

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. 3149]

[Vol. 122

THE ARCHITECTURAL PRESS

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Registered as a Newspaper.

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

AA	Architectural Association, 34/6, Bedford Square, W.C.1.	Museum 0974
AAI	Association of Art Institutions. Secy.: W. Marlborough Whitehead, "Dyneley," Castle Hill Avenue, Berkhamstead, Herts.	
ABS	Architects' Benevolent Society, 66, Portland Place, W.1.	Langham 5721
ABT	Association of Building Technicians, 5, Ashley Place, S.W.1.	Victoria 0447-8
ACGB	Arts Council of Great Britain, 4, St. James' Square, S.W.1.	Whitehall 9737
ADA	Aluminium Development Association, 33, Grosvenor Street, W.1.	Mayfair 7501/8
ArchSA	Architectural Students' Association, 34/36, Bedford Square, W.C.1.	
ARCUK	Architects' Registration Council, 68, Portland Place, W.1.	Langham 8738
BAE	Board of Architectural Education, 66, Portland Place, W.1.	Langham 5721
BATC	Building Apprenticeship and Training Council, Lambeth Bridge House, S.E.1.	
BC	Building Centre, 26, Store Street, Tottenham Court Road, W.C.1.	Reliance 7611, Ext. 1706 Museum 5400
BCC	British Colour Council, 13, Portman Square, W.1.	Welbeck 4185
BCCF	British Cast Concrete Federation, 105, Uxbridge Road, Ealing, W.5.	Ealing 9621
BCIRA	British Cast Iron Research Association, Alvechurch, Birmingham.	Redditch 716
BDA	British Door Association, 10, The Boltons, S.W.10.	Fremantle 8494
BEDA	British Electrical Development Association, 2, Savoy Hill, W.C.2.	Temple Bar 9434
BIA	British Ironfounders' Association, 145, Vincent Street, Glasgow, C.2.	Glasgow Central 2891
BID	Building Industries Distributors, 52, High Holborn, W.C.1.	Chancery 7772
BINC	Building Industries National Council, 11, Weymouth Street, W.1.	Langham 2785
BOT	Board of Trade, Whitehall Gardens, Horseguards Avenue, Whitehall, S.W.1.	Trafalgar 8855
BRDB	British Rubber Development Board, Market Buildings, Mark Lane, E.C.3.	Mansion House 9383
BRS	Building Research Station, Bucknalls Lane, Watford	Garston 2246
BSA	Building Societies Association, 14, Park Street, W.1.	Mayfair 0515
BSI	British Standards Institution, British Standards House, 2, Park St., W.1.	Mayfair 9000
BTE	Building Trades Exhibition, 4, Vernon Place, W.C.1.	Holborn 8146/7
CABAS	City and Borough Architects Society, C/o Johnson Blackett, F.R.I.B.A., Civic Centre, Newport, Mon.	Newport 65491
CAS	County Architects' Society, C/o F. R. Steele, F.R.I.B.A., County Hall, Chichester.	Chichester 3001
CCA	Cement and Concrete Association, 52, Grosvenor Gardens, S.W.1.	Sloane 5255
CCP	Council for Codes of Practice, Lambeth Bridge House, S.E.1.	Reliance 7611
CDA	Copper Development Association, Kendals Hall, Radlett, Herts.	Radlett 5616
CIAM	Congrès Internationaux d'Architecture Moderne, Doldertal, 7, Zurich, Switzerland.	
COID	Council of Industrial Design, Tilbury House, Petty France, S.W.1.	Abbey 7080
CPRE	Council for the Preservation of Rural England, 4, Hobart Place, S.W.	Sloane 4280
CUC	Ceal Utilization Council, 3, Upper Belgrave Street, S.W.1.	Sloane 9116
CVE	Council for Visual Education, 13, Suffolk Street, Haymarket, S.W.1.	Reading 72255
DGW	Directorate General of Works, Ministry of Works, Lambeth Bridge House, S.E.1.	Reliance 7611
DIA	Design and Industries Association, 13, Suffolk Street, S.W.1.	Whitehall 0540
DPT	Department of Overseas Trade, Horseguards Avenue, Whitehall, S.W.1.	Trafalgar 8855
EJMA	English Joinery Manufacturers' Association (Incorporated), Sackville House, 40, Piccadilly, W.1.	Regent 4448
EPNS	English Place-Name Society, 7, Selwyn Gardens, Cambridge.	
FAS	Faculty of Architects and Surveyors, 68, Gloucester Place, W.1.	Welbeck 9966
FASS	Federation of Association of Specialists and Sub-Contractors, Artillery House, Artillery Row, S.W.1.	Abbey 7232
FBBDO	Fibre Building Board Development Organization, Ltd, 47, Princes Gate, Kensington, S.W.7.	Kensington 4577
FBI	Federation of British Industries, 21, Tothill Street, S.W.1.	Whitehall 6711
FC	Forestry Commission, 25, Savile Row, W.1.	
FCMI	Federation of Coated Macadam Industries, 37, Chester Square, S.W.1.	Sloane 1002
FDMA	The Flush Door Manufacturers Association Ltd, Trowell, Nottingham.	Ilkeston 623
FLD	Friends of the Lake District, Pennington House, nr. Ulverston, Lancs.	Ulverston 201
FMB	Federation of Master Builders, 26, Great Ormond Street, Holborn, W.C.	Chancery 7583
FPC	The Federation of Painting Contractors, St. Stephen's House, S.W.1.	Whitehall 3902
FRHB	Federation of Registered House Builders, 82, New Cavendish Street, W.1.	Langham 4041
GBPA	Gypsum Building Products Association, 11, Ironmonger Lane, E.C.2.	Monarch 8888
GC	Gas Council, 1, Grosvenor Place, S.W.1.	Sloane 4554
GG	Georgian Group, C/o R. H. Davies, F.R.I.B.A., 44, Lowndes Street, S.W.1.	Belgravia 3081
HC	Housing Centre, 13, Suffolk Street, Pall Mall, S.W.1.	Whitehall 2881
IAAS	Incorporated Association of Architects and Surveyors, 75, Eaton Place, S.W.1.	Sloane 5615
ICA	Institute of Contemporary Arts, 17-18, Dover Street, Piccadilly, W.1.	Grosvenor 6186
ICE	Institution of Civil Engineers, Great George Street, S.W.1.	Whitehall 4577
IEE	Institution of Electrical Engineers, Savoy Place, W.C.2.	Temple Bar 7676
IES	Illuminating Engineering Society, 32, Victoria Street, S.W.1.	Abbey 5215

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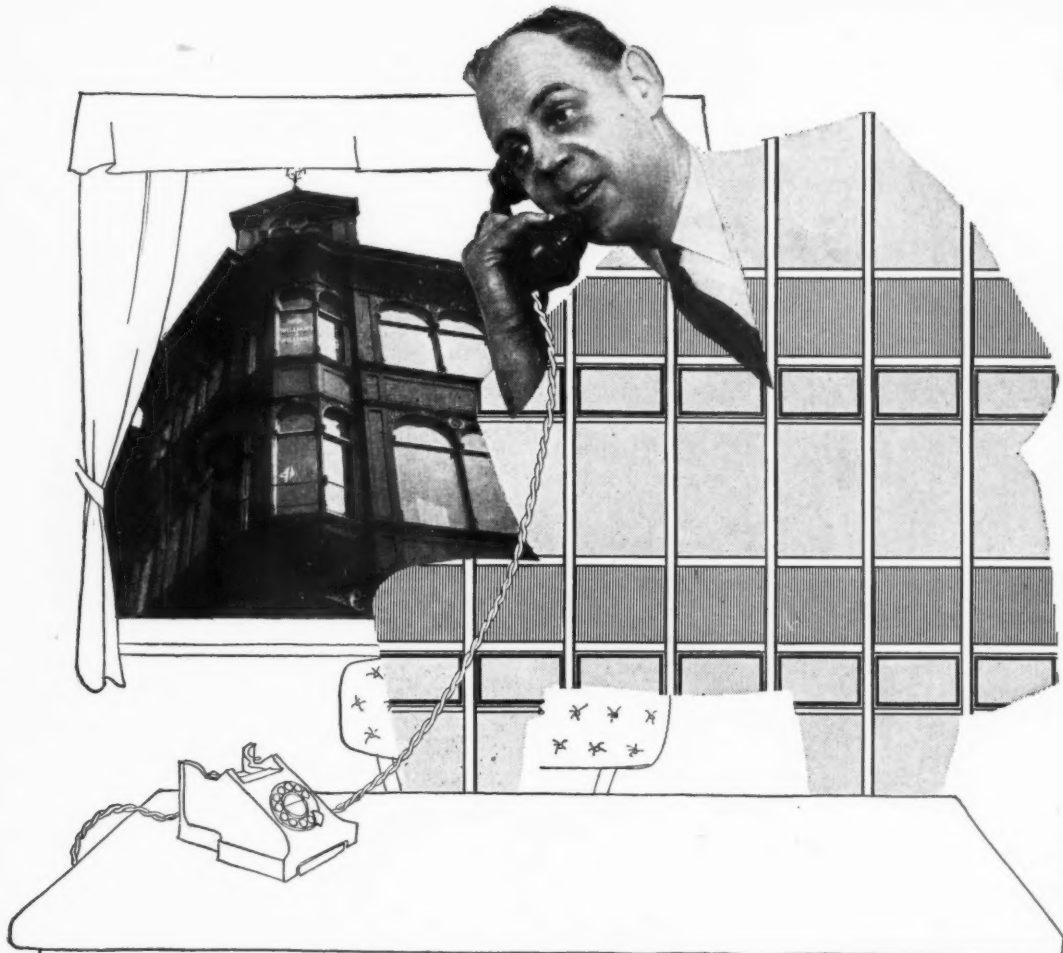
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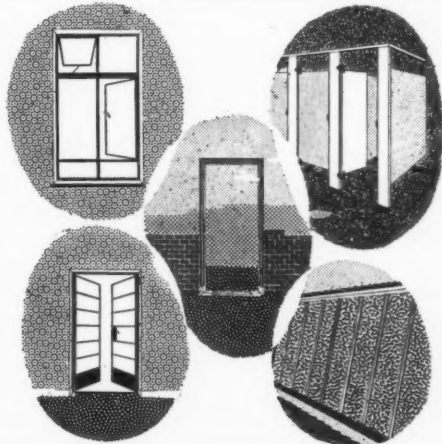




Bob Leech—between the old and the new

"Wallspan" says Mr. Leech*, our Liverpool Area Manager, "is going well. But the idea isn't new to Liverpool." And he points out that the Williams & Williams office is housed in a building with a century-old curtain walling system, forerunner of Wallspan, far heavier, more clumsy and ornate, but still "on the right line". Bob Leech is a quiet, pleasant man with that air of inner confidence anyone can acquire by spending the early years of his life amid the rough and tumble of the R.A.F. His area is North Wales to Barrow-in-Furness. His team of representatives, draughtsmen, estimators and window fixers is skilled and energetic. Bob Leech drives them hard in giving service to the architects in his area.

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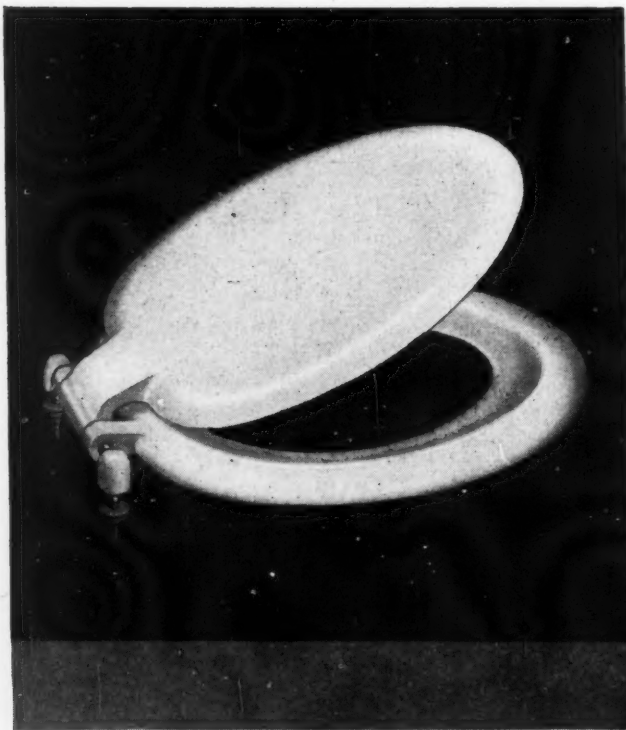
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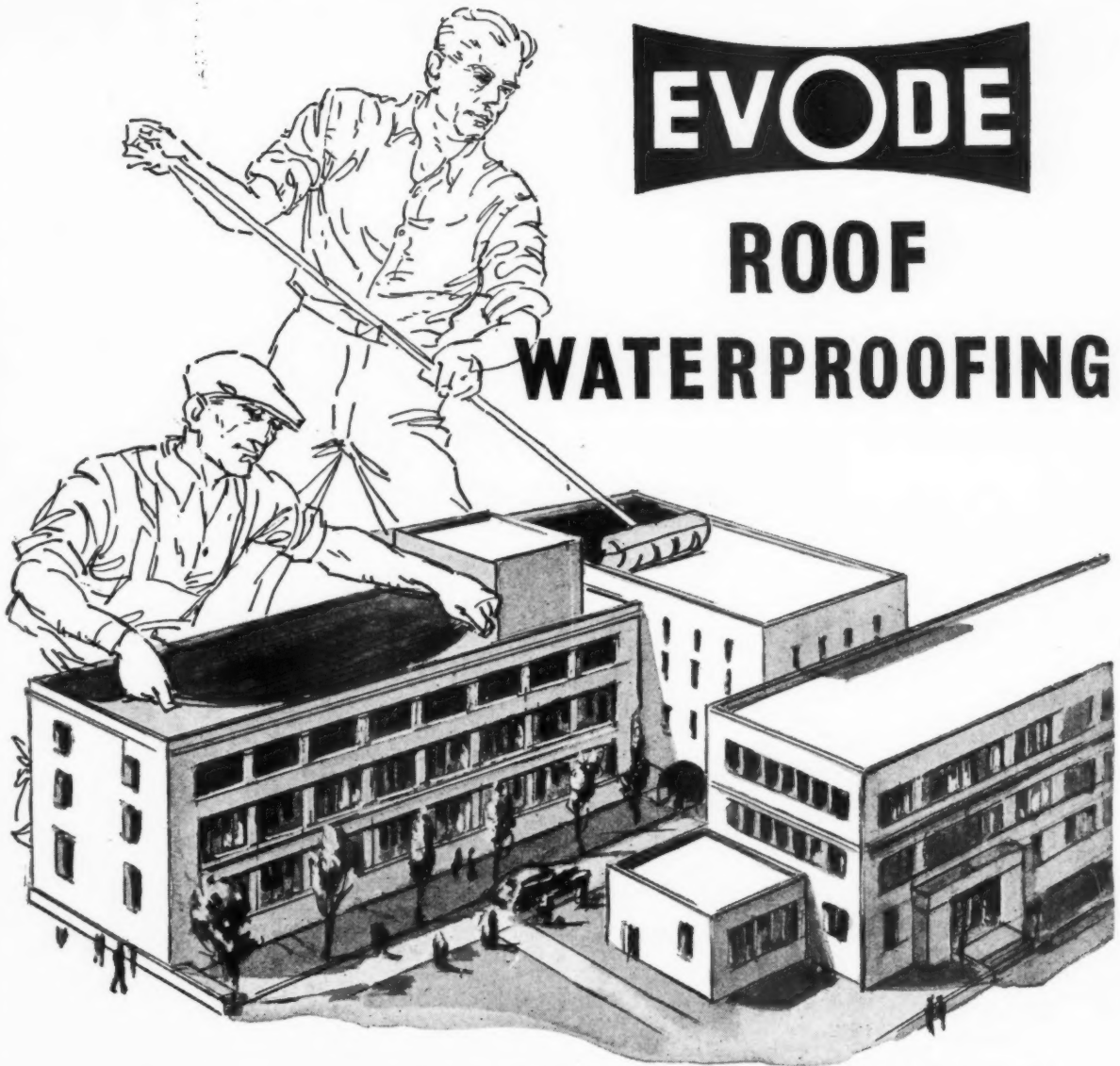
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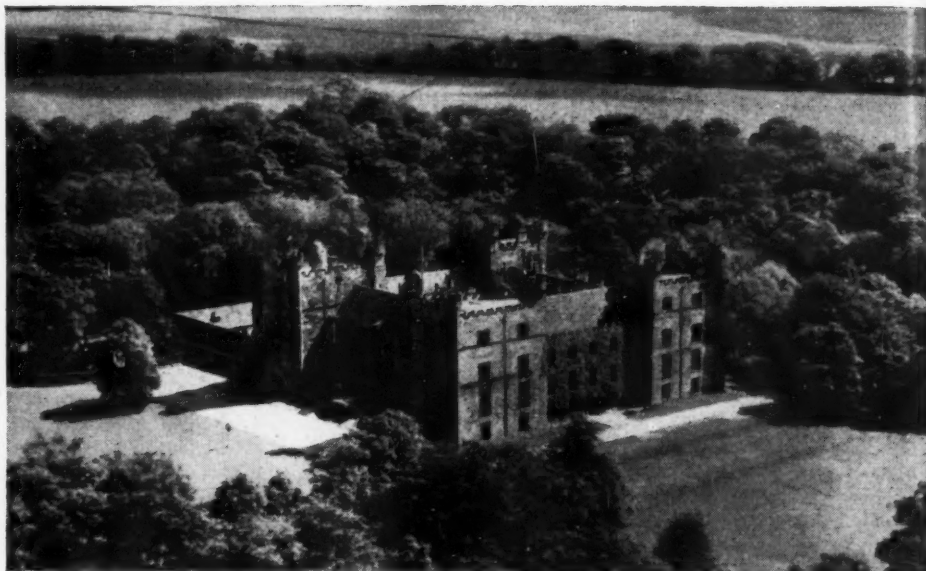


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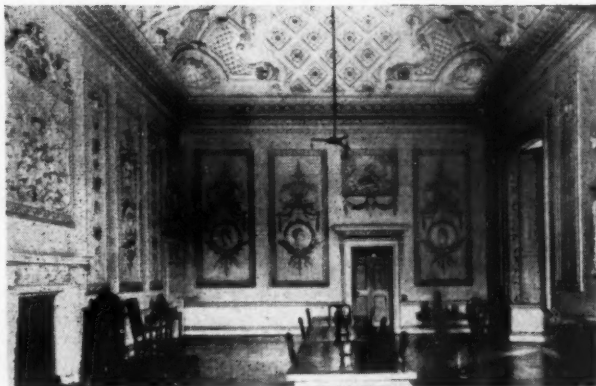
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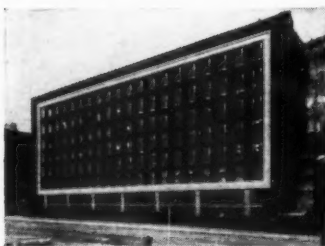
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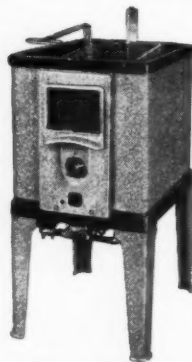
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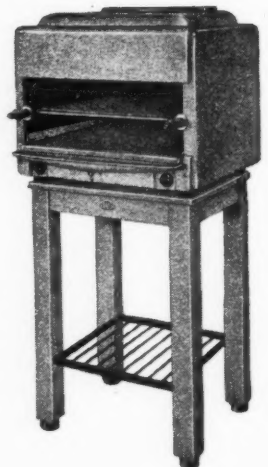
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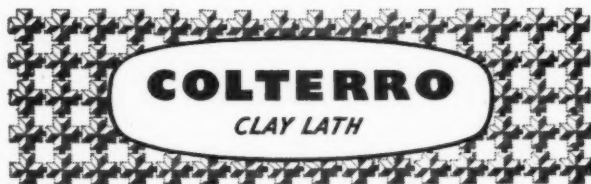
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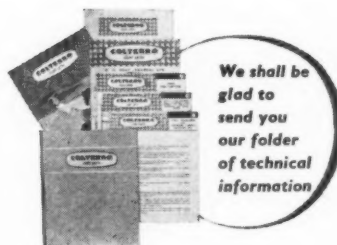
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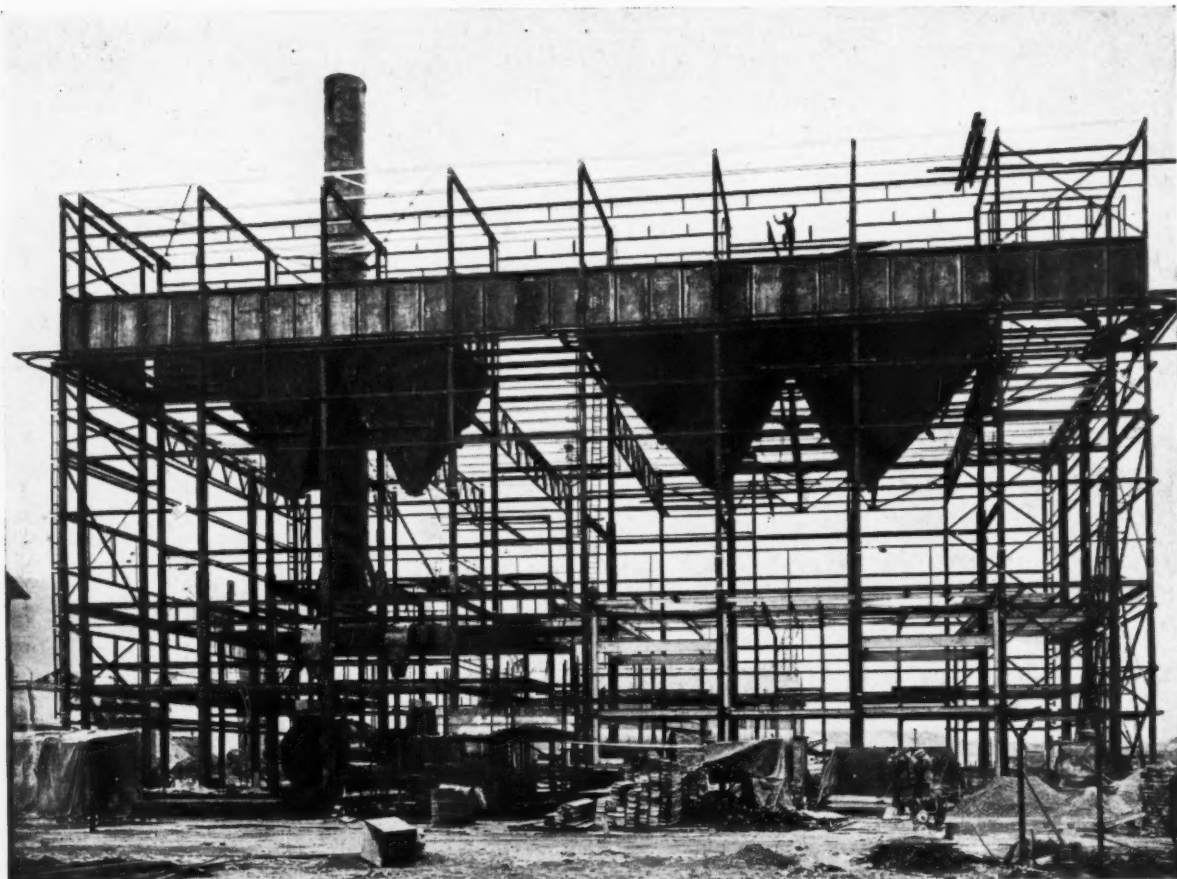
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No. 7 Fire Resistance

A standard test of a **LOADBEARING** wall of 4" Thermalite blocks

Extracts from a report of a Special Investigation carried out by the

Department of Scientific and Industrial Research and Fire Offices' Committee Joint Fire Research Organisation

DESCRIPTION OF THE SPECIMEN

The specimen wall of "Thermalite" blocks was built on a reinforced refractory concrete slab to represent one leaf 10 ft. wide by 9 ft. 10 in. high of a cavity wall. The Thermalite blocks having nominal dimensions of 18 in. x 9 in. x 4 in. thick were laid as dry as possible in a mortar of cement/lime/sand in the proportions by volume of 1:2:9. Plaster 1/2 in. thick was applied to one face in two coats, the undercoat having the same com-

position as the bedding mortar and the finishing coat consisting of two parts of anhydrous gypsum plaster to one part of lime putty by volume.

Thermalite is a lightweight aerated concrete building material in block form which is noncombustible. Details of its composition have been given and are recorded on Joint Fire Research Organisation File No. F.1025/10/126. It is stated that it complies with the strength requirements of B.S.834, the compressive strength as delivered being 750-800 lb./in.². The density is approximately 51 lb./ft.³.

TEST PROCEDURE

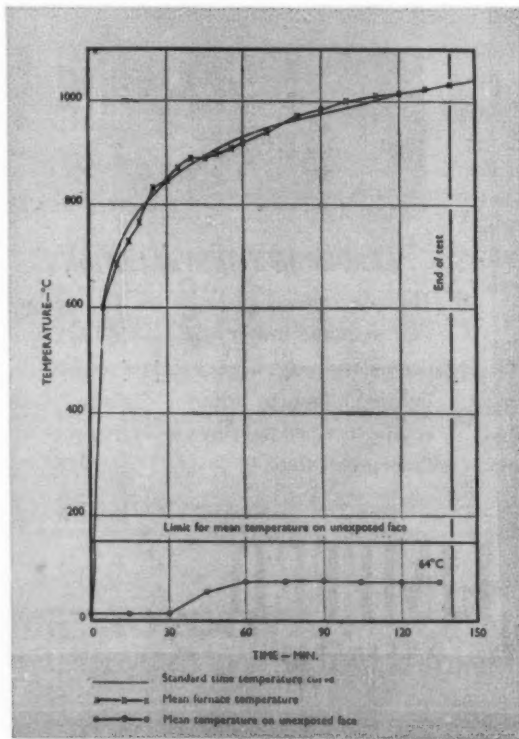
A uniform load of 1220 lb./ft. run was applied to the wall and maintained constant throughout the heating period. The vertical edges of the wall were unrestrained. As required by B.S.476, re-application of the test load was made 48 hours after the fire test.

Test Results

The wall withstood re-application of the test load 48 hours later. The load was then increased until failure occurred by buckling of the wall at 11.3 tons.

The mean furnace temperature is shown in graph in comparison with the standard time-temperature curve of B.S.476. In the same graph is plotted the curve of mean temperature for the unexposed face.

At two hours the rise in mean temperature of the unexposed face was 64 Centigrade degrees, and the rise in temperature on a mortar joint was 69 Centigrade degrees.



CONCLUSIONS. A loadbearing wall of 4 in. "Thermalite" blocks having 1/2 in. of plaster on the heated face as described in this report was subjected to a fire resistance test complying with British Standard No. 476:1953. The specimen wall satisfied all the test requirements for 2 hours 20 minutes and therefore provided fire resistance of the 2 hour grade.

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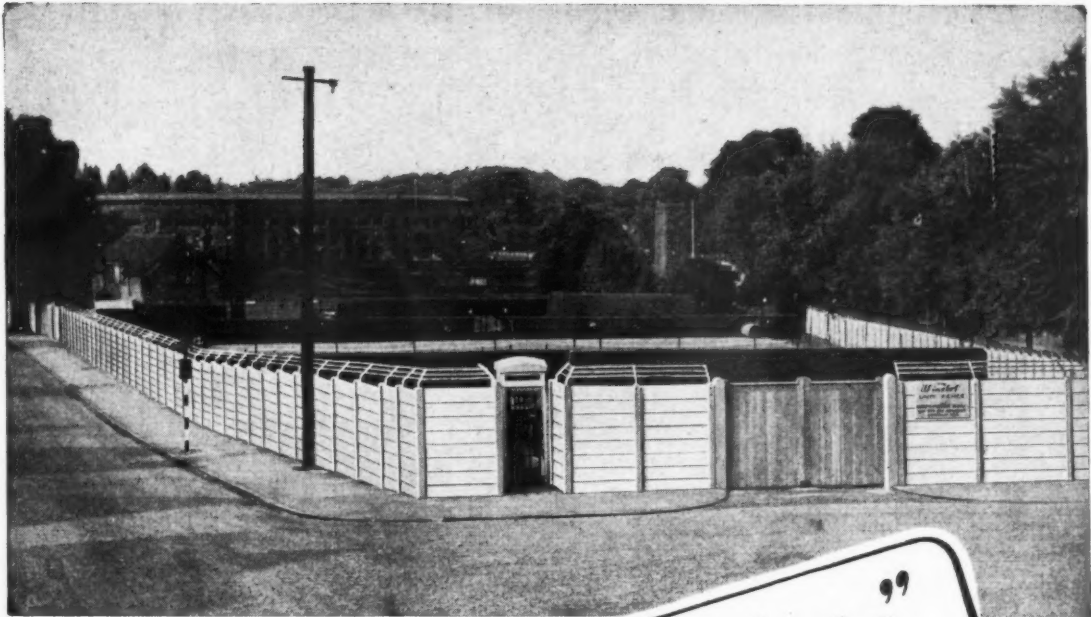
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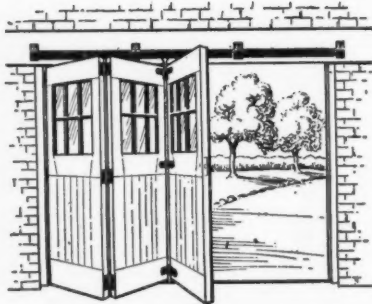
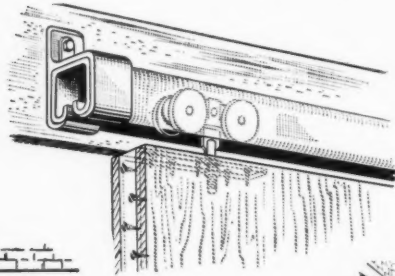
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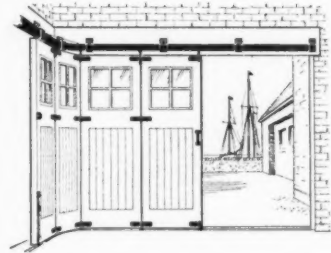
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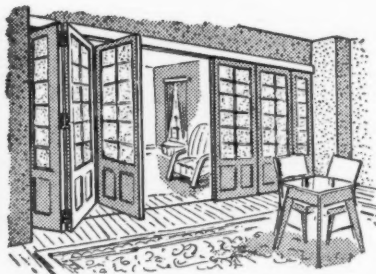
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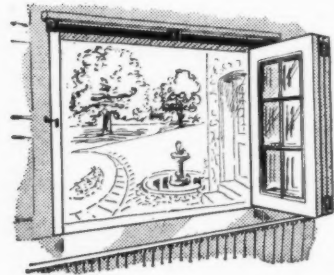
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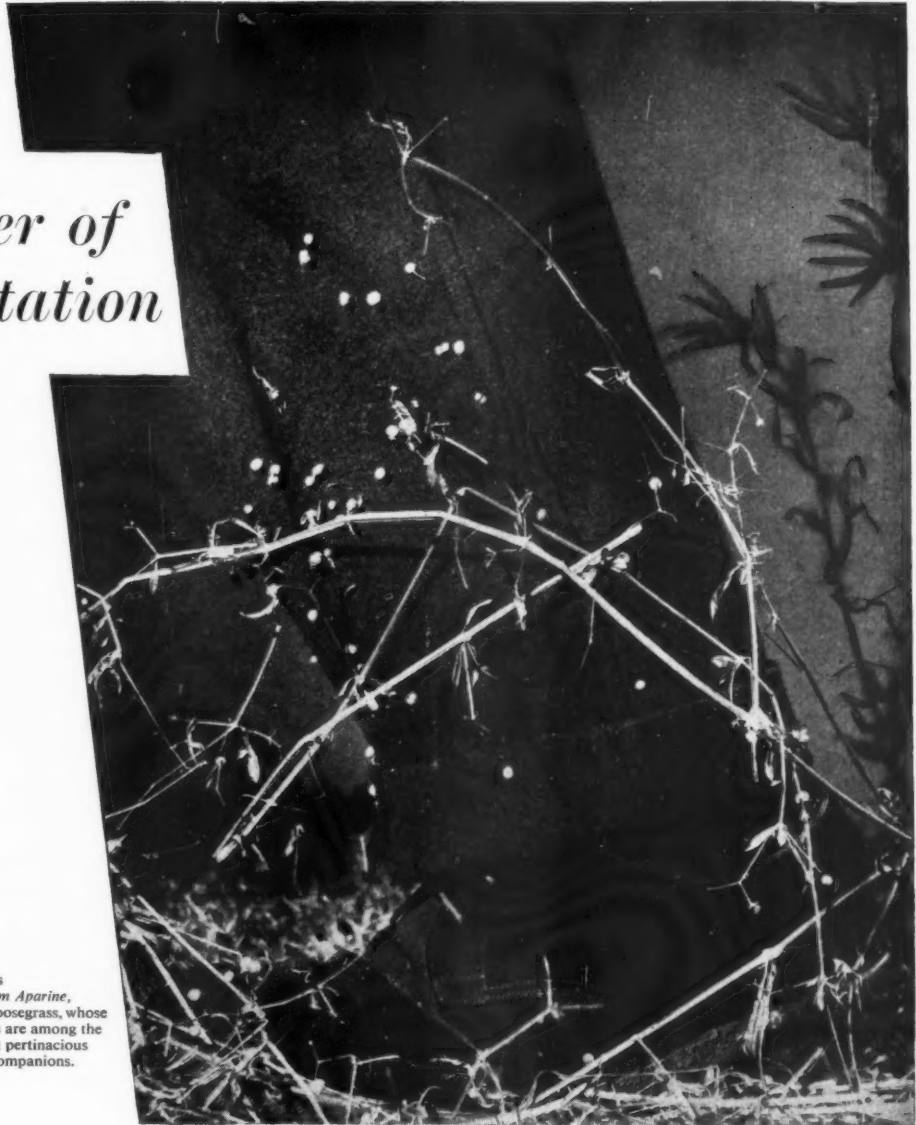
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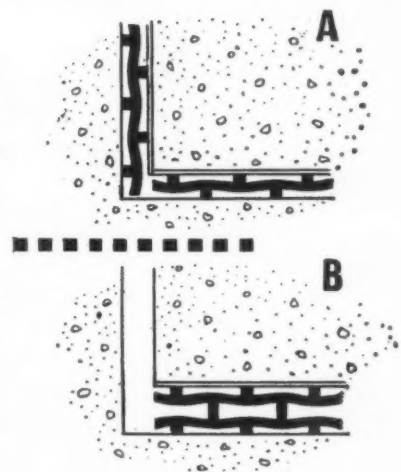
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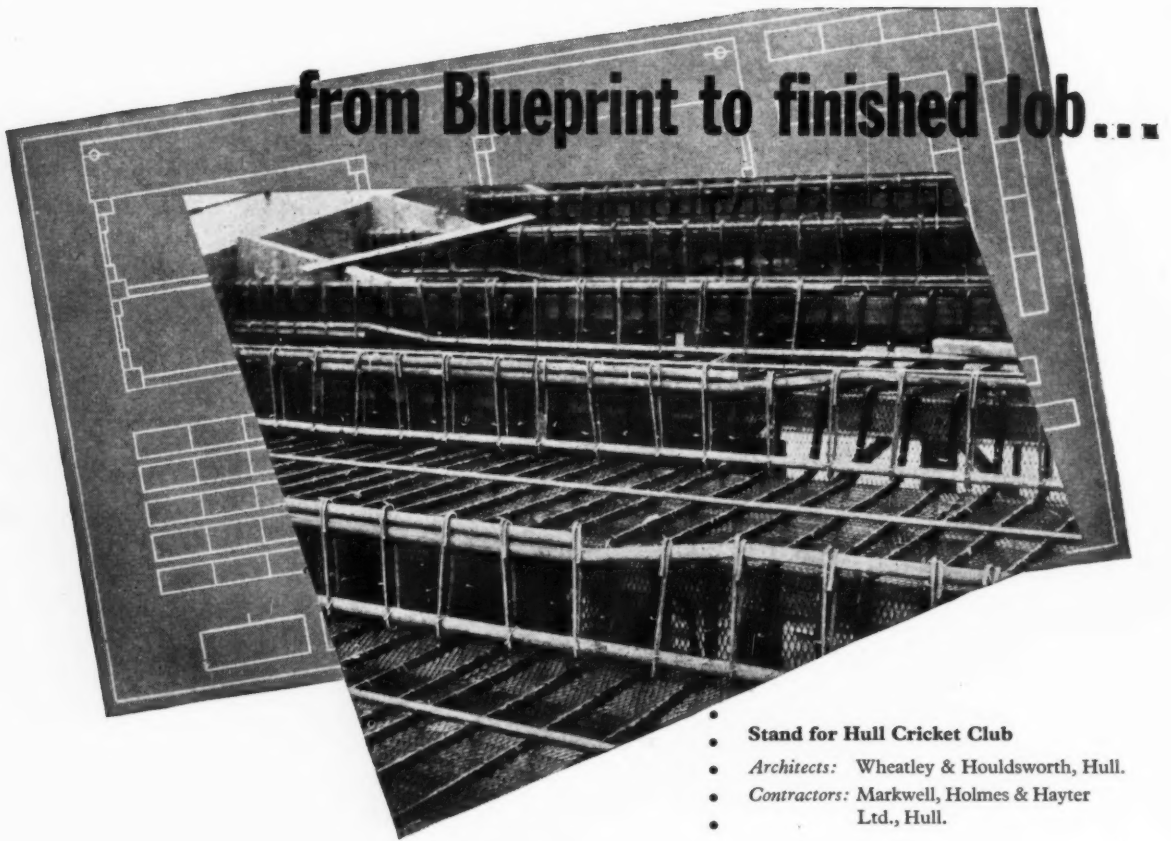
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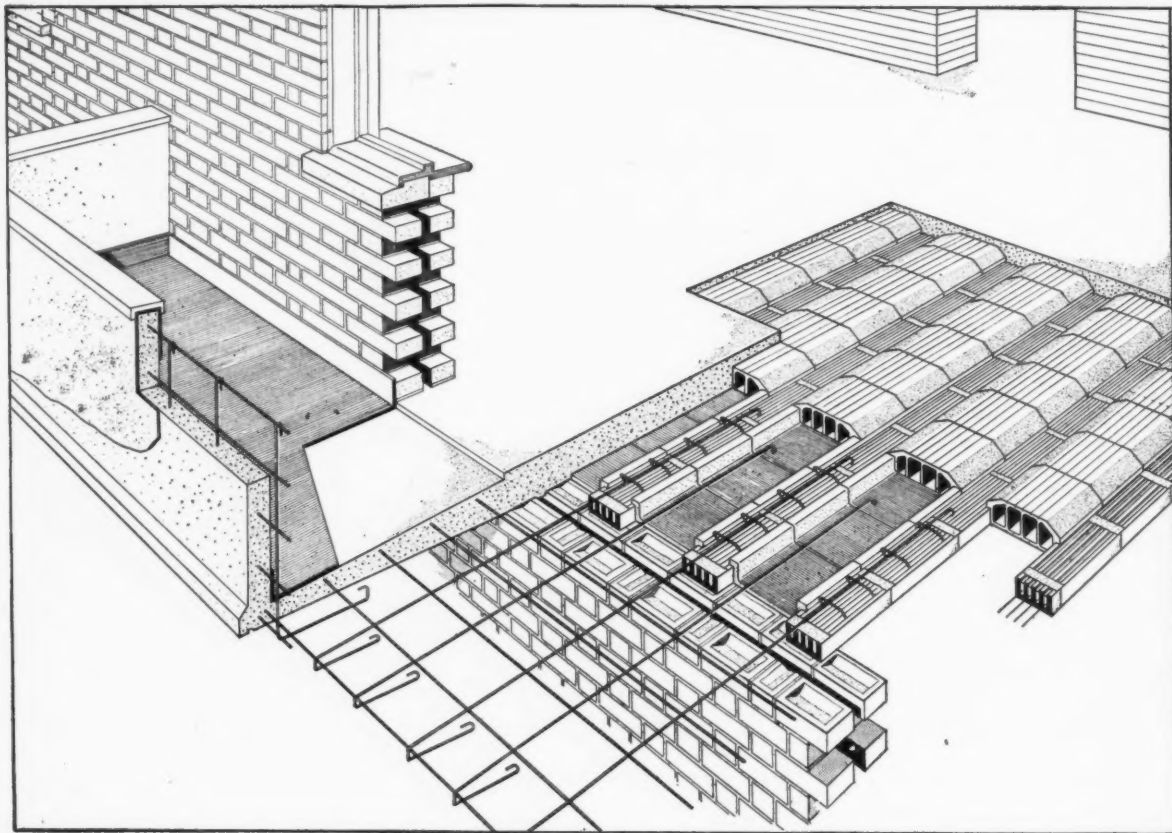
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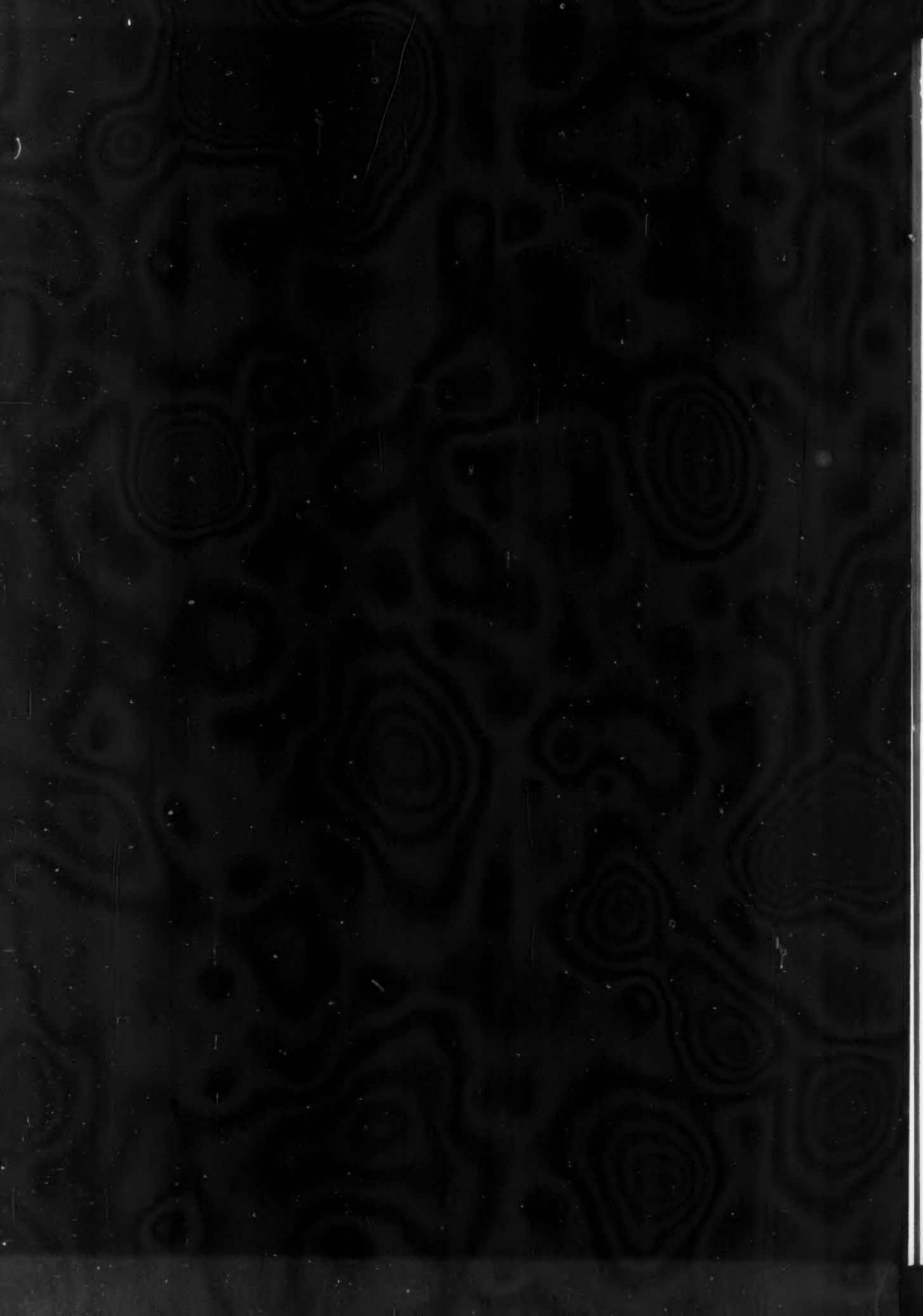
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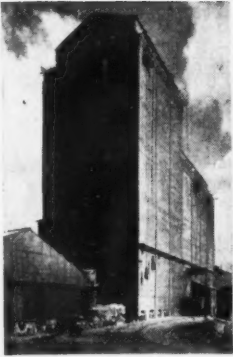
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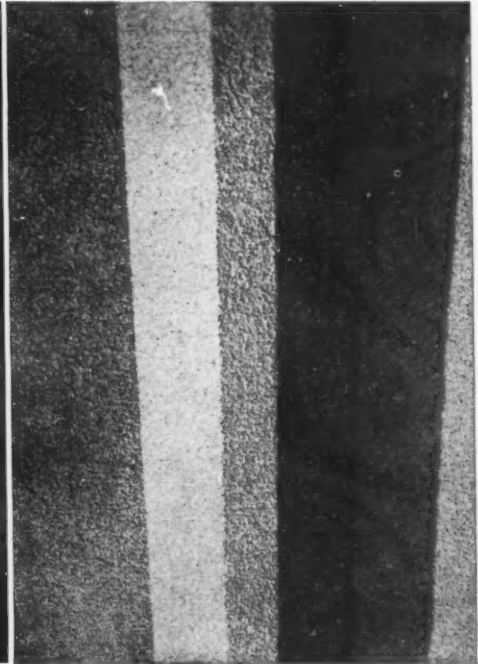
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2





On the Silcock Silo, steel reinforcement had corroded and disintegration of the concrete was taking place, as shown in the first illustration on the right. At the extreme right the same detail appears after Pyrok was used for protective and decorative treatment. Work was executed by C & T (Pyrok Contracts) Ltd. London

