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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THE ARCHITECTURAL PRESS

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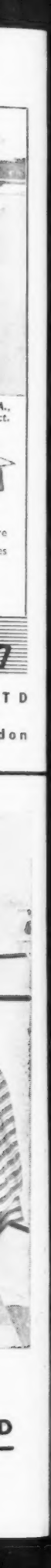
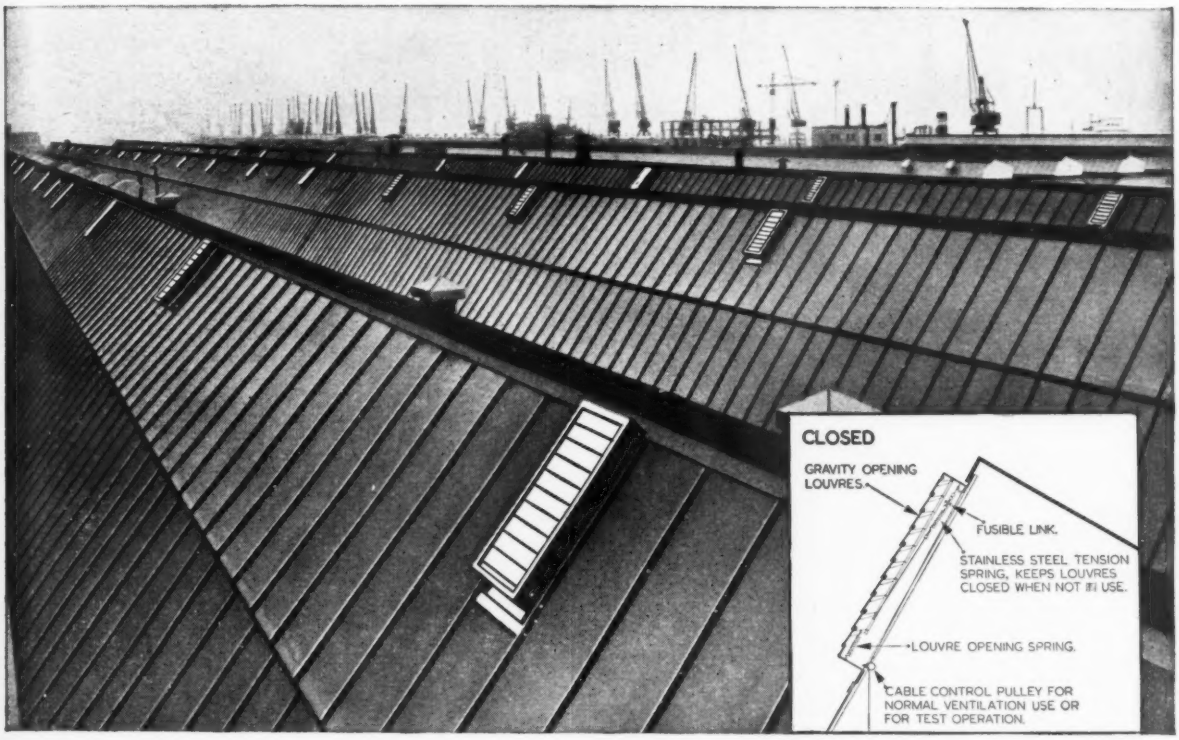
★ A glossary of abbreviations of Government Departments and Societies and Committees of all kinds, together with their full address and telephone numbers. The glossary is published in two parts—A to Ig one week, Ih to Z the next. In all cases where the town is not mentioned the word LONDON is implicit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

AA	Architectural Association, 34/6, Bedford Square, W.C.1.	Museum 0974
AAI	Association of Art Institutions. Secy.: W. Marlborough Whitehead, "Dyneley," Castle Hill Avenue, Berkhampstead, Herts.	
ABS	Architects' Benevolent Society. 66, Portland Place, W.1.	Langham 5721
ABT	Association of Building Technicians. 1, Ashley Place, S.W.1.	Victoria 0447-8
ACGB	Arts Council of Great Britain. 4, St. James' Square, S.W.1.	Whitehall 9737
ADA	Aluminium Development Association. 33, Grosvenor Street, W.1.	Mayfair 7501/8
ARCUK	Architects' Registration Council. 78, Wimpole Street, W.1.	Welbeck 2915
BAE	Board of Architectural Education. 66, Portland Place, W.1.	Langham 5721
BATC	Building Apprenticeship and Training Council. Lambeth Bridge House, S.E.1.	Reliance 7611, Ext. 1706
BC	Building Centre. 26, Store Street, Tottenham Court Road, W.C.1.	Museum 5400
BCC	British Colour Council. 13, Portman Square, W.1.	Welbeck 4185
BCCF	British Cast Concrete Federation. 105, Uxbridge Road, Ealing, W.5.	Ealing 9621
BCIRA	British Cast Iron Research Association. Alvechurch, Birmingham.	Redditch 716
BDA	British Door Association. 10, The Boltons, S.W.10.	Fremantle 8494
BEDA	British Electrical Development Association. 2, Savoy Hill, W.C.2.	Temple Bar 9434
BIA	British Ironfounders' Association. 145, Vincent Street, Glasgow, C.2	Glasgow Central 2891
BID	Building Industries Distributors. 52, High Holborn, W.C.1.	Chancery 7772
BINC	Building Industries National Council. 11, Weymouth Street, W.1.	Langham 2785
BOT	Board of Trade. Whitehall Gardens, Horseguards Avenue, Whitehall, S.W.1.	Trafalgar 8855
BRS	Building Research Station. Bucknalls Lane, Watford	Garston 4040
BSA	Building Societies Association. 14, Park Street, W.1.	Mayfair 0515
BSI	British Standards Institution. British Standards House, 2, Park St., W.1.	Mayfair 9000
BTE	Building Trades Exhibition. 32, Millbank, S.W.1.	Tate Gallery 8134
CABAS	City and Borough Architects Society. C/o 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.	Belgravia 6661
CCP	Council for Codes of Practice. Lambeth Bridge House, S.E.1.	Reliance 7611 Ext. 1284
CDA	Copper Development Association. 55, South Audley Street, W.1.	Grosvenor 8811
CIAM	Congrès Internationaux d'Architecture Moderne. Doldertal, 7, Zurich, Switzerland	
COID	Council of Industrial Design. 28, Haymarket, S.W.1.	Trafalgar 8000
CPRE	Council for the Preservation of Rural England. 4, Hobart Place, S.W.1.	Sloane 4280
CUC	Coal Utilization Council. 3, Upper Belgrave Street, S.W.1.	Sloane 9116
CVE	Council for Visual Education. 13, Suffolk Street, Haymarket, S.W.1.	Reading 72255
DGW	Directorate General of Works, Ministry of Works, Lambeth Bridge House, S.E.1.	Reliance 7611
DIA	Design and Industries Association. 13, Suffolk Street, S.W.1.	Whitehall 0540
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. (Fidor). 47, Princes Gate, Kensington, S.W.7.	Kensington 4577
FBI	Federation of British Industries. 21, Tothill Street, S.W.1.	Whitehall 6711
FC	Forestry Commission. 25, Savile Row, W.1.	Regent 0221
FCMI	Federation of Coated Macadam Industries. 37, Chester Square, S.W.1.	Sloane 1002
FDMA	The Flush Door Manufacturers Association Ltd., Trowell, Nottingham.	Ilkeston 623
FLD	Friends of the Lake District. Pennington House, nr. Ulverston, Lancs.	Ulverston 201
FMB	Federation of Master Builders. 26, Great Ormond Street, Holborn, W.C.1.	Chancery 7583
FPC	The Federation of Painting Contractors, St. Stephen's House, S.W.1.	Whitehall 3902
FRHB	Federation of Registered House Builders. 82, New Cavendish Street, W.1.	Langham 4341
GPDA	Gypsum Plasterboard Development Association, 11, Ironmonger Lane, E.C.2.	Monarch 8888
GC	Gas Council. 1, Grosvenor Place, S.W.1.	Sloane 4554
GG	Georgian Group. 2, Chester Street, S.W.1.	Belgravia 3081
HC	Housing Centre. 13, Suffolk Street, Pall Mall, S.W.1.	Whitehall 2881
IAAS	Incorporated Association of Architects and Surveyors. 29, Belgrave Square, S.W.1.	Belgravia 3755
ICA	Institute of Contemporary Arts. 17-18, Dover Street, Piccadilly, W.1.	Grosvenor 6186
ICE	Institution of Civil Engineers. 1, Great George Street, S.W.1.	Whitehall 4577
IEE	Institution of Electrical Engineers. Savoy Place, Victoria Embankment, W.C.2.	Temple Bar 7676
IES	Illuminating Engineering Society. 32, Victoria Street, S.W.1.	Abbey 5215
IGE	Institution of Gas Engineers. 17, Grosvenor Crescent, S.W.1.	Sloane 8266



VENTILATION *AND* FIRE PROTECTION!



with the COLT DUAL PURPOSE FIRE VENTILATOR

at AC-Delco, Division of General Motors Ltd., Southampton.

A study of industrial fires in Great Britain and in America has shown that the primary cause for the spread of fire is the super-heated air, smoke and explosive gases trapped under the roof. They build up in heat and intensity from the fire below and cause flash fires. Furthermore, the smoke rapidly extends downwards, entirely filling the premises and preventing the work of the fire fighters.

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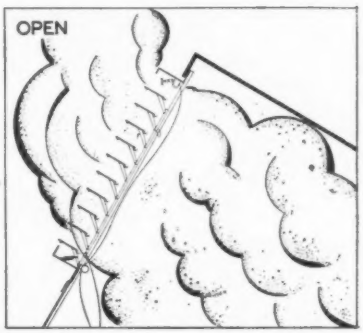

The insets illustrate the action of the ventilator as a Heat and Smoke Exhaust. In the event of fire, the fusible link fuses, providing Automatic Escape for Super-Heated Air and Smoke.

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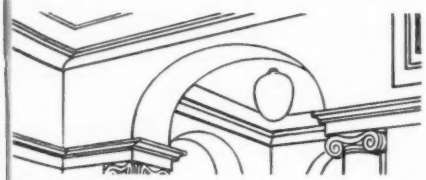

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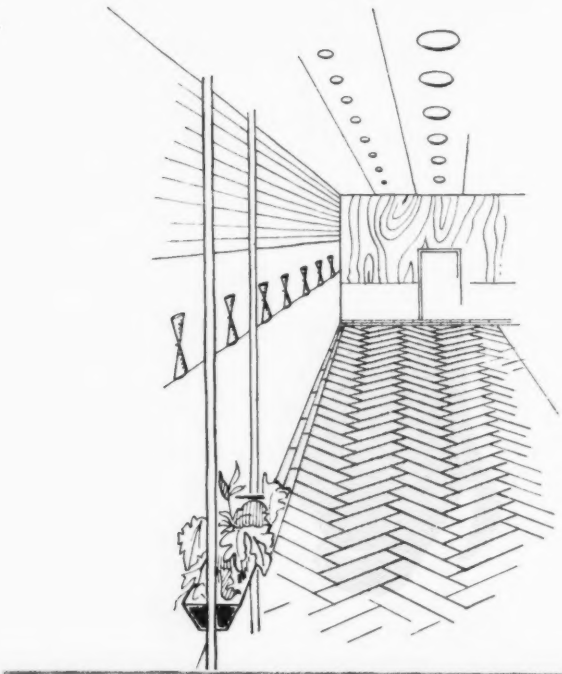

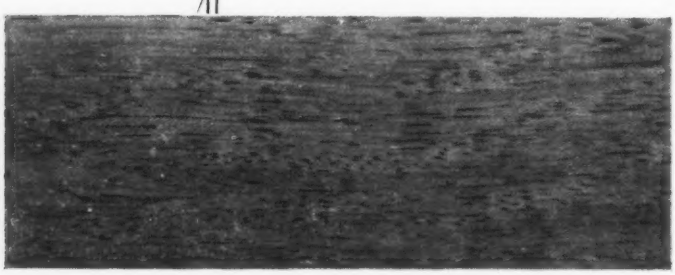

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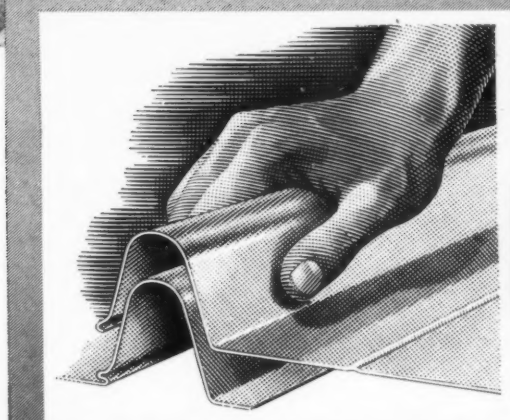

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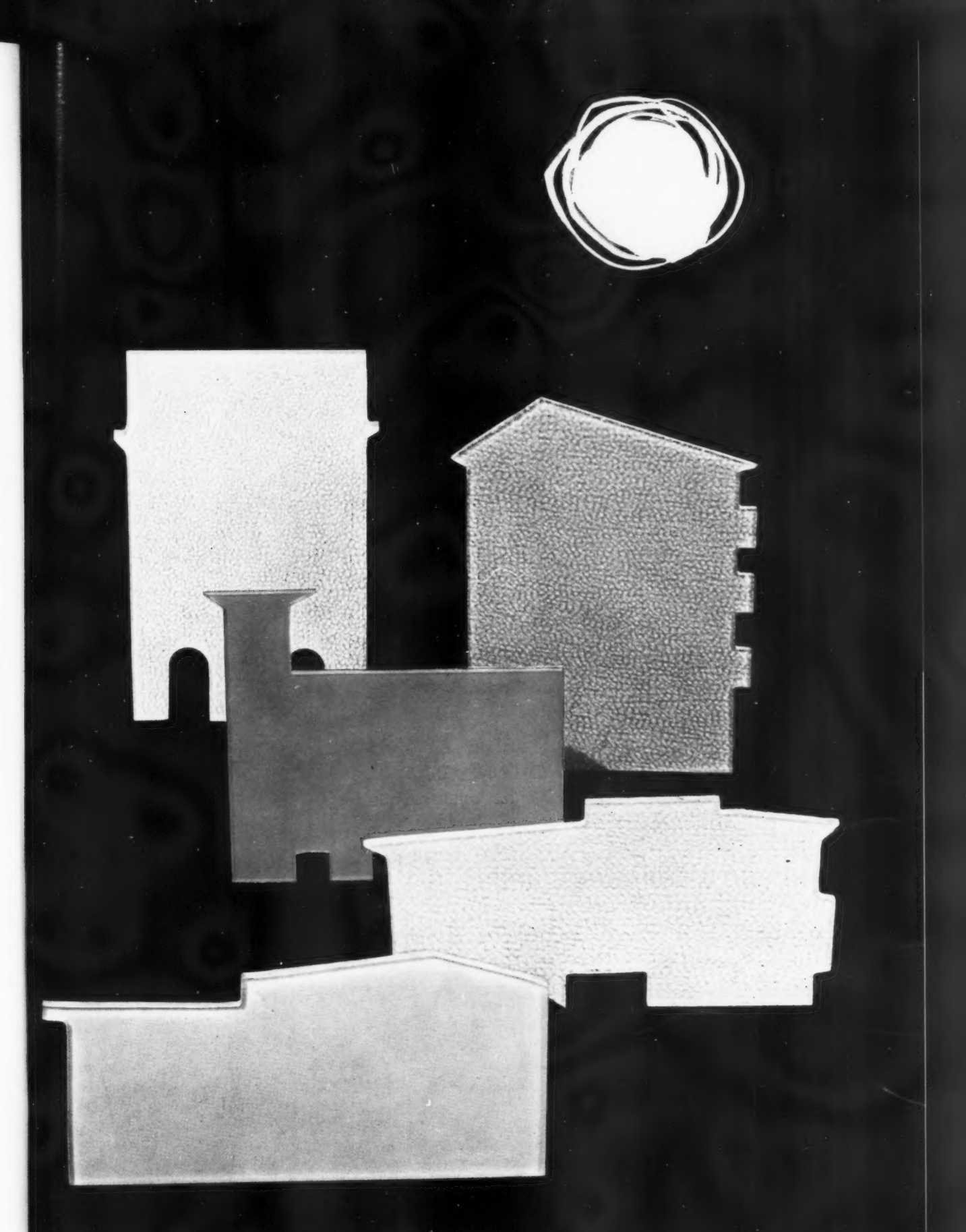

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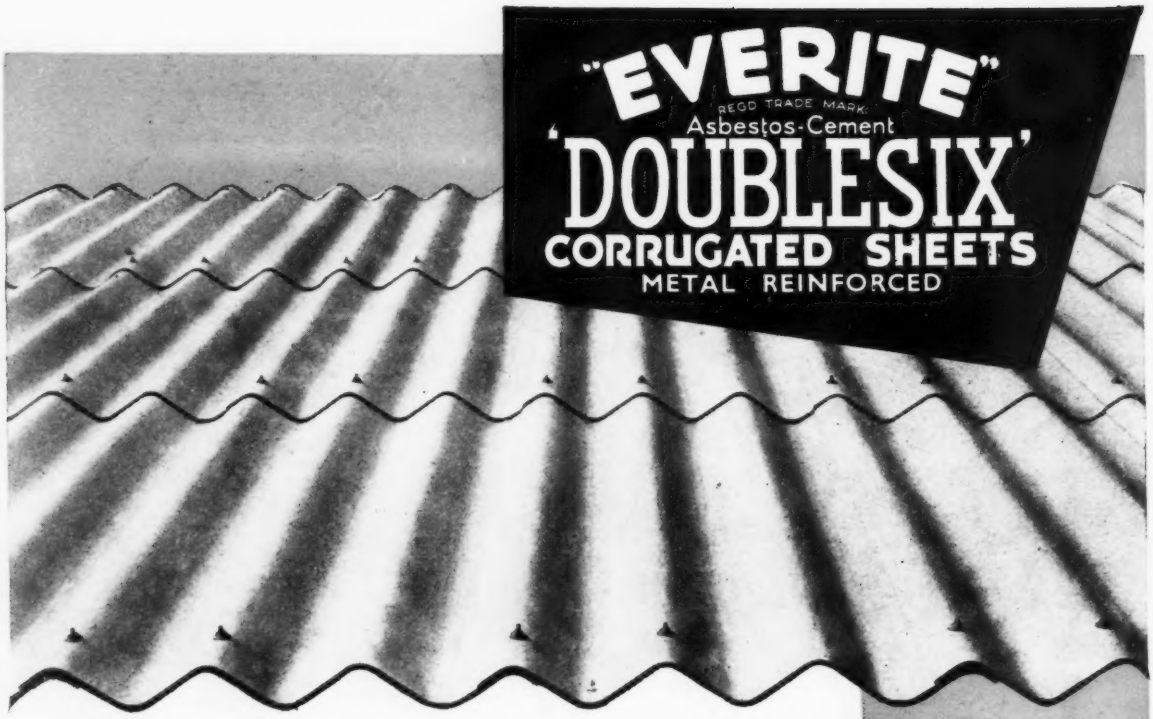

A MODERN Reinforced Asbestos-Cement corrugated roofing with purlins at 6′ 6″ centres.

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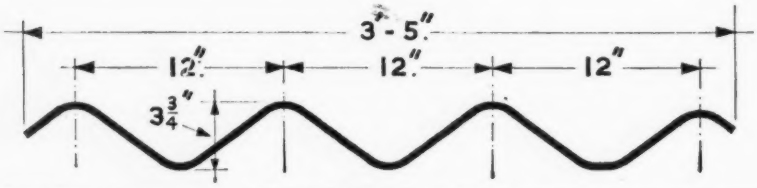

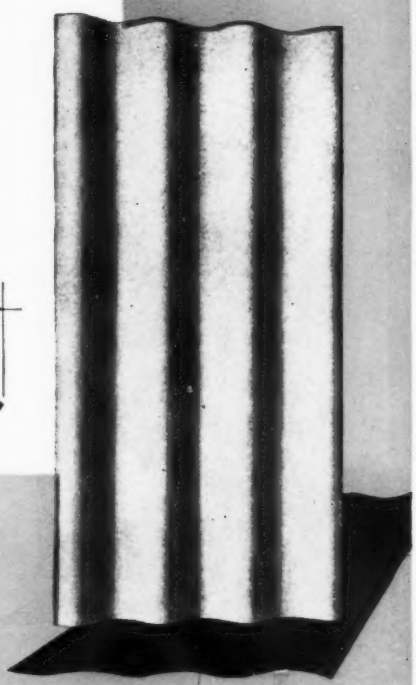

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Standard lengths	6′0″, 7′0″ and 8′0″
Standard width	3′5″ nominal
Nett. Covering width	3′0″
Corrugations per sheet	4
Pitch of corrugations	12″
Depth of corrugations	3¾″
Thickness of material	¼″ nominal
Side lap	5″
End lap — minimum	6″
Weight per sq. yard approx.	35 lb.
Weight per 100 sq. ft. roofing as laid	476 lb.

TURNERS ASBESTOS CEMENT CO LTD
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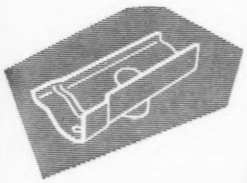
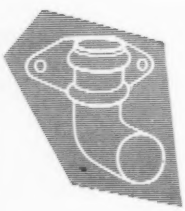
ALL Hiduminium Rainwater Goods conform to B.S.S*





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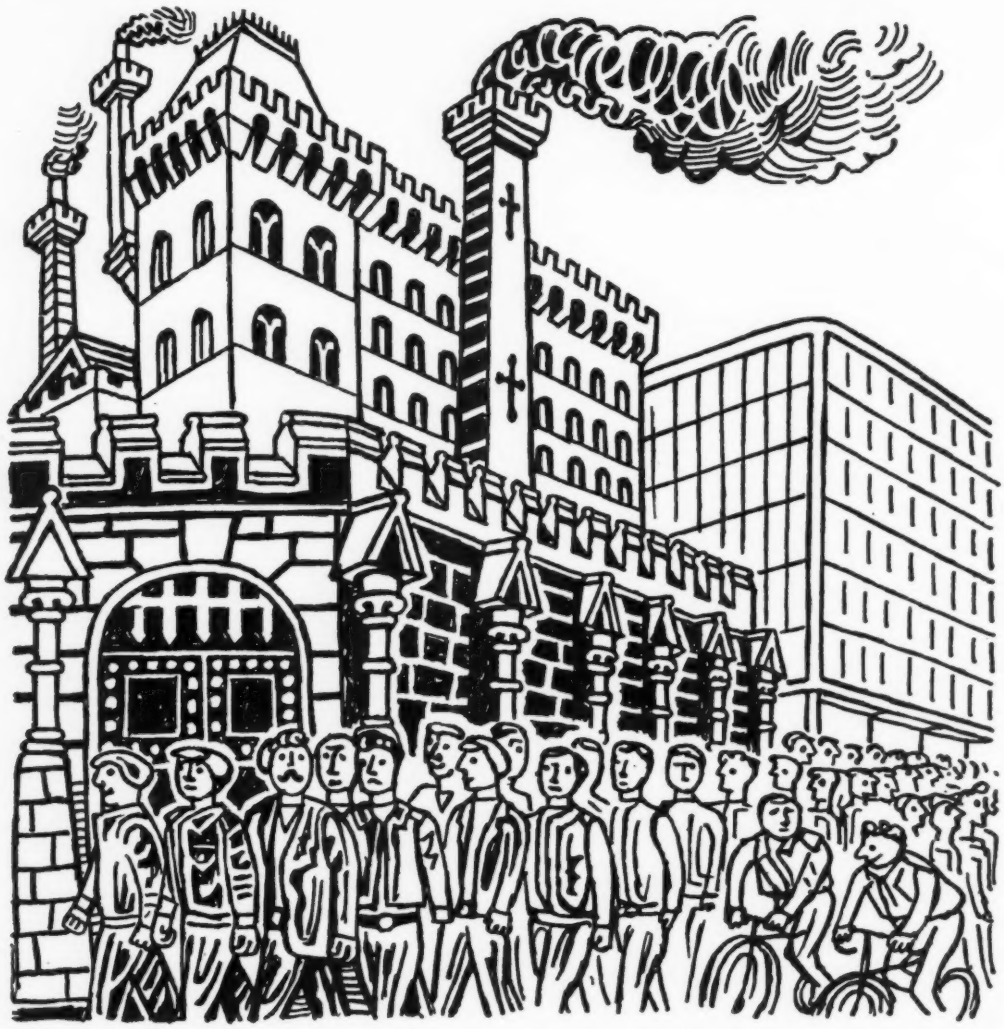


Variations in one key

OLD Jeremiah Fornaby built his plain brick factory in 1840. Sebastian Fornaby, in tune with the times, got a man up from London to design him a cloud-capped castle with machicolations and a working portcullis.

Now Sir Ignatius Fornaby, not without misgivings, has added his contemporary variation.

"Doesn't look safe to me," he said when he saw the plans. "All that glass and stuff. Old Jeremiah wouldn't have liked it."

But he shook off these ancestral forebodings to add, "Better let the Chubb chap have a look. Don't want security trouble."

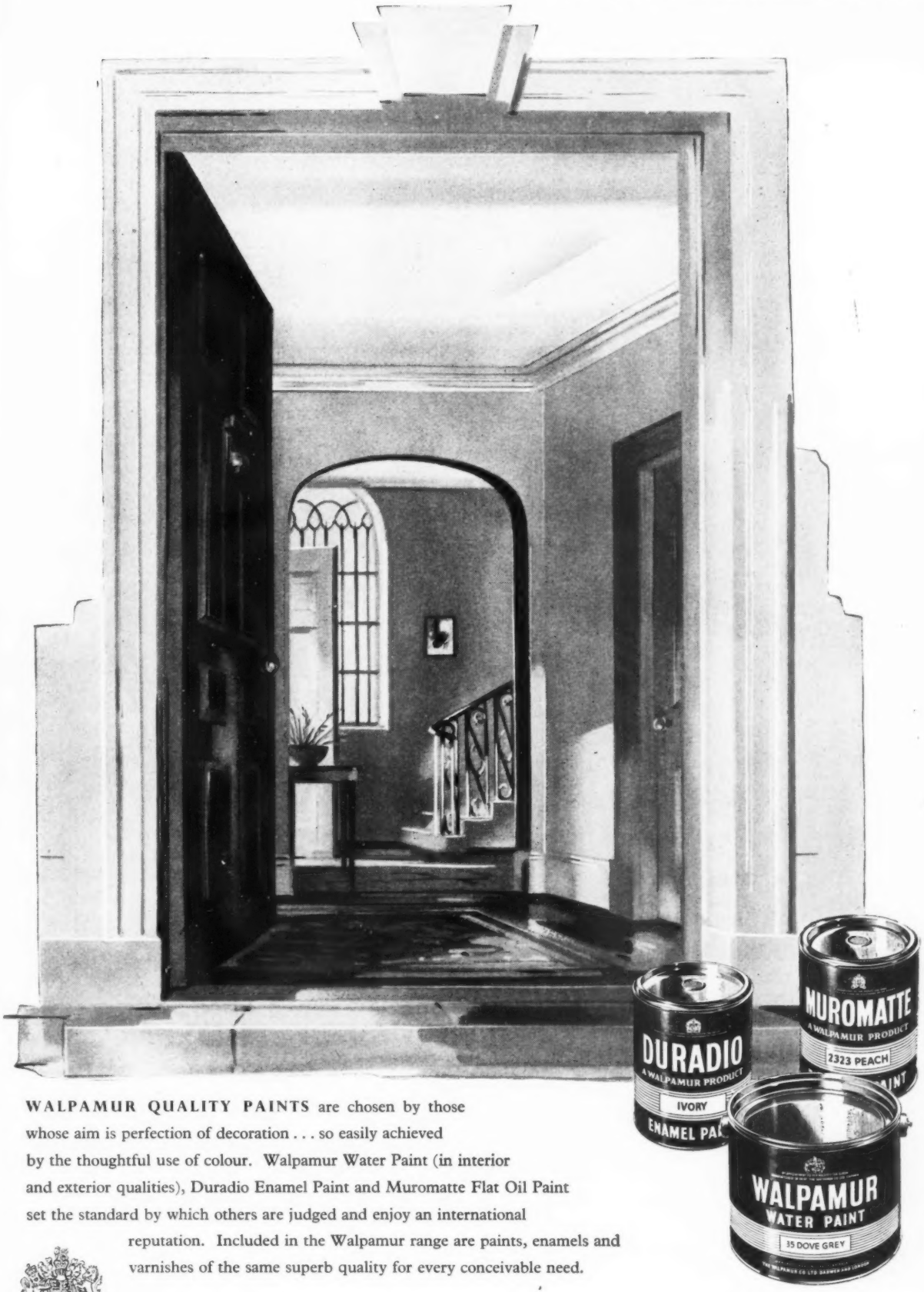
The Chubb master-key system installed by Jeremiah still worked unobtrusively and efficiently. The Man from Chubb explained how neat modern locks for the new building could be incorporated into the system.

"Deuced clever," said Sir Ignatius, "Old Jeremiah would've liked that."

So, if Fornaby's Limited appears architecturally a little discordant, the security system at least is—literally—all in one key.

If you haven't got a Chubb catalogue (or can't find it), why not ask for the latest one? It makes an excellent door stop or paperweight, and you never know when you'll have a client who wants the best security there is. Write or telephone Chubb & Son's Lock and Safe Co. Ltd., 175-176 Tottenham Court Road, London, W.1 (MUSeum 5822).

DON'T LEAVE IT TO CHANCE—LEAVE IT TO CHUBB



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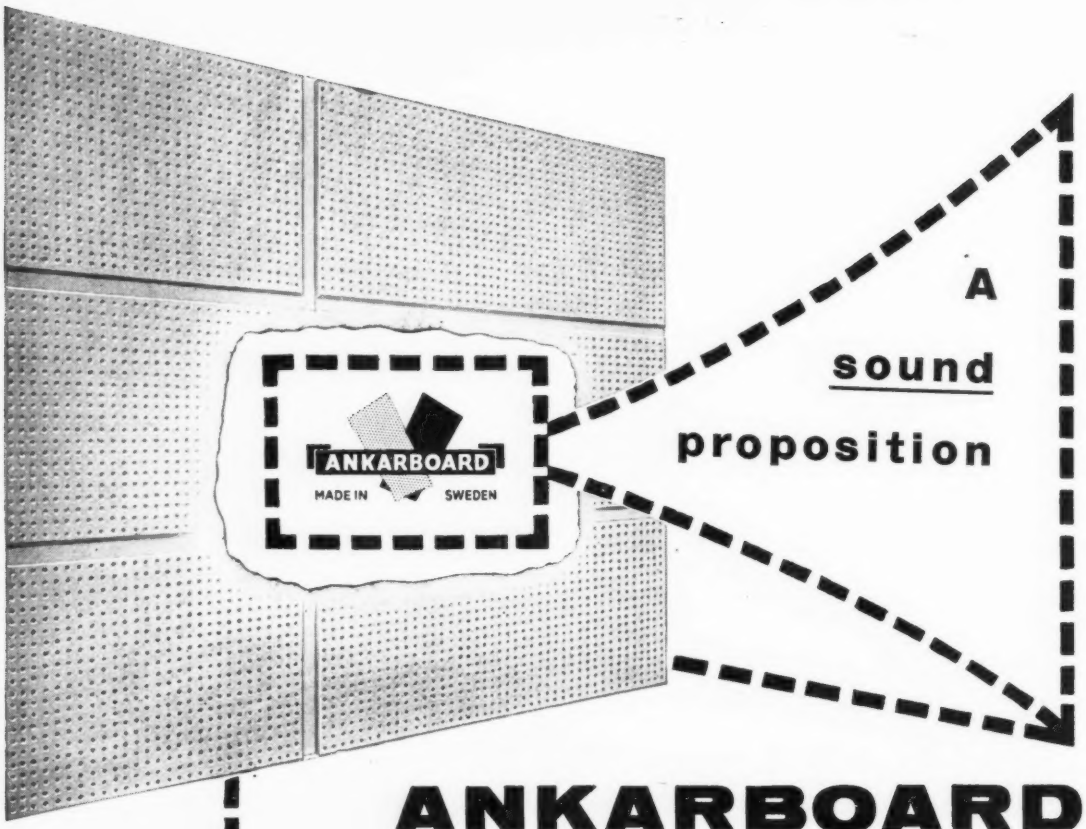

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—achieve a dual purpose in combating disturbing noise and improving acoustics. The perforated boards are specially prepared with grooved and ship-lapped joints for easy fixing and give an extremely attractive finish when in position.

ACOUSTIC BOARDS ½″ or ¾″ thick, are available in 12″ or 16″ widths and in lengths up to approx. 16 ft.

