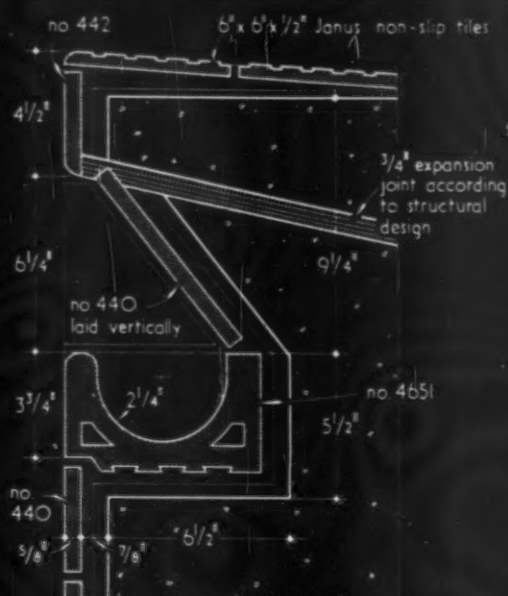
**31 External works** includes

Roads and paths, playgrounds and paved areas, fences and gates, outbuildings, external steps, site planting and landscape work, adjacent connections to service mains.

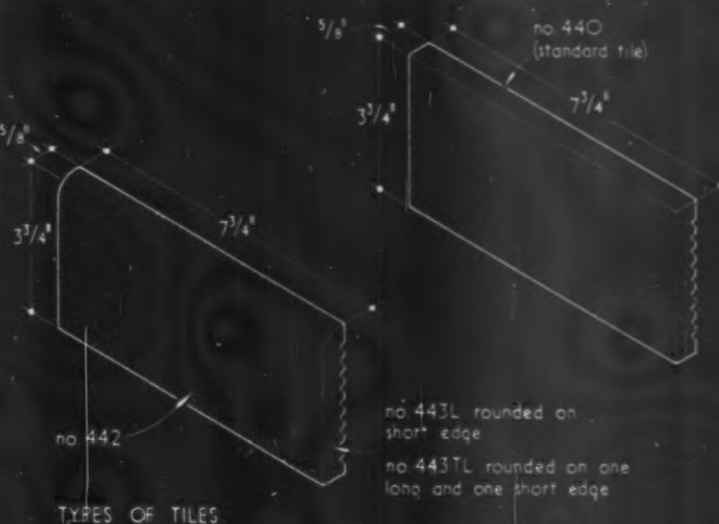
Drains from last collecting chamber adjacent to building to main sewer, including connection or disposal plant.

## WALL TILES | CLAY

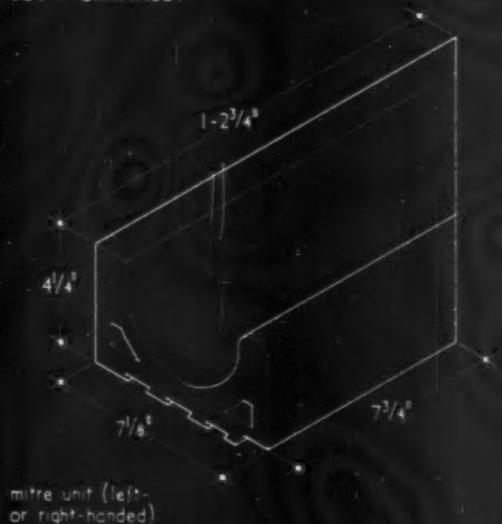
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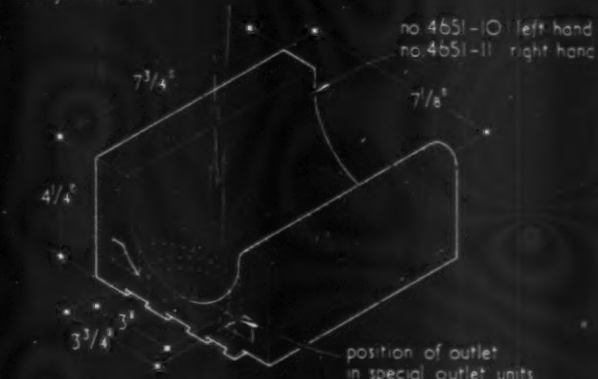
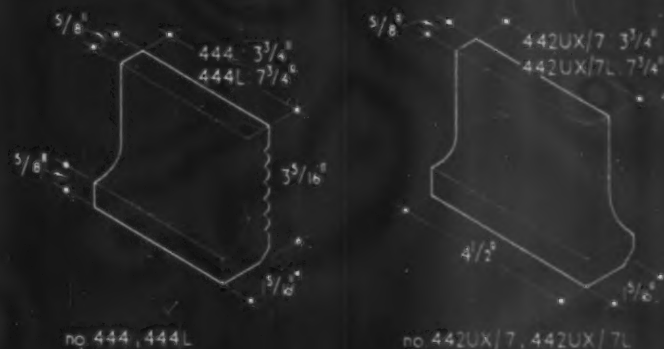
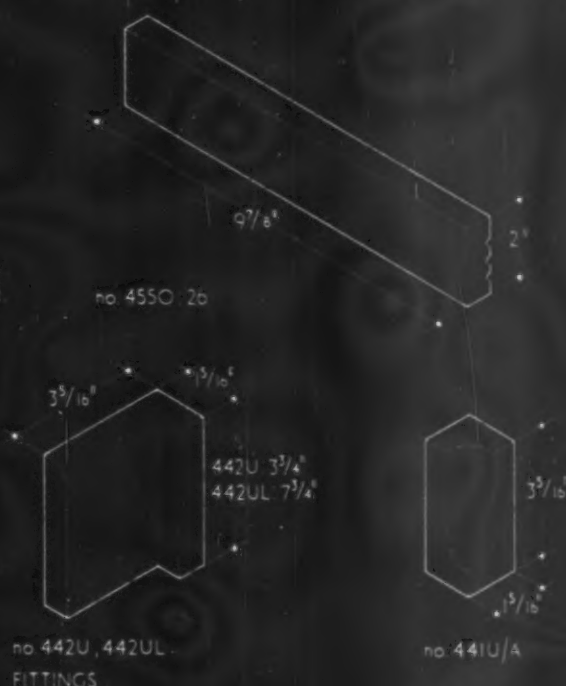
TYPICAL SECTION THROUGH SCUM CHANNEL



TYPES OF TILES



mitre unit (left- or right-handed)

standard unit no 4651  
CHANNEL UNITS

HOGANAS GLAZED CERAMIC WALL FACINGS AND SWIMMING POOL FITTINGS

Supplier: Langley London Limited



## Definitions of elements for cost analysis (concluded)

**13 Partitions** includes

All internal walls, screens and borrowed lights except where included under Internal Structural Walls.

Lintels.

If wall is self-finished this should be stated.

If room-dividing cupboards are treated as partitions this should be stated.

If proprietary partitioning is used the area and cost should be given as a whole, including doors, etc.

The area and cost per sq. yd. of each type of wall, excluding openings, should be given.

**14 Internal doors** includes

Doors, frames, linings and architraves, fanlights, glazing, and ironmongery when fixed before delivery to site. The area of clear openings in walls in sq. ft., and the cost and number of doors, single and double, to be given separately.

**15 Ironmongery** includes

Supply and fixing of all ironmongery except that which is delivered to the site fixed (e.g. to metal windows).

**FINISHES AND FITTINGS****16 Wall finishes** includes

All preparatory work and finishes applied in situ to the internal wall. Surfaces which are self-finished should be described under the appropriate headings.

Area and cost per sq. yd. of each type of finish.

**17 Floor finishes** includes

All preparatory work, top finish and labours to form surfaces. Skirtings.

Area and cost per sq. yd. of each type of finish.

**18 Ceiling finishes** includes

All preparatory work, finishes, applied in situ, and labours to form surfaces. Suspended ceilings and framings. Cornices.

If a ceiling is a source of heat or light it should be included in the appropriate engineering service and reference to this made here.

Area and cost per sq. yd. of ceiling finishes.

**19 Decorations** includes

All decorations both internal and external, including wall mosaics, murals and sculptures. The total cost of these latter items or similar ones should be shown separately.

**20 Fittings** includes

All built-in equipment and furniture giving detailed list of what items are included.

All major or special fittings should be listed and priced separately, if possible with the quantity involved (e.g. cost per ft. run of benching).

**SERVICES****21 Sanitary fittings** includes

Supply and installation of fittings, including taps.

Number, type and quality of each fitting.

**22 Waste, soil and overflow pipes** includes

Traps, waste and soil pipes.

Stack pipes as far as gully or joint to drain at ground level.

Overflows.

**23 Cold water services** includes

Rising main, storage tanks, pumps and distributing piping to draw-off points and boilers. Builders' work in connection should be shown separately.

Number of cold draw-off points.

**24 Hot water services** includes

Any system for distribution of hot water including boilers, calorifiers, instantaneous heaters, piping to draw-off points and lagging. Builders' work in connection should be shown separately.

Number of hot water draw-off points.

**25 Heating services** includes

Any system for distribution and emission of heat including boilers, controls, radiators, piping and storage tanks, etc.

If the system is gas or electric it should be included here.

The cost of the following should be shown separately if it is possible.

(i) oil fuel tank and feed to boiler.

(ii) automatic stoking equipment to boiler.

(iii) gas service to boiler.

Builders' work in connection should be shown separately.

The heat load in B.t.u. per hour.

**26 Ventilation services** includes

Mechanical ventilation and air treatment plant, ducts and isolated fans.

Builders' work in connection should be shown separately.

**27 Gas services** includes

Installation from and including meter and distribution to outlets.

When a gas service is primarily for heating or for hot water it should be included under the appropriate element heading.

Builders' work in connection shown separately.

Number of outlets.

**28 Electrical services** includes

Installation from and including meter, switch gear, etc., and distribution to outlets and fittings.

The figures should be broken down as follows:

(i) meter and switch gear.

(ii) lighting installation.

(iii) power installation.

(iv) lighting fittings.

The number of points.

Services to such items as lifts, escalators, warning lights, clocks, etc., are to be shown separately if possible. The total electrical load of installation. Builders' work in connection should be shown separately.

**29 Special services** includes

Lifts, escalators, cooking equipment, laboratory equipment, pneumatic tube message systems, sprinkler installation and fire-fighting equipment and other similar special services, and the information required is such as will indicate the extent of each service (e.g. for lifts, the number, capacity and speed of each and the number of stops should be given).

Builders' work in connection should be given separately.

**30 Drainage** includes

Soil and surface water drainage from foot of stacks to and including the last collecting chamber adjacent to building.

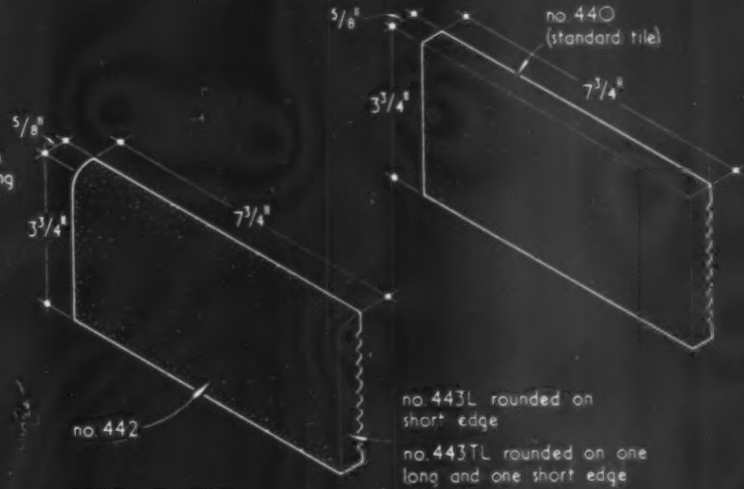
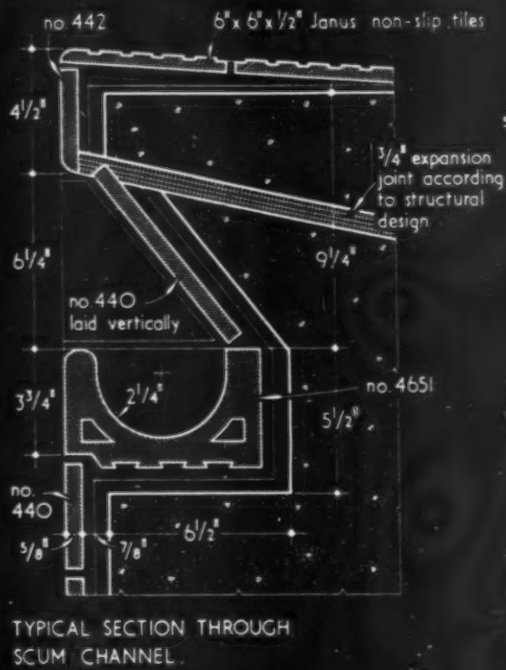
**31 External works** includes

Roads and paths, playgrounds and paved areas, fences and gates, outbuildings, external steps, site planting and landscape work, adjacent connections to service mains.

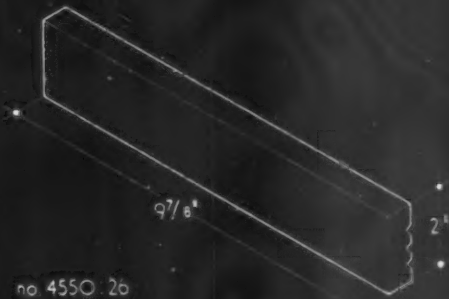
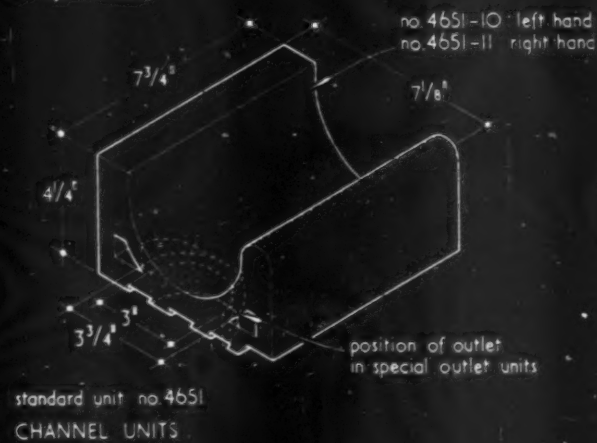
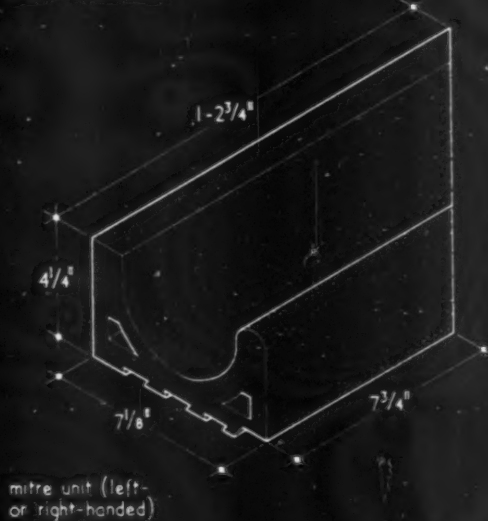
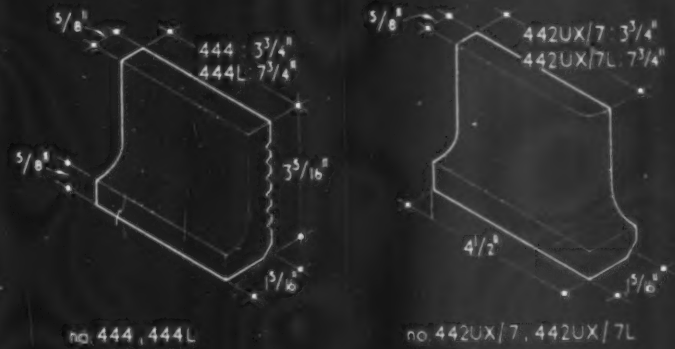
Drains from last collecting chamber adjacent to building to main sewer, including connection or disposal plant.

## WALL TILES | CLAY

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TYPES OF TILES



HOGANAS GLAZED CERAMIC WALL FACINGS AND SWIMMING POOL FITTINGS.

Supplier: Langley London Limited

# 18.E3 · HOGANAS · CERAMIC FINISHES FOR SWIMMING POOLS

**This Sheet** describes the Hoganas range of glazed ceramic wall facings and scum channels for swimming pools. The drawings on the face show the standard tiles, channels and fittings available and their application to swimming pools, although the tiles can be used for any internal or external wall facing.

## Material

The tiles and channels are fully-vitrified glazed ceramic material, the glaze and body of the unit being fired in one operation at a very high temperature. The glaze (which is almost eggshell) is frost-proof, has never been known to craze and has a high resistance to acids: the facings are specially manufactured for external use and for internal industrial applications. The backs of the tiles are mechanically keyed to facilitate efficient fixing.

## Sizes and Types

**Wall facings:** The standard tile is 7½ in. by 3½ in. by ¾ in. thick. The range of fittings available is illustrated on the face of the Sheet.