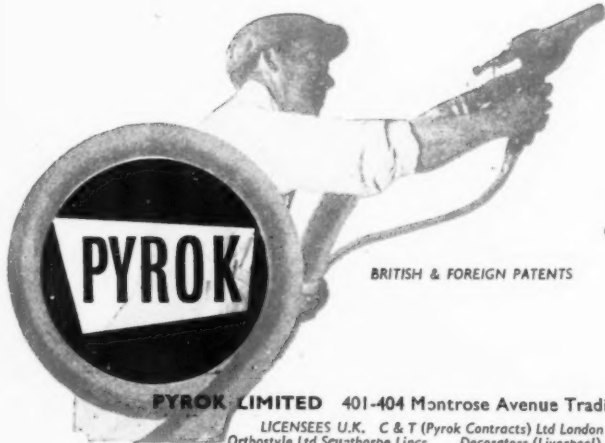


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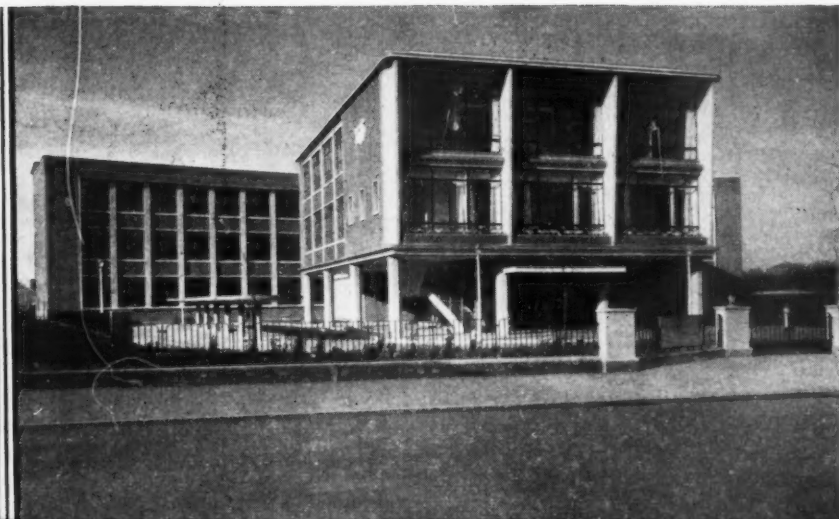
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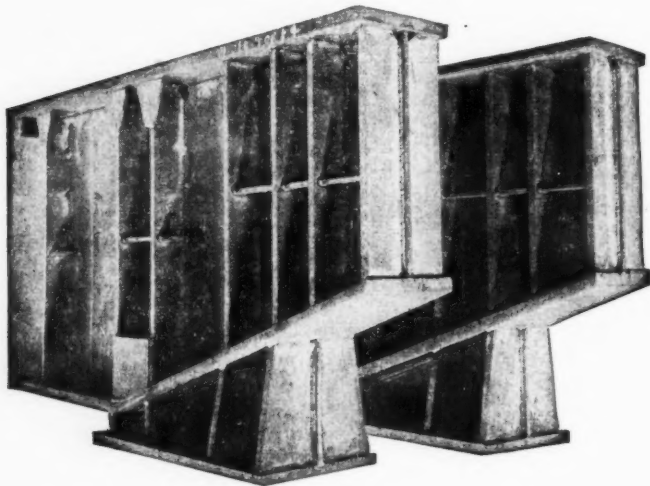
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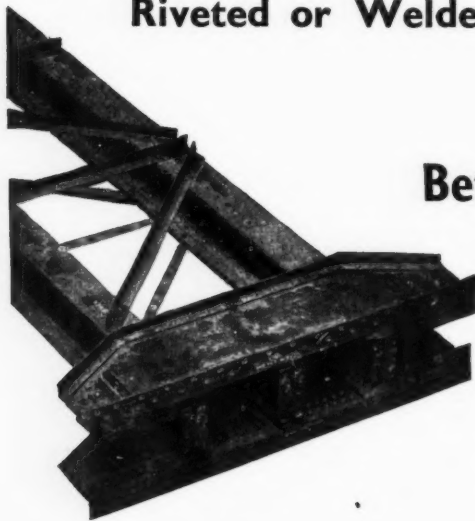
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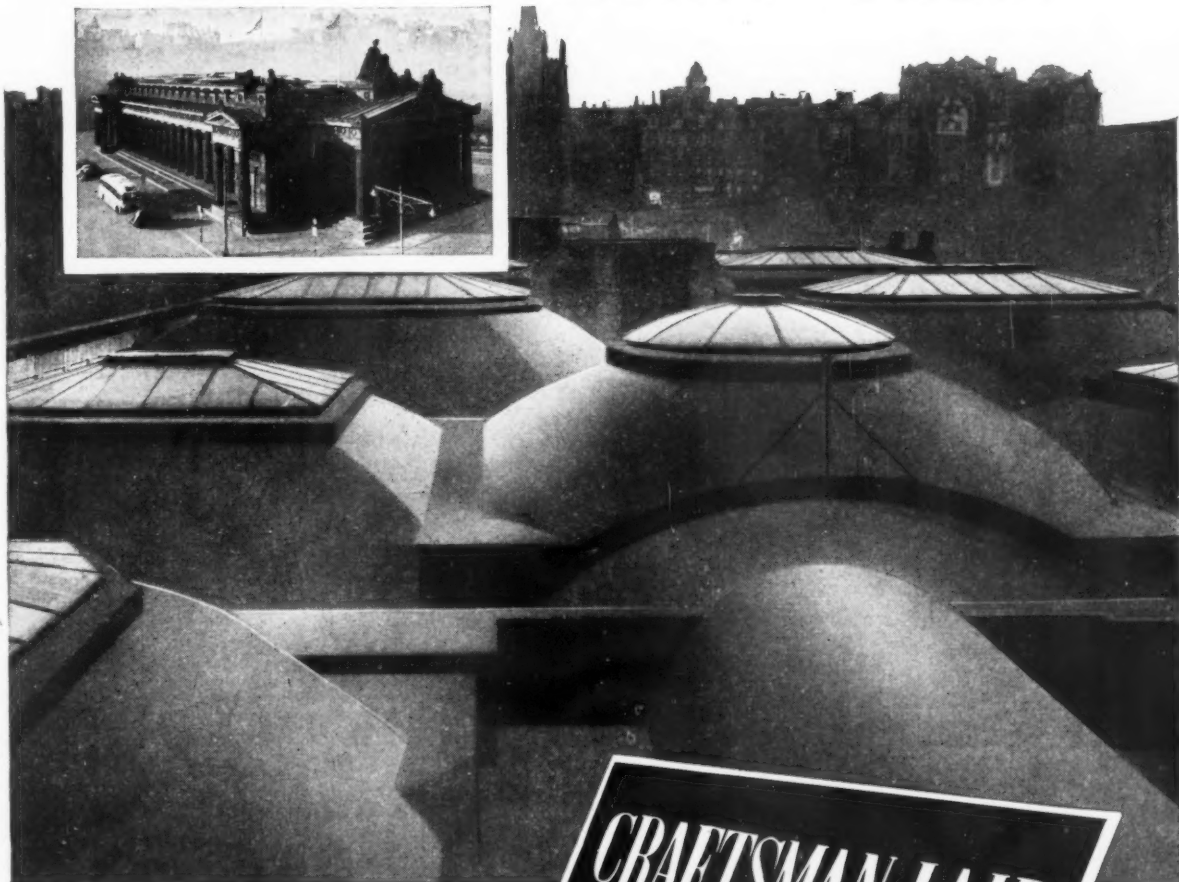
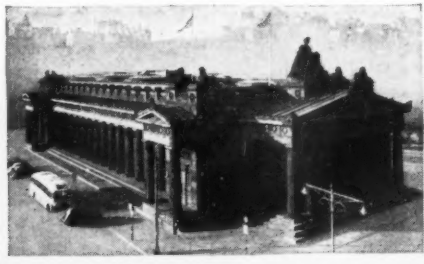


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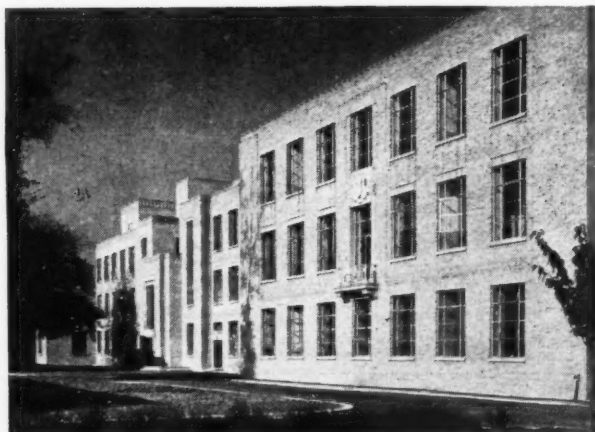
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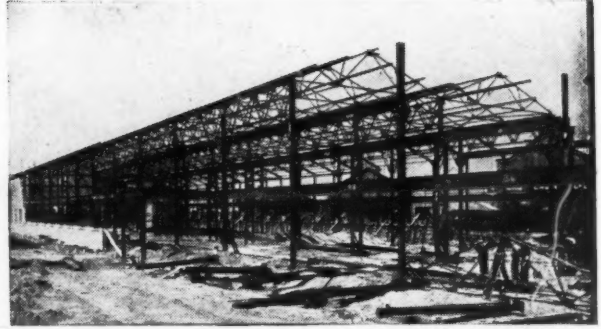
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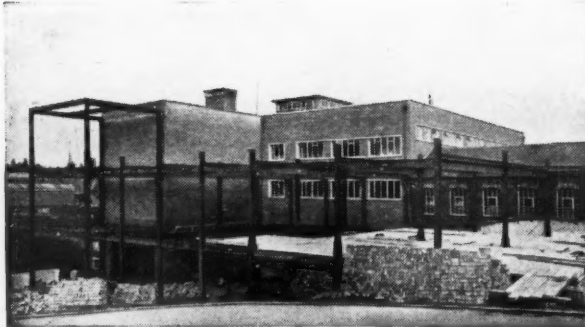
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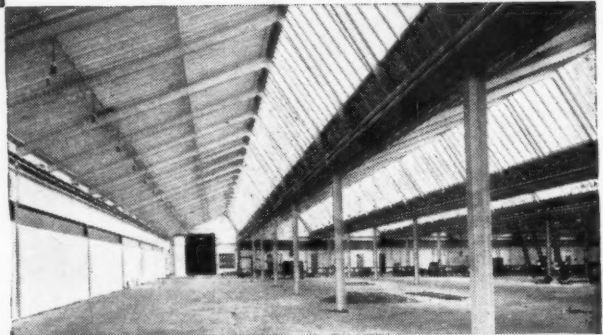
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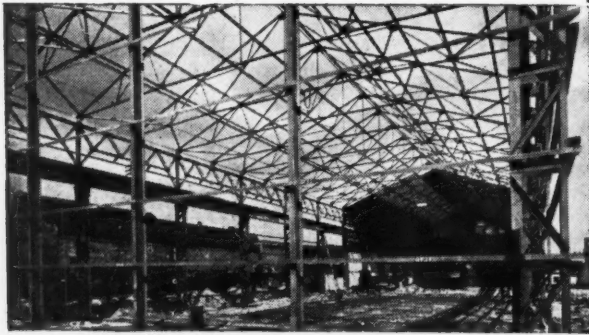
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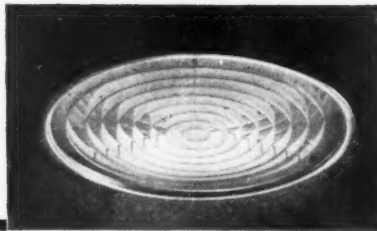
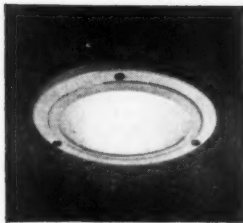
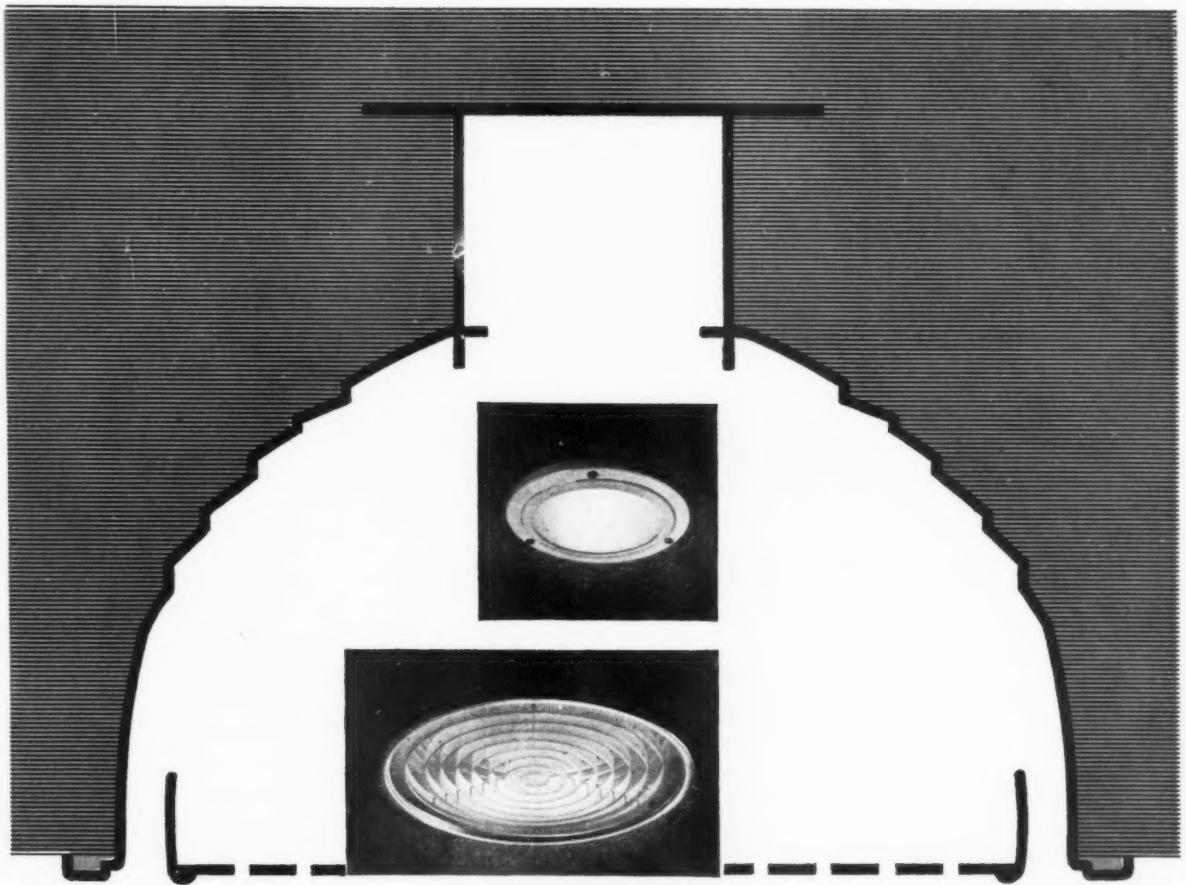
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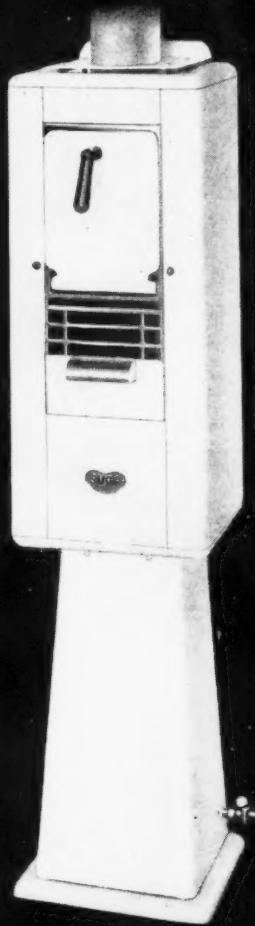
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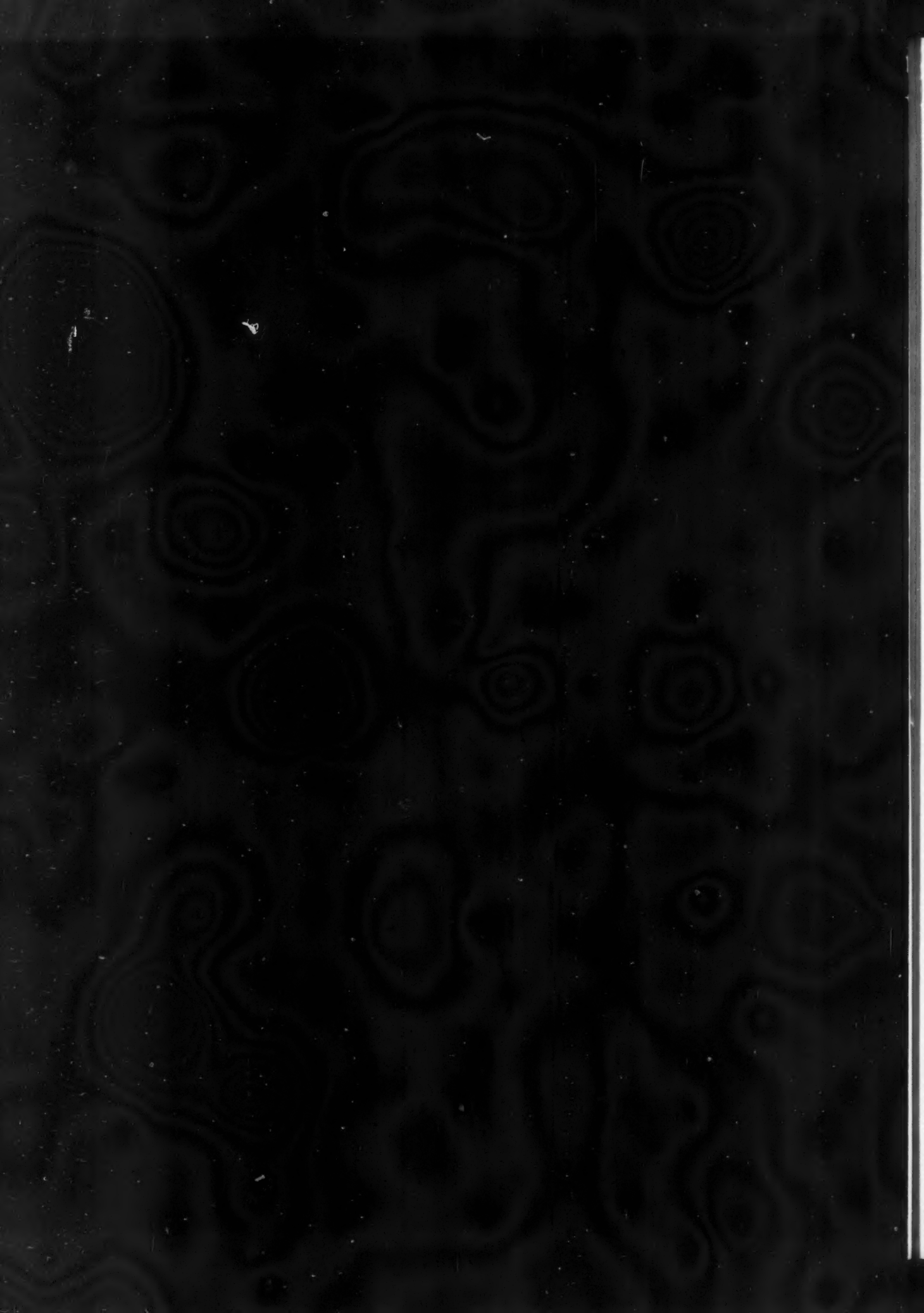
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Now you can have both the high efficiency of Celotex cane fibre insulation and the fire resistance of asbestos. They have been combined with great success in Celotex F.R.I. Board. It consists of a core of strong durable Celotex cane fibre insulation sheathed on both sides with asbestos felt. It is as easy to handle and to decorate as normal Celotex insulation—and it is just as economical! Use Celotex F.R.I. Board for wall, roof and ceiling linings and partitions. Samples and further details of this all-British Celotex product will be gladly sent on request.

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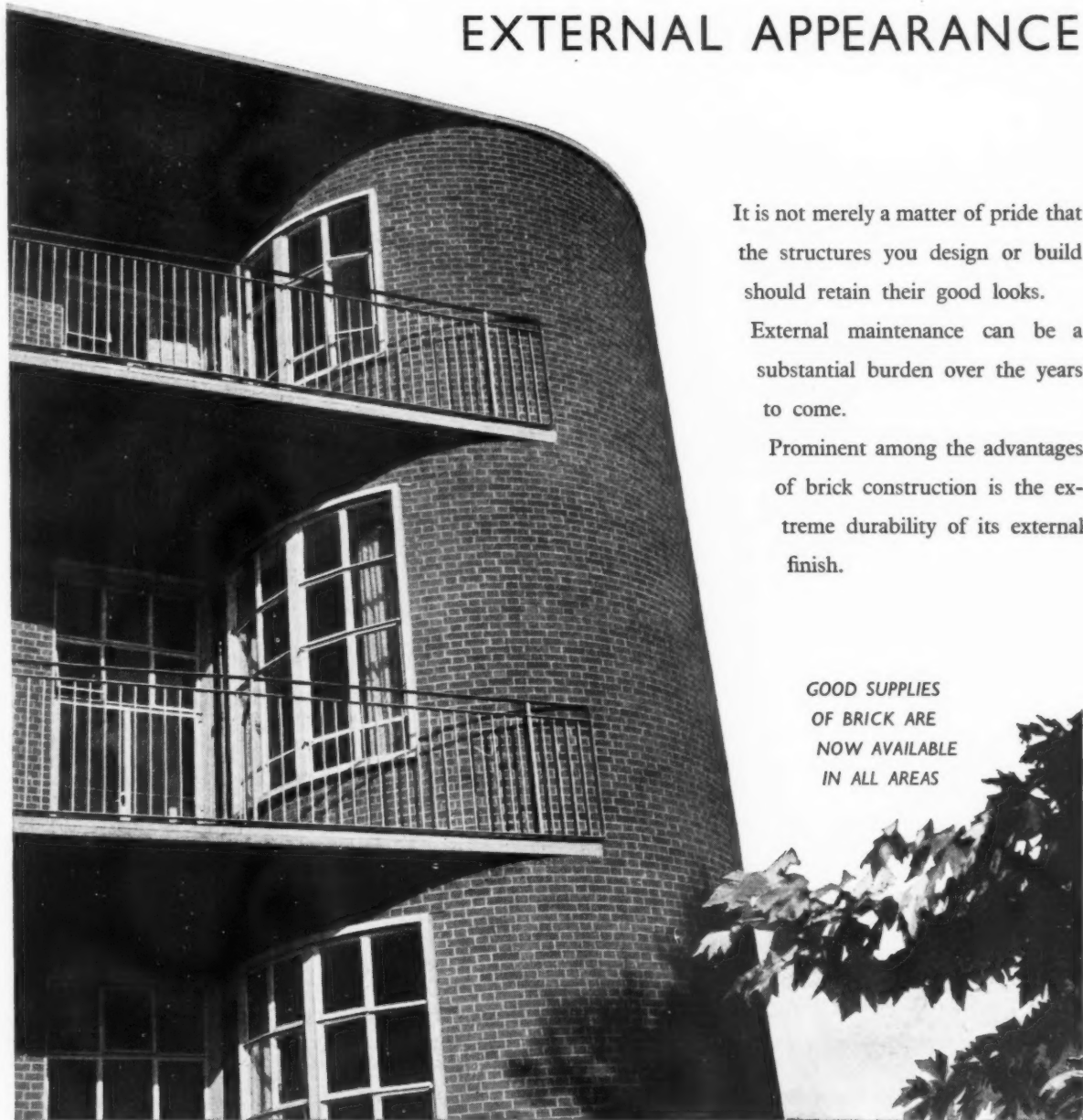
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Terrapin Mobile Buildings speed Berkshire project

A contractor, having been awarded a large Contract on which speed was a major factor, urgently required fully equipped site accommodation. He consulted **TERRAPIN LIMITED**. Within 21 days Terrapin building units covering 15,300 square feet had been erected on site ready for occupation. These included site offices, dormitories and ablutions for 150 men, a fully equipped canteen serving 450 men, and a spacious recreation building. This feat of con-

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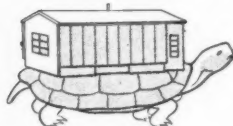
TIME MOBILITY: Each unit is easily transported on a standard commercial vehicle. Can be re-located without disassembly. **HIGH SPEED ERECTION:** Each unit arrives fully assembled and can be erected by unskilled labour under supervision in one hour. **SPEEDY OCCUPATION:** With fittings ready-installed there is a minimum time lag between erection and occupation.

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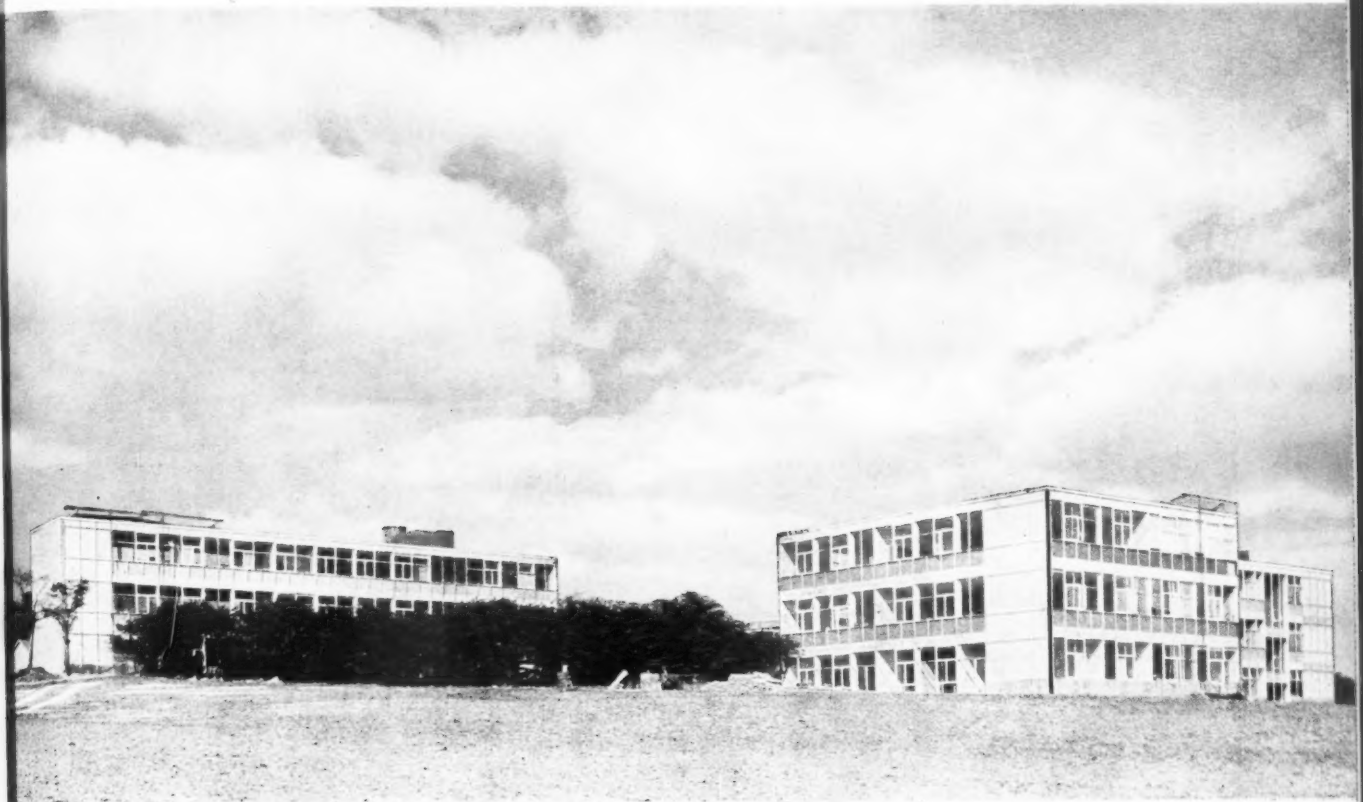
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HILLS



Illustrated above :—Hurlfield Secondary Modern School for Girls, Sheffield. Architects Co-Partnership in collaboration with J. L. Womersley. A.R.I.B.A., A.M.T.P.I. City Architect.

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Developed for buildings designed on co-ordinated modular construction, Hills Glass Curtain Walling provides a most economical wind and weather-proof permanent cladding. Pleasing in appearance and speedily erected, it is suitable for all types of buildings, particularly for multi-storey constructions with large mass areas. Hills system of Glass Curtain Walling is the result of many years' practical experience, and is being extensively adopted in this country and in Canada. Architects are invited to contact their nearest Branch Office for full particulars of any of the Company's products.

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Showroom: Rediffusion (Yorkshire) Ltd., Hull. Accotile Specialist Contractors:—The Asbestos & Rubber Co. Ltd., Hull.

showroom for service using *Accotile* FLOORING

The success of a service depends upon its efficiency. And the first impact of efficiency is experienced at the point of reception. Goodwill is created immediately if the background impresses and pleases.

An essential element in this, as in all other decor, is the floor. It is for this reason that Accotile, the modern thermoplastic tile flooring, is chosen for showrooms and other areas where colourful distinction is considered of prime importance. Accotile has the advantage, among many others, of providing scope for individual colour schemes and designs, for it is laid tile by tile. It is

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Available in 22 colours, 12" x 12" and 9" x 9" tiles, 1" and 3/16" thick, with feature strip, coved skirting, and decorative multi-coloured hand or die-cut insets of numerals, animals, ornaments, etc.

It can be laid on screeded con-

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The Materials used in 'ASBEX' have proved their supreme qualities through the centuries—specially

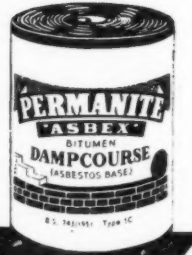
selected and blended asphaltic bitumens are scientifically combined with an asbestos base to form the 100 per cent. dependable Dampcourse that Architects, Government Departments and Local Authorities specify with confidence.

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PERMANITE 'ASBEX' is supplied in rolls 24 feet in length and cut to any required width.

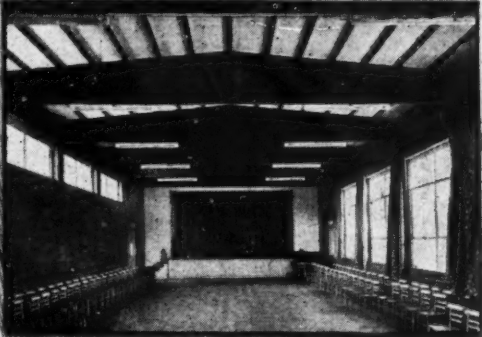
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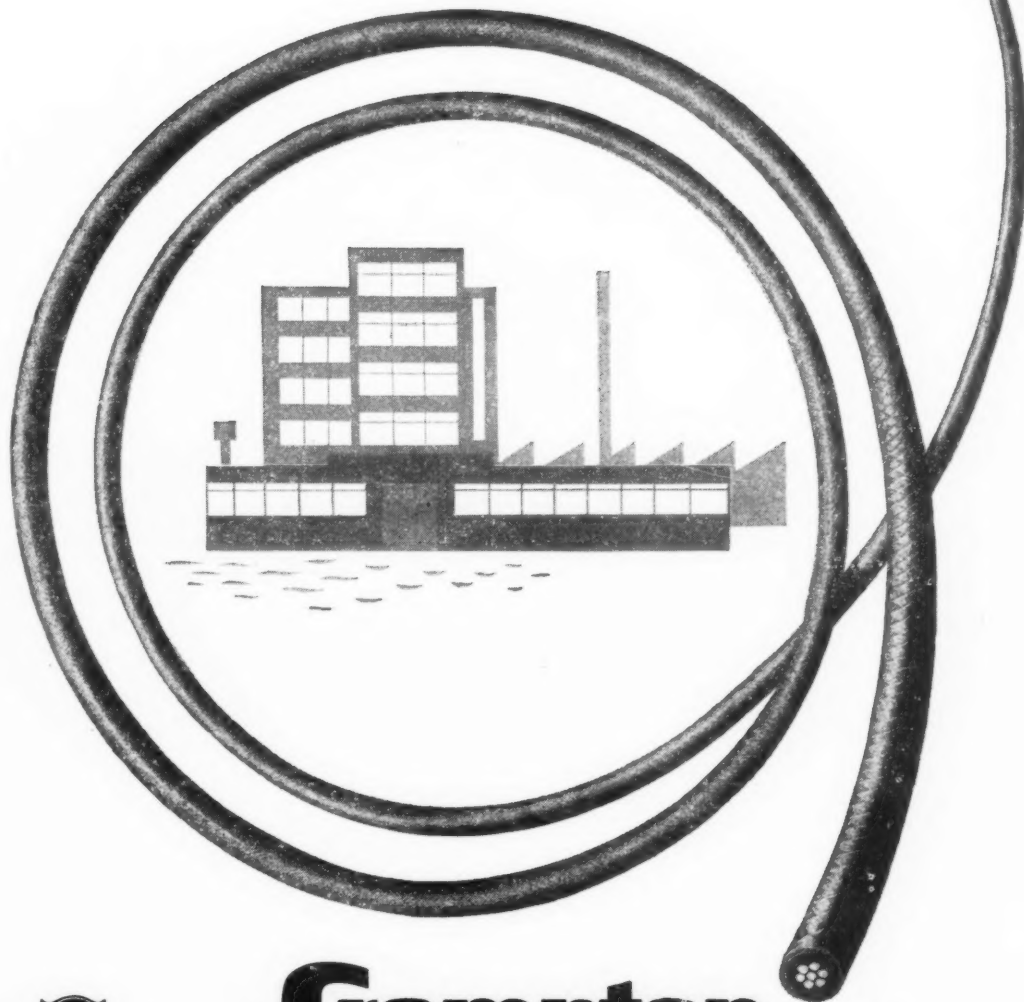
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PATENT GLAZING



Roof of new assembly shop at Daimler Radford Works. Architects: Wood & Kendrick & Williams, F.F.R.I.B.A. Chartered Architects.

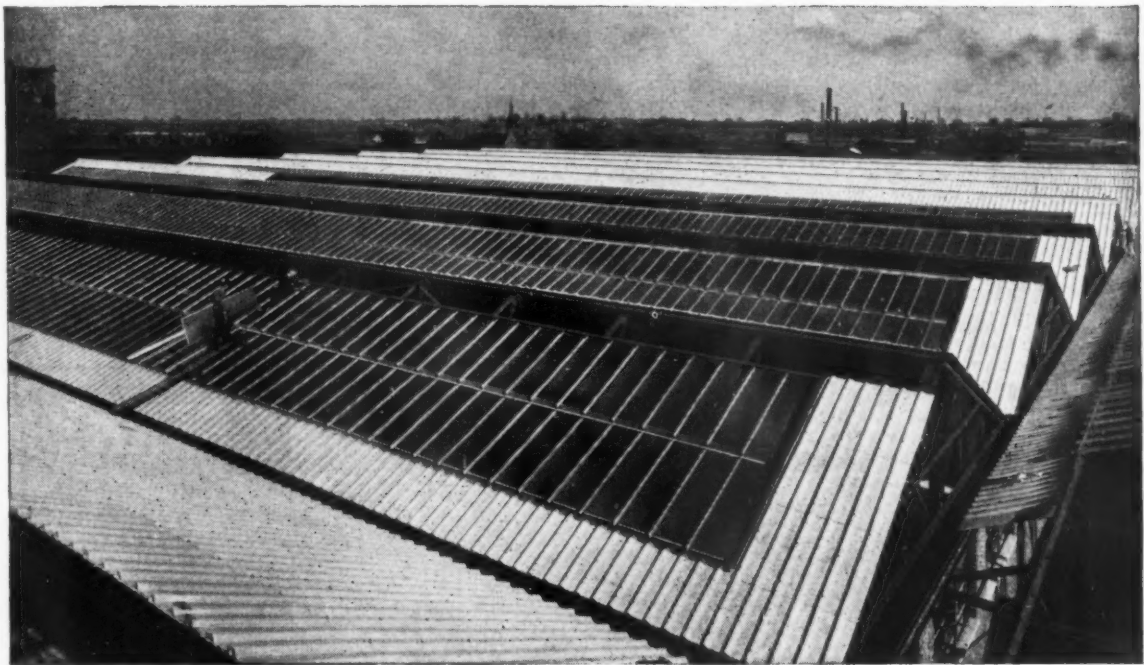
To provide the large amount of daylight essential to these two workshops was a major problem of design and construction. In both cases, however, difficulties were overcome by the effective use of patent glazing.

For the assembly shop at the Radford Works, 120,000 feet super of aluminium patent glazing was used to provide the roof

lighting, and ventilation was provided by 50 continuous opening lights operated by electrically controlled double tension gearing; while 50,000 feet super of aluminium patent glazing was used for the roof of the assembly shop at the Waverly Works. Both workshops are fine examples of the use of patent glazing in the construction of large industrial buildings.

SPECIFICATIONS

**LARGE RUNS OF PATENT GLAZING IN THE
ASSEMBLY SHOPS AT THE DAIMLER RADFORD
WORKS AND THE B.S.A. WAVERLY WORKS**



Roof of new assembly shop at B.S.A. Waverly Works. Architect: Holland W. Hobbiss, F.R.I.B.A.

ISSUED BY
THE PATENT GLAZING CONFERENCE
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HYGIENIC

ECONOMIC

AUTOMATIC

SILENT



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 no towel and washing costs; no noise.

Wet hands are placed inside the aperture, the dryer starts automatically and in a matter of seconds the hands are dry.
 Removal of the hands stops the dryer. Can be fitted flush with walls when required.

WHEREVER THERE IS A WASH BASIN THERE SHOULD BE A

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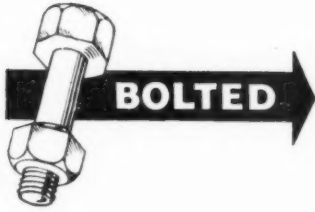
**ELECTRONICALLY
 CONTROLLED**

HAND DRYER

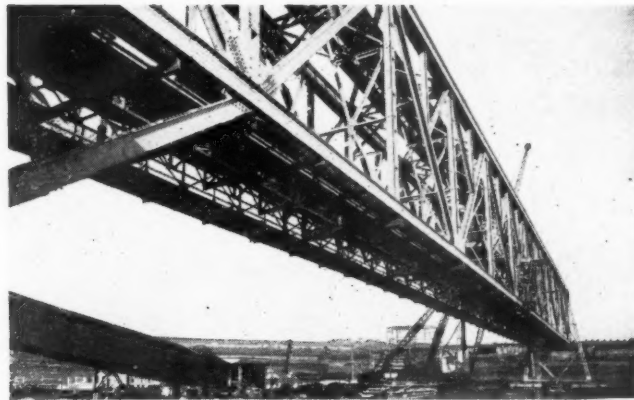
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Whatever your choice of construction—Bolted, Riveted or Welded—our technical, production and erection Staff, with their long experience of all types of Steel Structures, are at your Service.

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NEW STYLE WALLS with an old and well tried method. Weathering to a pleasant silver grey, Shingles are a most attractive method of providing a distinctive elevation. Nailed to battens on brick, breeze or timber studding, the construction is most economical and is completely weatherproof.

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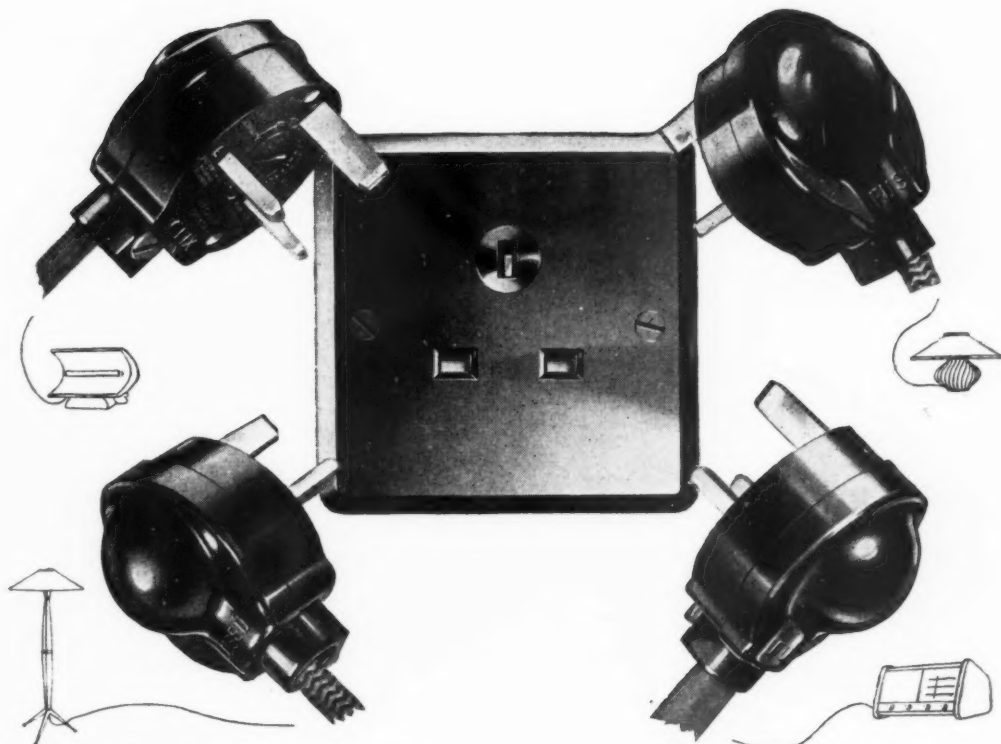


Full details sent on request.

Fixing can also be undertaken if required.

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...so be generous when specifying the number of Socket Outlets for each room.

THE Windsor range of Ediswan Wiring Accessories includes all types of 13 amp. Socket Outlets, Switch Socket Outlets and rectangular pin fused Plugs required for normal installations—quality Accessories at competitive prices. Remember also that Ediswan manufacture a Plug which can be re-fused in 15 seconds.

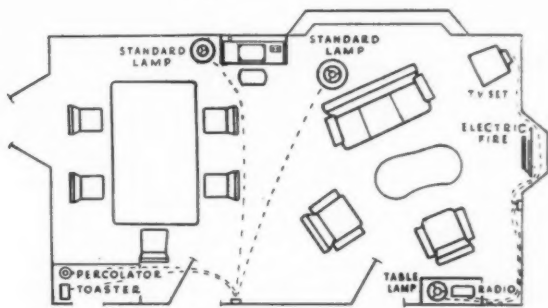
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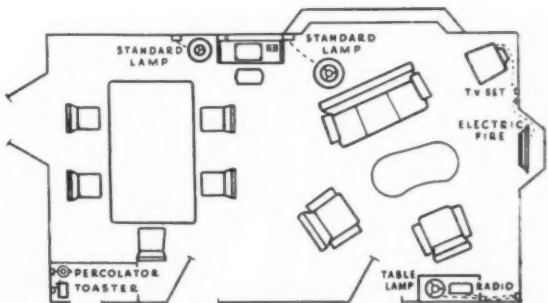
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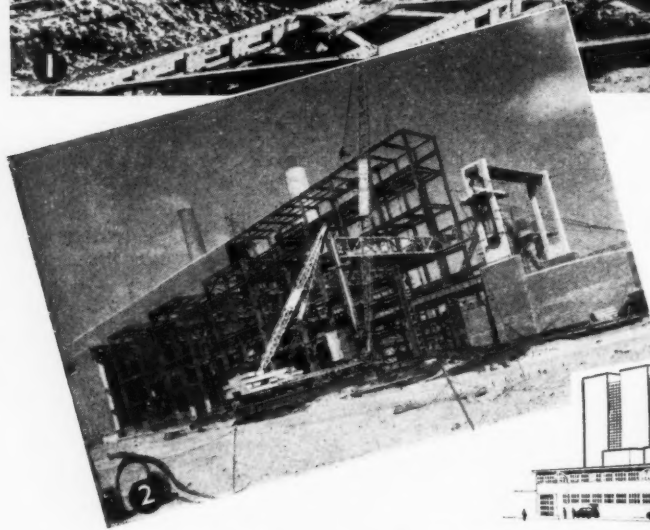
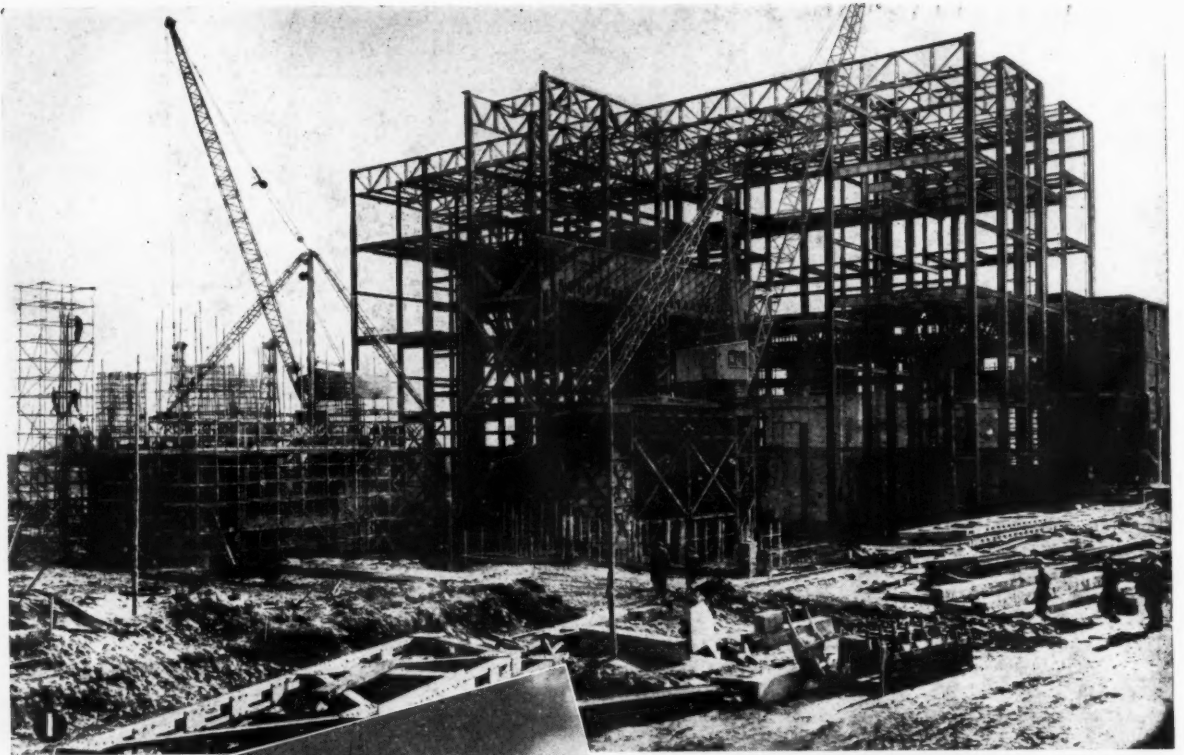
E.37



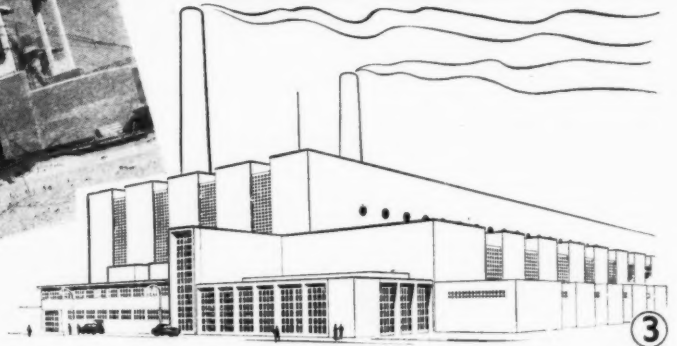
Insufficient socket outlets wrongly placed. Note the long trailing flexibles running dangerously across doorways and "traffic ways".



Correct arrangement of socket outlets. Long flexibles and inconvenient adaptors are avoided.



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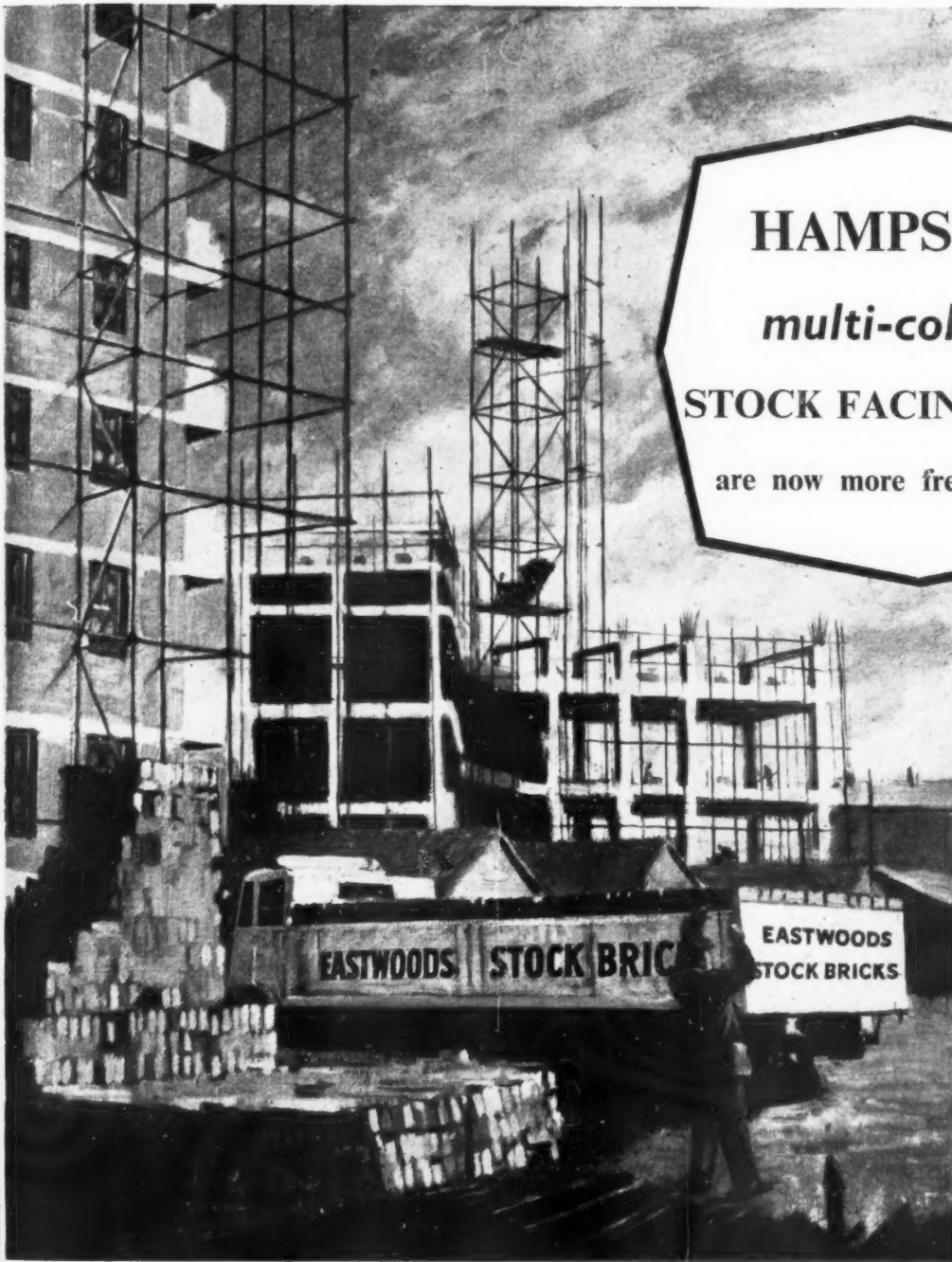


1. View towards South-East across No. 1 Boiler House site showing also No. 1 Chimney Plinth in course of construction.
2. Main Building. General view of No. 3 Turbine Room and tank annexe steelwork from South side, looking North-West.
3. Main building. General view of Station building from foreshore, looking North-East.