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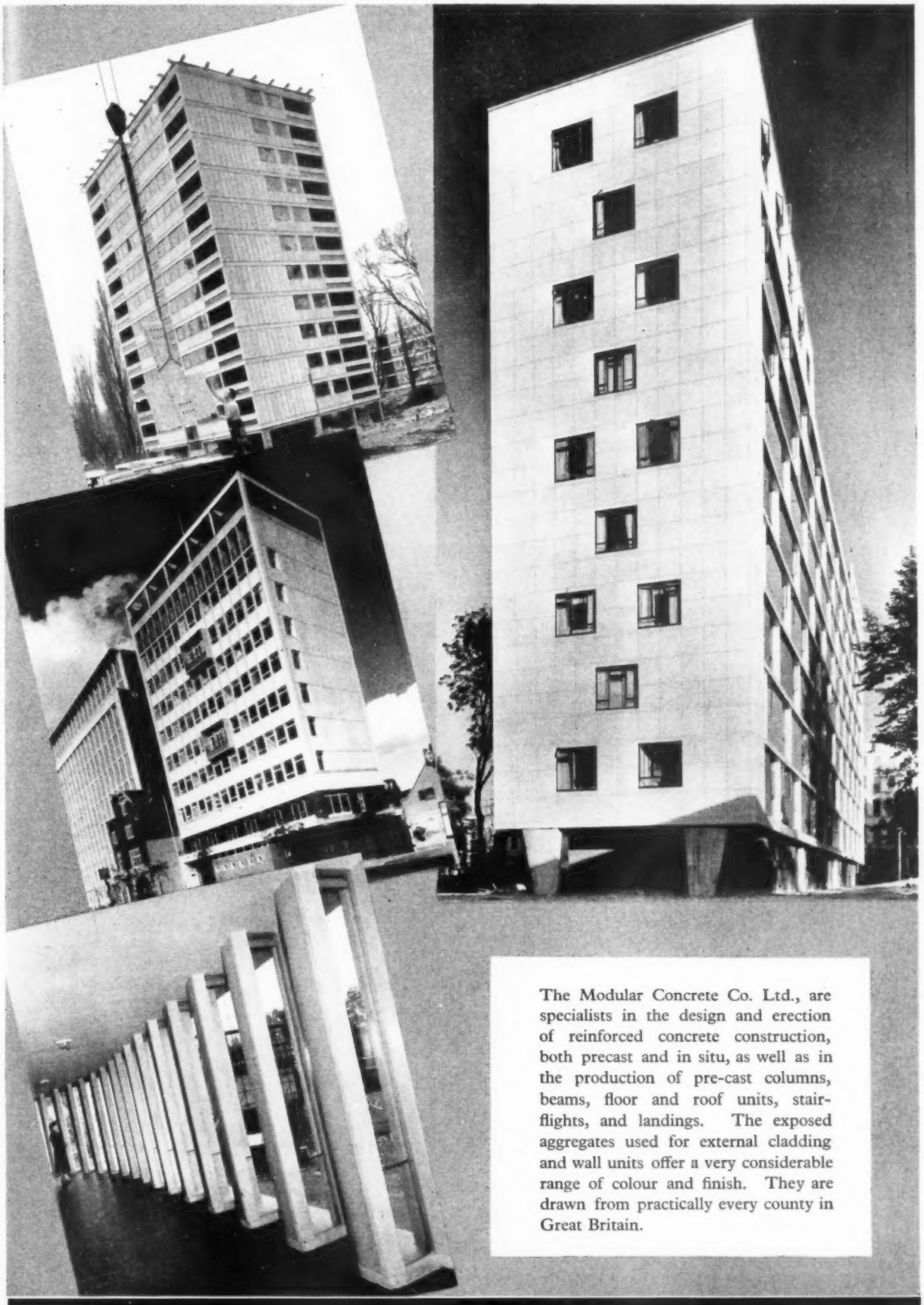

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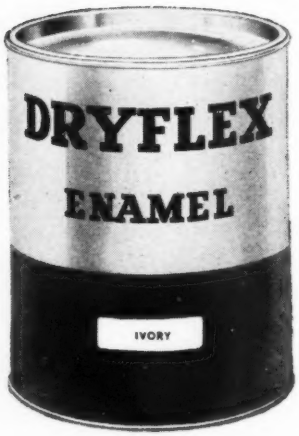

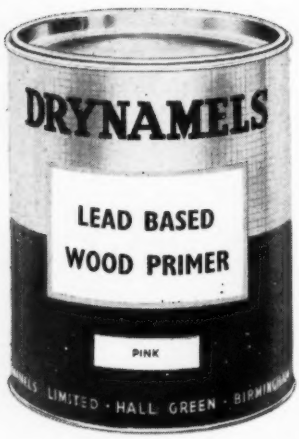

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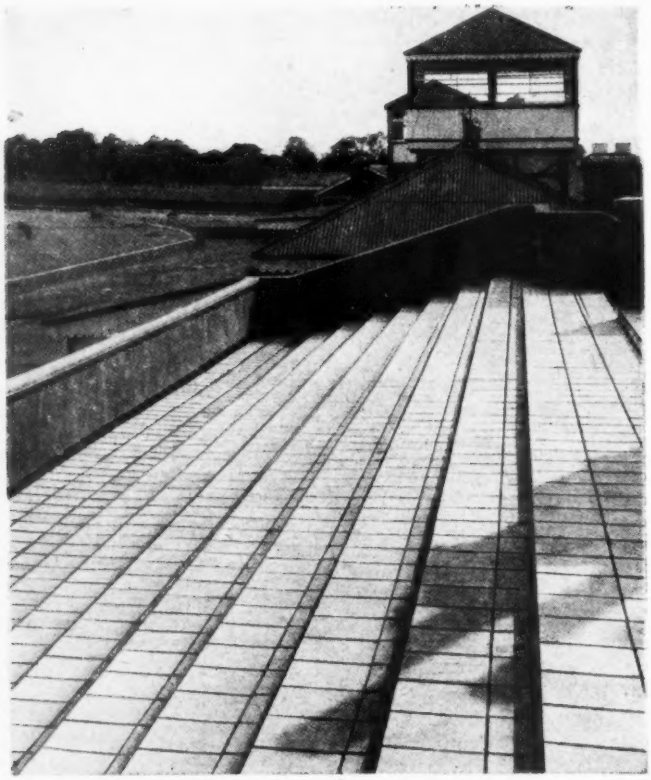

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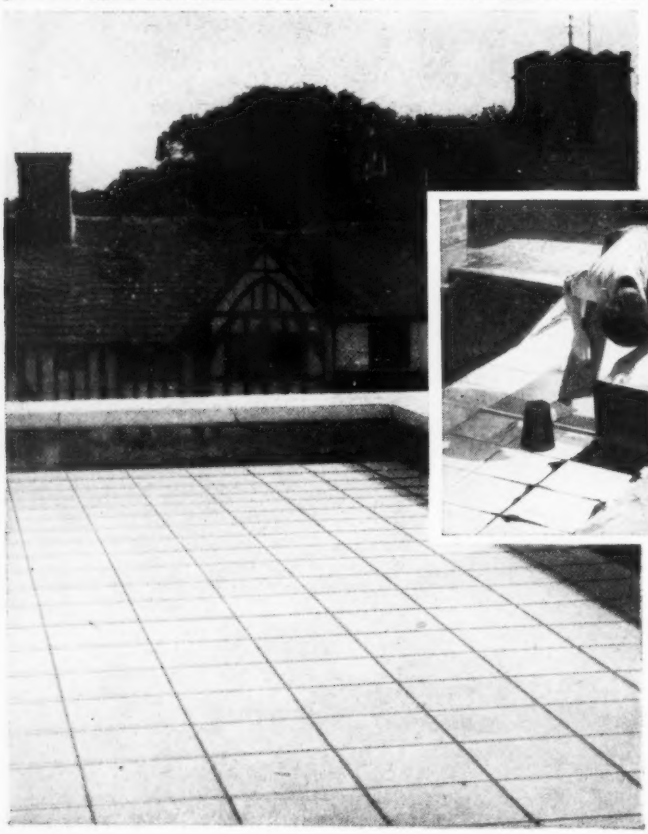
Above: GRAND STAND, CHELTENHAM RACE COURSE.
Architect: Rainger, Rogers & Smithson. FF/AA/R.I.B.A.

Below: THE GEORGE HOTEL, CRAWLEY, SUSSEX.
Architect: J. Hopwood, A.R.I.B.A.



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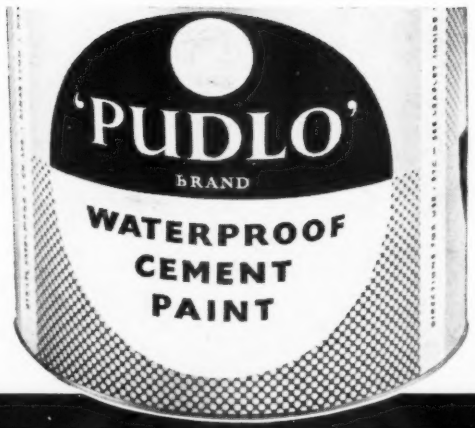

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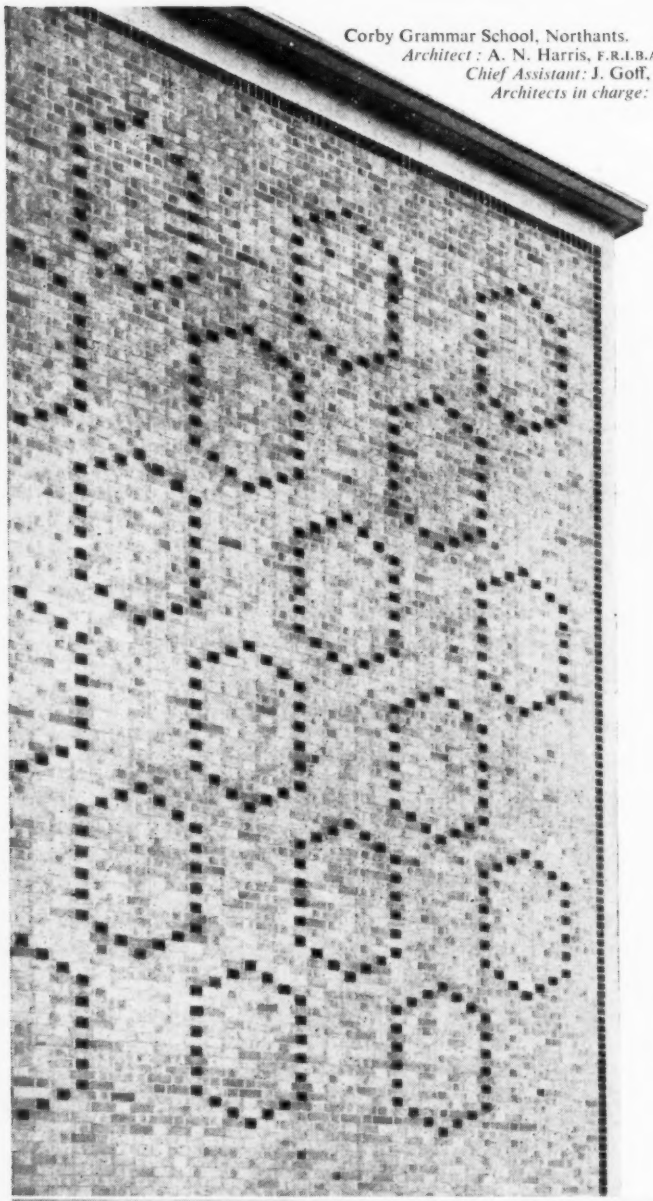
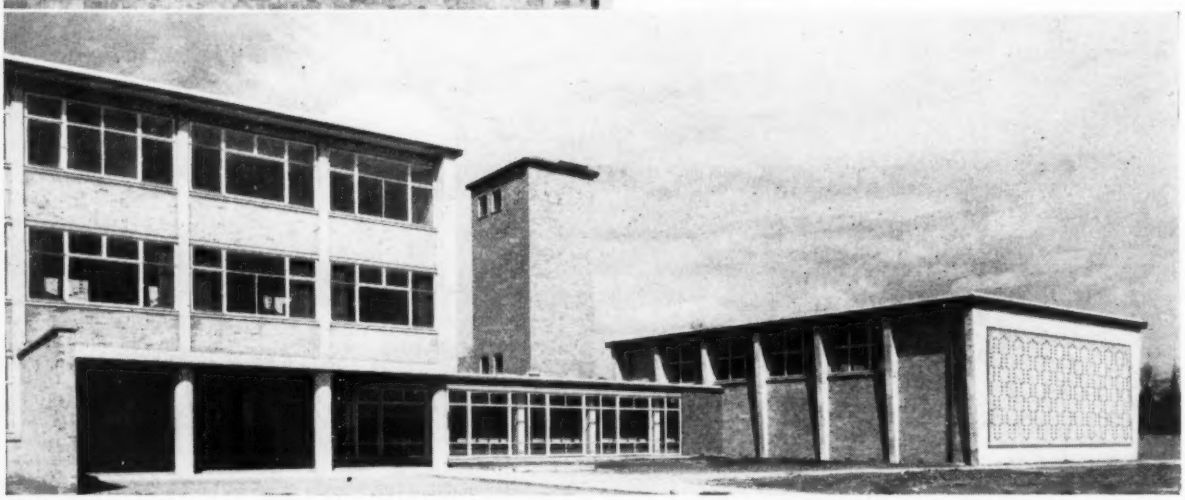


Corby Grammar School, Northants.
Architect: A. N. Harris, F.R.I.B.A., County Architect, Northants C.C.
Chief Assistant: J. Goff, A.R.I.B.A.
Architects in charge: P. Manning, A.R.I.B.A., and B. W. H. Claypole, L.R.I.B.A.

Permanence of finish keeps upkeep down

BUILD IN BRICK

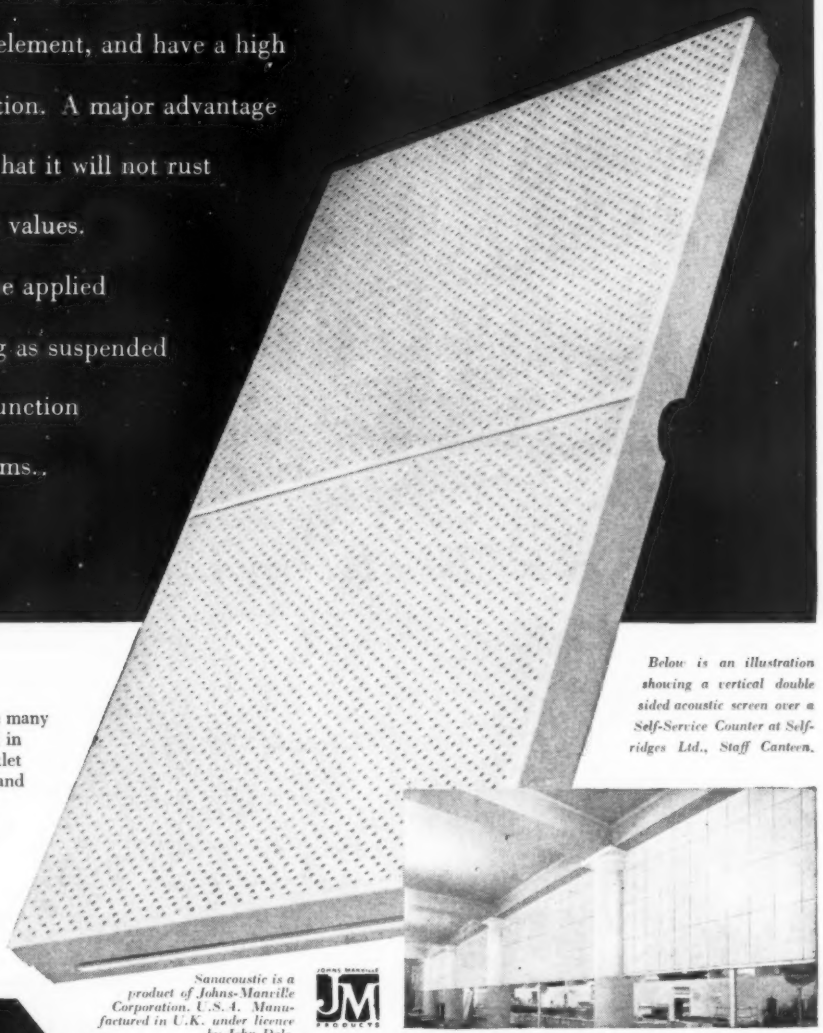
Issued by
The National Federation of Clay Industries,
Drayton House, W.C.1



Acoustical Problems and their solution **No. 1** *of a series by John Dale*

Sanacoustic ALUMINIUM TRAYS

These perforated aluminium panels are backed with a sound absorbing element, and have a high coefficient of light reflection. A major advantage of a Sanacoustic tray is that it will not rust and so spoil its aesthetic values. Sanacoustic Units may be applied to existing ceilings, hung as suspended ceilings, or used in conjunction with heated ceiling systems..



Below is an illustration showing a vertical double sided acoustic screen over a Self-Service Counter at Selfridges Ltd., Staff Canteen.

OTHER MATERIALS. There are many other treatments which can be used in dealing with acoustics and our booklet entitled "Buildings should be seen and not heard" is available on request. It deals with many aspects of noise and sound control, and illustrates some of the ways in which John Dale Engineers have dealt with them.

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with an answer to **YOUR** *Acoustic Problem*

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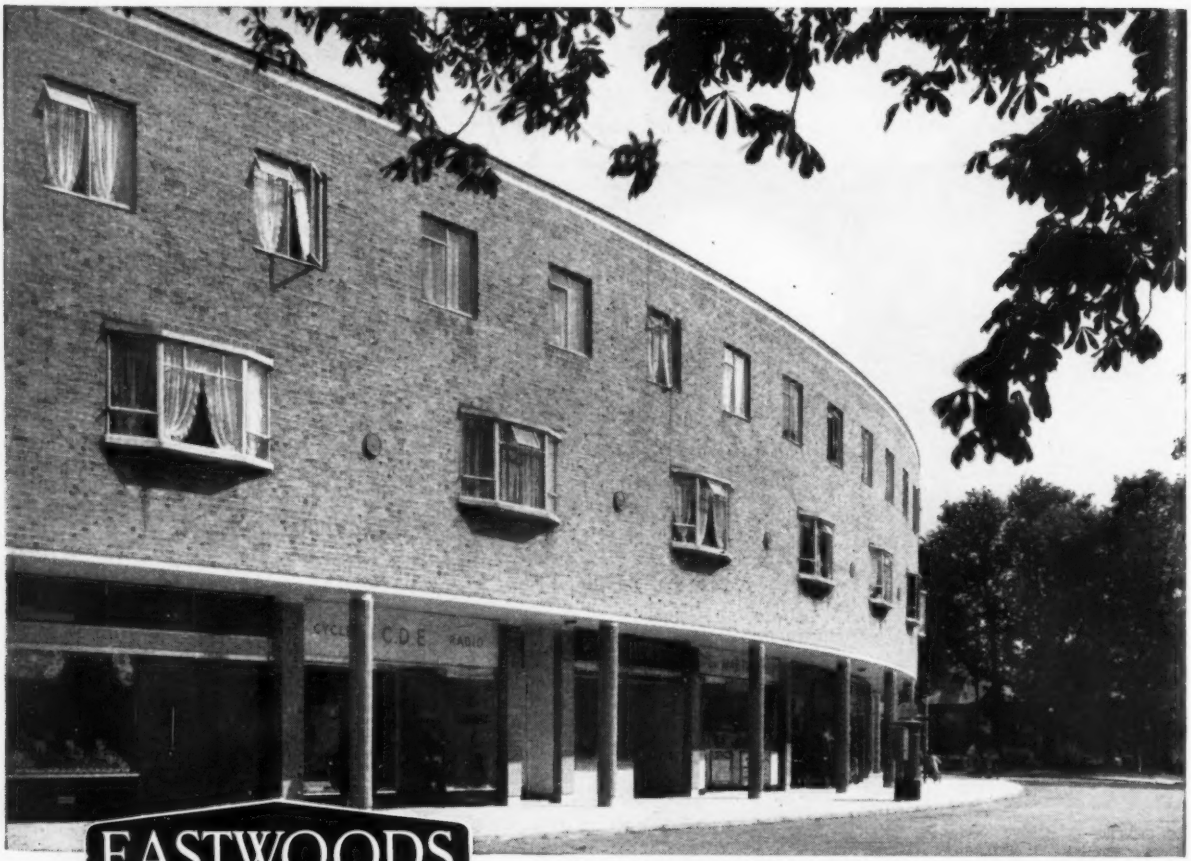

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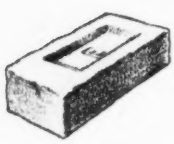
Architect: Hubert Bennett, F.R.I.B.A. Architect to London County Council. Contractor: Percy Bilton Limited

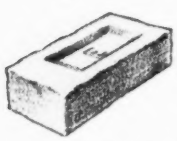
Stock Bricks

Prompt Delivery from Works to Your Site



YELLOW FACINGS

A hard high grade stock facing of uniform deep colour and regular shape.
Their mellow warm colour make these bricks very suitable for special architectural features.



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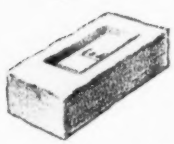

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Ideally suited for use as facings for schools, factories and housing schemes. Mild Stocks are fairly hard bricks with faces of good medium yellow colour.
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Bradfords were responsible for the frame, floors and staircases

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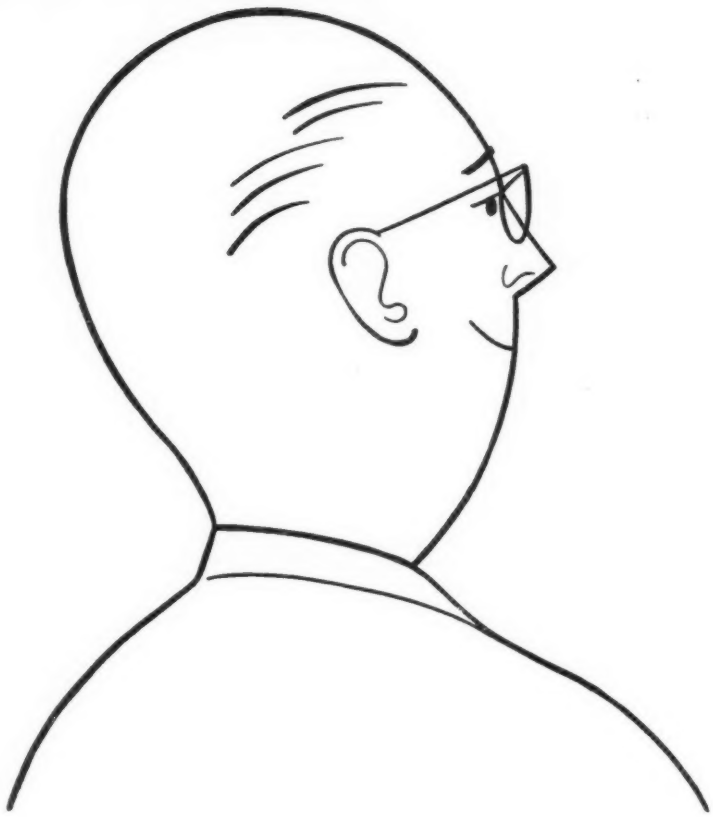

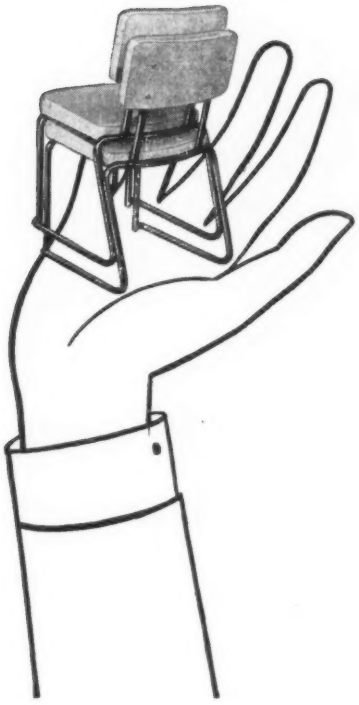

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A nesting chair of upholstered comfort, yielding gently yet firmly, where it matters, to the sitter's anatomy.
The seat is of foam rubber and the back of rubberised hair.
The frame, being of $\frac{7}{8}$ inch tubular steel is for all practical purposes indestructible.
And when more floor space is needed, a number of these chairs can be neatly stacked.

M313

Cox TUBULAR STEEL NESTING FURNITURE

The illustrated catalogue giving structural details of Cox tubular steel furniture will be sent on request.

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Application of Asphalt No. 2 **FLOORING** **Reprinted by permission of N.A.M.A.**

"NAMASTIC" Asphalt Floorings are dustless, hygienic, damp proof, vermin proof, non-odourous, and resilient. They are ready for traffic a few hours after completion.

Repairs and alterations to floors (*e.g.*, when necessitated by removal of machinery) can easily be effected. Worn or broken sections can be replaced quickly with new material without disturbance of working arrangements, the new added material leaving the surface as homogeneous and jointless as before.

Non-slip surfaces can be provided when desired by using carborundum granules beaten into the surface of the Asphalt while still warm, by rubbing the surface of the Asphalt with sand, or by treatment with a steel roller designed for the purpose to give a patterned surface.

"NAMASTIC" Asphalt can be laid on most forms of solid construction, such as concrete, sound timber boarding, old brick tiles, or stone flagged floors. In some cases an underlay of Black Sheathing Felt may be necessary, but the Asphalt Contractor will advise in specific cases.

Asphalt used for Flooring may be classified in two ways, according to (*a*) the heaviness and type of traffic to which it is to be subjected and (*b*) the type of Asphalt and purpose for which it is required.

(a) HEAVINESS AND TYPE OF TRAFFIC

The three main categories are as follows:—

Heavy Duty—for floors required to carry substantial standing loads or heavy vehicles, or stand up to severe abrasion and impact of heavy packages. Such Asphalts are specially designed for use in heavy engineering works, loading docks, breweries, factories and warehouses. They are normally laid 1" to 1½" thick. A strong concrete or other stable base is essential.

Medium Duty—for floors designed to carry continuous foot traffic and light trucks, *e.g.*, in corridors, on railway platforms, in light engineering or food factories and pithead bath installations. Such Asphalts are laid ⅞" to 1" thick as required.

Light Duty and Domestic—for floors in schools, offices, shops, hospitals and homes. Normally laid ⅝" to ¾" thick.

(b) TYPE OF ASPHALT AND PURPOSE

In addition to ordinary grades of Asphalt suitable for use in factories, breweries, warehouses, etc., the following special grades are available:—

Coloured Asphalt—for use where a more decorative appearance is required, *e.g.*, in homes, offices, schools and hospitals.

Acid-resisting Asphalt—designed to withstand most dilute acid solutions. Special grades are available to withstand acids of greater strength. The Asphalt Contractor should be supplied in advance with samples of the solutions or given particulars of the acids and their concentrations. Coloured Acid-resisting Asphalts are available.

Oil-resisting Asphalt—designed to resist attacks by mineral oils and greases. This grade is especially suitable for engineering works.

Cold Storage—special grades of Asphalt are available to suit the conditions found in cold rooms and refrigerators.

A number of other grades of Asphalt have been developed for specific purposes. Members of the Association are always pleased to offer their advice, free of charge, on such matters.

SPECIFICATION

When inviting Tenders, it is helpful to include information as follows:—

(1) Use to which floor will be put and degree of heaviness of traffic.

(2) Loaded weights of trolleys, if any, and size of wheels.

(3) Maximum weight of standing loads.

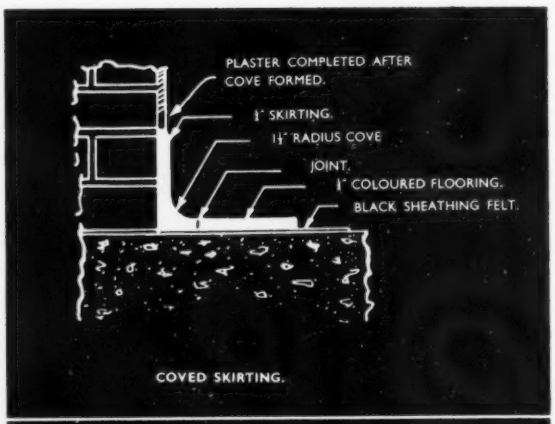
(4) Details of acids, grease and oils which may come in contact with floor, including concentration and temperature.

(5) Temperature of building if above or below normal.

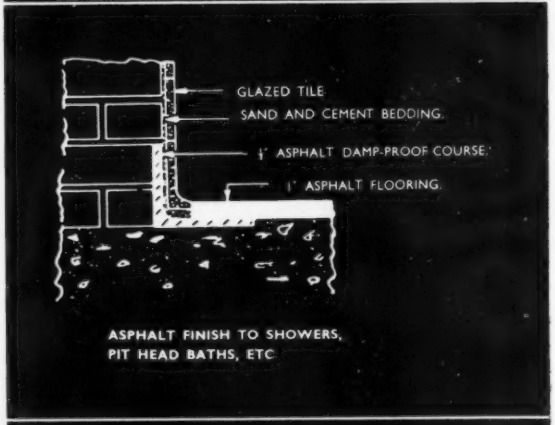
It is recommended that the following be inserted in any Bills of Quantities for Flooring Asphalt:—

> "*All Asphalt to be used for Flooring on this contract shall be manufactured by a licensed member of the NATIONAL ASSOCIATION OF MASTER ASPHALTERS and shall be laid by a Member of the Association.*"

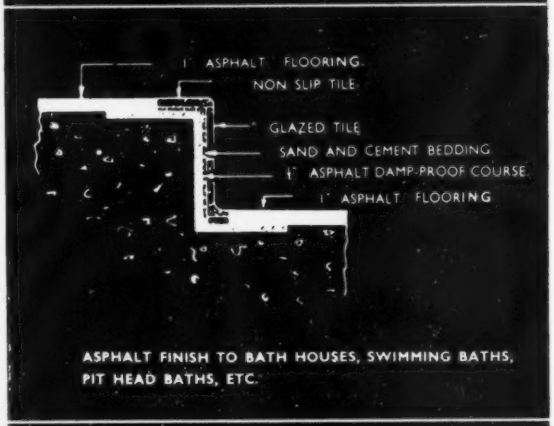
The above information and methods of application followed by Members of the Association are based on their collective experience over many years, and can therefore be accepted as best practice in Asphalt technique.



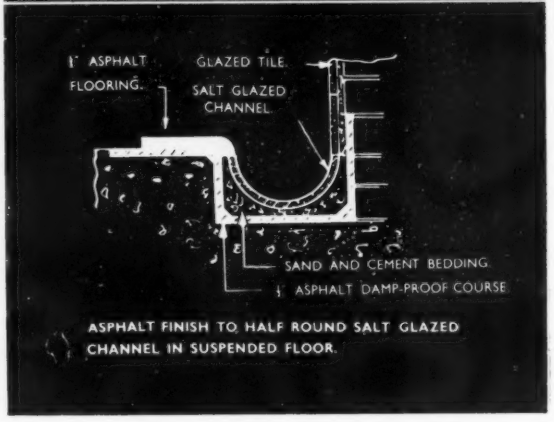
COVED SKIRTING.



ASPHALT FINISH TO SHOWERS, PIT HEAD BATHS, ETC.

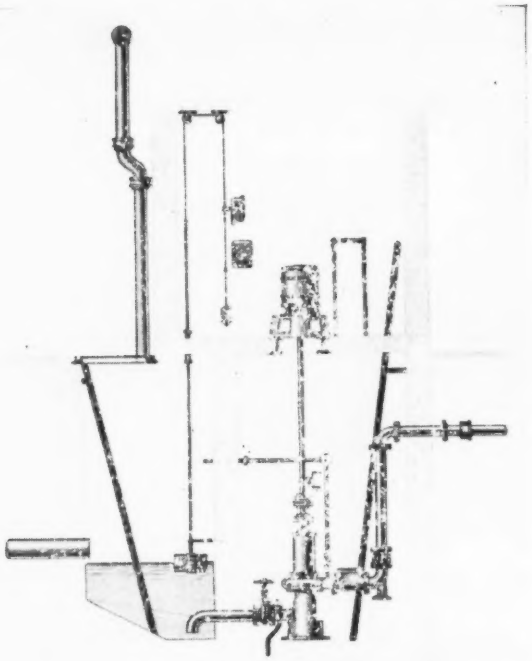


ASPHALT FINISH TO BATH HOUSES, SWIMMING BATHS, PIT HEAD BATHS, ETC.



ASPHALT FINISH TO HALF ROUND SALT GLAZED CHANNEL IN SUSPENDED FLOOR.

The cocktail bar of the Royal Hotel, Cardiff. *By courtesy of Messrs. Ind, Coope & Allsopp Ltd.* Architect: John Morton, A.R.I.B.A., A.A. Dipl. Chartered Architect. Fitted by Gaskell & Chambers (London) Limited.



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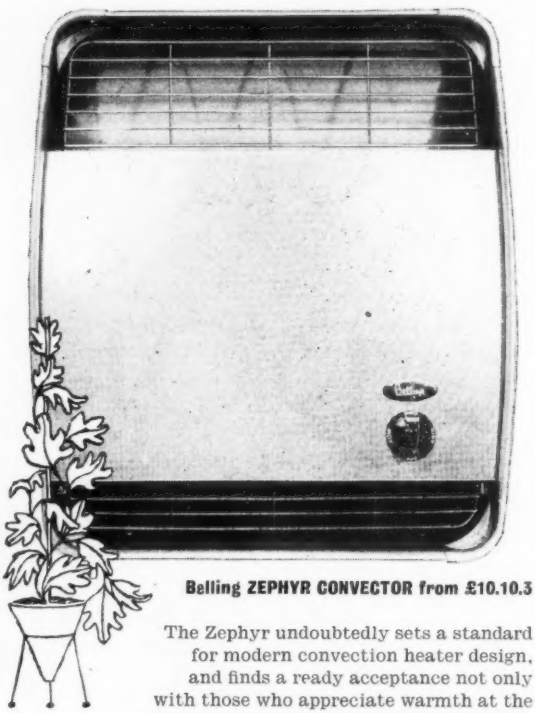
these heaters are in fashion...



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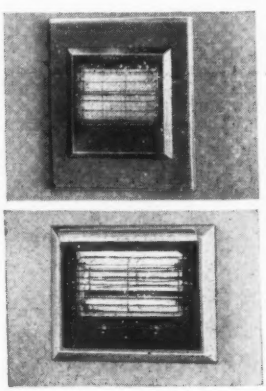
BELLING PANEL FIRES

Belling Panel Fires are available with firebar or reflector type elements. They are very attractively styled with insets of chrome or bronze, and panels in a choice of bronze, cream, silver or silver green and can be fixed to any wall very quickly and neatly without any need for cutting away plaster or brickwork.
Full details of these and other Belling Fires can be seen in the 64-page Belling Catalogue. We will be pleased to send you a copy for your files.



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ADJUSTABLE SHELF SUPPORT

for good looks and functional efficiency

Here is a scientifically-designed shelf support which has the strength required for industrial applications, yet is attractive enough for use in showrooms, libraries and the home. SPUR is scientifically-designed, simple in principle, easy to install and flexible in arrangement. There are only two main components — slotted V-channel uprights, and flanged brackets which key into the slots.

FOR INDUSTRIAL STORES, HOMES, OFFICES, LIBRARIES, SHOPS, LABORATORIES, EXHIBITION STANDS

FLEXIBILITY OF ARRANGEMENT

The height of SPUR brackets can be altered without the use of tools whenever storage needs change. Alignment is automatic. Both right-angled and slanting brackets are available.

UNOBSTRUCTED ACCESS

No upright supports at front or side are needed with SPUR. This means a more pleasing design as well as easier access to shelves.

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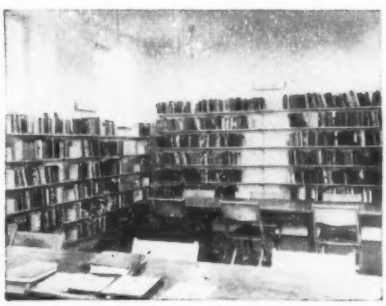
Uprights are available in lengths up to 94½ in., and brackets are supplied in seven standard sizes up to a maximum of 18½ in. Loadings have been calculated for each size, and the largest will support 1½ cwt.



WALL FIXING OR FREE STANDING

The uprights are easily screwed to walls, but where free standing units are required with shelves both sides—in libraries or storerooms for example—double-sided uprights can be used. Special collars are available for fixing uprights to the floor and ceiling.

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SPUR uprights and brackets are attractively finished in four standard colours: Willow Grey, Terra Cotta, Frost White and Jet Black. Alternatively they can be nickel or chromium plated, zinc sprayed or galvanised when required for special service.

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A full range of accessories such as shelf straps and book supports give the SPUR system added flexibility.