**Scum channels:** The standard unit is 7½ in. by 7½ in. by 4½ in. deep overall. Internal mitre blocks are obtainable for corners: outlet blocks, two of which form an outlet, are also available.

## Weight and Covering Capacity

1,680 tiles weigh a ton. Forty-two tiles with ⅝-in. joints cover one square yard.

## Preparation of Surface

The surface to be tiled should be a strong wall of concrete, brick or hollow blocks. It should be keyed or rake-jointed brickwork, or well-scratched rendering. The surface must be cleaned and damped before the application of the tiles.

## Fixing

Individual rows of tiles should be selected and set out by the tiler so that any variations in size, inevitable with fired clay products, are noticed before fixing and to ensure uniformity of joints. The tiles should not be soaked. They can be machine-cut or cut with a glass cutter or, alternatively, they may be scored with a small chisel and tapped from the back with a hammer.

The laying mortar should be 1 part cement to 3 parts washed sand, not too coarse. The tiles should be well spread with mortar and tapped firmly into position. The face of the tiles should be cleaned of mortar as the work proceeds and washed down after pointing.

Joints should be ⅝ in. wide minimum and uniform horizontally and vertically: after the bedding has set they should be pointed. For external facing Chromolith pointing mortar is recommended, a graded compound containing special cement, some lime, quartz and a water repellent: it is obtainable from Langley London Limited in a number of colours. For industrial purposes or where the tiles are exposed to chemical corrosion, individual consideration must be given in each case.

**Bonding:** For internal tiling for industrial applications, the tiles should be laid horizontally or vertically to a straight joint, or, where greater strength is required, horizontally with break joints. For external facing, tiles should be laid to a straight joint.

## Applications

Apart from their use for swimming pools and as permanent external decorative wall claddings, the tiles are suitable for internal use in dairies, bakeries, abattoirs, refrigeration plants, breweries and food and confectionery factories; pulp and paper mills; paint-spraying, enamelling and dipping rooms; pickling shops, power and turbine houses; laboratories, kitchens, and canteens.

## Colours

The standard colours are white (510), light ivory (511), pastel yellow (514), sunny yellow (516), turquoise green (526), imperial green (625), skyline blue (633), blue grey (639), coffee brown (647), cobalt blue (658), rose pink (685), pastel grey (711), black (719), slate grey (725), hunter green (744), maroon (789).

## Further Information

The supplier maintains a technical advisory service which is available to answer questions on installation generally, fixing techniques and colour schemes. In addition to the range of tiles and scum channels described on this Sheet, ribbed tiles and tiles with designs in relief are available in the same material: details may be obtained from the supplier.

*Compiled from information supplied by:*

**Langley London Limited**

Address: 163-7, Borough High Street, London S.E.1.

Telephone: Hop 4444 (10 lines).

Telegrams: Laglycol, Souphone, London.

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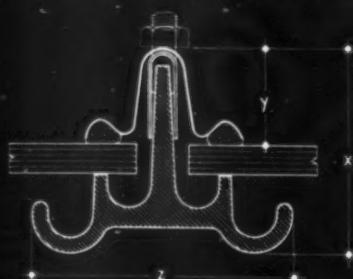
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## ROOF GLAZING STEEL

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24.N5



ordinary section

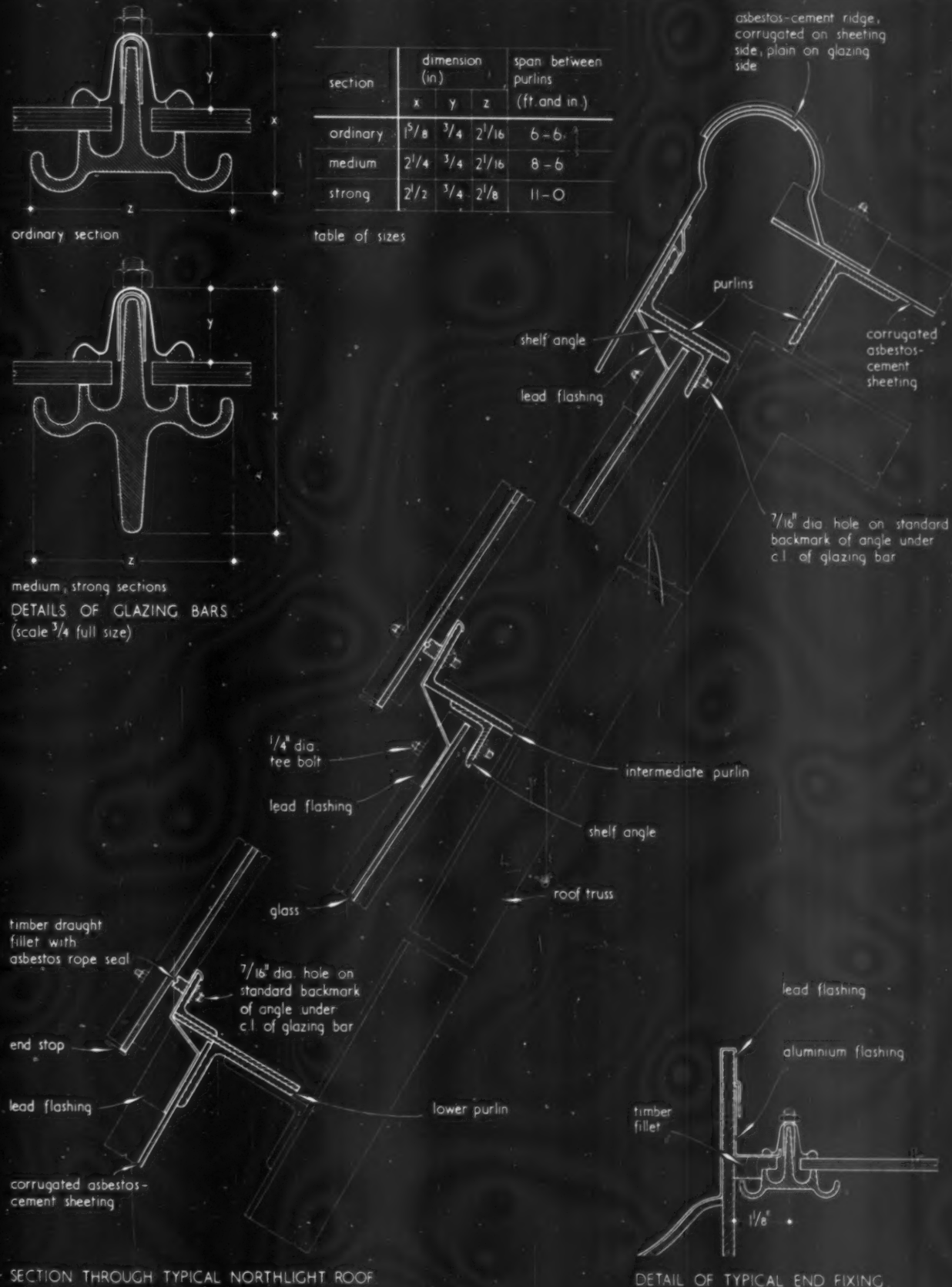


medium, strong sections

• DETAILS OF GLAZING BARS  
(scale 3/4 full size)

section	dimension (in)			span between purlins (ft. and in.)
	x	y	z	
ordinary	5/8	3/4	2 1/16	6-6
medium	2 1/4	3/4	2 1/16	8-6
strong	2 1/2	3/4	2 1/8	11-0

table of sizes



SECTION THROUGH TYPICAL NORTHLIGHT ROOF

DETAIL OF TYPICAL END FIXING

## 24.N5 ·PERFECTION· PATENT GLAZING: GALVANISED STEEL GLAZING BARS

**This Sheet** deals with Perfection galvanised steel glazing bars and illustrates their application to steel roof structures. The drawings show details of two-tier northlight glazing. Perfection glazing bars are very suitable for joggling to hold two or more panes of glass, thus giving a continuous area of glazing down the slope of the roof. For this system bars can be supplied up to 22 ft. in length subject to the provision of suitable intermediate supports.

**Glazing Bar**

**Material:** The bars are of special rolled steel section embodying condensation channels. All bars are hot-dip galvanised. The glass is firmly held by detachable caps of zinc, aluminium or copper secured to the glazing bars with either brass or zinc-plated capping bolts and nuts and zinc, aluminium or copper clips spaced at approximately 1 ft. 6 in. centres. Where copper caps are used the bars are painted with zinc chromate paint after galvanising to prevent electrolytic action. 12-strand asbestos cord under the caps ensures a weathertight joint. The malleable iron glass stop is locked to the foot of the bar.

**Sizes:** The table on the face of the Sheet gives the sizes of glazing bars and relevant data. The table applies to bars with zinc or copper caps; for aluminium caps  $\frac{1}{8}$  in. should be added to sizes x and y.

**Centres:** Bars should be spaced at 2 ft. 0  $\frac{1}{2}$  in. centres wherever possible for use with 2 ft. 0 in. wide panes of glass. The bars are secured at top and bottom with  $\frac{5}{16}$ -in. diameter stud bolts, nuts and washers. A creosoted timber draught fillet, complete with greased asbestos cord, is fitted at the bottom fixing position of the glazing.

**Application to Northlight Roof**

**Lower purlin:** A shelf angle is secured above the main purlin and drilled at the standard back mark with one  $\frac{7}{16}$ -in. diameter hole to take the  $\frac{7}{16}$ -in. diameter studbolt for the bottom fixing of the glazing bar. The flashing is secured between the glazing bar and the flange of the shelf angle and is dressed down over the roof sheeting.

**Intermediate purlin:** The lower glazing bars are bolted to a shelf angle which is fixed back-to-back with the intermediate purlin. The upper glazing bars are

bolted to the purlin which is drilled as previously described. Lead flashing is dressed over the purlin onto the top of the lower glazing.

**Top purlin:** The upper glazing bar is bolted to the top purlin, which is drilled as previously described, in a similar manner to the intermediate purlin. The lead flashing is fixed between the ridge tile and the top purlin which supports it and is dressed down over the glass as shown in the drawing on the face of the Sheet. The lead flashing is secured to the glazing bar by means of the top capping bolt.

**Finish at wall or end stile:** The end glazing bar should be positioned so that its centre is approximately 1  $\frac{1}{2}$  in. away from the wall face or trimming member. The glazing bar cap is held in a level position by means of a timber fillet which is placed in the glazing bar. An aluminium flashing is inserted under the glazing bar cap and the lead flashing is then dressed over as shown on the face of the Sheet. This detail facilitates easy removal of the glazing bar caps for replacing broken panes without disturbing the end lead flashing.

**Further Information**

The manufacturer maintains a technical advisory department which is available to answer questions dealing with this subject generally.

**Compiled from information supplied by:****Heywood-Helliwell Limited**

**Head Office:** Bayhall Works, Huddersfield, and Birds Royd, Brighouse.

**Telephone:** Huddersfield 6594 (5 lines).

**Telex:** 51158

**London Office:** 24, Ashley Place, London, S.W.1.

**Telephone:** Victoria 2685 (5 lines).

**Telex:** 23344

**Branch Offices:** Belfast, Birmingham, Bristol, Glasgow, Leicester, Liverpool, Manchester, Newcastle-upon-Tyne, Nottingham.

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PANELLED WALL: UNIVERSITY IN LIVERPOOL

*Basil Spence and Partners, architects*



*Knuckleboard panelling on plasterboard is used here in a lecture theatre to give good acoustic properties. It is to be noticed that, on the side walls, the angled joint between boards faces towards the front of the theatre. The open joints are here  $\frac{1}{8}$  in. wide with a tolerance of  $\frac{1}{16}$  in. in either direction.*



## 24.N5 ·PERFECTION· PATENT GLAZING: GALVANISED STEEL GLAZING BARS

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working detail

WALLS AND PARTITIONS: 99

PANELLED WALL: UNIVERSITY IN LIVERPOOL

*Basil Spence and Partners, architects*

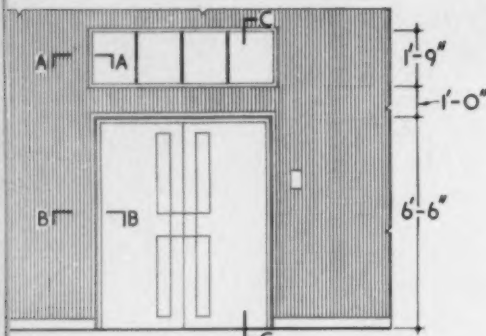


*Knuckleboard panelling on plasterboard is used here in a lecture theatre to give good acoustic properties. It is to be noticed that, on the side walls, the angled joint between boards faces towards the front of the theatre. The open joints are here  $\frac{1}{8}$  in. wide with a tolerance of  $\frac{1}{16}$  in. in either direction.*

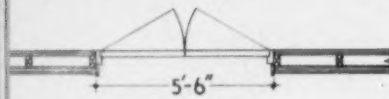
working detail

PANELLED WALL: UNIVERSITY IN LIVERPOOL

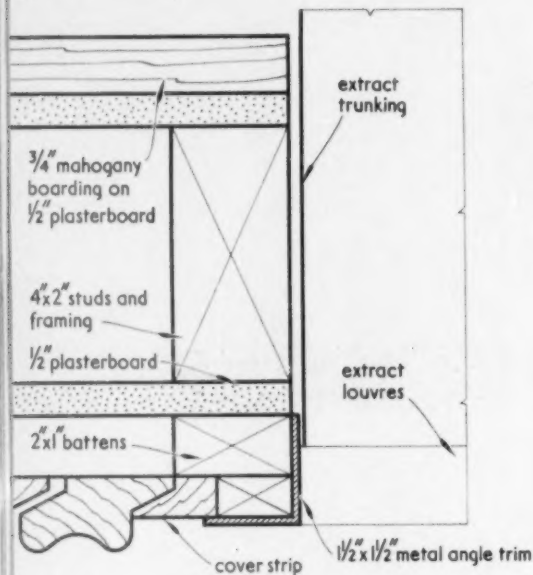
Basil Spence and Partners, architects



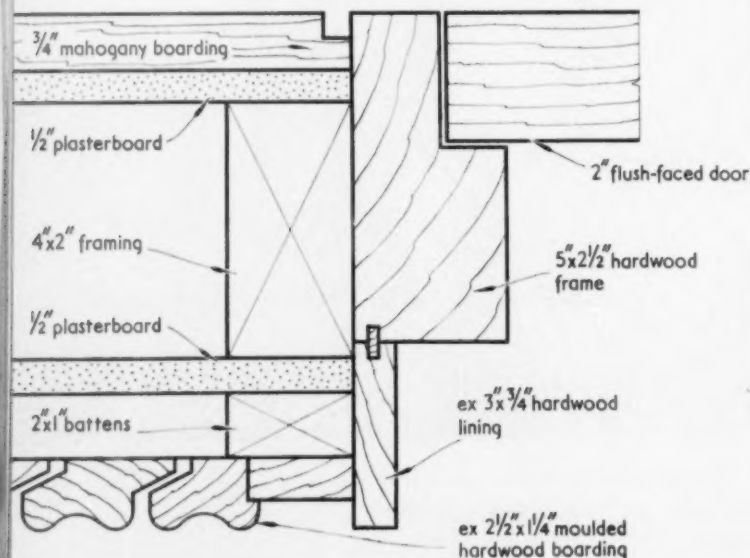
ELEVATION. scale  $\frac{3}{16}'' = 1'-0''$



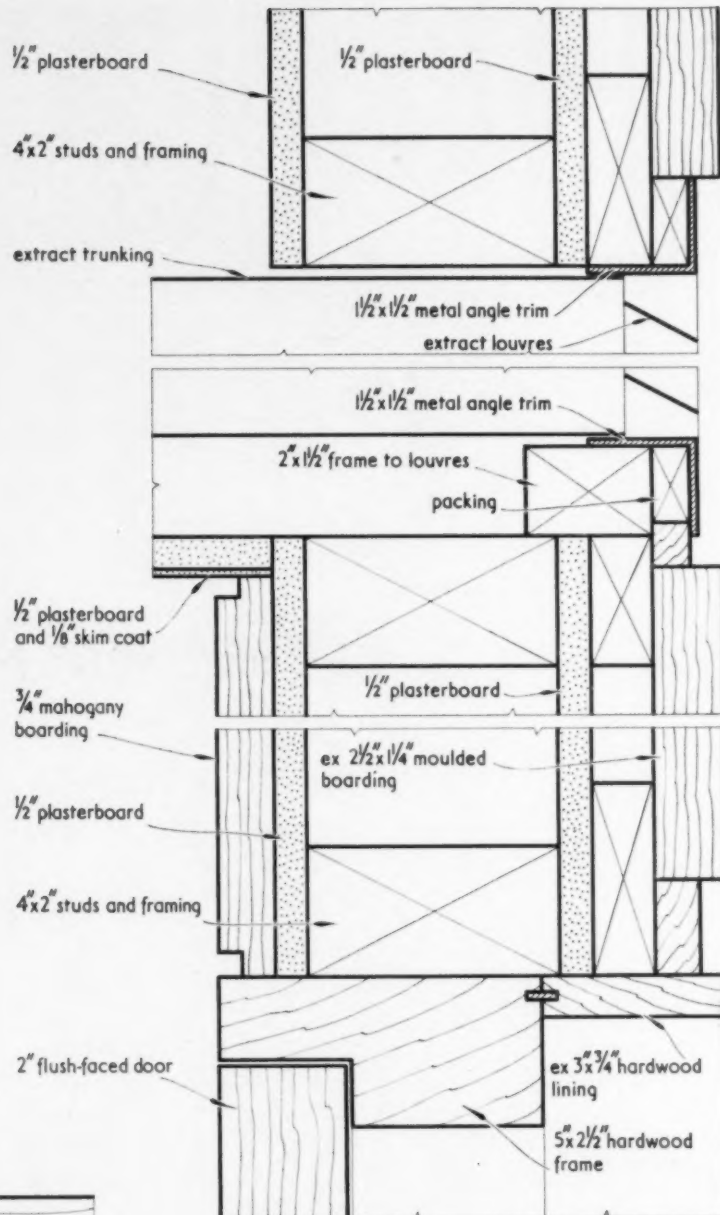
PLAN. scale  $\frac{3}{16}'' = 1'-0''$



PLAN A-A. scale  $\frac{3}{8}$  full size



PLAN B-B. scale  $\frac{3}{8}$  full size



SECTION C-C. scale  $\frac{3}{8}$  full size



DETAIL OF PANELLING. scale full size





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# Exhibition of Mural Art Today at the V. & A.