*Photographs by courtesy of the Central Electricity Authority, South Wales Division.
Engineers and Contractors: Messrs. Balfour, Beatty & Co. Ltd.*

STRUCTURAL STEELWORK BY SOUTH DURHAM

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multi-coloured
STOCK FACING BRICKS
are now more freely available

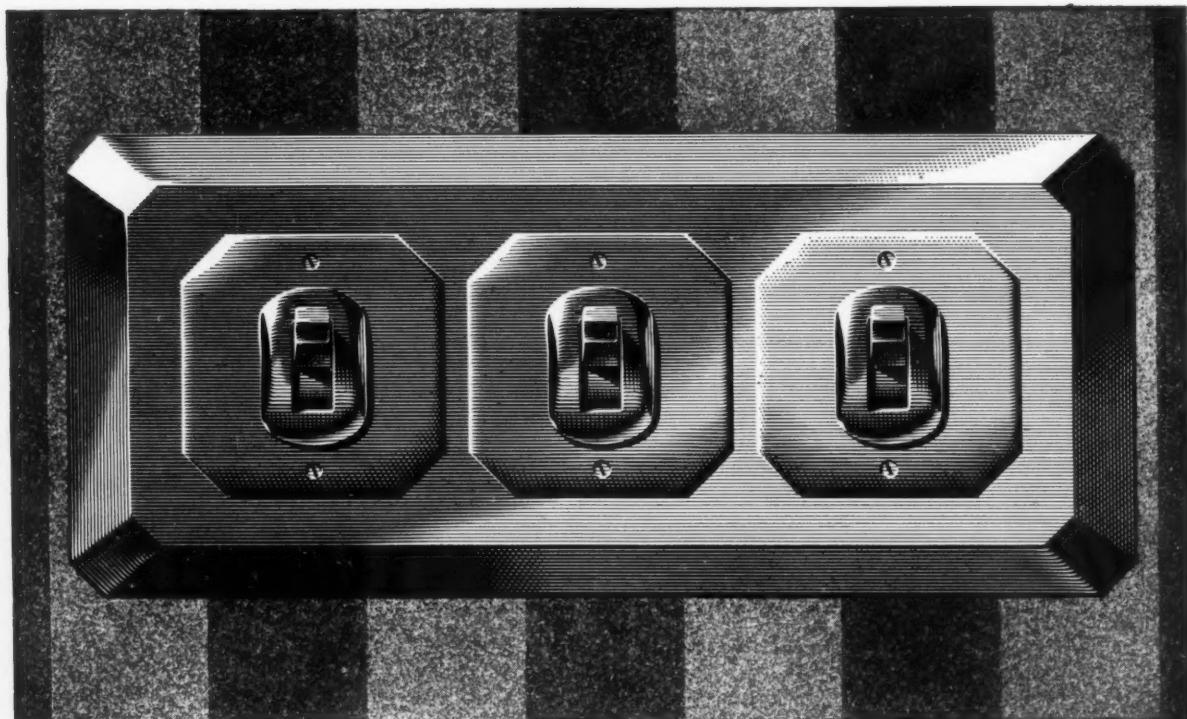
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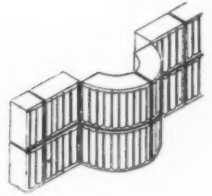
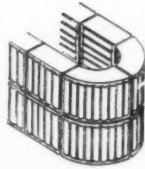
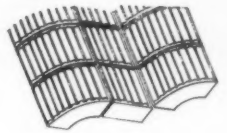
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IDEAS

spring from H O L L O W

GLASS

B L O C K S



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& Farms, F/A/A.R.I.B.A.
Contractors:
Rudduck & Co. Ltd.

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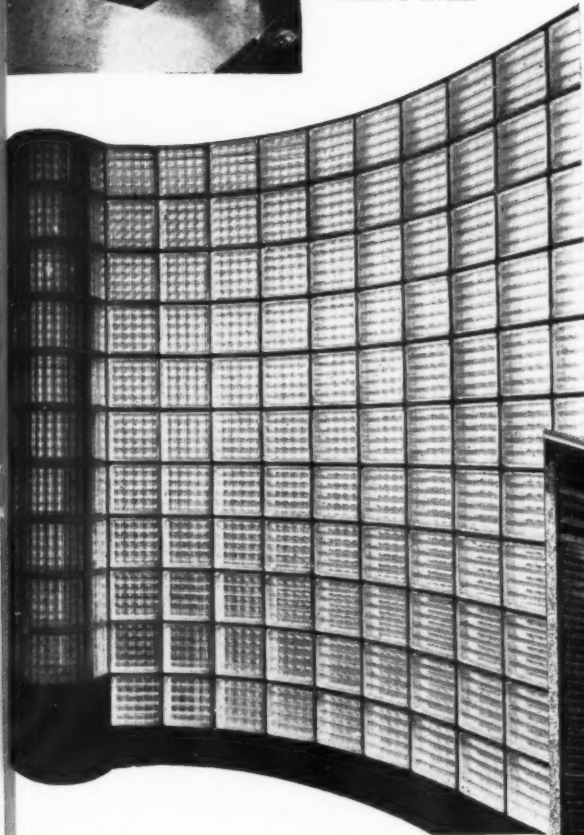
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VENTILATION can be provided and symmetry preserved with the Clark-Eaton All-Glass 'Ventiblock'.

Complete installations undertaken by our skilled craftsmen.

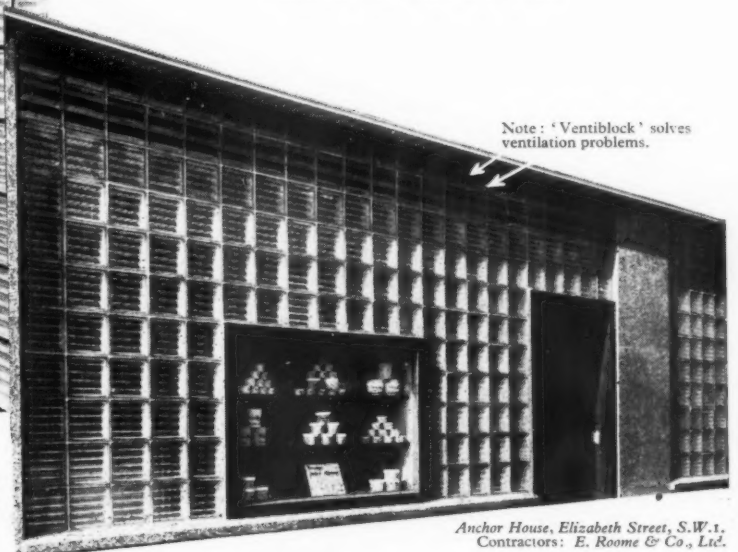
PLEASE ASK FOR BOOKLET



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

Note application of corner blocks to form column.

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



Note: 'Ventiblock' solves ventilation problems.

Anchor House, Elizabeth Street, S.W.1.
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CENTENARY
YEAR
1855—1955

*they wanted the best
paint under the sun...*

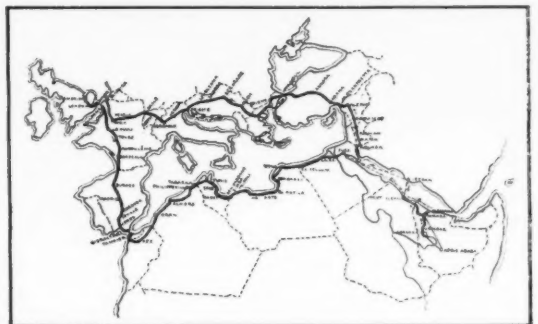


* From the book "INTO THE BLUE" published by Collins

and the answer was
MANDERLAC



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MANDER'S
Quality has NO superior

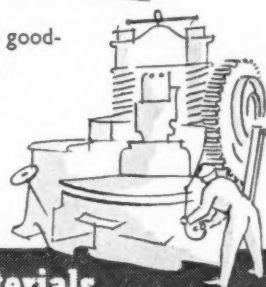
Despite this 12,000-mile journey over tortuous terrain there were no signs of deterioration — no blistering, no loss of colour, no brittleness. The Manderlac surfaces were as good as new. Mander's quality has NO superior.

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up
your
profits
on**

WASTE

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

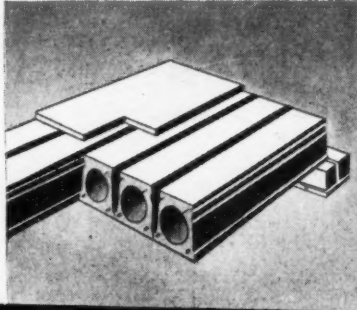


On-the-spot Brickmaking from Waste Materials

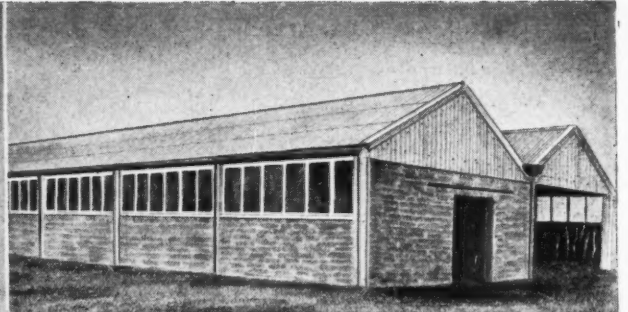
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MARLEY
Eagle Beams
Leaflet MC.11

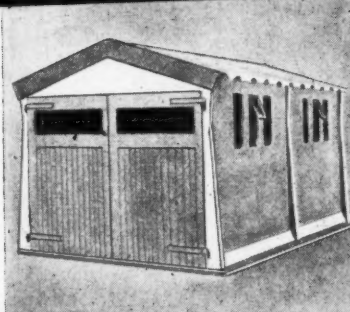


MARLEY
Industrial Buildings
Leaflet MC.5

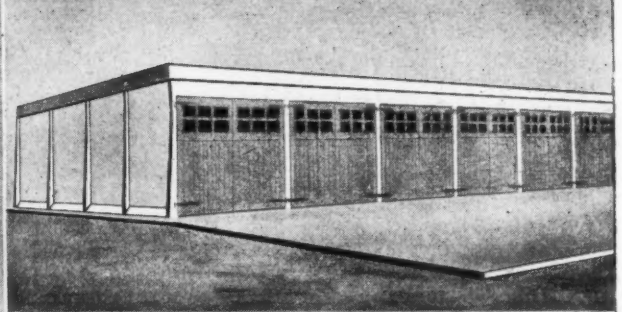


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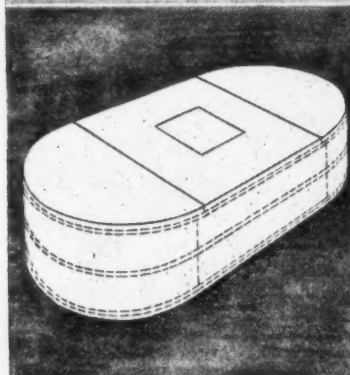
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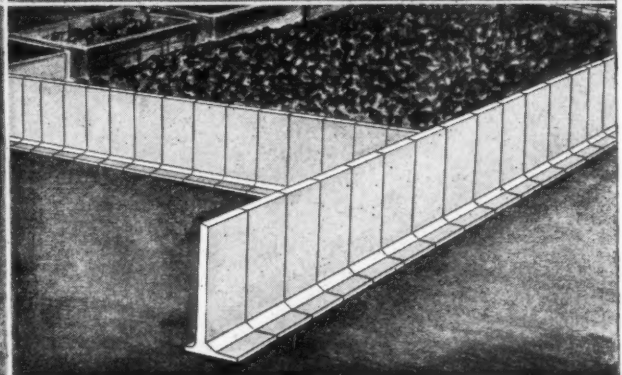
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Multiple Garages
Leaflet MC.2



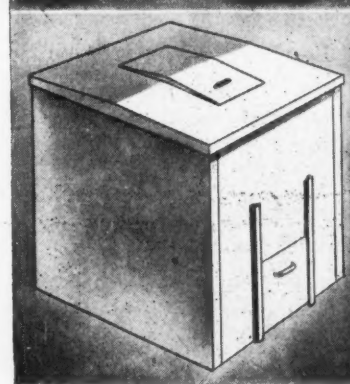
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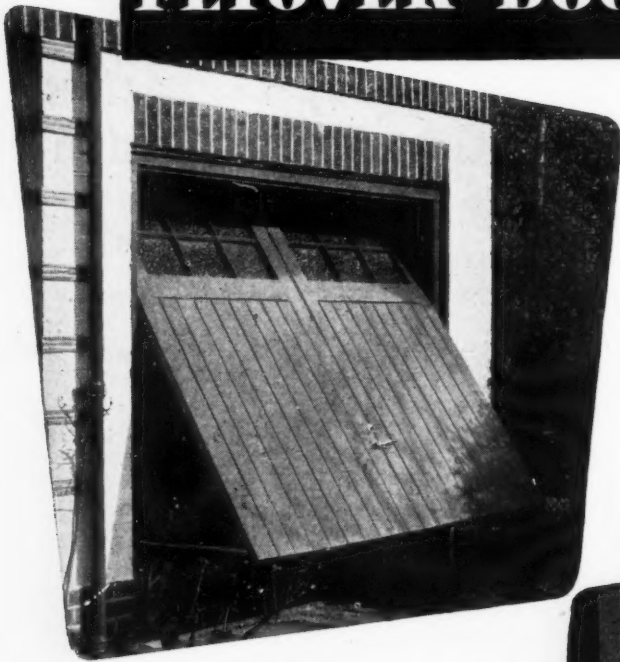
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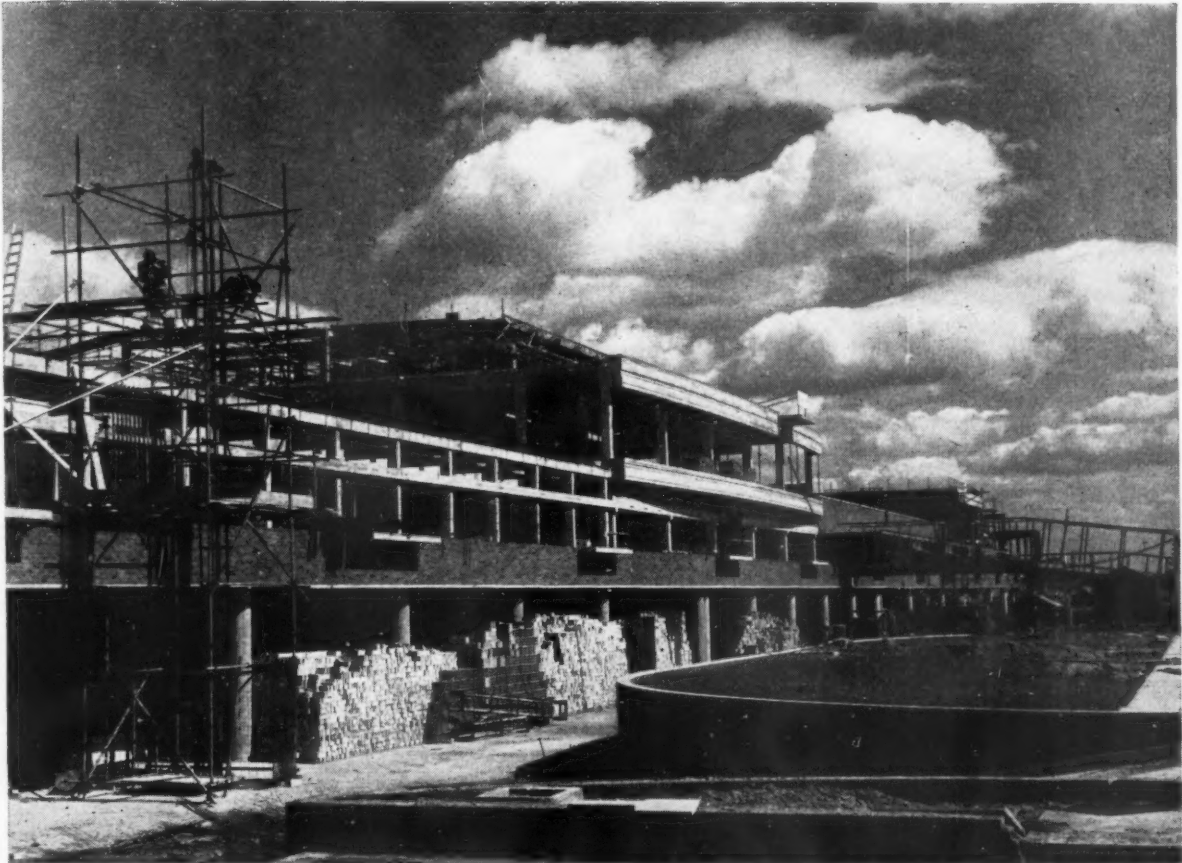
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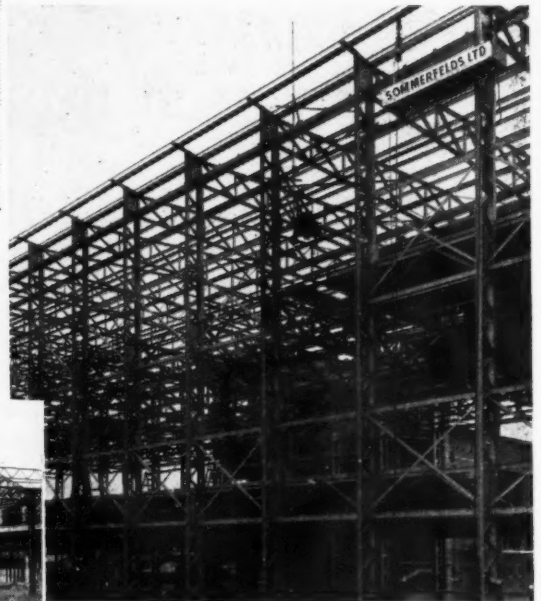
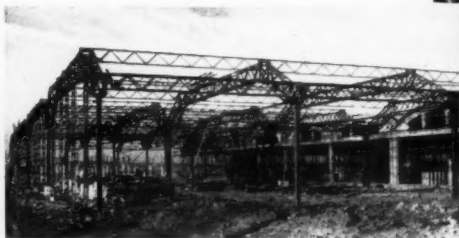
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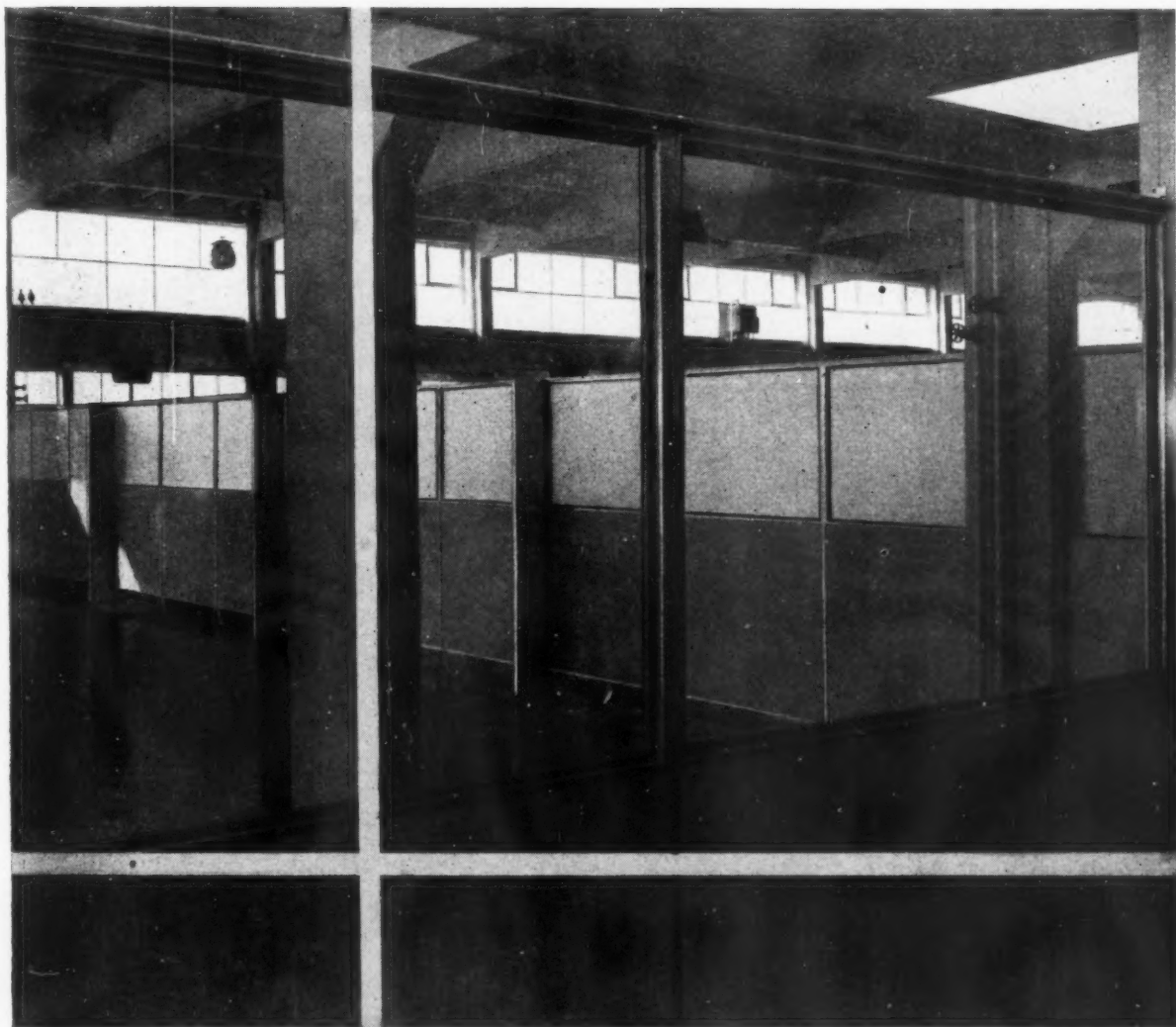
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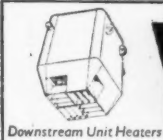
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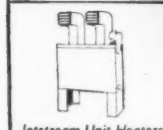
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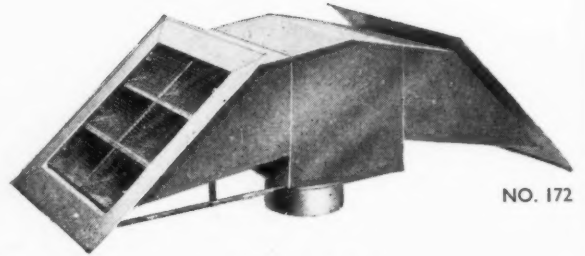
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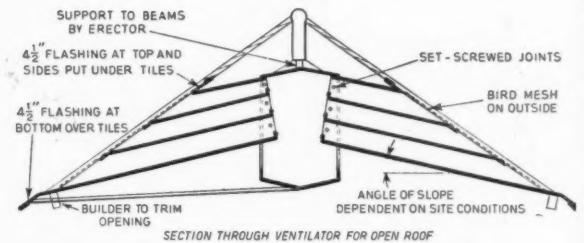


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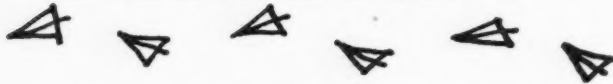
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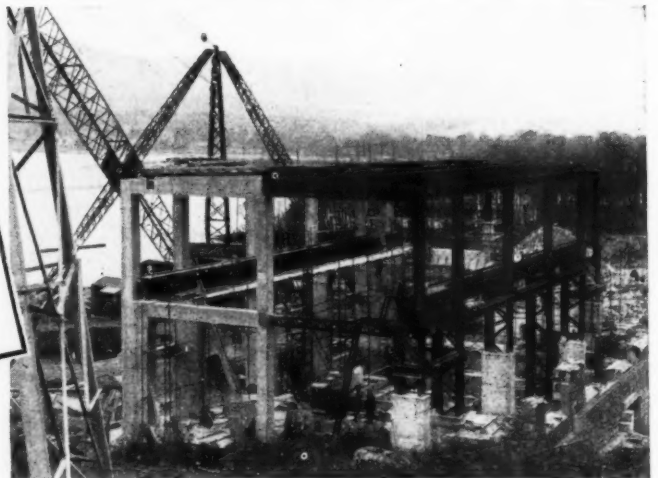
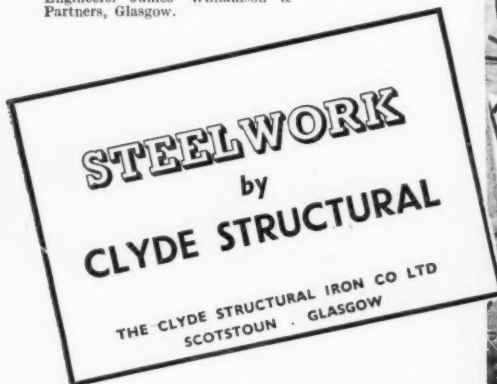


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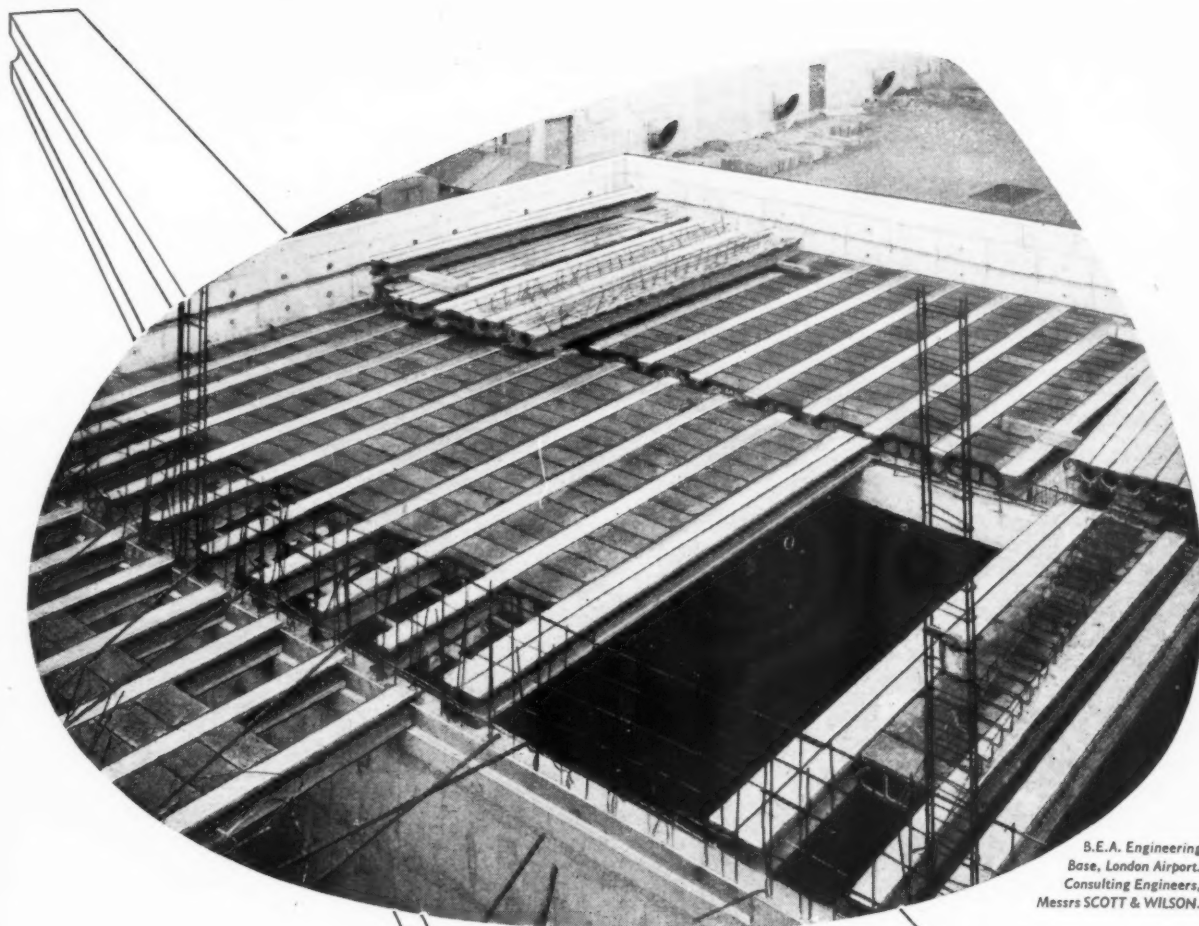
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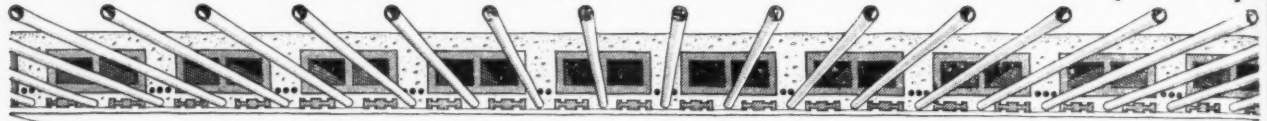
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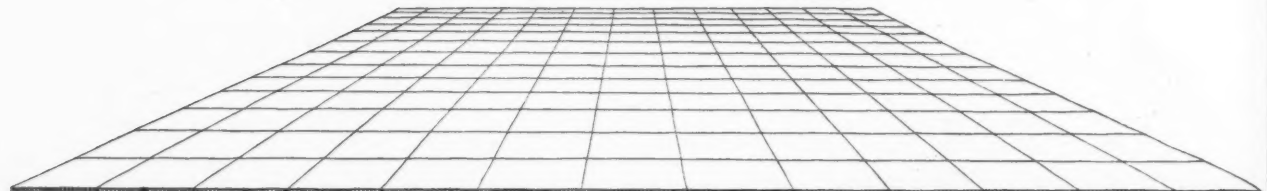
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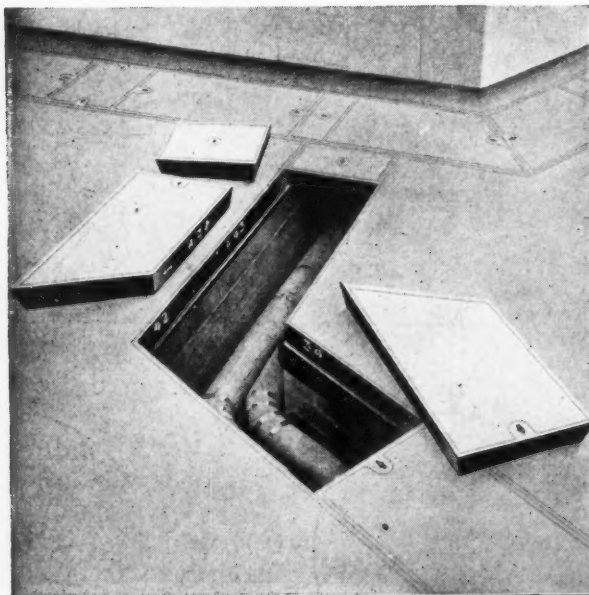


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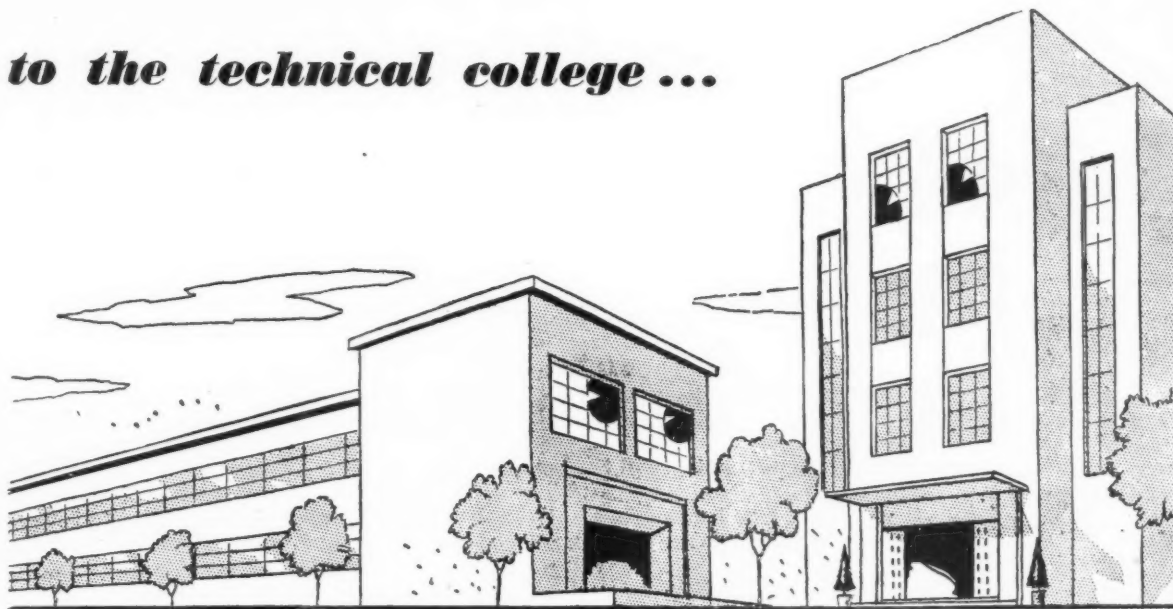
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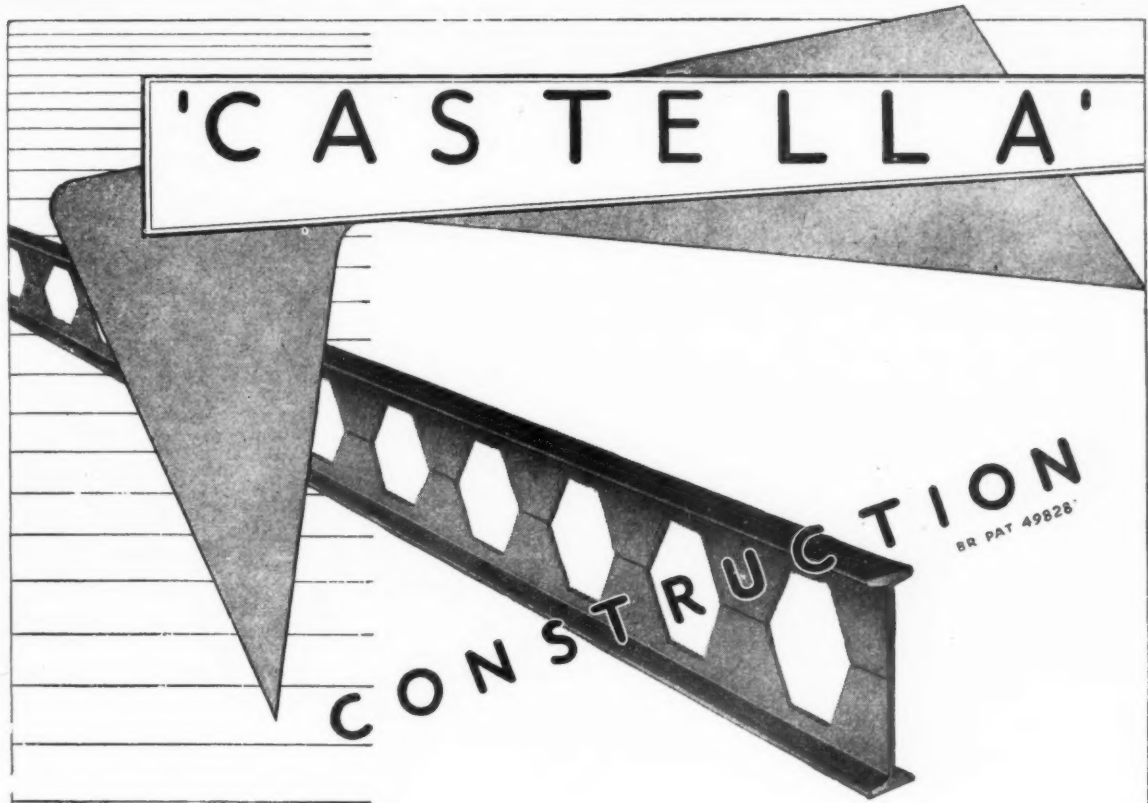
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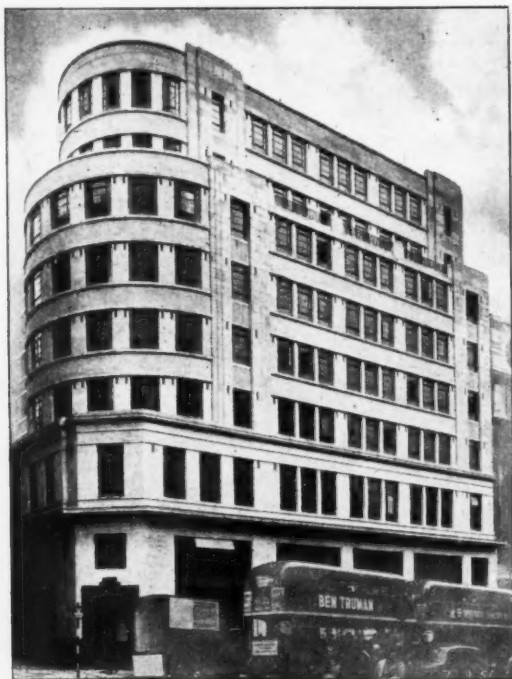
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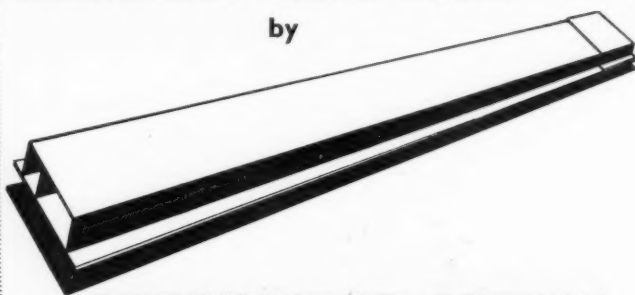
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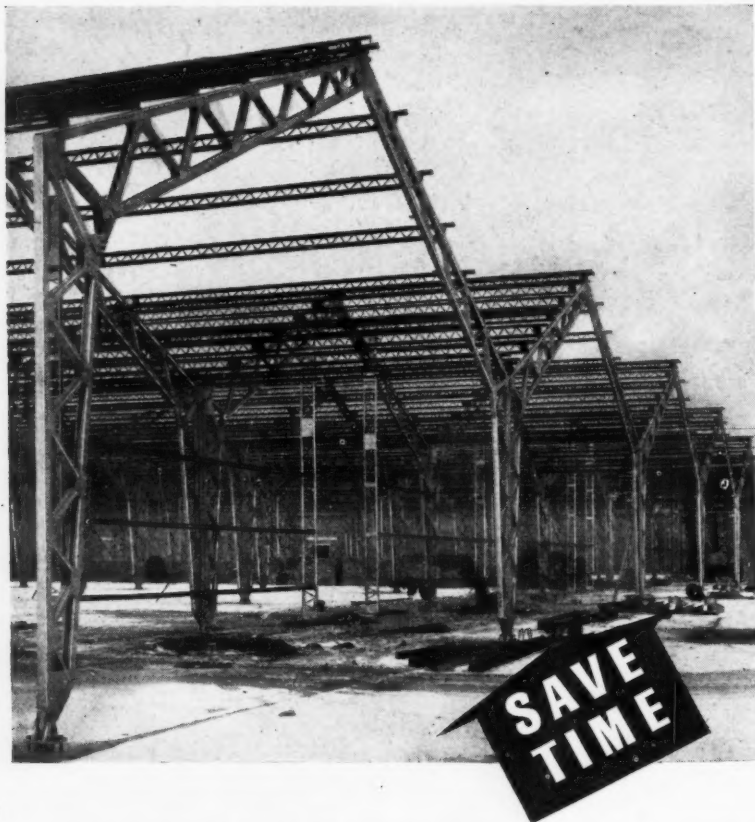


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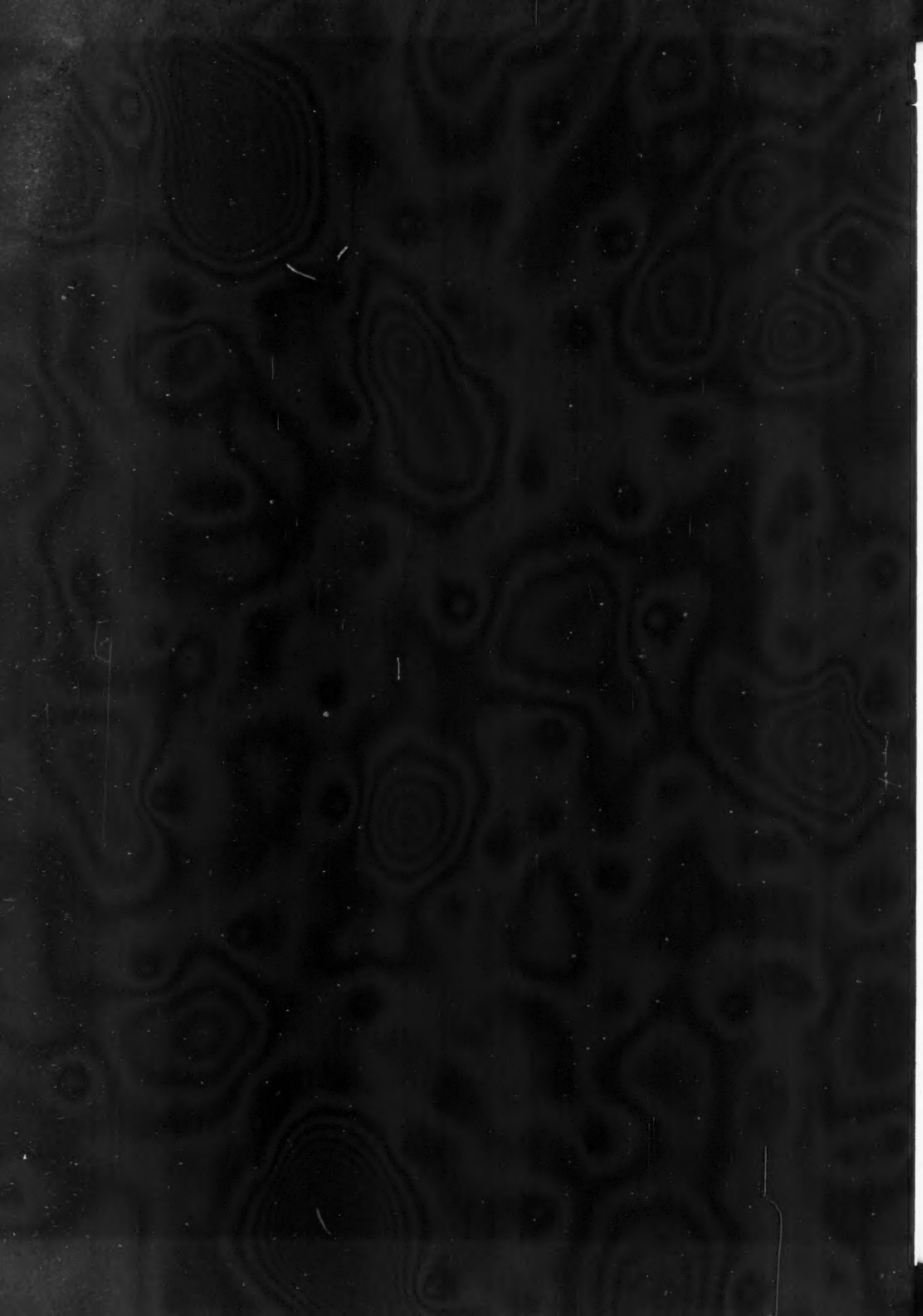
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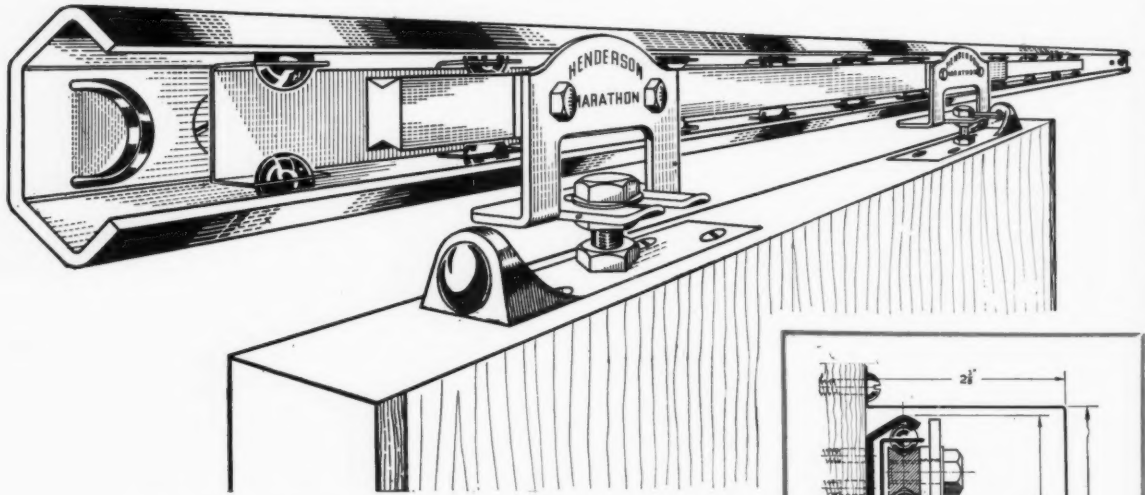
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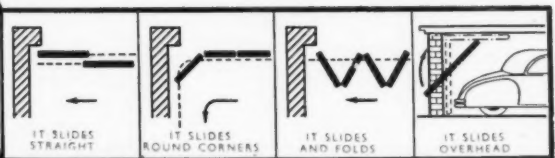
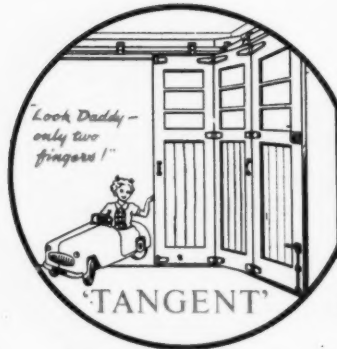
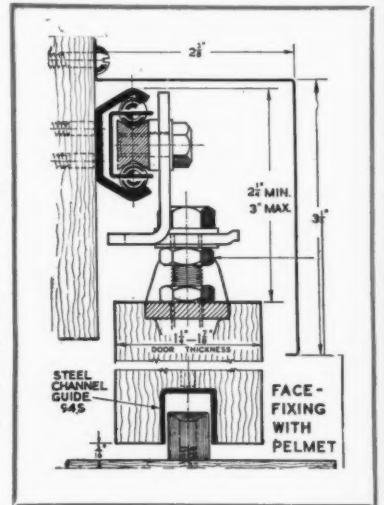
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OUTRAGE

The response to *The Architectural Review's* special number—*Outrage*—has been remarkable—no more than it deserves, for it is a masterpiece of polemical editing, but specially to be welcomed because its message—regarding the danger that suburbia and the visual carelessness that goes with so much of suburbia will soon have spread over the whole of England—is one that must get to a wider public than the *Review* normally reaches if it is to do any good.

*

But a leading article in *The Times*, the *Manchester Guardian*, the *News Chronicle*, the *Daily Herald* and the *Daily Mail*, all within a couple of days,

and a comment (how apt his name in this instance) by Cassandra of the *Daily Mirror*, are not a bad start, and show that it is, after all, possible to strike the public's imagination in matters of architecture and planning.

*

The *Daily Mail* later gave almost its whole back page to the subject, reproducing several of Gordon Cullen's inimitable drawings. Even if the *Mail* did refer to Sir Hugh Casson as "the architect who gave us the Skylon and the Dome of Discovery," what is that beside the useful service of spreading so widely the news of what they are doing to their trees at Witney and to their Georgian streets at Warwick. We can, I understand, expect even wider discussion of this all-important issue, in many places including Gilbert Harding's new TV programme "Harding Finds Out."

HARDING FINDS OUTRAGE

In this fortnightly feature—during which Harding briefly investigates such public issues as National Service, tipping, loitering buses, and litter—he includes a regular "Flash from Subtopia" item which is handled by Sir Hugh Casson with a handful of photographs and a blackboard. Last week's victim was that sadly familiar disgrace—the forecourt of Kings Cross Station. The next (Friday evening, July 8) is to be a county town mortally pierced, Saint Sebastian-like, by lamp-posts. Future victims, it is said, are as yet unmarked down, but suggestions are welcomed. If anybody has a favourite corner of Subtopia to which he would like attention drawn, ASTRAGAL suggests he passes the name along to Lime Grove and Sir Hugh will do his best to draw it. Programme time is limited, and

not more than a couple of simple points can be made in the few minutes available . . . and of course, as always, Mr. Harding reserves—not to say relishes—the right to disagree.

*

Nevertheless, it's a chance to air a bonnet-bee or a hobby-horse in a good cause and architects are the people to do just this.

V.I.P. VISITORS

Among eminent architectural visitors at present in London is Prof. Russell Hitchcock from America, who is over for a long stay because the chief purpose of his visit is to begin writing the volume on nineteenth and twentieth century architecture in the *Pelican History of Art*.

*

A pretty huge task, but the Professor is used to these. His last book, *Early Victorian Architecture in Britain*, was a monument in itself—but incidentally a very successful one: the Architectural Press has already sold out the first impression of its English edition and another is on the way—not bad for a seven-guinea publication.

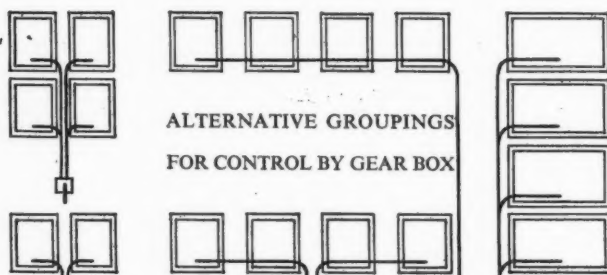
VENICE RECORDED

Surprisingly few of the better English painters seem fond of architectural subjects. John Piper is the obvious exception; Anthony Gross and Lord Methuen are others. Still another is Robin Darwin, whose one-man show at Agnew's opened last week. It is a pleasure to find that his busy life as Principal of the Royal College of Art has not stopped him painting in recent years.