Shelve those problems of support on

SPUR

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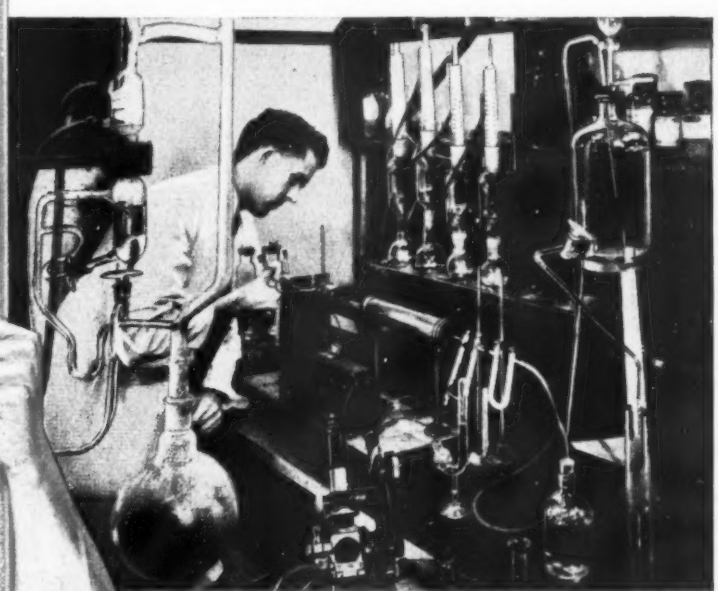

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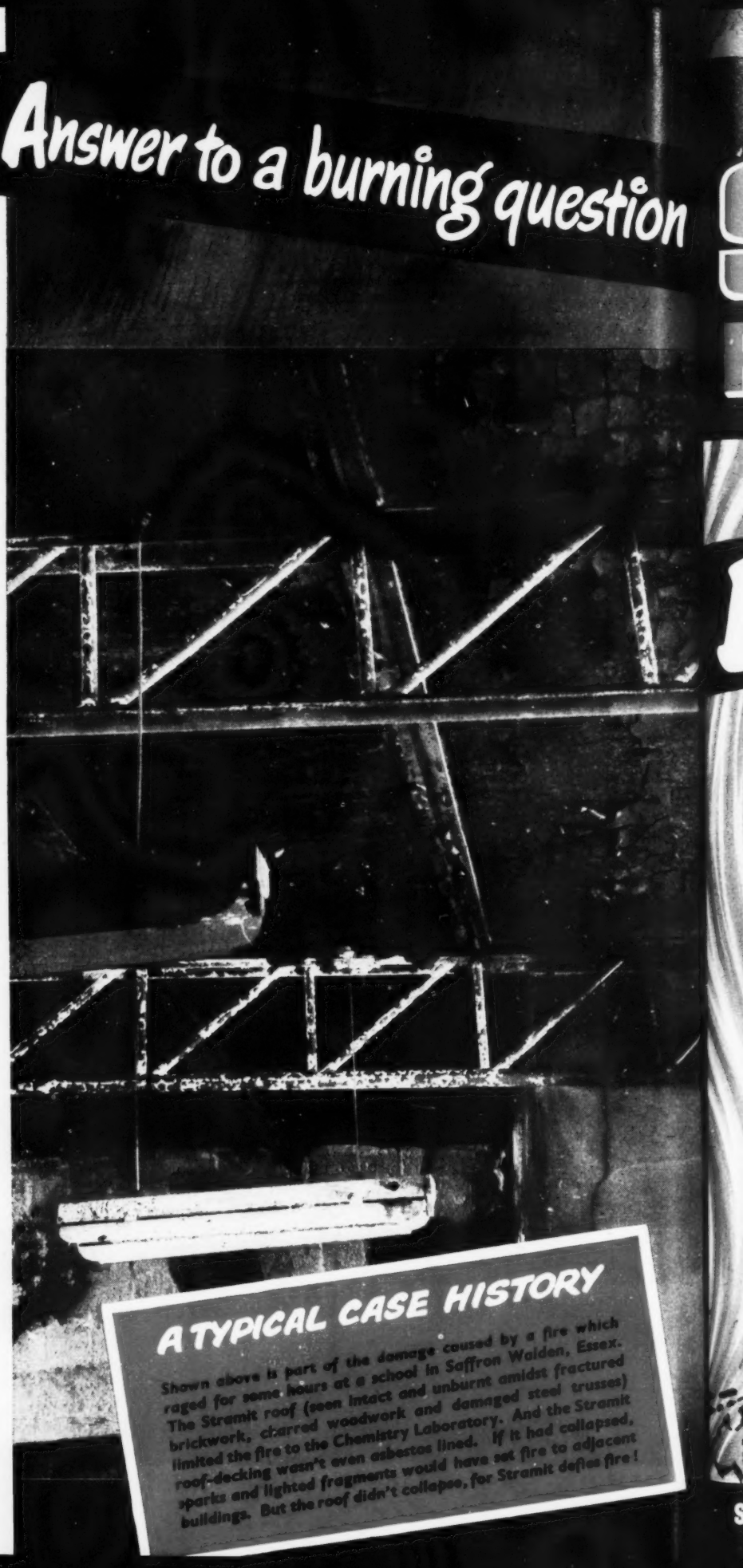

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THE ARCHITECTS' JOURNAL
for July 25, 1957

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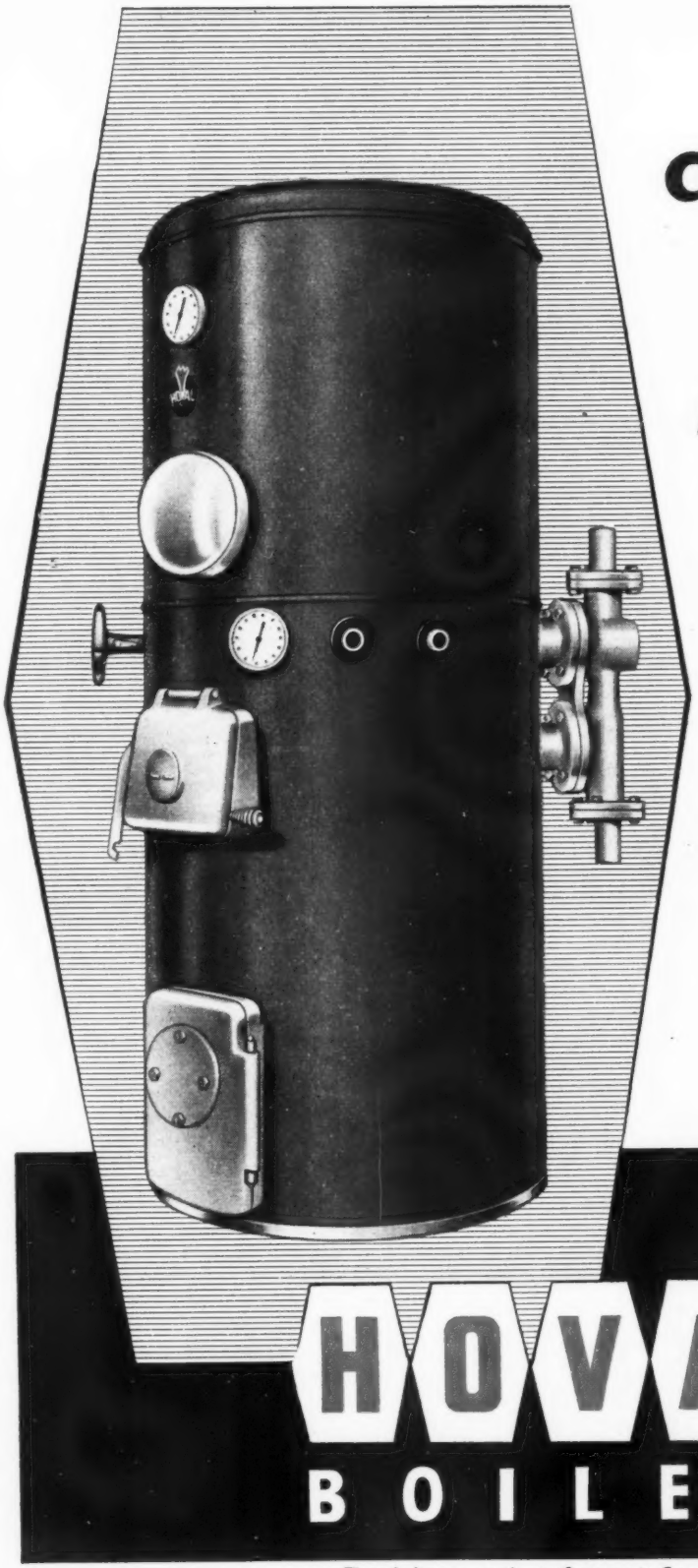

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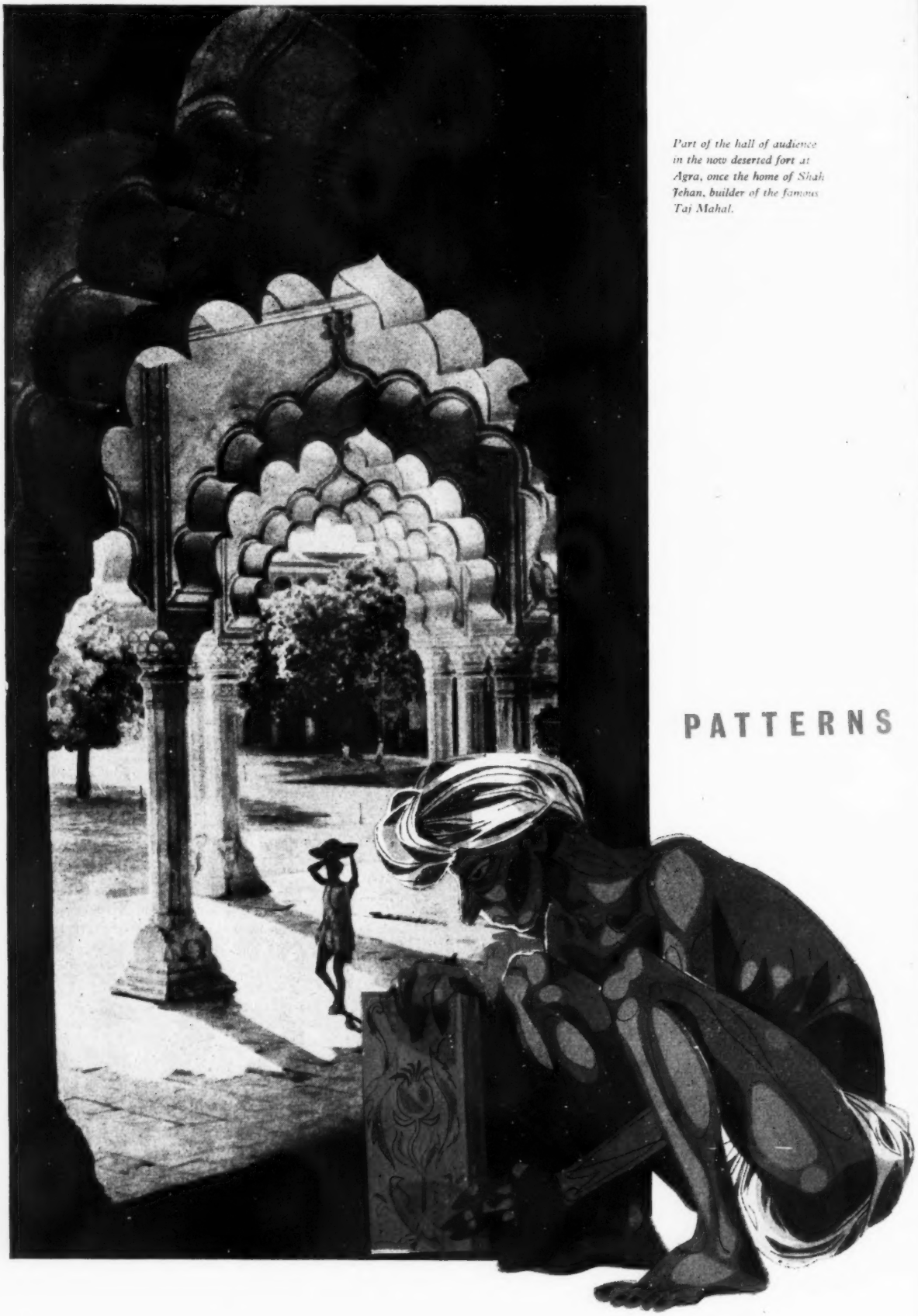

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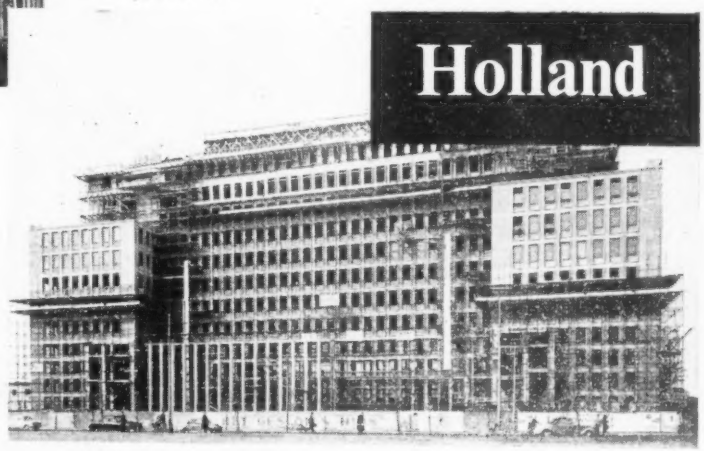

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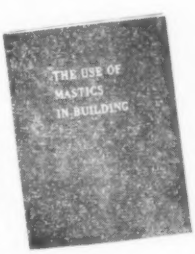

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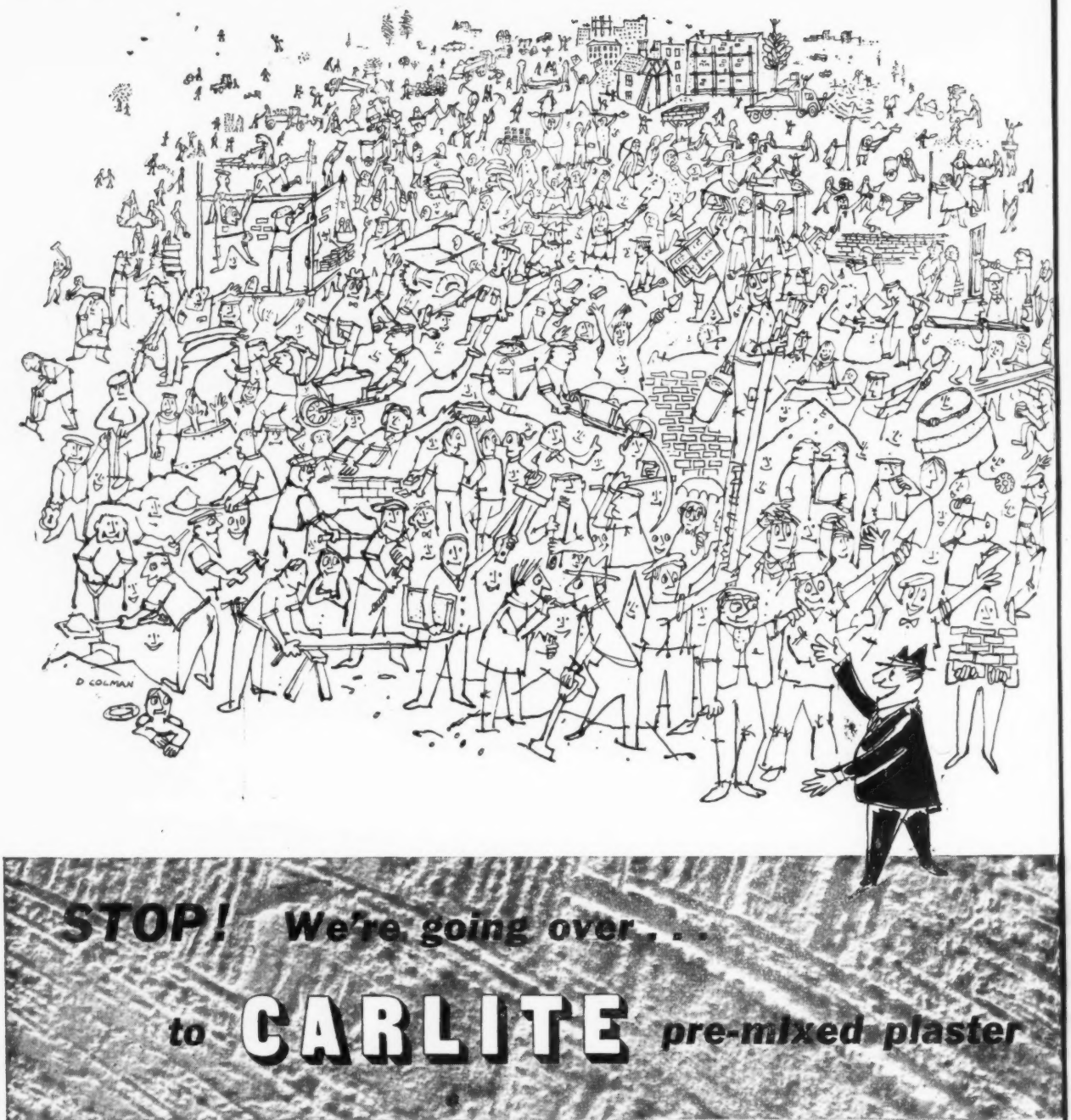

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THE ARCHITECTS' JOURNAL

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A BANNER WITH A STRANGE DEVICE

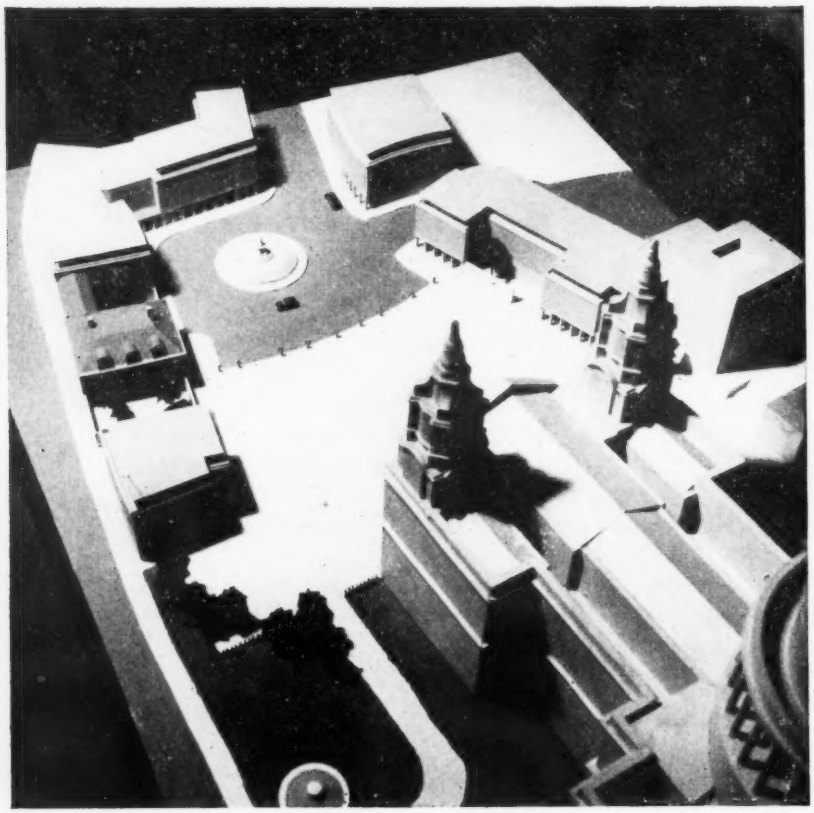
Whether the Minister of Housing and Local Government has received guidance or merely confusion from the public enquiry into Sir William Holford's plan for the St. Paul's precinct must remain a matter of opinion. One may doubt, too, whether the best way to settle such a problem is to bring together an army of lawyers and "expert" witnesses and to manœuvre them against one another. The enquiry was, on the surface, a very gentlemanly affair. In reality it was war to the death between two violently-conflicting conceptions, those of Sir William Holford, on behalf of the City Corporation and the LCC, on the one hand, and Lord Mottistone, on behalf of the Dean and Chapter, on the other.

*

The Dean and Chapter, whatever one may think of their plan, certainly proved themselves adept at the game of one-upmanship. To engage Michael Rowe, former chief counsel for the LCC, and thus to hire the enemy's general, was a clever first move. To keep the model, plan and perspectives of Lord Mottistone's scheme under Mr. Rowe's hat, metaphorically speaking, all the time that the City and the LCC were presenting their case was a good dodge, too. Mr. Rowe first lulled Sir William Holford into a false sense of security by letting it be known that the Dean and Chapter merely proposed a modification to his plan, and then exploded a land-mine underneath him by producing a "modification" that would destroy entirely Sir William's conception of the forecourt at the west front, the very heart of his plan.

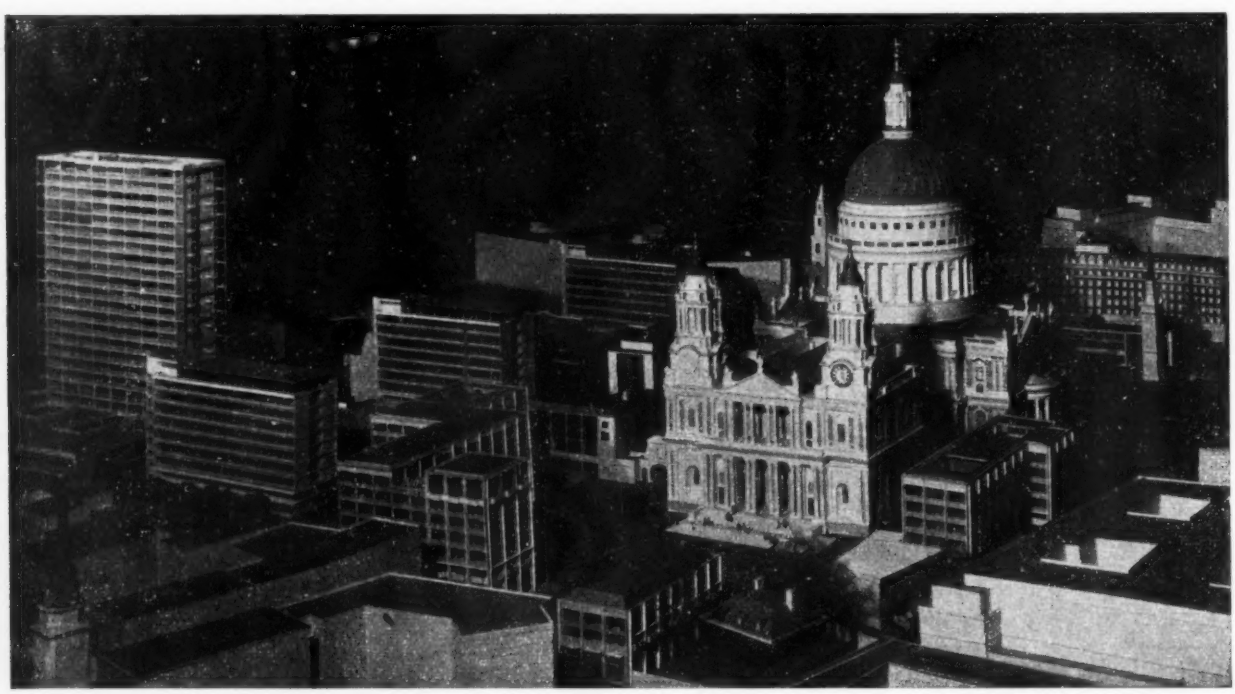
*

Consequently, the glowing tributes paid on behalf of the Dean and Chapter to Sir William's "genius" and the brilliance of his plan sounded rather less than convincing. If the Dean and Chapter really hold Sir William in such high esteem, why did they not give him and the City and the LCC even five minutes to study Lord Mottistone's plan before the enquiry began? Possibly it was foreseen that it would be virtually impossible for the City and the LCC to pre-



sent expert evidence against a plan which they had had no opportunity to consider. But the Dean and Chapter, if they grudged time to their opponent, had made good use of the year and a half in which they had been studying the Holford plan. How good was seen when Mr. Rowe, like a conjuror producing rabbits from his hat, produced photographs in which the black and white outline of Sir William's 20-storey block had been superimposed on photographs of St. Paul's, displaying the full width of the block against the skyline. Sir William courteously pointed out that to superimpose a hard outline on a half-tone print was very misleading, and politely drew attention to the fact that the model in the first photograph submitted to him was some 50 yards out of place. Sir William did not, however, pretend that his scheme was beyond criticism.

At the St. Paul's enquiry: top, Sir Edward Maufe (left) and Lord Mottistone; and above, Charles Williams, Q.C. (left) and Sir William Holford. The top model is Lord Mottistone's design for the forecourt; the model below is Sir William Holford's.



The brilliant effect of his evidence was, if anything, heightened by the frankness of his own modesty and self-criticism. He agreed that the high block should be about four-storeys lower, but he would not budge from his basic position: that a tall building is needed as a counterpoint to the west towers, and that the Dean and Chapter should not be afraid of it.

*

One might have supposed that Mr. Rowe's hat was empty by now, but not at all. From this cornucopia he produced in turn those well-known designers of cathedrals, Sir Giles Gilbert Scott and Sir Edward Maufe, as well as the President of the Royal Academy, Charles Wheeler, to pour scorn on the Holford plan. One began to wonder why Sir Albert Richardson has been left out, but one had reckoned without Mr. Rowe. What should come out of his hat on the last day but Sir Alfred Bossom, self-styled as the first Englishman to build sky-scrapers in America, and not at all reluctant to appear as an expert on St. Paul's on the strength of having discovered Wren's plan for the forecourt—a plan which, Mr. Williams wittingly observed, has been a familiar document for 200 to 300 years. It was, indeed, intriguing to see the old guard charging into battle against the modern school, waving a banner with a strange device—the word "modernism." Lord Mottistone's scheme, said Sir Edward Maufe, is "expressive of the best in modern thought." It is only to be regretted that the City and the LCC, having had no notice that this galaxy of talent was to be called, had not brought along any of the profession's knights of modernism.

*

What F. H. Carr, the Inspector of the Ministry of Housing and Local Government, will make of this we do not know, and probably never will. The important thing is that the Minister himself should judge the rival schemes on their merits. Sir William's, the product counsel said of ten years' intensive study and effort, is a work of art and imagination and, despite some imperfections, will provide most stimulating and exciting visual experiences. Lord Mottistone's plan was described by counsel for the City as a funnel leaking on both sides. It is, in fact, unadventurous and pedestrian. The Dean and Chapter have laid the main emphasis on symmetry and scale, drawing many false analogies between the approach to St. Paul's, which lies in a commercial centre, and St. Peter's and the Capitol, and referring to Wren's plans which related to conditions that cannot be restored. To achieve symmetry the Old Deanery (not, it is conceded, by Wren) is incorporated in the south side of the forecourt instead of being tucked away unobtrusively as it is in the Holford plan. This, in turn, necessitates the small-town scale of the remaining buildings surrounding the forecourt. Were the Minister to treat these proposals as modifications which could be accepted without vital injury to Sir William's plan, he would be making a disastrous error. M.M.

The Editors

A TECHNICAL MAN AT THE RIBA

THE news that the RIBA are advertising for "an architect or other candidate with knowledge of building science and technology" to assist with the secretariat of the Science Committee and to act as technical editor of the *RIBA Journal* is very welcome. It marks a step in the direction of making the RIBA a source of useful, and not merely delightful, information. The salary scale of £1,250 to £2,000 suggests that they are aiming at a relatively substantial person. Our only quibble—on the assumption that they would *like* an architect if they can find one suitable—is whether it is reasonable to name this new officer (as he is named in the advertisement) an "Assistant Secretary."

It seems wrong that a professional man (and of the Institute's own profession), who is bringing specialized talents with him, should be made to appear as an inferior member of the administrative machine. Such a designation, if it is strictly interpreted, might well make his life a bugbear and his service to the profession much less fruitful than it otherwise promises to be.

THE LCC's NEW PLANNING POLICY

The LCC's new planning policy, reported on another page, should lead progressively to some curtailment in the growth of office population in central London, and to some increase in the residential population. This should not only ease the traffic congestion caused by the movement of more than a million office workers to and from central London every day, but should also give more interesting opportunities to architects and prevent further areas of central London relapsing into the night-time desert now to be found in the City. Property owners, who have been building offices almost exclusively, should be encouraged by the plot-ratio "bonus" for residential accommodation to include flats and hotels within their sites. But the LCC is not only moving very late, it is also still moving with excessive caution. The decision not to revoke existing consents undoubtedly avoids a large bill for compensation, but at the cost of allowing many more offices to be built. The decision not to apply the new standards to sites that are the subject of current negotiations, but for which no consents have been given, opens the door even wider. The effect of this policy will, therefore, be seen only over a long period.

The LCC is evidently relying upon a campaign of persuasion,

backed by the government, to encourage office firms to move out from the centre. But neither the government nor the LCC really knows what kind of offices could suitably be moved, or what their requirements are. No scientific investigation has been made to determine what conditions will in fact attract offices to new areas. Until this is done, no amount of persuasion in the abstract is likely to have much effect.

PROFESSOR RICHARDS

ASTRAGAL notes with fatherly interest that J. M. Richards is to be the next occupant of the Hoffman Wood chair of architecture at Leeds University. In case readers should think this will mean that he is suddenly to vanish from the London scene, it should be explained that, since Leeds University has no department of architecture, this is one of those non-teaching professorships (like the Slade professorships at Oxford and Cambridge and the Lethaby professorship at the Royal College of Art), and Richards's principal task will be to give half a dozen or more lectures in the course of the year.

*

But there is an architectural school at Leeds run by the local College of Art whose students will also get the benefit of Richards's lectures, and when he goes up to Leeds to give them he will also meet and talk informally to these and other interested students—at least that was the procedure last year, when Basil Spence was the Hoffman Wood professor—so there will be plenty of fertile ground on which seeds can be sown.

*

This is a recently-established chair; Basil Spence was the first holder. And it was an interesting idea on the University's part to arrange for a practising architect to be succeeded by a critic. Spence's periodic presence in Leeds was found stimulating by both the architectural and the university students; Richards's outspoken opinions should prove equally so.

CIVIC TRUST

There had been so many months of rumours and counter-rumours about the formation of a civic trust that it was a relief when a Press announcement at last brought it out into the open. It has been well received on the whole—which could hardly be otherwise, seeing the urgent need of better standards and a more responsible approach to design in town and countryside.

*

The chief criticisms so far have been that industry is being asked to pay for solving problems created, and remedying outrages perpetrated, as often as not by the government itself or its agents, and that the president of the Trust, Duncan Sandys, being also a cabinet minister, may find himself in an awkward position if the Trust has to oppose policies for which his fellow cabinet ministers are at least formally responsible, or even to criticize the doings of his own department.

*

This remains to be seen. A far more important thing is that large sums of money are available for spending on a very good cause, and a senior member of the government has had the courage and initiative actually to organize something on a subject about which most politicians are content merely to talk. So rather than carp about details of the Civic Trust's constitution, ASTRAGAL suggests that the right thing to do is to support it and give it every possible chance to do a useful job.

*

The *Architectural Review's* Counter-Attack bureau is already very active in the same field, but there is room for everyone and the Civic Trust (which arose as a result of the *Review's* campaign against Subtopia) has the resources to do more than any of the existing organizations. Architects will look forward to hearing more about its programme of activities, some hints of which were given at an inaugural meeting held last Saturday.

*

This send-off party was attended by about 300 people who spent the day at Lambeth Palace, lunching and tea-ing in a marquee. As most of those present were virtually delegates from Civic Societies and CPRE branches, they no doubt learned with delight that they may in future receive grants in aid from the Trust for legal expenses at planning inquiries, for making exhibitions and organizing meetings. Exhibition material and films will also be made available. Mr. Sandys also announced a list of technical studies (high buildings, comprehensive planning, road signs, car park design, etc.) that the Trust is putting in hand, and the fact that the BBC is co-operating in making TV films on Subtopian subjects.

*

If the oratory of the Lambeth Palace meeting was slightly overweighted by official pronouncements of support from official bodies—Kenneth Cross leading off—there were also sensible contributions from Frederick Gibberd, Basil Spence, R. Furneaux Jordan and Paul Reilly, plus a few genuine heart-cries from the shires and villages.

NO RAIN ON THE JUST

One had hoped that the day when students were asked to design monumental buildings for abstract sites was over: but it is not, as anyone who visits the RIBA to see the drawings in the competition for this year's Rome scholarship can see. The set subject was a Parliament House, a type of building which is unlikely to come the

way of more than one or two architects in a generation. It was for a crown colony in the northern hemisphere which has achieved dominion status. (Isn't the RIBA a bit out-of-date? The term "dominion status" is no longer acceptable to states that are equal self-governing members of the Commonwealth.)

*

The climate of the colony was said to be "equable" and called for no special precautions against sun, rain or frost. Lucky people! No crown colony that conforms to this description exists in the northern hemisphere. Since, however, the Parliament House was by a lucky chance situated on a river, it enabled the students to produce modern versions of a Parliament Building to replace Barry's Gothic pile, in which provision could be made both for tea on the terrace, and (rather incongruously) for a Senate. And, in the best British tradition, the seats in the public gallery in nearly all designs faced the backs of the legislators—expressing, presumably, a subtle criticism of the parliamentary system.

RECORD HOUSES

Not the least interesting feature of this year's *Record Houses*—a reprint of the mid-May issue of *Architectural Record*—is the headline-treatment. None of the houses in this survey is quite in the top flight, but practically every one has some device, gimmick, brainwave or what-have-you that must have given considerable satisfaction to architect and client. These features have been leapt on by the *Record's* staff writers and made into headlines—Patio Splits Two-Zone House . . . The Big Room Concept . . . Glazed Stairwell Gives Drama . . . Multi-Use Room Expands House . . . A Country House on a Platform. Most of these headings distract the reader's attention from the architects' names and makes them judge the houses on their merits.

*

What interests ASTRAGAL, in a morbid sort of way, is the prospect of the JOURNAL doing the equivalent for English houses—Hipped Roof Eases Mortgage Prospects . . . Condensation Solves Picture-Window Privacy Problem . . . Leaf-Mould Harvest from Butterfly Roof . . . Thatch Assures Speedy Planning Permission. . . .

This £2¼ m. office block, designed by Gollins, Melvin, Ward and Partners (in association with Sir Hugh Casson and Neville Conder), is to be built facing the town hall in the Marylebone Road. An announcement which appeared in the daily Press stated that the height had been reduced from 22 to 15 storeys, following objections by the Royal Fine Art Commission. This is incorrect: the RFAC had objected to an earlier design submitted for the site—a design which incorporated a tower block, not a slab block. The Press notice gave the impression that the RFAC had reduced the amount of office accommodation. There is, in fact, as much office space in this design as in the lower scheme first submitted.

EXHIBITIONS

Those who were unable to see that interesting exhibit called *An Exhibit* in Newcastle (see this column, June 20) should note that a revised version of it will be on show at the ICA for only 10 days from August 13. Don't miss it. The current ICA shows are a collection of large stolid, sub-brutalist nudes by Leon Golub in the main gallery, and a frantic display of Angry-Young-Man type artefacts made of miscellaneous rubbish and highly coloured in the back library. These will either give you a song in the heart or a pain in the neck according to taste, but appear to be good clean fun.

*

Probably more to the point is the large display of large prints staged by Robert Erskine at the St. George's Gallery in Cork Street. The works exhibited are by Ayrton, Collins, Coplans, Evans, Frost, Gear, Gross, Heron and so on. They are all worth seeing, and they are mostly in the region of five guineas, which makes them an attractive proposition for those who can't give current oil-magnate prices for Gauguins. This exhibition also boasts what must be the most expensive-looking catalogue for years, with a colour-transparency of every exhibit in it.

NO CAN DO

The House of Lords was moved to laughter, it appears, by the case of a beer-canning concern which told consumers, in an advertisement, to chuck their empties over the hedge. The House had a happy time splitting hairs as to whether the advertisement containing this injunction was a breach of anti-litter laws or not, but ASTRAGAL, viewing almost daily the amount of beer-container chucking that goes on already, cannot help wishing their lordships had taken the opportunity to read the offending advertisers a stiff sermon on the subject.

*

The non-returnable package is a real incentive to litter-dropping, as was discovered in the experimental campaign in the Royal Parks. If you put twopence on the bottle, you more than halve the number of bottles dropped around the place. The irony of the case is that both the advertiser and the newspaper concerned are avowed supporters of anti-litter campaigns, so this is a nice example of that commercial irresponsibility (a pennyworth of conscience-money for every quid of profits, as the saying goes) that the advertising profession is supposed to have left behind.

ABOVE BOARD

Architects who have had anything to do with public enquiries will be delighted by many of the recommenda-

tions of the Franks Committee, which has tried to apply the principles of "openness, fairness and impartiality" to tribunals of every kind. If the government accepts the recommendations, enquiries into development plans and appeals against planning decisions are far more likely to leave all parties feeling that justice has been done.