Here are two further exhibits from the exhibition mentioned this week by ASTRAGAL. On the left, a quarter full-size coloured glass panel, one of five designed by Humphrey Spender for the first class ballroom of the new Orient Line liner S.S. *Oriana*. On the right, one of two panels exhibited in ciment fondu designed by Stephen Spender.



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## Announcements

### PROFESSIONAL

The students of the School of Architecture, College of Art, Belfast, would be glad to receive trade literature for reference purposes.

Mathew & Crouch, Chartered Quantity Surveyors, have opened a branch office at 14, Collens Road, Maraval, Trinidad, West Indies, where W. A. Kauffmann, A.R.I.C.S., will be resident manager.

C. Gingell, A.R.I.B.A., A.R.I.C.S., Borough Architect, Rhondda Borough Council, has transferred offices to the Borough Architect's Department, Bronwydd House, Porth, Rhondda, Glamorgan. Literature (A4 size) and samples of building materials will be welcomed.

Richard S. Nickson, M.A.Cantab., F.R.I.B.A., A.A.Dipl., F.R.S.A., has moved his office to 5, Mill Street, Hanover Square, W.1 (Tel.: MAYfair 3873-5).

Arthur A. J. Marshman, A.R.I.B.A., has taken as partner John C. C. Warren, A.R.I.B.A. The style of the firm has been changed to Marshman and Warren. Offices are at 37, High Street, Bedford (Tel.: Bedford 68862/3) and at 14, Ecton Lane, Overstone, Northants (Tel.: Moulton 3452).

Bartlett & Gray, dip.arch., F/R.I.B.A., have moved to new offices at 16, Bridgford Road, West Bridgford, Nottingham (Tel.: 88711/2).

John R. Ingleby, A.I.L.A., has started a private practice at Milbury Heath, Falfield, Gloucestershire (telephone Thornbury 3307).

R. C. Pearce, A.R.I.B.A., has resigned his post as Honorary Secretary and Treasurer of the Devon and Cornwall Society of Architects and has taken up an appointment with the Lancashire County Council where his address for the time being will be c/o County Architect's Dept., County Hall, Preston, Lancs.

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A Reunion Dinner will be held at the University College London on Friday, February 17, 1961, for former undergraduates or postgraduates who entered the College before 1918. As the number of places will be limited, early application should be made for invitations to the dinner and should be addressed, in any case before December 31, to the Assistant Secretary, University College London, Gower Street, W.C.1.

### TRADE

C. W. Taylor has joined the Headquarters Staff of Firth Cleveland Ltd. as assistant to the Company Secretary and Group Chief Accountant.

The Ruberoid Co. Ltd. announce the formation of The Ruberoid Company of Australia Pty. Ltd. in conjunction with The Colonial Sugar Refining Co. Ltd. of Sydney.

Merediths Ltd. have opened an office at 191, St. Mary's Road, Garston, Liverpool (Tel.: Garston 5968).

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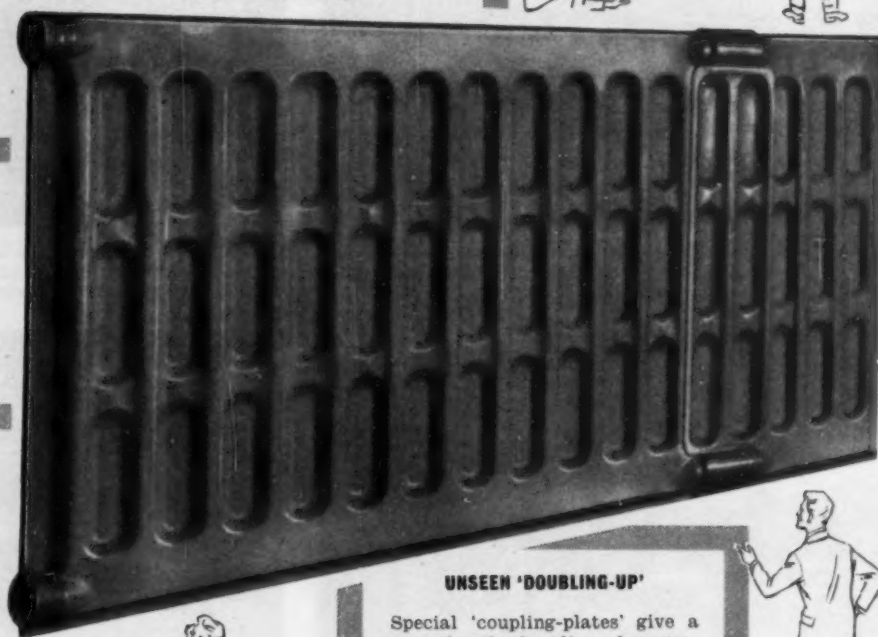
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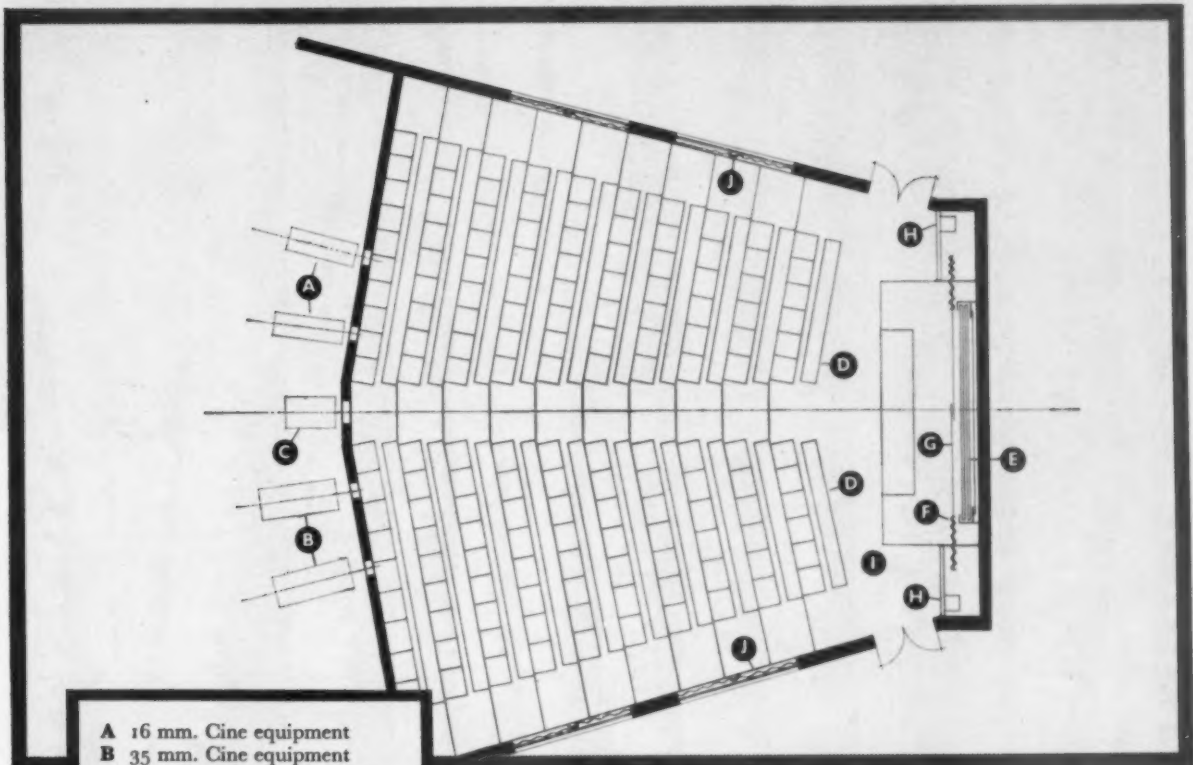
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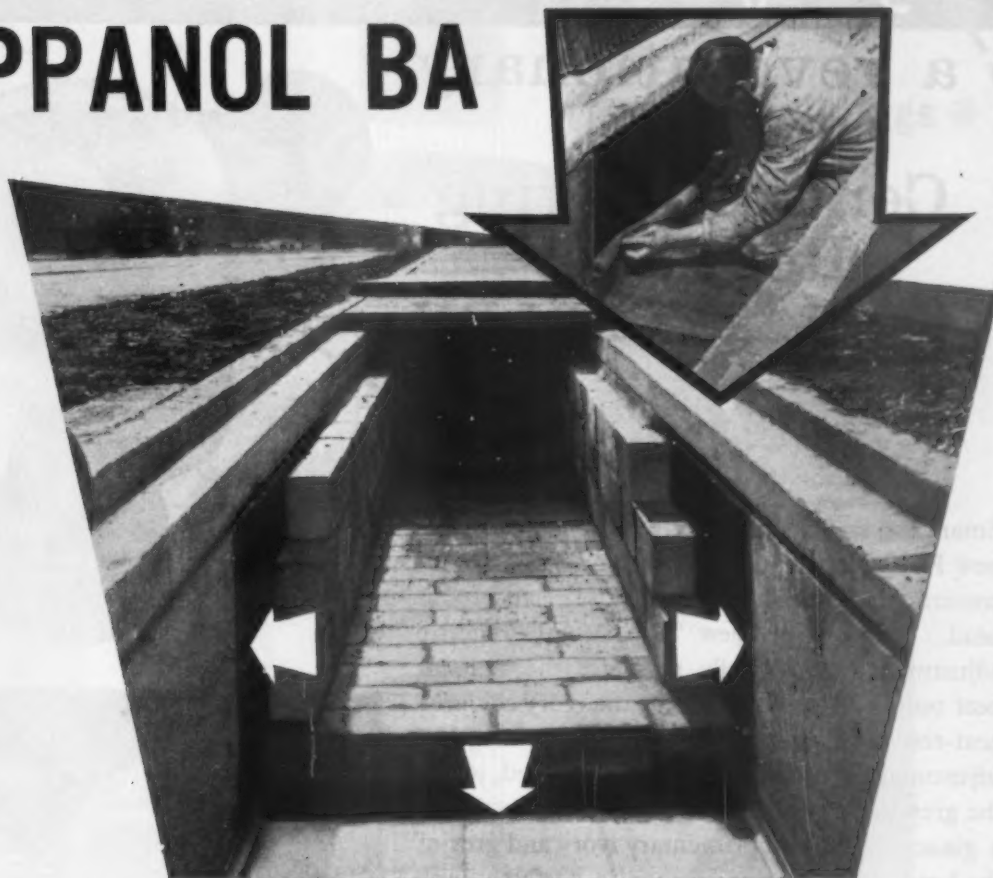


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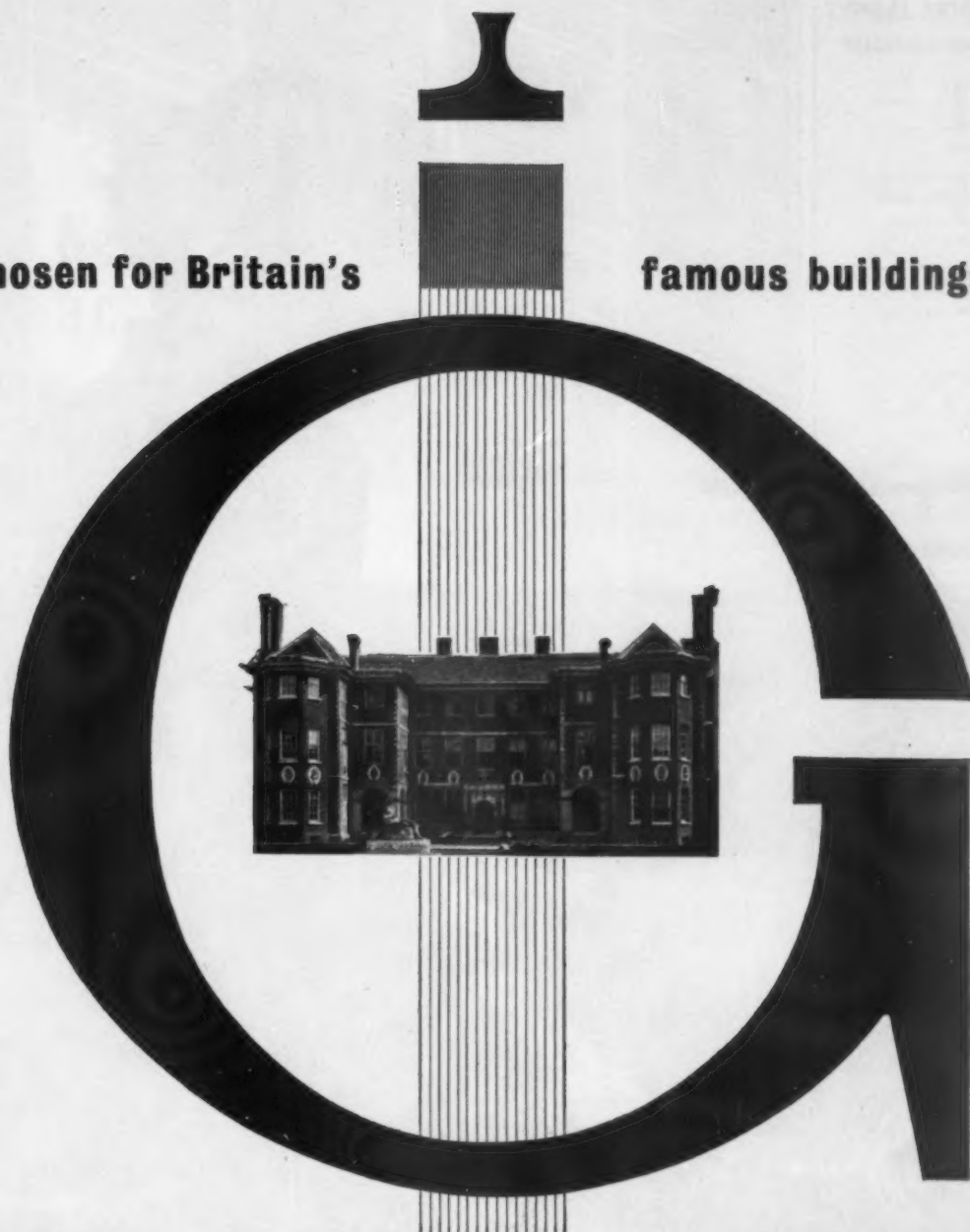
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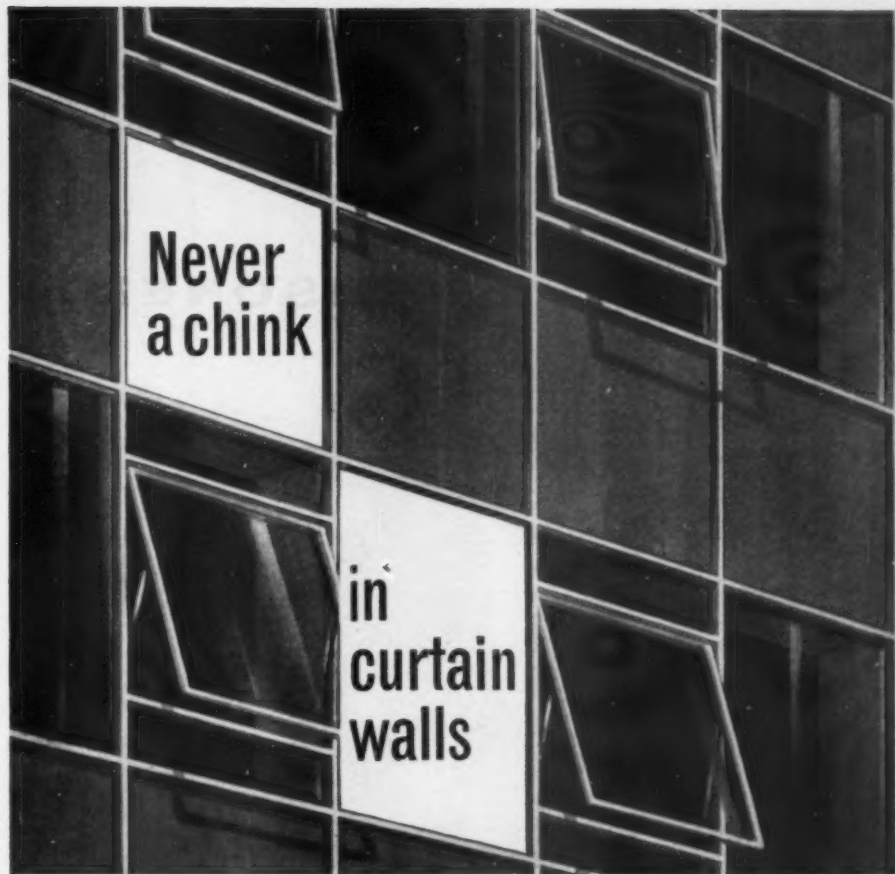
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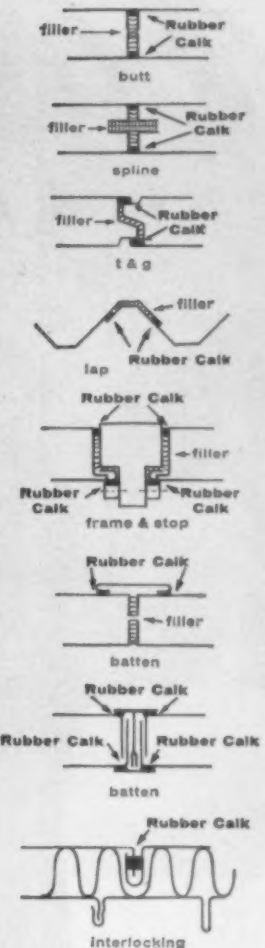
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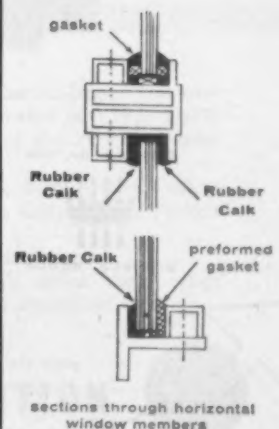
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The illustration shows a standard panel filter and an H.P. After Filter—full details in Barbour Index File 28.