*

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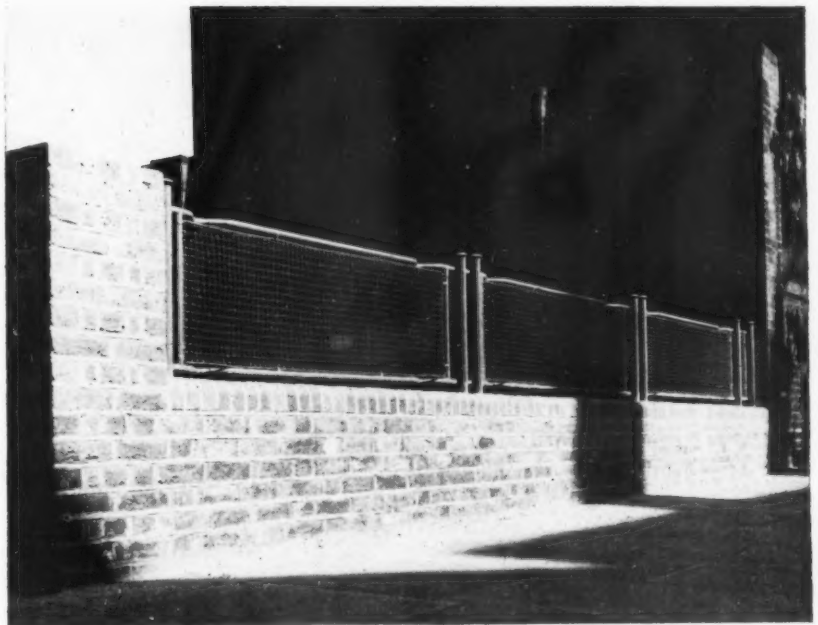
the impressionist tradition. A number of his new paintings are of Venice—whose charms Sargent and Sickert explored before him—and these are, I think, the best. By coincidence or design, at the top of the staircase that leads to the gallery are hung a couple of paintings of Venice by H. F. van Lint, the eighteenth-century painter who worked after (rather a long way after) the manner of Canaletto and Guardi. His detailed rendering of Venetian scenes make an interesting contrast to Darwin's brisk impressions. If it is the Venetian atmosphere that is wanted, Darwin wins every time.

A MINIATURE TRIENNALE

In an atmosphere as convincingly Italian as one could get in England (with a room-temperature in the nineties) a crowd packed solidly shoulder-to-shoulder and smelling faintly—but tantalisingly—of *Campari*, Gordon Russell probably opened the Exhibition of Italian Industrial Design at the Italian Institute. ASTRAGAL says probably because the figure dimly discernible through the crush and against the flash-bulbs might equally well have been reciting selected passages from the "Inferno" for all one could hear of him over the clatter of the newsreel cameras.

However, the ceremony was clearly a success for those in the front rows, and when the crowd had dispersed a little, and various people had finished pumping one's hand in loud but still inaudible greeting, it became possible to see what a neat and effective exhibition this miniature *Triennale* has turned out to be. The first impression is of the back pages of *Domus* suddenly come to life—those fabulous fabrics, the leatherware that only the British do better, the lamp-standards that no one does half as well, the snug, ineloquent electric motors that are probably no better than those of half a dozen other countries (but only the Italians would think of exhibiting them), the inevitable Olivetti typewriters and Necchi sewing machines, the rather less inevitable wind-tunnel-tested, racing motor-cycle by Guzzi, the wildly improbable fishing waistcoat by Context. . . .

It is an exciting little show of samplings from the top crust of Italian product design. The same team—Marco Zanuso and Gillo Dorfles—



The *Architectural Review*, and Gilbert Harding, having broken the word "Outrage" over the heads of an alarmed public, ASTRAGAL adds his mite to the horror-campaign in the shape of some nice, new, bilious-green railings in S.W.1. Not only are the railings made of reclaimed rescue-service stretchers (and not very well reclaimed at that) but they, and the rather casually laid brickwork of the dwarf walls which they top, serve to close off the once-open ends of the courts between those blocks of *Voyseyesque* flats at the back of the Tate Gallery which, up till now, have been amongst the most sympathetically urban developments for which the LCC has been responsible.

could probably make an equally exciting sample-show of British, German or American design. Since we seem incapable of doing such a thing for ourselves, how about the COID getting these two bright sparks over here some time to put together a little show of English products that will pop the Italians' eyes open?

GOOD LUCK TO SRUBLUK

You have probably been getting along very nicely, in your usual self-centred way, without having the faintest idea what SRUBLUK is. If so, it is high time you started to take an interest in this worthy body (founded last spring), whose full name is the Society for the Reinvigoration of Unremunerative Branch lines in the United Kingdom. Membership costs 5s. a year (156, Strand, W.C.2) and your duties as a member would consist of helping the Society to oppose the closing of branch lines, to have "Reinvigoration Parties," branch line excursions and lectures in the winter and "to acquire and run a standard gauge branch line that has been closed to the public."

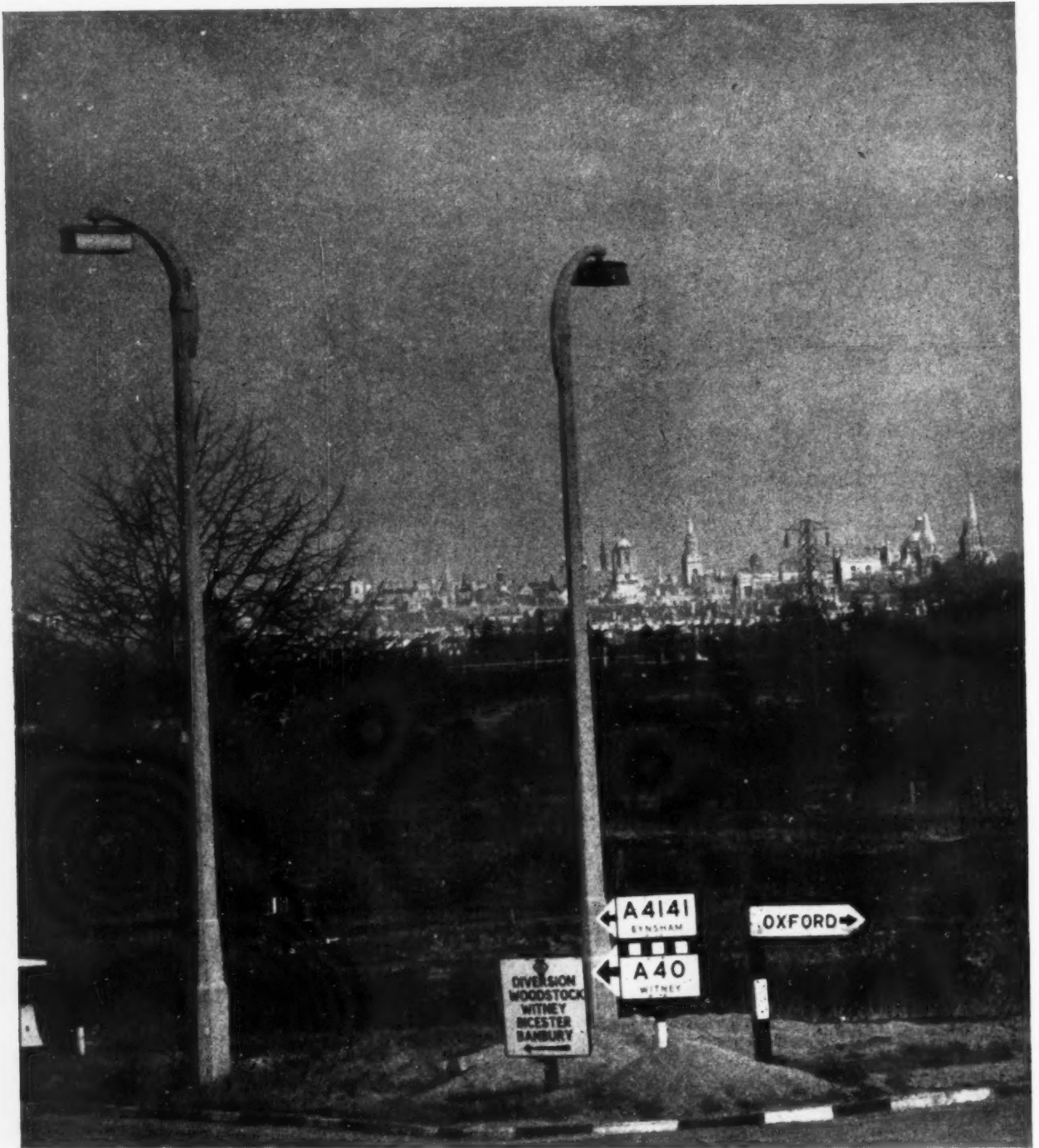
Since BR has just announced a £12

million loss for last year, with further losses to come, it looks as though the Society will need a lot of members if it is to do any good. Five shillings a year is not much to pay, and if you ever saw *The Titfield Thunderbolt* you are probably groping for your cheque-book already.

EIRE ARCHITECT ON THE AIR

A radio talk you probably missed—ASTRAGAL did, but an Irish contact sent over the script—was Niall Montgomery's sizzling little effort on the Georgian Terraces of Dublin. Mr. Montgomery does not share the standard cut-and-dried opinions about Georgian terraces—monuments to the Unknown Nobleman, he calls them—and suggested (oh, blasphemy!) that they were jerry-built anyhow, and a clog on Dublin's development. Most of the people who want them preserved, he avers, don't live in Dublin, and some of them (and this clearly rankles) are foreigners from Belfast.

Ears must have been burning the length and breadth of the wet green island ("Evangelized by Palladius,



City of Pylons, Standards and Spires

Here is a traveller's first view of famed Oxford—a skyline of distant spires lying beyond a sordid clutter of ill-designed or ill-disposed objects themselves the product of mediocre municipal minds. Note, first, the traffic island, used casually as a dump for gravel. Then rising from it a confusing array of direction signs and two clumsily designed lamp standards to frame the view. Beyond are allotments—no harm in themselves, perhaps, but inevitably disfigured by gimcrack sheds and therefore in need of screening trees. Beyond again are neglected fields and a pylon whose wires detract from the spires beyond. This is but one example amongst hundreds in *The Architectural Review's* number for June titled "Outrage". The issue is devoted to giving: "less a

warning than a prophecy of doom: the prophecy that if what is called development is allowed to multiply at the present rate, then by the end of the century Great Britain will consist of isolated areas of preserved monuments in a desert of wire, concrete roads, cosy plots and bungalows. There will be no real distinction between town and country . . . the end of Southampton will look like the beginning of Carlisle; the parts in between will look like the end of Carlisle or the beginning of Southampton". This issue of the *Review*, which is an essential weapon for architects and planners in the fight for good design, is commented on in the leading article on the opposite page, and by ASTRAGAL on page 1.

Anglicized by Palladio") by the time he had finished twitting his lords and masters for condemning Dubliners to live in crumbling monuments to the dead days of Home Rule. But what kind of audience listens to Radio Eirann, ASTRAGAL wonders, on re-reading for the fourth or fifth time such cracks as "... the rebuilding of Gardiner Street, inaccurate only in detail, but therefore a failure," in order to be sure that he has understood them properly. One can't see even the Third letting a speaker get away with a low, underhand crack like that, which clearly assumes an intelligent and informed audience, not the pudding of visual illiterates that the BBC commonly assumes.

A LATER TEACHER THAN TAUT

One of the more infuriating aspects of the recent revival of interest in Japanese building has been the famine of good books on the subject—who has been lucky enough to locate a copy of Bruno Taut's *Houses and People of Japan*? But Taut's book, though valuable (and in English) is now out of date (from the point of view of historical research) and the work of a foreigner to Japan anyhow. It is with something bordering on relief therefore, that one greets the publication of Tetsuro Yoshida's *The Japanese House and Garden*,* which brings us all bang up to date with a very full study of the mat-plan system and of the standard measures of length and surface that are involved. He discusses the traditional uses of the various rooms, the Tea-ceremony, structural methods, standard equipment—the lot.

*

It is, on even a quick reading, clearly the sort of book that will lead to understanding rather than superficial imitation, for it exhibits so convincingly the close integration of the Japanese house with a way of life that is not, repeat *not*, that of the Western European, that it can only deter unthinking copyists—by making them think. And if it makes people wonder just how closely the Western European house is integrated with the way of life of the Western European, then our debt to Japan could be astronomical.

ASTRAGAL

* *The Japanese House and Garden* by Tetsuro Yoshida. Architectural Press, 60s.

POINTS FROM THIS ISSUE

Collective Discrimination: Report of Monopolies Commission	below and page 8
Report of Triennial Conference of RICS	page 9
Flats at Bedford: described and illustrated	page 15

The Editors

THE OUTRAGE OF SUBTOPIA

FEW numbers of *The Architectural Review* have met with a greater response from the daily Press than the issue for June titled "Outrage." Both popular and quality newspapers have commented with some fervour on the great mass of evidence, assiduously collected by the *Review*, in the form of mean, shoddy and untidy details which, cumulatively, are devaluing town, suburbia and countryside alike. A typical illustration from "Outrage" is shown in this week's frontispiece, opposite. It is but one of literally hundreds of examples of the "improvements" and "essential services" which, through indifference to good standards of design, are insidiously whittling away the contrasts of town and country and substituting what the *Review* calls "Subtopia." Subtopia, a word coined from Utopia and suburb, means the making of an ideal of suburbia—not the Betjeman-land of wisteria-hung villas in ornamental gardens, but the engineer's product of sets of telephone wire, electric cables, and pylons, ruthless road patterns, over-dominant lamp standards, muddled multitudinous traffic signs, mutilated trees, dreary fencing, ill-placed car parks, neglected sites and open spaces, untended military and industrial dumps, unlimited suburban and industrial sprawl; under-designed caravan sites, roadside cafes and garages, and, a final insult to the design-conscious, the bogus rustic art plot, grot, garden or shack.

This issue of the *Review* (which is shortly to be republished in book form) should be in the office of every architect and every town planner. It provides ready-to-hand evidence with which to confront every client or applicant for planning permission whose idea of freedom is the right to foul his own nest. It portrays, with sickening accuracy, the dreary Britain-in-the-making which results from having people in charge of development—of any kind—who are not trained in design. The cure lies not so much in enormous acts of physical reshaping but in paying close and painstaking attention to *detail*. It is from the *detailed* treatment of the triumphs of this technological age that a worthwhile visual environment will emerge. And it is in attention to detail that the architect's powers are often best observed. It is up to architects and planners everywhere to ensure that these powers are used.

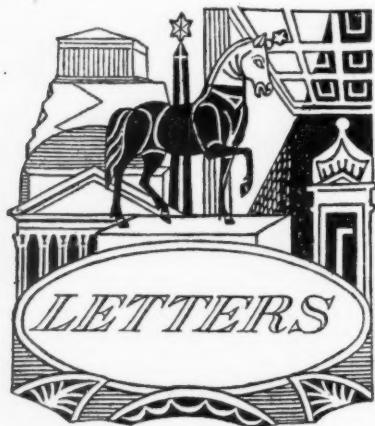
BUILDING MONOPOLIES

Because of the large number of building materials and products (see page 8) which are cited in it, the report of the Monopolies and Restrictive Practices Commission on "collective dis-

crimination"* is of particular interest to architects. As its title suggests, it is concerned not with monopoly as such, nor with the question of whether this or that range of articles is too highly priced, but with collective agreements between manufacturers (or importers) and merchants which aim at regulating the terms on which products are to be sold. The majority signing the Report come down heavily against these practices as now operating, and call for legislation which will abolish most of them and will bring the remainder under public control. The implication of the Report is that these practices have arisen because of the desire of business interests to enjoy an illegitimate protection. This may well be; but the question has still to be asked how far they may have arisen because technological development has made protection necessary.

Time and again (to quote an example familiar to architects) we have cases to show that development work on a product requires that the manufacturer should enjoy a security in future sales over and above what the open market can give him. The real problem is not so much to prevent him (and those who work with him in the distributing trade) from enjoying this security but to ensure that a fair share of the benefit reaches the consumer.

* "Collective Discrimination: A report on Exclusive Dealing, Collective Boycotts, Aggregated Rebates and other Discriminatory Trade Practices." HMSO. 3s. 6d.



Sublime Ignorance

SIR.—ASTRAGAL tells us that C. H. Aslin remarked to the Bishop of Ripon that "You can't have [churches] cheap and not too modern," and raises a plaintive cry of "Why is it that the clergy show this sublime ignorance about architecture?"

The only answer to this is to say that, for the churchman in Church, the spatial concept of Gothic cannot be equalled and that he is therefore quite uninspired by a new concept that imperfectly expresses his attitude to worship of the Almighty.

"Modern," or "contemporary," churches (Oh! for some standard description!) that succeed in capturing the Gothic treatment of space are very few and far between—one that leaps to mind is the beautiful chapel of the Society of the Sacred Mission at Kelham, Notts.

C. J. Lisle, Student R.I.B.A.

Douglas Stephen, Student R.I.B.A.

John Daviel, L.R.I.B.A.

Gilbert Phelps

Peter Finney, A.R.I.B.A.

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Perhaps one might be justified in replying with the riposte: "Why is it that architects show this sublime ignorance of religion?"—the generalization is no less unjust than ASTRAGAL'S.

C. J. LISLE.

Don't Build New Barbican

SIR.—New Barbican is now old enough to be looked at more objectively than on its first appearance. The excitement has died down in the architectural Press, committees debate its economics, and its future is in the balance. With this in mind, a further analysis of its fundamental approach and architectural form appears to be necessary.

That the opportunity to develop the city homogeneously has been lost is now appa-

rent, but the need for new office building in the city continues; a scheme like New Barbican, with a broad conception of overall planning and concentrated development, is long overdue. Yet the possibility of this New Barbican being built should be actively resisted by all those interested in the modern movement in architecture, rather than be received, as it has, with passive acceptance. It had perhaps been hoped that the opposition of reaction would be sufficient to stop the scheme going ahead, but such negativism is self-destructing in that, in the event of New Barbican being condemned, it would be condemned for the wrong reasons; not for its architecture, but for its Town Planning and socio-political conception, as well as on economic grounds. The precedent thus created, it would be repeated *ad nauseam*, whenever a new scheme was submitted.

Admittedly, the architecture of New Barbican is of a more robust character than that of the cosmetic empiricism of the "Contemporary" which swamps many otherwise clear schemes with mimsy over-articulation. But the architecture of New Barbican has neither the brash of the new American pragmatism nor the force of conviction of Corbusier's barbaric classicism, which seem to me to be vital architectural movements today. New Barbican owes little to the modern movement historically.

It has long been realized that our towns need revitalizing, and more important, re-planning. The necessity for more green space forced the adoption of high building—a new architectural form idealized by the Ville Radieuse in 1929. But the problem in the city today is one of higher densities and fantastic land values. The necessity to limit the area of building on any site has produced a variety of ineffectual legislation and absurd density limitation. Architects have at various times attempted to build tall slim blocks free from the ground, only to be hampered by restrictive legislation and the demands of Tradition.

With this background of frustration New Barbican was produced; it embodied all the virtues of modern Town Planning development and thought, and was designed moreover for a site owned entirely by the City Corporation. A closer examination of the design, however, showed that the architectural term of reference "not to make thoughtless use of a modern style" had been lost by the authors. Many people have been aware that there is something different about the architecture of New Barbican; the familiar rectangular shapes of slab or point blocks being absent. The planning is built up in a perplexing and meaningless pattern of geometric hexagons and rhomboids. This surely is the crux of the matter. Our modern architecture has two traditions, one romantic, the other classical; this architecture is neither of these, but falls into the realm of highly individualist picturesque. An architecture of pattern-making based on crystallographic forms, in which space and scale have no place.

Also lost, is the entire conception of localized Town Planning, where homogeneous office and flat accommodation are raised off the ground, freeing land and creating new park areas in, around, and under the buildings. That this concept of the Ilôt insalubre No. 6 is idealistic and unrealizable is of little consequence. The important thing, is the humanist principle, on which this and all later projects by Corbusier have been based. The authors of New Barbican have failed to provide an architectural alternative to the humanist scheme; had they done so, some of the more doubtful planning details, lack of day-light, courtyards, and the rest, would have been impossible.

New Barbican, in its present form, should be considered as an interesting and enlightening study in what might be done to any given urban area, but should not be allowed to jeopardize a more humanist approach.

An approach which would allow the authors to keep the advantages of their scheme; the superb, overall grand conception, the sociological solutions: to discard the formalist pattern and promote a satisfying new series of space relationships in terms of building, planned in a humanist manner, to demonstrate "the measure of an order which we feel to be in accordance with that of our world, it is then that we experience the sense of beauty."

DOUGLAS STEPHEN.

London.

Where are they?

SIR.—Only a short while ago there was some concern about the number of students being turned out by the architectural schools; there were cries of "Overcrowding in the Profession."

In our office we are now in urgent need of staff to help cope with the amount of work we have on hand. The RIBA told us last week that they had over 280 vacancies on their books: on that same day we had to call at an official office employing a very large number of well-qualified architectural staff (by "official office" we mean one paid for out of public money) and we had to wait for just twenty minutes. During the whole of that time we watched five presumably well-qualified architects acting as a self-appointed committee of taste, discussing at great lengths the rival merits of a traveller's samples. When we left they were still at it. Five men for 20 minutes equals one-and-two-thirds man hours. Can there possibly be any connection between this incident—and others like it—and the length of the RIBA's "Assistants Wanted" list?

JOHN DAVIEL.

Brighton.

A man and his Primers

SIR.—It is not usual for an author to comment on a review, unless he feels that the reviewer has been guilty of exceeding the bounds of fairness and restraint. I feel that ASTRAGAL'S review of my novel, "A Man in his Prime," in your issue of June 9, is such an instance.

ASTRAGAL accuses me of writing about builders and architects "without finding out." In fact, I took all the steps an author usually takes in such circumstances to check my facts. I paid several visits to the library of the Institute of Architecture in Portland Place in order to obtain advice on books and publications. In addition, the relevant passages in the manuscript were read by two fully-qualified practicing architects, one of them a senior and distinguished member of the profession. Neither appeared to find any glaring discrepancies, and both were of the opinion that nothing happened in my book which, however deplorable it might be on grounds of professional etiquette, might not conceivably—and in fact often did—happen in real life.

ASTRAGAL'S colleagues may have given me incorrect advice, or overlooked the points to which he takes exception, but surely a reviewer in a publication of the standing of the JOURNAL ought to be extremely chary of accusing a writer, and therefore by implication his literary agents and publishers, of failing to take the elementary step of seeking specialist advice on specialist matters.

I do, of course, understand that nothing is more calculated to exasperate a professional man than inaccuracies about his profession, and if my novel does indeed contain the improbabilities which ASTRAGAL asserts, then I regret it as much as he does. But it seems to me that he has allowed his annoyance on this issue to colour his other comments, and that he adopts a tone which I would not have thought you would

consider proper. I am not a young writer, but have been publishing in England and in America for many years. This particular book was very favourably reviewed in *The Times Literary Supplement*, the *Daily Telegraph*, the *Spectator* and elsewhere. It was recently published in America and received a long and appreciative review in the *New York Times*.

ASTRAGAL accuses me of failing "to find out." It seems to me, in view of his comments on my novel as a work of fiction, that I am justified in asking him why he did not try to find out what I was attempting to do as a writer.

GILBERT PHELPS.

London.

What The Professor Said

SIR.—The recent protestations about the lack of art in contemporary architecture by Professor A. E. Richardson lead one to seek guidance from a good book on the subject. What better book than the "Art of Architecture," written by Professor Richardson and Hector O. Corfiato, first printed as long ago as 1938.

Here again the cry rings out: "In recent years there has developed the theory that building should be more closely allied to material considerations. The attempt to divorce architecture from its legitimate aspects of aesthetic value does not apprehend the full extent of the art. The appeal to emotion indubitably deserves even more consideration than an appeal which is confined entirely to the understanding."

Yet one reads a little later that: "Character in architecture is essentially a deductive quality, that is to say, it depends upon the power of the designer to express outwardly the arrangement he has planned within. But the ultimate effect depends as much on the method of construction and the selection of the material employed for each specific purpose as upon the skill of the architect."

Art, it seems, is sitting fairly and squarely between the horns of a dilemma.

Yet what better definition of architectural character can one have than the last quotation from the "Art of Architecture." It applies wholeheartedly to the buildings Professor Richardson criticizes so destructively.

PETER FINNEY.

Nottingham.

Enlightened Clients?

SIR.—In order to assist in ASTRAGAL'S recovery from the unfortunate "Roadhouse Revival," I am enclosing herewith, photographs of a contemporary pub in Stoke-on-Trent, which may be of interest to you.

My clients, Messrs. Ind, Coope & Allsopp, Ltd., through their subsidiary company, Messrs. Parker's Burslem Brewery, Ltd., commissioned this work some twelve months ago, and I feel sure that you will be delighted that their outlook is certainly on the contemporary lines, and not merely a re-hashed revival of Brewers' Tudor.

J. A. DORIN.

Stoke-on-Trent.

Below: the pub referred to in J. A. Dorin's letter.





MONOPOLIES

Commission's Report

The outlawing of a wide range of trade restrictive practices, which include private tribunals, is advocated by the Monopolies and Restrictive Practices Commission in their report presented to Parliament last week.

"Legislation of the type we propose would create a new criminal offence," the Commission conclude in a majority report.

"It is important therefore that the prohibitive practices should be clearly defined so that the business man would know exactly what he might and might not do."

The Commission believe that all the practices which were referred to them for study should be prohibited by law, although in special circumstances exceptions might be made. These exceptions would also be defined in law.

The report of the Commission covers a wide range of collective practices all of which involve discrimination in favour of or against certain customers or suppliers.

In their report the Commission give a list of goods of which the supply or processing has "some relevance to our report." These include: baths, bricks, cement, chain-link fencing, copper cylinders and boilers, curtain rails, certain electrical goods, fibre building board, flat glass, flushing cisterns, galvanized tanks, glazed and floor tiles, hand tools, heating boilers and radiators, lead sheets and pipes, lime, linoleum, memorials, paint, paper, plasterboard, refrigerators, sanitary earthenware, sanitary fireclay, steel mesh reinforcement, steel wire, wallpapers, and wire rope.

The editors comment on the Commission's findings on page 51.

CIAM

September Conference

The tenth CIAM International Congress for Modern Architecture will take place from September 10 to 19 in the premises and grounds of the Hotel Saint Georges, Algiers. Members of the Congress can stay in the hotel at prices varying from 3,100 frs. to 3,300 frs. per day.

Students and young architects will be able to stay at "La Clarté," for 1,000 frs. (Dormitory accommodation). Individual rooms can be reserved.

Anyone wishing to stay in other hotels in the town can reserve rooms by writing to the secretary of CIAM X, 43, rue Denfert Rochereau, Algiers. The number of participants in Ciam X will be limited to 150. Preference will therefore be given to members of groups having actually taken part in work for Ciam X, and in order of enrolment.

Those who wish to accompany members of Congress privately will benefit from the same advantages of facilities of accommodation. They will be able to attend the public meetings and participate in the talks and excursions.

HOSPITALS

New Programme

Details of the £17,500,000 hospital building programme announced on February 9 last were given by Mr. Macleod, Minister of Health, in a written Parliamentary reply yesterday.

It is the first such programme since the start of the National Health Service in July, 1948, when the hospitals were taken over by the State. Altogether 35 schemes have been selected as "probable starters."

They include 14 new hospitals. Of these, nine will be general hospitals, the first for more than 16 years. They will be built at: Hensingham, West Cumberland; Swindon, Wilts; Crawley, Sussex; Harlow, Essex; Truro, Cornwall; Huddersfield, Yorks; Swansea, Glam; Coventry, Warwickshire; and Wythenshaw, Cheshire.

A start will be made on three new teaching hospitals. This will include the first stage of the removal of Charing Cross Hospital to Northwick Park, Harrow; an out-patients' department for a new teaching hospital at Sheffield; and a new surgical ward block for Guy's Hospital.

There will be a new mental hospital at Seisdon, Birmingham, and a new dental hospital attached to University College Hospital. Manchester Royal Infirmary will be reconstructed.

Apart from new premises, the programme includes plans for developing or extending existing hospitals. It will be spread over the two years 1956-7 and 1957-8. As the total value of the schemes selected exceeds the ceiling of £17,500,000, the projects ready soonest will be started first.

It is proposed to carry out the building of new hospitals in stages. The first will comprise particular departments, with beds, which will form a nucleus round which the new hospital will take shape. Work may take up to 10 years.

It is estimated that completion of all these projects will provide about 6,000 more hospital beds. About half will be in general hospitals and the remainder for mental and mental deficiency patients.

These projects are additional to those which hospital authorities may undertake out of their share of the £19 million which will be available in the two years for normal capital expenditure.

Schemes additional to those announced by the Minister on February 9 are:

St. Luke's Hospital, Lowestoft, reconditioning of building; Huddersfield, new hospital; Cranage Hall Hospital, Manchester, additional accommodation for mental defectives; Wythenshaw, new hospital; Middlesbrough General Hospital, accident and orthopaedic department; South Ockenden Hospital additional accommodation for mental defectives; Scunthorpe and District War Memorial Hospital, development to about 500 beds; Doncaster Royal Infirmary, development to 600 beds; Crawley, new hospital; Southmead General and Stapleton Hospitals, ge.iatric beds; Digby Hospital, additional accommodation for mental patients; Addenbrooke's Hospital, Cambridge, development of Hills Road site; University College, London, new dental hospital; Caernarvon and Anglesey Hospital, Bangor, development; Swansea, new hospital.

Mr. Macleod also listed 10 major schemes where work has begun or is expected to start this year. They are additional to the £17,500,000 programme. Among them are a new hospital at Welwyn and a new out-patients' department at Lewisham Hospital.

COMPETITION

Legislative Council Building for Uganda

The Uganda Government invites architects registered in the United Kingdom or East Africa or corporate members of the RIBA in East Africa to submit in competition designs for a new Legislative Council Building, comprising a Council Chamber and ancillary offices, to be erected in Kampala. Assessor, H. Thornley Dyer, F.R.I.B.A. Premiums: £750, £500 and £250.

The closing date for sending application for conditions is August 20, 1955.

The last day for submission of designs is January 21, 1956.

Conditions may be obtained by application to the Clerk of Legislative Council, P.O. Box 2278, Kampala, Uganda, E. Africa.

Deposit: three guineas, by cheque or banker's draft, made payable to The Uganda Administration.

AUSTRALIA

Fellowship for British Architect

A Fellowship worth £1,000 (Australian) is offered to a young architect by the British Memorial Fund, established in Victoria, Australia by public subscription. The Fellowship is a gesture of "loyalty, gratitude and affection" to the British people in recognition of their "role in saving civilization in the Second World War." It provides for ten months' study in Victoria for the selected candidate and covers travelling and living expenses during the period.

Accommodation will be arranged by the Fund. Wives and children are welcome, but no extra expenses can be paid to cover them. The upper age limit for both men and women is 36 years, and applicants must be of British stock of at least 10 years' residence in the United Kingdom.

The Fellowship is to be granted to a young architect who has experience in carrying out work, or as an assistant, in projects of some calibre. He or she must be a graduate of a school of architects recognised by the RIBA.

Full details can be obtained from The Honourable, Sir John Lienhop, Agent-General for Victoria and Chairman of the British Memorial Fund, London Selection Committee, Victoria House, Melbourne Place, Strand, W.C.2.

Simultaneously with the Fellowship in Architecture, Fellowships are being offered by the Fund in Poliomyelitis Research and Retail Business Accounting and Administration. The fourth Fellowship, which is in Police Administration, will not be open to individual applicants but available to recommended candidates.

Members of the London Selection Committee are:—Sir John Lienhop (Chairman), Lady Albemarle, Lord Huntingfield, Lord Baillieu, Sir Vincent Tewson, Sir Angus Gillan, Dr. J. F. Foster, secretary, Association of Universities of the British Commonwealth.

The closing date for the receipt of applications is August 5.

IUA

Committee's Report

Last year the IUA working committee drew up a report on "The Place of the Architect in the Community." It was later amended—as follows—in accordance with suggestions made by a sub-committee appointed by the UK Committee.

Introduction. The practice of architecture is subject to wide variation according to circumstances, some architects practising as private professional men, others being to a greater or less extent in the service of their government or of private or public institutions, others again being responsible for the execution of their own designs.

In spite of this, it seems both possible and desirable to draw up certain rules that may be universally applicable, and in so doing, the IUA hopes to demonstrate the unity of the architectural profession throughout the world through the promulgation of a charter that may further the accomplishment of its task.

The Architect's Place in the Community.

A. An architect is one who, being a master in the art of building for the fullest expression of life, creates and vitalizes those places frequented by men. If he is to express the aspirations, and minister to the needs of his age, he must have both knowledge and understanding of the human situation in its widest sense, while showing a constant regard for economic realities. He should see his work as a contribution to an overall plan into which he must introduce at every level both liveliness and orderliness. From this point of view, architecture and town planning are seen to be complementary activities. The architect should endeavour to develop continuously in technical competence and artistic ability as well as in experience.

B. In return it is natural that society should provide such legal protection as the profession needs in order to function properly. This can be achieved either by improving existing legislation or by introducing new legislation inspired by professional ideals in conformity with the aims of the IUA. Such legislation should be designed to establish or to define more particularly: (a) The qualifications necessary for the practice of architecture. (b) The best means of achieving a sound architectural education and of preventing the entry into the profession of unqualified persons. (c) The rules of conduct required to ensure a high moral standard for the profession. (d) The penalties to be attached to such regulations.

C. Apart from legal enactments, national professional organizations should draw up such regulations as may serve to promote a spirit of comradeship. They should impose on their members a professional code based on the following general principles, each organization being free to give them a narrower interpretation where it is thought desirable.

D. Whatever the form of his practice the architect must not lose sight of the fundamental nature of his calling.

Rights and Duties of the Architect. 1. The architect should place at the disposal of his client all his knowledge, experience and application in submitting proposals, in supervising works and in any help or advice he may be called upon to give. 2. He should devote himself wholeheartedly to the interests of his client in so far as they are not inconsistent with his duty to his profession nor with the interests of the community as a whole. 3. The growth of an architect's practice should depend on merit; he should not be permitted to advertise nor in any circumstances to have or acquire an improper commercial interest. 4. He should not take any action that might damage directly or indirectly a fellow architect, and should try to remain objective and courteous in criticizing the work of his colleagues. 5. He should not plagiarize nor depart in any way from the moral principles accepted by artists in their relations with one another. 6. If he employs assistants or directs their work he should give them the benefit of his experience and help them in their efforts to reach a position commensurate with their abilities, both personally and within the framework of his professional organization.

7. He should retain the full copyright of

his designs in accordance with international conventions and the laws and customs of his own country. 8. His professional training should qualify him to direct and coordinate all the building trades, including those concerned with the prefabrication of building components and equipment. 9. If he seeks collaboration from artists, engineers or other specialists he should define at the outset their respective rights, duties and responsibilities. 10. He should use his moral authority to maintain harmonious relations between all those involved in the design and execution of his work, and should enable them to appreciate something of its intention and the spirit in which it has been conceived. 11. He is entitled to a fair and proper reward for the services he renders, in the form of a fee or salary, to the exclusion of any commission or profit, this principle being taken to cover the value to the community of all original ideas. If he collaborates with industry in the development of new processes or methods of construction he is equally entitled to remuneration in accordance with scales to be determined by the national organization. 12. In those countries where the Code of Professional Conduct expressly allows it, the architect may himself carry out actual building construction. Any architect who does so should confine his activities to work of his own design.

RICS

Triennial Conference

Every three years the quantity surveyor members of the RICS gather to exchange views, to hear a report from the Quantity Surveyors' Committee and to put forward and vote on resolutions. At the Conference on June 16, at the ICE, Great George Street, S.W.1, the Committee's report (given by Alan Davson) covered a wide field—from the domestic affairs of the profession to overseas development. The following are extracts from the report:

Tendering Procedure. "... members who read the technical press and *The Economist* must have been perplexed at the articles which have appeared during the last three years. In these articles the critics do not support the recommendations in the report on tendering procedure, but violently attack present tendering procedure and the control by the architectural and quantity surveying profession over design and cost on the grounds that it is strangling the industry. Probably the critics are primarily concerned with work combining building and civil engineering. They appear to look forward to a construction industry dominated by consulting engineers, some contractors who have their own professional staffs, and some administrators who accept their propaganda or believe in American methods. All criticism is useful even if apparently destructive, but the evolution of the present-day building industry in this country does not appear to lend itself to such a development."

Layout of Bills of Quantities. "Another matter which exercised the conference at the last meeting was whether a bill could be of more general use to the contractor in and subsequent to tendering. The quantity surveyors' committee took this up with the contractors' liaison committee in 1952, making it clear that they were ready to consider any alternative lay-out which might assist the contractor. The matter is still in their hands. Other members desire a bill which would also give greater assistance to the architect in connection with comparative costs. The Committee would like to achieve both these objectives, if these requirements can be simply combined, and it might be a matter for further consultation with the liaison committees of architects and contractors.

"Three years ago, the quantity surveyors' committee considered that a bill for more general use was impracticable whilst there was liable to be a wide measure of variation and unless there were full drawings and specifications to work on."

Cost Investigation. "... there is no lack of initiative by individuals, firms, or certain government and public bodies and the Building Research Board. What is required is a permanent home for such research with a permanent staff—perhaps the Building Research Board—to establish such forms and formulae aided by private and voluntary outside help in the submission and collation of data with the subsequent facilities for publishing the results."

Research. "At an ordinary general meeting reported in the May, 1954, *Journal*, Dr. C. A. Hart (Fellow) gave a paper on 'Research and the Chartered Surveyor.' He drew attention to the significance of the result of research in all forms of surveyors' work, suggested the formation of a co-ordinating committee and made recommendations on which the co-ordinating committee should work. He referred amongst other things to observational and operational research in which we can all take part. Not everything can be pursued at once and, in addition to the many sub-committees already in existence, the new Public Relations Committee has engaged the services of many members. When the whole field of this work has been covered, it is to be hoped that Professor Hart's proposals will be implemented."

At the conclusion of the Conference the policy of the quantity surveyors' Committee was given:

1. To support the recommendations made by the Joint Committee on Tendering Procedure and to assist in implementing its recommendations; 2, to maintain and strengthen the status of the chartered quantity surveyor; 3, to support the Joint Standard Method of Measurement Committee in their decision to pursue a revision of the Standard Method of Measurement, and to advise members who undertake civil engineering work that the Civil Engineering Standard Method prepared by the Institution of Civil Engineers is suitable; 4, to carry out the policy of education and examination approved by the Council and our Committee; and 5, subsequent to the Conference, to consider any proposals and suggestions in reference to present and future policy.

Alan Davson then suggested that "... this policy justifies the caption given at the beginning of this review, namely, 'Towards improved Service.'" It is not surprising that with so unclouded a view of the home front the Committee should invite a number of members with experience abroad to feature 'Overseas Development' as the theme of the conference."

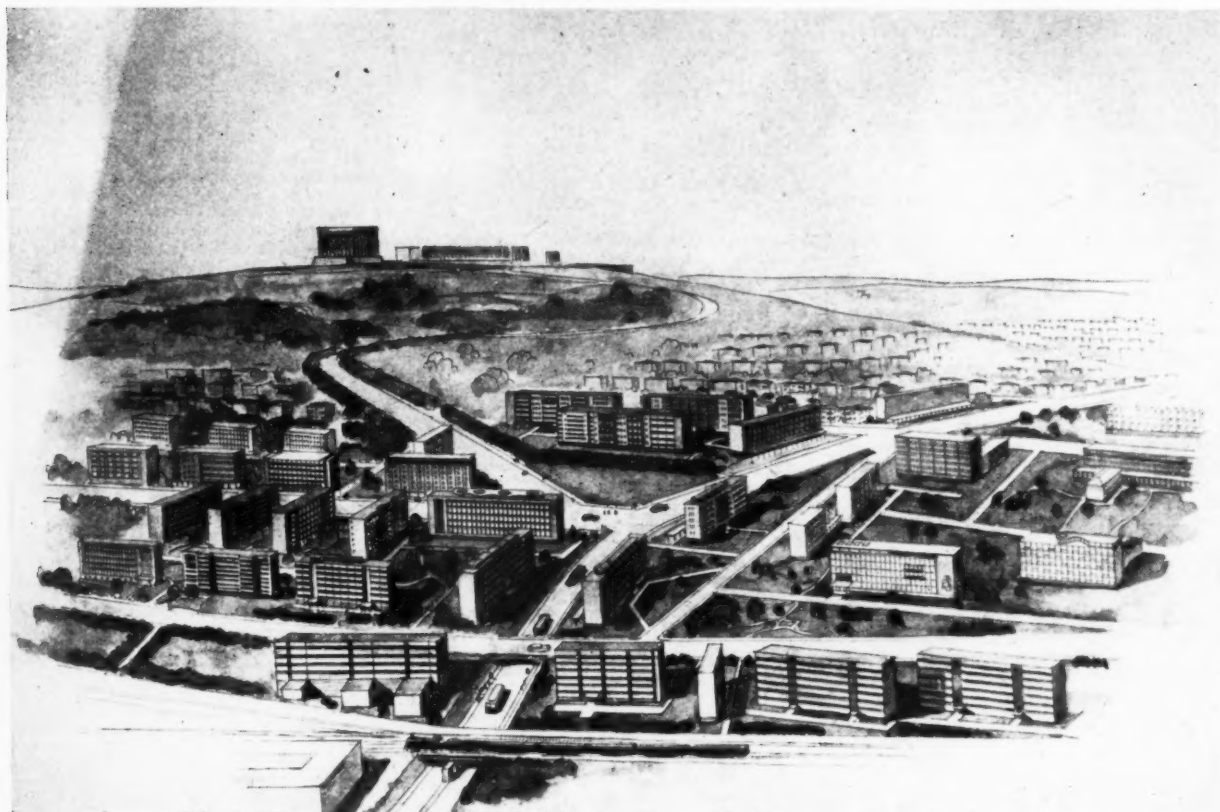
A protest was voiced by James Nisbet (one of the JOURNAL'S Guest Editors), who said: "There can be little doubt that building costs are causing considerable concern throughout the industry and that the quantity surveyor is regarded as the cost expert and adviser, but is the committee smitten with the welfare state mentality in suggesting that a permanent home should be provided out of Government funds? I have the greatest admiration for the Building Research Station and its members, some of whom, not being quantity surveyors, have already shown what can be done in cost research. Dr. Weston's paper, for example, on the cost of high flats given at the recent RIBA Symposium must have been a revelation to many of us.

"The object of the Institution is—I quote in part—'To secure the advancement of and facilitate the acquisition of that knowledge which constitutes the profession of Surveyor,' and I implore the Council to seize the initiative and to display its leadership in this important matter by providing a permanent home for cost research in its rightful place at 12, Great George Street."

(Continued on page 13)

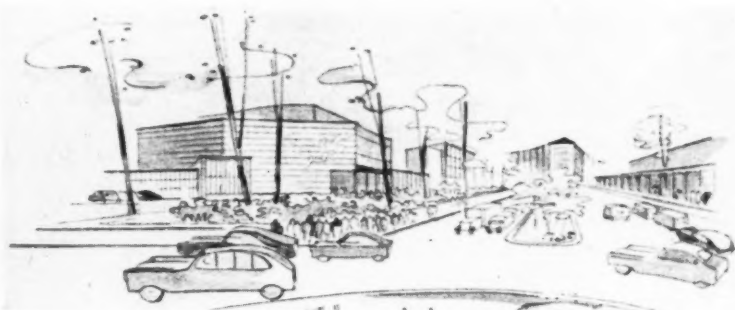
TWO TURKISH ARCHITECTS WIN INTERNATIONAL

On this page are four sketches of the winning design in an international competition for a development plan for the city of Ankara, the capital of Turkey, by two Turkish architects. Rasit Uybadin and Nihat Yucel. (Right, Ulus Square and its neighbourhood; below, Tandogan Square; bottom left, Sihhiye Square; bottom right, Universite Square.) Opposite are sketches of second prizewinning designs by Wolfgang Rudhard, Gotz-Dieter Raths and Peter Ahrens. (Top right, Tandogan Square and its neighbourhood; centre right, Ulus Square; below, Lozan Square; bottom, Universite Square.)

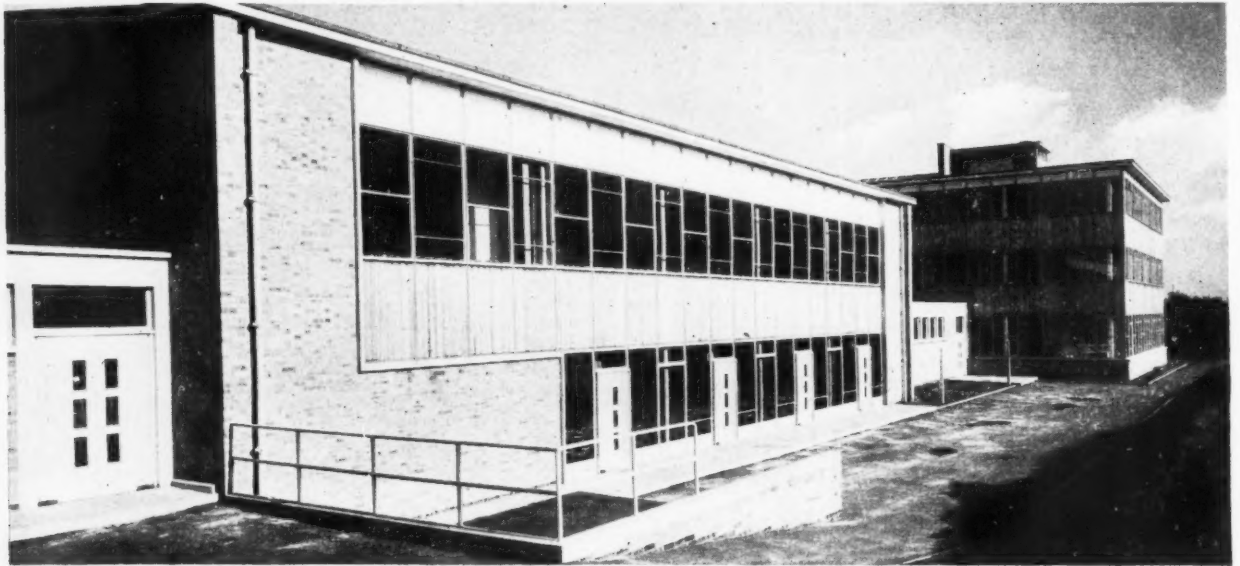


COMPETITION FOR DEVELOPMENT OF ANKARA

Twenty projects were submitted for this competition, which was organized by the Directorate of Development of the Government of Turkey and assessed by Luigi Piccinato. Competitors were asked to improve the existing development plan, which has formed the basis of development so far. They were asked to visit Ankara for at least fifteen days and were given every possible assistance in studying the city's needs. The first prize was £T30,000 (£T1 is worth about 2s. 6d.); the second prize was £T24,000 and the third prize which was won by an Italian group of architects, was £T15,000. There were also five consolation prizes of £T5,000 each. The twenty competitors included twelve Turkish architects.