*

The main weapon against arbitrary action is seen by the committee to be publicity; the publication of an authority's case in advance of the enquiry, the submission of officials to public cross-examination on their proposals, the publication of the inspector's report and the Minister's decision. And the inspector would no longer be an official of the Ministry concerned.

*

There does seem to be a danger, however, of being so fair to the individual that a planning enquiry may become even more like a court of law than it is today, with lawyers briefed extensively and (as Franks recommends) costs awarded to successful objectors or appellants. One way round this, the committee suggests, would be to reduce the number of enquiries by paying compensation at not less than current "market value," a proposition that raises as many difficulties as it solves and might place insuperable barriers in the way of good planning. Another of the committee's suggestions which seems preferable, is to empower the inspector himself to decide the relatively unimportant cases by a simplified procedure.

*

A hint that some, at least, of the recommendations are acceptable to the government is seen in Henry Brooke's letter to Manchester City Council declaring his readiness, after years of delay by successive Ministers, to take a decision on Manchester's overspill. If, he says, Manchester applies for permission to develop any area the Minister himself will take the decision, after an enquiry by an inspector who is not an officer of his department, and after publication of the inspector's report. This decision is also welcome as a broad hint that the Minister has decided to put an end to local wrangling and to authorize a new town for Manchester.

ASTRAGAL

WORK YOUR PASSAGE WITH WORKING DETAILS

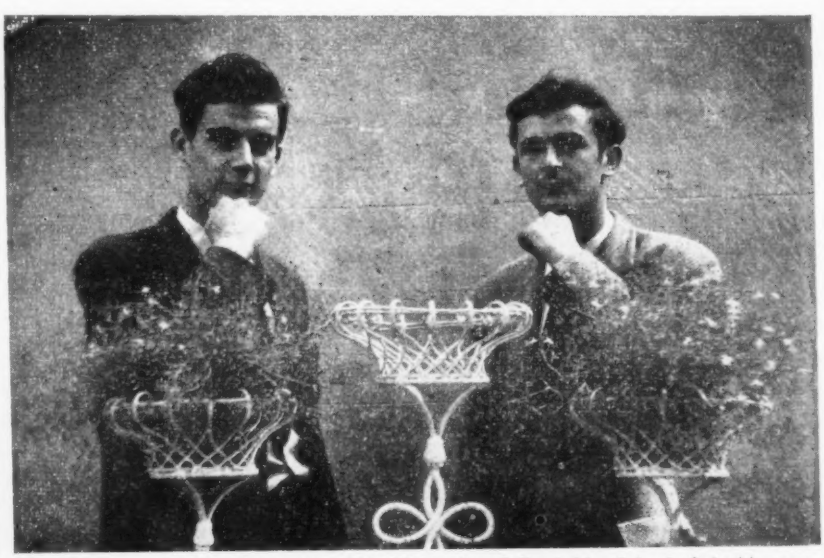
THIS YEAR'S COMPETITION WINNERS

Michael Andrews, of the Bartlett School of Architecture, receives £20 to go to Denmark.

Dariush Borbor, of Liverpool School of Architecture, receives £20 to go to Switzerland.

Miss Janet Brewer, of the Royal West of England Academy School of Architecture, receives £20 to go to Norway.

Pietro di Rienzo, a part-time student at the Hammersmith School of Building, receives £15 to assemble Details in Italy.



Adam Gordon and Michael Chaplin, of the University of Cambridge School of Architecture, receive £25 each to go to Holland and Dusseldorf.

On May 30, 1957, we invited students who would like to do some work for us abroad in assembling material for Working Details to put in for an award to help them with their expenses. As we have had a very large response we decided to increase the total amount of the awards from the £250 originally stipulated to £370.

Points to notice about this year's list of winners are the large proportion going to Germany (five out of fifteen) and the inclusion of two of last year's winners, Michael Andrews and D. J. Leadbetter, who have proved themselves intrepid Detail-mongers.

G. B. Gasson, of Birmingham School of Architecture, receives £25 to go to Switzerland and Italy.

Hans Haenlein, a part-time student at the Hammersmith School of Building, receives £30 to go to Germany.

Ferenc Lantos, an exiled Hungarian student, receives £20 to assemble Details in Sweden and Finland.

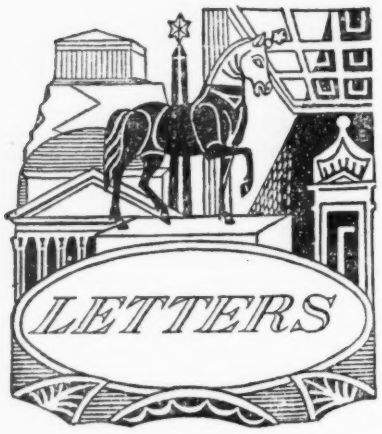
D. J. Leadbetter, a part-time student at the Hammersmith School of Building, receives £20 to go to Italy.

Kofi MacGregor, of Kingston School of Art, receives £15 to assemble Details in Mannheim.

Dennis Sharp, of the AA School of Architecture, receives £25 to go to Denmark and Finland.

A. J. Southard, of Hammersmith School of Building, receives £30 to go to Karlsruhe.

Nicholas Thompson and Derek Thomas, of the Oxford School of Architecture, receive £25 each to go to Sweden.



Norman H. Walls
Director, National House-Builders Registration Council

G. J. Foxley, A.R.I.B.A.
Assistant County Architect, Derby.

'Architect Planner'

Leonard C. Howitt, F.R.I.B.A.
City Architect, Manchester

Vivien Pilley, F.R.I.B.A.

H. D. Dawson

"Spec Builder's Whitewash"

SIR,—My attention has been drawn to an article under the above heading in your issue of June 13. It is difficult to understand the purpose of this article which is not in the least informative. It does not, for instance, state that the National House-Builders Registration Council is a body representative of the Royal Institute of British Architects, the Royal Institution of Chartered Surveyors, The Auctioneers & Estate Agents' Institute, the Town Planning Institute and the Council for the Preservation of Rural England, in addition to employer and trades union interests in the industry, the Building Societies Association and many Local Authority interests. It states that the old Specification was far from satisfactory but does not mention that that Specification was prepared at a time when houses were built under licence and down to a price. It compared very favourably with other housing specifications at the time and was approved by the professional bodies and trade interests mentioned above.

Every right-minded person must deplore the fact that all spec. houses are not architect-designed and independently inspected throughout construction. This Council is making considerable progress to this end. It is not helped by your article and particularly by its title which has been criticized by several members of this Council as "in very bad taste."

NORMAN H. WALLS.

London.

Behaviour Of Materials

SIR,—I should like to congratulate the JOURNAL on its article in last week's technical section, relating to the behaviour of materials and finishes in the Royal Festival Hall.

My colleagues and I, who work, within groups, on the design of new school buildings, feel that the use of many materials and finishes and the lessons to be drawn from their design and use are not always freely known and fully appreciated by members of other groups. This, in a small way, is the position in which the profession must find itself at the present moment—with so great a variety of materials and components available on which there is little or no experience of proper usage and economic maintenance. We hope that many similar articles covering all the types of building with which we are concerned will now follow, for this type of information is complementary to the exchange of valuable cost planning information which your JOURNAL has instigated.

My only comment on the article is that, in a number of cases, freehand sketches might have portrayed the defect better than have some of the photographs.

G. J. FOXLEY.

Derby.

In The Glass House

SIR,—My congratulations on your second Oxford issue, as a stimulating and entertaining piece of journalism, well worth several issues of the stodgy numbers produced by your contemporaries. It stimulated me so much that I even began to think, and the thought that still bothers me is that I cannot make out what the AJ is getting at.

Taking the mickey out of the planning committee was a good gimmick and jolly well done. They did look, on the whole, rather a gormless crew, and their choice of interior furnishings was well calculated to raise quite a laugh in the profession. So were the views on planning and architecture attributed to nameless members of the committee, with the broad hint that these were the views that determined their architectural decisions.

In fact, however, anybody who reads the councillors' statements carefully will come to the conclusion that, on balance, they are not too bad at all. They are about as creditable to councillors as any random collection of views expressed by architects would be to their profession. One learns, moreover, that since the war the planning committee has never rejected a building on the ground of its appearance. The Oxford planning committee, in fact, seems to be doing just what some architects are now demanding: refraining from exercising aesthetic control.

Is this confidence in the profession, and in those who instruct them, fully justified? Looking at the buildings that have been recently erected, and are to be erected, in Oxford one finds that deplorable as may be the taste of some members of the planning committee it is certainly no worse than that of some of the architects whose monstrosities will mar the Oxford scene for many years to come.

The conclusion I draw from this is a simple one: that architects should spend less time beefing about the idiocies of planning committee and more time trying to raise the standard of their own profession. Those who live in glass houses should not throw stones.

ARCHITECT PLANNER.

London.

Chartered Architects

SIR,—Your editorial on June 13 referred to the "considerable proportion of 'chartered' but not 'registered' architects. There are about two thousand five hundred of these. They are assistants and partners who, not being in practice under their own name, do not have to register."

This is an extraordinary statement. In the first place nobody whose name is not on the Register can style himself a "Chartered Architect" without convening the provisions of the Registration Act. Secondly, I cannot understand why anybody who is otherwise eligible to use that distinction should want to deprive himself of that privilege, even for the doubtful reason you quote. Perhaps they do not realise that they are not "architects" despite their membership of the Royal Institute.

LEONARD C. HOWITT.

Manchester.

The Architect Isn't A Tradesman

SIR,—I had occasion to see a hand-out recently in connection with a new hotel.

Right at the end of the fulsome self-eulogies, was a sheet marked "we are grateful to the following for the supply of services, furnishings and equipment." Following was first the name of the contractor, then the architect, quantity surveyors, engineers, plumbers, etc.

There can be no doubt that the inclusion of the architect and other professional advisers lumped together with a list of contractors and sub-contractors, must give the public the impression that the architect is really a tradesman.

I strongly deprecate this practice, and it seems to me that it would have been better not to publish the name of the architect at all, than debase his status in this manner.

I should be much obliged if you could publish this letter in defence of the architect's position as a building creator, who surely is the head of the team and should be given priority, and at least as much prominence as the sponsors and financiers.

VIVIEN PILLEY.

London.

Is This Planning?

SIR,—From Mr. G. S. Newman's letter (AJ: May 16) it would appear that the council of Brighton has a reputation for mediocrity in architecture and planning. On the purely architectural side I can only say that I am surprised to learn of this reputation; in regard to planning, the sad truth is that from 1946 to 1951 the council never made it anyone's sole and exclusive responsibility to prepare a creative planning scheme. The person ostensibly appointed for that purpose was also supposed to supervize an office, and at various times to train trainees, listen to inquiries, wage claims and sob stuff, answer the telephone, tell committee clerks what was resolved at the meetings they attended, and talk to legal gentlemen about the law. The assistants were there, one might be told, but without continuity of thought, what else but mediocrity could be expected? Any creative impulse left, after a few years of such capers, was apt to seek other outlets.

It is only because I happen to know that planning schemes, development plans, whatever you may care to call them, are still being expected to be prepared under the conditions outlined above, both sides of the Equator, that I venture to trouble you with this letter.

H. D. DAWSON

Durban.

DIARY

Thomas Telford Bicentenary Exhibition. At the ICE, Great George Street, S.W.1. 10 a.m.—8 p.m. (including Saturdays and Sundays). UNTIL AUGUST 10

Design in Plastics. Exhibition at the Design Centre, Haymarket, S.W.1. Monday to Saturday, 9.30 a.m. to 5.30 p.m. UNTIL AUGUST 10

City of Tomorrow. Talk by Nikolaus Pevsner on the International Building Exhibition in Berlin. In the BBC Third Programme. 10.10 p.m. JULY 30

CRITICISM

The architect replies

Last week we published a criticism by J. M. Richards of the office block in Albemarle Street, W.1, designed by Ernö Goldfinger. This week the architect replies to the points made by Mr. Richards.

J. M. Richards raised a number of questions in his criticism of my building in Albemarle Street. Some of these are of a general nature and two are criticisms of the building. I will try to deal with these latter first: one refers to the "non functional" character of the bay windows, inasmuch as they do not "express" the fact that there are two separate buildings behind the facade; the second refers to the "cornice-railing." While I am forgiven for the first offence, the second is considered too criminal to be dealt with leniently.

1. The bay windows have primarily an aesthetic function in my facade. It is my belief that the function of a facade, from the aesthetic point of view, is not to "express" something which is behind it, but to form the enclosing vertical membrane of the street. In the case of London street architecture, I am, of course, in very good company. Since the eighteenth century separate buildings have been designed in London in such a manner as to form, in combination with each other, the architecture of the street. The mere accident that there are also party walls—whatever that may mean aesthetically—is never acknowledged (see Bedford Square, Regent's Park, Portland Place, etc.).

As a matter of fact the buildings in 45-46 Albemarle Street have been designed in such a manner that they can be joined into one building. The wall separating them is not a party wall, but two external walls with an ½ in. gap—filled with building board—between them. These walls are composed of pre-cast reinforced concrete units, as against a party wall, which, for the given height of the buildings, would have been 24 in. thick on the lower floors. This structural flexibility achieved thus two points:

(*a*) A saving of space.

(*b*) The possibility of joining the buildings completely on any or all floors.

Now that the tenants have subdivided the floors, the bay windows form centralized features of their respective rooms.

2. As regards the cornice-balustrade, I am quite unrepentant and I could not possibly do otherwise had I to redesign the buildings. The final shape of the balustrade was arrived at only after the building was erected and the scaffolding removed, but it originated earlier at the very beginning of the designing stage when it became clear that the white Portland stone against the sky would not form a sufficiently emphatic line.

Since the building has been completed it has become clear that this cornice was most justified. In the different lighting of the facade throughout the day the cornice catches the light in various ways. When the facade is brightly lit, the underside of the cornice is dark; when the sun is behind the building and the facade dark, the underneath of the cornice is lit up by reflected light, thus contrasting with the dark elevation. The supports of the balustrade are of pre-cast reinforced concrete bolted to the main structure, with phosphor bronze bolts, they are placed at 12 ft. intervals. In precast concrete they could not have been more slender; they have been calculated to the finest limit. The cornice itself could not be lighter and span this distance.

As to the view of the cornice from the side, the previous open railing has now been changed and the party walls raised to form a closed parapet.

Mr. Richards asks "will the stonework become

streaky? " I am afraid it will: all London buildings become streaky sooner or later. The part which I think will remain uniform for the longest will be the part under the cornice, as this projects a few inches in front of the facade. But I do not think that modern facades suffer as much from streakiness as those which have classical mouldings, so unsuitable to our climate. In those buildings the emphasis changes to such an extent that they are unrecognizable. Our buildings are designed to form a framework to the hazards of time.

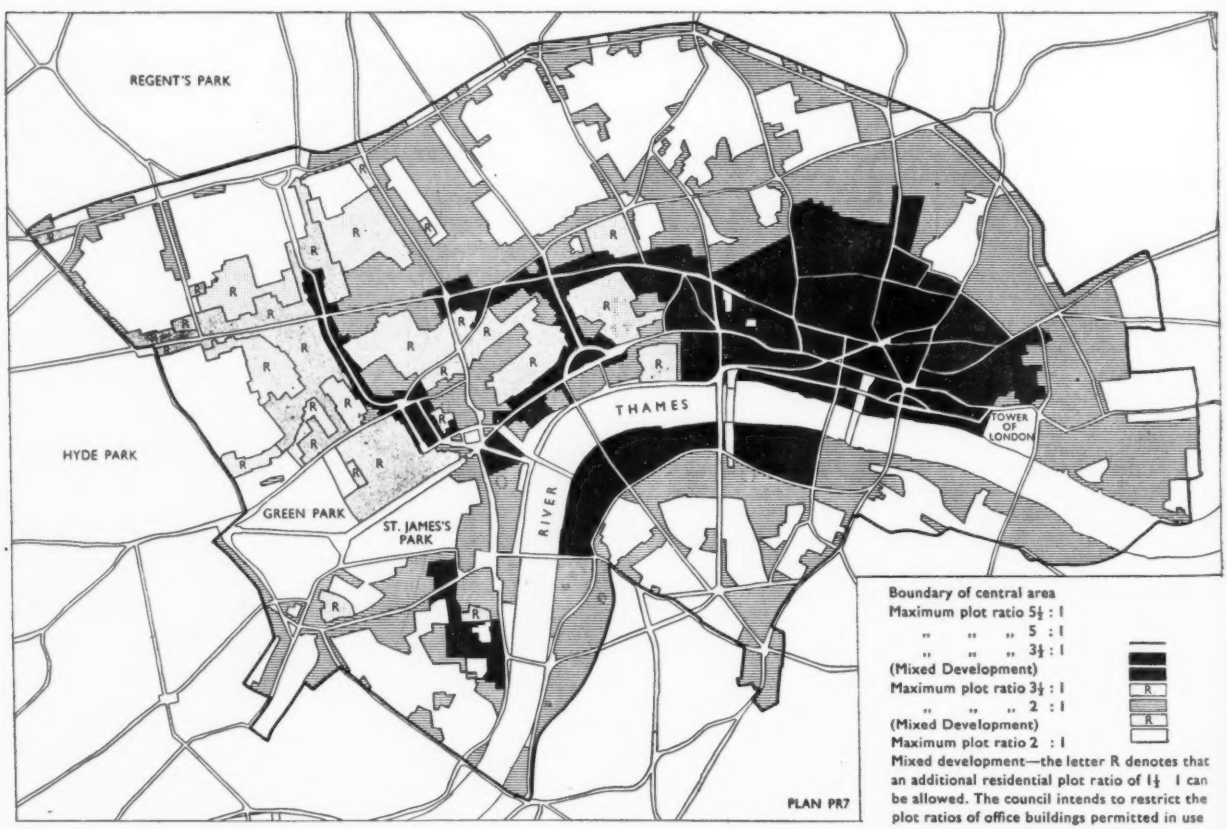
Mr. Richards raises the question of the Golden Section. I design all my buildings on a proportion derived from the Square (Golden Section or $\sqrt{2}$, $\sqrt{3}$, $\sqrt{4}$, etc.) and use a rigorous control of the elements of facades and plans. The plans are also controlled by a grid of 2 ft. 9 in. (giving 5 ft. 6 in., 8 ft. 3 in., 11 ft., etc., as multiples and 1 ft. 10 in., 11 in. or 3 in. increments). This gives me a control of scale.

I should like to explain one element of the elevation which is perhaps not quite clear—the part covered with grey vitrolite: this is a beam and not an infilling. The reinforced members of the facade are clad with Portland stone emphasizing a grid into which are placed the bay windows. This grid is supported on the ground floor in only three points: next to the two party walls (of 47 and 44 Albemarle Street) and between the two buildings (45 and 46 Albemarle Street) the grey vitrolite panel covers the horizontal ties of this grid.

Mr. Richards mentions aesthetic control. I consider such a control as having nothing to do with aesthetics, but hampering decent architecture while being powerless in the case of offenders of the most elementary decencies. A short walk around the city or the West End, not to mention the countryside, in process of suburbanisation, should convince the most ardent supporter of aesthetic control. The whole conception of being able to cure a disease by its symptoms is too absurd.

NEW LCC PLOT RATIO STANDARDS FOR CENTRAL LONDON

This zoning map of Central London shows the new plot ratio standards adopted by the LCC, with the aim of encouraging a mixed development of residential and office accommodation. (*See report on opposite page*).



Mixed development—the letter R denotes that an additional residential plot ratio of 1½ : 1 can be allowed. The council intends to restrict the plot ratios of office buildings permitted in use zones other than office zones and the central zone to 2 : 1 in the 3½ : 1 plot ratio zones and 3 : 1 in the 5 : 1 plot ratio zones falling within the City of London.

LCC

New Planning Policy

The LCC at its meeting last week decided, as an urgent measure to reduce congestion in Central London, to reduce plot ratio standards, and approved a new planning policy. This is designed to reduce the present maximum size of office buildings (and other "employment-producing" buildings). By permitting higher plot ratios where flats, hostels or hotels are included in a site where the plot ratio for non-residential buildings has been reduced, it is hoped to encourage "mixed" development in Central London. The new policy does not affect the rights of property owners, or mean revoking planning permissions already given. Even current negotiations based on the existing practice will be continued. Consequently, no additional compensation should have to be paid, though future developers will find the conditions are more stringent than at present.

The background to the new policy is the survey made last year which showed that office accommodation had already increased by 18¼ million square feet between mid-1948 and December 31, 1955, and that a further 17½ million square feet had been approved but not yet erected, and that an increase of one-fifth to one-quarter in office population would result. In view of London's importance as a commercial centre the LCC rejected any embargo on office development, and looked for a policy that would allow the continued development of headquarters of industrial and commercial firms in London while limiting the space available for routine clerical functions which could as well be carried on elsewhere.

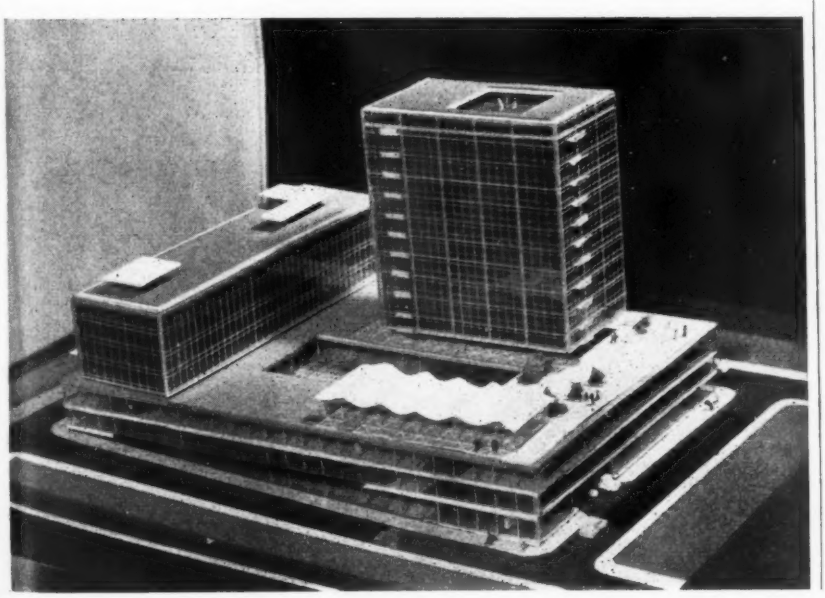
The new plot ratio zoning map (reproduced on page 134) leaves unchanged those parts of the City formerly zoned at 5 or 5½ to one and the frontage of the main shopping streets. Elsewhere in the West End (which is at present zoned at 5 to 1) the maximum plot ratio will be reduced to 3½ to one, with an additional plot ratio of 1½ to one for residential purposes in suitable areas.

Other parts of the West End, including the areas previously zoned at 3½ to one and some parts previously zoned at 5 to one, where considerable residential development now exists, are zoned at 2 to one, with an additional plot ratio of 1½ to one for residential purposes. The plot ratios of areas zoned for office use in the Development Plan remain unchanged. Considerations of architectural design may affect the application of the plot ratio standards to the development of important sites. For developments which would reduce congestion or would not give rise to excessive employment, or which are desirable to maintain the diversity of character of the central area (*e.g.* multi-storey car parks, telephone exchanges, places of assembly, hotels and hostels) the question of allowing some increase in plot ratio will be considered on the merits of each case.

The Town Planning Committee consider that the "mixed" development to be encouraged would provide opportunities for good design and result in new forms of buildings suitable in the area and able to add interest to the urban scene while arresting the decline in residential population. It is envisaged that the residential accommodation would be mainly in the form of flats for people who prefer to live in the central area, hotels, hostels, service apartments and so on. The child population coming from these new homes would be small and the requirements for schools, play spaces, etc., would be much less than in the outer residential areas.

The Committee state—"Our proposals, if adopted, will complement the endeavours which the Minister of Housing and Local Government and some of the neighbouring planning authorities are making to encourage office development in the suburbs and outer areas where office workers mainly live and in the new and expanded towns. We understand that the Ministry has asked some of the other planning authorities in the London Region to give all possible help and advice to office firms who may wish to make such a move. A regional policy for office decentralization, however, on the lines of the already well established policy for industry, can only succeed by persuasion and the use of existing planning powers, and the Council's officers are considering, with those of the Ministry, methods of drawing attention to the advantages of decentralization."

This model has been made by the LCC to illustrate the type of mixed development that is envisaged in areas where the plot ratio may be increased by 1½ to 1 for residential accommodation in parts of Central London. In the example shown, the commercial premises (shops, offices, restaurant and showrooms) in the podium and the lower block have a plot ratio of 3·44 to 1. The hotel in the tall block brings the plot ratio to 5 to 1.



RICHMOND HILL

'Bubble Age' Flat Scheme

People who know the area of decaying, lease-ending Victorian houses which lies between Queen's Road and Richmond Park, just below Richmond Hill, will have wondered if the site would eventually fall into the hands of irresponsible spec builders. But last week Richmond Borough Council published a report which will ease their fears, though it will alarm most of the local residents. The report, on the future development of the area, was prepared by Norman and Dawbarn and by J. G. Macdonald, surveyor. It contains bold recommendations for the construction of two point blocks (one 20-storey, the other 16-storey), five six-storey blocks (of four- or five-roomed flats), four four-storey blocks (one- to four-room flats) and fifty-five houses. Forty-eight of the smaller houses on the site would be preserved. Nearly everyone would have garage space—but not garages because, in Mr. Dawbarn's words, "not many people want complete enclosures for their cars in this bubble age."

"Would Mr. Dawbarn care to say what he meant by bubble age," asked a newspaper reporter. "And what," he added, doubtless fearing a pricked bubble, "is a point block." Mr. Dawbarn explained about midget cars and skyscrapers. But he was not able to answer questioners who wanted to know about the proposed cost of buying or renting flats or houses, and the appearance of the buildings. Although the total cost had been given as £2¼m. (at March 1957 prices) neither Mr. Dawbarn nor a representative of the borough council were able to give a hint of what the scheme's residents ("middle class and upper middle class") would have to pay. And Mr. Dawbarn was unable to discuss architectural detailing because his job had been simply to provide a master plan. There was a sensible comment about this by the *Manchester Guardian's* architectural correspondent (who *is* this excellent, well-informed writer?). "Before agreeing to the demolition of the

(*Continued on page* 137)

MORE PICTURES OF THE BLENHEIM BALL

Here are some more pictures of the ball at Blenheim Palace which closed the British Architects Conference that was held two weeks ago in Oxford, where the hosts were the Berks., Bucks. and Oxon. Architectural Association.

Below left: Herbert Jackson, Miss Morrison, Mrs. H. Jackson and Dr. Thomas Sharp.

Below centre : Hubert Bennett, LCC Architect, Mrs. Bennett, E. A. Ferriby (chief architect, Bracknell New Town), Mrs. Ferriby, Mrs. Rowley and Mr. Rowley (general manager, Bracknell New Town).

Below right: Mrs. Michael Pattrick and J. Austin Smith.

Bottom left: E. Steward Smith, president of the Berks., Bucks. and Oxon. Architectural Association, Mrs. Steward Smith and Queen Anne.

Bottom right: David Church, Adele Hilliard, James M. Archer, Nicholas Thompson, Jennifer Gilbride, Jeanette Payne, Eve Winter and John Hayward. All except Miss Winter are architectural students.

News *continued from page* 135

graceful Victorian houses," says this correspondent. "one would like to be assured that the quality of the detailing of this development will be as good as the planning."

Another journalist present asked the pertinent (and impertinent) question: "Does Mr. Dawbarn really believe his scheme will get past the least-enlightened planning authority in the country—a planning authority that screamed with rage about Eric Lyons' excellent two- and three-storey flats next to Ham Common?" Mr. Dawbarn said he had simply solved his client's problem in what he thought was the best possible way.

His solution is certainly a good one; but is it really necessary to have a few rows of houses in such a scheme? What is the point of having a private garden if you are overlooked by flats? And *must* we have a point block on top of Richmond Hill?

ENQUIRIES

Franks' Proposals

Far-reaching changes in the procedure for town planning enquiries and other enquiries relating to land are made by the Committee on Administrative Tribunals and Enquiries, under the chairmanship of Sir Oliver Franks. Its principal recommendations are: 1. that acquiring and planning authorities should be required by statute to give full particulars of their case in a written statement in good time before the enquiry, so that those affected are better able to prepare and present their case. The statement should set out the grounds for the proposals, and for the choice of site, and should also summarize the views of any government department or other public authority which the acquiring or planning authority has consulted in the matter.

2. Whenever possible, some statement of ministerial policy relevant to the particular case should also be available before the enquiry. The Minister would be free to direct in writing that the whole or certain parts of his statement are not open to discussion at the enquiry.

3. To emphasize impartiality inspectors should be placed under the control of a Minister not directly concerned with the subject-matter of their work. This would most appropriately be the Lord Chancellor in England and Wales.

4. Whether proposals are initiated by a Minister or by a local or other authority, there should be a statutory requirement that the proposals should be fully explained and supported by oral evidence at the enquiry.

5. Successful objectors in compulsory acquisition cases and successful appellants in planning appeals should generally, but not automatically, and as of right be awarded their reasonable costs. Costs should also be awarded, whatever the result of a planning appeal, if the local authority has acted unreasonably. The award of costs in development plan enquiries would be impracticable.

6. The complete text of the inspector's report should accompany the Minister's letter of decision, and should be available to the public. The parties should also have an opportunity to propose corrections of fact to the first part of the report before it is tendered to the Minister. This would make an appeal on fact unnecessary.

7. The Minister should be under an obligation to submit to the parties for their observations any factual evidence obtained from any source after the enquiry.

8. The Minister's letter of decision should set out in full his findings and inferences of fact, and the reasons for the decision, and copies should be available to the public.

9. Before giving his decision on a development plan, the Minister should publish such modifications as he provisionally proposes to make, and allow a period of 21 days for lodging written objections. The Minister should have discretion whether or not to hold a further enquiry.

10. There should be an appeal to the courts on points of law against a determination of the Minister on the question whether or not any person's proposals require planning permission.

11. To reduce the volume of planning work falling on government departments the Minister should be empowered to delegate the power to take decisions on appeals that raised minor or local issues to the person taking the enquiry. In such cases it would be unnecessary for the department to give evidence, or for a full report to be prepared.

LIVERPOOL

Students' Exhibition

The first School of Architecture exhibition to be held at Liverpool University for some years was opened on July 5 by Clough Williams-Ellis. At the opening ceremony Professor Gardner-Medwin said that the University was now on the threshold of being able to demonstrate what he had said last year, that the architect would gain, not lose, in subtlety and creative power if he developed a truly scientific attitude to building. For at last the University had a Building Science Department and a new professor, Arnold Hendry, a young and energetic Scottish engineer who would swing into action next session. "An architect," he said, "can no longer know everything about building, even after 5 years in the Liverpool School, but he must be trained to know exactly how and where to find out about everything. He must be trained, in fact, in the art of collaboration, of teamwork with a host of specialists. It would be necessary for a small proportion of architects to specialize and become research minded. There is a very big and very important field of post-graduate research which responsible architects must enter in far greater numbers if the profession is to be ready for the scientific future. This was one reason for the setting up of a Building Science Department—the first in any British University."

Clough Williams-Ellis (left) congratulates James O'Donahue on winning the Reilly Medal and Prize at Liverpool University.

A bottle of sherry and six glasses caused a minor sensation at the exhibition, for the eventual winner of the Reilly Prize, Thomas O'Donahue, seeking to add local colour to the presentation of his thesis—A Casino at Thonon les Bains, Haute Savoie—set out a table for the visual if not the gastronomic delight of the external examiners, and thereby created something of a precedent (a correspondent writes). In his project, indeed, was visible evidence of the re-emergence of *art nouveau* as a seriously considered and officially approved means of expression. This painterly project would have been as much at home in the early 1900's as it seemed today. A complementary fourth wall of cartoons set against a red flock wallpaper completed this stimulating presentation by a highly imaginative artist.

The O'Donahue design, provocative and controversial as it is, reflected the healthy vitality of the School. It was reassuring to see that the subtleties of such a project could take precedence over the ingenious structural contrivances of, say, a steelworks-to-end-all-steelworks by Peter Foggo, or the dramatically overpowering School for Bullfighters by J. Roxburgh. In retrospect one wonders if it was the rare sensitivity of O'Donahue that made the rest of the fifth year work—except perhaps, Allen Cunningham's Miesian project for the Society of Friends, seem a little heavy handed.

Among the many good things that make up the remainder of this lively and colourful show I was impressed by the high standard of freehand drawing and sketch designs, especially in the early years of the course, and I applaud the retention of one Classical exercise—still the best of disciplines for the architectural draughtsman—in the First Year. Full-sized models of door and window joinery caught my eye and I found that Liverpool is gradually equipping a workshop under the control of a qualified Clerk-of-Works, a workshop that as yet falls far short of the facilities offered in some American schools, but a good beginning.

Working Drawings are of a consistently high standard throughout the course and the Measured Drawings exhibited are first rate, especially in the third year. I was interested to learn that measured work is retained by the school, and the drawings of Oriel Chambers, two Overhead Railway Stations, and the Philharmonic Hotel made this year will be particularly valuable additions to the collection.

At the moment the most obvious weakness in the course seems to lie in Interior Design and Colour and the slender evidence of sensibility to this aspect of architecture exhibited by the winner of the Sikorski Prize leads one to assume that restricted hanging space must have limited the display of his prowess—and perhaps that of others—in this field.

The Department of Civic Design has staged its own exhibition in adjacent rooms. The visual material of the planner, however, is inevitably less exciting than that of his architectural partner, but in this instance the clear titling and good arrangement of material help the visitor to follow easily the unfolding pattern of Professor Myles Wright's excellent course.

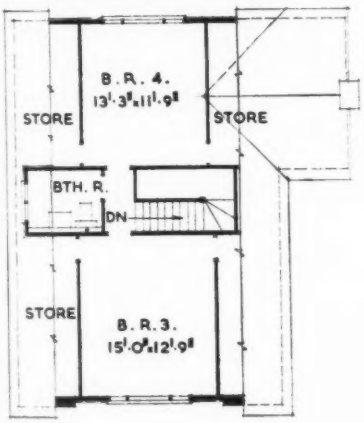
RIBA

Technical Secretary

The RIBA has decided to appoint an assistant secretary, whose duties will be primarily concerned with the secretariat of the Science Committee and other activities under the committee's direction, but who will also be technical editor of the *RIBA Journal*. The appointment is open to architects or other candidates with knowledge of building science and technology. The salary will be at a starting point according to age and experience on a scale of £1,250 rising by annual increments of £50 to a maximum of £2,000.

A VALUE-FOR-MONEY SPEC. BUILT HOUSE

We illustrate on this page a spec. built house by Wates Ltd. which—whatever its faults—sets a formidable standard in value-for-money. With a floor area of 1,400 sq. ft., it provides four bedrooms, two bathrooms, a garage, whole-house heating by hot air, and a built-in refrigerator at an inclusive price (including the site—ready landscaped—and all legal charges) of £3,495. The house was designed by Wates' Architects' Dept. (Chief Architect, K. W. Bland, A.R.I.B.A.) and incorporates much of the firm's experience of house-building in America. Heating is by a non-ducted gas-fired hot air system, and hot water is provided by a multi-point gas heater sited in the roof space. The building is of "modernized traditional" construction with 11-in. cavity walls, concrete tiles on the roof, and a solid ground floor with thermoplastic tiles throughout. Wates attribute the cheap price mainly to the adoption of the bungalow plan, pointing out that the additional accommodation in the roof is provided at little extra cost. One weakness of the plan as it now stands is the kitchen, which has too many doors and awkward circulation. The plan is reversible, and in fact the house in the photographs above (which is at Crawley) is the opposite way round to the plans.