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The Thinker from "The Gate of Hell", Rodin, Bronze, 1879-1900

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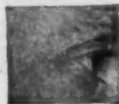


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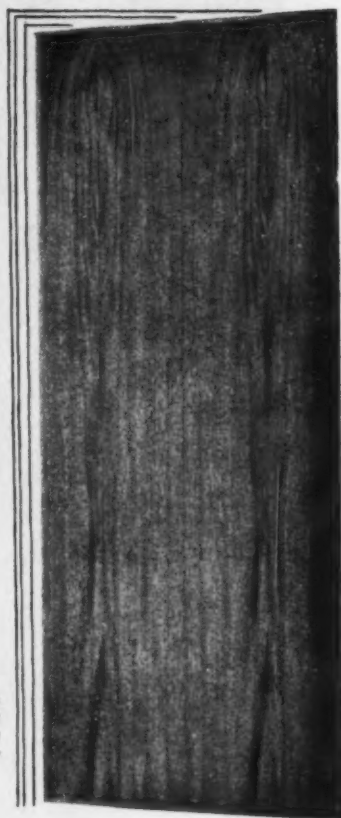
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"properties gracefully  
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the senses, especially  
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## 2 MORE REMPLOY STACKING CHAIRS

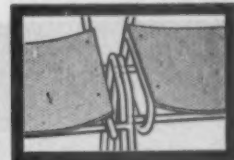
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MS4 Sturdy, lightweight, continuous tubular steel frame with polished canvas backrest and seat. In red, blue or green. Seat height 18".



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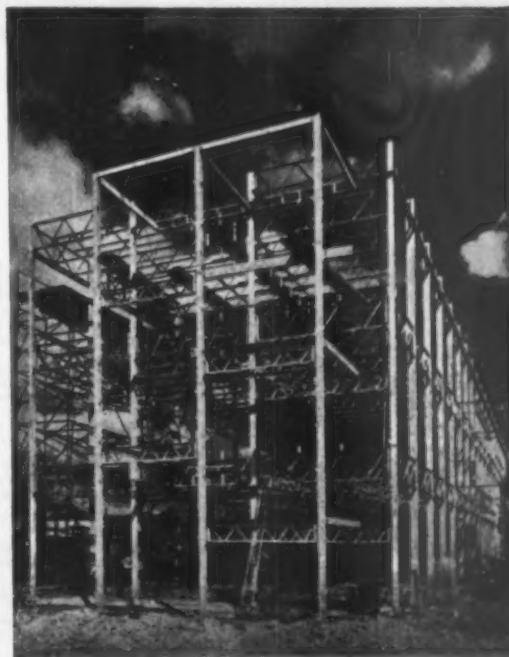
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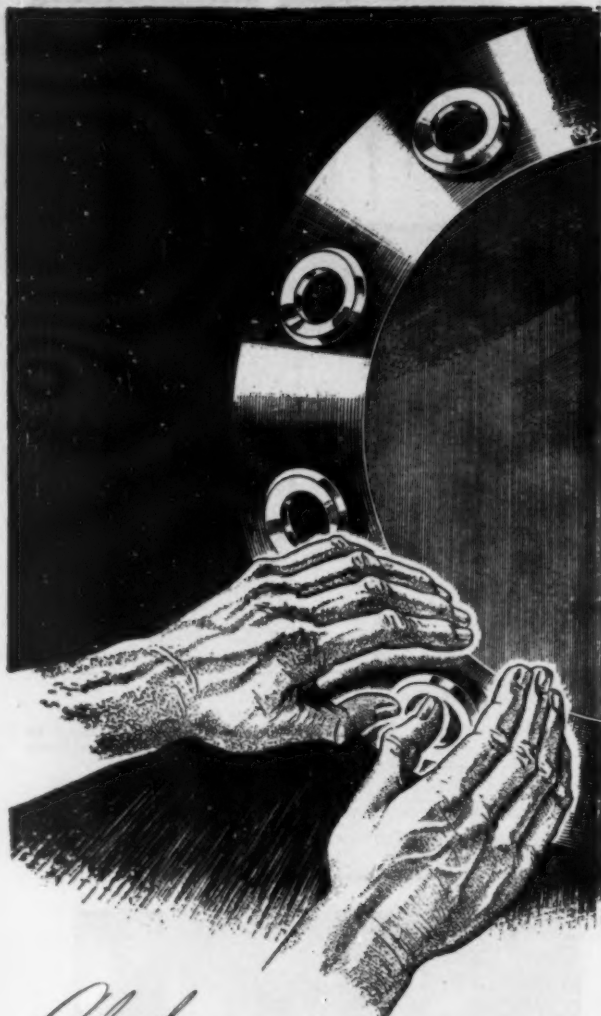


Part of a new Office Block for The Bowater Paper Corporation Limited. Architects: Messrs. Farmer and Dark

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The Spiral Tube "Air Towel" has been awarded the Certificate of the Royal Institute of Public Health and Hygiene for Hygienic Merit.

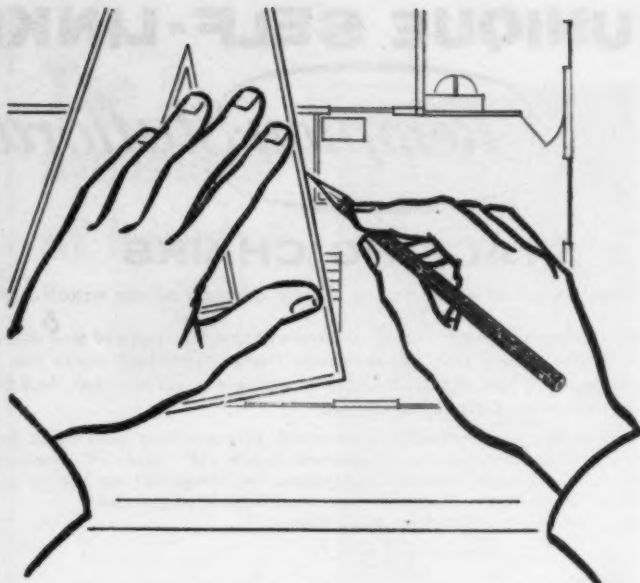


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or nearly but bang on the dot every  
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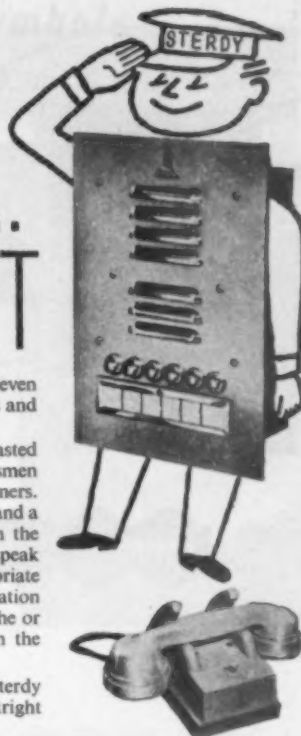
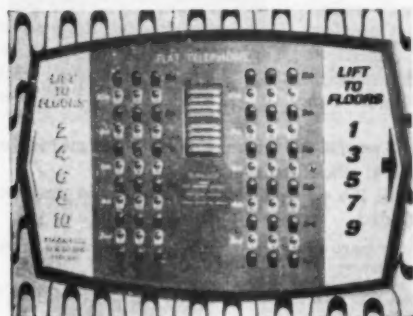


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AP 80

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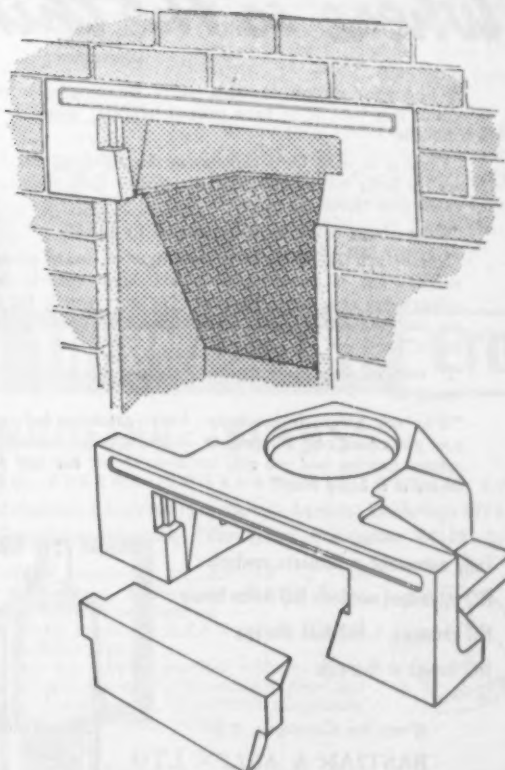
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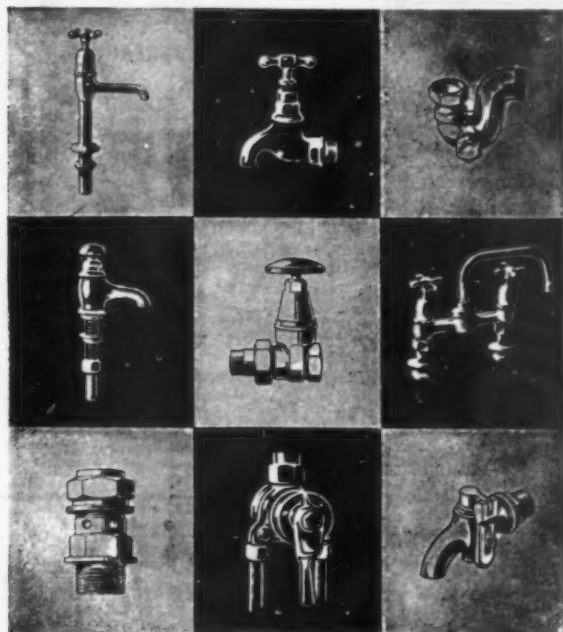


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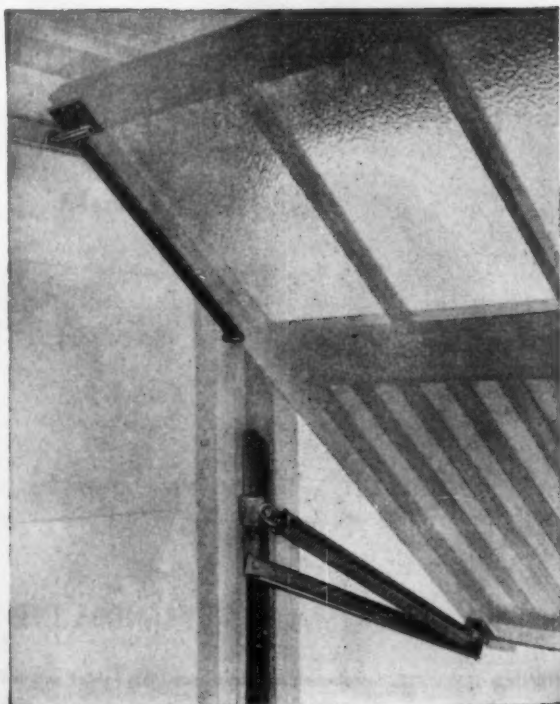
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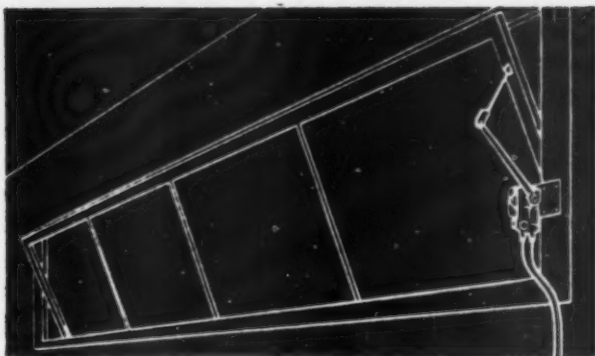
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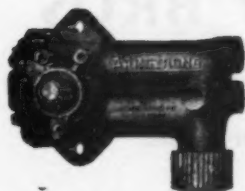
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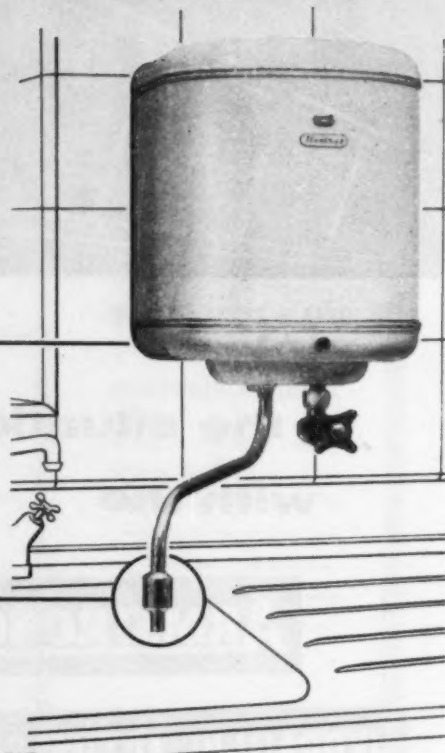
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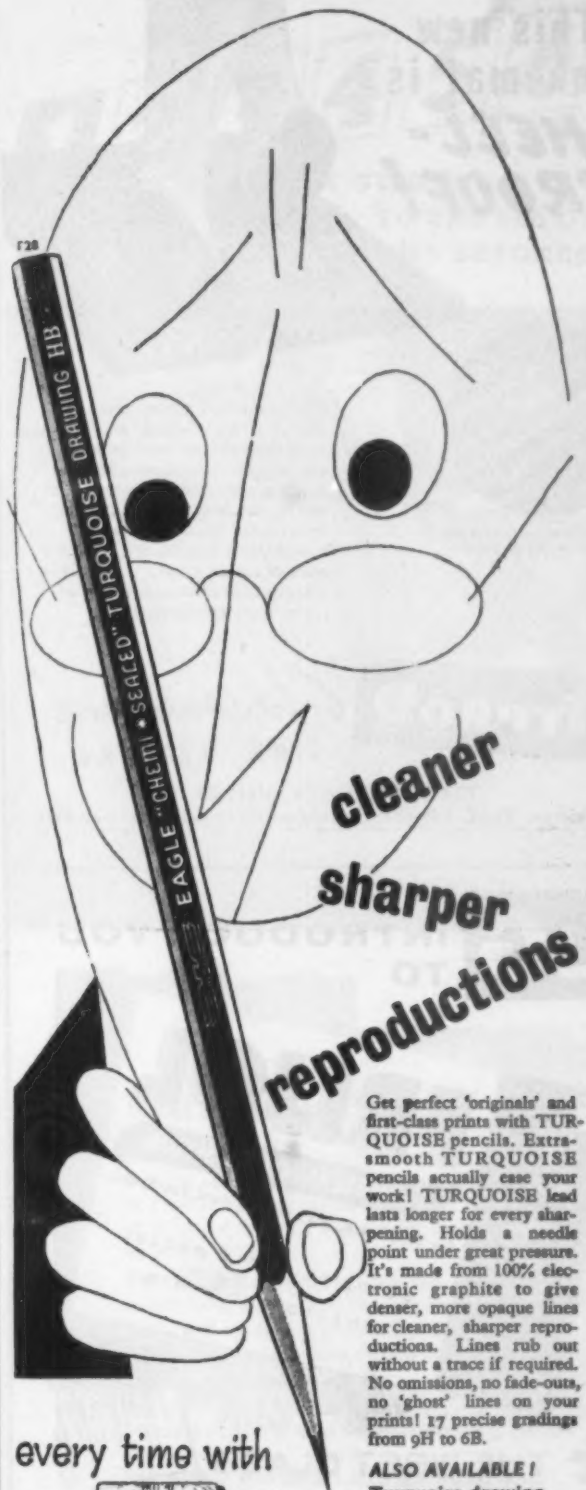


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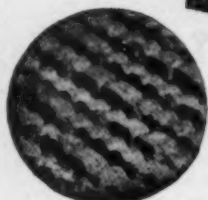
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All in all it makes a tremendous amount of clerical work, and the problem arises 'how can this paperwork best be organised so that office time is not wasted?'