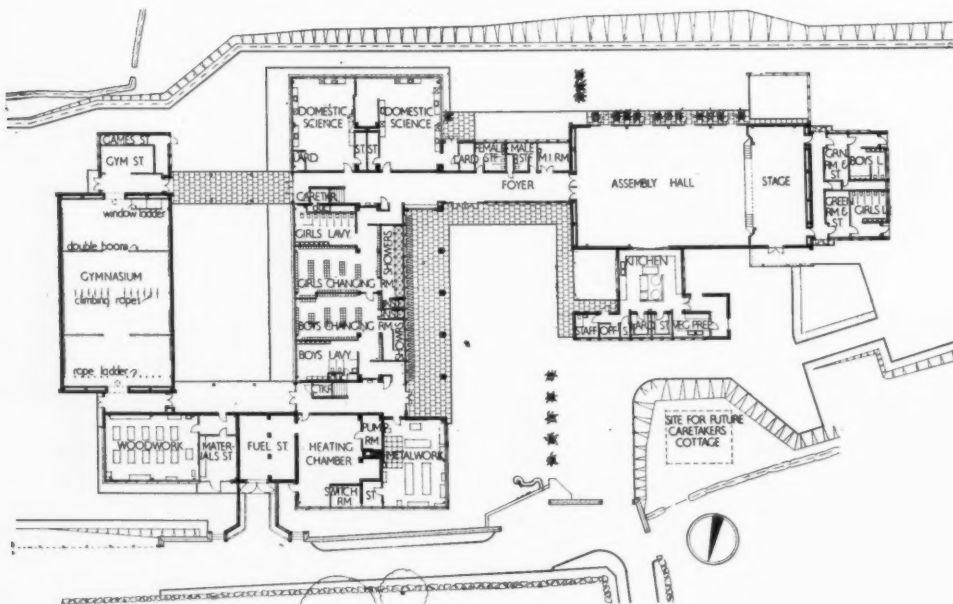
SECONDARY MODERN SCHOOL AT MOULTON,



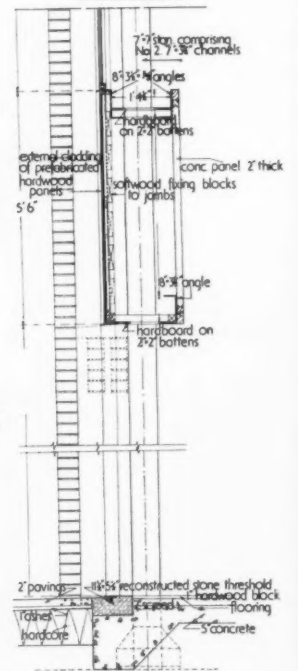
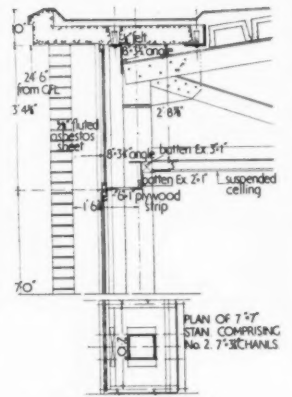
This secondary school at Moulton was designed by the County Architect, A. N. Harris and John Goff, assistant architect, to accommodate 480 children from Moulton and several surrounding villages. The site covers an area of 15 acres and the layout consists of three main blocks, (i) gymnasium, (ii) assembly hall (seen on the left in the photograph above and bottom on opposite page) and (iii) the central teaching block (seen on right, above and beyond the covered way from the gymnasium in the top photograph opposite). The centre photograph, overleaf, is of the domestic science room at the south-west corner, on the ground floor of



First and second floor plans

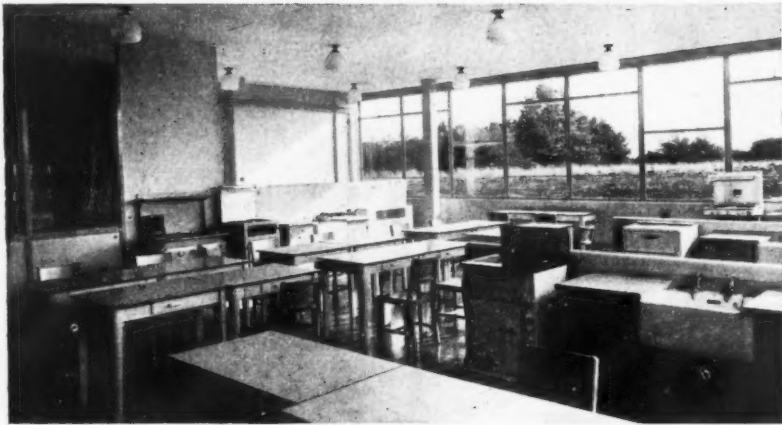
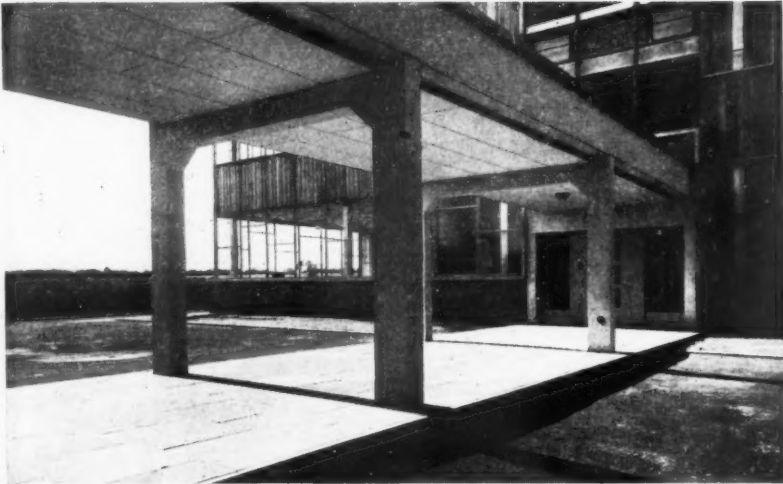


Ground floor plan [Scale: 1/4" = 1' 0"]

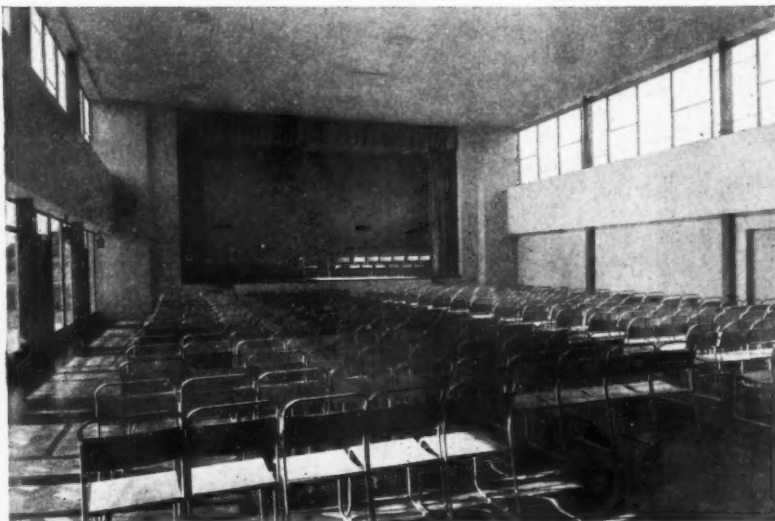


Section through south wall of assembly hall [Scale: 1/4" = 1' 0"]

NORTHAMPTONSHIRE



the three-storey block. To provide adequate light and ventilation the entire perimeter of this block was designed as window area and was sub-let to the metal window manufacturers who fixed a glazing system devised from standard window sections. Infilling panels between glazing, were illustrated as a Working Detail in the JOURNAL for March 24, 1955. The contract price for buildings, and site works was £126,912. General contractors Bernard Sunley & Sons Ltd. Sub-contractors, page 34.



News—(Continued from page 9)

HONG KONG

School's First Graduates

The first group of students has graduated from the Faculty of Architecture at the University of Hong Kong. One of them, Miss Doreen Young Tsin Wai, is going to America to study for a Master's Degree at the Graduate School of Design at Harvard.

The Graduate School accepts graduates from schools of recognized standing and places them in the second, third or final year of the course after considering their previous training and ability. Miss Young has been placed in the final year of the course. She is one of a number of Hong Kong graduates going to North or South America for post-graduate studies.

Meanwhile the RIBA has written to Hong Kong this year stating that it has not settled any policy regarding the recognition of schools overseas.

HOUSING CENTRE

Course on Housing

Secondary grammar schools in London will each be sending about half-a-dozen of their sixth form pupils to this year's course on housing at the Housing Centre. The speakers will be Mrs. Mary Stocks, former principal of Westfield College, London; Mrs. Henry Brooke, chairman of Hampstead borough council's housing committee; Miss E. P. Cockburn, housing manager, Barnes borough council; Lt.-Col. R. A. Jensen, director of housing and borough architect, Paddington, and Mrs. S. M. Hayward, architect. The course, which will be held on July 20 to 22, will include a visit to Harlow New Town.

SCHOLARSHIP

Winner Announced

The Truscon travelling scholarship for the study of reinforced concrete work offered by the Trussed Concrete Steel Co. Ltd., details of which were given in the AJ of March 24, 1955, has been awarded to Alexander Redhouse, A.R.I.B.A., of London. He will study interesting reinforced concrete work on the continent with particular reference to the collaboration between architect and engineer and he will be accompanied by F. Bailey, of the company's staff, to whom a similar scholarship has been awarded.

The Selection Committee, which considered applications, consisted of C. S. White, F.R.I.B.A., G. Grenfell Baines, A.R.I.B.A., and a director of the Trussed Concrete Steel Co. Ltd.

DIARY

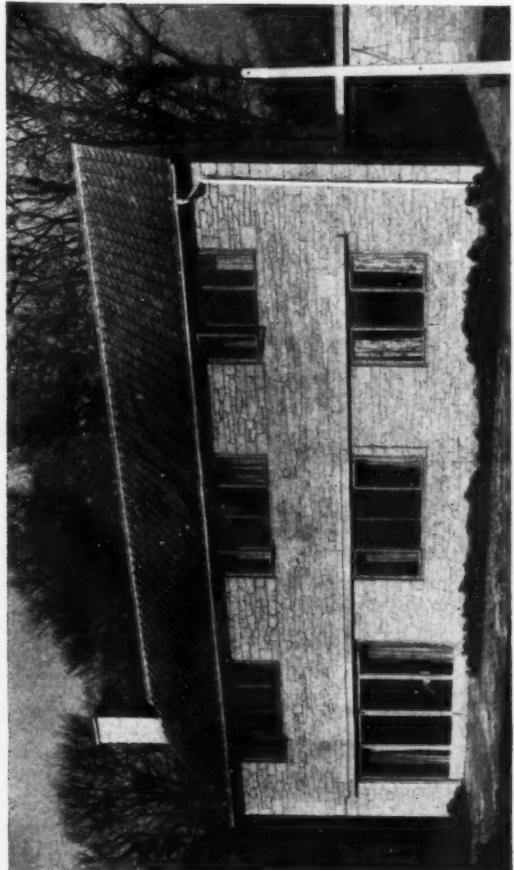
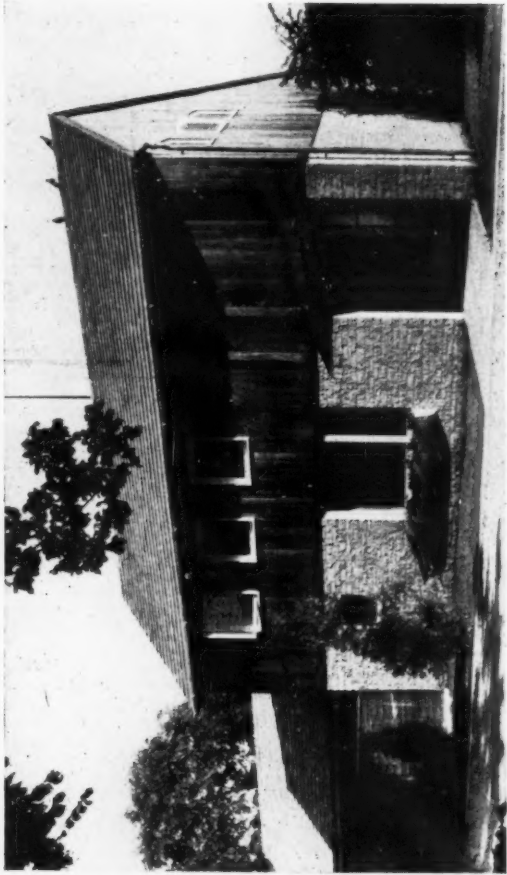
Turn Again. Discussion on MARS Group exhibition. Speakers: Kathleen Raine, Dr. J. Bronowski. Chairman: Stephen Spender. At the ICA, 17-18, Dover Street, W.1. 8.15 p.m. Members 2s., guests 3s. JULY 14

Housing Course. Organized by the Housing Centre Trust. At the Conference Hall, the County Hall, S.E.1.

JULY 20. First Session, 10.30 a.m.—12.30 p.m.: *The Citizen's Responsibility for Housing.* Chairman: H. C. Shearman. Opener: Mrs. Mary Stocks. Speaker: Mrs. Henry Brooke. Second Session, 2 p.m.—3.30 p.m.: *Comfort and Appearance within the Dwelling.* Chairman: Lady Eccles. Speaker: Sir Gordon Russell.

JULY 22. Tour to Harlow New Town. Leave County Hall 9.30 a.m., arrive back 5 p.m.

MORE WINNERS OF MOHLG MEDALS FOR PRIVATE ENTERPRISE HOUSING



Last week the JOURNAL contained illustrations of eleven of the fifteen private enterprise houses (from nine regions of England and Wales) which have won MOHLG medals and diplomas for their architects and builders. These are the four remaining medal-winners. Left: top, 9, Heath Avenue, Mansfield, Notts.

(architect: H. J. Mein); bottom, 59, Wyke Road, Weymouth (architect: E. Wamsley Lewis). Right: top, 52, New Yat Road, Witney, Oxon (architect: Gerald Banks); bottom, Golden Meadow, Gtval, Nr. Penzance (architect: P. J. Barbury, of G. Bazeley and Barbury).

FLATS

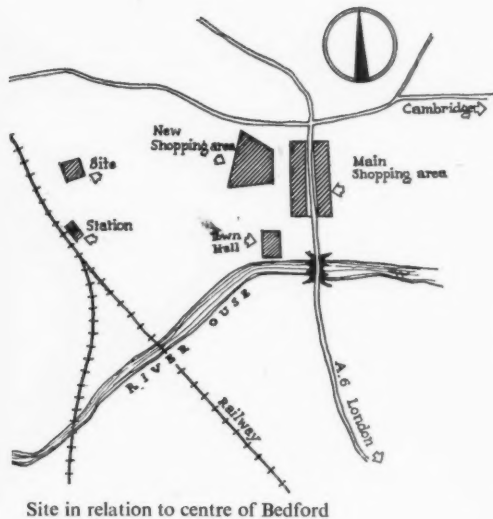
in ASHBURNHAM ROAD, BEDFORD
for the CORPORATION of BEDFORD

designed by MAX LOCK and PARTNERS, partner-in-charge, G. J. EASTON
consulting engineer, F. J. SAMUELY
quantity surveyor, CYRIL SWEETT and PARTNERS

The flats are a part of the Bedford Corporation's rehousing and housing development scheme, and comprise 55 dwellings of either one- or two-bedroom types. The clients intended that only single or old people should be accommodated, and in consequence no provision has been made by the architects for the storage of prams. Basically, the plan form is of a series of linked T's along the north and east perimeters of the site, each T being made up of three flats grouped around a staircase, lift and refuse chute unit. The general contractors were F. G. Minter Ltd. For sub-contractors see page 34.

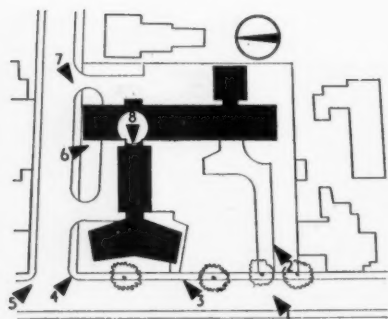
Viewpoint 1 from the south-west.





Above, from viewpoint 2; below, from viewpoint 3. The main weight of the west facing 8-storey wing is held within a projecting fair-faced concrete frame, within which the staircase and the flanking private balcony recesses, place a strong emphasis at one end away from the junction point of the 6-storey wing. This emphasis is enforced by a splash of colour from the blue-painted panels to the private balconies. No expression of unit dwelling is

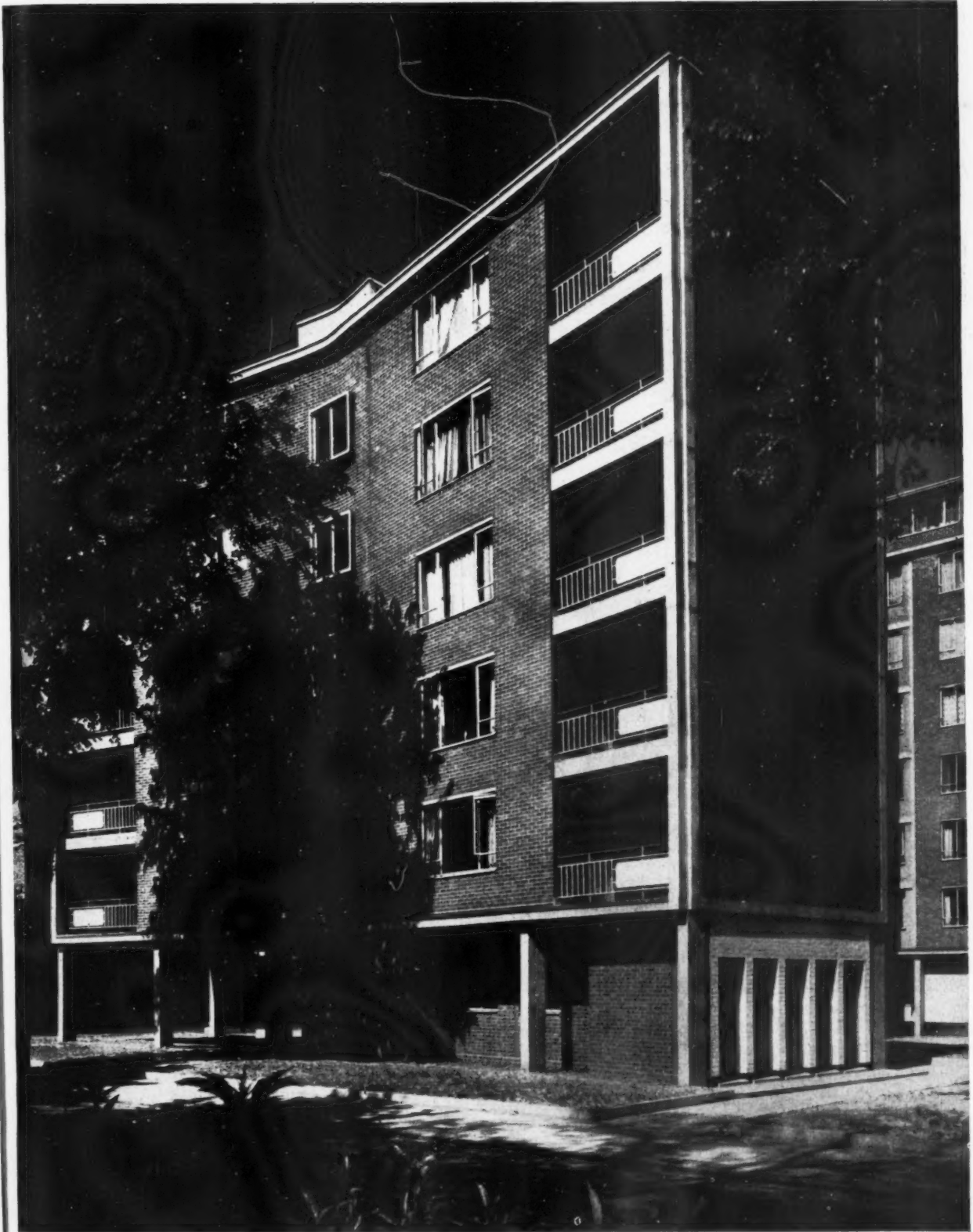
made. The form would be more resolute but for the topmost penthouse floor which is particularly obtrusive where the staircase windows reappear above the top frame. The balcony panels to the penthouse floor are painted white and the railings black, while the tank rooms above have dark-grey (Munsell reference N.4) north and south walls and pale blue-grey east and west walls (7.5 BG 6/2). The brickwork is in deep red sand-faced flettons.



Key plan showing photographic viewpoints. Ashburnham Road is to the west of the site and Woburn Road to the north

FLATS AT BEDFORD





The 6-storey wing nearest to Ashburnham Road, from viewpoint 4, which contains two identical one-bedroom flats on each upper floor, has a curved facade designed to give the maximum south-west sun to the flats directly to the rear. The facade is symmetrical, with emphasis provided by recessed private balconies at each end around the axis line of pro-

jecting concrete surrounds to the staircase windows. The tenant stores to this wing can be seen at ground floor level in the flank wall. The surrounding concrete frame is far more successful in this 6-storey wing where no definite masses, except the tank room and lift motor room, appear above.



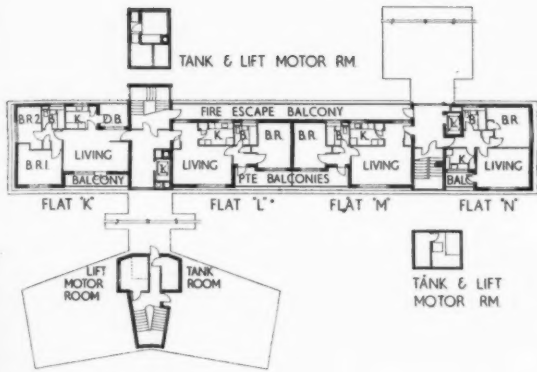
Above, from viewpoint 5. The end gable walls are faced with 1½-in. thick precast concrete slabs, ¾-in. mesh knapped flint surfaced. The slabs are interlocking, so that one supports the other to a certain extent, and are held in position by their own reinforcement left projecting at top and bottom and either built into the brickwork or tied back to the reinforcement of the edge beams. The balcony panels are asbestos and painted in pale leaf green (2.5 GY 8/6) with off-white metal balustrading.

Above right, viewpoint 6, from Woburn Road, showing the lobby link at the junction between the 8-storey and the 6-storey wing. Behind the slender structural columns on the ground floor is one of the two garages, and the door to the tenant stores. This facade of the 6-storey wing faces north and is pierced by only the small windows to the bathrooms, WC's and kitchens.

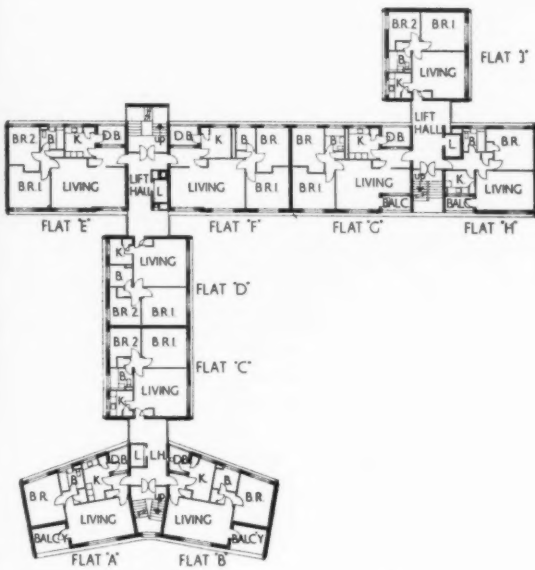
FLATS AT BEDFORD

Right, looking back from farther down Woburn Road, viewpoint 7, the extreme slenderness of the columns to the entrances is even more apparent, particularly in the furthest 6-storey wing. The grilles to the right of the projecting staircase tower are the precast concrete screens to the drying balconies; as with other exposed concrete surfaces throughout the block, they are left untreated. At the penthouse floor level can be seen the balcony panels to the escape gallery between the two staircases in the 8-storey wing. These drying balconies are provided to five of the nine dwellings on each typical floor.

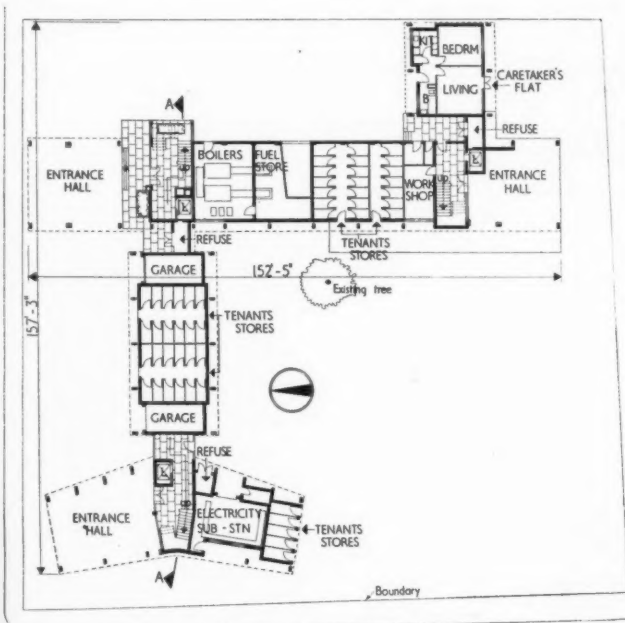




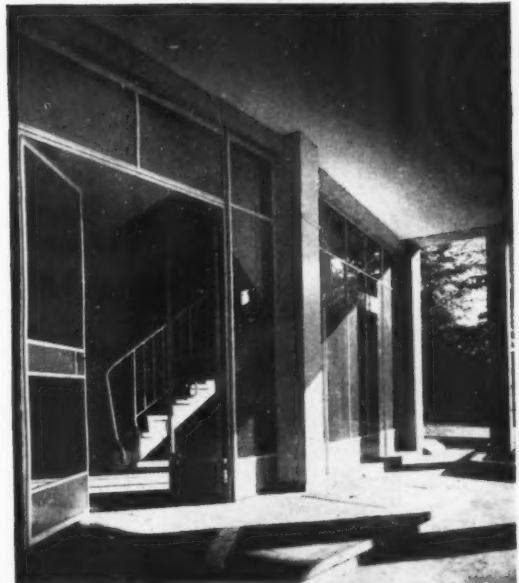
Pent house plan



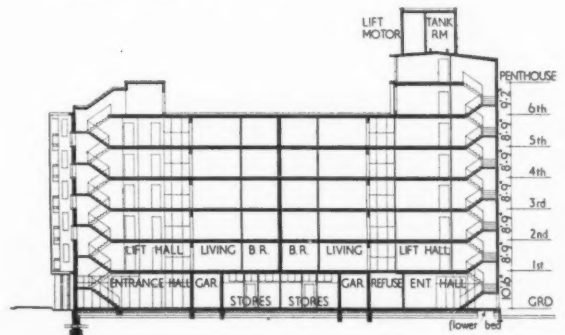
Typical upper floor plan



Ground floor plan [Scale: 3/4" = 1" 0']



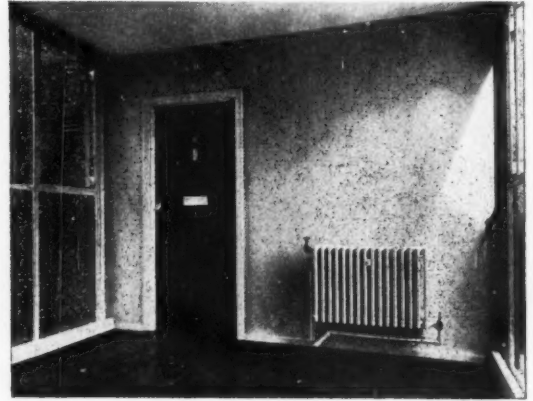
The entrance lobbies at ground floor level are paved with 3-ft. by 2-ft. precast concrete slabs laid breaking joint on a damp-proof membrane. The steel entrance doors are glazed in georgian wired glass.



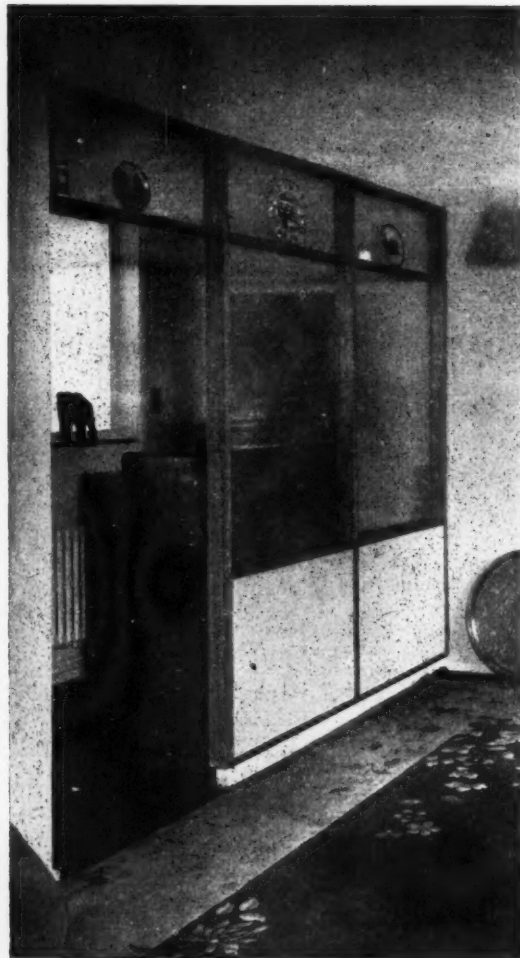
Section A-A



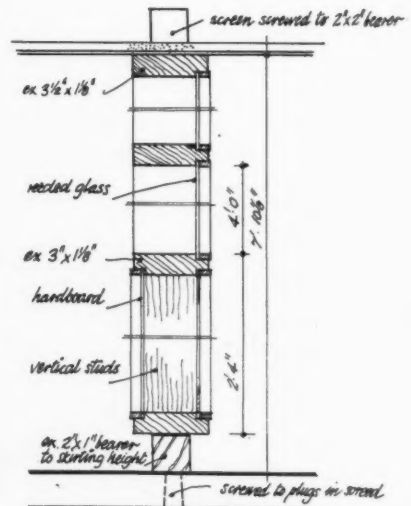
Left: the tubular steel handrail and balustrading are fixed to the string of the concrete cast-in-situ stair flights and landings. Stair treads and risers are grano finished. The dry fire riser on the left is painted bright red and the brass control cock is highly polished. Below: the entrance doors to the flat are fitted with anodized aluminium letter plates, finger grips and bell pushers. The doors are painted either blue or lime green.



FLATS AT BEDFORD



Left: in many of the smaller flats the entrance doors open directly into living rooms, but the two bedroom types have entrance lobbies separated from the living room by a screen of oiled hardwood with reeded glass panels above and hardwood below.



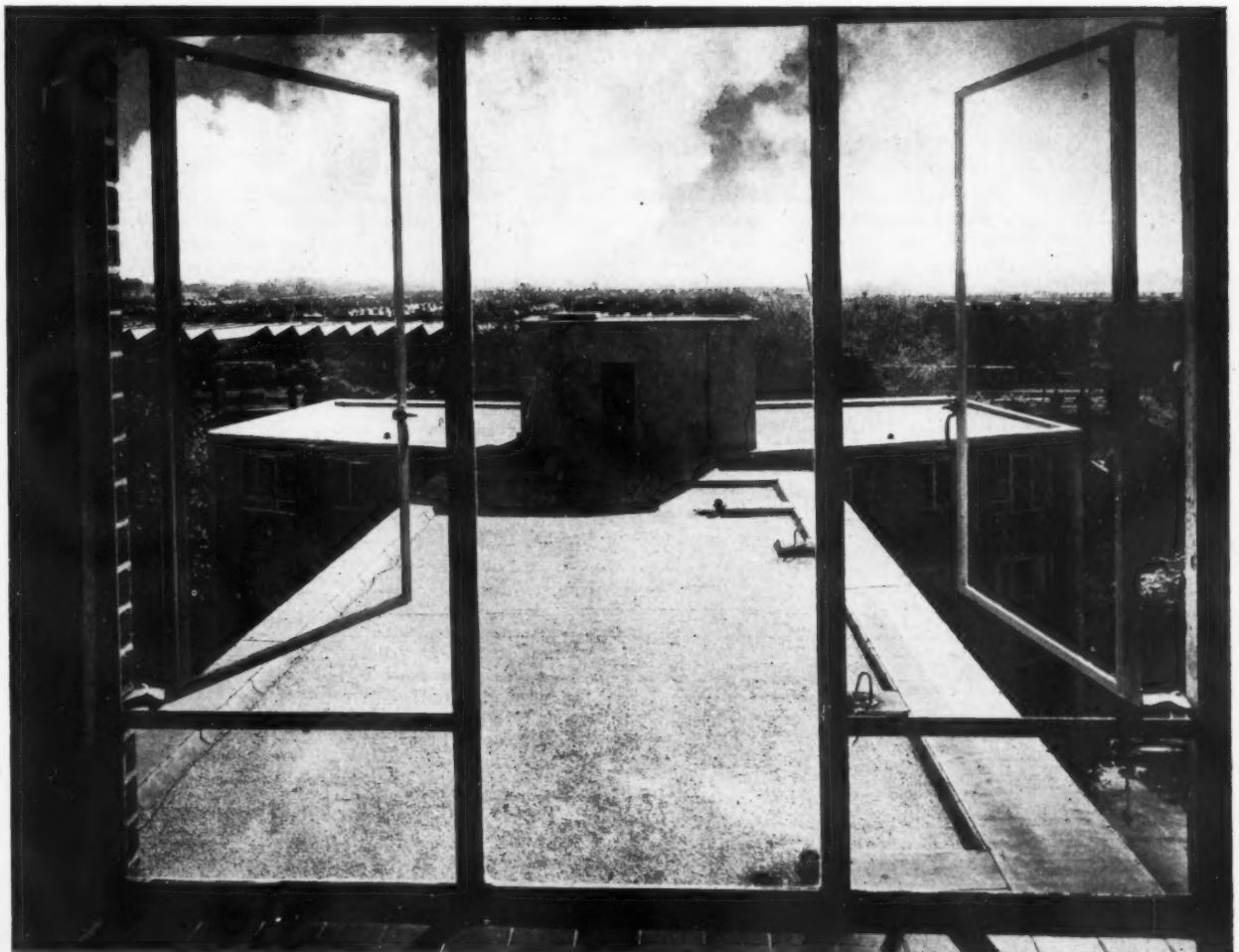
Sketch of glazed screen between living room and hall [Scale: $\frac{1}{2}'' = 1' 0''$]



Above: a typical kitchen. Standard wood dresser units, broom cupboard, double draining boards, and a ventilated larder are provided to each kitchen. Walls are cream (7.5 Y 9/6), doors and doors to units pale blue (7.5BG 6/2), frames to fittings blue/white (5.0 B 9/2) and ceilings white. Above right: where the first floor projects over the ground floor the under-side of the precast, prestressed beams and the 3-in. solid concrete pots are exposed and simply painted.



Below: viewpoint 8, from the 7th floor lobby window along the 6-storey portion of the flats. Alternative means of escape is by going over the roof through the door in the tank and lift motor room to the next staircase. The tank room is insulated with 1-in. wood-wool used as permanent shuttering.



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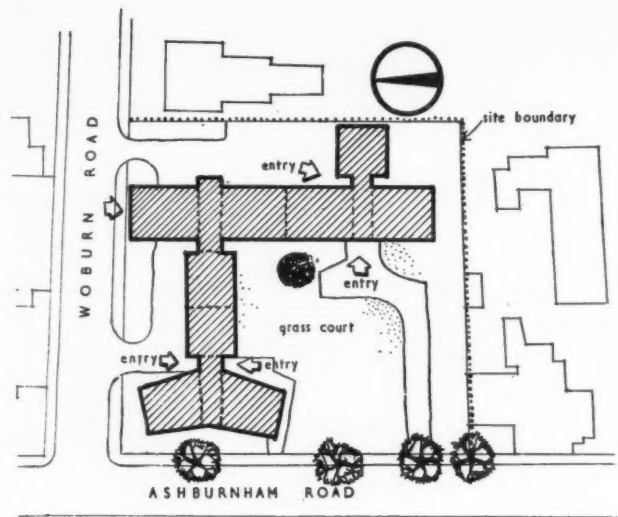
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CLIENT'S BRIEF:
his stated requirements

The scheme is part of the Bedford Plan in which it is hoped to restore a rapidly fading neighbourhood. The site for this project was previously occupied by eight large Victorian houses in such a poor condition that it was considered uneconomic to repair them or to convert them into flats. The Corporation therefore decided that they should be demolished and alternative accommodation provided for the 32 families which they housed.

SITE: topography, surroundings, access and planting

The site consists of the area liberated by the demolition of Nos. 45-59 Ashburnham Road, and their gardens. It lies to the east of the town centre (see sketch on page 16) close to the railway station and is surrounded by Victorian terrace houses, which once formed a prosperous part of Bedford. The site has roads on two of its sides, but there is no vehicular access from Ashburnham Road.



Site plan

PLAN: general appreciation

In order to provide more housing accommodation than previously, it was necessary to design multi-storey flats, and since the client required internal access it was most economical to design these flats in a series of T's with lifts at the junction, thus each lift serves three flats per

floor. These T's are linked to form a continuous block running along the north and east perimeters of the site so that the maximum number of living rooms may face south or west on to an open grassed court. The block on the east perimeter has eight storeys, and the remainder

six storeys. There are some eight different flat types with accommodation divided equally between one and two-bedroom types. The standard of room areas is high (living rooms 200 sq. ft., bedrooms 130 sq. ft.) although kitchens are small.

MAIN CONSTRUCTION: general appreciation

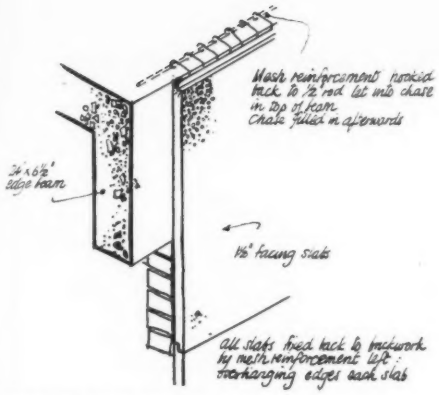
The main construction consists of a series of in-situ columns within the thickness of the non-loadbearing walls. These columns are joined at each floor level along the external faces of the block by reinforced concrete edge beams

which have pockets cast in their inner faces to support the ends of the precast prestressed plank units. The planks support RC concrete trough units on which is laid a poker-vibrated reinforced-concrete topping. The Hoyer method

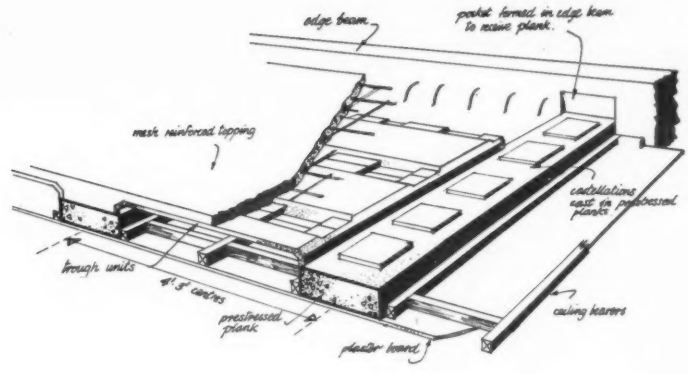
of prestressing is used for the planks: a high-alumina cement being used to secure early release from stressing bed. A tower crane was used to lift the units into place. Roof construction is similar.

MAIN CONSTRUCTION

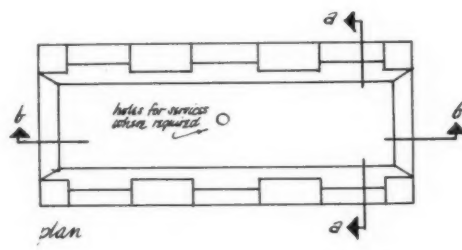
Load bearing element	Location	Beam spans	Reasons
Reinforced concrete columns	Generally in thickness of external wall. At ground floor exposed and freestanding	Varies according to plan but generally 12 ft. 9 in. × 23 ft. 6 in., or 12 ft. 0 in. × 22 ft. 6 in., or 12 ft. 9 in. × 20 ft. 0 in.	It has been thought better to vary the length of the prestressed beams, rather than force all the dissimilar flat plans into a standard column and beam grid. The columns are 18 in. × 9 in. at ground floor level and 16 in. × 6½ in. at first floor level reducing in size to 6½ in. × 6½ in. at Penthouse level. In each case the 6½ in. dimension is arrived at by the use of 3-in. inner clinker block and a 3-in. cavity so that edge beams and columns do not show internally or externally
Foundation type	Excavation	Sub-soil	Depth
Mass concrete	To columns. To ground floor brick walls	Clay and gravel mixture	10 ft. 0 in., 2 ft. 0 in.
Outer wall type	Location	Materials	Finish
Solid	Ground floor store	9-in. brickwork	Sand faced, painted brickwork
Cavity	Walls generally	4½-in. brick, 3½-in. cavity, 2-in. clinker block	Sand faced, flettons, deep red. Cement mortar below DPC for brickwork generally, weather-structured joints in gauged mortar 1 : 1 : 6
Faced walls	Gable ends	As cavity wall, but with 1½-in. flint faced slabs	¾-in. knapped flints
Roof type	Location	Material	Finish
Prestressed	All flat roofs	As general floor construction	3-layer mineral felt on screed laid to falls on 1-in. woodwool insulation
r.c. skin structures	Penthouse roof		



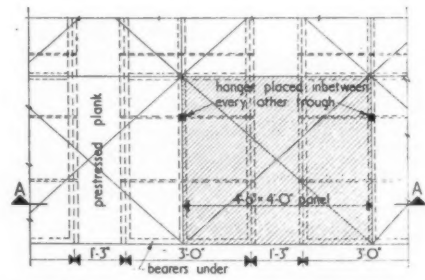
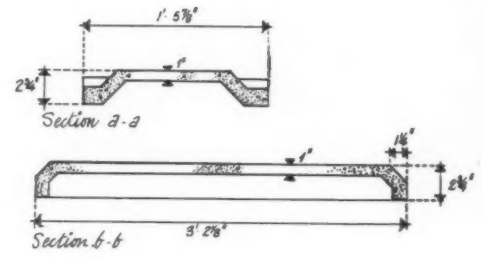
Sketch of fixing details to facing slabs (gable end walls) [Scale: 1 1/2" = 1' 0"]



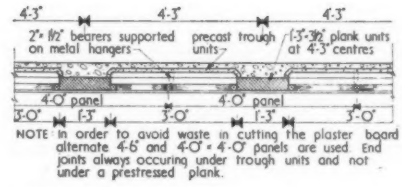
Sketch of floor construction



Plan and sections of precast floor trough unit [Scale: 1/2" = 1' 0"]



Plan of floor construction (typical ceiling panel shown hatched) [Scale: 1/2" = 1' 0"]



Section A-A

Floor structure type	Location	Materials	Finish	Reason
Prestressed floor	2nd floor upwards	Prestressed planks with precast concrete trough units and RC topping	In flat: 1/2-in. thermoplastic on 1 1/2-in. reinforced screed on 1-in. glass fibre quilt	Prestressed floor construction adopted to economise on steel at a time of national steel shortage and also permit large spans, giving freedom of internal planning
Fire-resisting prestressed floor	First floor only	As above but with 3-in. solid pots	Balcony floors: grano laid to falls on felt damp-proof membrane Lobbies: 1/2-in. thermoplastic tile on 1-in. screed	
Internal wall type	Location	Materials	Finish	Reason
Hand-erected block	Between rooms within dwellings	2 1/2-in. clinker block	1/2-in. plaster, 2 coat work	All internal partitions and inner skins of external cavity walls built off felt discontinuity strip
Cross walls	Between flats and landings	9-in. brickwork	1/2-in. plaster, 2 coat work	These act as bracing walls, and take the place of the large cross beams that would be necessary in an orthodox RC structure.
Cavity hand-erected block	Between dwellings	3/8-in. clinker block and 3-in. cavity		All internal partitions and inner skins of external cavity walls built off felt discontinuity strip
Ceilings type	Location	Material	Finish	
Suspended internal	Internal generally	1/2-in. skin coat on 1/2-in. plasterboard lath	1/2-in. skin plaster	
Suspended ceiling external	Ceilings to balconies and porte cochere	Expanded metal lathing on battens	1/2-in. lime-gypsum plaster	

ARTIFICIAL LIGHTING

<i>Source and fitting type</i>		<i>Location</i>
Eastern Electricity Board mains		In vertical ducts to flats
Fittings in dwelling by tenant		In ceiling
Bulkhead fittings		Externally
Saucer fittings		On public landings

<i>Wiring and switching type</i>	<i>Location</i>	<i>Reasons and comments</i>
P.V.C. cable to screwed conduit, with flush plastic switches for lighting points	Throughout	Conduit is concealed in the floor screed

<i>Power supply type</i>	<i>How distributed</i>
3-phase 415-volt	From 4-core service cable to central fusebox at foot of mains duct—from this a 3-phase and neutral rising main to top of duct. From distribution board copper sheathed sub-services are taken to the floor screed in each flat to terminate at tenants consumer unit
1-phase 240-volt 50-cycles	

NATURAL LIGHTING

<i>Wall glazing</i>	<i>Location</i>	<i>Reasons and comments</i>
Floor to ceiling	Landings and lift lobbies	Made up from standard units and universal casement sections
Hole in wall	Flats generally	Standard metal windows with pressed steel sills

THERMAL INSULATION

<i>Type</i>	<i>Location</i>	<i>U-Value</i>
Wood wool	Roofs generally	0.20
Air cavity	External walls generally	0.23

HEATING AND VENTILATION: artificial and natural

<i>Heat exchanger type</i>	<i>Location</i>	<i>Criteria temperature</i>
Hot water radiator	In living rooms and lift lobbies	Living room 65°. Lobbies 50°
Vertical risers	Generally in bedrooms	

<i>Boiler type and capacity</i>	<i>Heat load</i>	<i>Fuel type</i>	<i>Stoking method</i>
Two 49 KS Ideal sectional boilers	1,622,000 B.Th.U.'s	1-in. Nottingham washed singles	Underfeed automatic stokers

<i>Water heater and hot water storage type</i>	<i>Location</i>	<i>Fuel type</i>	<i>Stoking method</i>
Individual calorifier heated by main boilers	Calorifiers in each flat	1-in. Nottingham washed singles	Underfeed automatic boilers

<i>Pipes and jointing types</i>	<i>Location</i>	<i>Materials</i>
Heating pipes, welded	In ducts or in bedrooms	Class "B" mild steel
Plumbing copper-brazed	Generally	Copper

<i>Cold water storage</i>	<i>Location</i>	<i>Materials</i>	<i>Capacity</i>	<i>Comments</i>
Three cisterns	Over each lift lobby at roof level	Galvanized steel 1/2-in. plate	1,100 gallons each	Tank room is insulated

<i>Refuse method</i>	<i>Type of refuse</i>	<i>Waste recovery</i>	<i>Materials and installation method</i>
Chutes	Household, excluding cinders and ashes	In bins at foot of chutes at ground level	Pipes in salt glazed stoneware with steel hopper at each landing

SPECIAL ACOUSTICAL TREATMENT

<i>Sound insulation</i>	<i>Location</i>	<i>Insulation standard</i>	<i>Comments</i>
Glass silk quilt and suspended ceilings	Between floors	50db.	Services such as lifts and refuse chutes are planned away from B.R.'s and L.R.'s do not adjoin
Air cavity	Between party walls	55db.	

SOIL WASTE

<i>Type of system</i>	<i>Location</i>	<i>Materials</i>	<i>Method and comments</i>
One-pipe system	In ducts between bathroom and kitchen	Cast iron with copper wastes and branches	Spruce thrower units were used to all W.C. fittings to save space

<i>Drain type</i>	<i>Method and comments</i>
Stoneware 4-in. pipes	Where pipes pass beneath building they are encased in 6-in. concrete

<i>Rainwater disposal type</i>	<i>Location</i>	<i>Materials</i>	<i>Comments</i>
Separate system and soakaways	Vertical internal ducts or on balconies	Cast iron	The SW sewer is located in Ashburnham Road only

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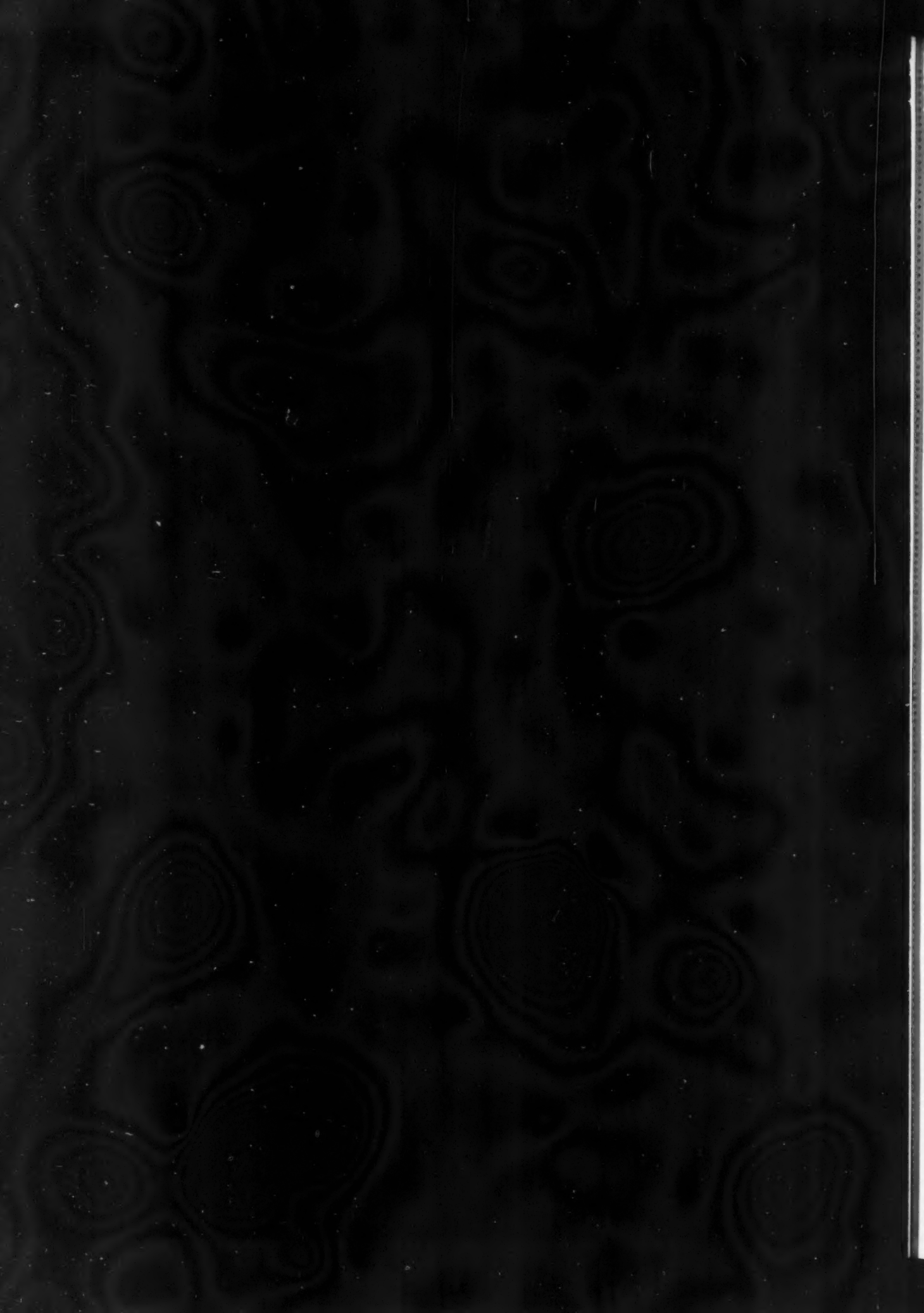
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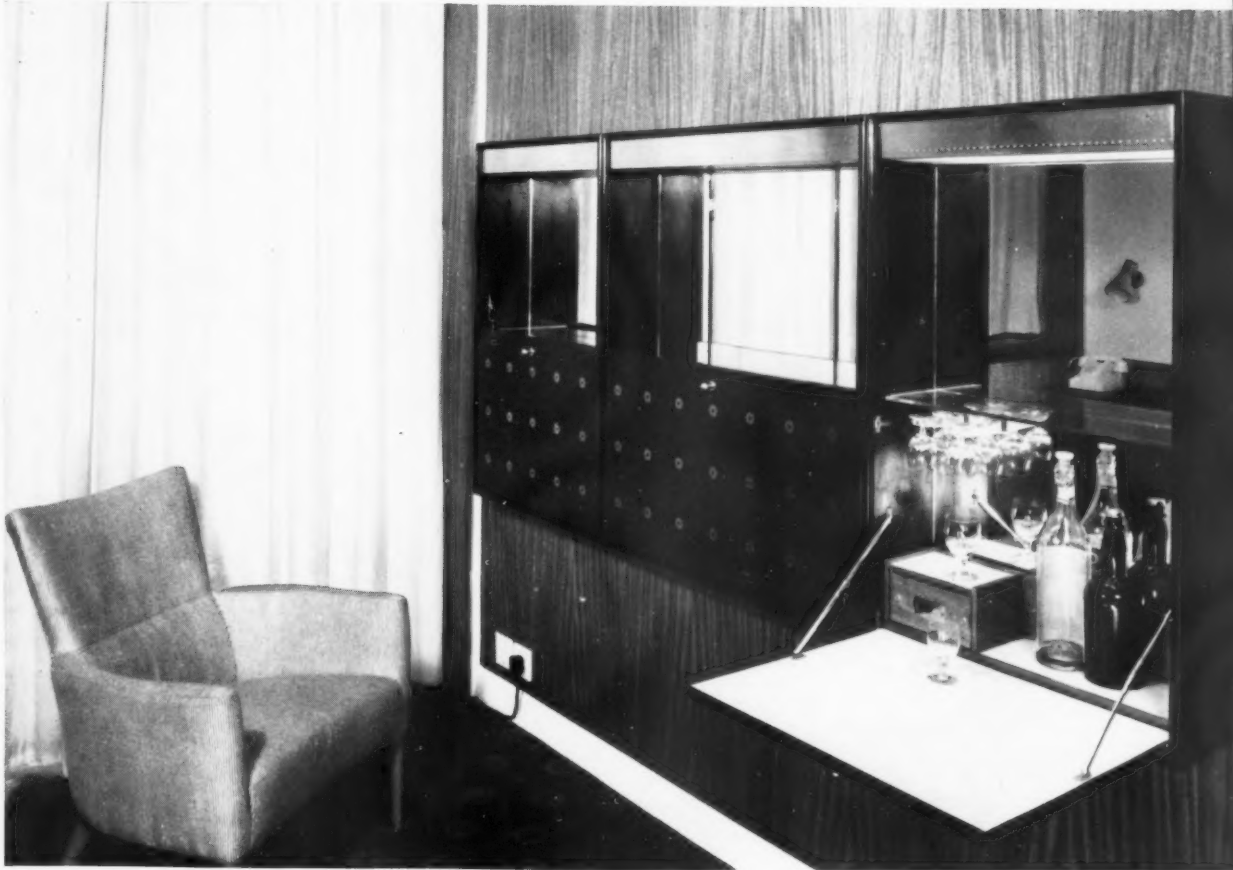
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WORKING DETAIL

WRITING, DRESSING AND COCKTAIL FITTING: HOTEL AT COVENTRY

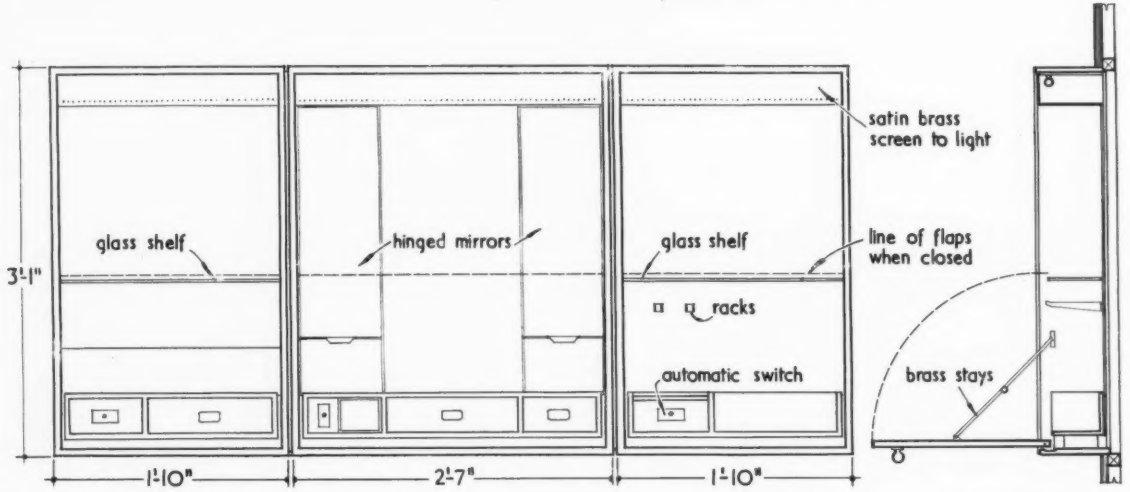
Ward and Austin, architects

The object in treating these three pieces of bedroom furniture in this manner was partly to gain space in the bedroom, partly to enable the occupant to conceal signs of disarray at a moment's notice before the arrival of guests. For the bedrooms are bed-sitting rooms and it is assumed that they will be frequently used for business meetings. The pattern on the outward face of the flaps is worked in brass inlay, in the marquetry tradition. The flaps, which release the light switch when opened, turn on brass pivot hinges and are held when open by brass elbow stays.