First floor plan

Ground floor plan [Scale: $\frac{1}{8}$" = 1' 0"]

THE INDUSTRY

This week Brian Grant reviews a new rainwater head, a fire-hose reel for public buildings, an asbestos partition board and a factory storage system.

RAINWATER HEADS

The photograph on the right shows a small box type rainwater head which is intended particularly for use on domestic work and in other small buildings, and which has recently been announced by Universal. The head has an overall width of 12 in., the other dimensions being 6 in. by 6 in. and it is available with outlet sizes of 2 in., 2½ in. and 3 in. List prices are 7s. 3d., 8s. 10d. and 10s. 5d. (*The Universal Asbestos Manufacturing Co. Ltd., Tolpits, Watford, Herts.*)

FIRE-HOSE REELS

In an attempt to overcome the difficulties normally experienced by untrained people trying to handle canvas fire hoses in public buildings, the "Pyrene" company have evolved a new type of hose reel which can be installed in a recess only 4 ft. by 3 ft. by 1 ft. deep. The reel, complete with hose, is mounted on a bearing which is fixed to a wall bracket, the water supply passing through the back centre of the reel and then through the hose, which ends in a shut-off nozzle. To use the equipment the operator merely opens the main water valve while taking the hose nozzle from its bracket, walks away with the end of the hose until he is near enough to the fire and then opens the nozzle valve. Immediately the fire has been extinguished, the water can be turned off at the nozzle to prevent unnecessary damage. The hose is an unkinkable type which can be run out in any direction without the disadvantage of swinging joints. (*The Pyrene Co. Ltd., Brentford, Middlesex.*)

PARTITION BOARD

Turnall asbestos partition board is a new development in the asbestos cement industry, and the board has an asbestos content and at the same time a considerable degree of flexibility. The board is a compressed product available in a standard size of 8 ft. by 4 ft. with a finished thickness of ¼ in. and can be easily curved to a radius of less than 12 in. When tested at Elstree, according to the requirements of BS 476 for flame spread, the board was placed in class 1 —surfaces of very low flame spread—and has been approved by the LCC for use in the construction of exhibition stands where a degree of fire resistance is necessary. The cost of the asbestos board is a little higher than the cost of standard hardboards but it is cheaper than hardboards which have been specially treated to reduce flame spread. When supplied with a Colourglaze surface finish, the price is slightly less than that of the various types of decorated hardboards. (*Turners Asbestos Cement Co. Ltd., Trafford Park, Manchester,* 17.)

STORAGE UNITS

In most factories nowadays, storage space consists of long runs of steel bins or shelving with the necessary access gangways between them. When space is required only for consumable stores to be used within the factory itself the total area required is comparatively small, but in most factories considerable areas are required for the storage of spare parts and other items which may have to be sent out in considerable quantities to customers. Now that so much of the internal traffic consists of powered trucks, whether of the fork lift type or not, access gangways have to be made wider and the total floor area required tends to increase quite rapidly. During the last few years, several attempts have been made to solve the problem with different types of movable shelving or racks and one of the latest attempts is shown in the photograph on the right. The system comprises a number of containers fitted with bins or shelving and mounted on three wheels and pivoted within a framework. The containers are curved on plan and slide out from the framework in an arc so that the full depth of the container is immediately accessible. Each container is designed to take loads up to 1 ton and the unit can be supplied either fire-proofed or dust-proofed and can be modified for vehicle mounting for use in mobile shops or libraries. (*Carbidall Ltd., Coventry Works, Hodson Street, Blackburn, Lancs.*)

A new rainwater head, by The Universal Asbestos Manufacturing Co., Ltd.

Pyrene's new hose reel, made to assist untrained people in fire-fighting.

The "Pivoted wing" storage units, by Carbidall Ltd.

technical section

26 SERVICES AND EQUIPMENT: MISCELLANEOUS

small electrical installations. 1 the principles of wiring

It is now nearly three years since we devoted a special issue of the JOURNAL to Electrical Installations* and it seems that the time has come to revert to this (for architects) peculiarly intractable subject and to try and map out the no-man's-land between the traditional territory of the architect and that of the electrical engineer. To this end we have called in an electrical consultant, Peter Jay, to do most of the writing, and have associated with him an architect, Clive Wooster, to remind him what architects do not know and in what they are particularly interested. The object of these articles is to describe in considerable detail those points of technique which make the difference between a good and a bad installation and so to enable the architect to distinguish between conscientious and careless contractors; and to discuss in what ways the architect can give his client value for money. Because we felt that no harm would be done, the authors preface their approach to these questions with a brief and deliberately childish résumé of electrical theory. Architects who feel that this is beneath them are invited to skip the first few paragraphs and to start with the " layout of circuits." Lastly, the authors wish two general points to be made in this introduction. The first is that they wish to make it clear that their object throughout the series has been to assist the architect to converse fruitfully with the electrical specialist, not to encourage him in the idea that he can do without the specialist. The second is to record their indebtedness to the following people and to members of the following organizations, who have read through the MSS and have made most helpful comments: G. J. Heath and G. Collingwood of Strand Electric & Engineering Co. Ltd. and A. J. Lewis of R. E. & C. Marshall Ltd.; the National Inspection Council for Electrical Installation Contracting, the British Electrical Development Association and the Central Electricity Authority. The authors also point out that some of the opinions expressed are controversial and for these they take full responsibility.

For the present purpose electricity may be thought of as a fluid† which will flow easily through metals, and in particular, copper. The analogy of the paddle wheel, as shown in Fig. 1, may be helpful in explaining the concepts and terminology. The paddle wheel, W, represents the consumer's electrical appliance. The tanks, T. 1 and T. 2, and the pump, P, represent the supply network. It may be seen that the power transmitted to the wheel is proportional to the product of the rate of flow of water and the pressure on the paddle blade. When the wheel is running relatively slowly, this pressure may be represented by the head of water, H. In electrical terms, the *voltage* corresponds to the head, and the current, measured in *amperes* (*amps*) corresponds to the rate of flow. Rate of flow, which for water would be measured in gallons

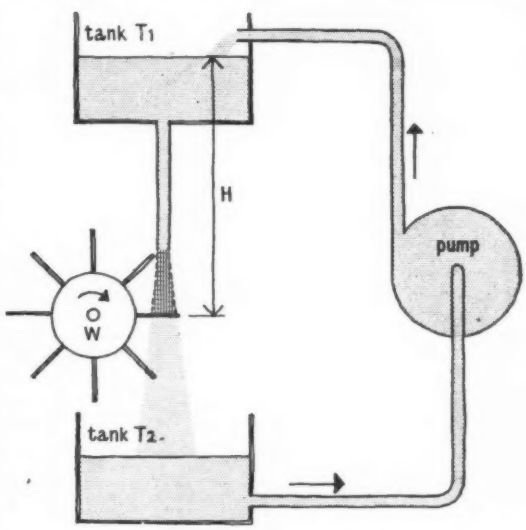
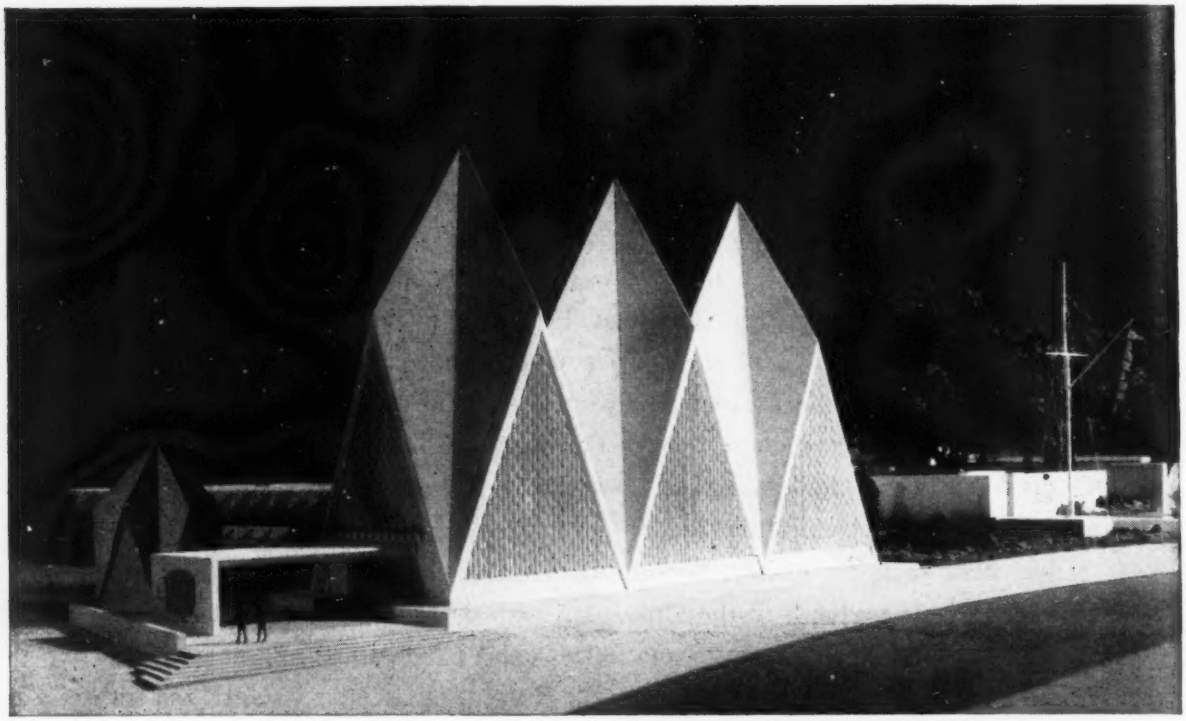


Fig. 1. The analogy of electricity with water.

* November 18, 1954. The substance of this issue is now published in book form with the title *Electrical Installations* (Architectural Press. 16s.)

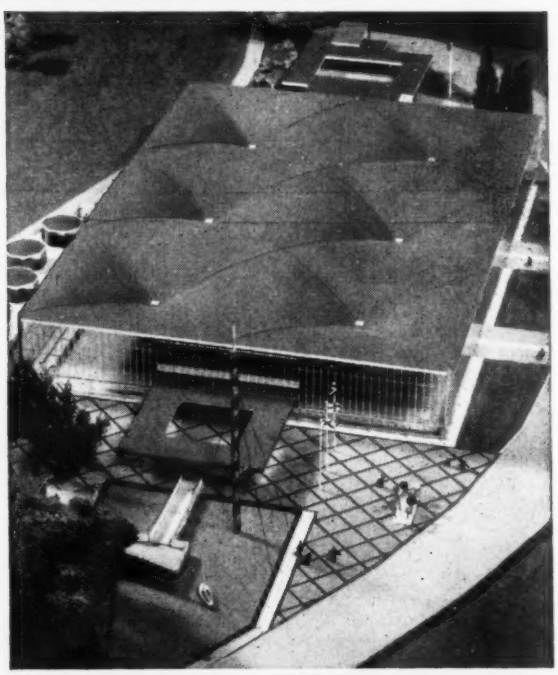
† Fluid—that which flows. Material fluids may be liquids or gases, but both heat and electricity have some analogous properties, and up to a point may be treated as fluids. For a long time they were both thought to *be* fluids.



All U.K. buildings at Brussels Exhibition

At the 1958 World Exhibition at Brussels the British Government Pavilion and the British Industries Pavilion will occupy approximately five acres.

The Architects for the Government Pavilion are Messrs. Howard V. Lobb & Partners, who are also the co-ordinating Architects for the whole of the U.K. site.
The Architects for the British Industries Pavilion are Messrs. Edward D. Mills & Partners, and the Consulting Engineer for both Pavilions is Mr. Felix J. Samuely, B.Sc., M.I.C.E.



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per minute, should here be distinguished from velocity of flow, which has no exact electrical equivalent.

The *power* supplied is measured in *watts* (or kilowatts, which are each equal to one thousand watts) and is, as explained, equal to the product of head and rate of flow. In other words, *watts* equals *volts multiplied by amps.*

Thus, a one-kilowatt fire, operated from a supply of 250 volts will take a current of 4 amps, since 4 × 250 = 1,000. It should be noted that currents are additive, and the total current taken by cables which are feeding altogether, say, 4 1-kilowatt fires will be 4 × 4 amps, which is 16 amps.

Electricity, like water, is supplied to a building at a fixed pressure (voltage) and the rate of flow (current) depends solely on the apparatus connected. Thus, where the supply voltage is 240, all apparatus connected must be designed for that voltage, and the current taken will depend on the nature and size of the apparatus, the total current flowing in the supply cable being the sum of that taken by each individual appliance.

When water flows through a pipe, the pipe offers some opposition to its passage. Similarly, all substances offer some opposition to the passage of electricity, and this is referred to as *resistance*. Substances for which the resistance is relatively low, for example, copper, are referred to as *conductors,* while those for which the resistance is relatively high, for example, rubber, are referred to as *insulators.*

The resistance of a wire to the passage of electricity, like that of a pipe to the flow of water, grows smaller as the cross-sectional area increases. Work has to be done in overcoming the resistance of a conductor, and this work is measured in watts, already referred to, and the energy consumed appears as heat in the conductor. For a given current, the heat produced is proportional to the resistance of the conductor, and therefore grows less as the cross-sectional area increases.

All substances when carrying an electric current become hot. This heat can be put to use, as in an electric fire, or in the filament of an incandescent lamp, or runs to waste, as does the heat generated in the cables leading to the lamp or fire.

Unfortunately it is not possible to give any clearer explanation of what an electric current "really is." Electric currents, voltages, etc., are mental concepts developed in the course of time to explain certain phenomena. With practice these concepts can be handled quite easily, and one soon ceases to wonder what they "really" are.

Many people are now aware that an electric current is caused by a movement of electrons. This is not to explain it, but simply to replace one mental concept by another. We have here adhered to the fluid approach which is quite adequate for installation work, and very much easier to manipulate.

Installations

CABLES: Cables are usually made of copper and are covered in insulating material such as rubber, P.V.C. or cotton, and sometimes a combination of these materials. All, when carrying a current, become heated to a certain extent, and for a given current the heat emitted decreases as the cross-sectional area of the cable increases. When a cable becomes too hot, its insulation deteriorates, and it may become so hot that it could set light to other materials nearby. This is the basis of the *rating* of cables, and the maximum current which may be carried by a given size of cable, called its *rated current,* is that which will produce a particular temperature rise. This rise is such as to give a reasonable life to the insulation and, should it be exceeded, the insulation will deteriorate rapidly. For a given cable the heat developed depends upon the square of the current, so that if the current is doubled, the heat emitted is increased by four times. What appears to be only a small overloading of the cable may therefore have a very large effect on the life of the insulation. Overloading of cables may therefore have much more serious consequences than overloading the pipes, etc., of other services.

To make them flexible, cables are made up with a number of strands of wire, rather than one solid rod of appropriate diameter, and the description of a cable gives both the number and diameter of the strands. 7/.029 cable consists of seven strands, each of diameter 0.029 inches.

PROTECTION: Consider a simple circuit consisting of two wires carrying a 240-volt supply to a 100-watt lamp. Each wire, and the lamp, have resistance, but the resistance of the wires may be neglected in comparison with that of the lamp. The current taken by a 100 watt lamp is rather less than half an amp (100/240 amps, in fact). The cables normally used for lighting have a low current rating. If, owing to some accident, the two wires are touched or joined together, as sometimes happens when a faulty connection is made in the lamp-holder, the resistance of the circuit so formed, which consists of the two wires only, will become very low (Fig. 2). A high current will therefore pass, higher than the cables can carry without excessive temperature rise, so that at least the insulation will be damaged, and quite possibly a fire will be caused. This condition is referred to as a *short circuit.* An excessive current can be made to flow in cables without touching the wires together, for instance, by connecting a 3 kW. fire to a lighting pendant, or by adding more and more lamps to the same circuit until their aggregate load exceeds the current rating of the cable, and so on.

Some protection is required against these eventualities, and the commonest in this country is the *fuse.* In its simplest form, this consists of a device which includes in the circuit a short length of bare copper or alloy wire which is very much thinner than the cable it protects. This wire carries the full current passing in the circuit, and is of such a size that, while it will just carry the rated current, it will melt if the current rises much above this figure, so breaking the circuit and removing the danger. For ease of replacement the

technical section

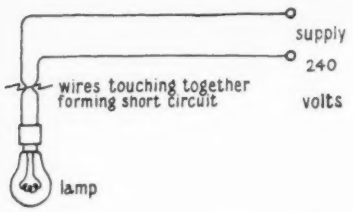

Fig. 2. Diagram showing a short circuit.

fuse wire can be contained in a cartridge which is replaced as a complete unit, so avoiding the necessity for using tools, and more complex protective devices are available which will be described in due course. At present we are concerned mainly with rewirable and cartridge type fuses.

Layout of Circuits

The electrical services of a private house may be divided into three classes:

1. Fixed lighting points.
2. Socket outlets for the use of portable apparatus.
3. Fixed appliances, such as cookers, immersion heaters and panel fires.

The installation must provide a supply to all these points in such a way that the rating of all cables and equipment protected by a fuse shall be at least as great as the rated current of the fuse, and yet must make available a sufficient supply at any point to serve any load that might reasonably be required there. It is not always easy to reconcile this last requirement with absolute economy but there are a number of working rules which are well worth following.

Lighting points are normally wired in 3/·029 cable of which the rating was formerly 5 amps. It has recently been raised to 10 amps, and it has been known for contractors to assume that they can, instead, use the next smaller size of cable, 1/·044, which has a rating of 5 amps. Although this is technically admissible it is a false economy. In the first place, in a small private house wired in Tough Rubber Sheathed (T.R.S.) cable, the likely saving in cost of materials is approximately £1, while the life of 1/·044 will be much reduced as compared with that of 3/·029—perhaps 12 years as compared with 25 years. This is not so much due to the heating effect but because 1/·044 having only one strand is likely to suffer damage where the insulation is stripped back to make connections, and is liable to partial fracture owing to some accidental blow during installation, or to vibration in use. It is also very difficult to grip a single core cable tightly under a screw terminal. 3/·029 having three strands is very much easier to work with and requires less care. It must be remembered that faults of this kind may not show up for some months, and even years, after completion, so that they may not be covered by the defects period guarantee. To some extent it might be said that the increased cost of 3/·029 is offset by the saving in labour charges, since less care has to be taken with it, but this is not the kind of assessment made by a contractor. Besides which, those contractors who use 1/·044 are just those who do not allow enough time for the proper care to be taken anyway.

We shall assume, therefore, that 3/·029 cable will be used for lighting circuits, and that the lighting fuses will be rated at 5 amps. As many points may be fed from such a circuit as together take a current of 5 amps; but it should be assumed that no lamp smaller than 100 watts will be used, this means that at most 12 points may be served from one fuse. In practice, it is better to keep to a maximum of 10 points per fuse, which allows some margin.

Two lighting fuseways are the desirable minimum for a private house, and preferably three, one for each floor, and the third feeding the hall, stairs and landing, so that if one fuse should fail there is still some light on each floor.

Switches used for lighting circuits usually have a nominal rating of 5 amps, but if fully loaded they will not last nearly as long as the rest of the installation. In practice, 600 watts is the biggest load that should be controlled by a single 5 amp switch, and of course, in a private house the question of putting a greater load than this on one switch would never arise. In larger buildings a 15 amp switch should be used where it is necessary to control a load in excess of 600 watts from one switch.

SOCKET OUTLETS: Before the war there were three standard sizes of socket outlet in use, the 2 amp socket which was invariably connected to the lighting circuits and used for table lamps, radios, etc., and the two sizes of power socket, the 5 amp and 15 amp, which with a supply voltage of 200 or more would take up to one and three kilowatts respectively.

This triple system was both inconvenient and expensive. Each 15 amp socket outlet had to be connected by its own pair of wires to a separate fuseway regardless of the fact that it is most unlikely that more than, say, two such socket outlets would be drawing their full load at any one time. Further, to give adequate protection, not merely the wiring from the fuse to the socket, but all wiring in the appliance itself and the flexible lead to the plug should be of 15 amp rating. For a fire which itself takes only 5 amps this is rather wasteful.

Even so, separation of socket outlets used for lighting from those used for power was at that time necessary since electricity was frequently sold at a different price for the two purposes. It should be noted that there is no difference between "lighting" and "power," and they have always been fed from the same cables in the street. The tariff difference was introduced in order to encourage consumption during the hours of daylight at a time when electricity was thought of chiefly as a means of lighting. The dual flat rate tariff has now served its purpose and the Domestic "All-in"

technical section

has generally taken its place.

It is therefore no longer necessary to separate lighting from power sockets. For many years there has been a need for a standard socket, which can take up to 3 kW., the wiring to which takes account of the fact that it is most unlikely that more than, say, two such sockets will be drawing full load at the same time, the others will be serving radios, table lamps, small fires, etc. In such a case, where the maximum load likely to be connected to a circuit in practice is less than the load which physically could be connected to it, *diversity* is said to apply.

The *ring method* of wiring, using the all-purpose 13 amp fused plug with rectangular pins was introduced to meet these requirements. The method of wiring is as follows: cable of 20 amp rating is run from a 30 amp fuse to each socket in turn and then from the last socket back to the fuseboard and connected to the same fuse. This complete circuit is called a *ring*. A total load of between 6 and 7 kilowatts can be connected to one ring, up to 3 kW. of which may be drawn from any one socket. Each socket is connected to a single 30 amp fuse by two pathways each of 20 amp rating, so that the cable is amply protected against overload, while the economy of the system, as compared with the former practice of wiring each socket back separately to its own fuseway is evident. It might be objected that it would be more economical to run 30 amp cable from the fuseway to each socket in turn and, having reached the last one, to stop. This is so in a long passage, where each outlet is further from the fuse than the last, but in private houses this seldom occurs. There is provision in the regulations for the situation described, but it is chiefly applicable to schools and offices, and will be dealt with later on.

It is a basic principle that a fuse should always be inserted where the size of cable decreases, and there remains the problem of protecting the appliance itself, and the flexible lead to the plug. This is effected by placing a cartridge fuse in the plug, and four sizes of cartridge are available: 2, 5, 10 and 13 amp. (Formerly the sizes were 3, 7 and 13 amp.) In this way, cable no larger than is necessary to carry the appropriate current can be employed in the circuit, and yet at all points it is protected by a fuse of lower rating.

In private houses, it is permissible to connect an unlimited number of 13 amp sockets to any one ring, provided that there is at least one ring for every 1,000 square feet of floor area, or part of it, and the sockets are reasonably distributed throughout the rings. Otherwise, the limitation is 10 sockets per ring. That is to say, in a 900 sq. ft. house an unlimited number of sockets could be connected to the ring, and there need be only one ring. In a 1,200 sq. ft. house there would have to be two rings, unless there were to be no more than 10 sockets altogether, in which case one ring would be enough. In fact, it is most inadvisable to install only one ring in a house of over 1,000 sq. ft. Even where there does not at first appear to be a need for more than 10 sockets, this need will almost certainly arise at some time in the future, and as we shall see, extensions from an existing ring are not very difficult, whereas the installation of an extra ring is a major operation.

The regulations also provide for spurs from the ring, that is to say, a branch feeding not more than two sockets with one run of cable only, as shown in Fig. 3, provided that not more than half the outlets on a ring are fed from spurs. This is a departure from the strict rule that the rating of cables shall not be less than the fuse protecting them and, although allowed in the regulations, the use of spurs is to be deprecated for the following reasons:

1. Spurs are not fully protected by the fuse.
2. Spurs involve the connection of three cables at the back of a socket outlet, which is very difficult, and usually means that the electrician will cut short one or two strands in the hope, usually justified, of avoiding detection. Alternatively, he may use a connector box, and join his spur into the run of the cable. Such joints always give trouble in time, and are hard to locate after the job is completed.
3. Spurs are only economical where one or two sockets are located at a considerable distance from the main ring. They will therefore be the only sockets in that part of the house, and are liable to receive relatively greater use than those elsewhere; this makes their inadequate protection even more serious and leads to a more rapid deterioration in the cable.
4. In the average house, the saving is deceptive. Consider the case shown in Fig. 4. The two sockets A and B are on the ring, with sockets C and D a little way away. If C and D are fed from a spur, the amount of cable required for the interconnection of these sockets is AC plus CD, plus AB, which is part of the ring. If the ring is diverted, so as to include C & D, the extra cable used is DB, but the length AB is omitted; the net increase in cable used is therefore DB minus AB. Even allowing for the necessity of diverting runs to avoid obstructions, we can

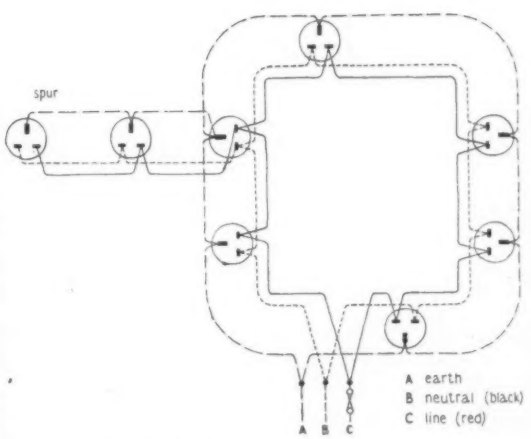

Fig. 3. Diagram of ring circuit with spur.

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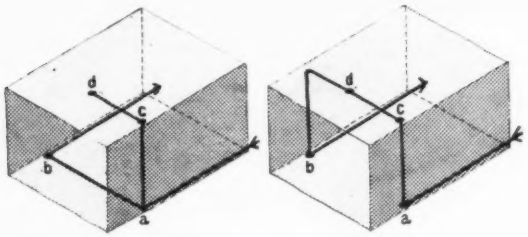


Fig. 4 (above). Diagrams showing the length of cable involved, left using a spur, right in a redesigned ring main circuit. Fig. 5 (right). Fused spur box.

think of few private houses in which the cable saved will be more than five yards, at 1*s.* 5*d.* per yard. The saving is therefore less than ten shillings, which, as is explained later, will rarely be passed on to the employer. In a later section, the application of spurs to a particular case will be examined in detail.

In general, the use of spurs when first wiring a private house should be avoided, as all they really do is to save the electrician the trouble of planning his cable runs properly. Spurs do, however, offer a fairly convenient way of adding an extra socket after completion, not because of the saving in cable, but because the cutting away and making good is so greatly reduced. In this case, and in this case only, the saving may be large enough to justify the disadvantages.

FIXED APPLIANCES: By these we mean appliances such as panel fires or water heaters. Provided that they take no more than 3 kW, these may be connected to a ring circuit, but in place of the fuse in the plug, there must be a fuse mounted adjacent in a *fused spur box* (Fig. 5). A panel fire would probably have a fused spur box mounted on the skirting board nearby, without a switch, and a water heater might have a fused spur box with switch, and perhaps an indicator light. In computing the number of permissible outlets on a ring, a fixed appliance is equivalent to a socket.

Even so, it is preferable to connect a water heater to a separate fuseway in a house which has only one ring. Otherwise, the 30 amp fuse may possibly fail in the evenings when children are bathing and fires are in use both in bedrooms and living-rooms. The regulations governing ring circuits make considerable allowances for diversity, but it is not wise to take advantage of every relaxation of these regulations where diversity does not apply.

COOKERS: The main cooker in a private house should invariably be connected to a separate fuseway of 30 amp rating by means of 7/.044 cable (which has a rating of 36 amps) and a cooker control unit with a 13 amp socket for an electric kettle.

Cookers are on the market which may be fed from a 13 or a 15 amp socket, but they are designed primarily for one and two room flats and are not suitable as the sole means of cooking in a house. Where, therefore, electric cooking is decided upon, the 30 amp fuse, 7/.044 cable and cooker control unit should always be provided.

Even where it is not intended to use electric cooking at first, it is generally wise to privide a spare fuseway and wiring for its eventual adoption, and the additional cost is small.

EARTHING: If a live wire should accidentally touch the metal case of an appliance, shocks can be received from that metal which can sometimes be lethal. All exposed metal associated with an electrical installation should therefore be *earthed*. This is defined as being effectively connected to the general mass of the earth, and in practice means connection to a metal water main, on the supply side of the stopcock (*i.e.* because pipe joints may have a high resistance), or, where this is allowed, to the metal sheath of the supply cable running into the building. Earthing is one of the most complex aspects of installation engineering, and many misconceptions are found, even amongst electricians and contractors who should know better, but it is not proposed to go very deeply into it here. It may, however, be seen that a man, who is himself connected to earth through the soles of his shoes, and thence through the fabric of the building, which is a partial conductor, if only by reason of the water it contains, can receive no significant shock from a piece of metal which is itself connected to earth by a wire of low resistance, which forms an easier pathway for the current than the human frame.

It was formerly the practice to have fuses in both the cables required to complete an electrical circuit, this was called *double pole* fusing, but modern practice is to earth one of the cables (the black or *neutral*) at some point on the supply network, and to have no fuses anywhere in that cable. This is referred to as the *solid neutral* system of wiring, and it has many advantages. It is possible, for instance, to ensure that an appliance is completely safe by inserting a switch in the red wire (or *line*) only, and of all the many terminals associated with an electrical installation only half can now constitute a risk. The usefulness of earthing the neutral cable on the supply network is obvious, but it is sometimes suggested, again by those who should know better, that the omission of a fuse renders the sys-

technical section

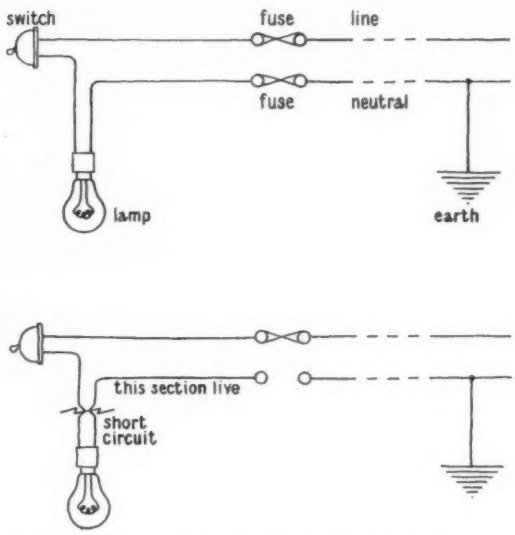


Fig. 6. Diagram of circuit with double pole fusing.

tem less safe, as if the safety of an installation were proportional to the number of fuses in circuit. This is not so. Consider Fig. 6, where there are fuses both in the red and black, or line and neutral wires, neutral being earthed on the supply network, as shown. If a short circuit occurs, a high current flows through both fuses, and either may fail first. If the neutral fuse is the first to fail, the current stops flowing, but the circuit remains live and, in fact, many parts of it which were formerly connected to earth via the neutral fuse now become connected to the live wire via the short circuit. The omission of the neutral fuse prevents this happening and ensures that, when a short circuit occurs, the fuse on blowing renders the whole system safe.

It is sometimes asked why it is necessary, with solid neutral wiring, to have both an earth and a neutral, and to keep them quite separate within the building. Consider Fig. 7, which shows an electric fire with a metal case fed from a solid neutral supply. In the top diagram the neutral is earthed somewhere on the supply network, and the case is earthed independently.

The neutral wire has some resistance and there must be a difference in voltage between one end and the other to drive the current through it. In practice, the neutral, at some distance from its earthing plate may have a voltage of 20 volts between it and earth. If the neutral were to be omitted, as in the middle diagram, the return current would flow through the earth. Such currents damage cables, pipes, other metalwork, and by liberating acids and alkalis in the soil may damage the roots of plants. They must therefore be kept to the minimum, and the system called *earth return* is now forbidden in this country.

Alternatively, the neutral could be retained, and the separate earthing wire be omitted, all exposed metalwork being connected to the neutral instead, as in the bottom diagram.

In this case, no metal would have a voltage to earth higher than 20 volts, which is not going to give anyone a severe shock. If, however, the neutral wire were to break, the exposed metal would become live at once. Where there is both an earth and a neutral, as in the top diagram, the metalwork can become live only where the line has accidentally touched the metal, *and* the earth wire has broken, which is intrinsically less likely.

Quite apart from this, electrical installations earth themselves. Even where the installation is not in conduit, there is bound to be some metalwork in contact with the building fabric, which is earthed through the moisture it contains. In the bottom diagram, the current has two alternative paths back to the earthing plate of the supply, one through the neutral, the other via the leakages in the building. Although the latter will probably have a higher resistance than the former, it will still carry some of the current, say 20 per cent., which will do damage.

In practice, therefore, the earth current is kept to the minimum by retaining the neutral, and using the earth as a safety device only, so that when a live wire touches earthed metal, a current flows only for the short time necessary to blow the fuse. As a further precaution, most earths are made to the sheath of the supply cable, so that even these short-lived currents are confined to the sheath and the soil in immediate contact with it.

EARTHING IN RURAL DISTRICTS: Sometimes an exception is made to these principles. Consider Fig.

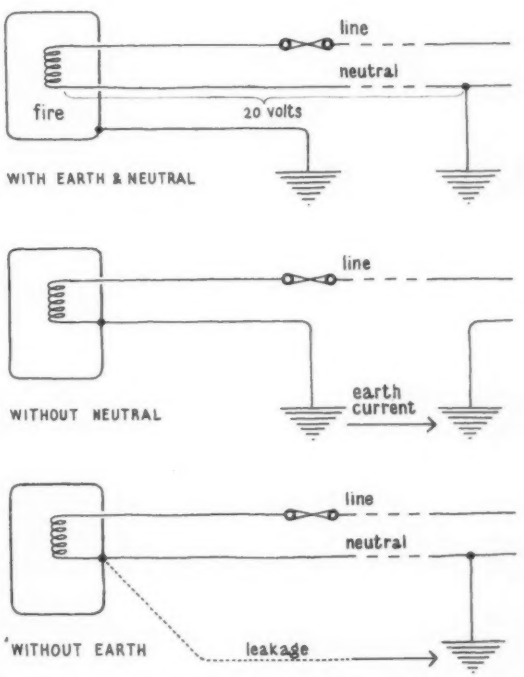


Fig. 7. Diagrams illustrating the function of neutral and earth cables.

F2

technical section

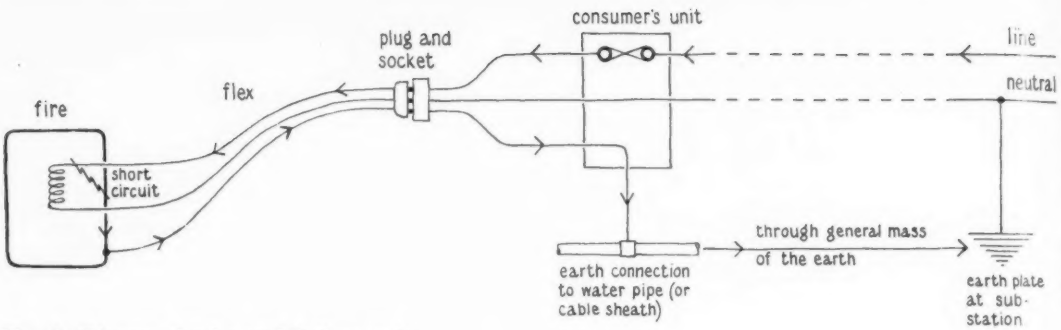


Fig. 8. Diagram showing earth leakage path.

8, showing a live wire which has touched the metal casing of a piece of electrical equipment. A current flows in the circuit consisting of the live feed cable, the fault, the earth wire of the installation, the connection of this earth wire to the water pipe, cable sheath, etc., and so through the ground back to the earth connection at the substation: this is called the *earth leakage path*. If this path has a low resistance a heavy current will flow, which should be sufficient to blow the fuse. If any section of this path should have a high resistance, the current, called the *earth leakage current* may not be high enough to blow the fuse, and a dangerous condition results.