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Please send a copy of your leaflet on this method ☐

Please ask your Consultant to explain it more fully ☐

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Advertisements should be addressed to the Advertisement Manager, "The Architects' Journal," 9, 11 and 13, Queen Anne's Gate, Westminster, S.W.1, and should reach there by first post Friday morning for inclusion in the following Thursday's paper.

Replies to Box Numbers should be addressed care of "The Architects' Journal," at the address given above.

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

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Apply naming two referees to Secretary, 10 Augustus Road, Birmingham, 15, as soon as possible. 3790

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ROBT. C. MONTGOMERY, County Clerk.

County Offices, Kirkcudbright, 27th October, 1960. 4094

### COUNTY BOROUGH OF SOUTHEAST-ON-SEA EDUCATION COMMITTEE MUNICIPAL COLLEGE

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Salary in accordance with the Burnham Technical Scale, £1,370 by £35 to £1,550.

Further particulars and forms of application may be obtained from the undersigned (stamped addressed foolscap envelope).

Completed forms to be returned to the Principal, Municipal College, Victoria Circus, Southend-on-Sea, within 14 days of the appearance of this advertisement.

D. B. BARTLETT, Chief Education Officer.

Education Office, Warrior Square, Southend-on-Sea. 3972

### COUNTY COUNCIL OF STIRLING

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Applications are invited for the post of **SENIOR ASSISTANT ARCHITECT**. Salary £1,260 to £1,512. Applicants must hold A.R.I.B.A., and have had wide experience in preparation of working drawings, taking complete responsibility and handling building contracts.

The appointment will be subject to the provisions of the Local Government Superannuation Act, and the successful candidate will require to pass a medical examination.

Applications, stating age, qualifications and experience, together with names of two referees, should be lodged with A. J. Smith, A.R.I.B.A., F.R.I.A.S., County Architect, Spittal Street, Stirling, not later than 15th November, 1960.

JAMES D. KENNEDY, County Clerk.

County Offices, Viewforth, Stirling. 3949

### BRACKNELL DEVELOPMENT CORPORATION

Applications are invited for the post of **ARCHITECT**, salary range £1,305-£1,555 per annum. Applicants must be Corporate Members of the R.I.B.A. Superannuation schemes, medical examination. Housing available. Apply by 23rd November, 1960, giving age, education and qualifications, experience and appointments held (with dates and salaries), and names of two referees, to General Manager (A), Bracknell Development Corporation, Farley Hall, Bracknell, Berks. 4009

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Application forms from General Manager, Cumbernauld House, Cumbernauld, Glasgow. Last day for receipt of completed forms, 28th November, 1960. 4092

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Further particulars and application form (returnable by the 23rd November, 1960) on request to the Town Clerk, Town Hall, East Ham, E.6, stating the post for which the particulars are required. 4110

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G. B. HODGSON, Clerk of the Council. 4109

### VACANCY FOR ARCHITECTS MINISTRY OF WORK, GOVERNMENT OF EASTERN NIGERIA

Vacancies exist for candidates who are Associate Members of the R.I.B.A. or have an equivalent Commonwealth qualification as Architects in the Public Service of the Eastern Region of Nigeria. Candidates should have at least five years' experience after qualifying. Experience in hospital design and construction is desirable. Experience in tropical work will be an advantage. Candidates must not be less than 30 years of age nor more than 40.

The duties connected with the post will be to prepare sketch plans, working drawings, specifications and contract documents and to lead a team of Architects and Assistants under the direction of the Senior Architect.

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Applications are invited from Members of the Royal Institute of British Architects for the post of **SENIOR ASSISTANT ARCHITECT** on salary grade £1,050 + £50 - £1,200 with placing according to experience. Applicants should have had considerable experience of architectural practice and in particular knowledge of modern school building with experience in organising large building projects and be capable of supervising assistant staff. **HOUSING ACCOMMODATION** will be made available if necessary.

Applications stating age, present salary, present and previous appointments, details of training and experience, together with the names and addresses of two referees, should be lodged with the County Architect, County Offices, Dunoon, on or before 19th November, 1960.

A. D. JACKSON, County Clerk. 4194

### METROPOLITAN WATER BOARD

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**ASSISTANT ARCHITECTS** £1,180-£1,300 per annum. Commencing salaries according to age and experience. Corporate membership of R.I.B.A. required. Provision of housing accommodation would be considered.

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Forms of application, including further particulars, from the undersigned (quoting ref. A.J. and position applied for) to be returned by 25th November, 1960.

S. D. ASKEW, Clerk of the Board. New River Head, Rosebery Avenue, E.C.1. 4195

### TOWN PLANNING ASSISTANTS AND ARCHITECTS

Technical Assistants are required in Dublin for work on the Shannon Free Airport Development Company's town development at Shannon, Eire.

**SENIOR PLANNING ASSISTANTS.** Applicants should possess a recognised planning qualification and a primary qualification in architecture or engineering. Experience with a New Town Development Corporation or similar organisation is desirable.

**PLANNING ASSISTANTS.** Applicants should be architects possessing a recognised planning qualification. Experience of town planning work and housing in local authority or private practice is desirable.

**ASSISTANT ARCHITECTS.** Applicants should possess a recognised qualification in architecture and experience in housing work and/or general practice.

**ARCHITECTURAL ASSISTANTS.** Applicants should be of intermediate R.I.B.A. or R.I.A.I. standard with general office experience.

Applications, stating qualifications and experience, upon which commensurate salaries will be based, should be addressed to Downes & Meehan, Architects, 37 Leeson Park, Dublin. 4190

### CITY AND COUNTY OF NEWCASTLE UPON TYNE

**PLANNING ASSISTANT-A.P.T. IV**

Applications are invited from suitably qualified candidates for the appointment of Planning Assistant in the new City Planning Department (Development Control Section) at a salary within A.P.T. Grade IV (£1,140-£1,310) commencing at a point commensurate with qualifications and experience.

The appointment is subject to the National Scheme of Conditions of Service, the Local Government Superannuation Acts and the passing of a medical examination.

Applications stating age, qualifications and experience together with the names of two persons to whom reference may be made should reach the City Planning Officer, 2 St. Nicholas Buildings, Newcastle upon Tyne 1, by not later than 28th November, 1960. 4188

### CITY OF NOTTINGHAM

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Applications are invited from suitably qualified architects for posts in the Chief Architect's Section of the Estates Department at salaries in (a) A.P.T. Grade 4 (£1,140-£1,310).

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The architects appointed will work in small self-contained teams under the general direction of a Group Leader and will be responsible for the design, construction and management of projects.

The appointments will be subject to the National Joint Council's Scheme of Conditions of Service.

Applications stating age, qualifications, experience, present appointment and salary, and naming two referees, should be sent to the Estates Surveyor & Valuer, The Guildhall, Nottingham, by Wednesday, 30th November, 1960.

T. J. OWEN, Town Clerk. The Guildhall, Nottingham. 4187

### EASTERN ELECTRICITY BOARD

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The successful candidate will be responsible for the preparation of drawings for building and civil engineering work for electricity distribution substations, offices, showrooms and workshops, etc., and should be capable of carrying out site surveys and supervising Drawing Office Staff.

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Salary £1,015 rising to £1,140, inclusive of London Allowance.

Apply by letter to the Manager, Eastern Electricity Board, Northmet Sub-Area, Northmet House, Cannon Hill, Southgate, London, N.14, by 21st November, 1960. 4061



**COUNTY BOROUGH OF BLACKPOOL  
SURVEYOR'S DEPT.**

Applications are invited from ARCHITECTS and QUANTITY SURVEYORS of enthusiasm and a capacity for hard work, to work in the Architects' Section of this Department (Chief Assistant-Architectural Services—A. G. Beckett, A.R.I.B.A., Dip. T.P., A.M.F.P.I.) on an interesting and varied programme of buildings. A five-day week is worked.

Vacancies exist for:  
**ASSISTANT ARCHITECTS, A.P.T. Special, £340—£1,145.**

**ARCHITECTURAL ASSISTANTS, A.P.T. II, £315—£960.**

**ARCHITECTURAL ASSISTANTS, A.P.T. I, £245—£315.**

**SENIOR ASSISTANT QUANTITY SURVEYORS, A.P.T. Special, £340—£1,145.**

Application forms from Arthur Hamilton, B.Sc., A.R.I.B.A., Borough Surveyor, P.O. Box 17, Municipal Buildings, Blackpool. 4141

**GLENROTHES DEVELOPMENT CORPORATION**

**ARCHITECTS (A.R.I.B.A.).** Salary Grades in the range £1,140—£1,565.

**ARCHITECTURAL ASSISTANTS (Intermediate A.R.I.B.A. with good office experience).** Salaries up to £960 per annum.

For a variety of work on INDUSTRIAL, SHOPPING and COMMERCIAL BUILDINGS, including the TOWN CENTRE PLAN now in hand. The vacancies offer excellent opportunities to those with imagination and enthusiasm.

Houses to rent available. Superannuation Scheme.

Applications to Secretary and Legal Adviser, Glenrothes, Fife, by 17th November, 1960. 4081

**WORCESTERSHIRE COUNTY COUNCIL  
COUNTY ARCHITECTS' DEPARTMENT**

Applications are invited for the positions of:—**SENIOR ASSISTANT ARCHITECTS, Grade IV (£1,140—£1,310).**

**ARCHITECTURAL ASSISTANTS, Grade III (£935—£1,140).**

**ASSISTANT ARCHITECTS, Special Grade (£840—£1,145).**

The Senior Architects should be qualified members of the R.I.B.A. and should preferably have had some experience of Education work.

The Assistant Architects are required for Education, Police, Health and Fire Brigade projects of a large and varied nature. Previous experience of these types of contracts is not necessary, but the applicants should have had an architectural training, a good knowledge of building construction and practice and be reliable draughtsmen.

The County Council has a limited housing accommodation for staff and the successful candidates may apply for this as it is available. The Council also makes some allowance towards necessary removal expenses to married applicants. A five-day week is in operation.

Forms of application may be obtained from L. C. Lomas, F.R.I.B.A., County Architect, 14, Castle Street, Worcester. (F.65.) 4085

**METROPOLITAN BOROUGH OF WOOLWICH  
BOROUGH ENGINEER'S DEPARTMENT**

Applications are invited for the following permanent appointments:—

(a) **PRINCIPAL ASSISTANT ARCHITECT.** Salary within Grade A of the lettered scales £1,400 × £55—£1,565 per annum, with casual user car allowance. The person appointed will be required to deputise for the Chief Assistant Architect.

(b) **SENIOR ASSISTANT ARCHITECT.** Salary within Grade V, £1,310 to £1,480 per annum, plus London weighting.

Candidates for both vacancies should have passed the Final Examination of the R.I.B.A.

(c) **TWO ASSISTANT ARCHITECTS.** Salary within Grade II, £815 to £960 per annum, plus London weighting.

Applications, stating experience, qualifications and age, and giving names of two referees, should reach the Town Clerk, Town Hall, Woolwich, S.E.18, by 23rd November, 1960. 4086

**COUNTY BOROUGH OF WALSALE  
PUBLIC WORKS DEPARTMENT**

**APPOINTMENT OF SENIOR PLANNING ASSISTANT—GRADE A.P.T. IV (£1,140—£1,310).** (Commencing salary to be fixed according to qualifications and experience.)

Applications are invited for the above appointment in the Planning Division of the Borough Engineer and Surveyor's Department.

Applicants should be members of an appropriate professional institution or hold a university degree in Geography or Economics and should have experience of Development Plan and Development Control work.

The person appointed will be required to assist in the preparation of redevelopment proposals, to undertake technical studies in connection with the implementation of the approved Development Plan and to assist in Development Control.

Assistance in obtaining housing accommodation will be given if required.

Applications, stating age, details of training, qualifications, present and previous appointments and experience, together with the names and addresses of two referees, should be sent to the undersigned not later than Wednesday, November 16th, 1960.

**M. E. HABERSHON,**  
Borough Engineer and Surveyor,  
Council House, Walsall. 4091

**CITY OF MANCHESTER**

Applications invited for the following permanent positions in the office of the City Architect.

(a) **SENIOR ASSISTANT ARCHITECT, A.P.T. Grade V, £1,310 to £1,480 per annum.**

(b) **ASSISTANT ARCHITECT, A.P.T. Grade IV, £1,140 to £1,310 per annum.**

(c) **SENIOR ASSISTANT STRUCTURAL ENGINEER, A.P.T. Grade V, £1,310 to £1,480 per annum.**

(d) **SENIOR ASSISTANT STRUCTURAL ENGINEER, A.P.T. Grade IV, £1,140 to £1,310 per annum.**

(e) **ASSISTANT STRUCTURAL ENGINEER, Special Grade, £840 to £1,145 per annum.**

(f) **SENIOR ASSISTANT QUANTITY SURVEYOR, A.P.T. Grade IV, £1,140 to £1,310 per annum.**

(g) **ASSISTANT HEATING, VENTILATING AND MECHANICAL ENGINEER, Special Grade, £840 to £1,145 per annum.**

(h) **ASSISTANT HEATING, VENTILATING AND MECHANICAL ENGINEER, A.P.T. Grade III, £960 to £1,140 per annum.**

(i) **ASSISTANT ELECTRICAL ENGINEER, Special Grade, £840 to £1,145 per annum.**

This department has an extensive programme of municipal building work ahead comprising new abattoirs, libraries, schools, technical colleges, aged persons homes, etc. Interesting and varied work with excellent opportunities for promotion on merit.

Commencing salary within appropriate grades fixed according to qualifications and experience. Five-day week. Housing accommodation may be provided for a limited period. Removal expenses allowed.

Forms of application from the City Architect, Town Hall, Manchester, 2, returnable by 21st November, 1960. 4146

**CITY OF CHESTER**

**DEPARTMENT OF CITY ENGINEER**

Applications are invited for the appointment of **PLANNING ASSISTANT** at a salary within the A.P.T. Special Grade. Candidates should be suitably qualified and have had general planning experience together with experience of the layout of housing estates. Housing accommodation will be available to the successful applicant if required. Applications giving the names of two persons to whom reference can be made should reach the City Engineer, 49, Northgate Street, Chester, by Monday, the 21st November, 1960. 4144

**NEWCASTLE REGIONAL HOSPITAL BOARD  
EXPANSION OF ARCHITECTURAL DEPARTMENT**

**P. H. KNIGHTON, M.B.E., A.R.I.B.A., REGIONAL ARCHITECT**

Arising from the number of major projects (totalling about £14 m.) to be carried out in the Newcastle Region as part of the Hospital Expansion Programme, the Board intends to add to its Architectural Department in Newcastle.

The work is of a high-class and varied nature and offers ample opportunity for gaining experience in both highly-specialised hospital structures and many types of ancillary general and domestic buildings. Possession of hospital experience is not essential. The work will involve all stages from sketch plans to supervision of construction and a car mileage allowance will be paid.

Applications are invited for the following (superannuable) posts:

**ASSISTANT ARCHITECTS** (£905 × £35 (1) × £45 (6) × £50 (2)—£1,310).

Applicants should have passed the R.I.B.A. Final Examination. For registered architects increments can be given above the bottom of the grade in accordance with relevant practical experience since qualifying.

**ARCHITECTURAL ASSISTANTS** (£625 × £30 (8) × £35 (1)—£900).

Intermediate R.I.B.A. and preferably some practical experience.

**ARCHITECTURAL DRAUGHTSMEN** (£475 × £25 (6) × £30 (2)—£685).

Applicants should have had three years' previous experience in an architect's drawing office and be neat and quick draughtsmen.

Evening study facilities are available at King's College of Durham University in Newcastle.