WORKING DETAIL

WRITING, DRESSING AND COCKTAIL FITTING: HOTEL AT COVENTRY

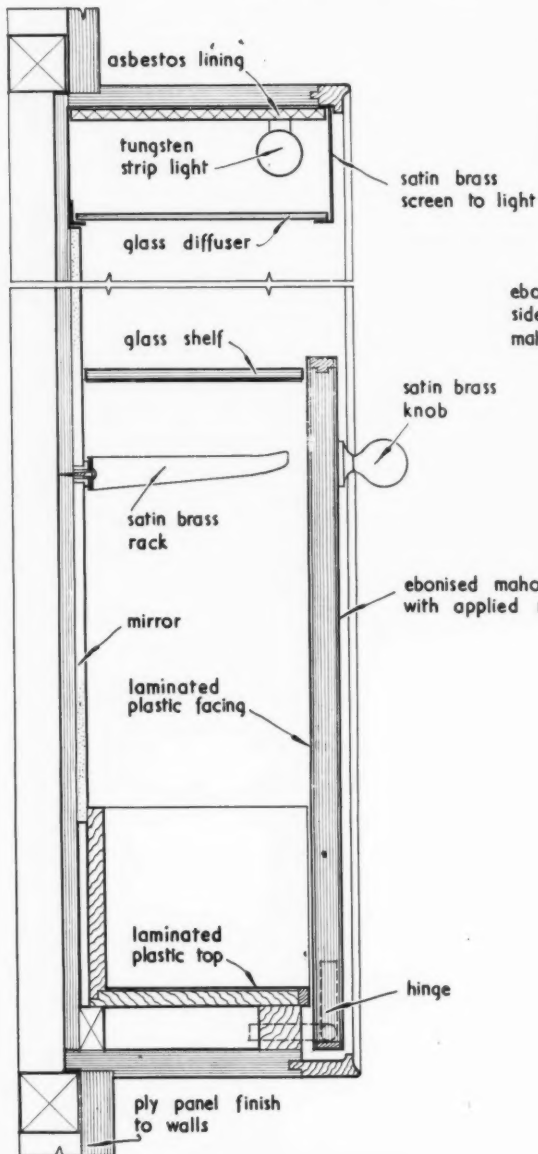
Ward and Austin, architects



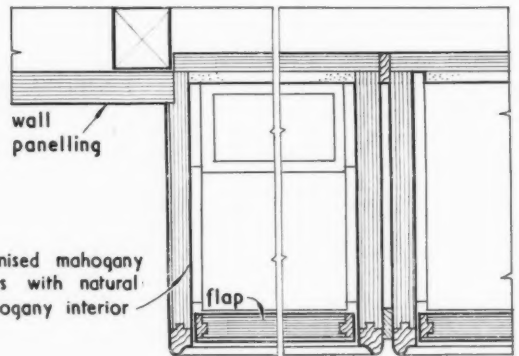
ELEVATION OF WRITING, DRESSING AND COCKTAIL FITTING.

scale $\frac{3}{4}'' = 1'-0''$

SECTION

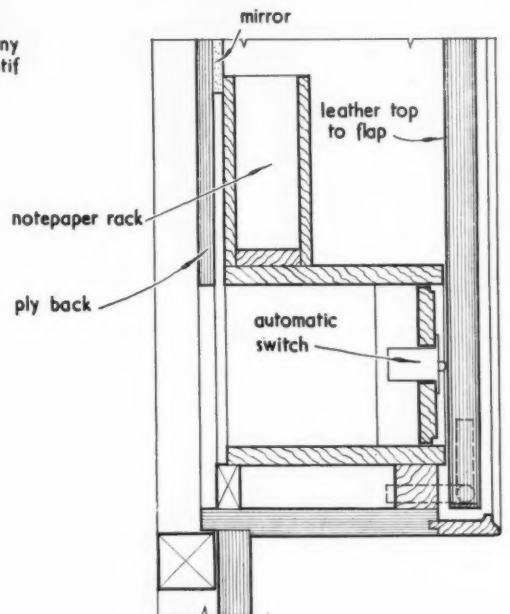


SECTION OF COCKTAIL UNIT. scale $\frac{1}{4}$ full size



PLAN OF WRITING UNIT.

scale $\frac{1}{4}$ full size



SECTION OF WRITING UNIT. scale $\frac{1}{4}$ full size

WORKING DETAIL

BEDSIDE CABINET: HOTEL AT COVENTRY

Ward and Austin, architects

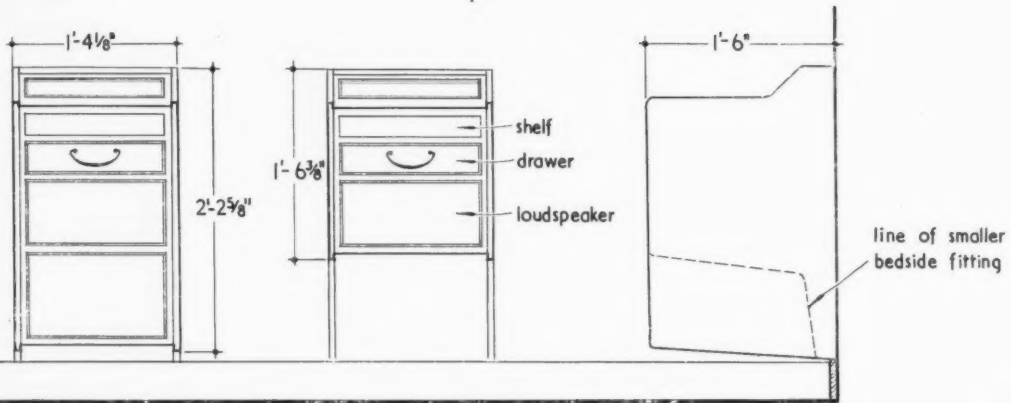


This bedside table incorporates light switches, bell push, radio and radio controls, while the alternative model (shown in the drawing but not in the photograph), which is for use in bedrooms with no w.c. en suite, has a cupboard for the chamber pot below the radio panel.

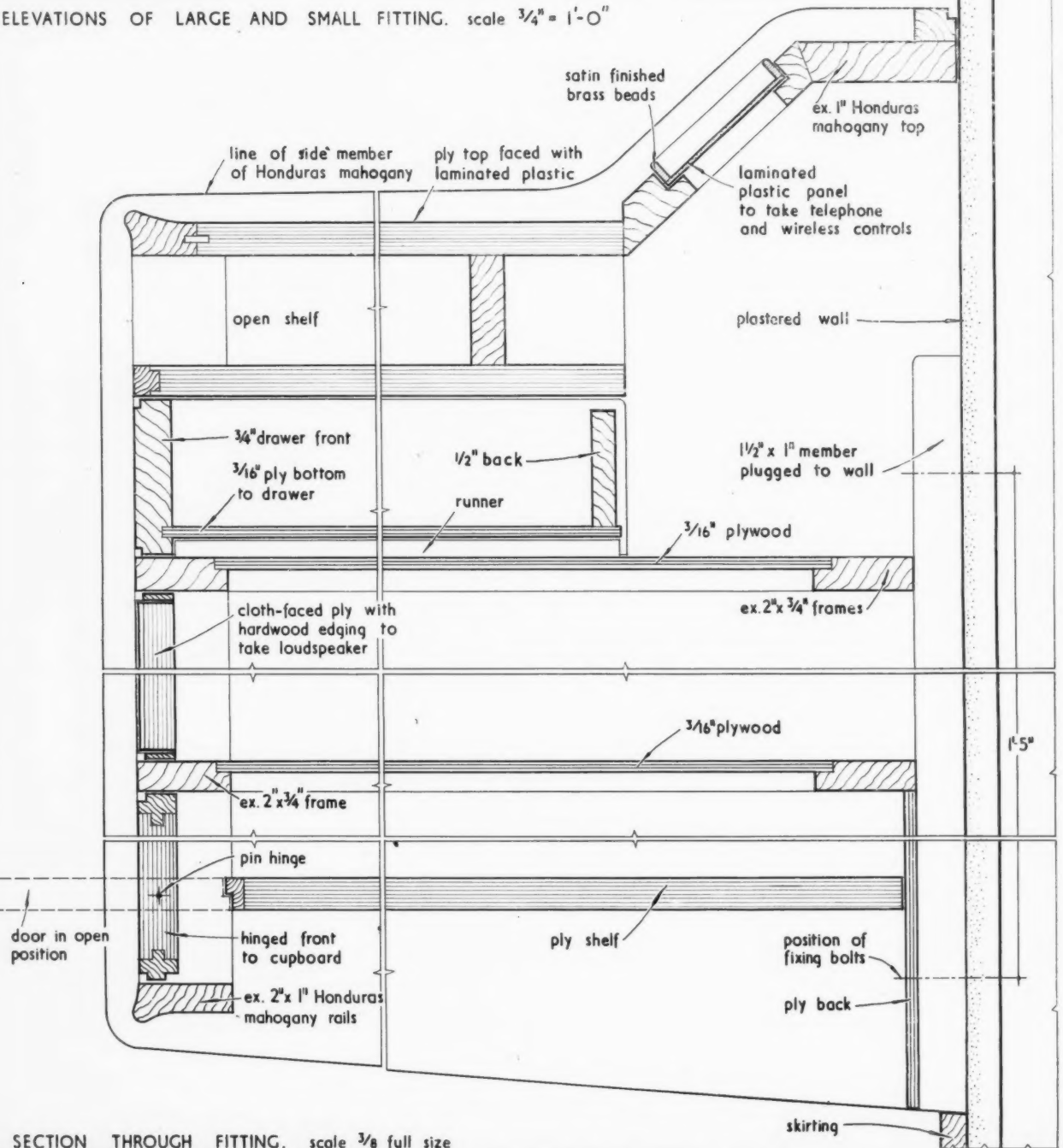
WORKING DETAIL

BEDSIDE CABINET: HOTEL AT COVENTRY

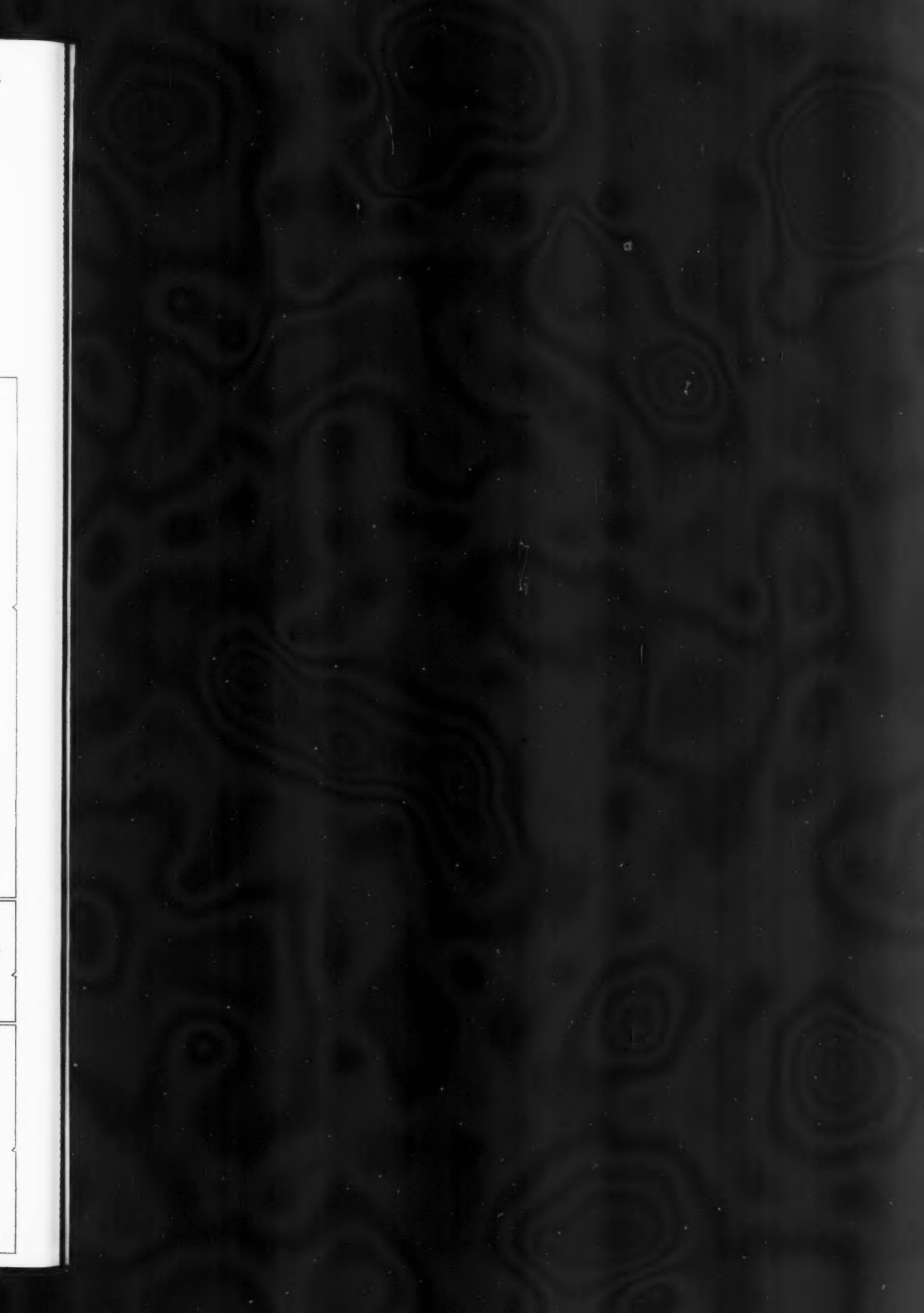
Ward and Austin, architects



ELEVATIONS OF LARGE AND SMALL FITTING. scale 3/4" = 1'-0"



SECTION THROUGH FITTING. scale 3/8 full size



Lifts type Fully automatic power operated	Capacity, speed 8 persons, 900 lb., 100 ft. per minute	Relation to traffic circulation Lifts are placed at the junction of three flats per floor and two flats per floor at penthouse level	Motor room position At roof level
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FIRE

Structural precautions The whole structure is fire resisting, special precautions having been taken where the flats have been planned over the boiler house, etc.	Grade of protection 2 hours	Apparatus, sprinklers, etc. Dry rising mains to each landing
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Planning precautions, access for fighting Each staircase has adequate hardstanding in front of it for the placing of escape ladders. Each staircase being considered to point of entry for fire fighting	Means of escape Each landing has means of escape over the flat roof to alternative staircases
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COLOUR

Paint types	Where used
Washable distemper	Ceilings
Emulsion paint	Walls generally
Oil paint	Walls of kitchens and bathrooms, all joinery and metalware

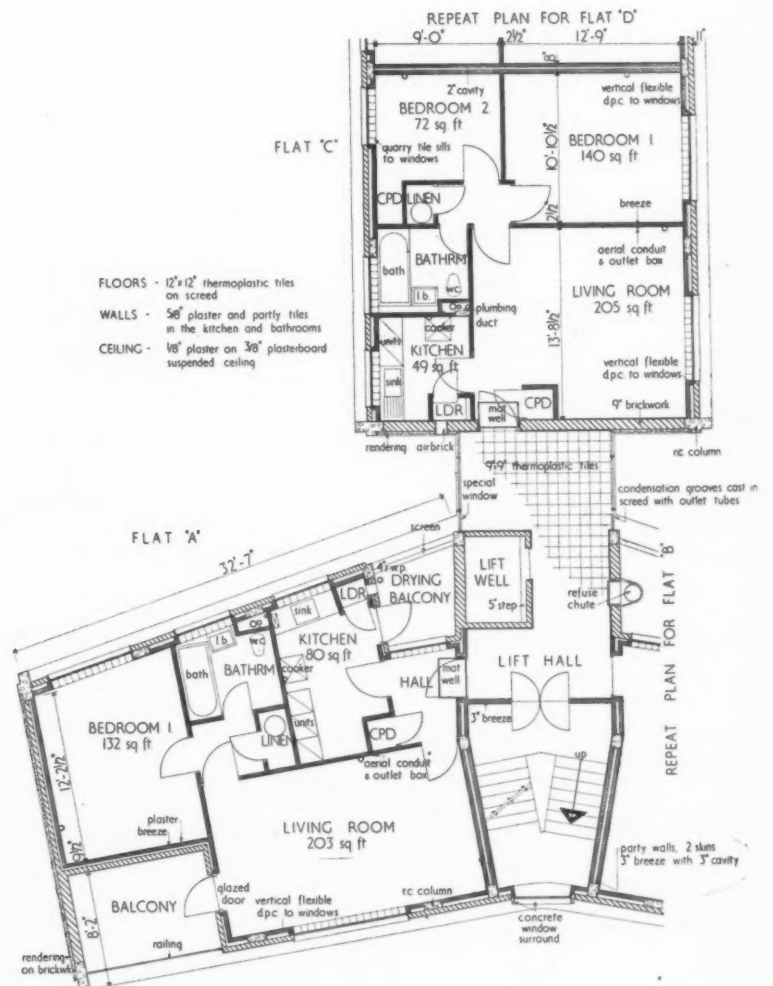
Colour treatments

Colours have been selected from Munsell Archrome range. Ceilings are white throughout and floors pompeian red with the exception of communal lobbies which are black. The following is the colour scheme used for flats E, F, G, K, L and M. Three similar schemes were used.

	Kitchens and bathrooms	L.R.s	B.R.1	B.R.2	Lobby
Walls	7.5Y9/6	10.0YR8/2	10YR8/2	7.5Y9/6	5.OY/8/2
Doors	7.5BG6/2	10.0GY5/2	10.0GY5/2	7.5BG6/2	7.5BG6/2
Joinery and metal work	5.OB9/2	N.9	N.9	5.0B9/2	N.9

External colour treatments are described in photograph captions

DETAILED PLANNING OF SELECTED AREAS



Detail plan, flats A and C [Scale: 1/32" = 1' 0"]

TIME SCHEDULE

Drawings	Contract signed	Work commenced	Work completed	Type of contract	Comments
June, 1951, to January, 1952	April, 1953	May, 1953	February, 1955	RIBA for LA's with Quantities	The length of time between the finishing of the drawings and the signing of the contract was largely caused by prolonged negotiations with the Ministry concerning a subsidy for the scheme.

ADDITIONAL INFORMATION

Telephones

Conduit is run to each flat so that the Post Office can run in telephone cable should the tenants so desire

Television

A communal television aerial has been installed to serve each flat. This is particularly necessary in the Bedford area where reception is not good

SCHEDULE OF ACCOMMODATION

Block No.	Type	No. of storeys	ROOM AREAS IN SQUARE FEET					Dwellings	Totals Rooms
			1 bedroom	2 bedroom	3 room	4 room	5 room		
A	SA	6	10	5				15	35
B	SA	6 and 8	1	18				19	56
C	SA	7 and 8	9	12				21	54

Block A includes flat types A, B and C, block B includes flat types D, E, F, K and L, block C includes flat types G, H, J, M and N and caretaker's flat.

ACCOMMODATION STANDARD

Area of site in acres prior to road widening	Deduct area of site for non-housing purposes	Add ½ public roads up to 20 ft.	Area of site available for housing	Total number of dwellings	Total number of habitable rooms	Total number of persons housed	Density of dwellings per acre	Number tenant stores internal	Number tenant stores external	Total number garages	ROOM AREAS IN SQUARE FEET				
											Flat type	Living room	Kitchen	Bedroom No. 1	Bedroom No. 2
½ acre	—	—	Whole	55	145	—	110	—	55	2	Flats A and B	203	80	132	—
											Flats C, D, J	205	49	140	72
											Flats E and F	275	78	131	111
											Flat G	230	78	131	111
											Flat H	181	56	131	—
											Flat K	221	59	120	82
											Flats L and M	187	65	137	—
											Flat N	186	53	121	—
											Caretaker's flats	170	49	138	—
											Floor to floor height 8 ft. 9 in. Room heights (fin. to fin.) 7 ft. 10½ in.				

FITTINGS AND EQUIPMENT

Provision for clothes drying

The larger flats have drying balconies screened by concrete grilles

Number of electrical points

K.	L.R.	B.R.1	B.R.2	B.R.3	B.R.4
1	1	1	1	—	—

COST

Based on Tender dated July, 1952

Number of flats	55
Number of habitable rooms	145
Gross cost	£120,380
Gross cost per habitable room	£850
Gross cost per flat	£2,188
Net tender cost, including cost of boiler house and stores, etc.	£114,594
Net cost per habitable room	£790

The rents for these flats vary from 45s. to 55s. per week, to which should be added 9s. 6d. to 13s. 9d. per week for rates.

TECHNICAL SECTION

Perhaps the chief service done to the busy architect by the new BRS Digest on *Vibrations in Buildings** is to establish that vibrations commonly met are an unlikely cause of damage to building structures. People who live in a busy street or close under a railway bridge are ready to attribute plaster cracks to vibration because they themselves are sensitive to it. But evidence shows that damage of this sort is very unlikely to be done by vibration from outside a building. The second lesson of the Bulletin is the importance of not counting on rule of thumb for solving problems of isolation. The effectiveness of an isolating mounting depends on its frequency, which must be about one third of the frequency of the vibrating element. If this condition is met the vibration (or, more exactly, the amplitude of the vibration) can be reduced by as much as 80 per cent. But if this condition is *not* met, the isolating mounting may make very little difference. The Bulletin gives the architect an excellent idea of what can be done by anti-vibration engineering but it does not (because it cannot) tell him how to manage without the anti-vibration specialist.

*Building Research Digest No. 78. *Vibrations in Buildings*. HMSO 3d.

This week's
special article

14 MATERIALS : CONCRETE sintered pulverized fuel ash as a lightweight aggregate

The number preceding the week's special article or survey indicates the appropriate subject heading of the Information Centre to which the article or survey belongs. The complete list of these headings is printed from time-to-time. To each survey is appended a list of recently-published and relevant Information Centre items. Further and earlier information can be found by referring to the index published free each year.

One of the anxieties of the moment is to find a commercial use for pulverized fuel ash (p.f.a.), a by-product of electricity generating stations, which is being produced at the rate of about 2 million tons a year. While the future of p.f.a. bricks is still in the balance, another and perhaps more likely use is the manufacture of p.f.a. lightweight aggregate as an alternative to clinker for block-making. This week W. Kinniburgh, F.R.I.C., with the permission of the Director of Building Research, presents the BRS findings on this material.

Pulverized fuel ash is the combustion residue from powdered coal and is produced in vast and ever-increasing quantities by the power stations of this country. It is a grey powder matching ordinary Portland cement in fineness as well as in appearance. In this range of particle size the ash in its course through the furnace is almost completely gas-borne, and would largely be discharged by the chimney into the atmosphere were it not removed, either by electrostatic precipitation, or centrifugally in cyclone separators. It is from the collecting bins of these precipitators that the ash is obtained as a dry powder.

Dust as fine as pulverized fuel ash is difficult to dispose of and recourse is made to dumping at sea or filling in of disused gravel pits; either of which methods may lead to costs of several shillings per ton of ash. Chain grate stokers, using graded coal, were formerly employed for all electricity production and the resulting clinkered ash was widely used as an aggregate in lightweight concrete. The changeover to pulverized fuel firing has, of course, resulted in a decline in the production of furnace clinker and this scarcity has been aggravated by an increase in the demand for clinker by the concrete



Fig. 1. (top left). Unburnt pellets. Fig. 2. (top right). Pan for pelleting of ash. Fig. 3. (above left). Sintered p. f. pellets. Fig. 4. (above right). Small furnace of refractory concrete. Fig. 5. (right). Large kiln under construction.

industry. The shortage of clinker is rapidly becoming acute and hardship has already come to some concrete producers. A solution which would alleviate at once the problem of the p.f. ash disposal and the problem of clinker shortage would be the making of an aggregate from the p.f. ash—a "reconstituted" clinker—by burning it in the form of pellets.

The Building Research Station undertook to study this matter, but it was realized from the start that desirable as such a scheme would be, it must be done cheaply or not at all.

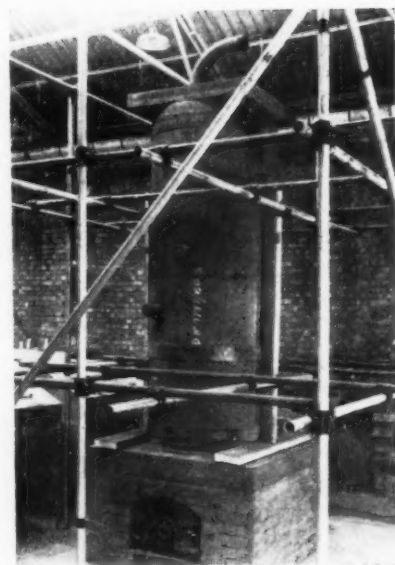
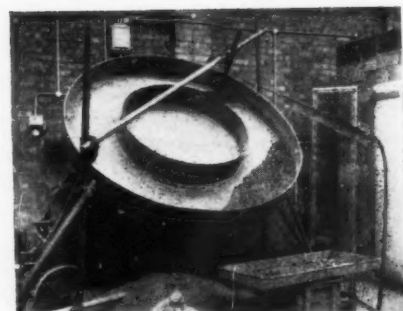
PROCESSING

Pulverized fuel ash inevitably contains some unburnt fuel and in all cases so far examined this has provided sufficient heat to effect sintering without additional fuel.

In order to make the fire bed permeable to air flow and to avoid dust loss during firing, the material is pelleted. This is done simply by rolling in a shallow pan under a fine spray of water, Figs. 1 and 2. The pellets so formed, when once ignited, burn to a temperature of about 1,200 deg. C. and, retaining their shape, sinter to a hard lightweight aggregate, Fig. 3.

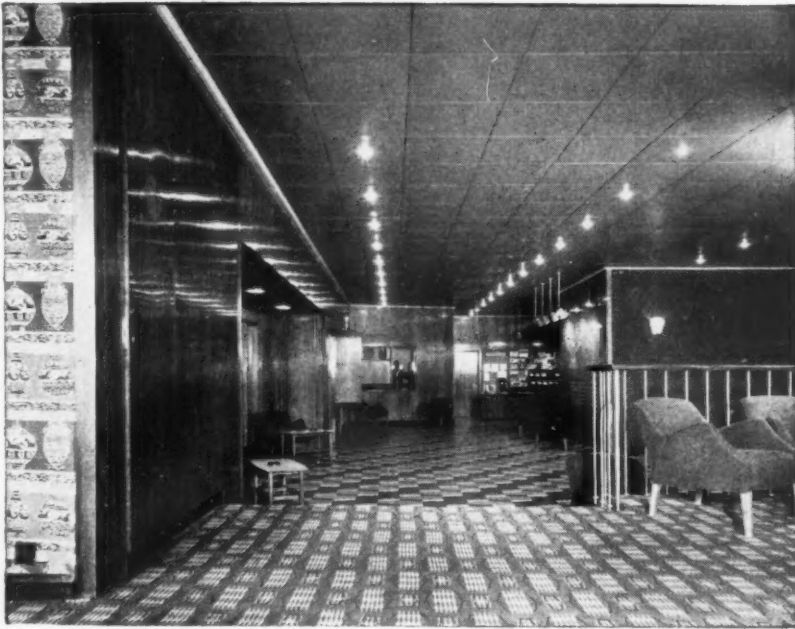
PROPERTIES OF CONCRETE BLOCK MIXES—P.F. ASH AND CLINKER

Type of aggregate	Density of graded aggregate, lb./cu. ft.	Mix proportions of concrete cement-aggregate	Compressive strength at 28 days, lb./sq. in.	Dry density of concrete lb./cu. ft.	Drying shrinkage percentage
PFA No. 1	59.7	1 : 6	1,000	76	0.047
		1 : 9	630	71	0.036
PFA No. 2	62.4	1 : 6	1,050	80	0.047
		1 : 9	630	71	0.035
Clinker (20% combustible content)	c 60	1 : 6	860	86	0.063
		1 : 9	400	78	0.055
BS 2028 Type B blocks	—	—	Not less than 400	Not greater than 100	Not greater than 0.06



Hitherto, the pellets have been fired in a small continuous kiln of refractory concrete, Fig. 4, but a large kiln has now been erected and Fig. 5 shows this kiln under construction. An alternative method of firing, by means of a travelling-band sinter machine, has been successfully developed by a commercial firm. In this case some additional fuel is needed.

THE LEOFRIC HOTEL

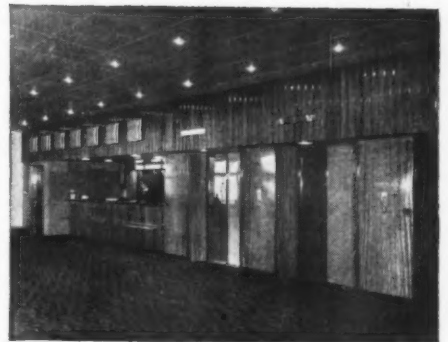


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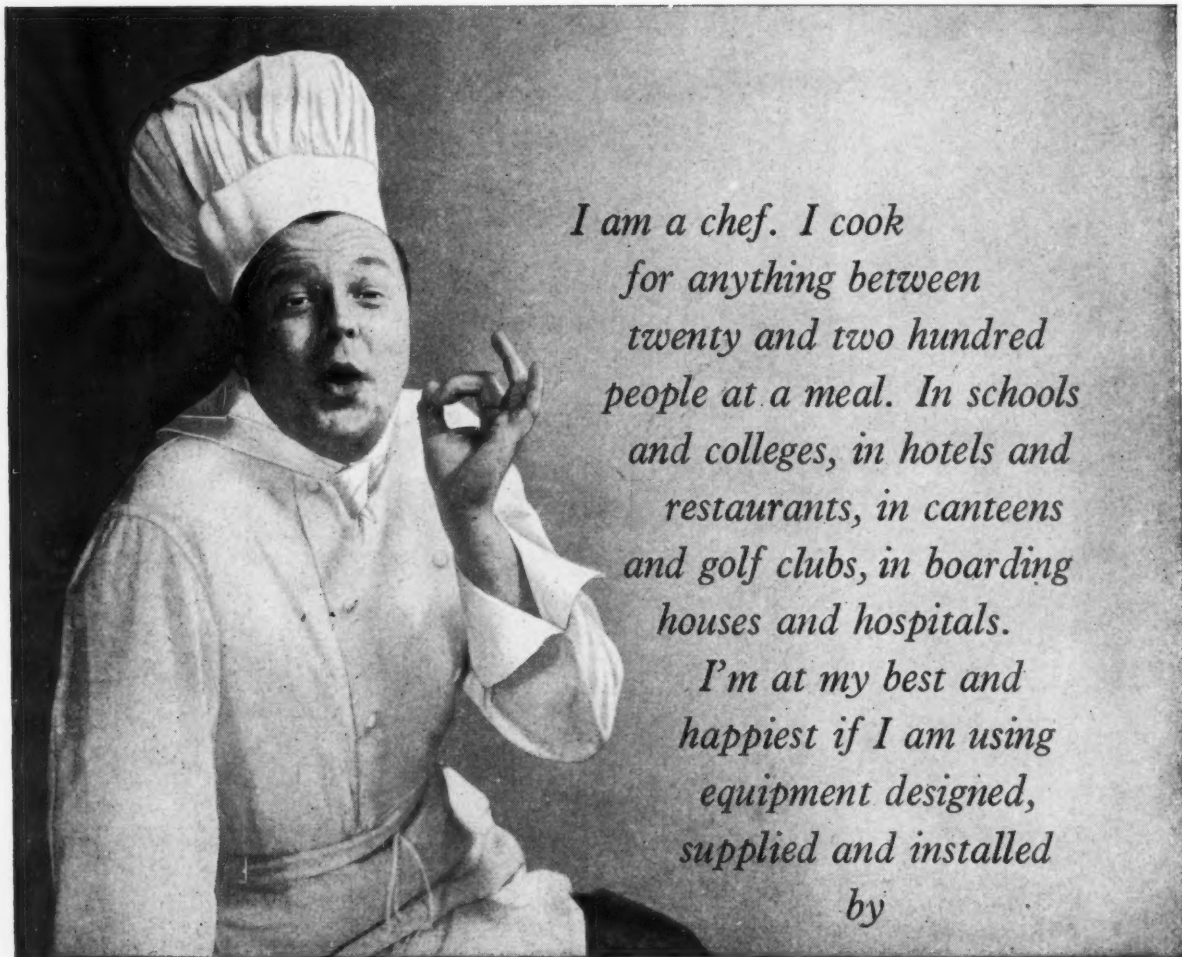
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PROPERTIES OF CONCRETE MADE FROM PULVERIZED FUEL AGGREGATE

Concrete specimens have been made using p.f. ash aggregate and these have been tested in accordance with the appropriate British Standard Specification (see Table).

It will be understood that in normal practice, cast concrete products are allowed to set for 24 hours before demoulding takes place. Concrete blocks made in a block machine must be demoulded in a matter of seconds. Accordingly, the green strength of a block is probably the most important single factor to be considered. Some compromise has therefore to be made between a number of conditions and effects such as aggregate grading, water content, final strength and density. Most of the work done so far has been on concrete designed for block making as it was envisaged that in the first place at any rate, the new aggregate would be

required for this purpose.

It will be seen from the above table that the concrete blocks produced from p.f. ash aggregate are well within the requirements of the British Standard and that the sintered ash has superior properties to the average clinker. Further, the homogeneous nature of p.f. ash precludes the occurrence in the concrete of high local concentrations of potentially injurious minerals such as free lime and iron salts. Failures due to "lime popping" or iron staining should be virtually impossible. Work continues on improving the quality of the aggregate.

FUTURE DEVELOPMENT

A great deal of interest has been created within the building materials industry and several manufacturers are already doing development work. It seems likely that the

p.f. ash aggregate will be of interest principally to the lightweight block manufacturers but it may be accepted for vibrated concrete and as an aggregate for "no fines." It has been considered also that the shortage of building sand in important areas such as London may make it desirable to use fine p.f. ash aggregate together with a workability aid in mortar, in place of sand and lime. The potentialities of p.f. ash aggregate in this field are being investigated.

A large amount of work on the pilot scale is still required before a decision can be made as to the right kind of machinery and furnace for full-scale production. Consideration is being given to travelling-band sinter machines, stationary sinter machines and shaft kilns. If these problems can be solved, then the building industry should be presented with a cheap and efficient new material.

19 CONSTRUCTION: DETAILS

high tensile bolts in structural steelwork

High tensile bolts, which have been in use for some time in America, have recently come on the market over here. This week our Specialist Editor No. 13 (Structural Engineering) describes their qualities and mode of operation and assesses their value as an alternative to riveting and welding.

The use of high-strength bolts for making structural joints is not a new idea, nor an American idea (it featured in the deliberations of the British Steel Structures Committee's report in 1932), but it has been left to the Americans to develop since 1948, and it has now reached a stage where prominent engineers are prophesying its wholesale use to the exclusion of site riveting. We are not aware of any structural frame of any size in this country in which high-strength bolts have been employed though the bolts

are manufactured here and exported, principally to Canada.

The purpose of the high-strength bolt is to replace the rivet as a means of making a structural joint during the erection of the structure. It will be appreciated that rivets, whether driven with an air hammer or a press riveter, do not completely fill the holes and the forces on two plates forming a joint are therefore largely opposed by the friction between the plate surfaces caused by the clamping action of the rivet. (See Fig. 1.)

The value of the clamping force induced in a 1 in. rivet as it cools is of the order of 22,000 lb. but a 1 in. high-strength bolt would raise this value to 42,000 lb. Tests have shown that the clamping force is sufficiently effective to cause a bolted joint to fail outside the bolt section, i.e., where the plate is at full section and not reduced by the holes.

To obtain the clamping force it is essential

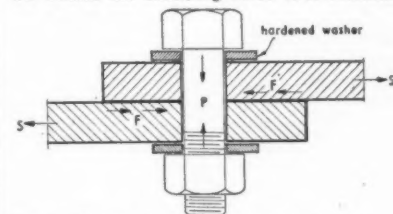


Fig. 1. Diagram showing the operation of a high tensile bolt.

that hardened washers are used to avoid crushing the steel under the bolt head, and the contact surfaces must be free from

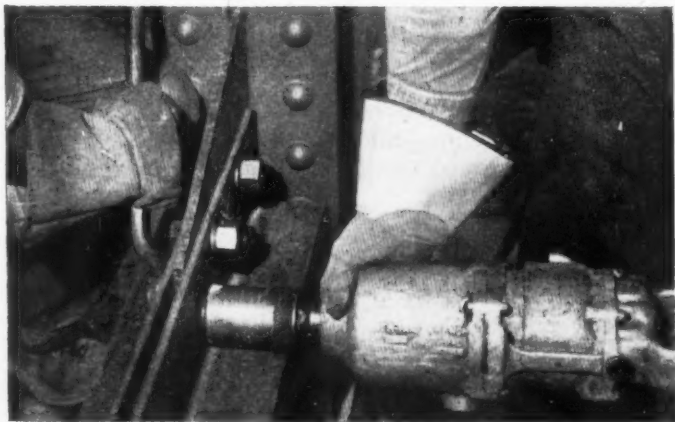
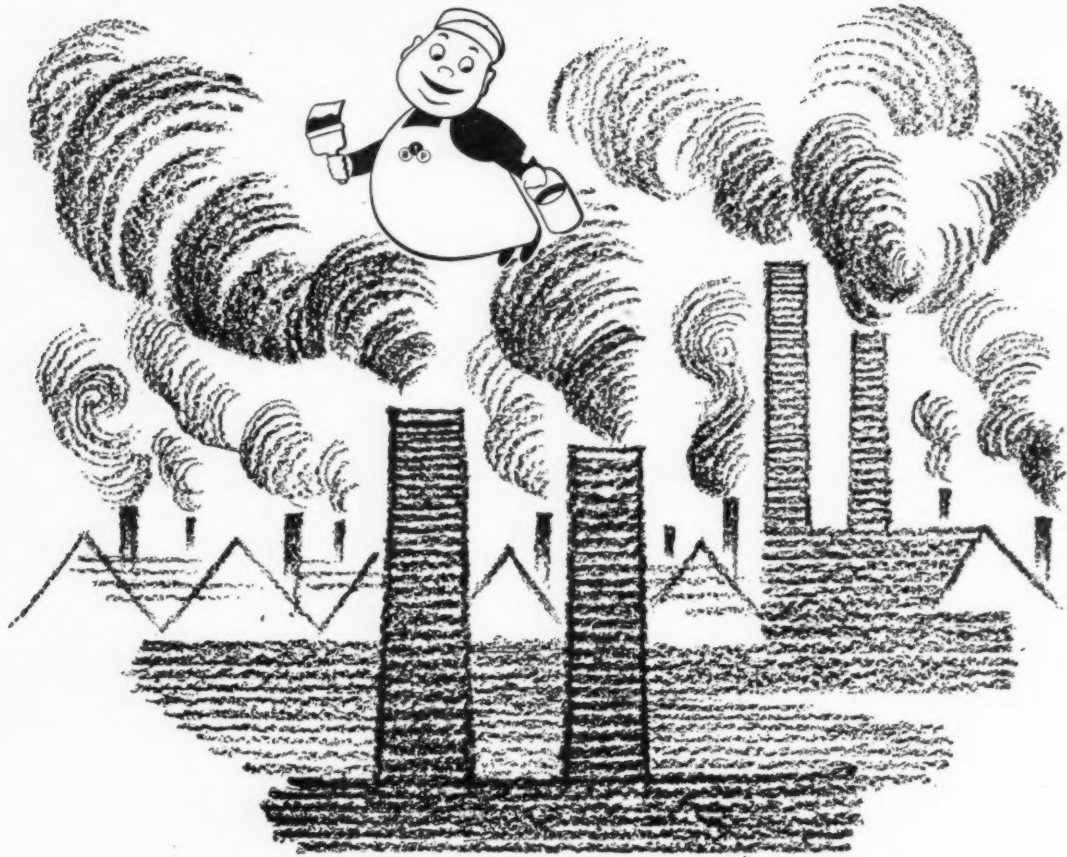


Fig. 2. (above). Method of fixing showing, left, the bolt head held by a hand wrench and right, the nut being turned by a pneumatic impact wrench. Fig. 3. (right). Checking high tensile bolt with a torque wrench.





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punching and drilling burrs, unpainted and quite clean. This extra shop and site work and the high cost of the bolts and washers represent the main disadvantages.

Despite this there are several advantages which are sufficient to make the bolt economical:

(1) Less labour is needed (about $\frac{1}{3}$ of a riveting set-up), yet bolts are placed at about twice the speed of rivets. Crew training is quicker and easier.

(2) There are fewer failures in bolts than in rivets and time and cost of making good the failures is much less.

(3) As opposed to hot-rivets the fire-hazard is eliminated; this results in lower insurance costs.

In addition to the economic advantages, there are certain technical advantages:

(1) As mentioned previously, the clamping tendency of the bolt is considerably higher than the rivet, which gives added strength against loads causing vibration. Design procedure has not yet been formulated but should eventually lead to reduced numbers of bolts compared with rivets for a similar joint.

(2) It is easier to check the bolts in the joint for minimum tension and the applied check is a more positive one. The only snag is that the present technique does not necessarily spot the over-tensioning.

The exponents of the high tensile bolt also claim that it is a less noisy technique and the tightening tools are lighter and easier to handle. In our opinion the noise is much the same, though of shorter duration, and the tightening wrench is much the same as a pneumatic hand riveter.

The bolting technique is illustrated in Fig. 2. From a bolt schedule a ground crew makes up assemblies of a bolt, two washers and a nut and places them in a metal basket for hoisting up to the erectors. The joints have previously been pinned by drifts or erection bolts and the remaining holes are now filled by the high tensile bolts and tightened by starting at one side and progressing downwards and upwards. The first bolts will probably have to be retightened. Drifts or erection bolts are then replaced by high tensile bolts. The tightening system employs an air-impact wrench and a holding wrench. The impact wrench must be calibrated three or four times during the day's work but it is hoped that a wrench with a built-in torque gauge will eventually be developed.

A checking gang follows closely behind the tightening gang and checks about 10 per cent. of the bolts by a hand-torque wrench (see Fig. 3). Should any failures be noted all the bolts in the joint are retightened and rechecked. However, with an experienced gang the failures are only of the order of $\frac{1}{4}$ per cent.

American engineers have prophesied that this technique will supersede riveting, certainly for multi-storey building frames, but no comparisons are yet available for bolted and welded work, and while we consider that the high tensile bolt may well provide in this country a cheaper joint than the rivet we feel that the industry would be better served by continued progress in welding.

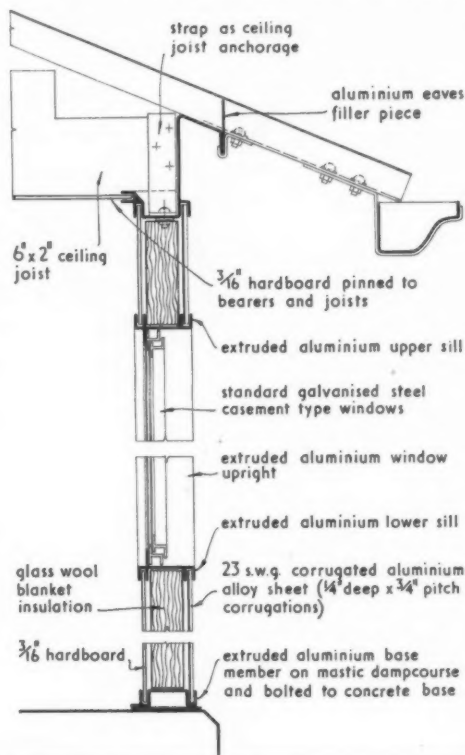
A NEW PACKAGED BUNGALOW



The Shipston packaged bungalow (of which 30 have recently been ordered by the Admiralty for erection in Ceylon) is built on an extruded aluminium frame with thick-gauge, lightly-

corrugated aluminium sheets as cladding. This method of using aluminium has been chosen to cut tooling costs to a minimum.

Joining is by right-angled, mild-steel brackets, while additional strength against wind load is provided by steel angle wind-strutting. As can be seen from the drawing, the main structural extrusions are very complex: the wall plate extrusion (to quote one characteristic detail) houses the ceiling and both cladding skins and provides fixing for ceiling joists and roof rafters. By this means single extrusions can serve for load-bearing and fixing at the same time.