The consumer's earth wire is the only part of the earth leakage path which is under his direct control, and with proper care this can be arranged to have a suitably low resistance, but the resistance of the earth connection at the consumer's end, and at the substation may cause some difficulty. At the substation the connection to earth is made by means of an earthing plate which will consist of a number of metal rods or strips embedded in the ground, usually surrounded by coke. At the consumer's end the earth connection will be made to the water main, which acts as a very efficient connection provided that all the pipes are made of metal, or alternatively to the sheath of the supply cable, which is not so efficient a means of connecting the installation to the earth, but does afford a direct route back to the substation. If either of these systems is used the resistance of the earth leakage path will in most cases be low enough to allow a heavy current to pass, so blowing the fuse.

Sometimes, however, these means of earthing are not available. In dry soil and in rock it is extremely difficult to construct a low resistance earthing plate while cement asbestos water pipes are becoming increasingly common, and where they have been used the water main is ineffective for purposes of earthing. Moreover, where electricity is distributed by overhead line there is no metal sheath to the supply cable, and this method of earthing cannot be employed. It is possible to run an overhead earth wire with the supply cables, and this is sometimes done, but the resistance of this wire may still be appreciable.

Until fairly recently electrical development was chiefly in the towns using underground cable, while metal water pipes were in general use so that earthing difficulties were experienced only occasionally. Now, with an increasing concentration on rural development using overhead lines the problem is becoming more serious. Moreover, when electricity was used chiefly for lighting, using 5 amp fuses, the resistance of the earth leakage path had to be low enough only to allow sufficient current to pass to blow a 5 amp fuse. Now that cooking and space heating are becoming more widespread, the earth leakage path must allow enough current to pass to blow a 30 amp fuse, and the earth leakage resistance must be much lower. One solution sometimes used in country districts is called *protective multiple earthing* (P.M.E.). It is applied mainly to overhead distribution systems, and consists in connecting the neutral to each consumer's earth terminal, and providing a simple earthing plate consisting perhaps of a few rods driven into the ground either for every consumer, or for every few consumers. The resistance of each individual plate may be fairly high, but by using a sufficient number of them, and connecting them all to the neutral, the resistance of the earth leakage path may be brought down to an acceptable figure. This is not to omit the earth wire, or to omit the neutral, systems we discussed and condemned in the previous section, but to attempt to make one cable serve the functions of both earth and neutral. It may be the best solution possible in particular circumstances, but if the neutral should break, as has been known to happen with overhead lines, consumers on the outer side of the break may be left in rather a dangerous position. P.M.E. is therefore employed only where no better alternative offers, and permission must be obtained from the Ministry of Power and the Post Office before it can be used.

Alternatively, an *earth leakage circuit breaker* can be used. Essentially this is an electrically operated switch which turns the supply off whenever any metalwork connected to the consumer's earth system becomes live. It is sensitive to faults which would be insufficient to blow the fuse, but its effectiveness depends on its being properly installed and connected and regularly tested, and there have been cases in which such circuit breakers have failed to operate properly owing to improper methods of installation.

technical section

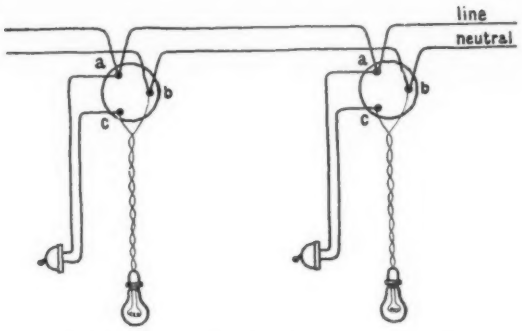


Fig. 9. The "loop in" method of wiring to lighting points.

Circuit breakers have some advantages over P.M.E., but in each district in which earthing difficulties are experienced the problem has to be tackled in the manner best suited to local conditions.

There is also another type of circuit breaker called the *differential current circuit breaker*, which will turn off the supply when the current flowing in the live conductor becomes significantly greater than that flowing in the neutral. It is generally more expensive than the earth leakage type, and provides a rather different type of protection. At present it is little used in domestic installations, and we have mentioned it here only for completeness.

LOOPING AND JOINTING: This is really a point of wiring technique, but is best dealt with before describing the wiring of a private house in detail. Joints in the run of a cable should, and with careful planning can, be avoided altogether in a new installation. They always give trouble in time, and cannot be located once the floorboards are down and the plastering finished. Instead the technique used is called *looping*. This consists simply in making the connection between one length of cable and the next at an outlet, an outlet being a switch, socket or ceiling rose. The two ends to be connected are bared, twisted together and inserted into the appropriate terminal of the outlet. Such connections, although they may work loose in time, are always readily accessible, and should be distinguished from joints which have to be concealed.

One of the commonest methods of wiring to lighting points is illustrated in Fig. 9. A pair of wires is run from the fuseway to the first ceiling rose, and then looped to the next and so on, as shown. Another pair of wires is taken down to the switch and the flex for the pendant is connected between the neutral terminal and the return from the switch, called the *switchline*. Similarly, in a ring circuit, the end of the outgoing conductor and the end of that running on round the ring must be twisted together and inserted into the terminal of the 13 amp socket. It will be seen that where there is a spur, three such wires must be inserted into one terminal, which is difficult, if not impossible, with most makes of socket. This is one of the reasons already given for avoiding the use of spurs.

INFORMATION CENTRE

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

14.85 materials: concrete

CEMENT DEVELOPMENT

Hydrophobic or waterproofed cement. (Civil Engineering. March 1947. pp. 330, 331)

The primary purpose of developing waterproofed cement was to enable the cement to be stored without appreciable deterioration and still satisfy relevant specifications. It was, however, contemplated that mortars and concrete so developed would be more resistant to moisture penetration than such products containing normal Portland cements.

The article presents tests which have been carried out to compare hydrophobic cement with the requirements of BS 12:1947 and to compare concretes made with Hydrophobic and Portland cement for moisture absorption and for resistance to sulphates. It is said that hydrophobic cement can be used in place of ordinary Portland cement for all constructional purposes as well as for soil stabilization and block making. In reinforced concrete work it makes a water repellent concrete, protecting the steel from corrosion, and is resistant to frost damage. In connection with soil cement work, extended lengths of the stabilizing agent can be laid out in advance of the mixing machines regardless of the weather.

14.86 materials: concrete

CONCRETE FINISHING TECHNIQUE

The use of rubber in concrete work. (Civil Engineering. March 1947. pp. 320-322)

The usual ways of obtaining a finish on a concrete face involve a further operation on the struck face of the concrete. By using textured sheet rubber within the mould the finish can be obtained in one operation. In precast concrete this is particularly simple as the member can usually be cast with its finished face downwards thus enabling the textured rubber to be laid or bonded to the bottom of the mould and the concrete poured on to it. In *in-situ* concrete works the same results can be obtained though the application of the rubber to the shutter may be more difficult. Castor oil is recommended as a lubricant as most mineral oils would adversely affect the rubber. Experiments are being carried out to find other forms of lubricant such as lime wash. The article also refers to lifting devices such as the vacuum process which employs rubber mats.

building illustrated

Public library at Beaconsfield, Bucks.

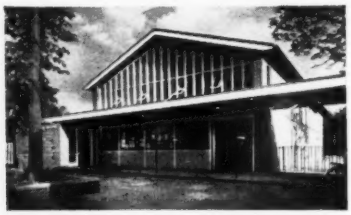
PUBLIC LIBRARY

in REYNOLDS ROAD, BEACONSFIELD, BUCKS. designed by F. B. POOLEY, county architect,
assistant architects STEPHEN GEORGE, DAVID EALES and AMBROSE HUMPSTON
heating and electrical consultants R. SPALL, county architects department
quantity surveyors T. LARKIN and J. RENSHAW

This branch county library has been built in part of a mature garden situated in a residential area close to the town's shopping centre. Traditional materials have been used in a design aimed at exploiting the potentialities of the site, whilst having a general character sympathetic to the surrounding houses. This is the first public library to be analysed in the JOURNAL.

Viewpoint 1: *the front of the library.*

building illustrated



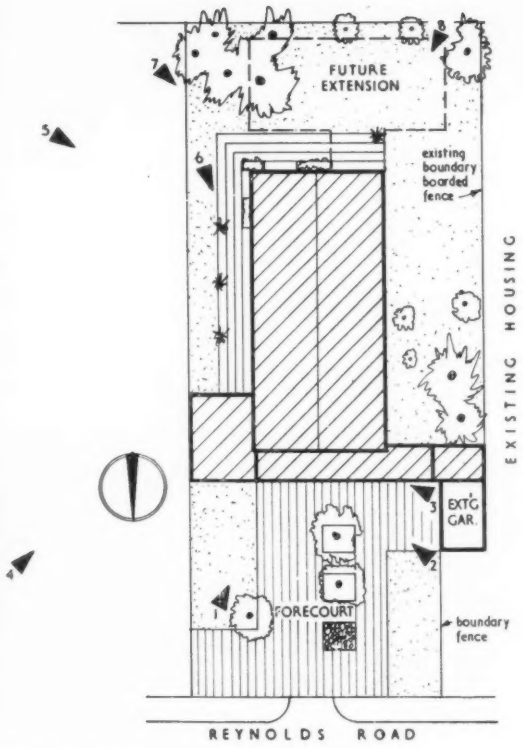
The building has been set back from the frontage on to Reynolds Road, which runs along the north edge of the site, to preserve existing trees and other planting, and at the same time to form an open forecourt for prams and bicycles (viewpoint 2 left). Across the north front of the building is an open verandah, under which are the main entrance doors for the public (viewpoint 3, bottom) to the left of which are a series of glazed display panels, with external facing above and, below them, painted vertical boarding. Beyond them, also under the canopy, is a separate entrance for the library staff. The library has been sited in the well-established garden (viewpoint 4, centre left) of a large house belonging to the County Council. The building has been carried

out in traditional materials, with load-bearing external walls, timber windows, and a low-pitched roof, finished with copper sheeting. The window wall on the east side of the library (viewpoint 5, above) is timber framed, with vertical mahogany boarding forming the spandrel infilling.

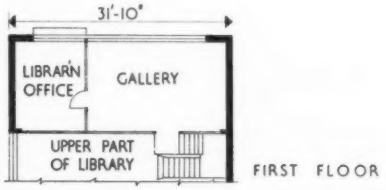
Site

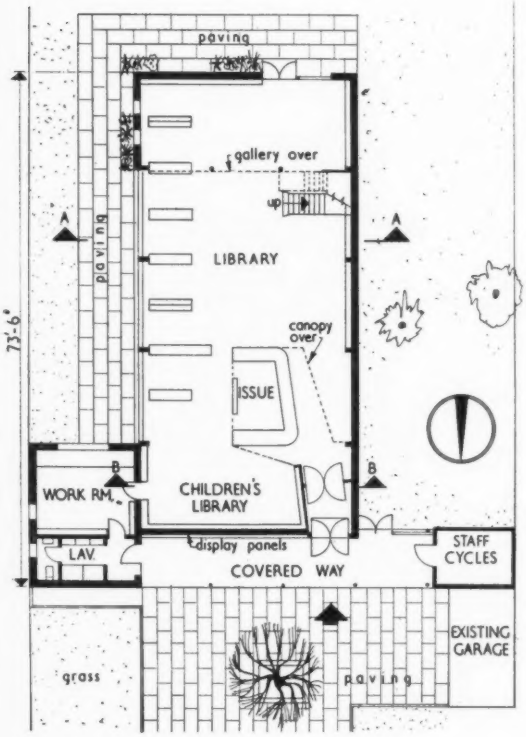
73'-6'

Gro



Site plan showing photographic viewpoints





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

analysis

CLIENT'S BRIEF : his stated requirements

To provide a public lending library with sections for adults, children and reference, with shelving for about 8,000 books. One assistant standing at the issue desk should be able to supervize all public parts of the library. Also needed were a staff work room, with cloakroom, and a librarian's office in a secluded but commanding position. The residential character of the district had to be considered in the design of the building.

SITE : topography, surroundings, access, planting

The area of the site is approximately ¼-acre, and is part of an existing and well-established garden belonging to the County Council. The ground is level, and there are lawns, shrubs and mature trees. The site is in a residential area close to the centre of the town, and is reached from Reynolds Road which runs along the north boundary.

PLAN : general appreciation

The building has been set well back from the road to preserve some existing trees and shrubs, and to provide a paved forecourt open to the road. There is a canopy running across the full width of the front of the building, over exterior display cases, the public entrance, and a separate entrance for the staff. The ceiling of the draught lobby of the public entrance is carried into the main volume of the building to form a canopy over the issue desk, which separates the children's and adult's sections. There is a gallery at the south end of the building for the reference section and the librarian's office, with a glazed screen for ease of supervision. The workroom and staff cloakroom are housed in a small separate block at the north-east corner of the main building. The work-bench and card index drawers in this workroom will be illustrated as a Working Detail in a later issue of the JOURNAL. There are terraces for public use on the east and south sides of the building, linking the interior with the existing garden.

MAIN CONSTRUCTION : general appreciation

The pitched roof is carried on timber portal frames of patent box plywood construction. Part of the external walls are of loadbearing brickwork construction, carrying the gallery and acting as wind bracing to the portal frames. The insulated copper roofing is carried on conventional roof purlins and joists. The eaves and gable ends are partly carried on the timber frames of the windows.

cost per sq. ft.	s	d
preliminaries and insurances	1	1½
contingencies	3	4

STRUCTURAL ELEMENTS

Work below ground floor level — 5 0½

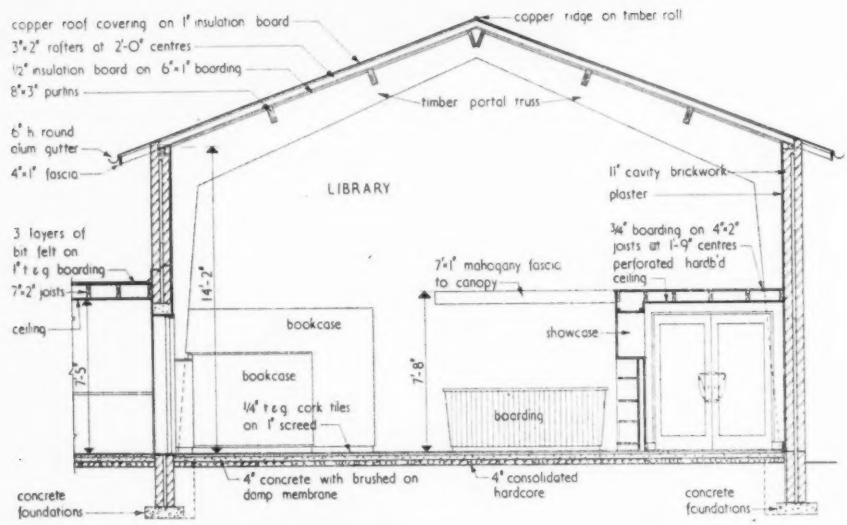
Load bearing walls: brickwork commons on strip concrete (1 : 3 : 6), and 3 courses blue bricks at ground level.
Window wall, east side: toe beam, concrete ; reason: very little load.

External walls and facings — 7 1½

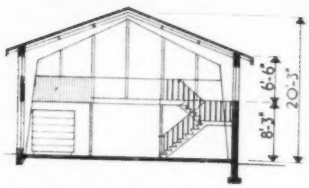
Flank walls and workroom block: local hand-made facing load bearing bricks, flush pointed, with cavity and inner leaf of flettons.
South wall: horizontal cedar boarding on felt, battens and 9-in. flettons: natural finish.
Spandrels between windows on east side: vertical boarding, West African mahogany; varnished.

$$\frac{\text{solid wall}}{\text{floor area}} = \frac{0{\cdot}68}{1}$$

building illustrated

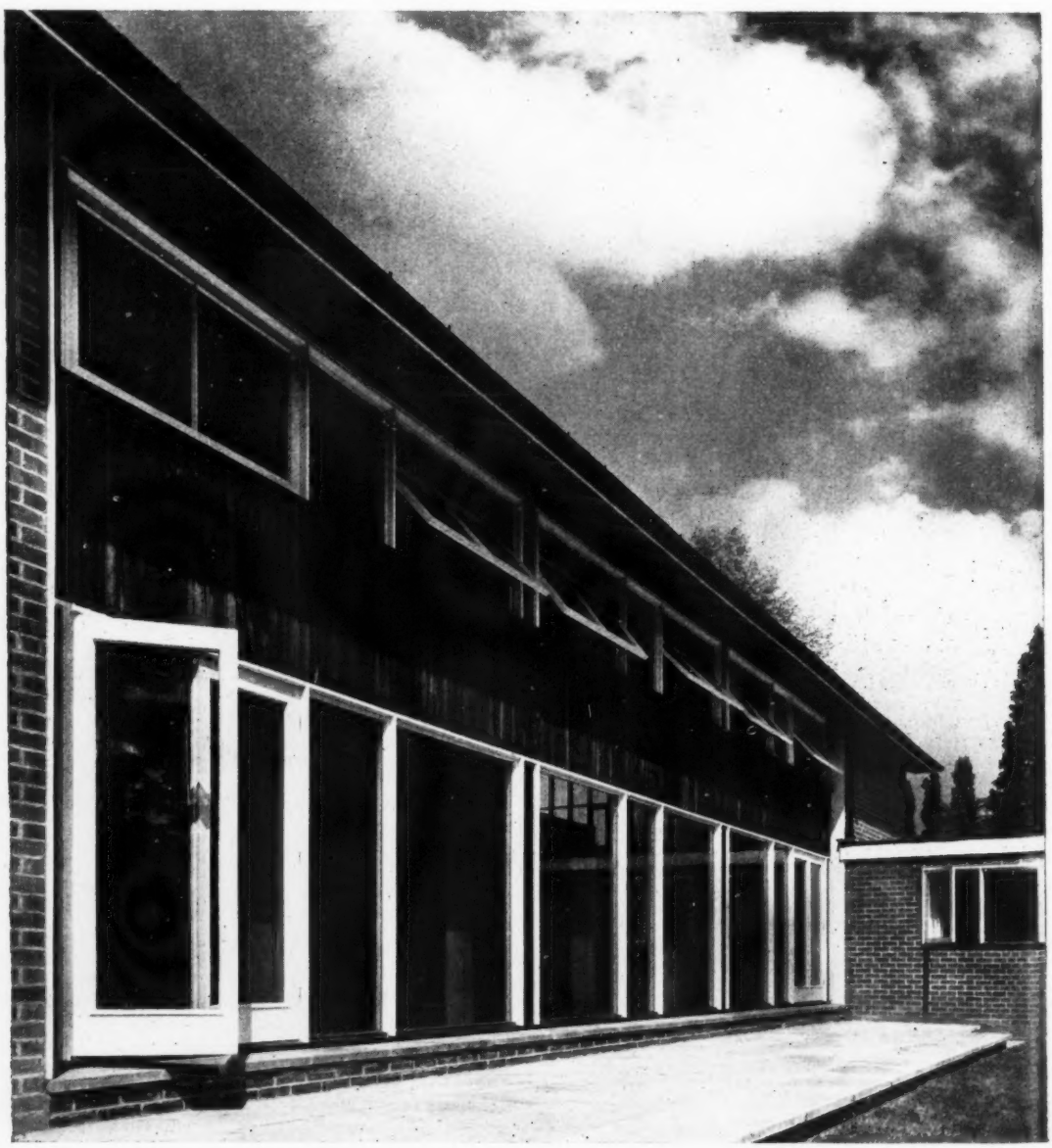


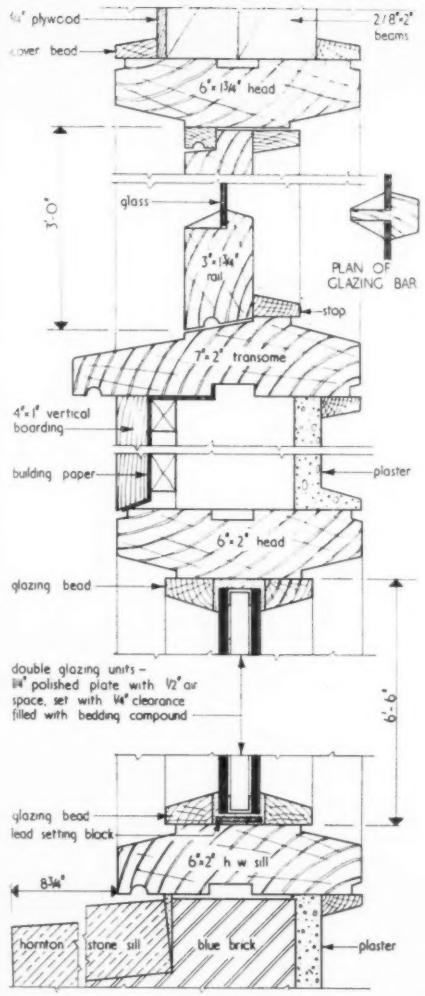
Section B-B
Scale : ⅛" = 1'0"



Section A-A [Scale: ⅛" = 1' 0"]

Below (viewpoint 6): the windows on the east side overlook the garden and a terraces for public use in fine weather. In order to reduce heat losses, double glazing has been used for these windows up to door-head height.





Typical section, glazing to east elevation [Scale: 3" = 1' 0"]

The terrace runs round on to the south side of the building (viewpoint 7) which is faced externally mainly with horizontal cedar boarding, fixed to battens on 9-in. brickwork backing. A flower box projects from the boarding just below the sill of the librarian's office window.

analysis

Frame or load bearing element — s 2 d 4

Prefabricated timber portal frames spanning library; glued softwood faced with ply, beam spans 30 ft. 6 in., column grid 13 ft.: reason: economical, erection simple and quick (4 arches erected in 5 hours).

Upper floor construction — 1 4½

13-ft. bay at south end of building for reference gallery and office: two 3-in. × 4-in. steel columns with two 7-in. × 4-in. r.s.j.'s supporting 7-in. × 2-in. timber joists and 1-in. tongued and grooved boarding covered with 4·5-mm. linoleum.

Staircase — 11½

Softwood treads with cork surface, painted and wax polished, mahogany handrail on m.s. balustrade: width, 3 ft. 5 in., total rise 8 ft. 3 in.

Roof construction — 10 3

Main pitched roof (library): 3-in. × 2-in. joists on 8-in. × 3-in. purlins carrying proprietary roofing of 30 s.w.g. copper sheeting on insulation board.
Flat roofs (workroom, etc.): 7-in. × 2-in. joists, tongued and grooved boarding, and ½-in. insulation 3 layer mineral felt covered with white spar.
Areas: pitched, 2,516 sq. ft., flat, 720 sq. ft.

Windows — 4 7¾

Throughout: softwood frames and horizontal centrally pivoted opening lights, painted, with iroko sills wax polished.
Stone sills generally externally, but 30 s.w.g. copper sheet sills to small windows.

$$\frac{\text{window area}}{\text{floor area}} = \frac{0{\cdot}323}{1}$$

External doors — 2 1½

External entrance doors: West African mahogany with clear varnish finish.
French doors east side: softwood, painted.

$$\frac{\text{external door area}}{\text{floor area}} = \frac{0{\cdot}05}{1}$$

Glazing — 2 8½

Generally: clear sheet and polished plate, Georgian wired as necessary for safety reasons.
Gable window at north end of library: double glazed with vertically ribbed glass.
Double glazing with glass edge seal used for glazed entrance doors, and east window up to 7 ft. above floor, to help reduce load on electrical heating.

PARTITIONING

Internal partitions — 8

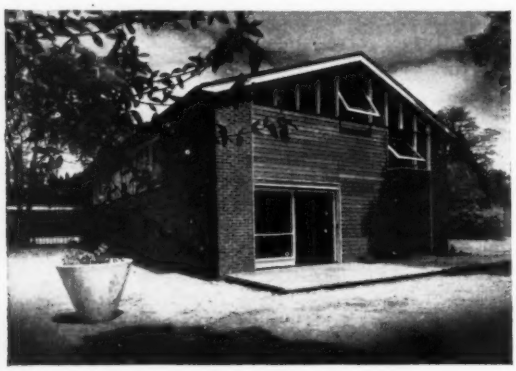
Division between office and reference section: Cellular, faced with plaster board and wallpaper, for lightness and thinness.
Gallery front: 7-in. × 2-in. timber frame painted, glazed plate glass for visibility.

Internal doors — 8½

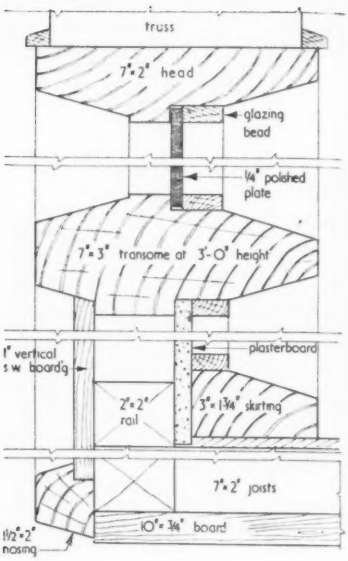
Generally: 1⅜-in. flush doors, hardwood lipped, painted.
Draught lobby: Mahogany, fully glazed, wax polished.
5 single doors and 1 double.

building illustrated

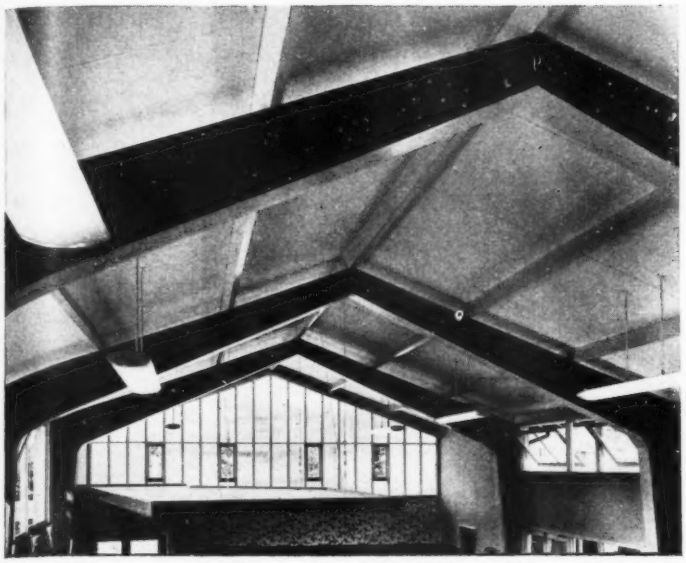
Sufficient space has been left at the south end of the site (viewpoint 8, below) for future extension. Turfing and seeding have been carried out to extend the existing lawn round the three sides of the building. There is a low wrought iron railing on the west side of the main block to divide the garden from the forecourt. This railing extends under the canopy to a small brick store for staff bicycles and other storage.



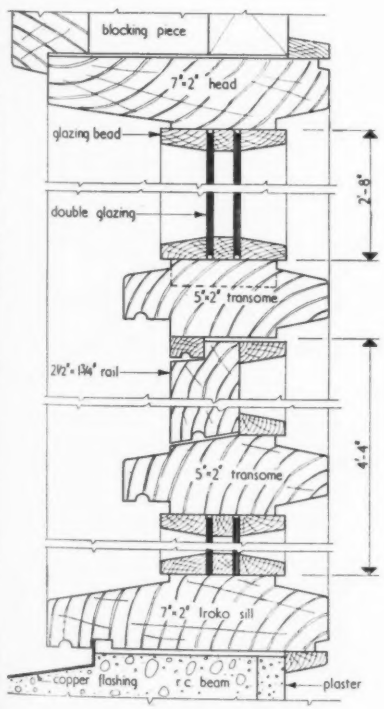
The interior of the library, seen from the entrance doors (below), has been treated as a single structural volume. Such a design arises from the conventional requirement that it should be possible for one member of the staff to supervise all parts of the library whilst standing at the issue desk.



Section, glazed screen to librarians' office
[Scale: 3" = 1' 0"]



The main roof is supported on a series of timber portal frames of stressed skin box plywood construction. The side faces of the frames have been painted dark grey, and the edges white. They carry exposed timber purlins, between which insulation board has been fixed directly to the timber rafters to form the ceiling lining. At the gable ends the roof is carried by the timber frames of the north and south clerestory windows, the one at the north end having fixed lights which are double glazed with vertically ribbed glass, to reduce heat losses.



Section, clerestory glazing north elevation
[Scale: 3" = 1' 0"]

analysis

	s	d
Ironmongery to internal doors		4
Generally: 3 lever mortice locks, lever handles, double steel washered barrel brass butts, with B.M.A. finish.		

FINISHINGS

	Cost per sq. yd. s	d	s	d
Floor finishes			4	9¾
Verandah and lobby: 2-in. York stone, 40 sq. yd.	6	9		
Library and staircase: ¼-in. cork tile, wax polished, 205 sq. yd.	39	2		
Gallery: 4·5-mm. linoleum on tongued and grooved boarding, wax polished, 42 sq. yd.	26	9		
Workroom: 4·5-mm. linoleum on bituminous painted concrete screed, polished, 29 sq. yd.	27	3		
Cycle store: granolithic, 15 sq. yd.	6	2		
Wall finishes				7
Generally: 2 coat plaster, ⅝-in thick, emulsion painted.				
One display panel in one bay and west wall of library: medium hardboard on battens, with felt finish for display purposes.				
Ceiling finishes			1	3
Generally: ½-in. white paper finished insulation board, oil-bound water paint.				
Verandah: ¼-in. asbestos cement sheeting, emulsion paint.				
Decorations			1	10½
Library walls: emulsion, B.S. 9.094.				
Ceilings: white distemper.				
Doors: gloss oil, B.S. 9.098 and 7.085 and terra cotta.				
Architraves and window frames: white gloss oil.				
Lobby and canopy soffit: flat oil, B.S. 7.086 (blue black).				
Workroom and office walls: emulsion, B.S. 3.035.				
Reasons: the colour scheme is conceived as forming a subdued background to the incidental bright pattern of book covers, displays and furniture. Contrast is created between white, light grey and dark grey, to define the elements of the structure.				

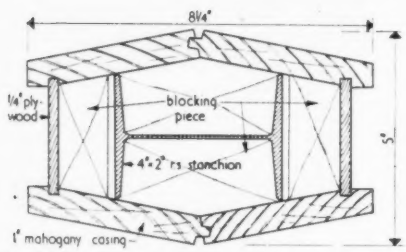
FITTINGS

	s	d
Other fittings	13	10¾
Bookshelves, issue desk, map desk, workroom bench, etc., designed by the architects in Japanese oak, African mahogany and English walnut; desk tops in linoleum with spray cellulose matt finish.		

SERVICES

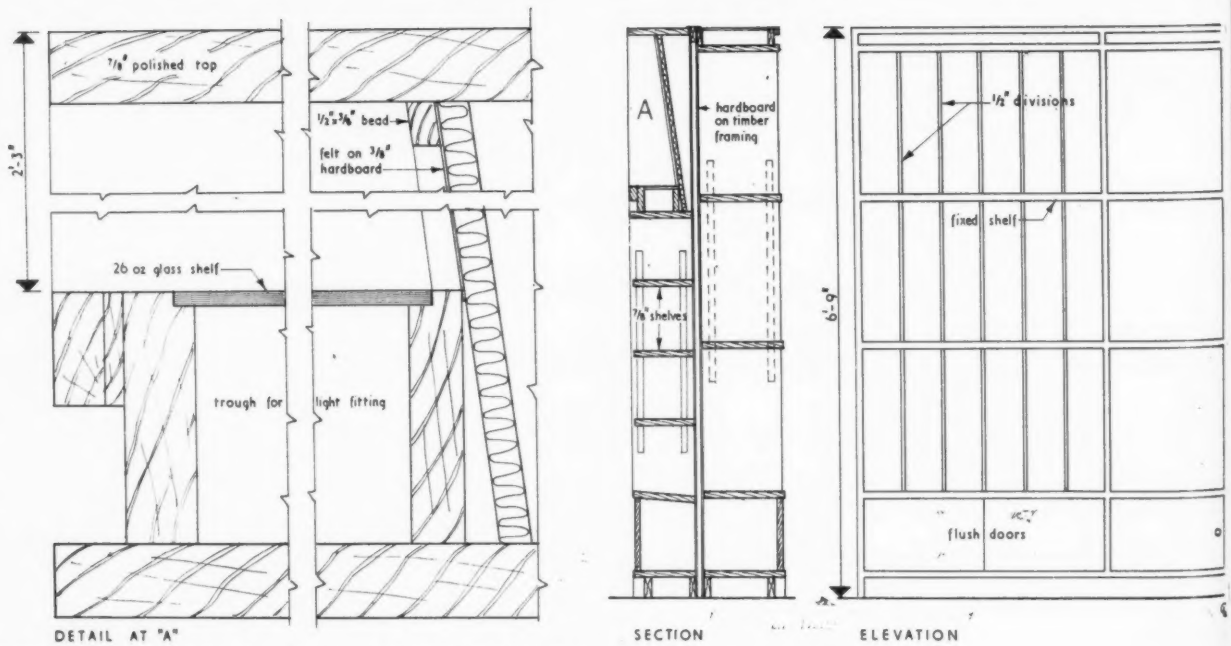
	s	d
Plumbing: external	1	0
Rain water gutters and down pipes at eaves and corners of building: 5-in. half round and 3-in. diameter cast aluminium, painted.		
2nd quality salt glazed stoneware, 4-in. diameter discharging into soakaways in garden.		
Plumbing internal: waste disposal		1
Staff lavatory: copper, painted.		

building illustrated



Plan, column casing under gallery
[Scale: 3" = 1' 0"]

The ceiling of the draught lobby at the main entrance has been projected out into the library to form a canopy over the issue desk. It is timber framed, and suspended from the roof purlins by tension wires, and is faced underneath with perforated hardboard so as to act as an acoustically absorbent plane directly over the principal noise centre of the library. Further steps have been taken to achieve the low noise level traditionally associated with libraries, by having a suitably absorbent ceiling, and by using cork tiles as the floor finish. In addition, the books themselves tend, of course, to be highly absorbent. Extreme right is part of the bookcase dividing the children's section from the adult's section.



Detail, section and half elevation of bookcase dividing off children's section [Scale: 6" and ½" = 1' 0"]

The issue desk, seen from the staircase to the gallery (above), has been designed by the architects, who were also responsible for the bookcases and certain other special equipment such as display cases and the map chest in the reference section. The desk is not only the focal point of the interior, but also forms the main element dividing the adult section from that for children beyond (below) on which side it has a counter at a lower level. This special children's section also has scaled-down bookshelves and furniture, and extends partly along the window wall on the east side of the building, so as to overlook the existing garden.

analysis

	s	d
Cold water installation Staff lavatory: ½-in. copper pipes with 10-gallon galvanized storage tank.		5
Sanitary fittings W.C., white glazed fireclay: Belfast sink, white glazed fireclay, 18-in. × 15-in. × 8-in.		1¼
Heating installation Electrically heated ground floor: patent MICC cable laid in 2-in. concrete screed; reason: no boilerhouse or caretaker required, and advantage of off peak tariff. Gallery: electric thermal storage units; reason: low capital cost. " U " values: 0·30 walls, 0·17 main roof 0·25 flat roofs	4	0¼
Hot water installation 1½ gal. electric storage sink heater in staff lavatory, used to keep installation all electric.		2
Drainage 4-in. salt glazed stoneware to main sewer in Reynolds Road.		8
Electrical installation Twin tube fluorescent light fittings generally in library, with tungsten under canopy and in offices, giving an average of 13 lumens per sq. ft. No. of fittings: 15 fluorescent, 11 internal tungsten and 4 external tungsten.	6	3½
Wiring and switching types Throughout: MICC cables concealed in walls and ceilings, flush BMA switches and socket outlets. Cost included in electrical installation.		
Power supply type 200 volt, 3 phase supply by local board to control switches and fuse boxes in workroom lobby.		
Paved areas Forecourt: 2-in. precast concrete paving slabs, granite aggregate on 6-in. concrete; reason: for vehicles. Terrace on east and south side: as above but on hardcore and ashes.	6	8
Total cost per sq. ft. floor area £12,782, / 3024 sq. ft. =	84	6½

SPECIAL ACOUSTICAL TREATMENT

Sound absorption
Under side of canopy over issue desk and lobby ceilings: perforated hardboard.
Main floor: ¼-in. cork tile.
Ceilings: ½-in. fibreboard.