Applications should give details of professional training, qualifications, experience and posts held, present salary and any other relevant information, should be accompanied by the names of three architectural referees, and should reach the Secretary to the Board, Benfield Road, Newcastle upon Tyne, 6, not later than the 24th November, 1960. Canvassing will disqualify. 4145

**COUNTY BOROUGH OF STOCKPORT  
BOROUGH ARCHITECTS' DEPT.**

1. **SENIOR ARCHITECT** required, A.P.T. V (£1,310—£1,480 p.a.).

2. **ARCHITECTS** required, A.P.T. IV (£1,140—£1,310 p.a.).

There is a large and interesting programme of work in hand. Local Government experience not essential—design ability is more important. Applicants must be members of R.I.B.A.

3. **JUNIOR ARCHITECT** required, A.P.T. II (£815—£960 p.a.).

The Corporation have a scheme for advancing in approved cases loans for house purchase up to 100 per cent. Full particulars—age, experience, qualifications, two referees, to Borough Architect, Town Hall, Stockport, by 17th November, 1960. Posts pensionable, subject to medical examination. Canvassing disqualifies. Applicants must state if related to any member/senior officer of Council. 4080

**LIVERPOOL REGIONAL HOSPITAL BOARD**

**REQUIREMENTS**

(a) **ASSISTANT ARCHITECTS, £905—£1,310.** Starting salary according to age/experience. Should be Registered Architects having passed the requisite examinations.

(b) **ARCHITECTURAL ASSISTANTS, £625—£900.** Should have passed the Intermediate R.I.B.A. or an examination giving equivalent.

(c) **ARCHITECTURAL DRAUGHTSMAN, £475—£685.** Should have three years' experience in architectural drawing.

Applications invited for the above permanent pensionable posts in the Architectural Division of the Board, under the direction of the Regional Architect, T. Noel Mitchell, B.Arch., F.R.I.B.A.

Applications, stating post applied for, age, qualifications, present post and salary, previous appointments and names and addresses of three referees (two technical), to reach me at 55, Castle Street, Liverpool, 2, by 18th November, 1960.

**VINCENT COLLINGE,**  
Secretary to the Board. 4140

**EAST SUSSEX COUNTY COUNCIL**

Applications are invited for the appointment of an **ASSISTANT ARCHITECT, Special Grade, £840—£1,145**, on the permanent staff of the Architect's Department.

Applications, giving the names of two persons to whom reference may be made, to be sent to the County Architect, County Hall, Lewes, by the 18th November, 1960. 4054

**CARLTON URBAN DISTRICT COUNCIL  
APPOINTMENT OF ASSISTANT ARCHITECT**

Applications are invited for the above appointment at a salary in accordance with Grade IV of the A.P.T. Division of the Scales of Salaries of the National Joint Council commencing at £1,140 per annum and rising by annual increments to £1,310 per annum, the point of entry to be determined having regard to the experience of the applicant.

Applicants must be Associates of the R.I.B.A. or Registered Architects.

The appointment will be subject to the provisions of the Local Government Superannuation Acts 1937 to 1963, the National Scheme of Conditions of Service, and the satisfactory passing of a medical examination.

Applications, stating age, qualifications and details of experience, together with the names of three referees, should be forwarded to the undersigned by 10 a.m. on Wednesday, 23rd November, 1960.

Housing accommodation will be made available if required and removal expenses will be paid by the Council.

**A. E. F. WALKER,**  
Clerk of the Council.

Council House,  
Burton Road,  
Carlton,  
Nottingham. 4057

**BOROUGH OF SOUTHAMPTON  
BOROUGH ARCHITECTS' DEPARTMENT**

Applications are invited for the following permanent posts:—

**ARCHITECTS' Section.**

(a) **SENIOR ASSISTANT ARCHITECTS, A.P.T. Grade III/IV (£960—£1,310).**

(b) **ARCHITECTURAL ASSISTANT, A.P.T. Grade II (£815—£960).**

Applicants for posts (a) should be members of the R.I.B.A. and for post (b) should have passed R.I.B.A. Intermediate Examination.

**QUANTITY SURVEYORS' Section.**

(c) **SENIOR QUANTITY SURVEYORS, A.P.T. Grade III/IV (£960—£1,310).**

(d) **QUANTITY SURVEYING ASSISTANT, A.P.T. Grade II (£815—£960).**

(e) **ESTIMATING ASSISTANT, Miscellaneous Grade VI (£760—£825).**

Applicants for posts (c) should be A.R.I.C.S. and for post (d) should have passed Intermediate R.I.C.S. or Final I.Q.S.

Applicants for post (e) should be experienced in estimating for small jobbing works and knowledge of "working up" and/or site measuring will be advantageous.

Housing accommodation available in approved cases, and approved removal expenses reimbursed up to a maximum of £50.

Commencing salary within grade according to experience and qualifications.

Application forms from the Borough Architect, Civic Centre, Southampton, returnable by 23rd November, 1960. 4085

**BESTON AND STAPLEFORD URBAN DISTRICT COUNCIL**

**TEMPORARY ARCHITECTURAL ASSISTANTS** £1,500 per annum will be paid to suitably qualified Architects required for work in connection with the design and planning of a covered Swimming Bath comprising two pools.

Candidates should have good design ability, with experience in contemporary design and detailing.

Applications, stating age, qualifications and experience, together with particulars of present and previous appointments and names and addresses of two referees, must be received by the Housing Architect, Town Hall, Beeston, Nottingham, not later than the 22nd November, 1960.

**H. D. JEFFRIES,**  
Clerk. 4199

**HUYTON-WITH-ROBY URBAN DISTRICT COUNCIL ARCHITECTURAL AND HOUSING DEPARTMENT**

Applications are invited for posts in the above Department as follows:—

- (a) SENIOR ASSISTANT ARCHITECT, Grade A.P.T. IV (£1,140—£1,310).
- (b) ARCHITECTURAL ASSISTANT, Grade A.P.T. II (£815—£960).

Candidates for post (a) should be associate members of the R.I.B.A., and candidates for post (b) should have passed the Intermediate Examination of the R.I.B.A.

The work of the Department consists of a large Housing and Capital Works programme.

The appointments will be subject to the Local Government Superannuation Acts and the National Conditions of Service, and will be terminable by one calendar month's notice in writing on either side.

Applications, stating age, qualifications and experience, together with the names and addresses of two referees, should reach B. T. Chappelle, A.R.I.B.A., Architect and Housing Director, Archway Road, Huyton, not later than 28th November, 1960.

Canvassing disqualifies.

**D. WILLGOOSE,**  
Clerk of the Council.

Council Offices,  
Derby Road,  
Huyton.

4069

**COUNTY BOROUGH OF BLACKBURN BOROUGH ENGINEER AND SURVEYOR'S DEPARTMENT**

Applications are invited for the appointment of CHIEF ARCHITECT. Salary in accordance with Scale "D" (commencing at £1,710 and rising to £1,975 by three increments of £70 and one of £55).

The successful applicant will be responsible, under the direction of the Borough Engineer, for the whole of the Architectural work carried out by the various Committees of the Council, which includes many interesting and varied projects such as the re-development of the Town Centre, New Wholesale and Retail Markets, a scheme for New Abattoirs in addition to the New Schools' Programme, Housing and General Municipal Buildings.

Applicants must have considerable experience in all branches of the profession and be Associate Members of the R.I.B.A.

An allowance is made for the official use of a car, and housing will be available if required.

Application forms (from the Borough Engineer, Town Hall, Blackburn) are to be returned by the 18th November, 1960.

**FRANK SQUIRES,**  
Town Clerk.

4062

**AIR MINISTRY Works Designs Branch** requires in LONDON and PROVINCES ARCHITECTURAL ASSISTANTS with adequate training and drawing office exp. O.N.C. (Building) an advantage. Work includes site layouts, sketch plans, working drawings and details for variety of technical and domestic buildings in permanent and semi-permanent construction. Financial assistance and time off given for recognised courses of study. Promotion and pension prospects. Five-day week with 18 days' paid leave per year initially. Overseas tours for which special allowances granted.

Salary: in LONDON ranges from £805 (age 25) to £980 p.a., somewhat lower in PROVINCES. Commencing salary dependent on age, quals. and exp. Applicants, who must be natural born British subjects, should write (quoting Order No. Kings Cross 897) to Air Ministry, W.G.d., Lacon House, Theobalds Road, London, W.C.1. or to any Employment Exchange giving age, details of training, quals., full particulars of former posts held and copies of any testimonials. Candidates selected will normally be interviewed in London and certain expenses reimbursed. 3608

**LONDON COUNTY COUNCIL ARCHITECT'S DEPARTMENT**

Experienced PLANNING OFFICERS, Grade I (salary up to £1,700) and Grade II (salary up to £1,500), with drive, initiative and appropriate qualifications required as leaders of civic design and development control teams.

Application form and particulars, returnable by 23rd November, 1960, from Hubert Bennett, F.R.I.B.A. (EK/AJ 2862/11), Architect to the Council, the County Hall, S.E.1. 4072

**COUNTY BOROUGH OF BRIGHTON SENIOR HEATING AND VENTILATING ENGINEERING ASSISTANT**

(£1,120—£1,185)

Applications are invited for the appointment in the Borough Surveyor's Department of a Senior Heating and Ventilating Engineering Assistant.

The salary will be in accordance with an Extended Miscellaneous XII scale £1,120 to £1,185 per annum (subject to negotiations with the Provincial Council).

Applicants must have had wide experience in the design, specification and supervision of heating, ventilating and allied services for large public buildings.

Application forms may be obtained from D. J. Howe, M.I.C.E., M.I.Mun.E., Borough Surveyor, Engineer and Planning Officer, and must be returned to him at 25-30, Kings Road, Brighton, not later than the 25th November, 1960.

**W. O. DODD,**  
Town Clerk.

4197

1st November, 1960.

**TOWN PLANNING OFFICER**

GOVERNMENT OF TANGANYIKA

To design detailed schemes of the layout and sub-division of public land. To prepare planning schemes for local authorities and to advise the Town and Country Planning Board. Experience in the administration of Planning Law and Regulations would be an advantage.

Contract appointment for one or two tours of 30 to 36 months each with gratuity on satisfactory completion of engagement. Salary range £1,239—£1,863 a year. Children's Education allowance. Rented quarters. Free passages. Candidates aged 30-45 must be A.M.T.P.I. preferably with at least five years' experience and possess professional qualification in architecture, surveying or engineering.

Write Director of Recruitment, Colonial Office, London, S.W.1. giving full names, age, qualifications and experience, quoting BCD 62/8/1/E2.

4204

**COUNTY BOROUGH OF WALSALL PUBLIC WORKS DEPT.**

APPLICATIONS are invited from suitably qualified persons for the following appointments in the Architects Section of the Public Works Department:—

- a. PRINCIPAL ASSISTANT ARCHITECT, Grade APT V (£1,310—£1,480 per annum).
- b. SENIOR ASSISTANT ARCHITECT, Grade APT IV (£1,140—£1,310 per annum).

The Department is engaged on an extensive programme of architectural work which allows considerable scope for imaginative design on projects which include comprehensive housing development incorporating multi-storey flats; an education programme including a comprehensive school, college of art and a youth centre; and extensive central area redevelopment embracing shops, offices, police headquarters, law courts and other buildings associated with a proposed two-tier ring road.

All posts are superannuated and subject to a medical examination. Applicants should disclose if they are related to a member or officer of the Council. Housing accommodation will be made available if required.

Applications stating age, present position, salary, qualifications, details of experience and previous appointments, and the names of two referees, should be submitted to reach the undersigned by Wednesday, 16th November, 1960.

**M. E. HABERSON,**  
Borough Engineer and Surveyor.

Council House,  
Walsall.

4167

## ARCHITECTURAL ASSISTANTS

are required by the United Kingdom Atomic Energy Authority, at Risley, to prepare working drawings and plans for a wide variety of industrial and domestic buildings.

Applicants must have had several years' training and experience in an architect's office, and should preferably be of Intermediate R.I.B.A. standard.

The salary scale is under review and is expected to be about £600 at age 21 rising to about £800 at age 25 and to a maximum of about £1,000. Contributory superannuation. Housing assistance and assisted travel schemes.

Five-day week. Three weeks and three days annual holiday plus public holidays.

Send postcard for application form quoting reference 418/J.4, to:

The Appointments Officer,

**U.K.A.E.A.**

Development and Engineering  
Group Headquarters,  
Risley, Warrington, Lancashire

Closing date: 14th November, 1960

## TAYLOR WOODROW CONSTRUCTION LIMITED



require

## ARCHITECTS

of professional or final standard who are able to handle contracts from start to completion, in an expanding department working on varied Industrial and Commercial schemes.

These posts offer opportunities for appreciable individual responsibility.

Interviews can be arranged at any time including evenings and Saturday mornings with travelling expenses paid.

Write giving details of career to:

**Personnel Manager,**  
345, Ruislip Road, Southall, Middlesex



**METROPOLITAN BOROUGH OF POPLAR**  
(2) ASSISTANT ARCHITECTS, Special Grade, (2) and (b) ARCHITECTURAL ASSISTANT, A.P.T. I, required. Salaries (under review) for posts (a) £785/£1,070 and post (b) £610/£765 plus London "weighting" in each case. Commencing salaries according to qualifications and experience. Application forms from Borough Engineer and Surveyor, Poplar Town Hall, Bow Road, E.3. Closing date—28th November, 1960 (first post). 4203

# CITY OF LEICESTER EDUCATION COMMITTEE

## SENIOR ASSISTANT SURVEYOR

Applications are invited for the post of Senior Assistant Surveyor (second in command) on the staff of the Committee's Surveyor. Salary: Grade A.P.T. IV (£1,140—£1,310). Appointment subject to provisions of Local Government Superannuation Act.

Candidates should be experienced in the control of staff. Principal duties will include the preparation of annual estimates (minor building works and special items) and oversight of minor works programme and day-to-day maintenance of all educational buildings. Comparable local authority experience desirable. Professional qualifications in Architecture or Surveying an additional advantage.

Further particulars and form of application (which should be completed and returned not later than fourteen days from the date of this advertisement) may be obtained from the Director of Education, Newark Street, Leicester, on receipt of a stamped addressed envelope. 4166

# COUNCIL OF THE COUNTY OF ABERDEEN COUNTY ARCHITECT'S DEPARTMENT

Applications are invited for an appointment as SENIOR ASSISTANT QUANTITY SURVEYOR in the above Department. Salary £1,228/10/- x £31/10/- to £1,386 per annum. Applicants must be Associates of the Royal Institute of Chartered Surveyors and should have considerable administrative experience and experience in the preparation of estimates, schedules of quantities, etc., and the settling of accounts for all types of Local Authority contracts. The appointment is superannuable. Application forms and conditions of appointment may be obtained from the undersigned. Closing date for applications 22nd November, 1960.

JAMES L. CRAIG,  
County Clerk.

County Buildings,  
22, Union Terrace,  
Aberdeen. 4173

# BOROUGH OF BEXLEY

Applications are invited for the following appointments:—

(1) ASSISTANT ARCHITECT—GRADE APT.III (£960—£1,140 per annum) plus London Weighting. Candidates should be suitably qualified and will primarily be engaged upon school, housing and other municipal projects.

HOUSING ACCOMMODATION WILL BE AVAILABLE FOR THE SUCCESSFUL CANDIDATE.

(2) ARCHITECTURAL DRAUGHTSMAN—GRADE APT.II (£815—£960 per annum) plus London Weighting. Candidates should be good draughtsmen and have a general knowledge of building construction and specification work.

Form of application and conditions of appointment are obtainable from the Borough Engineer, West Lodge, Broadway, Bexleyheath, Kent, to whom completed applications must be returned by the 5th December, 1960. Canvassing will disqualify.

ARTHUR GOLDFINCH,  
Town Clerk.

# BOROUGH OF TOTTENHAM

## BOROUGH ENGINEER & SURVEYOR'S DEPARTMENT

The following positions provide varied and interesting work in a municipal borough of 116,000 population:—

SENIOR ASSISTANT ARCHITECTS (Established) (Three Posts)—A.P.T. Grade V, £1,310 to £1,480 per annum plus £45 per annum London weighting allowance.

Applicants must hold a final professional qualification.

ASSISTANT ARCHITECT (Established)—A.P.T. "Special" Grade, £840 to £1,145 per annum plus £25, £40 or £45 p.a. London weighting allowance.

Applicants must have passed Parts I and II of the R.I.B.A. Final or Special Final Examination or their equivalent and have had at least five years' experience (including the period spent on theoretical training).

ARCHITECTURAL ASSISTANTS (Established) (Two Posts)—A.P.T. Grade II, £815 to £960 per annum plus £15, £25 or £40 p.a. London weighting allowance according to age.

Applicants must have passed R.I.B.A. Intermediate Examination or equivalent.

ARCHITECTURAL ASSISTANT (Established)—A.P.T. Grade I, £645 to £815 per annum plus £15, £25 or £40 p.a. London weighting allowance according to age.

Applicants must have passed R.I.B.A. Intermediate Examination or equivalent.

Five-day week; canteen facilities; Sports Club with private accommodation for sports and recreational facilities; part removal expenses reimbursed.