INFORMATION CENTRE

7.183 practice

LANDLORD AND TENANT

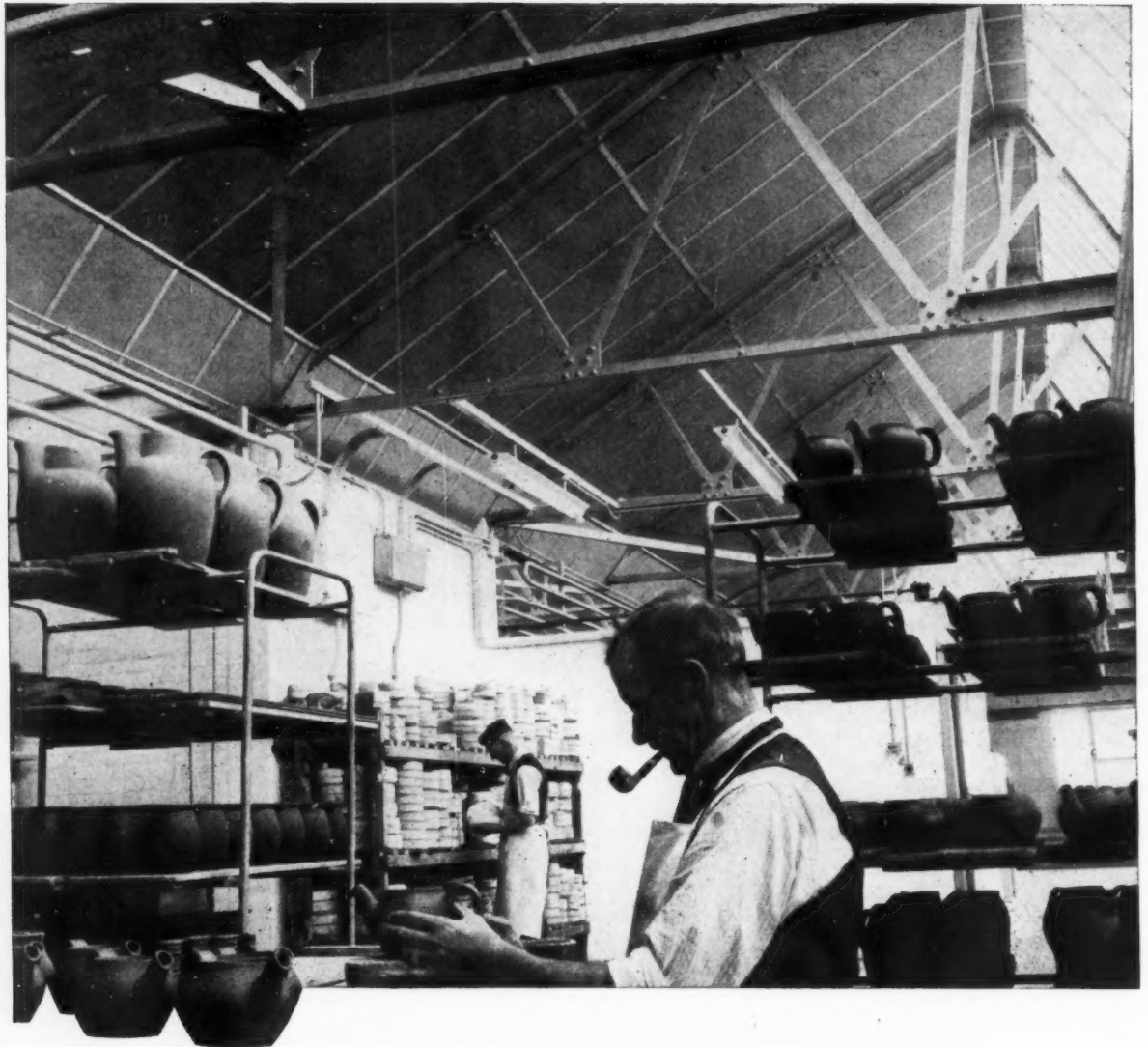
Landlord and Tenant Act, 1954. T. J. Sophian. (Staples Press Ltd. 30s.)

The author says in the preface that this Act is perhaps one of the most complicated Acts which Parliament has passed in recent

years, and this is certainly not an overstatement. There are 70 sections and nine schedules with references to 24 other Acts.

In this book the Act is reproduced section by section and then follows a general note giving in colloquial language the effect of the parliamentary draftsman's language. This is a most useful way of dealing with the subject and will be of great assistance to the lay mind.

Particular attention is called to Appendices A, B and C. Appendix A reproduces the Landlord and Tenant Act, 1927, the provisions repealed by the 1954 Act being printed in italics and the new provisions in bold type. The Leasehold Property (Repairs) Act, 1938, and the Rent and Mortgage Interest Restrictions (Amendment) Act,



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1933, are similarly dealt with in Appendices B and C. In cases where the subject is too complicated for a consolidated Act, it is a great advantage to be able to see at a glance how a previous Act is affected by a new Act, and the author has adopted a most convenient method of illustrating this point. Included in the Appendices are Rules and Regulations made under the Act of 1954. There is a Table of Cases and a full index.

To professional men whose practice includes matters relating to Landlord and Tenant this book should be of great assistance. It is a clear summary of the Act and the author has not hesitated to give his views on interpretation.

9.51 design: general

AMERICAN TECHNICAL ARTICLES

Materials and Methods in Architecture. Edited by Burton H. Holmes. (Chapman & Hall Ltd. for Reinhold Publishing Corporation, 80s.)

This imposing book is a selection from the technical articles which have appeared in the magazine "Progressive Architecture" during the five years from 1949 to 1954. Books of this nature suffer from two kinds of depreciation: the first due to the passage of time and the second due to regional difference. Even BRS Digests, with all their caution and impartiality, are subject to obsolescence. How much more vulnerable in this respect are articles such as these which do not for the most part pretend to be more than the personal assessments of private people working in industry. Again, the technical problems of American building differ materially from ours; the supply of materials, the cost of labour and the climate are sufficiently diverse to make direct comparisons hazardous. This book, therefore, is most interesting for the reader who already has the findings of recent British research clearly in his mind, but it may easily be a pitfall for the reader who hasn't.

10.133 design: building types

LAUNDRETTES

Gas for Laundrettes, Small Laundries and Unit Dry Cleaners. Published by the Gas Council.

The main object of this brochure is, of course, to point out the suitability of gas for this kind of work, but it gives some comment on a subject where little published information is to be had. It is more helpful on small laundries for housing estates than for laundrettes or unit dry cleaning establishments. Perhaps because the former have already attracted a certain amount of thought by architects whereas the latter have sprung up without any architect assistance. Opinion in the LCC Housing Department has turned against communal laundry facilities where the tenants are left to their own devices. This suggests that the attended laundrette is the better solution. Architects will get from this brochure a good account of what goes on in a laundrette (if their wives have not already told them) and of certain general requirements: they will not find how to design one, as no one has done it yet.

THE INDUSTRY

From the Industry this week Brian Grant reports on anti-fungus paint, a new range of industrial heating, storage of drawings, a combined waste and overflow unit, stained glass and precast concrete structures.

FUNGUS ATTACK ON PAINT

According to some recent surveys the discoloration of paint and the failure of the film, particularly in buildings where the humidity is high, is often due to attack by fungus rather than ordinary dirt. Nuodex Ltd. have identified 30 or more fungi which will flourish on paint films and have evolved a fungicide, 321SS, which is completely soluble in mineral spirits, compatible with emulsion paint systems, and which prevents premature failure of the paint. The makers quote the example of a brewery where emulsion paint lasted only a fortnight, but for nearly three months when the fungicide had been added.

The fungicide will not evaporate or crystallize from the paint film and is suitable for use in kitchens and bathrooms or for external work in humid climates. (Nuodex Ltd., Birtley, County Durham. Distribution by Durham Raw Materials Ltd., 1-4, Great Tower Street, London, E.C.3.)

INDUSTRIAL HEATING

A range of warm air industrial heaters known as the Counterflo is now being made in this country under licence from the Dravo Corporation of Pittsburg. The heaters burn gas oil or other similar light fuel oils and are produced in six sizes with outputs of from 400,000 to 1,500,000 B.T.U.s per hour. An efficiency of 80 per cent. is claimed, and the warm air output of the various models varies from 4,500 to 17,000 cu. ft. of air per minute. The outlet nozzles are mounted on top of the heater and can be turned so as to discharge the air in any direction, and if required, both inlet and outlet can be adapted to take the usual duct connection.

The heaters require comparatively little floor space—less than 40 sq. ft. for the largest model—and are completely automatic in operation. They have all the usual safety devices and can, if necessary, be used for ventilation only in hot weather. (*Weather-foil Heating Systems Ltd., 185, Bath Road, Slough, Bucks.*)

STORAGE OF DRAWINGS

The storage of drawings so that they can easily be filed while at the same time they do not get lost has always been something

of a problem, and most architects have systems of their own which work with varying degrees of effectiveness. Those who have been defeated by the problem may care to investigate the Planstore units which consist of a number of compartments, each housing a rectangular plastic socket in which up to five rolled drawings can be placed. All the Planstore units are 37 in. wide with varying depths according to the size of drawings to be stored. Three heights are standardized, 89 in., 46 in., and 34 in., and the unit fronts are divided into a number of compartments,



The Planstore drawing storage unit, by Randalrak Ltd.

approximately 1,200, 600 and 300, according to height. This method of storage should take up less floor space than the usual plan chest and has the further advantage that two or three people can remove or replace drawings at the same time. The system has the minor disadvantage that rolled drawings tend to stay rolled and many architects therefore prefer to store their drawings flat. (Randalrak Ltd., 106, Victoria Street, London, S.W.1.)

COMBINED WASTE AND OVERFLOW

In the earlier note about the compact bath, reference was made to a combined waste and overflow fitting. The fitting is known as the Cobra and is a prefabricated combination of waste, overflow pipe, and trap. An unskilled man can fit the unit in about a quarter of an hour, as it needs no templates, and there are no pipes to bend and no brazing. Since the trap can pivot through an angle of 180 deg. it is easy to connect it to the outlet. The standard trap has a 1½-in. seal and has a brass coupling nut and tail to take lead pipe; traps giving a 3-in. seal are also available. The manufacturers are members of the Allied Ironfounders group and this unit fits both the Allied Magna baths and also commercial parallel patterns made by the same organization. (*M. Cockburn & Co. Ltd., Falkirk.*)

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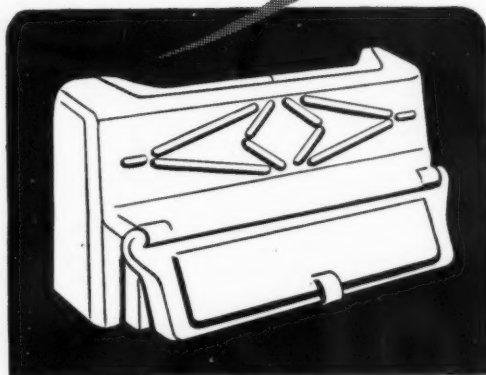


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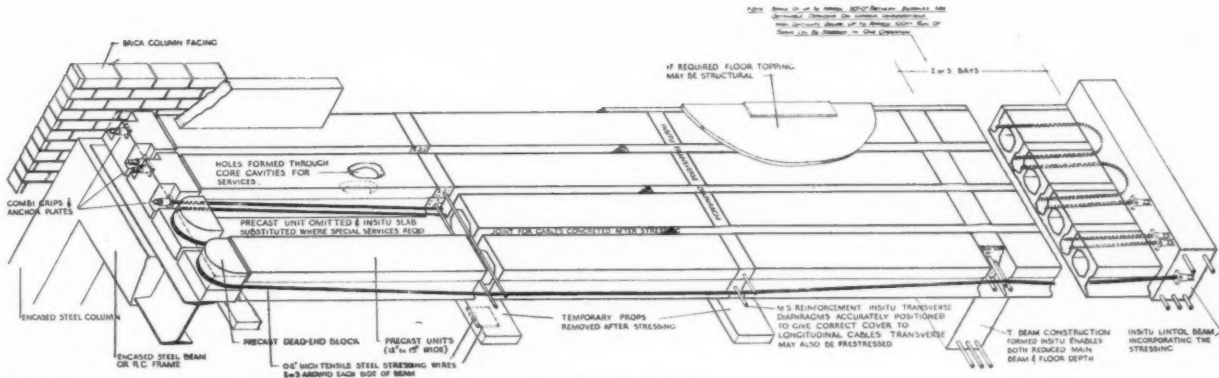
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Detail of a factory floor at Foots Cray, Kent, constructed with precast concrete units by Raphcon Ltd.

NEW TYPE OF STAINED GLASS

A new type of stained glass is being made in Britain for the first time by James Powell. Windows constructed by the new method have no leads, the pieces, which may be up to 1 in. in thickness, being held together with cement. No paint is used, all the shading and design being brought out by using different colours in the glass itself, while any lines, as, for example, in the face of a figure, are shown by the actual cement between the pieces. The absence of any form of painting eliminates over-elaboration in the design, which must depend on the use of colour and shading values.

In the making of windows by this method, the design is transferred as a full sized tracing to paper. The glass is then cast into small tiles about 6 in. square and 1 in. thick and each individual piece is then cut to the shape traced on the design. Additional shaping is then carried out with a special chisel pointed hammer and the surface of each piece is then cut into facets. Finally, cement is poured into the crevices between the pieces and allowed to dry for three weeks.

It is not unreasonable to say that much present-day stained glass design is rather anæmic and unenterprising. It may well be that this new method, which makes over-elaboration almost impossible, will lead to results more in keeping with contemporary architectural designs. (James Powell & Sons (Whitefriars) Ltd., Tudor Road, Wealdstone, Middlesex.)

PRECAST CONCRETE STRUCTURES

A number of firms specializing in concrete work have recently formed a company known as Raphcon Ltd., to market precast concrete structural units. The system is based on a hollow precast beam unit made with a collapsible metal core and the units can be combined in various ways to give spans up to 40 ft. or more with three or five units extending over one span. The units are of various cross sections to suit different ranges of load and span and they may be used either for singly supported applications where pre-tensioned units are used, or where post-tensioned units are employed. The drawing shows a factory at Footh Cray, in Kent, where the design load of the floor

was 200 lb. per sq. ft., plus a further 18 lb. per sq. ft. for finishes. Post-tensioned construction was used to form a continuous slab with bays of 16 ft. 4 in. at each end and an 11 ft. 6 in. bay at the centre. The sequence of operations is as follows. The beam units, which are lightly reinforced, are arranged in line in each span and supported on temporary struts with 4 in. to 6 in. gaps left between their ends. Sets of longitudinal pre-stressing wires are then placed on each side of the units, normal reinforcement being passed across them over the pre-stressing wires at the strutted gaps and underneath them at the main supports.

The next stage is to concrete the gaps be-

tween the ends of the units so that they form a series of continuous beams. At one end of the beam is a dead end block with a semi-circular end (see diagram) and at the other is a stressing block which takes the thrust of the stressing jack. The beams are stressed from alternate ends and after stressing the floor is fully suspended and continuous and may be tested, even though concreting has not yet been carried out between the beams. After the beams have finally been concreted together the floor will behave as a monolithic slab over the three bays and the transverse reinforcements will distribute any point loads. (Raphcon Ltd., 2, Caxton Street, London, S.W.1.)



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7-7-55

Buildings Illustrated

Secondary Modern School, Moulton, Northamptonshire. (Pages 12-13.) Architect: A. N. Harris, F.R.I.B.A., County Architect; Assistant Architect: John Goff, A.R.I.B.A.; General Contractors: Bernard Suley & Sons Ltd.; Sub-Contractors and suppliers: prestressed concrete floor and roof beams, Dow-Mac (Products) Ltd.; structural steel, Banister, Walton & Co. Ltd.; flooring (tiles), Semtex Ltd.; flooring (wood block and strip), Horsley, Smith & Co. Ltd.; metal windows, Crittall Manufacturing Co. Ltd.; suspended ceilings, Eastwoods Specialists Ltd.; bitumen felt roofing, Permanite Ltd.; low pressure hot water heating domestic hot water supply and gas installation, Maddock & Wright Ltd.; electrical installation, Barnett & Sons Ltd.; asphalt playgrounds, Scudamore & Luck Ltd.; flush doors, Shapland & Petter Ltd.; exterior cladding panels, Horsley, Smith & Co. Ltd.; reconstructed stone, Trent Concrete; ironmongery, James Gibbons Ltd.; W.C. partitions, Flexo Plywood Industries Ltd.; sanitary fittings, Travis & Arnold Ltd.; hose reels, John Kerr & Co. (Manchester) Ltd.; sliding door gear, P. C. Henderson Ltd.

Flats, Ashburnham Court, Ashburnham Road, Bedford, for the Borough of Bedford. (Pages 15-26). Architects: Max Lock & Partners; Partner-in-charge: G. J. Easton, A.R.I.B.A.; Consulting Engineer: F. J. Samuely, B.Sc.(ENG.), A.M.J.C.E., M.I.STRUCT.E.; Quantity Surveyors: Cyril Sweett & Partners; General Contractors: F. G. Minter Ltd.; Sub-contractors: damp-courses, The Ruberoid Co. Ltd.; asphalt, roofing felt, The Cambridge Asphalt Co.; concrete blocks, Broad & Co. Ltd.; bricks, The London Brick Co. Ltd.; prestressed and precast units, The Atlas Stone Co. Ltd.;

glass (obscured types), Chance Bros.; patent flooring, Rowan & Bowden Ltd.; central heating, G. N. Haden & Sons Ltd.; gas fitting, The Eastern Gas Board; boilers, Ideal Boilers & Radiators Ltd.; electric wiring, The Eastern Electricity Board; electric light fixtures, The General Electric Co. Ltd.; door furniture, A. J. Binns Ltd.; casements, Henry Hope & Sons Ltd.; roller shutters, G. Brady & Co. Ltd.; plumbing, G. N. Haden Ltd.; sanitary fittings, Locherbie & Wilkinson Ltd.; plaster, E. Daniels Ltd.; metal work, E. C. Blackmore Ltd.; joinery, H. C. Janes Ltd.; lifts, The Express Lift Co. Ltd.

Announcements

Mr. C. W. Glover, M.I.C.E., M.I.MECH.E., M.I.STRUCT.E., M.CONSE., P.P.I.A.A.S., F.P.W.I., M.A.S., M.I.W., having hitherto practised as Messrs. C. W. Glover & Partners, consulting engineers and architects, has now taken into partnership Mr. D. W. Cracknell, A.M.I.C.E., A.M.I.STRUCT.E., Mr. C. A. Bushell, A.I.A.S., Mr. R. H. Rowe, A.I.MECH.E., Mr. W. F. Gresswell, A.M.I.E.E., and Mr. V. E. Holloway, M.I.R.E.; the firm practising with Head Office at Francis House, Francis Street, Westminster, S.W.1, is in professional association with Mr. G. J. Gumersall, B.Sc., M.I.C.E., M.I.MECH.E., M.I.STRUCT.E., M.I.E.E., A.I.A.S., Mr. L. L. Lipski, F.R.I.B.A., A.I.A.S., A.A.DIP., and Mr. M. G. S. Swallow, M.I.E.E.

In our issue for December 30, 1954, the non-reflecting display window at the Owen Owen Department Store, Broadgate, Coventry, was illustrated as a Working Detail. The architects, R. Hellberg and M. Harris, F./A.R.I.B.A., have now been granted Letters Patent in respect of this design. The British Patent No. is 723485.

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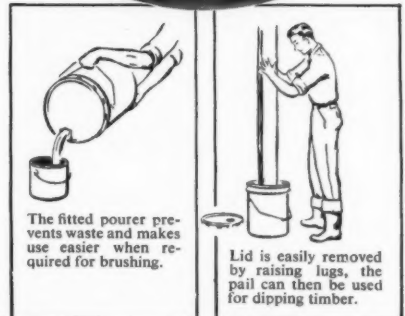
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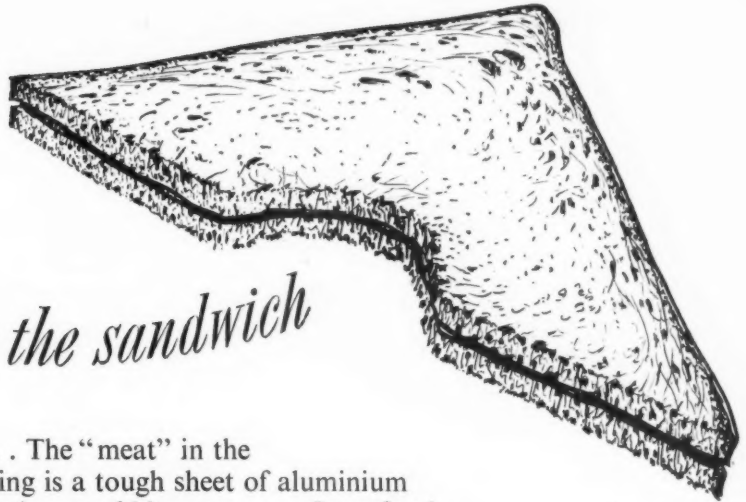
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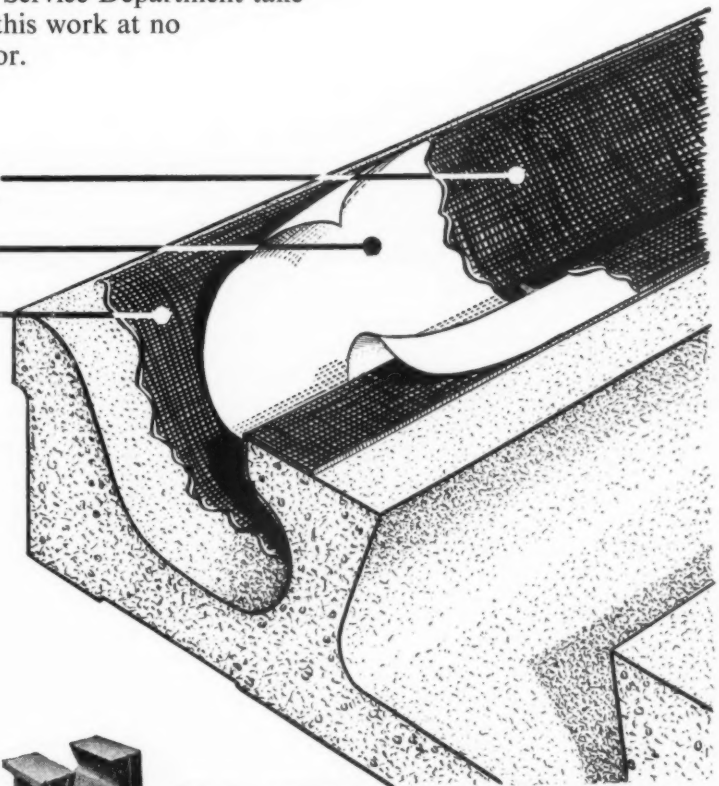


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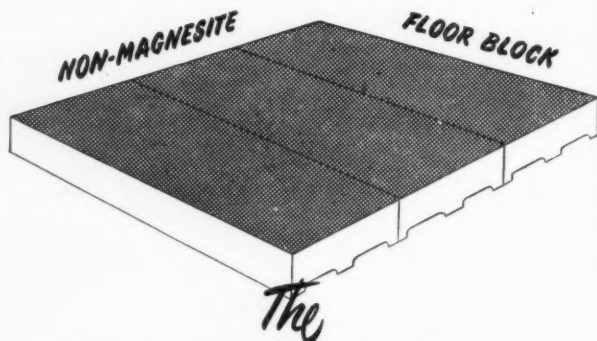
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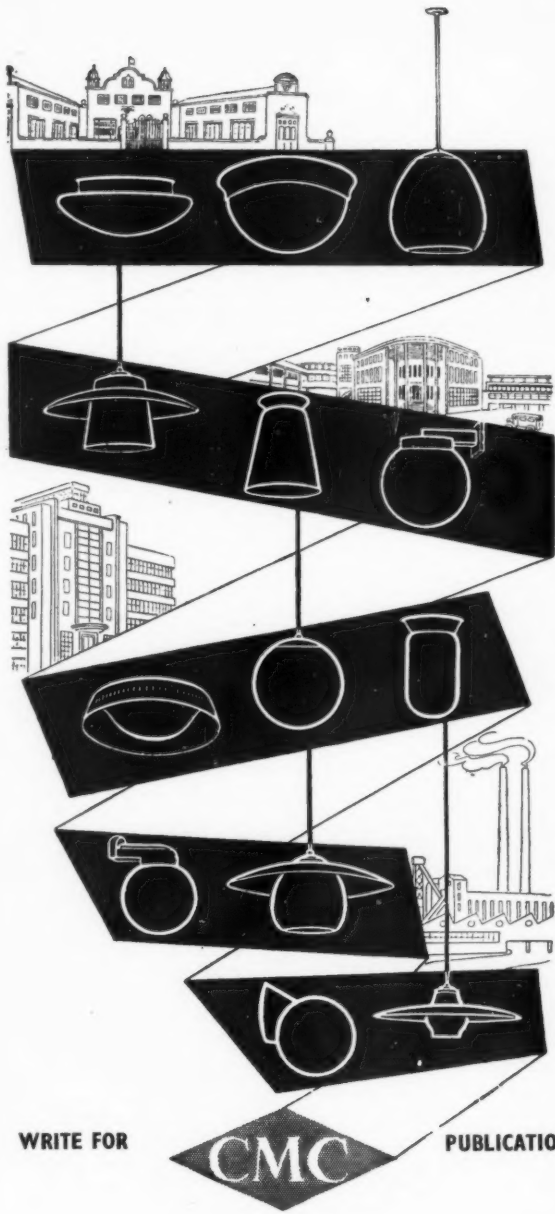
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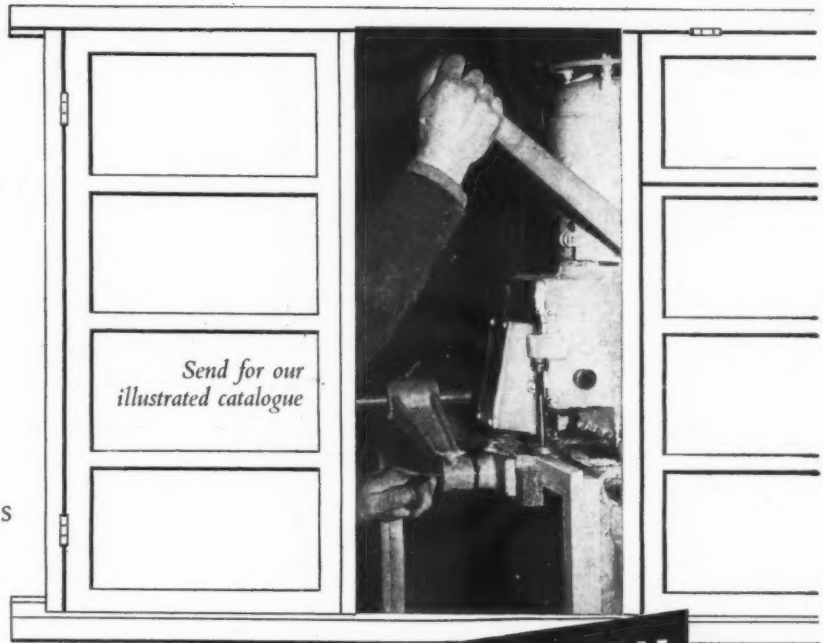
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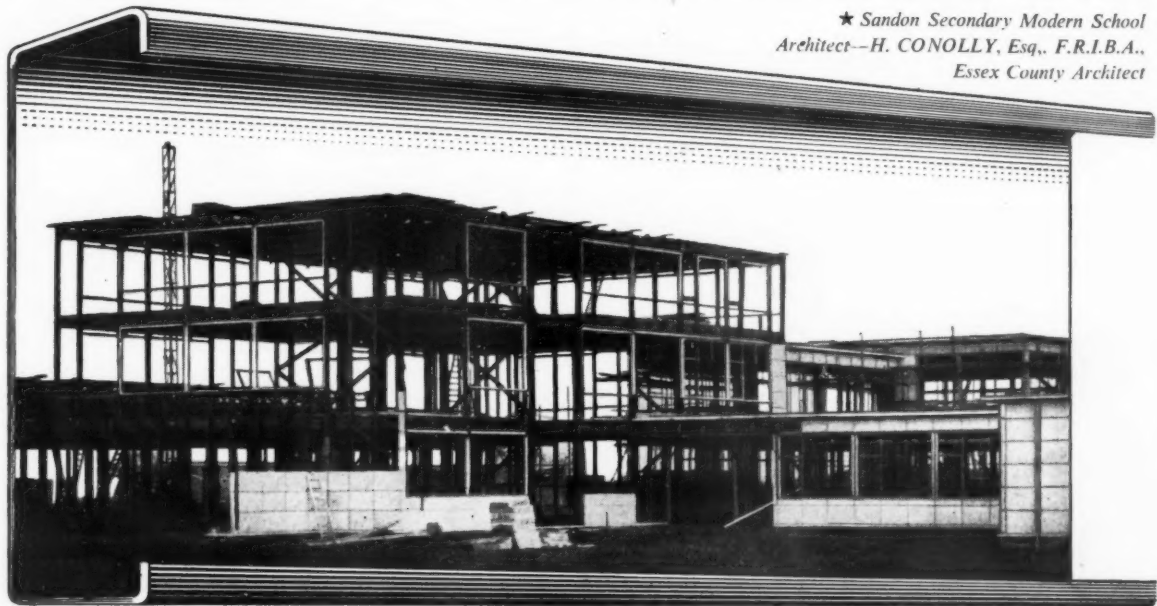
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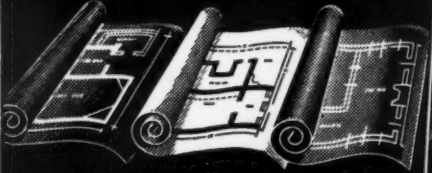
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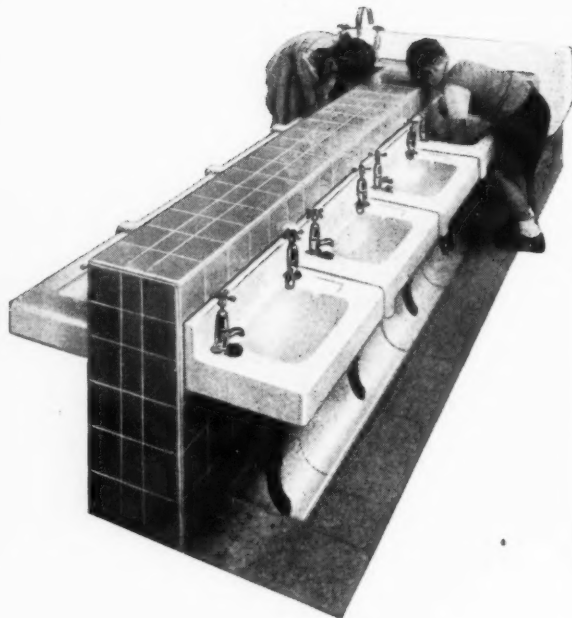


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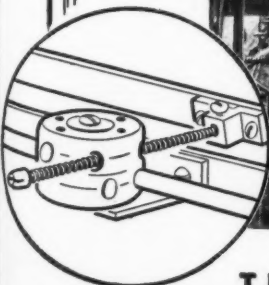
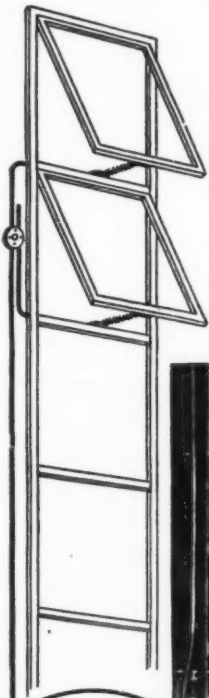
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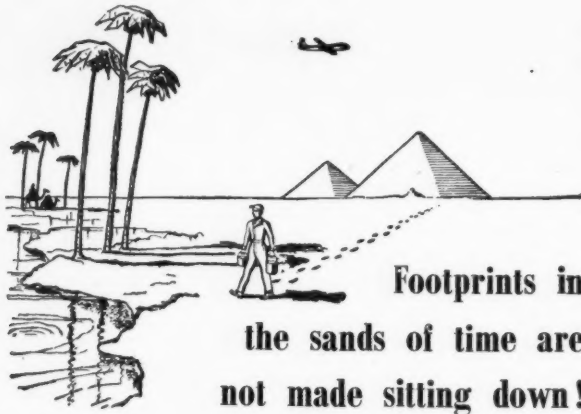
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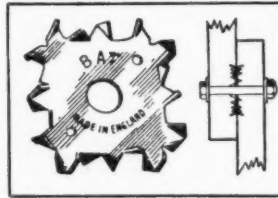
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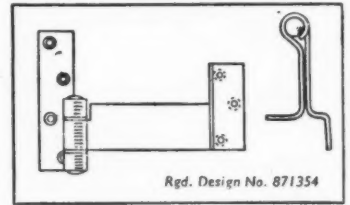
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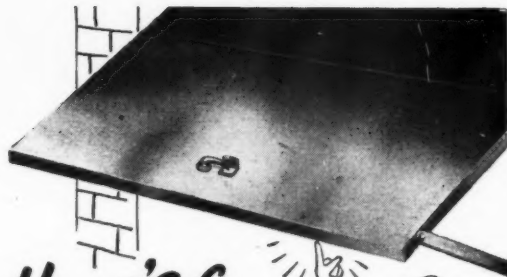
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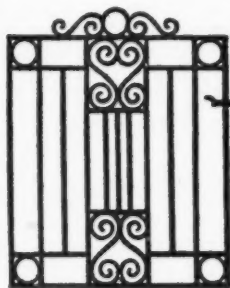
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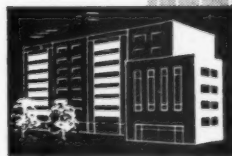
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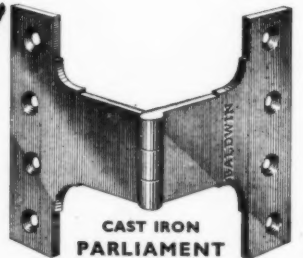
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Applications are invited for appointments as undernoted:
(1) JUNIOR ARCHITECTURAL ASSISTANT.
(2) ARCHITECTURAL ASSISTANT.
Candidates for (1) above should have completed their period of 5 years' architectural apprenticeship and have had experience as a junior assistant. Salary scale A.P.T. Grade I, £515—£560 per annum.
Candidates for (2) above must be Associate Members of the Royal Institute of British Architects and preferably should have experience in Local Authority housing and educational work. Salary scale A.P.T. Grade V, £665—£715 per annum, with placing according to experience and qualifications. Housing accommodation may be made available, if required.
The posts are subject to the Local Government Superannuation (Scotland) Acts.
Applications, stating age, particulars of professional training, experience and qualifications, together with the names of three persons to whom reference may be made, should be lodged with the undersigned within 14 days from the publication of this advertisement.

R. WALLACE,
County Clerk.
County Buildings,
Ardross Street, Inverness. 1428

COUNTY BOROUGH OF EAST HAM.
HOUSING DEPARTMENT.
ARCHITECTURAL ASSISTANT (A.P.T., II).
Applicants should have passed the Intermediate Examination of the R.I.B.A., and have had experience in the detailing of flats and houses. Salary £560 x £20—£640 per annum, plus London weighting.
Further details and form of application (returnable by 20th July, 1955) from the Town Clerk, Town Hall, East Ham, E.6. 1601

CITY AND COUNTY OF KINGSTON UPON HULL.
CITY ARCHITECT'S DEPARTMENT.
Applications are invited for ASSISTANT ARCHITECTS, Grade IV (£675—£825 per annum). Candidates should preferably be A.R.I.B.A. with experience of modern school and/or housing or flat design and construction. Housing accommodation will be made available to successful married applicants. Forms of application may be obtained from the undersigned and should be returned not later than 14th July, 1955.
Guildhall, Kingston upon Hull. A. RANKINE,
City Architect. 1758

MINISTRY OF WORKS require ARCHITECTURAL ASSISTANTS for drawing offices in London, Edinburgh and various provincial offices, with at least 3 years' training, some experience in an architect's office, and of Inter. R.I.B.A. standard. London salary, £442 to £695 per annum; rates elsewhere slightly less. Starting pay according to age and experience; prospects of promotion and permanency. State age and full details of training and experience to E. Bedford, Esq., C.V.O., A.R.I.B.A., Chief Architect, Ministry of Works, 20 (F), Abell House, John Islip Street, London, S.W.1. 1020

BOROUGH OF LUTON.
BOROUGH ARCHITECT.
Applications are invited from experienced Members of the Royal Institute of British Architects for the new whole-time appointment of BOROUGH ARCHITECT, at a salary scale of £1,800, rising by annual increments of £51 10s. to £2,057 10s. per annum, commencing at a point within the scale commensurate with qualifications and experience.
Further particulars of the appointment and forms of application may be obtained from the undersigned, to whom applications should be sent not later than Saturday, 30th July, 1955.
A. D. HARVEY,
Town Clerk. 1645

COUNTY BOROUGH OF SOUTHAMPTON
requires under N.J.C. conditions of service:
(a) ASSISTANT ARCHITECT, Special Scale £650—£775.
(b) ARCHITECTURAL ASSISTANT, Grade A.P.T. II £560—£640.
(c) ASSISTANT QUANTITY SURVEYOR, Special Scale £550—£775. Applicants must have passed the final examination of the Royal Institution of Chartered Surveyors (Sub Division IIIQ) and have had experience in housing work.
(d) QUANTITY SURVEYOR'S ASSISTANT, Miscellaneous IV £465—£545, experienced in site measuring for builder's work.
Applicants must possess the appropriate qualifications and experience for Special Classes of Officers under N.J.C. conditions of service and have had experience in Municipal housing estate development and administration of contracts.
If housing accommodation is required please state requirements.
Apply with copies of two testimonials to the Borough Engineer, Civic Centre, Southampton, by Monday, 18th July, 1955. 1655

ASHBY-DE-LA-ZOUCH RURAL DISTRICT COUNCIL.
APPOINTMENT OF CHIEF ARCHITECTURAL ASSISTANT.
Applications are invited for the post of CHIEF ARCHITECTURAL ASSISTANT, to work under the direction of the Council's Surveyor.
The person appointed will be required to prepare Estate layout plans, specifications, House designs, and working drawings for the Council's various Housing Schemes, and to supervise the completion of Contracts in connection therewith. Preference will be given to holders of Examination qualifications of the Royal Institute of British Architects.
The salary will be in accordance with A.P. & T. Division, Grade IV (£675 to £825), commencing within this Grade according to qualifications and experience. The successful applicant will be required to provide a car, for which a travelling allowance of £150 per annum will be paid.
The appointment will be for the duration of the Council's housing programme, and will be subject to (a) the National Joint Council Scheme of Conditions of Service, (b) the Local Government Superannuation Acts, (c) passing a medical examination, and (d) termination by one month's notice on either side. The Council will assist in the provision of housing accommodation, if required.
Applications, stating age, qualifications and experience, and giving names of three referees, should be delivered to the undersigned not later than Saturday, 16th July, 1955.
Canvassing, either directly or indirectly, will be a disqualification.

J. E. R. WILKINSON,
Clerk of the Council.
Council Offices, South Street,
Ashby-de-la-Zouch. 1616

CORPORATION OF LONDON require for CITY PLANNING OFFICE (CIVIC DESIGN SECTION) PLANNING ASSISTANTS (a) £510 x £30 12s. 6d. to £785 12s. 6d. (b) £571 6s. x £24 10s. to £593 15s. (c) £184 17s. 6d. (at age 16) to £50 12s. 6d. (at age 30).
Duties will include general draughting work, assistance in preparing three-dimensional layouts and small-scale modelling. Local Authority experience not necessary; preference given to those with sensitive and contemporary approach to design.
Applications with experience, age, present salary and references to City Planning Officer, 55/61 Moorgate, London, E.C.2, within fourteen days. 1717

LONDON ELECTRICITY BOARD.
ARCHITECTURAL DRAUGHTSMAN.
Applications are invited for the above position in the Architect's Section of the Chief Engineer's Department in Central London.
Applicants should be neat Draughtsmen and preferably have had several years experience in an Architect's office.
The post is graded under Schedule "D" of the National Joint Board agreement, Grade 6—£535 10s. to £661 10s. per annum, inclusive of London Allowance.
Application forms obtainable from Personnel Officer, 46/7, New Broad Street, London, E.C.2, to be returned completed by 23rd July, 1955. Please enclose addressed envelope and quote ref.: V/2002/A. 1738

BOROUGH OF BARNES
Applications are invited for the following temporary appointments:
(1) ARCHITECTURAL ASSISTANT—Special Grade, £550 x £25—£775 per annum plus London Weighting Allowance.
(2) ARCHITECTURAL ASSISTANT—Grade III, £600 x £25—£725 per annum plus London Weighting Allowance.
Candidates should be good draughtsmen and have had experience in the preparation of plans and details for general architectural work.
Applications, giving the names of three persons to whom reference can be made, must be sent to the undersigned not later than Wednesday, July 20th, 1955.
W. R. SHEPHERD, A.M.I.C.E., F.R.I.C.S.,
Borough Engineer & Surveyor.
Municipal Offices,
Sheen Lane,
London, S.W.14. 1741

UNIVERSITY COLLEGE OF THE GOLD COAST.
Applications are invited for appointment as CLERK OF WORKS. Candidates must have served a recognised apprenticeship in one of the building trades and must possess a Clerk of Works qualification. The person appointed will be responsible to the College Surveyor and will be required to supervise the regular maintenance of residential buildings, laboratories, etc. and of the associated services. He will also be required to supervise building operations undertaken by the College by direct labour.
Salary £1,500 per annum; F.S.S.U. or equivalent gratuity; appointment five years initially; family allowance at the rate of £100 per child (maximum £500); free passage for appointee, wife, and maximum of five children; outfit allowance of £60 on first appointment; annual leave in the United Kingdom.
Applications, six copies, naming three referees and stating full qualifications and experience to be sent before 28th July, 1955, to the Assistant Registrar (London), University College of the Gold Coast, 29, Tavistock Square, London, W.C.1. 1718

BILLINGHAM URBAN DISTRICT COUNCIL.
JUNIOR ARCHITECTURAL ASSISTANT—MEASURING ASSISTANT.
Applications are invited for the above appointments in the Engineer and Surveyor's Department.
JUNIOR ARCHITECTURAL ASSISTANT—Salary A.P.T. I (£500—£580). The post offers opportunities for experience in the Council's housing schemes and other buildings, including halls and sports pavilions.
MEASURING ASSISTANT—Salary, Miscellaneous Grade IV (£465—£545). Duties will comprise mainly the measurement of builders' work on the Council's housing programme and applicants should have a knowledge and experience of building construction and quantities.
Consideration will be given to housing accommodation.
Applications, stating age, qualifications, present and previous employment and experience, with names and addresses of two referees, should reach me by not later than the first post on Friday, the 22nd July, 1955.
FRED M. DAWSON,
Clerk of the Council.

Council Offices,
Haverton Hill,
Billingham. 1745
LINDSEY COUNTY COUNCIL.
PLANNING ASSISTANT.
A.P.T. II £560—£640. Must have passed Inter. T.P.I. and had experience at all stages in preparation of Town Maps. Superannuation and N.J.C. service conditions.
Apply with particulars of age, training, qualifications and experience, and naming two referees to R.L. Stirling, County Planning Officer, The Castle, Lincoln, before 15th July. Canvassing will disqualify and relationship to any member or senior officer of the Council to be disclosed in application. 1731

COUNTY BOROUGH OF BOOTLE.

Applications are invited for the following four appointments:—
 (1) ASSISTANT ARCHITECT, A.P.T. III, £600—£725 per annum.
 (2) TEMPORARY ASSISTANT ARCHITECT, A.P.T. III, £600—£725 per annum.
 This appointment will be for a minimum of three years.
 (3) ARCHITECTURAL ASSISTANT, A.P.T. II, £560—£640 per annum.
 For the above three posts, preference will be given to those having experience on the design and construction of schools.
 (4) ARCHITECTURAL ASSISTANT, A.P.T. II, £560—£640 per annum.
 Application forms are obtainable from the Borough Surveyor, Town Hall, Bootle, to whom they should be returned by Saturday, 30th July, 1955. 1748

THE UNITED KINGDOM ATOMIC ENERGY AUTHORITY, ALDERMASTON, BERKS., requires a SENIOR DRAUGHTSMAN. Experience of the design and installation on dust extraction, air conditioning, hot water and steam central heating and domestic engineering service is essential. A knowledge of tender drawings and specifications would be advantageous. An engineering apprenticeship or workshop experience on heating and ventilation is required, together with Higher National Certificate or Associate Membership of the Heating and Ventilating Engineers or equivalent qualification.
 SALARY.—£830 to £1,015 p.a. (Male).
 SUPERANNUATION.—The successful applicant will be required to join the Authority's contributory scheme.
 HOUSING.—Housing accommodation will be available within a reasonable period for married officers who live outside the radius of the Establishment's transport facilities or alternatively the Authority may be able to assist successful applicants in the purchase of a house. During this period, a lodging allowance may be payable.
 Requests for application forms by POST CARD to Senior Recruitment Officer, A.W.R.E., Aldermaston, Berks.
 Quote reference 38/WGE/119. 1730

CITY OF LEICESTER.

EDUCATION COMMITTEE.
 Applications are invited from men for the post of TECHNICAL ASSISTANT in the Committee's Surveyor's Department. Salary in accordance with A.P.T. Grade I (£500/£580) or Grade II (£560/£640) according to experience.
 Candidates should have passed the R.I.B.A. Intermediate examination and have had experience in an Architect's office. The duties will include preparation of sketch plans and working drawings for schemes of minor works. The appointment is permanent and will be subject to the provisions of the Local Government Superannuation Acts.
 Applications in writing, containing full particulars, together with the names of two referees, should be addressed to the undersigned.
 ELFED THOMAS,
 Director of Education.
 Education Department,
 Newark Street. 1753

BOROUGH OF SCUNTHORPE.

BOROUGH SURVEYOR'S DEPARTMENT.
 Applications are invited for the appointment of ASSISTANT ARCHITECTS in Grade APT II (£560 p.a. x £20—£640 p.a.) and the Special Grade (£650 p.a. x £25—£775 p.a.). The work will include housing, shops and other municipal works.
 Housing accommodation will be provided if necessary.
 Applications giving details of experience and qualifications and indicating which post is being applied for should be received by the undersigned by 15th July, 1955.
 Canvassing will disqualify. Applicants must state whether they are related to any member or senior officer of the Council.
 W. P. ERRINGTON,
 Town Clerk.
 Municipal Offices,
 34, High Street,
 Scunthorpe,
 23rd June, 1955. 1695

WESTMORLAND COUNTY COUNCIL.

COUNTY ARCHITECT'S DEPARTMENT.
 Applications are invited for the following superannuable appointments:—
 ARCHITECTURAL ASSISTANT, Grade II (£560—£640).
 Candidates should have experience on minor schemes of alterations, adaptations and maintenance works.
 JUNIOR ARCHITECTURAL ASSISTANT, Grade H.G.D. rising to £475, commencing salary according to age and experience. The post offers an excellent opportunity to candidates who wish to train as Architects.
 Applications stating age, technical training and qualifications, previous and present appointments and salary, full details of experience and names of two referees to County Architect, County Hall, Kendal, by Tuesday, 12th July, 1955. 1755

HERTFORDSHIRE COUNTY COUNCIL.

County Architect's Department. Applications invited for the appointment of SENIOR ASSISTANT ARCHITECTS, Grade VI (£825—£1,000). Previous Local Government experience not essential. Applications with names of two referees to County Architect, County Hall, Hertford, Herts., not later than 16th July, 1955. 1704

CITY OF PETERBOROUGH.
CITY ENGINEER AND SURVEYOR'S DEPARTMENT.

Applications are invited for the appointment of a SENIOR ARCHITECTURAL ASSISTANT on the staff of the City Engineer and Surveyor, at a salary within Grade A.P.T. IV (£675 per annum, rising by annual increments to £825).
 Applicants must be qualified Architects, experienced in school building, and capable of carrying out sketch designs, working and detail drawings and site control, with the minimum of supervision.
 In a suitable case, the Council will, if desired, provide housing accommodation.
 Forms of application may be obtained from the City Engineer, Town Hall, Peterborough. Closing date for applications, 14th July, 1955.
 C. PETER CLARKE,
 Town Clerk.
 Town Hall, Peterborough. 1629
 June, 1955.

GOVERNMENT OF IRAQ.
DEVELOPMENT BOARD & MINISTRY OF DEVELOPMENT.

TECHNICAL SECTION NO. 2.
 Applications are invited from Qualified Candidates for the undermentioned posts in connection with design and construction of public buildings, model villages and rural housing. Applicants selected for employment will be offered a two years employment Contract on a fixed salary with free first class passages for self, wife and up to two children. There is a generous leave allowance and a high cost of living bonus maximum ID.14/- per month is payable.
 One Iraqi Dinar (ID.1/-) is equivalent to one pound (£1) Sterling.

- CHIEF ARCHITECT:** Candidates must be registered Architects with considerable experience in design and construction and also the administration of a large office. Upper age limit 45. Salary range ID.250/- to ID.300/- per month, according to qualifications and experience.
- ARCHITECTS:** (Several vacancies). Candidates must be Registered Architects with good experience in public buildings and housing design and construction work. Upper age limit 40. Salary range ID.180/- to ID.250/- per month, according to qualifications, age and experience.
- ASSISTANT ARCHITECTS:** (3 vacancies). Candidates must be A.R.I.B.A., with experience in design of all types of buildings. Upper age limit 30. Salary ID.150/- to ID.180/- per month, according to qualifications, age and experience.
- QUANTITY ARCHITECTS:** (2 vacancies). Candidates must be Chartered Surveyors or possess equivalent qualifications experienced in the preparation of Contracts and measurement of works. Upper age limit, 40. Salary range ID.200/- to ID.230/- per month, according to qualifications, age and experience.
- ELECTRICAL ENGINEER:** (1 vacancy). Candidates must have University Degree in Electrical Engineering or be Chartered Electrical Engineers with experience in Electrical installations in all types of buildings, street lighting, etc. Experience in the preparation of Contract Documents is also necessary. Upper age limit 40. Salary range ID.200/- to ID.230/- per month, according to qualifications, and age and experience.
- RESIDENT ENGINEER** (several vacancies). Candidates must have had considerable experience in the site supervision of building construction works of all types. Upper age limit 45. Salary range ID.200/- to ID.230/-, according to qualifications, age and experience.

Applications may be addressed to the Ministry of Development, Southgate, Baghdad, and should give full particulars of age, education, nationality, qualifications and experience; the names of three referees, who will furnish, on request, evidence of training, experience, etc., should be stated. Arrangements will be made to interview the selected candidates in London.
MINISTER OF DEVELOPMENT.
 Baghdad. 1702
 May, 1955.