TIME SCHEDULE

Drawings	*Tender date*	*Contract signed*
Sketch plan, January 5, 1955	October 10, 1955	March 6, 1956
Work commenced	*Work completed*	*Type of contract*
March 12, 1956	Building, December, 1956 Fittings, February 24, 1957	RIBA with quantities

building illustrated

The main adult section extends under the gallery at the south end of the building (above) forming a quiet reading area, also overlooking the garden outside. The gallery above is carried on a light steel frame and on the load-bearing exterior walls. On it is a small reference section (below) which is separated from the rest of the library by a fully glazed screen. Off the reference section, and also overlooking the library is a small librarian's office, which has been placed on this level to be reasonably secluded, but at the same time to have a commanding view of the main interior. The cellular partition between the office and the reference section has plasterboard facing which has been skim coated and wallpapered. Apart from this, and the wallpaper on the north wall by the children's section, the colouring is very restrained. It is mostly white, with light grey walls, and contrast is introduced by the picking out of structural elements, such as the portal frames, in dark grey. The scheme thus relies on the colours of the natural materials, such as the cork floor and the hardwood fittings, and upon the bright and lively pattern created by the display panels and the books themselves. The clients were able to obtain a reduced night tariff rate for electricity, and by providing electrical floor panel heating, they have kept the interior free from obstructions.

analysis

COST SUMMARY

Total floor area	3,024 sq. ft.
Price of work above ground floor level	£11,016
Price of foundations	£759
Price of external works	£1,007
Gross total price	£12,782
Price per sq. ft. of floor area	£4 4s. 6½d.

Prices based on tender figures

COST COMMENTS

This is the first cost analysis of a library to be published in this series. The overall cost amounted to 84s. 6½d. per sq. ft. The following points are noteworthy:

Roofing: This element bears an unusually high proportion of the cost of the structure (10s. 3d. out of 38s. 2d.), whereas the frame which carries the roof amounts to only 2s. 4d. per sq. ft. It is possibly debatable whether the roof as a purely functional element deserves the high proportion of the building cost in relation to other types of construction that might have been employed.

Fittings: As might be expected in a library, the cost of furniture and fittings at 13s. 10¾d. is relatively high.

Heating: The electrically heated ground floor appears economical to instal. Floor space is saved by the omission of boiler and fuel store, no special access is required for fuel lorries and no boiler-man is needed. No doubt the comparison made by the architect between such savings on capital outlay and estimated running expenditure must depend on the tariffs offered by the Electricity Board.

Electrical installation: The cost of 6s. 3½d. per sq. ft. reflects the high standard of illumination and type of fittings which have been provided.

Floor area: It would appear from the quantity factors given in the analysis that the area beneath the front canopy has been included in the overall floor area for cost purposes. Although this is common practice those intending to use this scheme as a basis for cost planning should remember that it has the effect of deflating the overall cost per sq. ft. of such individual elements as external walls, furniture and fittings, heating, electrics, etc., which will not be strictly related to this external terrace.

SITE ORGANIZATION

Site labour and equipment: General foreman with labour gang. Sequence of operations as follows: Site cleared, sheds and offices erected, job set out, foundations and floor slab laid. Portal frames erected by mobile crane in use for only 5 hours. Walls built, purlins fixed, windows and door frames fixed, copper roofing fixed. Finishing trades followed on.

Sub-letting: Site clearance, including removing certain trees, glazing and handrail to stairs.

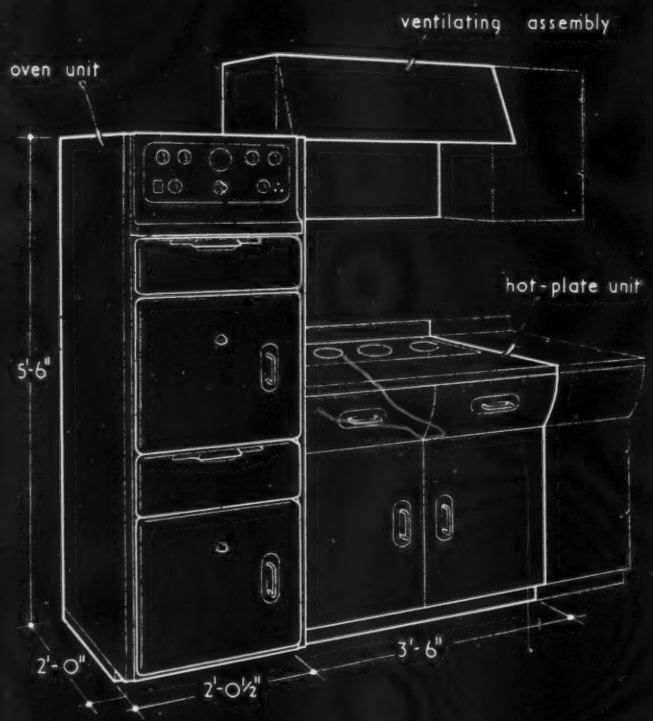
Job management: Job managed by contract manager visiting the site approximately every other day, and forming liaison with the office and joinery department.

CONTRAC ORS

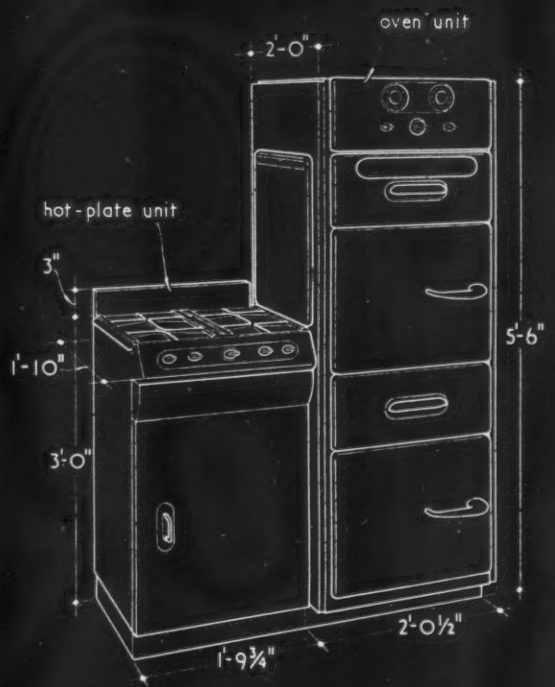
Clerk of works, P. Atkins. *General contractors:* R. Harding (Cookham) Ltd. *Sub-contractors—Bricks:* W. T. Lamb & Sons Ltd. *Special roofing:* Broderick Insulated Structures Ltd. *Partitions:* British Plaster Board Ltd. *Patent glazing:* Pilkington Bros. Ltd. *Structural frame:* F. & H. Sutcliffe Ltd. *Door furniture:* Parker, Winder & Achurch Ltd. and Gibbons. *Sanitary fittings:* Adamsez Ltd. *Wallpaper* John Line & Son Ltd and Coles *Sun blinds:* J.. Avery & Co. Ltd. *Paint:* Thos. Parsons & Sons Ltd. *Clocks:* Gent & Co. Ltd.

SPECIALISED FITTINGS | KITCHEN UNITS

The Architects' Journal Library of Information Sheets 629. Editor: Cotterell Butler, A.R.I.B.A.

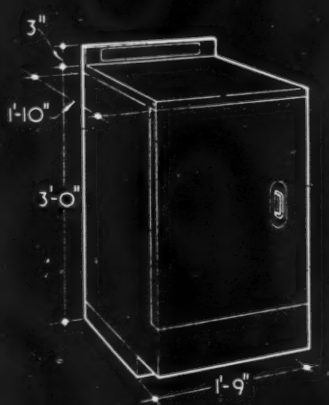


ER.94 REVO ELECTRIC COOKER, SHOWING VENT-AXIA VENTILATING ASSEMBLY.

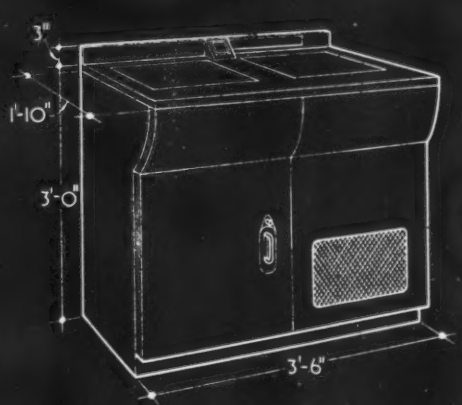


ER.95 FLAVEL GAS COOKER.

ER.92 REFRIGERATOR.



ER.93 REFRIGERATOR.



ER.50 DUAL FREEZE REFRIGERATOR.

ENGLISH ROSE KITCHEN APPLIANCES. Manufacturer : C.S.A. Industries Ltd.

43.E15 ·ENGLISH ROSE· KITCHEN APPLIANCES

This Sheet describes the English Rose range of kitchen appliances, designed to match the kitchen furnishings described on Sheet 43.E14. Reference to this Sheet should be made for notes on the design and construction of the range.

ER.94 ·Revo· Electric Cooker

This consists of large oven unit, combined with hot-plate equipment set in the stainless steel top of a standard English Rose V20 floor cabinet, which may be located to the left or right of the oven unit.

Hot-plate: 4 boiling plates (8 in., 6¼ in. solid and 8 in., 6¼ in. semi-radiant), in vitreous-enamelled surround, with Simmerstat control.

Oven unit: The oven is at waist level and its internal dimensions are 15¾ in. wide by 13¾ in. deep by 14 in. high. There are two grid shelves and meat tin. It has Revostat automatic temperature control and cooking timer. The door is hinged on the left. There is a grill at eye level with 3-heat switch control and a heated drawer and unheated storage cupboard beneath the oven. Switches for hot plates and oven unit are grouped on a panel at eye level on the oven unit.

Total loading: 12·3 kW.

Voltage: AC only for 200/210, 220, 230/240 and 250 volts. (Single, two- or three-phase as required.)

Installation: A 60-amp. switchfuse is fitted in the lower compartment.

ER.95 ·Flavel· Gas Cooker

The hot-plate unit and oven unit are individually connected to the gas supply so that the hot plate unit can be on the left or right of the oven unit, or they may be situated separately if this is more convenient than placing them side by side.

Hotplate unit: 4 boiling plates in vitreous-enamelled surround with pilot control tap providing automatic lighting to all burners. There is a storage cupboard 21 in. wide by 17 in. deep by 22 in. high with a deep spill-tray beneath the hotplate.

Oven-unit: The oven is at waist level and its internal dimensions are 18 in. wide by 17 in. deep by 16 in. high. It has two grid shelves and a meat tin. It has automatic oven-timing control and a patented "warming" control to keep oven temperature below 200° F. when required. The oven door is hinged on the left. There is a grill at eye level with fall-front door having a glass observation panel. There is also a heated drawer and unheated storage cupboard beneath the oven.

Gas supply: ½-in. B.S.P. connections are situated at the rear of each unit readily accessible through the storage cupboard.

Electrical supply: A 5-amp. socket outlet must be provided: where the units are installed separately this provision must be made for each.

Vent-Axia Fume Extraction Assembly

This is available in four sizes as follows:—

1 ft. 9 in. wide by 2 ft. 0 in. high (for use with hot plate unit of ER.95 gas cooker).

2 ft. 0½ in. wide by 1 ft. 0 in. high (for use with oven unit of ER.95 gas cooker).

3 ft. 10½ in. wide by 1 ft. 0 in. high (for use with the two units of the ER.95 gas cooker installed side by side).

3 ft. 6 in. wide by 2 ft. 0 in. high (for use with ER.94 electric cooker).

Depth from front to back in each case is 1 ft. 2 in. overall, receding to 1 ft. 0 in.

Voltage: AC for 200/220, 230/250 volts.

ER.92 Refrigerator

The internal dimensions of the refrigerator are 15 in. wide by 15 in. deep by 41 in. high and capacity 5½ cu. ft. The lining is of one-piece iron construction, vitreous-enamelled. There are four wire shelves; the door may be right- or left-handed. The insulation is 3-in. sealed glass fibre. Automatic control is by adjustable thermostat.

Loading: 2·5 amp.

Voltage: Standard 200/250 volts, 50 cycle AC. May be supplied for other voltages and frequencies.

Installation: 5, 13 or 15 amp. 3-pin plug may be fitted.

ER.93 Refrigerator

The internal dimensions are 17 in. wide by 17¾ in. deep by 21⅜ in. high and capacity 3½ cu. ft. The lining is as ER.92. There are two wire shelves; the door may be right- or left-handed. The insulation is 2-in. glass fibre. Automatic control is by adjustable thermostat.

Loading: 2 amp.

Voltage: Standard 200/250 volts, 50 cycle AC.

Installation: 5, 13 or 15 amp. 3-pin plug may be fitted.

ER.52 ·Dual Freeze· Refrigerator

This refrigerator is for 5½ cu. ft. storage approximately at normal refrigeration temperatures and also for 30 lb. of frozen foods at zero temperature. The insulation is hermetically-sealed cork.

Loading: 3 amp.

Voltage: 200/250 volts, 50 cycle AC.

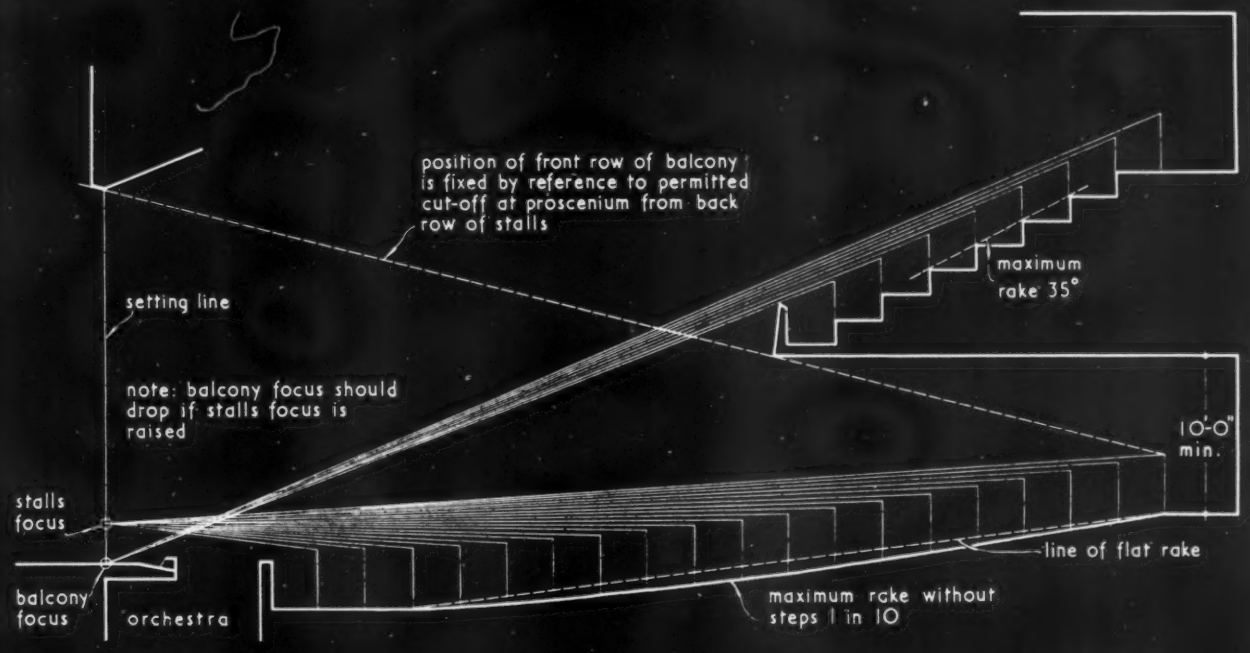
Installation: 13 or 15 amp. 3-pin plug may be fitted. When ordering, the side, or sides, of the refrigerator to be joined to other units should be stated.

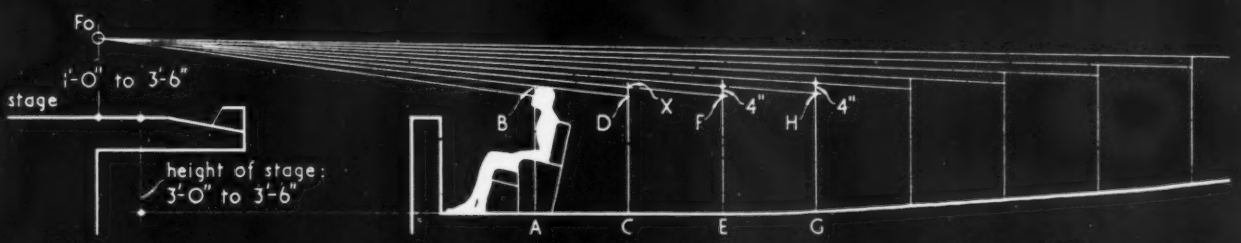
Finish

All units are stove-enamelled white, cream or sea green. Working tops may be in highly-polished stainless steel or Formica laminated plastic. Recessed plinths are in stainless steel.

Compiled from information supplied by:

C.S.A. Industries, Ltd.
Address : Warwick, England.
Telephone : Warwick 500.
Telegrams : Conscrew, Warwick.





the method of setting out, as demonstrated by the lower diagram and the following notes, is based on the assumption of 3'-8" as the height from the floor to the spectator's eye level and 4" as the distance from the eye to the top of the head.

method of setting out:

draw level of stage and front row of seats (stage: 3'-0" to 3'-6" above level of latter)

draw perpendiculars to represent seat rows

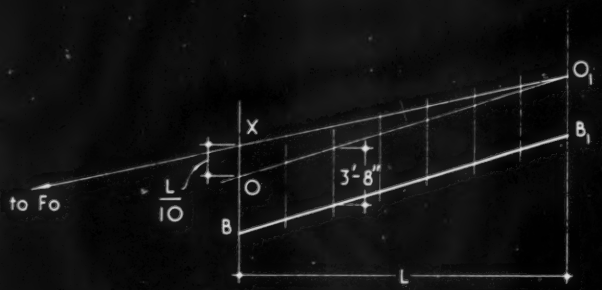
fix point Fo on setting line (1'-0" to 3'-0" above stage)

mark off AB = 4'-0" and draw FoD through B cutting CD at D

mark off DX = 4" and draw FoF through X cutting EF at F. repeat process for each row

the points thus found represent the eye level for each row. by measuring 3'-8" down on the perpendicular from each of these, the points obtained mark the curve of the floor

LACHEZ'S SYSTEM.



SIMPLIFIED METHOD FOR BALCONIES.

find eye level O of first row (as described above)

draw L = depth of balcony front to back

fix point X vertically above O so that $OX = \frac{L}{10}$

draw FoX and produce to cut back line of balcony

draw OO_1. the floor line BB_1 will be parallel to OO_1 at a vertical distance of 3'-8" below it

THEATRE SEATING: DESIGN OF RAKED SEATING.

4.L6 THEATRE SEATING: DESIGN OF RAKED SEATING

This Sheet covers the chief considerations in designing the section through an auditorium to ensure good vision from all seats. It describes a system for determining the rake of seats and shows how the choice of plan affects the rake. Sheet 4.L3 gives key dimensions, sight-lines and byelaw considerations for theatre seating.

Theory of Rake

Although in practice the stalls seating is often arranged on a flat inclined plane, the theoretical rake takes the form of a curve if each person is to be enabled to see an established point on the stage over the head of the person in front. This curve is rotated about the centre from which the lines of the seating rows are struck, to produce a floor that is shaped like a dish. This theory was first expounded by Lachez in 1879 (*Acoustiques et Optiques des Salles de Réunions*) and the upper drawings on the face of the Sheet show the method of setting out the curve of the rake and its application to an auditorium.

Balconies: The farther it is from the stage the flatter the curve of the rake becomes and for balconies, therefore, it can be considered as a flat plane. The drawing on the lower face of the Sheet shows how the method may thus be applied in a simplified form for balconies.

Effect of Plan on Rake

The present-day trend towards the "horseshoe" plan for theatre seating creates problems for the architect. Where the rows of seating are semi-circular, or fan-shaped, all the seats in one row are equidistant from a focal point on the stage and therefore, from the same level vertically, can clear the seat in the row in front. With the horseshoe plan, however, the side seats are nearer to the focal point than the centre ones: it is therefore necessary for a side seat to be at a higher level to clear the seat in front than a centre seat in the same row. This means that, in addition to the front to back rake of the seating blocks, there must be a rake in the curve of any one row. The nearer the seats are situated to the proscenium, the greater this rake becomes, so that in practice it is not possible to take more than one row right round the sides of the auditorium.

Determining Rake by Calculation

Various methods have been evolved for determining the height at which spectators should be placed relative to a focal point of vision or a source of sound. The method of E. Petzold is given below as an example.

(*Architectural Acoustics* by V. O. Knudsen (John Wiley & Sons, Inc., New York, 1932)). The calculations are based on the acoustic requirements that each person shall be raised 12 centimetres (4 in. in English practice) in relation to the person in front, and Petzold submits the following formula:—

$$h_n = h_{n1} + h - \frac{r\,(H - h_{n1})}{S + (n - 1)r}$$

where H = elevation of focus (or source); r = horizontal distance between rows of seats; h = distance which each person is to be raised; S = horizontal distance from source to last row which does not require to be raised ($S = \frac{r\,H + r}{h}$); h_n = the nth row behind the row which is distance S from the source.

The formula is useful in checking heights in large auditoria where the graphic system would not be sufficiently accurate on a small-scale drawing.

Further Information

Detailed considerations of the design of horseshoe auditoria are given in *Éléments et Théories de l'Architecture*, Tome III, *Éléments des Theâtres*, by T. Guadet.

working detail

STAIRCASE: OFFICES AT UXBRIDGE, MIDDLESEX

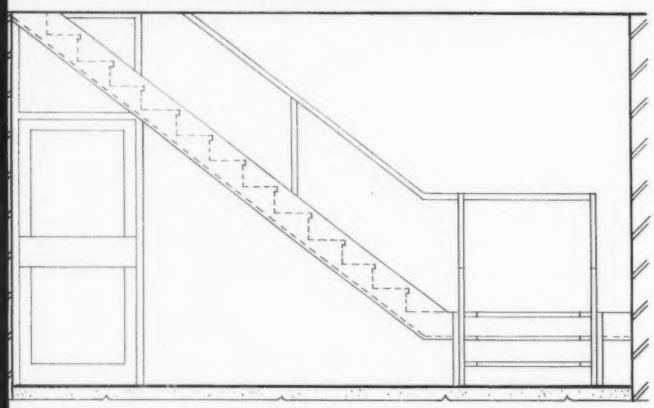
Leonard Manasseh and Partners, architects

This is a small dog-leg stair which has been made to appear more spacious by the use of a photomural and a mirror—for the apparent "return flight" opposite is only a mirror image. The most interesting point of detail is the balustrade with its deceptively simple planar relationships. Note, for instance, that the vertical faces of the mahogany rail are tangential to the cross-section bronze balusters.

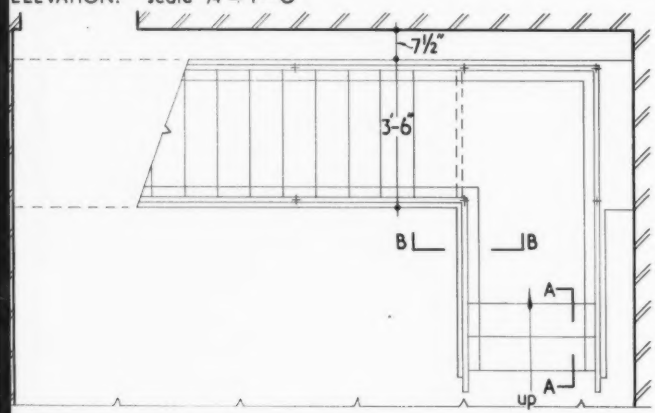
working detail

STAIRCASE: OFFICES AT UXBRIDGE, MIDDLESEX

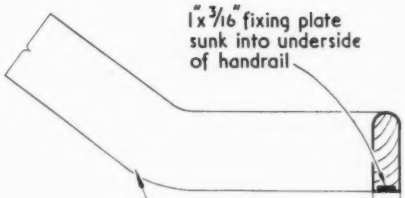
Leonard Manasseh and Partners, architects

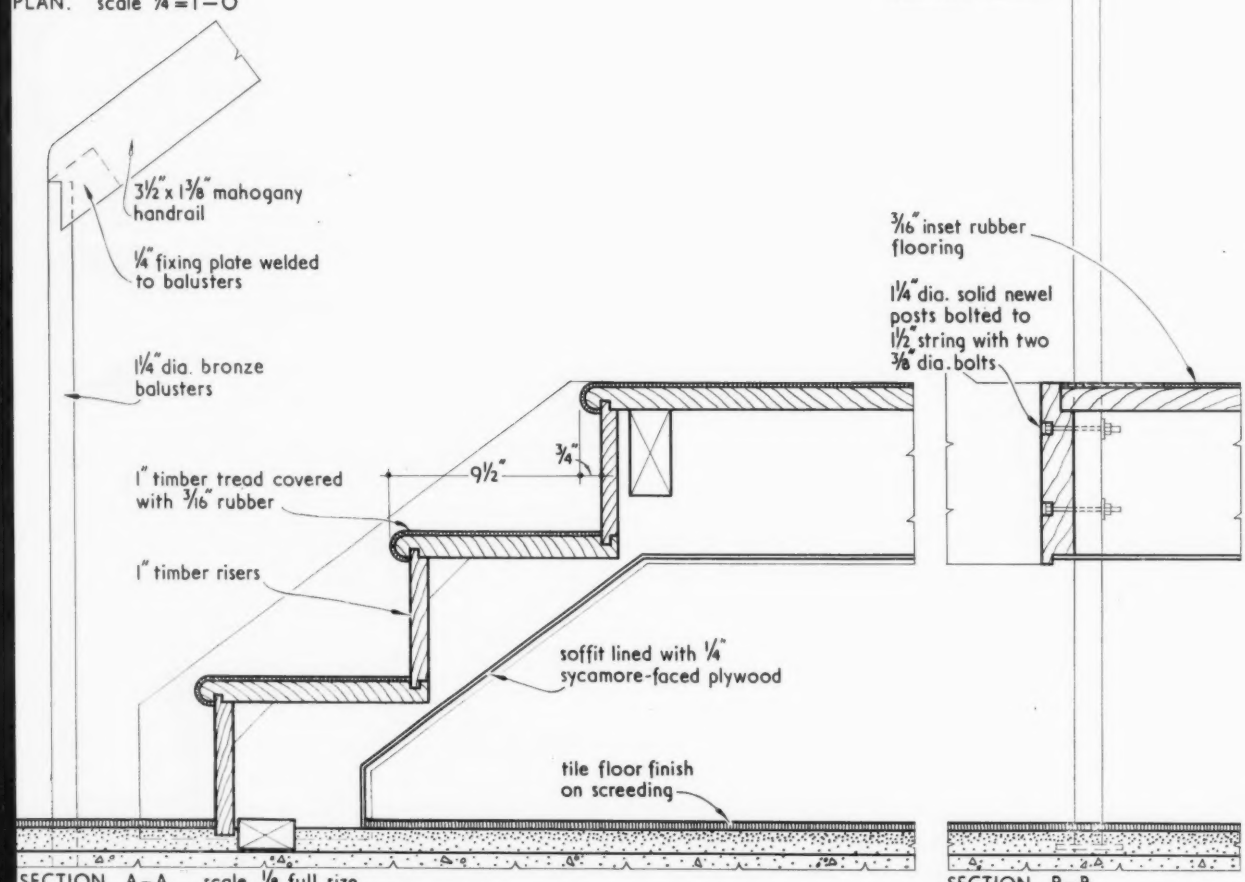


ELEVATION. scale 1/4" = 1'-0"



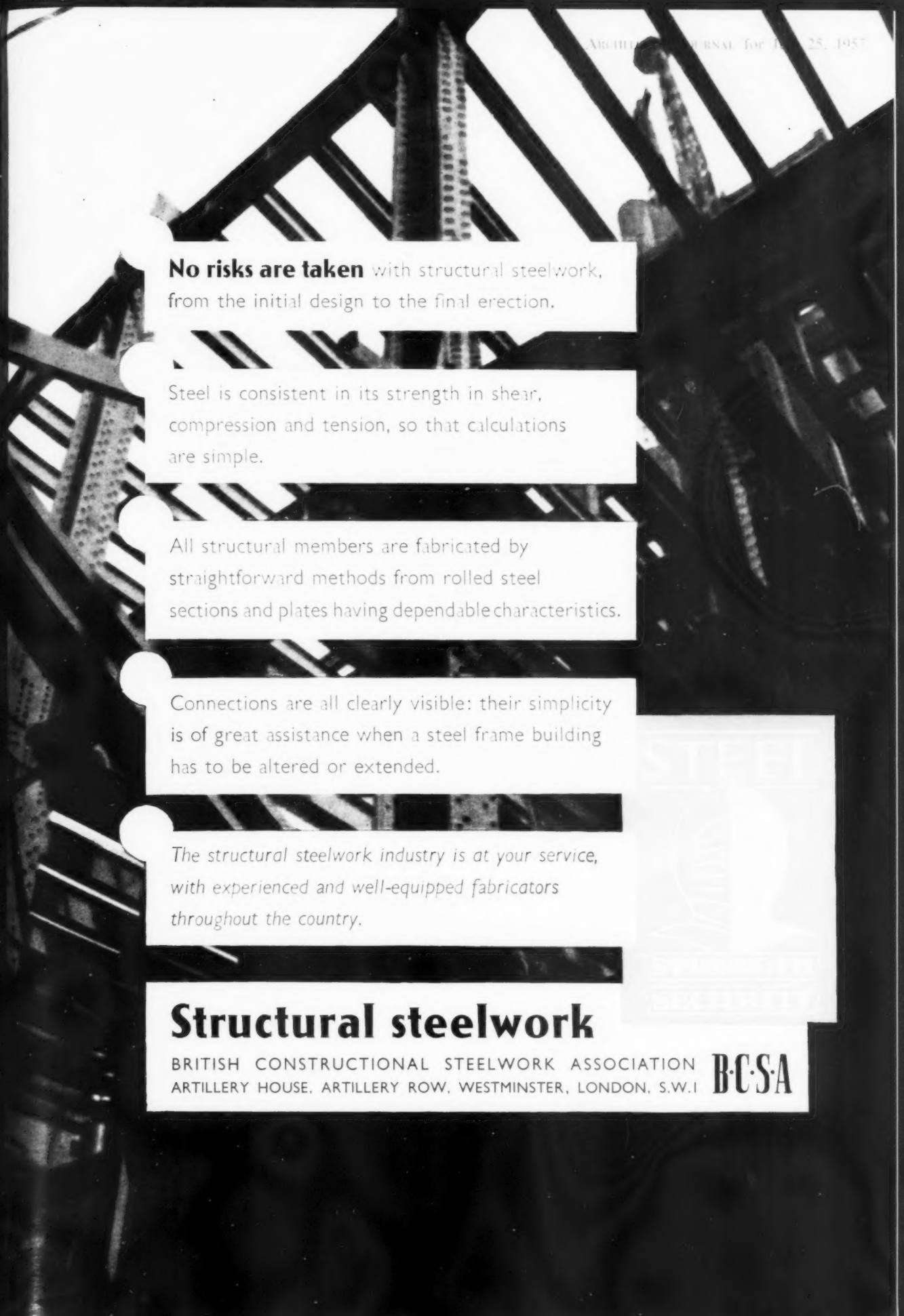
PLAN. scale 1/4" = 1'-0"





SECTION A-A. scale ⅛ full size

SECTION B-B.



No risks are taken with structural steelwork, from the initial design to the final erection.

Steel is consistent in its strength in shear, compression and tension, so that calculations are simple.

All structural members are fabricated by straightforward methods from rolled steel sections and plates having dependable characteristics.

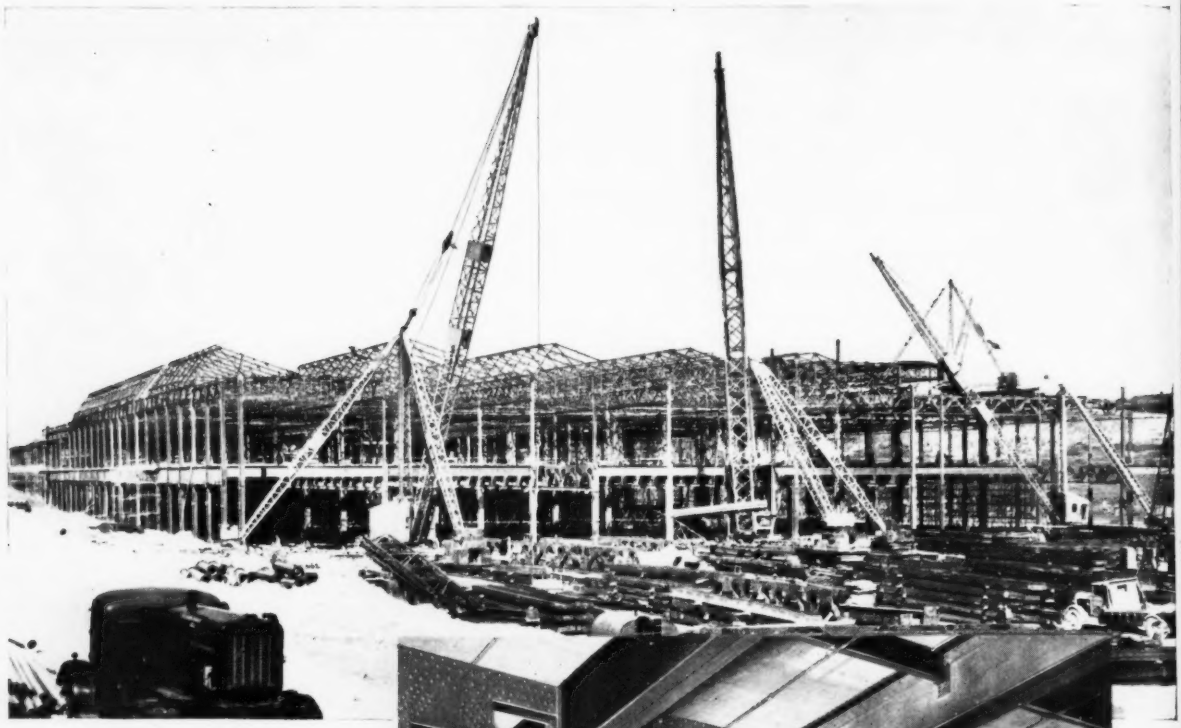
Connections are all clearly visible: their simplicity is of great assistance when a steel frame building has to be altered or extended.