Application form and Conditions of Appointment are obtainable from the Borough Engineer (A.J.), Town Hall, N.15, and must be delivered to me not later than 24th November, 1960. 4124

# COUNTY BOROUGH OF EAST HAM

## BOROUGH ENGINEER'S DEPARTMENT

Applications are invited for the following temporary appointments:—

SENIOR ASSISTANT ARCHITECTS—GRADE IV £1,185—£1,355.

Salaries in excess of the minima may be paid according to qualifications and experience. The appointments are for work on a new Technical College and are expected to be for a period of not less than two years.

Further details and application forms returnable by 25th November 1960, from the Town Clerk, Town Hall, East Ham, E.6. 4206

# WEDNESFIELD URBAN DISTRICT COUNCIL

## ENGINEER AND SURVEYOR'S DEPARTMENT

Applications are invited for the following appointments on the permanent staff of the Engineer and Surveyor:—

1. CHIEF ASSISTANT ENGINEER. Salary in accordance with A.P.T. Grade IV (£1,140—£1,310 per annum).

Applicants must have passed the Final Testamur Examination of the Institution of Municipal Engineers or hold an equivalent qualification, and have had considerable experience in Municipal Engineering.

Particulars of Conditions of Appointment may be obtained from the Engineer and Surveyor, 29, Bolton Road, Wednesfield, Staffs.

2. ARCHITECTURAL ASSISTANT. Salary in accordance with A.P.T. Grade II (£815—£960 per annum).

Applicants must have a good experience in Architectural design and construction, and preference will be given to those who have passed the Intermediate Examination of the Royal Institute of British Architects.

Applications must state age, qualifications, previous appointments and details of experience, together with the names and addresses of two referees.

The appointments will be subject to the National Scheme of Conditions of Service, the Local Government Superannuation Acts, the passing of a medical examination, and will be terminated by one month's notice on either side.

Housing accommodation will be made available for each appointment, if required, and reasonable removal expenses will be paid.

The district is developing rapidly and offers exceptional experience.

Applications for each appointment must reach the undersigned by not later than Friday, the 18th November, 1960.

J. HENWOOD JONES,  
Clerk of the Council.

Council Offices,  
Alfred Squire Road,  
Wednesfield,  
Staffs. 4162

# BOROUGH OF WATFORD

Applications are invited for the following appointments:—

(a) ASSISTANT ARCHITECT. Salary within Grade A.P.T. IV.

(b) ARCHITECTURAL ASSISTANTS. Salary within Grades A.P.T. I/II/III.

(c) ARCHITECTURAL ASSISTANT. Salary within Grades A.P.T. I/II.

The Assistant appointed to post (a) will be a Section Leader and will carry a considerable amount of responsibility.

Commencing salaries will be commensurate with experience and ability and housing accommodation will be provided if required.

Applications to be sent to the undersigned as soon as possible.

F. C. SAGE,

Borough Engineer, Surveyor & Architect,  
Town Hall,  
Watford. 4200

# COUNTY BOROUGH OF WIGAN

## BOROUGH ENGINEER'S OFFICE

Applications are invited for the appointment of SENIOR ARCHITECTURAL ASSISTANT in the Borough Engineer's Office, at a salary in accordance with the Special Grade (£950—£1,145).

Applicants must be suitably qualified and experience in a Municipal Engineer's Office would be deemed an advantage. Starting salary will be in accordance with qualifications and experience.

Housing accommodation will be made available if required.

Applications, stating age, qualifications, present salary, and giving the names of two persons to whom reference may be made, should be sent to the Borough Engineer, Municipal Buildings, Wigan, not later than 18th November, 1960.

ALLAN ROYLE,

Town Clerk.  
Municipal Buildings,  
Wigan. 4161

# SOUTH-EAST ESSEX TECHNICAL COLLEGE

## AND SCHOOL OF ART

LONGBRIDGE ROAD, DAGENHAM

Required January 1961 (or earlier)

ASSISTANT LECTURER (GRADE B) FOR

ARCHITECTURAL DESIGN AND BUILDING

Applicants should be qualified (F. or A.R.I.B.A.) with professional experience.

Salary within scale £700 x £27 10s. (15) x £37 10s. (1) to £1,150 per annum plus additions for approved training and graduate or equivalent qualifications. London allowance (£38 or £51).

The commencing salary offered will have regard to the previous experience of the successful candidate, and increments within the scale will also be allowed for War Service.

Further details and application forms from the Clerk to the Governors. 4198

# BOROUGH OF SHREWSBURY

## ARCHITECTURAL ASSISTANT

Applications are invited for the post of Architectural Assistant on the permanent staff of the Borough Surveyor at a salary in accordance with the Special Grade, £840—£1,145 per annum, commencing according to qualifications and experience.

Housing accommodation will be provided and approved removal expenses paid. Five-day week. Varied programme of work in busy office.

Applications, stating age, qualifications and experience, and names of two referees, to be sent to the Borough Surveyor, Guildhall, Shrewsbury, by Monday, 21st November, 1960.

S. R. H. LOXTON,

Town Clerk. 4165

# WARWICKSHIRE COUNTY COUNCIL

## COUNTY PLANNING DEPARTMENT

Applications are invited for the following appointments:—

(1) PLANNING ASSISTANTS—Grade A.P.T. IV.

(2) PLANNING ASSISTANT—Grade A.P.T. I/II.

For the Grade IV posts applicants must be professionally qualified and must have extensive experience of Development Plan work with particular emphasis on comprehensive redevelopment. For one of the posts experience in Development Control is essential as the successful candidate will be mainly engaged on appeal work.

For Post (2) applicants must have passed the Intermediate Examination of a professional institution.

The commencing salary in each case will be according to experience and qualifications.

The posts are subject to the provisions of the Local Government Superannuation Act and successful applicants will be required to pass a medical examination.

Consideration will be given to the granting of financial assistance towards removal expenses.

Canvassing directly or indirectly will be a disqualification.

Applications, together with the names and addresses of two referees, should be sent to J. J. Brooks, County Planning Officer, Northgate, Warwick, not later than Monday, 28th November, 1960.

L. EDGAR STEPHENS,  
Clerk of the Council.

Shire Hall,  
Warwick. 4150

# EASTERN ELECTRICITY BOARD

## NORTHMET SUB-AREA

CLERK OF WORKS—Civil Engineering and Building Section, Sub-Area Engineers Department (Ref. 957), 293/60/R.

Candidates should have had a good general and technical education, possess a sound knowledge of practical building and civil engineering construction, and be capable of setting out and supervising works in the course of construction.

Salary: £940 rising to £1,965, inclusive of London allowance.

Apply by letter to The Manager, Eastern Electricity Board, Northmet Sub-Area, Northmet House, Cannon Hill, Southgate, London, N.14, by 21st November, 1960. 4201

# COUNTY BOROUGH OF OLDHAM

## BOROUGH ENGINEER & SURVEYOR'S DEPARTMENT

### APPOINTMENT OF ARCHITECTURAL DRAUGHTSMAN

Applications are invited for the appointment of Architectural Draughtsman at a salary within Grade Miscellaneous V (£685—£760), commencing salary according to experience.

The successful applicant will be engaged in the Architectural Section of my Department and should be a competent draughtsman, capable of working up detail drawings and carrying out the measurement of land and buildings.

The National Conditions of Service and the Local Government Superannuation Acts will apply, and the successful candidate will be expected to pass a medical examination.

Applications endorsed "Architectural Draughtsman," together with the names of two referees, should reach me not later than Monday, the 21st November, 1960.

A. L. HOBSON,

Borough Engineer & Surveyor.  
75, Union Street,  
Oldham. 4149

# CITY OF SHEFFIELD

Applications are invited for the following post on the staff of the Estates Surveyor, Mr. W. H. Rothwell, B.Sc., F.R.I.C.S.:—

PROPERTY ASSISTANT (REPAIRS), Grade

S.C. (£840—£1,145). Qualification A.R.I.C.S.

(Building) or equivalent.

Applicants must have had wide experience in the maintenance of urban properties of all classes, particularly of repairs, conversions and demolition, and including experience of contract administration. Experience of a House Patching scheme is desirable.

Commencing salary within the above grade commensurate with qualifications and experience. The post is superannuable, subject to N.J.C. conditions of service and to medical examination.

Applications, stating name, address, age, qualifications, experience, previous and present positions with dates and salaries, and the names and addresses of two referees, should reach the undersigned not later than 16th November, 1960.

JOHN REYS,

Town Clerk.  
Town Hall,  
Sheffield, 1. 4190



**COUNTY BOROUGH OF OLDHAM  
BOROUGH ENGINEER & SURVEYOR'S  
DEPARTMENT**

**APPOINTMENT OF ASSISTANT ARCHITECTS**  
Applications are invited for the following appointments:—

- (a) SENIOR ASSISTANT ARCHITECTS, Grade A.P.T. V (£1,310—£1,480 per annum).
- (b) ASSISTANT ARCHITECTS, Grade A.P.T. IV (£1,140—£1,310 per annum).
- (c) JUNIOR ASSISTANT ARCHITECTS, Grade A.P.T. I (£645—£815 per annum).

Applicants for appointment (a) must be A.R.B.A. or hold a Diploma in Architecture of a recognised University, preferably with considerable experience in Local Authority work, for appointment (b) applicants must be suitably qualified.

The Department can offer varied and interesting experience on programmes of redevelopment in both central and urban areas and on major building works.

All the posts are superannuable and subject to the N.J.C. Conditions of Service. The commencing salaries could be offered near the top of the Grades to candidates with suitable experience and qualifications.

Housing accommodation is available if required.

The Council operate a five-day week.

Applications suitably endorsed, together with the names of two referees, should reach me not later than Monday, the 21st November, 1960.

A. L. HOBSON,  
Borough Engineer & Surveyor.  
75, Union Street,  
Oldham. 4148

**CORPORATION OF DUNDEE**

Applications are invited for ARCHITECTURAL POSTS in the City Architect's Department to assist in the planning and design of new schools, large Housing Estates, Central Redevelopment Areas, including multi-storey buildings.

Salaries will be within the scales for professional Assistants—£1,085 to £1,190 per annum. The Corporation are at present considering a scheme for the payment of overtime.

Applicants should be Associate Members of the Royal Institute of British Architects and placing in the grade will be according to experience.

Applicants should be under 45 years of age and the successful applicants will require to pass a medical examination for entry to the Superannuation Scheme.

Applications, stating age, qualifications, training and experience, naming two referees, also the applicant's housing needs, should be lodged with the Town Clerk, City Chambers, Dundee, not later than 22nd November, 1960. 4121

**COUNTY BOROUGH OF DARLINGTON  
BOROUGH ARCHITECT'S DEPARTMENT**

Applications are invited for the following appointments:—

TWO SENIOR ASSISTANT ARCHITECTS (Group Leaders). Salary in accordance with Grade V of N.J.C. Scales (£1,310—£1,480).

TWO SENIOR ASSISTANT ARCHITECTS. Salary in accordance with Grade IV of N.J.C. Scales (£1,140—£1,310).

The department has a large programme including Secondary and Primary Schools, Welfare Schemes, Housing, Municipal Offices, Markets and Central Redevelopment. Preference will be given to candidates experienced in this class of work and who are members of the R.I.B.A. One Group will deal with Civic Design and Planning. Experience in this work will be an advantage.

Applications, stating post and giving full particulars of age, qualifications, present appointment with salary, previous appointments with dates and name and address of three referees, to be received by E. A. Tornbohm, A.R.B.A., A.M.T.P.I., Borough Architect, Central Buildings, Darlington, not later than 22nd November, 1960.

Housing accommodation will be made available if required. 4160

**BOROUGH OF RICHMOND (SURREY)  
APPOINTMENT OF SENIOR ASSISTANT  
ARCHITECT**

Applications are invited from qualified Architects for the appointment of Senior Assistant Architect at a salary in accordance with Grade A.P.T. IV (£1,140—£1,310) plus London weighting.

Applications should be delivered to the Borough Engineer and Surveyor, King's Road, Richmond, Surrey, not later than 28th November, 1960, giving the names of three referees and stating relationship if any to Members of the Council or Senior Officers.

Canvassing prohibited. No assistance can be given with housing.

CLIFFORD HEYWORTH,  
Town Hall, Richmond, Surrey. 4157

**COUNTY BOROUGH OF GLOUCESTER  
CITY ARCHITECT'S DEPARTMENT**

Applications are invited for the following appointments:—

(a) ASSISTANT ARCHITECT, A.P.T. Grade III, £960—£1,140; Parts I and II, R.I.B.A. Final and appropriate experience.

(b) ARCHITECTURAL ASSISTANTS within the Grades A.P.T. I, £645—£815 and A.P.T. II, £815—£960; Intermediate R.I.B.A.

Applicants to have the appropriate qualifications as quoted and salaries above the minimum of the Grade may be considered.

Interesting, contemporary work. Superannuable posts. Medical examination. Municipal experience not essential.

Full particulars to City Architect, Suffolk House, Greyfriars, Gloucester, not later than Friday, 18th November, 1960. 4147

ARCHITECTURAL ASSISTANTS for London and the Provinces—Keen and enthusiastic Assistants of Intermediate R.I.B.A. standard required by Ministry of Works for design of interesting and varied types of buildings in all parts of the world. Salary range is from £600 (at age 21) to £980 per annum London (slightly less elsewhere). Starting pay according to age and experience. Five-day week. Three-and-a-half weeks' annual leave initially. Prospects of promotion with salaries rising to £1,435 per annum. London. Opportunities for permanent (non-contributory) pensionable posts. Apply, giving details of age, training and experience, to:—E. Bedford, Esq., C.B., C.V.O., A.R.B.A., Chief Architect, Ministry of Works (AJ), Abell House, Room 427, John Edip Street, London, S.W.1. Interviews will be held in London and at Regional Offices where possible. 4115

**BRACKNELL DEVELOPMENT CORPORATION**

Applications are invited for the following post in the Quantity Surveyor's section:—

JUNIOR ASSISTANT QUANTITY SURVEYOR, A.P.T. Grade I, salary range £645—£815. Applicants must have had sound training and be up to Intermediate standard of the R.I.C.S. Duties embrace Housing, Town Centre and Industrial Buildings. Superannuation schemes, medical examination. Housing available. Apply by 18th November, 1960, stating age, education and qualifications, experience and appointments held (with dates and salaries), and names of two referees, to General Manager (Q.S.), Bracknell Development Corporation, Farley Hall, Bracknell, Berks. 4119

**LONDON COUNTY COUNCIL  
ARCHITECTS' DEPARTMENT**

Vacancies exist in the Development Group of the Housing Division for ARCHITECTS (up to £1,250) and ARCHITECTURAL ASSISTANTS (up to £950). The Group is to be expanded and the work will involve the application of building techniques in experimental building schemes of substantial size.

Starting salary according to experience and qualifications. Particulars and form from Hubert Bennett, F.R.I.B.A. (EK/AJ/2854/11), Architect to the Council, County Hall, S.E.1. 4114

**BOROUGH OF ANDOVER  
ARCHITECTURAL ASSISTANT**

Applications are invited from suitably qualified and experienced persons for the above appointment in the Borough Engineer & Surveyor's Department in A.P.T. Special Grade of the National Scheme and the usual conditions of service are applicable.

The appointment qualifies for the provision of housing accommodation. Applications, in writing, together with names and addresses of three persons to whom reference may be made, should reach the undersigned by Monday, 21st November, 1960.

J. WHATLEY,  
Town Clerk.  
"Beech Hurst,"  
Weyhill Road,  
Andover. 4118

**LONDON ELECTRICITY BOARD  
ARCHITECTURAL DRAUGHTSMAN**

Applications are invited for the above position in the Architect's Section of the Construction Branch of the Chief Engineer's Department at Lesco House, Stamford Street, S.E.1.

Applicants should be neat draughtsmen and preferably have had several years' experience in an Architect's office.

Pending determination as to the grading of the post within Schedule "B" of the National Joint Board Agreement, the salary will be in the provisional range £755 per annum rising to £855 per annum, inclusive of London allowance.

Application form obtainable from the Construction Engineer at the above address to be returned completed within fourteen days of the publication date of this notice. Please quote Ref. PER V/3054/A. 4097

**BOROUGH OF EDMONTON  
BOROUGH ARCHITECT'S DEPARTMENT**

Applications are invited for the following appointments in connection with the Council's extensive Capital Building Programme. Applicants should be appropriately qualified.

1. ASSISTANT QUANTITY SURVEYOR—Grade A.P.T. IV, £1,140—£1,310 plus £45 London weighting.

Duties will include those of estimator and target supervisor in connection with bonus schemes.

2. ASSISTANT QUANTITY SURVEYOR—Grade A.P.T. III, £960—£1,140 plus £45 London weighting.

Duties will include those of bonus surveyor. Applications on forms obtainable from the Town Clerk, Town Hall, Edmonton, must be delivered by the 19th November, 1960.

H. BACKHOUSE,  
Town Clerk.  
ES/ML. 4098

**COUNTY BOROUGH OF SUNDERLAND  
BOROUGH ARCHITECT'S DEPARTMENT**

Applications are invited for posts in the above Department, viz.:—

(a) ASSISTANT ARCHITECTS—J.N.C. Scale "B."

(b) ARCHITECT-IN-CHARGE—J.N.C. Scale "A."