BOROUGH OF EALING.

The following posts in the Borough Engineer's Department are vacant:—
 (a) TWO TOWN PLANNING ASSISTANTS, A.P.T. III (£600—£725 per annum, plus London weighting).
 (b) CLERK OF WORKS (Temporary) for Lammas Valley Water Sewer Scheme (£675 per annum inclusive).
 (c) TWO GENERAL ASSISTANTS (Male) for Architects' and Engineers' Offices. Commencing salary between £180 per annum at age 15 and £380, according to age and qualifications, rising to a possible maximum of £505.
 (d) JUNIOR MALE CLERK, Housing Section. Salary as (c) above.
 Full particulars and application forms obtainable from the Borough Surveyor, Town Hall, Ealing, W.5.
 Closing date: 14th July, 1955.
 E. J. COPE-BROWN,
 Town Clerk. 1633

The KENT COUNTY COUNCIL invites applications from Associates of the Royal Institute of British Architects who have had experience in the design and construction of modern buildings for the appointment of an ASSISTANT ARCHITECT at a salary within the range £750—£900 a year.
 Application forms obtainable from the County Architect, Springfield, Maidstone. Closing date 18th July, 1955. 1676

DURHAM COUNTY COUNCIL—

STAFF VACANCIES.
QUANTITY SURVEYING ASSISTANTS— suitably qualified—grades A.P.T. III (£600—£725), IV (£675—£825), V (£750—£900). Particulars and application forms from County Architect, Court Lane, Durham. Closing date 13th July, 1955.
 J. K. HOPE,
 Clerk of the County Council. 1706

BOROUGH OF SALE.

ARCHITECTURAL ASSISTANT.
 Applications are invited from suitably qualified persons for architectural duties, principally other than housing.
 Salary grade A.P.T. II (£560—£640).
 Appointment subject to medical examination and one month's notice on either side.
 Applications stating age, qualifications, experience, etc., together with names and addresses of two persons to whom reference can be made should reach me by Monday, 18th July, 1955.
 Canvassing will disqualify.
 BERTRAM FINCH,
 Town Clerk.
 Town Hall,
 Sale,
 June, 1955. 1699

CITY OF BIRMINGHAM.

CITY ARCHITECT'S DEPARTMENT.
 Applications are invited for appointments as ARCHITECTURAL ASSISTANTS on the Special Classes Scales Grade A.P.T. II (£560—£640 per annum) for duties in connection with either Housing, Schools, or General Civic Buildings. Commencing salary will be according to capabilities and experience.
 Applicants must be suitably qualified in accordance with the regulations of the National Joint Council for Architectural Assistants on this Grade. The posts are permanent, supernannuable, subject to a medical examination, and to one month's notice on either side.
 Applications, stating age, present position and salary, qualifications and experience, and type of work preferred, together with the names of two persons to whom reference can be made should reach the undersigned by not later than 23rd July, 1955.
 Canvassing disqualifies.
 A. G. SHEPPARD FIDLER,
 City Architect.
 Civic Centre,
 Birmingham, 1. 1698

CITY OF NEW SARUM.

CITY ENGINEER'S DEPARTMENT.
 Applications are invited for the position of SENIOR QUANTITY SURVEYOR at a salary within Grade V (£750—£900).
 Applicants must be appropriately qualified, capable of controlling a sub-department, and competent to prepare Bills of Quantities, Specifications, interim valuations for payment, measurement of variations, settlement of final accounts, and Ministry Returns principally in connection with housing schemes, and other municipal works.
 Housing accommodation will be made available to the successful applicant if married.
 The post is subject to the provisions of the National Scheme of Conditions of Service, and Local Government Superannuation Acts and to the passing of a medical examination.
 Applications, stating age, qualifications, present and previous appointments, details of experience together with names of two referees, should be sent to the City Engineer, The Council House, Bourne Hill, Salisbury, not later than 12th July, 1955.
 GEO. RICHARDSON,
 Town Clerk.
 The Council House,
 Bourne Hill,
 Salisbury.
 20th June, 1955. 1728

CARMARTHENSHIRE COUNTY COUNCIL.

ARCHITECT'S DEPARTMENT.
 Applications are invited for the appointment of TWO PERMANENT and ONE TEMPORARY, ASSISTANT ARCHITECTS at a salary in accordance with Grade II A.P.T. Division £560—£640, commencing at £500.
 Applicants must have passed the Intermediate Examination of the R.I.B.A.
 Applications stating age, training and experience accompanied by two recent testimonials should reach Mr. W. T. LLOYD, A.R.I.B.A., County Architect, County Hall, Carmarthen, by 11th July, 1955.
 W. S. THOMAS,
 Clerk of the County Council.

County Hall, Carmarthen. 1693

SALOP COUNTY ARCHITECT'S DEPARTMENT.

SENIOR ASSISTANT ARCHITECT required; salary grade A.P.T. V (£750 to £900 p.a.). Applicants must be Members of the R.I.B.A.
 A separation allowance of not exceeding 30s. a week will be paid to a married officer taking up this appointment together with third-class return railway fare once a month to visit his family, such allowances to be limited to a period of six months or until such time as the officer is able to obtain accommodation for himself and his family in Shropshire, whichever is the earlier.
 Conditions of appointment and forms of application obtainable from County Architect, Column House, London Road, Shrewsbury, returnable with three testimonials, not later than 29th July, 1955. 1724

**BOROUGH OF MARGATE.
ARCHITECTURAL ASSISTANT.**

Applications are invited from candidates having passed the Final Examination of the R.I.B.A. for the above position in the Borough Engineer's Office. Salary (Special classes of officers)—£650—£775 per annum. The Council will endeavour to assist with housing accommodation.
Full particulars can be obtained from Mr. W. L. Armstrong, B.Sc., Borough Engineer, 38, Grosvenor Place, Margate.

T. F. SIDNELL,
Town Clerk.

Town Clerk's Office,
40, Grosvenor Place,
Margate.
30th June, 1955. 1700

MINISTRY OF EDUCATION require HEATING ENGINEER in Architect and Buildings Branch. Work will involve study of all problems connected with heating of educational buildings, development of economical and efficient methods of heating and discussion of these matters with local education authorities and manufacturers. Qualifications, apart from Membership of I.H.V.E., include an objective and analytical cast of mind, initiative, ability to present a case convincingly, and capacity for working closely with architects and other colleagues. Salary on scale £1,375 × £50 to £1,575 plus Extra Duty Allowance of 8 per cent. up to maximum of £1,620. Write, giving date of birth, education, full details of qualifications and experience of posts held (including dates) to A.A.968, Appointments Officer, Ministry of Labour and National Service, 1-6, Tavistock Square, W.C.1, by 13th August 1955. No original testimonials should be sent. 1746

**CITY OF BIRMINGHAM.
CITY ARCHITECT'S DEPARTMENT.**

Applications are invited for the appointment of a SENIOR ASSISTANT ARCHITECT in the Schools Section to be responsible for the organisation of a programme of major and minor works in connection with the modernisation and extension of School Buildings.

The appointment will be within Grade A.P.T. VI (£825/£1,000 per annum) at a commencing salary according to experience.

Applicants must be Associate Members of the R.I.B.A., or hold an equivalent qualification.

The post is permanent, superannuable, subject to a medical examination and to one month's notice on either side.

Applications, endorsed with the heading of the post, stating age, present position and salary, qualifications and experience, together with the names of two persons to whom reference can be made, should reach the undersigned not later than 23rd July, 1955.

Canvassing disqualifies.
A. G. SHEPPARD FIDLER,
City Architect, 1725
Civic Centre, Birmingham, 1.

**LONDON ELECTRICITY BOARD.
ASSISTANT QUANTITY SURVEYOR.**

Applications are invited for the above position in the Construction Branch of the Chief Engineer's Department in Central London.

Applicants should be experienced in the preparation of Bills of Quantities in all their stages, measurement of variations and re-measurement of contracts, and the successful candidate will work under the direction of a Chartered Quantity Surveyor.

The post is graded under Schedule "C" of the National Joint Board Agreement as Grade 4—£787 10s. per annum, rising to £997 10s. per annum, inclusive of London Allowance.

Application forms obtainable from Personnel Officer, 46/7, New Broad Street, London, E.C.2, to be returned completed within fourteen days from the publication date of this advertisement. Please enclose addressed envelope and quote ref. V/2000/A. 1668

POPULAR BOROUGH COUNCIL invite applications for a CLERK OF WORKS/GENERAL FOREMAN (Temporary), Grade A.P.T. III. The starting salary will be in accordance with the ability and experience of the applicant, up to a maximum of £675 per annum, plus "weighting." Full details giving age, and experience in the erection of multi-storey flats, shops and maisonettes, etc., to be submitted immediately to the Borough Engineer and Surveyor, Poplar Town Hall, Bow Road, E.3. 1663

GLAMORGAN COUNTY COUNCIL. Applications are invited for the following permanent appointments at Headquarters, County Hall, Cardiff:—

SENIOR PLANNING ASSISTANTS—Grade A.P.T. IV (£675 p.a. × £30—£825 p.a.).

Candidates must be Corporate Members of the Town Planning Institute, and preference will be given to those who hold a University Diploma in Town Planning.

PLANNING ASSISTANT—Grade A.P.T. II (£560 p.a. × £20—£640 p.a.).

Applicants must be suitably qualified and preferably have had previous experience of Development Control.

Applications stating age, training, qualifications, experience and present salary, accompanied by two Testimonials, should be sent to the County Planning Officer, County Hall, Cardiff, and received within a week of the publication of this advertisement.

RICHARD JOHN,
Clerk of the County Council. 1682

**NORTH RIDING COUNTY COUNCIL.
COUNTY ARCHITECT'S DEPARTMENT.**

Applications are invited for the appointment on the permanent staff of TWO ASSISTANT ARCHITECTS who must have passed the Final R.I.B.A. Examination or the equivalent School Examination (Special Scale £650—£775).

Appointment subject to the provisions of the Local Government Superannuation Act, 1953, to a satisfactory medical examination and one month's notice in writing on either side.

Forms of application are not being issued but applications should state age, qualifications and experience, together with particulars of present and previous appointments and the names and addresses of three persons to whom reference can be made, to be delivered to the undersigned not later than 15th July, 1955.

Canvassing, directly or indirectly, will be deemed a disqualification and candidates should state in writing whether they are related to any member of, or senior officer under, the Council.

H. G. THORNLEY,
Clerk of the County Council.

County Hall,
Northallerton,
20th June, 1955. 1651

**COUNTY BOROUGH OF SOUTHEAST-ON-SEA.
BOROUGH ARCHITECT'S DEPARTMENT.**

Applications are invited for the following established posts:—

ARCHITECTURAL ASSISTANT: £560 × £20—£640.

ASSISTANT ARCHITECT: £600 × £25—£725.

ASSISTANT QUANTITY SURVEYOR: £600 × £25—£725.

ASSISTANT QUANTITY SURVEYOR: £675 × £30—£825.

DRAUGHTSMAN: £500 × £20—£580.

STUDENT DRAUGHTSMAN: General or Higher General Division.

The appointment will be subject to the provisions of the Local Government Superannuation Act, 1937 and the N.J.C. Scheme of Conditions of Service so far as adopted by the Council. Successful candidates will be required to pass a medical examination.

Applications stating age, qualifications and experience, with the names of two persons to whom reference can be made, should be submitted to the Borough Architect, 30, Alexandra Street, Southend-on-Sea, forthwith.

ARCHIBALD GLEN,
Town Clerk. 1664

**BRACKNELL DEVELOPMENT
CORPORATION.**

Applications are invited from Corporate Members of the R.I.B.A. for the post of ASSISTANT ARCHITECT GRADE IV—Salary £710 × £40(6) × £10(1)—£960.

Superannuation scheme, Medical Examination. Housing available as a duty course. Apply by 22nd July giving age, education and qualifications; experience and appointments held (with dates and salaries) and names of two referees to the General Manager (A.A.), Bracknell Development Corporation, Farley Hall, Bracknell, Berks. 1752

**GOLD COAST GOVERNMENT.
VACANCY FOR ARCHITECT/PLANNER.**

Applications are invited from qualified candidates for a vacancy in the grade of ARCHITECT/PLANNER in the Department of Rural Housing.

DUTIES: To be responsible for the organisation to provide simple village layouts, type plans and to train the necessary staff to implement his work. To supervise the works of Surveyors, Draughtsmen, to make real consultation regarding village planning, native administration, to advise local authorities, to explain the planning to them. Submission of draft scheme to the Town Planning Board, to supervise work of the clerical staff in statutory procedure. He will require a knowledge of Tropical Architecture and Town Planning.

QUALIFICATIONS: Applicant should be a member of the Town Planning Institute and a member of the Royal Institute of British Architects, or Associate Member of the Royal Institute of British Architects with five years' experience in Town Planning.

TERMS OF SERVICE: The post is a "Development Post" and non-pensionable; the appointment will be on contract gratuity terms for two tours of 18-24 months. The Salary scale attached to the post is £1,030 × £40—£1,530; £1,600 × £60—£2,020, per annum according to age, qualifications and experience.

A gratuity at the rate of £37 10s. for each completed three months of satisfactory service will be payable on final termination of the contract.

Free passages on first appointment and on leave will be provided for the officer and his wife once each way during each tour of service. Officers will normally be required to travel by air. Free air passages will also be provided for a maximum of three children under 15 years of age.

Vacation leave with pay; seven days for each month of service. Furnished quarters available at low rental. Income Tax at local rates. Kit allowance on first appointment £60 to £30, according to salary (if no recent tropical experience). It is possible to arrange for superannuation rights of candidates in local government service to be frozen.

Intending candidates should apply in writing to the Adviser on Recruitment, Gold Coast Office, 13, Belgrave Square, London, S.W.1 for a form of application. 1680

**BOROUGH OF HESTON AND ISLEWORTH.
APPOINTMENT OF SENIOR ARCHITECTURAL ASSISTANT.**

Applications are invited for the permanent appointment of a SENIOR ARCHITECTURAL ASSISTANT in the Department of the Borough Engineer and Surveyor. Salary in accordance with A.P.T. Grade IV (£675 × £30—£825, plus £30 London "weighting," per annum).

Other things being equal, preference will be given to applicants who have passed the examination for the Associateship R.I.B.A., or hold a University degree or diploma in architecture accepted by that Institute.

The person appointed must have had good experience in architectural design and building work under construction. Duties will include preparation of sketch designs and working drawings, and the handling of building contracts under construction. Experience in alterations and additions to school buildings, etc., will be considered to be an advantage.

The Council is unable to assist the successful candidate with housing accommodation.

Applications, on forms to be obtained from the Borough Engineer and Surveyor, 88, Lampton Road, Hounslow, must be returned to him not later than noon on 25th July, 1955, endorsed "Senior Architectural Assistant."

D. MATHIESON,
Town Clerk. 1667

**WARWICKSHIRE COUNTY COUNCIL.
ARCHITECT'S DEPARTMENT.**

Applications are invited for the following appointments:—

(a) SENIOR ASSISTANT ARCHITECTS, grade A.P.T. IV (£675—£825).

(b) ASSISTANT ARCHITECTS—scale £650—£775.

(c) ARCHITECTURAL ASSISTANTS—grade A.P.T. II (£560—£640).

(d) QUANTITY SURVEYING ASSISTANT—grade A.P.T. I—II (£500—£640).

The commencing salary can be within the grades according to ability and experience. All appointments are subject to the provisions of the Local Government Superannuation Acts 1937-53. Applicants for (a) and (b) should be Registered Architects.

Applications to be on forms which can be obtained from G. R. BARNESLEY, F.R.I.B.A., County Architect, Shire Hall, Warwick.
L. EDGAR STEPHENS,
Clerk of the Council. 1679

**SHIRE HALL,
Warwick.
24th June, 1955.**

MIDDLESEX COUNTY COUNCIL—COUNTY ARCHITECT'S DEPT.

ASSISTANT ARCHITECTS required for work in connection with new Schools, Technical Colleges, etc. Commencing salary £650 p.a. × £25(5)—£775 p.a., plus London weighting (21-25 years £20 p.a., 26 years and over £30 p.a.). Prescribed conditions. Must have Parts I and II of R.I.B.A. Final Examination. Application forms (stamped addressed foolscap envelope) from County Architect, 1, Queen Anne's Gate Buildings, Dartmouth Street, S.W.1, returnable by 18th July (quote Q.740 A.J.). Canvassing disqualifies. 1663

THE UNIVERSITY OF LIVERPOOL.

Applications are invited for the following posts in the School of Architecture:—

(i) LECTURER AND STUDIO INSTRUCTOR in Building Science and Construction;

(ii) LECTURER AND STUDIO INSTRUCTOR.

The initial salary for each post will be within the range £650—£1,000 per annum, according to qualifications and experience.

Candidates should have had either at least three years' experience of office practice or building research or responsibility for the design and site supervision of at least one major building project.

Applications, stating age, academic qualifications and experience, together with the names of three referees, accompanied if possible by drawings or photographs of work, should be received not later than 18th July, 1955, by the undersigned, from whom further particulars of the conditions of appointment may be obtained.

STANLEY DUMBELL,
Registrar. 1672

NIGERIAN COLLEGE OF ARTS, SCIENCE AND TECHNOLOGY.

(Principal: C. A. Hart, T.D., D.Sc., Ph.D., M.I.C.E., M.I.Mech.E., F.R.I.C.S.)

Applications are invited for appointment as LECTURER in ARCHITECTURE for courses up to professional level. Qualifications: A.R.I.B.A. and, preferably, degree and professional teaching experience.

The College encourages research. Salary scale, incl. overseas pay: £830—£1,560. Initial salary according to experience. Post is permanent and pensionable, but temporary appointment carrying gratuity and slightly higher salary might be made. Salaries now under review. Furnished house, rent 95s—£129 p.a., according to salary. Free 1st class passages, once each way for each tour of service, for person appointed and wife; either passage allowance or maintenance allowance for up to 2 children under 18. 7 days leave for each month's resident service. Tours of service 10—18 months.

Write for further information to Secretary, Advisory Committee on Colonial Colleges, 1, Gordon Square, London, W.C.1. Closing date for applications (6 copies) 15th July, 1955. 1678

**WORKING URBAN DISTRICT COUNCIL.
ARCHITECTURAL ASSISTANT—A.P.T.,
GRADE III.**

Applications are invited for the appointment of ARCHITECTURAL ASSISTANT in Architectural Section of the Engineer and Surveyor's Department, at a salary in accordance with A.P.T., Grade III (£600-£725 p.a.).

Candidates should have had experience in the preparation of sketch schemes and working drawings for houses, flats, etc., and preference will be given to persons who have passed the Intermediate Examination of the R.I.B.A.

The appointment is subject to the National Scheme of Conditions of Service and the provisions of the Local Government Superannuation Acts, and the successful candidate will be required to pass a medical examination.

Forms of application may be obtained from Mr. H. P. Tame, A.M.I.C.E., M.T.P.I., Registered Architect, Engineer and Surveyor, Council Offices, Woking, and are to be returned to the undersigned, endorsed "Architectural Assistant," not later than Monday, 11th July, 1955.

M. SHAWCROSS,
Clerk of the Council.

Council Offices, Woking,
17th June, 1955.

1609

Architectural Appointments Vacant

4 lines or under, 7s. 6d.; each additional line, 2s.

The engagement of persons answering these advertisements must be made through a Local Office of the Ministry of Labour or a Scheduled Employment Agency if the applicant is a man aged 18-64 inclusive or a woman aged 18-69 inclusive unless he or she or the employment is excepted from the provisions of the Notification of Vacancies Order, 1952.

ARCHITECTURAL ASSISTANT: Intermediate approaching final. Commercial and industrial work; large-scale contracts. Watson, Johnson, Stokes, Victoria Square, Birmingham. 4896

OPENING FOR QUALIFIED ARCHITECTS as Assistant Designers with an expanding firm of new traditional builders. Must have good general practical knowledge and a keen interest in new building methods. A prospect exists for working overseas. Starting salaries range between £650 and £750 according to experience, with an increase after six months' satisfactory service. Messrs. Reema Construction, Ltd., Milford Manor, Salisbury, Wilts. 9235

JUNIOR and SENIOR ASSISTANTS required for small busy practice in Central London. Good draughtsmanship and ability essential. Five-day week. Good salary to suitable applicants. Apply Box 1539.

ARCHITECT'S ASSISTANTS required (1 Senior and 2 Juniors) for West End Office. Write, stating full particulars and salary required, to Box 8725.

ARCHITECTURAL ASSISTANT required in small private office. Intermediate to Final standard. Write, stating experience and salary required, to: A. F. Bennett, 35, Queen's Gate Mews, London, S.W.7. 9266

RONALD WARD & PARTNERS require several capable ARCHITECTURAL ASSISTANTS with contemporary outlook and willing to use own initiative. Salary range £400 to £800. Interesting and varied work, home and abroad. Congenial working conditions. Apply 29, Chesham Place, S.W.1. Telephone Belgravia 3361. 7023

SENIOR ASSISTANT required in busy practice in West End. Age about 30 years, qualified with several years' experience and capable of running contracts. Box 9668.

ASSISTANT BUILDING SURVEYOR required for the Sheffield Office of a major oil company undergoing expansion. Applicants should have a sound knowledge of building construction and bye law requirements, and be capable of carrying out surveys, preparing drawings and specifications relating to service stations. Pension and Life Assurance Scheme, generous sickness benefits, Social Club. Write, giving full details and stating age, experience and salary required to Box 1594, quoting Ref. ABS/S 720.

JUNIOR ASSISTANT required for small West End office, varied practice with contemporary outlook. Must be quick, neat draughtsman. Opportunity for young man requiring experience, to work with senior Architect. Salary £500 p.a. Write, giving full details, age and experience. Box 1606.

RAMSEY, MURRAY & WHITE have a vacancy for ARCHITECTURAL ASSISTANT, about Intermediate standard, preferably with office experience. Salary according to qualifications. Apply 32, Wigmore Street, London, W.1, or telephone WELbeck 1409. 9823

ARCHITECT'S ASSISTANT: Inter. standard of ability. C. E. Ware & Son, 20, Richmond Road, Exeter. 1590

ARCHITECTURAL ASSISTANT or DRAUGHTSMAN required by well known British Contractors to work in London office under senior architect. The work is primarily concerned with design of building overseas. Overseas experience useful but not essential. Salary in accordance with experience and qualifications. Apply Box 1584.

TRIPPE & WAKEHAM, 16, Fitzharding Street, W.1, require ASSISTANTS, either qualified or unqualified, with upwards of 2 years' experience. 1612

JUNIOR ARCHITECTURAL ASSISTANT required, preferably with good knowledge of construction. Reply, stating age, salary and training: Cessford Ball, 205, Lavender Hill, London, S.W.11. 1586

ARCHITECTURAL ASSISTANT (Intermediate standard) required at once for varied practice in City office. Write, stating age, experience, and salary required, to Henry C. Smart & Partners, L.R.I.B.A., 120, Moorgate, E.C.2. 1611

QUALIFIED ARCHITECT and Intermediate Standard ASSISTANT required. Please apply, giving details of experience and salary required, to Harry W. Weedon, F.R.I.B.A. & Partners, 45, Calthorpe Road, Edgbaston, Birmingham. 1563

ARCHITECT with small practice in NE town requires Partner (early 30's). Some capital necessary, but experience and modern outlook more important. Box 1564.

IMPERIAL CHEMICAL INDUSTRIES LIMITED, Dyestuffs Division, has vacancies at Manchester for CIVIL and STRUCTURAL ENGINEERING DRAUGHTSMEN for design and detail work in connection with new projects for the manufacture of synthetic fibre forming materials and other organic chemicals. Basic minimum qualification required is O.N.C. (preferably H.N.C.) Applications with brief details of experience and qualifications should be made to Staff Department, Hexagon House, Blackley, Manchester, 9. 1566

BRITISH HOME STORES LTD. require ARCHITECT'S ASSISTANTS of various grades between 27 and 40 years of age for their Architects' Department. Salary rates from £650 to £1,000 per annum, according to experience. Applicants must have had at least four years' office experience. Positions give good opportunities for up-grading. Contributory pension scheme, non-contributory Life Assurance Scheme, and subsidised staff canteen in operation. Applications in writing, giving full details of age, experience, etc., to be sent to Personnel Manager, British Home Stores Ltd., Marylebone House, 129-137, Marylebone Road, London, N.W.1. 1569

ARCHITECTURAL ASSISTANTS required urgently in Hertfordshire Office. Intermediate stage or above. Good conditions and variety of work. Apply Box 1532.

ASSISTANT wanted: Capable of good detailing and interested in good design, to work with Architect in small City office. Salary £650-£700 p.a., according to ability. Ring CENTRAL 5766 or write Box 1533.

ASSISTANTS (Inter. standard or above) required in newly formed Architects' Department for interesting work involving prefabricated structures. Apply, stating age, experience, and salary required, to Taylor Woodrow (Building Exports), Ltd., 41, W. Chancery Street, London, W.1. marking envelope "D.O.R." 1697

EXCEPTIONAL OPPORTUNITY—A well-established firm of architects in Dunedin New Zealand, requires urgently a qualified and energetic young ARCHITECT, preferably single. Must be capable of supervising draughting room and keen to widen his experience. Up to twenty pounds (£20) per week, with passage money paid, for two years' agreement, and prospects of permanent position at end of term, if satisfactory. Apply by letter, stating experience and credentials, to Architect, 42, Thurloe Square, Kensington, S.W.7. 1752

THE MILK MARKETING BOARD require an ARCHITECT'S ASSISTANT, preferably qualified to be employed mainly on new office buildings and conversions. Applicants should be able to undertake responsibility for the whole job from sketch plan to completion, including writing of specifications, site supervision, and checking of accounts. Commencing salary will be between £700 and £750 per annum, according to qualifications. Applications, giving full details, including age and previous experience, should be addressed in writing to the Establishment Officer, Milk Marketing Board, Thames Ditton, Surrey. 1737

ARCHITECT'S Department of a very large Public Company in the Midlands need:—

- (a) ASSISTANT ARCHITECTS.
- (b) ARCHITECTURAL ASSISTANTS.
- (c) ARCHITECTURAL SURVEYORS (measuring and plotting property and land).

Qualifications are of less importance than ability. The work involved is of a most diverse character, ranging from the extension and alteration of existing buildings to multi-storey blocks for commercial, industrial and scientific purposes. Generous initial salaries and prospects of advancement for competent and experienced people. The posts are permanent and there is an attractive contributory pension scheme. Five-day week, sports welfare and canteen facilities. Full particulars, including salary required, to Box No. 558, c/o Smiths, 100, Fleet Street, London, E.C.4. 1740

ARCHITECT (R.I.B.A. qualifications) required for responsible appointment in the Architectural Department of N.W. Brewery. Duties include design of new hotels, alterations and modernisation of existing business and licensed premises, drawing staff supervision and administration. Post offers good prospects of advancement, with a commencing salary of £800 (pensionable, non-contributing). Applicants are requested to send full details of training, previous experience, etc., to Box E9, Lee & Nightingale, Liverpool. 1739

IMPERIAL CHEMICAL INDUSTRIES, LTD. Dyestuffs Division, requires an ARCHITECTURAL DRAUGHTSMAN, of Intermediate R.I.B.A. standard, possessing a sound knowledge of structural framework design and building construction, together with experience in the preparation of working drawings and details for industrial and commercial buildings. Applications, with brief details of experience, to Staff Department, Hexagon House, Blackley, Manchester, 9. 1729

WANTED—JUNIOR DRAUGHTSMAN, to work in a film studio. Apply, stating age and qualifications, to Box 1747.

ARCHITECTURAL ASSISTANT required for office in London, R.I.B.A., Inter. to Final standard. Salary up to £750 per annum. Application should be made in writing with full details. Box 1673.

REQUIRED, for private practice in Victoria district, capable ASSISTANTS, of at least Intermediate standard. Successful applicants will be given the opportunity of working largely on their own initiative, and the scope of the practice is varied. Salary by arrangement, according to experience. Write, giving age and full particulars, to Box 1674.

ENTHUSIASTIC, capable ASSISTANT required for unusual commercial and residential projects. Office experience, initiative, good design sense essential. Salary according to merit. David Stern, 24, Gloucester Place, W.1. HUN. 0451. 1675

ARCHITECTURAL ASSISTANTS wanted for busy office (10 miles from London) dealing with large School, Hospital and Housing Projects, and with General work. There are vacancies for the following Assistants willing to take responsibility:—

Qualified and with good office experience. £650 to £800 p.a.

Qualified, with small experience or Inter. R.I.B.A. standard, with good office experience. £550 to £650 p.a.

Junior, with good office experience. £450 to £550 p.a.

Five-day week. Superannuation scheme available. Write, giving age and details of training and experience, upon which salary will depend, to Tooley & Foster, Chartered Architects, Midland Bank Chambers, Buckhurst Hill, Essex. 1671

WANTED, in Oxfordshire office, ARCHITECTURAL ASSISTANT, male or female, approx. Inter standard. One who has some knowledge of and is interested in, traditional restoration work. Good prospects and scope for the right applicant, who must be keen and conscientious. Apply, stating salary required, Box 1666.

ARCHITECTURAL ASSISTANT (young) in Area Architect's Office in Bristol of Transport Organisation. Able to work with minimum supervision. Apply, stating age, previous experience, and salary required, to Box 1734.

ARCHITECTURAL ASSISTANTS required, preferably with Inter. R.I.B.A. min. and some experience in industrial buildings. Good salary and working conditions. B.S.P. Industries, Ltd. (Ref. A/36), Elstree Way, Boreham Wood. ELSTree 3311/5. 1683

ARCHITECTURAL DRAUGHTSMEN required. Preference will be given to applicants having some experience in the design of industrial buildings and housing. Write, stating age and full particulars, to A. E. Cresswell, A.R.I.B.A., 40, Claremont Road, Cricklewood, London, N.W.2. 1694

ARCHITECT'S ASSISTANT wanted. Must be good draughtsman, with sound knowledge of construction, specifications, etc. Please apply, stating experience and salary required, Raymond Erith, F.R.I.B.A., 1, Arcade Street, Ipswich. 1696

**EASTERN ELECTRICITY BOARD.
NORTHMET SUB-AREA.
APPOINTMENT OF ARCHITECTURAL ASSISTANT, SUB-AREA HEADQUARTERS.**

(Ref. No. 565). APPLICATIONS are invited for the position of Architectural Assistant on the staff of the Sub-Area Engineer at Northmet House, Southgate, N.14.

Candidates should have had experience in the preparation of plans for building and civil engineering work for substations, service centres, workshops, offices, etc.

The salary for this appointment will be within the range of £672-£777 per annum in accordance with Grade 5, Schedule D, of the National Joint Board Agreement.

Future salary and conditions of service will be in accordance with Agreements made from time to time by the appropriate negotiating bodies.

The successful candidate will be required to contribute to a superannuation scheme and may be required to undergo a medical examination.

Applications by letter, stating age, education, qualifications and experience, with details of present appointment, should be submitted to the Manager, Northmet Sub-Area, Eastern Electricity Board, Northmet House, Southgate, London, N.14, within 14 days of the publication of this advertisement. 1692

JUNIOR DRAUGHTSMAN required by a Multiple Shop Company in their Architects' Dept. Five-day week, pension scheme, canteen and social facilities. Write, stating age, experience and salary required, to Box 1677.

APPOINTMENTS VACANT—ASSISTANTS of intermediate and final R.I.B.A. standard required in Architects' Department of F. S. & A. Robinson Ltd., Bristol. Applicants should be capable of carrying out all branches of work and will be required to take charge of varied contracts. Write giving full details of experience and age. Box 1756.

ARCHITECTURAL ASSISTANT required in Chartered Surveyor's Office in South East Lancashire for development of housing estates and small factory premises. Apply stating age, experience, and salary to Box 1754.

OLIVER LAW & PARTNERS (Chartered Architects), 36, Ebury Street, Westminster, require two or three additional **ARCHITECTURAL ASSISTANTS (DRAUGHTSMEN)**. Architectural School or office experience essential. Salaries £500 to £800 per annum, according to experience. 1691

AN Architectural group, engaged in industrial undertakings of a varied nature, require **ASSISTANTS** who are prepared to take the rough with the smooth, relieving the inevitable down to earth detailing by producing an occasional brochure, perspective or model. Salary by arrangement. Please reply Box 1690.

ARCHITECTURAL ASSISTANT, Intermediate standard, required by busy London office, capable of preparing working drawings and details. Good prospects. Salary by arrangement. 5-day week. Box 1688.

PROGRESSIVE and expanding London office, with widely varied practice, requires **JUNIOR** and **INTERMEDIATE ARCHITECTURAL ASSISTANTS**. 5-day week, good salaries. Lewis Solomon, Son & Joseph, 21, Bloomsbury Way, W.C.1. HOL. 5108 or 7082. 1689

VACANCIES exist at the Head Office of the Architects' Department, Ind Coops & Allsopp, Ltd., The Brewery, Burton-on-Trent, in the following categories:—

(a) **SENIOR ARCHITECTURAL ASSISTANTS**; must be fully qualified. Commencing salary £750—£900.

(b) **INTERMEDIATE ARCHITECTURAL ASSISTANTS**; must be at Inter. R.I.B.A. standard. Commencing salary £500—£600.

(c) **SENIOR ASSISTANT QUANTITY SURVEYOR**; must be fully qualified. Commencing salary £750—£900.

(d) **JUNIOR ASSISTANT QUANTITY SURVEYOR**; must be at Inter. R.I.C.S. (Quantities) standard. Commencing salary £500—£600.

The Department has a considerable and interesting programme in hand; a 5-day week is in operation, and amenities include canteen and sports ground.

Particulars of training, experience, past and present appointments and qualifications, together with testimonies, and stating age and whether married or single, to be sent to the Chief Architect, Ind Coops & Allsopp, Ltd., The Brewery, Burton-on-Trent. 1686

ARCHITECTURAL ASSISTANT required, small contemporary practice. Opportunities for site experience and running jobs. Salary £550. Apply Challen & Floyd, 7, Cromwell Road, S.W.7. Tel. KEN. 0169. 1713

COMPETENT ARCHITECTURAL ASSISTANT, Intermediate R.I.B.A., required. Apply, stating age, experience and salary required, to H. V. Ashley & Winton Newman, 3, Verulam Buildings, Gray's Inn, W.C.1. 1714

SENIOR and **INTERMEDIATE** standard **ASSISTANTS** required for busy practice engaged upon a large programme for schools, industrial buildings, offices etc. Write, giving full particulars of qualifications, experience, and salary required, to Johns, Slater & Howard, F.A.R.I.B.A., 32, Foundation Street, Ipswich. 1715

JUNIOR ARCHITECTURAL ASSISTANT required in small general practice, with contemporary outlook. Write, stating full particulars and salary required, to Malcolm H. Peck, A.R.I.B.A., 19, Commercial Road, Woking. 1716

ASSISTANT required with experience of specifications, sub-contracts, materials, etc., also knowledge of construction and draughtsmanship. Write giving particulars of age, experience and salary required. Box 716, c/o 7, Coptic Street, W.C.1. 1555

BROKEN HILL, Northern Rhodesia.—Growing Architect's practice requires **SENIOR ASSISTANT ARCHITECT**. Initial salary £1,000 p.a., bonus paid on results. Free passage, single accommodation available, annual and home leave. Apply, quoting OSS.56/4, Overseas Technical Service, 5, Welldon Crescent, Harrow, Middx. 1720

NAIROBI—Architects' office, engaged on wide variety of large works, seeks **ASSISTANT**, qualified or unqualified, with several years' experience of large commercial and industrial work. Salary approx. £1,440 p.a. Free passage; one year contract initially. Apply with brief details, quoting OSS.14/4, to Overseas Technical Service, 5, Welldon Crescent, Harrow, Middx. 1705

ARCHITECTURAL ASSISTANTS required by Richard Costain, Ltd., for their London Headquarters. Applications are invited from young Architects aged approximately 22 to 26 years, with Intermediate or Final R.I.B.A. Commencing salary in region of £600 per annum, according to experience. Apply to the Chief Personnel Officer, Richard Costain, Ltd., 111, Westminster Bridge Road, London, S.E.1. 1722

BRITISH EUROPEAN AIRWAYS require an **ARCHITECTURAL ASSISTANT**. Considerable general and practical experience necessary, particularly in design/construction of industrial/office buildings. Able to progress projects at drawing office stage and on site and deal with contractors with minimum supervision. Preferably qualified or Intermediate R.I.B.A. Work involves some travelling in Europe and U.K. Medical examination necessary. Pension scheme, air travel concessions. Salary £717 10s. p.a., rising to £767 10s. p.a. Applications, giving age, education, qualifications and experience, to Head Office Personnel Officer, B.E.A., Keyline House, Ruislip, Middlesex. 1703

ASSISTANT ARCHITECT required for the London Head Office of a major oil company. The work is in connection with large-scale development of service stations, involving the design of new and the re-modelling of existing stations. Should preferably be an Associate Member of the R.I.B.A., capable of supervising staff and controlling work through all stages of development. Must hold current driving licence. Pension and Life Assurance Scheme. Generous sickness benefits; luncheon voucher scheme; social club. Write, giving full details, stating age, experience and salary required, to Box 1296, quoting Ref. RO/AA 713.

ARCHITECTS ASSISTANTS required by Manchester firm of Architects. Some previous office experience desirable, and not less than Intermediate R.I.B.A. standard. Write, stating age, experience, qualifications, and salary required. Box 1385.

A WELL-KNOWN Midland Motor Manufacturer requires an **ARCHITECTURAL TRAINEE**, who has completed his Intermediate R.I.B.A. for work of interesting and responsible nature. He will be given opportunity to design complete garage premises. Reply, stating age and all relevant details, to Box 1470.

REQUIRED for progressive London office, **ARCHITECTURAL ASSISTANT**. Intermediate stage or above, some office experience. Please write for interview. Box 1019.

ARCHITECTURAL DRAUGHTSMEN required by Iflord, Ltd., for Staff Architect's office. Applicants should have completed at least one year's office experience. Apply in writing, stating age, training and experience, to Iflord, Ltd., Romford, Essex. 1709

APPLICATIONS are invited from **ARCHITECTURAL ASSISTANTS** of British nationality and not exceeding 30 years of age for vacancies in the Staff Architects' offices in London, Leeds, Birmingham and Exeter of a large national institution. Permanent pensionable positions attainable by selected applicants after preliminary trial. Commencing salaries up to £810 per annum, according to age and qualification, and progressive salary scale. **JUNIOR ASSISTANTS** also required, of not less than 17 years of age, for Architectural training. Selected applicants will be expected to study for their professional examinations, and gratuities and salary increases will be accorded on passing Intermediate and Final. Apply in writing, giving particulars of age, education, training, experience, and salary required, and stating if available for interview in one of the places named. Box 1708.

ARCHITECTURAL ASSISTANTS required, at least Inter. R.I.B.A. standard, preferably with previous office experience. Salary offered £624—£702, according to experience. Write, stating age, experience, and qualifications, Reynolds & Scott, F.A.R.I.B.A., 9, Albert Square, Manchester, 2. 1707

ARCHITECTURAL DRAUGHTSMAN, with some office experience in surveys and working drawings, required by The Granada Group. Apply, stating age, experience, and salary required, to Chief Architect, Granada Theatres, Ltd., 149, Regent Street, London, W.1. 1684

REQUIRED, by London Architects engaged in large building schemes in the City and elsewhere, **SENIOR STANDARD ASSISTANTS**, capable of handling complete jobs; also **ASSISTANT** of Intermediate standard. Pension scheme available. Apply to Ley, Colbeck & Partners, F.F.R.I.B.A., Chartered Architects, Palmerston House, 51, Bishopsgate, London, E.C.2. 1685

ARCHITECTURAL DRAUGHTSMEN required in Architect's Department of well known Midland firm of new traditional and traditional housing contractors. Work involves the preparation of estate development schemes, 1/4 scale and working drawings for houses and flats. Salary according to age and experience. Five-day week. Staff canteen. Replies to Box 1543.

ARCHITECTURAL ASSISTANTS, SENIOR and **JUNIOR** required in busy London office with varied practice. Good salary and prospects for suitable applicants. 5-day week. Write Box 715, c/o 7, Coptic Street, W.C.1. 1536

ARCHITECTURAL ASSISTANT required (about Inter. Standard), in small office in S.W. London. Telephone for appointment, KEN: 6221/2187. 1538

ARCHITECTURAL ASSISTANT at or above Intermediate Standard required by West End firm for Branch Office in North Essex Country Town. Must be good draughtsman with sound knowledge of construction and capable of taking charge of small drawing office. Salary according to experience with bonus and subsistence allowance. 1619

DRAUGHTSMAN required by thermal insulation contractors in Manchester to take charge of small estimating department. Reply in the first place, giving age, experience and salary required to Box 1553.

A BUSY West-End practice with varied work in London and the Country, needs **ASSISTANTS** with experience and ability to handle jobs with minimum supervision. Particulars of qualifications and salary required, to Box 1581.

ARCHITECTURAL ASSISTANT required immediately. Good draughtsman and sound knowledge of working drawings required. Attractive terms to suitable applicant. Write or 'phone W. H. Marmorek, F.R.I.B.A., 1, New Court, Temple, E.C.4. CEN. 4794. 1701

ARCHITECTURAL ASSISTANT required by Major Oil Company undergoing expansion, for its Sheffield office. Applicants should be of Intermediate standard, and must be capable of carrying out work on the design and re-modelling of service stations. Social Club, Pension and Life Assurance scheme, generous sickness benefits. Write, giving full details of experience, age and salary required, to Box 9262, quoting Ref. A.A. 588.

EXPERIENCED ARCHITECTURAL ASSISTANT required, with view to partnership, South-West London office. Apply in writing, giving full particulars of experience, age, and salary required, to Box 1711.

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

APPLICATIONS are invited for the following appointments in a newly formed Branch Office to be opened in July. Interesting and varied commercial and industrial projects:—

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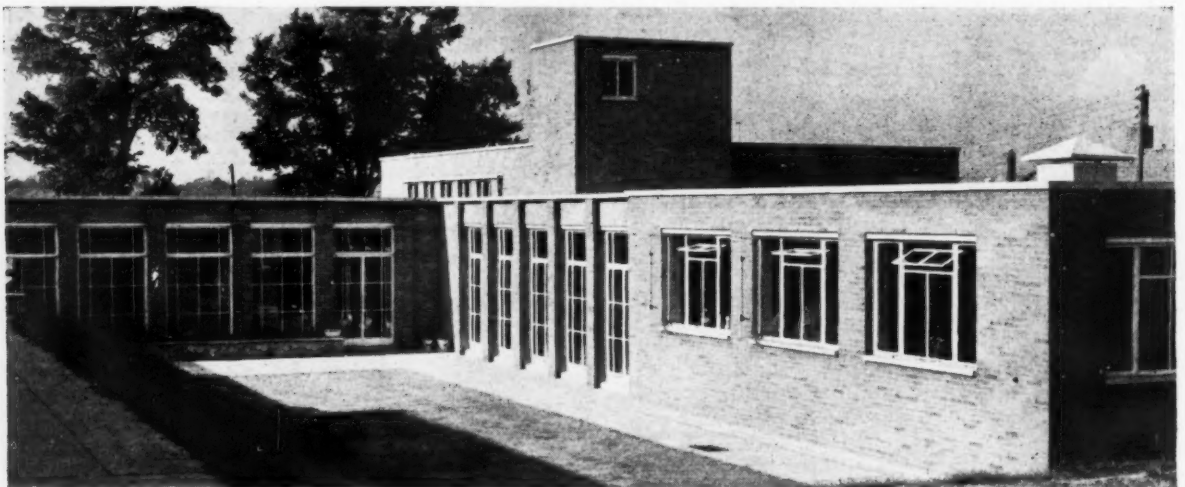
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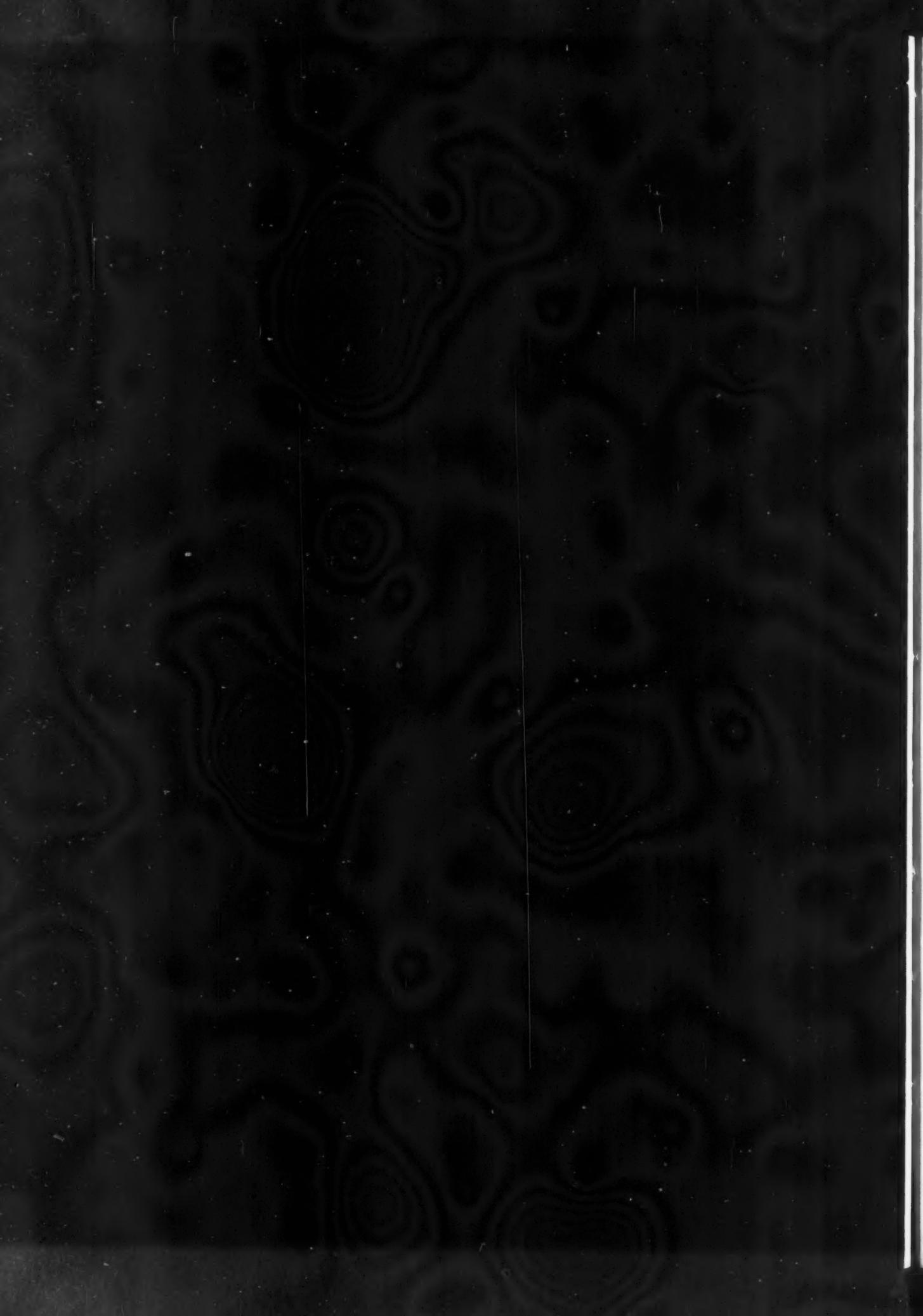
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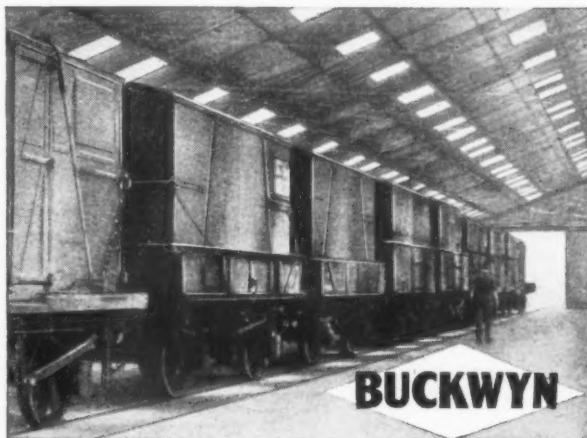
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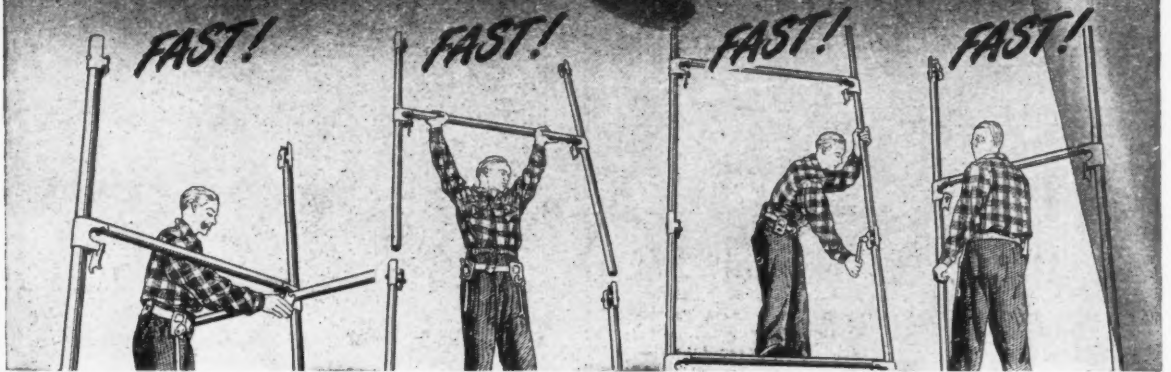
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