Salaries according to experience and qualifications. Consideration will be given to a payment towards removal expenses, to a lodging allowance for the applicant and to a generous mortgage advance in respect of house purchase.

Application forms obtainable from Borough Architect, Grange House, Stockton Road, Sunderland, which, duly completed, must be received at my office, Town Hall, not later than 22nd November, 1960.

Canvassing will disqualify.

G. S. McINTIRE,  
Town Clerk. 4209

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Variety of alphabets and materials for internal or external use, Illuminated Letters and Box Signs. Send for lettering sheets and brochures.

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**GOVERNMENT OF NORTHERN IRELAND**

**ASSISTANT PLANNING OFFICER**  
Applications invited for pensionable post in Ministry of Health and Local Government. Candidates must be Associate Members or Members of Town Planning Institute with preferably an Architectural training. Work includes Provincial Survey, Location of Industry, Planning Appeals and examination of Local Authority proposals. Salary according to experience within scale £1,210-£1,550. Existing pension rights transferable in certain circumstances. Preference for ex-Servicemen. Application forms obtainable from the Secretary, Civil Service Commission, Stormont, Belfast, 4, should be returned by 21st November, 1960. 4101

**BOROUGH OF ENFIELD  
BOROUGH ENGINEER & SURVEYOR'S  
DEPARTMENT**

Non-County Borough in the County of Middlesex. Population 109,709. Area 12,400 acres. Applications are invited from suitably qualified persons for the following permanent appointments:—

1. **ASSISTANT ARCHITECT—A.P.T. IV.** £1,140-£1,310 plus London weighting.
2. **ARCHITECTURAL ASSISTANTS (TWO No.)—A.P.T. III.** £960-£1,140 plus London weighting.

The commencing salary will be fixed at points within the scale commensurate with qualifications and experience. There is a large varied programme of work, including the redevelopment of Clearance Areas and other areas scheduled for Comprehensive Development.

Housing accommodation may be made available in appropriate cases. The Council is also prepared to consider 100 per cent. advances to successful applicants for house purchase within the Borough.

Saturday mornings are normally free from duty.

Application forms, obtainable from H. D. Peske, M.Sc. (Eng.), M.I.C.E. Borough Engineer and Surveyor, 7, Little Park Gardens, Enfield, Middlesex, must be delivered to the undersigned not later than Thursday, 24th November, 1960.

CYRIL E. C. R. PLATTEN  
Town Clerk.

Public Offices,  
Gentlemen's Row,  
Enfield, Middx. 4077

**Architectural Appointments Vacant**

2s. per line; minimum 12s. Box Number, including forwarding replies, 2s. extra.

**WEST END OFFICE** requires **ASSISTANT ARCHITECTS** of Final and Intermediate standards for interesting Industrial projects in Home Counties. Good salaries offered to men with initiative and ability. Bonus Scheme. Five-day week, holiday arrangements honoured. Box 2039.

**ASSISTANT** required in Architect's Office of a London Brewery. Intermediate standard, knowledge of licensed premises an advantage. Salary according to experience. Charrington & Co., Ltd., 86, Fenchurch Street, E.C.3. 4016

**RONALD WARD AND PARTNERS** invite applications from **ARCHITECTS**, Senior and Junior. Long-term prospects. Scope for initiative and responsibility in interesting commercial, industrial and civic projects in British Isles, West Africa and Australia. Salaries commensurate with ability. Non-contributory Pension and Life Insurance schemes. Five-day week. Pleasant offices. Apply 29, Chesham Place, Belgrave Square, London, S.W.1. Tel.: BELgravia 3361. 2960

**£825—LONDON.** ASSISTANT required to do a primary school and an office block. Moore Simpson & Partners, 34, Bedford Row, W.C.1. CHA 7252. 3951

**GUILDFORD ARCHITECTS** urgently require qualified and unqualified **ASSISTANTS** to work on projects of considerable interest. An opportunity exists for applicants living or wishing to live in Surrey to work locally in a pleasant atmosphere and at a good salary. Would applicants please reply stating age, experience and salary required to Malcolm Peck, Roberts & Associates, 15 Friary Street, Guildford, Surrey (Guildford 66363). 4156

**PART-TIME ARCHITECTURAL ASSISTANT** required immediately. Box 4158.

**ASSISTANTS** of Intermediate standard or recently qualified, preferably with some office experience, required for offices in Cirencester and Wantage. Applications in writing stating full details of experience, qualifications and salary required to: Pyle and Saint, Chartered Architects and Quantity Surveyors, Thomas Street House, Cirencester, Gloucestershire. 4118

**ARCHITECTURAL ASSISTANTS** required in a busy Bloomsbury office with varied practice. Good salary and prospects for suitable applicants. Five-day week. Write giving particulars of age, qualifications, experience, etc., to Box 910, c/o 7 Coptic Street, W.C.1. 8815

**ELIE MAYORCAS** requires **ARCHITECTURAL ASSISTANTS** with a minimum of three years' office experience in this country. Write, giving brief particulars of architectural education and experience, and salary required, to 13, David Mews, Baker Street, W.1. 3293

**INTERMEDIATE** to **Final ASSISTANTS** required immediately. Salary according to ability and experience. Theo. H. Birks, 34, Portland Place, London, W.1. LAN. 7236. 9739

**ARCHITECTURAL ASSISTANTS** of all categories required for busy City office engaged in industrial and commercial work. Good working conditions, 5-day week, luncheon vouchers. Salary by arrangement. Please contact Eric Firmin & Partners, Tavistock Inn House, Holborn Circus, E.C.1. Tel.: City 8811. 2692

**ASSISTANT** with several years' office experience and accustomed to preparing working drawings from sketches, required immediately by West End Architects. Should be interested in supervising the work and have a sound knowledge of construction. Write for interview to Box 3557.

**BASIL SPENCE & PARTNERS** require qualified and experienced **ARCHITECTS** to fill positions of responsibility on a major building programme. Write to 48, Queen Anne Street, W.1, stating experience and salary required. 9824

**£1,000** (£2,000 p.a. will be paid to experienced competent **ARCHITECTS** by a private practice in the City of London. The work will be primarily on the drawing board on new and interesting projects of magnitude. A high standard of design and detailing ability is required. Please apply in writing to Box 9360.

**£850-£1,400.** **ARCHITECTURAL ASSISTANTS** with imagination and designing ability required to assist with large and important new developments in the central London Area. Telephone or write—Trehearne & Norman, Preston & Partners, 83, Kingsway, W.C.2. HOLborn 4071. 2186

**MONRO AND PARTNERS** require **ARCHITECTURAL ASSISTANTS** of Intermediate/Final R.I.B.A. standard in their London, Watford, and Glasgow Offices for work on interesting industrial and commercial projects. Salary range £900-£1,600 p.a. Non-contributory Pension Scheme. Five-day week. Apply in writing to 32, Clarendon Road, Watford. 2649

**SENIOR ASSISTANT** required by Haaker & Hall, L/F.R.I.B.A., in their office in Warwickshire. Good salary with scope for initiative and responsibility. Write London House, High Street, Knowle, or telephone Knowle (Birmingham) 3502. 2143

**SIR JOHN BURNET, TAIT & PARTNERS** have vacancies for **ARCHITECTURAL ASSISTANTS** of all grades. Salaries ranging from £1,000 to £1,500 per annum. Luncheon vouchers. Pension and Medical schemes (non-contributory). Telephone LAngham 3826 for appointment. 2113

**ARCHITECTURAL ASSISTANT** required, with at least two years' office experience. Apply in writing to Thomas Mitchell & Partners, 20, Bedford Square, London, W.C.1. 7282

**SIR GILES SCOTT, SON & PARTNER** require **ARCHITECTURAL ASSISTANT**, qualified or unqualified, with practical experience. Interesting and varied practice. Salary up to £1,000 plus luncheon vouchers. Write 9, Gray's Inn Square, W.C.1, or telephone CHAncery 8387/8. 2469

**CITY OFFICE** requires **ASSISTANTS** for industrial and commercial work. 5-day week, luncheon vouchers. Salary £1,200 p.a. 2691

**BIRMINGHAM.** Clifford Tee & Gale, F/R.I.B.A., require experienced **SENIOR ASSISTANTS** and **INTERMEDIATE STANDARD ASSISTANTS** for interesting industrial and commercial work in a congenial atmosphere. There are also vacancies for **ASSISTANTS** who are particularly interested in Service installations for these types of buildings.

Five-day week. Three weeks' holiday after qualifying period. Profit-sharing scheme. Pension scheme.

Please apply to Mr. R. G. Cox, F.R.I.B.A., 43 Frederick Road, Birmingham, 15. Tel.: EDGhaston 3676. 2088

**ARCHITECTS** with busy practice in Brighton require **ASSISTANTS** with practical experience for varied work. Salary up to £750 per annum. Five-day week, pension scheme, etc. Box 5848.

**BRYAN & NORMAN WESTWOOD & PARTNERS** require Senior and Junior **ASSISTANT ARCHITECTS**. Please apply to 21 Suffolk Street, London, S.W.1. Trafalgar 4411. 4108

**SCHEEZER AND HICKS**, 60 Spring Gardens, Manchester, 2, require an **INTERMEDIATE ASSISTANT** with some office experience for interesting work on school projects. Five-day week. L.V.'s and bonus scheme. 4112

**SENIOR ASSISTANTS** required immediately. Salary by arrangement. Theo H. Birks, 34, Portland Place, London, W.1. LAN 7236. 1466

**SIR GILES SCOTT, SON & PARTNER** require a **SENIOR ASSISTANT** with good general experience in practical supervision of work and also in administration. Varied work including schools, hostels, churches, office buildings, municipal buildings, etc. Five-day week, luncheon vouchers, and salary in accordance with experience. Please apply in writing to 9, Gray's Inn Square, London, W.C.1. 8710

**ASSISTANT ARCHITECTS** required for staffing a new office opening in Southampton for work on interesting projects including University, War Department and Ecclesiastical programmes. Juniors also required. Apply stating age, qualifications, experience and salary required to Robert Potter, F.R.I.B.A. & Richard Hare, B.Arch., A.R.I.B.A., De Vaux House, Salisbury. 3167

**QUALIFIED ARCHITECTS** looking for some really interesting new work should apply to George, Trew & Dunn at their new offices, 50 Eastbourne Terrace, W.2. 3871

**ARCHITECTURAL ASSISTANTS** of Intermediate or higher standard who are looking for some really interesting work where wide experience can be gained, should apply to George, Trew & Dunn at their new offices, 50 Eastbourne Terrace, W.2. 3872

**PRE-INTERMEDIATE ASSISTANT** with at least two years' office experience required to join architect's office of Development Company. The successful applicant will be given the opportunity to work on his own initiative and assist in research into office and factory developments. Please apply: R. W. Kenzie, A.R.I.B.A. Telephone CHAncery 6141. 3853

**ARCHITECTURAL ASSISTANTS** required. Salaries £600 to £1,000. W. Leslie Jones & Partners, 241a, High Street, Poole, Dorset. 69, High Street, Great Misenden, Bucks., and 6, Acresfield, Bolton, Lancs. 3838

**JUNIOR ASSISTANTS** required, salary according to experience. Apply H. & H. M. Lidbetter, F/R.I.B.A., 2 Verulam Buildings, Gray's Inn, W.C.1. 3839

**WILLIAM H. ROBBINS, A.R.I.B.A.**, requires **ARCHITECTURAL ASSISTANTS** of Final and Intermediate standard for interesting work in expanding office. Applicants should be experienced in design and construction and taking responsibility. Excellent opportunity of advancement, salary range from £750 to £1,400 per annum according to experience. Five-day week. Apply to 77 Wigmore Street, London, W.1. WELbeck 6274/5. 3941

**ARCHITECT/BUILDING SURVEYOR** able to work on own initiative required by provincial firm of Chartered Surveyors and Land Agents in East Midlands. Work, mainly rural, will include structural surveys, plans and specifications for small houses, agricultural buildings, modernisation of cottages, supervision and final accounts. Box 3840.

**INTERESTING** and varied small practice urgently requires **SENIOR** and **JUNIOR ASSISTANT** for high quality work—not industrial. Telephone or write Bird & Tyler, 13, Welbeck Street, W.1. WEL. 0882. 4041

**YORKE, ROSENBERG & MARDALL** require recently qualified or office-trained **ASSISTANTS** for working drawings on large jobs. Write to 2, Hyde Park Place, W.2, or Ring Ambassador 4521 for appointment. 3993

**RESPONSIBLE ASSISTANTS** for Colleges, Hostels, Schools, Offices. Salary according to ability. Apply Charles Pike & Partners, 14, Lincoln's Inn Fields, W.C.2, or phone HOL. 3532. 3996

**ARCHITECTURAL ASSISTANTS** required of both Intermediate and Final R.I.B.A. standard. Busy progressive office in York. Practice interesting and varied. Salary according to experience and ability. Apply in writing giving full particulars to Needham, Thorp & White, 8 High Petergate, York. 4106

**SAINSBURY'S**, Food Distributors and Manufacturers, desire to make the following new appointments in their **BUILDING AND ENGINEERING** Division at Blackfriars, London, S.E.1. These vacancies are created by the continued expansion of the Division particularly in connection with work on large new self-service stores. Commencing salary ranges will depend upon age and experience, but will be within the range quoted. (1) **ARCHITECT**, aged 28-40. Commencing salary £1,200-£1,500 per annum. (2) **ARCHITECTURAL ASSISTANTS**, aged 25-35. Commencing salary £900-£1,050 per annum. (3) **SHOP FITTING DRAUGHTSMEN**, aged 23-30. Ordinary national certificate desirable. Commencing salary £650-£950 per annum. All positions are permanent and progressive and there is a contributory Pension Scheme. Five-day working week. Full staff amenities. Applications, giving full details of qualifications and experience, should be addressed to: The Personnel Manager (B. & E.D.), J. Sainsbury Limited, Stamford House, Stamford Street, Blackfriars, London, S.E.1. 4107



**SENIOR ARCHITECT** required for branch office in Chelmsford, age 36/45. Salary £1,600/£2,000, according to experience. Replies will be treated with confidence. Box 3996.

**ARCHITECTURAL ASSISTANTS** required for most interesting and varied work. Salary grades ranging from £550 to £1,020. R.I.B.A. Intermediate to Final standard. Five-day week. Excellent working conditions. Pension Scheme and three weeks' holiday. Paid overtime. Car allowance. Apply Gordon Payne and Preece, Grosvenor House, Gloucester. 3999

**ANGUS McDONALD & PARTNERS**, F.A.R.I.B.A., of Bristol and Guildford, require a **SENIOR ASSISTANT** to take charge of their Bristol Drawing Office, with sound practical experience in the preparation of Working Drawings and Specifications, capable of supervising large contracts and controlling Junior Staff. Car available if required. The Principals believe in progressive modern design combined with a proper office system. Forward details of experience and salary required to 1, Unity Street, College Green, Bristol, 1. 3988

**NOTTINGHAM:** The following staff are urgently required to assist in our extensive building programme:  
1. **SENIOR ARCHITECTS**, £1,050 to £1,500.  
2. **ARCHITECTS**, £800 to £1,050.  
3. **INTERMEDIATE ASSISTANTS**, up to £800 depending on experience.  
Five-day week. Pension scheme about to be instituted.  
Bartlett & Gray, Dip. Arch. F/ F.R.I.B.A., 16, Bridgford Road, West Bridgford. Tel. No. 88711/2. 3986

#### ARCHITECTS

**SENIOR, Intermediate and Junior Architects** required in the **DEVELOPMENT SECTION** of a Building Company in the West End of London.

A sound practical background is more important than technical qualifications and preference will be given to applicants who have had experience in the **DESIGN OF HOUSING AND FLAT SCHEMES**.

The positions are permanent and progressive and a superannuation scheme is available.

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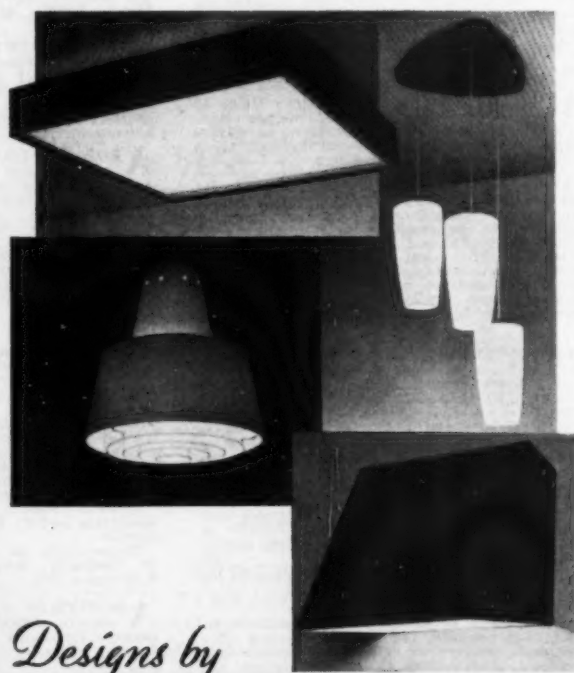
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