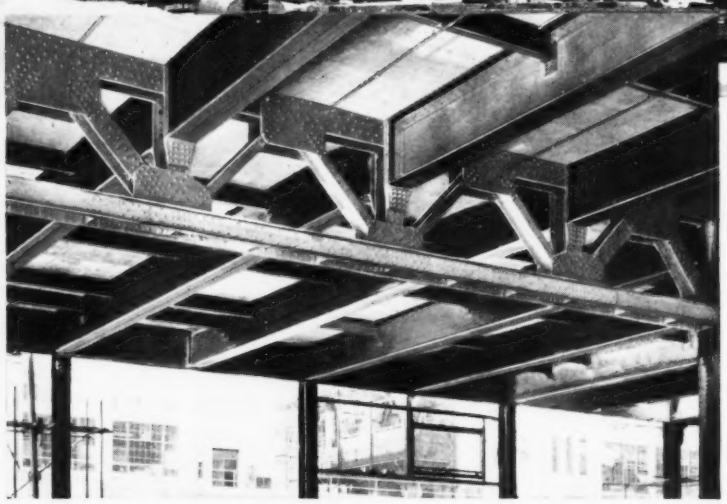
The structural steelwork industry is at your service, with experienced and well-equipped fabricators throughout the country.

Structural steelwork

BRITISH CONSTRUCTIONAL STEELWORK ASSOCIATION
ARTILLERY HOUSE, ARTILLERY ROW, WESTMINSTER, LONDON, S.W.1

B·C·S·A





VAUXHALL MOTORS LTD. LUTON

Extension to Factory

Architects:
Howard Souster & Fairbairn
Consulting Engineers:
G. A. Dodd & Partners
Contractors:
Sir Robert McAlpine & Sons Ltd.

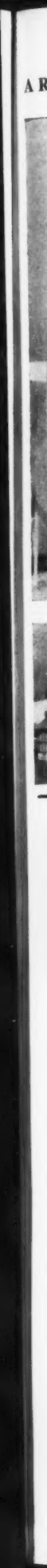
Approximate total weight 20,000 tons, of which over 17,000 tons were erected in twelve months. The lower illustration shows one of the 168 main girders supporting the assembly floor.

STEELWORK BY

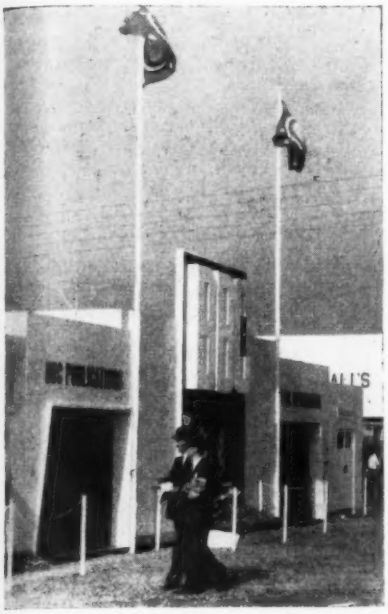
REDPATH BROWN

STEEL STRENGTH SECURITY

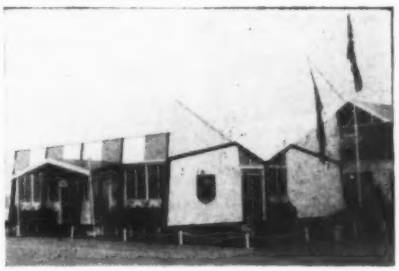
LONDON OFFICE: 3 DUNCANNON STREET, LONDON, W.C.2



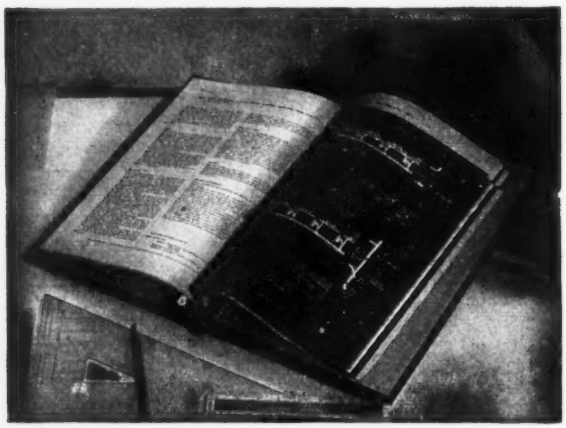
ARCHAIC AND CONTEMPORARY STANDS AT NORWICH SHOW



There were a number of well-designed stands—including some by local architects—at the Royal Agricultural Show, which was held recently in Norwich. But there were also one or two horrors—among them the BBC's stand (left). Local architects were surprised at the poor standard of this design, because the BBC has acquired a good reputation in Norwich by restoring the magnificent Georgian house on All Saints' Green, built by Thomas Ivory. Local architects also felt it was time that the semi-permanent, bathing-hut-style Royal Pavilion (below left) was removed, though at least this building has more character than the BBC's feeble effort. Two of the pavilions by Norwich architects are shown on the right. The top one—the Lord Mayor's Pavilion, which was much more festive than the picture shows—was designed by David Percival, the City Architect. The other was designed by



J. Fletcher Watson for "The Church," which somehow found its way into the Show.



THE LIBRARY OF INFORMATION SHEETS COMPLETE TO JUNE, 1957

REPRINTS

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

Individual Sheets may be ordered (3d. each). Readers requiring sets or individual Sheets should fill in the form below. Sets in classified order (without binders) are available as follows, and the publishers will quote for sets not detailed below.

Oct., 1947-June, 1957 ... ... £5 2s. 6d.
(Postage 2s. 6d.)

ORDER FORM

Please send me .....

Name .....
(Block letters)

Address .....

.....

Announcements

Alan Thompson, A.R.I.B.A., of Queens Chambers, 6-7, Victoria Parade, Torquay, South Devon, will be pleased to receive trade catalogues, etc.

Kenneth W. O'Connor, B.Arch., A.R.I.B.A., is now in practice under the partnership Rossen and O'Connor, at 612, Bryanston House, Gordon Avenue, Salisbury, S. Rhodesia.

Correction

In the advertisement for Fural Ltd. (AJ, July 11), 'Maintenance fee' should have read 'Maintenance *Free*.'

Contractors

The contractors list we published for the flats, at Minchery Farm Estate, Oxford, in the JOURNAL for July 11 was incorrect. The correct list is as follows: *Quantity surveyors*, Henry Cooper & Sons, Oxford. *General Contractors*, John Laing & Son Limited, London. *Sub-contractors—Metal windows*, Crittall Manufacturing Co. Ltd.; *electrical installation*, Holliday, Hall & Stinson Ltd.; *gas carcassing*, Oxford and District Gas Undertaking; *plumbing*, J. H. Shouksmith & Sons Ltd.; *plastering*, Pollock Bros. Ltd.; *painting*, Gee Brown Ltd.; *paints and distempers, etc.*, E. Wood Ltd., Leyland Paint and Varnish Co. Ltd., and Mander Brothers Ltd.; *"Vector" and "Newton" grates and surrounds*, P. Blockley; *sanitary goods*, Wilson & Wylie Ltd.; *ironmongery*, Childs Constantine Ltd.; *balustrading, etc.*, Isaac Robson Ltd.; *exposed aggregate slabs*, Cowley Concrete Co. Ltd.; *"Winslot" concrete screen fencing*, Cowley Concrete Co. Ltd.; *Thermoplastic tile floors*, Marley Tile Co. Ltd.

Concrete Limited

(Bison precast floors, roofs and frames)

High level turnover and profits

Mr J G Ambrose on a record year

The following is an extract from the circulated statement of the Chairman, Mr. J. G. Ambrose, O.B.E., M.C., M.I.C.E.:

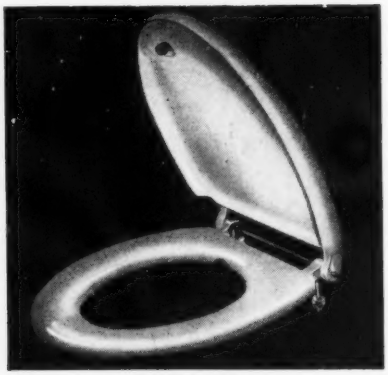
The year 1956/57 has been the most satisfactory in the Company's history. Profits after all charges other than the Staff Share of Profits and Taxation have increased from £271,321 to £415,293. Turnover has once again gone up by 20 per cent. and the percentage of Profit to Turnover has risen from 9·2 per cent. to 11·7 per cent.

Last year we introduced a Profit Sharing Scheme under which our salaried Staff receive a share of our Profits, partly as a Cash Bonus and partly as an allocation of a sum for the purchase of the Company's shares. Their total share this year is £51,000 against £30,000 a year ago. This represents a substantial addition to their remuneration. It is significant that the first year of this scheme has coincided with an increase of efficiency and Profits. The incentive to extra thought and effort has been a major factor in the good results.

Our Precast Frame Department progresses well and has made a significant contribution to our Profits. We have completed a large number of contracts including schools, factories, hospitals and office blocks. An important one now nearing completion is a series of nine-storey blocks of flats in Barking, which, being the first precast framed flats of this height in Great Britain, have caused much interest in the housing world. We are satisfied that this method of construction has considerable potential, combining as it does, low cost with speed and quality.

During the year we have formed a separate Company in Scotland, Concrete (Scotland) Ltd. This will have its own Board of Directors resident in Scotland and will act as Agents for the Parent Company for all operations in that area.

Setting the fashion in Toilet Fittings

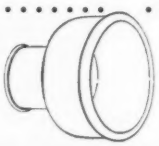


The Ekco 'BELVEDERE' A seat of the highest quality which will satisfy the most exacting sanitary requirements. Lustrous finish with a lid that 'encloses as it closes.'

The Ekco 'JUBILEE' The popular-priced toilet seat immaculately finished in lustrous colours. Easy to fit to any standard width pan.

When you specify plastic toilet seats, specify EKCO . . . They are hygienic, well designed and are available in a colour range which enables matching to practically any scheme of decorating and colour.

- **Smooth, lustrous surface that will not crack, chip, stain or fade.**
- **Very easily kept clean.**
- **Cannot harbour germs or dirt.**
- **Rust-proof universal fittings.**
- **Rubber buffers on seat and cover**
- **Choice of 16 permanent colours.**



Another modern touch
Ekco Flush-Pipe Connector Moulded in white, green or black P.V.C. for a long-lasting, strong, flexible, non-leaking, easily applied joint. No cement or lead pieces—and no waste of labour, materials or time. *Fits neatly and quickly.*

EKCO TOILET SEATS

E. K. COLE LTD · (*Plastics Division*) · SOUTHEND-ON-SEA · ESSEX

The finest finish yet for walls and ceilings

Siscomatte is a new *rubberised* paint recently developed by Sissons Brothers of Hull, which provides the finest matt finish ever known for interior walls and ceilings.

Siscomatte is not a *chlorinated* rubber paint, and with normal painting technique presents no difficulties in joining up on large surfaces. Yet its rubber base makes it both steam- and condensation-resistant. For this reason, Siscomatte is ideal for kitchens, bathrooms, restaurants, canteens and many other industrial premises where steam is a problem.

Siscomatte is extremely easy to apply, far easier than ordinary eggshell finishes. It is partially thixotropic in consistency, which means that it is much less liable to drip or splash. It may be brushed or sprayed and requires no working out. Siscomatte dries quickly and evenly—touch-dry in about four hours, hard overnight.

Siscomatte has been formulated to produce a velvet-smooth surface which is simple to keep clean, tough enough to be scrubbed and to give maximum resistance to detergents.

New Contemporary Colours

Siscomatte is made in a basic range of 30 carefully chosen colours, 14 of which are from the new B.S.2660 selection.

In addition to these 30, we have just introduced a short range of deeper contemporary colours—Maroon, Rose Pompadour, Steel Blue, Jasmine, Pompeian Red, Flame, Leaf Green and Juniper—which are available on request.

For Woodwork, too

Siscomatte is an extremely versatile paint in that it is just as suitable for woodwork and metalwork as it is for walls. This has led Sissons to develop another new product—**Siscoglow Pearl Finish.**

Siscoglow is a transparent paint—not a varnish—and is applied over Siscomatte on all woodwork or wherever further protection is required. The result is an extremely attractive subdued gloss finish almost impossible to obtain by any other method.

New "Plain and Pearl" effect

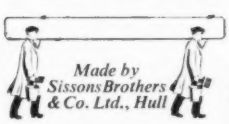
This "pearl" finish is quite as practical as a full gloss—it's hard and durable—yet it's more restful to the eye. This new decorating scheme, using Siscomatte and Siscoglow, has been named the "Plain and Pearl" effect.

"Plain and Pearl" not only gives a toning, attractive finish to any room—it also saves time on "cutting in" and eliminates the time usually spent matching up matt and gloss paints.

FREE TO ARCHITECTS

You may already have been sent a panel painted with Siscomatte and Siscoglow and a tint book. If you haven't, but would like them, please write to Sissons Brothers & Co. Ltd., Bankside, Hull.

"Plain and Pearl" obtainable only with



Siscomatte plus Siscoglow

OTHER HIGH-QUALITY DECORATING PAINTS MADE BY SISSONS

Hall's Distemper. A leader in the field of first-grade water paints.
Rapodec. A first-quality P.V.A. emulsion paint.
Tungolac. Super gloss finish, for exterior or interior use.
High-Opacity Undercoating. New Sissons product with well-above-average obliteration.

STOP PRESS

Obliteration

Accurate scientific tests show that white Siscomatte, when applied over a black surface, gives the highest opacity reading of any paint of its type

Draught-Stoppers
Hotels
Advertising

August Architectural Review

The year-round English draught makes *Weather-stripping* a subject of perennial interest and in the August issue of the Review, Peter Whiteley will make a study of the products available for remedial work on both doors and windows, as well as the kind of preventive design that is better than even the best of cures. Two hotels of outstanding interest will be described and illustrated; the *Malmen*, by Wallander and Varhelyi in Stockholm, and Louis Erdi's *Coachotel*. A creative and broadminded approach to a vexed question, outdoor publicity, will be outlined in the new proposals for *Advertising in Stevenage*, and the social and architectural problems of building new *Urban Nuclei* in rural areas will be considered in an article by Hilda Selem on recent re-settlements in Italy, and a study of Richard Llewelyn Davies' and John Weeks' rebuilding programme for *Rushbrooke*

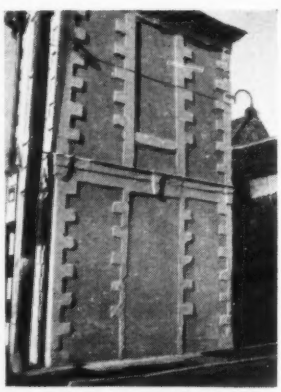
Model of a village at Rushbrooke, Suffolk, by R. Llewelyn Davies and John Weeks, to be illustrated with pilot houses.

in Suffolk. Historical features in this issue will cover the early romantic days at the Weimar *Bauhaus*, whose expressionist and religious fervours are recalled by Helmut von Erffa; a sheaf of notes on out-of-the-way aspects of Italian architecture, and a study of Bernardo Bellotto's four magnificent views of the mysterious *Wilanow Palace* outside Warsaw, now on view at the Whitechapel Gallery. In *Skill*, the *Interior* of the Month will be the new offices for the Orient Line, and in *Design Review*, John Blake will survey recent developments in wallpapers and furnishing fabrics.

Curtain Walls
Roman and Gothic
Shepton Mallet

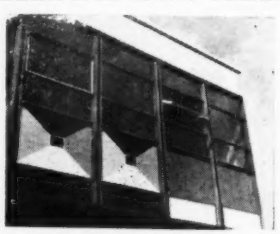
September Architectural Review

A major feature of the Review's *Machine Made America* issue, and rapidly becoming a dominant topic in discussions of the economics, technics and aesthetics of building today, *Curtain Walling* will bulk large in the September number of the Review. Michael Brawne will contribute a full scale study of the potentialities and perils, scope, materials and methods of this fully industrialised means of clothing buildings, while in *Skill* there will be a supplement on some of the products and systems that are available on the British Market. Also in *Skill* will be new Jaeger shop *Interiors* by Dennis Lennon, as well as *Design Review* and other regular departments. Aspects of the diversity of English nineteenth-century architecture are covered by Hugh Honour's account of the improbable *Roman Church at Everingham*, in Yorkshire, whose decorators were a suitably incongruous combination of Yorkshire and Rome, and a narrative of the building activities at *Strawberry Hill* of Frances Waldegrave, recounted from original sources by Osbert Wyndham Hewett, author of a recent full-dress biography of Lady Waldegrave. September *Townscape* features will deal with *Shepton Mallet*, whose multi-



House in the lower town Shepton Mallet

level town-centre will be discussed by Gordon Cullen, and *Hampstead Garden Suburb*, source of so much good and so much evil in English planning, whose status after a half-century of existence will be evaluated by Ian Nairn. And, as usual, the *Counter-Attack Bureau* will give the latest battle-bulletins on the continuing fight against Subtopian blight.



Curtain Walling detail of the new BEA terminal now under construction off Cromwell Road, Kensington.

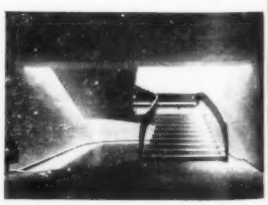
Universities
Staircase
Arcadia

October Architectural Review

Vexed by conflicting interests and lack of comprehension of the issues at stake, the design of *Universities* has become a problem that excites passion and prejudice, rather than constructive thinking. In the October number of the Review, Professor Pevsner and the Hon. Lionel Brett will attempt to put the problem back on a realistic basis in a special feature covering both the historical growth of *universities* and their present needs, emphasising the diversity of concepts, both in organization and architecture that the term embraces. Two articles in the same issue will deal with problems of architectural lettering; Nicolete Gray

3—D. shop lettering in Dublin.

contributing a study of *Lettering in Three Dimensions* and *Skill*, surveying the design of *Fascia Boards*. Also in *Skill* will be an illustrated description of Arne Rudberger's stunning staircase for the MEA department store in Stockholm, and other recent structures to be illustrated will include a small house by Sir Hugh Casson on the South Coast, and another well-designed adjunct to a department store—G. A. Jellicoe's roof garden on top of Harvey's at Guildford. Two historical features will deal with developments in the first quarter of the present century: Ian Nairn's delayed study of Hampstead Garden Suburb is now expanded into a larger study of



Staircase at the MEA store, Stockholm.

Arcadia as a place to dwell in, and Reyner Banham will investigate the implications of recent publications on the position of *Mondriaan* both as a pioneer of modern design, and as a model to be set up for emulation by architects in the future. Robert Melville's survey of art exhibitions will continue, and *Marginalia* will maintain its running commentary on world architecture.

CLASSIFIED ADVERTISEMENTS

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

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

Public and Official Announcements

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

LONDON COUNTY COUNCIL
ARCHITECT'S DEPARTMENT

Selections for appointment are now being made from students at architectural schools who will take their final examinations this summer. Starting salary up to £676. Vacancies also for ARCHITECTS of experience at starting salaries up to £1,036. Full programme of houses, flats, schools and many other interesting buildings.

Application forms and full particulars from the Architect (Ref. AR/EK24/572), The County Hall, S.E.1. (895) 6290

CUMBERNAULD DEVELOPMENT CORPORATION
DEPARTMENT OF THE CHIEF ARCHITECT AND PLANNING OFFICER

Applications are invited for the following posts in the Quantity Surveying Section of the Department:—

SENIOR ASSISTANT QUANTITY SURVEYOR (Ref. Q.S.2).

Salary Scale A.P.T. VIII (£1,100—£1,320). To be responsible for assisting and deputising for the Chief Quantity Surveyor in connection with all professional and administrative functions of the section. A.R.I.C.S. required.

ASSISTANT QUANTITY SURVEYORS (Grade B) (Ref. Q.S.3) (Two Posts).

Salary Scale A.P.T. V—VI (£815—£1,107). To take charge of a project from pre-planning stage to final account, working in close co-operation with the Group Architect. A.R.I.C.S. required.

ASSISTANT QUANTITY SURVEYORS (Grade C) (Ref. Q.S.4) (Two Posts).

Salary Scale A.P.T. II—IV (£610—£907). To assist Senior Assistant Quantity Surveyors as above. Intermediate A.R.I.C.S. preferred or otherwise must be suitably experienced.

APPRENTICE QUANTITY SURVEYORS (Ref. Q.S.5) (Two Posts).

Salary Scale General Division (£185—£513) (Commencing salary according to age). Must have passed five subjects at Scottish Leaving Certificate Lower Grade (at least three at one time) including English and Mathematics and a pass in Arithmetic. This affords an excellent opportunity for young men of, or approaching school leaving age, to secure professional training with a view to qualifying as Chartered Quantity Surveyors. Arrangements for attending part day and evening school tuition courses will be made. The Chief Quantity Surveyor is a member of the Royal Institution of Chartered Surveyors.

Salary scales are those of the Whitley Council for New Towns Staff and appointments may be made above the minimum of the scale. The Corporation will endeavour to give, in approved cases, assistance in the provision of housing accommodation.

Write to L. Hugh Wilson, O.B.E., A.R.I.B.A., Dist.T.P., A.M.T.P.I., Chief Architect and Planning Officer, Cumbernauld House, Cumbernauld, Glasgow, for application form (quoting reference number of post) to be returned not later than Saturday, 3rd August, 1957. 6958

CITY OF LIVERPOOL
ARCHITECTURAL AND HOUSING DEPARTMENT

Applications are invited for the appointment of SENIOR ASSISTANTS (ARCHITECTURAL). Salary: £727 15s. to £994 5s. per annum (A.P.T. Grade IV/V).

Applicants must have had experience of Redevelopment work, hold the qualification of A.R.I.B.A., and preferably A.M.T.P.I. also.

Application forms, returnable by 24th August, 1957, are obtainable from City Architect and Director of Housing, Blackburn Chambers, Dale Street, Kingsway, Liverpool, 2.

The appointments are superannuable and subject to the Standing Orders of the City Council. Canvassing disqualifies. (J.4862)

THOMAS ALKER,
Town Clerk.
7013

BRACKNELL DEVELOPMENT CORPORATION

Applications are invited for the appointment of STRUCTURAL ENGINEER on the staff of the Chief Architect. Salary Grade, £1,100×£55 (4) to £1,320. Applicants should be Corporate Members of the Institution of Structural Engineers and have had good all-round experience. The successful applicant will be required to advise the Chief Architect on matters relating to structural work and foundations to buildings, including factories, public buildings, etc., to prepare designs and supervise the specialist works.

Superannuation schemes. Medical examination. Housing available in due course. Apply by 6th August, 1957, giving age, education and qualifications, experience and appointments held (with dates and salaries) and two referees, to General Manager (S.E.), Bracknell Development Corporation, Farley Hall, Bracknell, Berkshire. 7032

CITY OF CANTERBURY

Applications are invited for the temporary appointments of ARCHITECTURAL ASSISTANTS, Grade A.P.T. II (£609 17s. 6d.—£691 17s. 6d.).

Applicants must have passed the R.I.B.A. Inter. Examination.

The successful candidates will be engaged on the design and erection of a new Technical College. This project, which is in the early stages of design, offers considerable scope for initiative and experience both in design and construction. Work on the College is likely to extend over a number of years.

The commencing salary will be fixed within the Grade according to ability and experience.

Applications, together with the names of two referees, must reach the City Architect and Planning Officer, Mr. J. L. Berbiers, A.R.I.B.A., A.M.T.P.I., not later than Saturday, 10th August, 1957.

Canvassing will disqualify.

J. BOYLE,
Town Clerk.
Municipal Buildings, Canterbury. 6998

COUNTY COUNCIL OF THE WEST RIDING OF YORKSHIRE
APPOINTMENT OF DEPUTY COUNTY ARCHITECT

Applications are invited from Fellows or Associate Members of the Royal Institute of British Architects for the post of DEPUTY COUNTY ARCHITECT, at a salary of £2,270, rising by three annual increments of £105 and one of £55 until a maximum of £2,640 per annum is reached. The appointment will be subject to the provisions of the Local Government Superannuation Acts, 1937-1953, and the successful applicant will be required to pass a medical examination.

The person appointed will be expected to have first-class architectural experience, but will be particularly required to undertake technical administration.

Forms of Application, together with particulars of the terms and conditions of the appointment, may be obtained from the undersigned, to whom applications should be submitted not later than the 26th August, 1957.

BERNARD KENYON,
Clerk of the County Council.
County Hall, Wakefield.
July, 1957. 6997

LONDON COUNTY COUNCIL—
ARCHITECT'S DEPARTMENT
EXPANSION OF QUANTITIES DIVISION

Applications invited to fill about 50 positions of quantity surveyor. R.I.C.S. qualification at appropriate levels desirable but consideration given to those with sound practical training.

Salaries as follows:—

Grade I Assistants up to £1,410
" II " up to £1,240
" III " up to £1,035
Technical Assistants up to £817

Starting point dependent upon quaiifications and experience.

PRE-CONTRACT DUTIES (COST PLANNING)

Re-organisation of the Pre-Contract section to provide a cost planning service.

Applicants should have (in degree appropriate to grade applied for) experience in current building techniques and pricing with ability to (*a*) undertake elemental analysis of bills of quantities, (*b*) prepare estimates both from preliminary and detailed drawings, and (*c*) advise architects on comparative costs of alternative forms of construction and finishings and all matters related to the economics of building during preliminary design and development stages of educational, housing and other building projects. Vacancies, 3—Grade I, 8—Grade II, 4—Grade III.

POST-CONTRACT DUTIES

Preparation and settlement of final accounts for major contracts comprising interim valuations, measuring, pricing and working up.

Vacancies, 1—Grade I (responsible for group of staff); 4—Grade II, 5—Grade III; also 11 technical assistants for working up and/or junior measuring functions.

PREPARATION OF BILLS OF QUANTITIES (for schools, housing and general works).

Senior takers-off, workers-up capable of junior taking-off and workers-up.

Vacancies, 1—Grade I, 3—Grade II, 3—Grade III for working-up and junior taking-off and 3 technical assistants for working-up.

Application forms and particulars from the Architect (AR/EK/41/57), County Hall, S.E.1, returnable by 26th August, 1957. (1415) 7014

MIDLANDS ELECTRICITY BOARD

ASSISTANT BUILDING SUPERINTENDENT required in the Birmingham and District Sub-Area.

Applicants should possess extensive experience in the maintenance of industrial and commercial premises. A full apprenticeship should have been served in the Building Trade, and a sound knowledge of labour conditions and supervision, and the preparation of provisional estimates for building maintenance and small new building works, is essential.

Salary £885—£930 per annum (N.J.B. Grade M.13). Superannuable.

Apply, by letter, within 14 days, stating age, experience, present salary and position, to Emil Braathen, Sub-Area Manager, Midlands Electricity Board, 14, Dale End, Birmingham, 4.

A. STEPHENS,
Secretary.
6973

CITY OF SHEFFIELD EDUCATION COMMITTEE
COLLEGE OF COMMERCE AND TECHNOLOGY

Required for September, 1957, in the Department of Building, LECTURER in General Building and Quantity Surveying subjects in the full-time and advanced courses.

Candidates should be Members of the Royal Institution of British Architects, the Royal Institution of Chartered Surveyors or the Institute of Builders, with practical experience.

Salary in accordance with the Burnham Technical Scale for Lecturers (£1,200×£30—£1,350).

Forms of application may be obtained with further particulars from the undersigned (s.a.e.) at P.O. Box 67, Sheffield, to whom they should be returned as soon as possible.

STANLEY MOFFETT,
Director of Education.
6982

HOLLAND COUNTY COUNCIL
(LINCOLNSHIRE)

Applications are invited for the following permanent appointments, at commencing salaries according to capabilities.

Candidates should be fully qualified for posts above Grade III.

(*a*) ARCHITECTS:

ONE ASSISTANT ARCHITECT, Grade V (£814 17s. 6d.—£994 5s. p.a.).

ONE ARCHITECTURAL ASSISTANT, Grade II/III (£609 17s. 6d.—£784 2s. 6d. p.a.).

(*b*) QUANTITY SURVEYORS:

ONE CHIEF ASSISTANT QUANTITY SURVEYOR, Grade VII (£999 7s. 6d.—£1,230 p.a.).

ONE QUANTITY SURVEYING ASSISTANT, Grade II (£609 17s. 6d.—£691 17s. 6d. p.a.).

The appointments are superannuable and subject to medical examination.

Applications, on forms provided by the undersigned, should be returned completed to me by 13th August, 1957. When applying for the forms please state appointment required.

H. A. H. WALTER,
Clerk of the County Council.
County Hall, Boston, Lincs. 6981

ARCHITECTS AND MAINTENANCE SURVEYORS IN GOVERNMENT DEPARTMENTS. The Civil Service Commissioners invite applications for pensionable posts for Architects and Maintenance Surveyors.

Age at least 25 and under 35 on 1st July, 1957, with extension for regular Forces service and appropriate civil service. Candidates must be Registered Architects, or, alternatively, for Maintenance Surveyor posts, have achieved Corporate Membership of the R.I.C.S. (Building Section), or have passed examinations necessary for attaining Corporate Membership.

London salary scale (men) £765 (at age 25) to £1,150. Starting salary up to £1,030 at age 34 or over on entry. Prospects of promotion. Salaries of next higher grades are £1,215—£1,640 and £1,690—£1,950. Somewhat lower in the provinces. Women's scales lower, but being improved until equality with the men's scales is reached in 1961.

Further particulars and application forms from Civil Service Commission, Scientific Branch, 30, Old Burlington Street, London, W.1, quoting No. S.60-61/57. Application forms should be returned by 12th September, 1957. 6983

NORTH RIDING EDUCATION COMMITTEE. Applications are invited for the following posts in the Education Architects' Department:—

(*a*) ASSISTANT QUANTITY SURVEYOR, Grade A.P.T. III. Salary £656 to £784 2s. 6d.

(*b*) ASSISTANT QUANTITY SURVEYOR, A.P.T. Special Grade. Salary £707 5s. to £861.

A.R.I.C.S. or equivalent required. Previous experience may be taken into account in fixing commencing salary and experience with Local Authority not essential. Car travelling and subsistence allowances where applicable. Local Government Superannuation Act. Canvassing disqualifies. Closing date for completed applications: 10th August, 1957. Further particulars from F. Barraclough, County Hall, Northallerton. 6984

HORNCHURCH URBAN DISTRICT COUNCIL
APPOINTMENT OF ARCHITECTURAL ASSISTANT, GRADE III
A.P.T. DIVISION (£656—£784 2s. 6d.)

Applications are invited for the appointment of an Architectural Assistant, Grade III, A.P.T. Division (£656—£784 2s. 6d.). Applicants should have passed the Intermediate Examination of the Royal Institute of British Architects or its equivalent at one of the recognised Schools of Architecture, and have worked in an Architect's office for a period of at least 2 years. They should be able to prepare working drawings, etc., from preliminary sketches.

The appointment is subject to the Local Government Superannuation Acts, 1937 to 1953, the National Scheme of Conditions of Service, a satisfactory medical examination, and termination by one month's notice on either side.

Housing accommodation will be provided if required.

Application forms may be obtained from this office, and completed forms should be returned not later than Saturday, the 10th August, 1957.

P. L. COX,
Clerk of the Council.
Council Offices, Hornchurch, Essex. 6985

CAMBRIDGESHIRE COUNTY COUNCIL
COUNTY ARCHITECT'S DEPARTMENT

Applications are invited for the following appointments:—

(*a*) **ARCHITECTURAL ASSISTANT, A.P.T. Grade III** (£656—£784 2s. 6d.).

Applicants should have passed the Intermediate Examination of the Royal Institute of British Architects, or its equivalent at one of the recognized schools of Architecture, and have worked in an Architect's office for a period of two years. They should have a good knowledge of construction, and be able to prepare drawings from preliminary sketches.

(*b*) **ENGINEERING DRAUGHTSMAN, A.P.T. Grade I-II** (£543 5s.—£691 17s. 6d.).

Applicants should be neat and expeditious draughtsmen and capable of preparing working drawings from sketch designs.

Preference will be given to persons who have passed the Intermediate Examination of the Institute of Heating and Ventilating Engineers.

The appointments are subject to the Local Government Superannuation Acts, 1937-1953, the National Scheme of Conditions of Service, a satisfactory Medical examination and termination by one month's notice on either side.

Applications, stating age, present salary, present and previous appointments, details of training and experience, together with one recent testimonial and the names and addresses of two referees, should be submitted to the undersigned, not later than 2nd August, 1957.

CHARLES PHYTHIAN,
Clerk of the County Council.

Shire Hall,
Cambridge,
9th July, 1957. 6936

COUNTY BOROUGH OF BOURNEMOUTH
BOROUGH ARCHITECT'S DEPARTMENT

Applications are invited for the appointment of:—

(*a*) **SENIOR ASSISTANT ARCHITECT**, Salary Grade A.P.T. IV (£727 15s.—£907 2s. 6d. p.a.).

(*b*) **ARCHITECTURAL ASSISTANT**, Salary Grade **A.P.T. I** (£543 5s.—£625 5s. p.a.).

Candidates for post (*a*) must be fully qualified (by examination) Members of the R.I.B.A.; for post (*b*) to have had some experience after passing the Intermediate Examination of R.I.B.A. Successful candidates will be appointed at present salary if within the incremental scale.

Application forms and further particulars from Borough Architect, Town Hall, Bournemouth. Completed applications to reach me by 10 a.m., 10th August, 1957.

A. LINDSAY CLEGG,
Town Clerk.
6999

LINDSEY COUNTY COUNCIL
PLANNING DEPARTMENT

Applications are invited for the following appointments:—

(*a*) **ASSISTANT, A.P.T. Grade III and Special Grade** (£656—£861).

(*b*) **ASSISTANT, A.P.T. Grade I** (£543 5s.—£625 5s.).

Candidates for (*a*) must have passed Intermediate Examination of T.P.I. and have experience in surveys for and preparation of Town Maps. Promotion from A.P.T. III to Special Grade will be dependent on officer passing T.P.I. Final and having 5 years' experience. Own car to be provided for official journeys, for which an allowance will be paid at essential user's rate for cars not exceeding 10 h.p. or 1199 c.c.

Candidates for (*b*) must have completed a 3-year period of training in planning, architect's or surveyor's office, comparable with the recognised Scheme for the Training of Municipal Engineers, and be good draughtsmen.

Superannuation and N.J.C. conditions of service as approved by the County Council. Canvassing will disqualify. Relationship to any member or senior officer of the Council to be disclosed in writing by applicants.

Applications, with particulars of training, experience, and names of two referees, to County Planning Officer, The Castle, Lincoln, not later than 7th August, 1957. 7012

CITY AND COUNCIL OF BRISTOL
CITY ARCHITECT'S DEPARTMENT

Applications invited for following appointments:—

ARCHITECTURAL:

(*a*) A.P.T. V (£814 17s. 6d.—£994 5s.).

(*b*) A.P.T. III (£656—£784 2s. 6d.). of Special Scale (£707 5s.—£861).

(*c*) A.P.T. II (£609 17s. 6d.—£691 17s. 6d.).

(*d*) **JUNIOR ASSISTANT**—not less than 20 years of age—duties include tracing, colouring of prints, assisting with surveys and generally to work under supervision of an Assistant Architect.

QUANTITY SURVEYING:

(*e*) **ASSISTANT**—not less than 20 years of age—experience in squaring dimensions, checking bills of quantities, and general duties in Quantity Surveyor's office an advantage.

For posts (*a*) to (*c*) appointment will depend on appropriate professional qualifications and experience. For posts (*d*) and (*e*) starting salary at least £307 10s., rising to £476 12s. 6d. or £589 7s. 6d., according to qualifications.

HOUSING ACCOMMODATION PROVIDED, IF NECESSARY, AT AN ECONOMIC RENT.

Further particulars and application forms, returnable by 2nd August, from City Architect, Council House, College Green, Bristol, 1. Applicants must state post for which they are applying. 7006

COUNTY BOROUGH OF SOUTHAMPTON
BOROUGH ARCHITECT'S DEPARTMENT

Applications are invited for the following permanent appointments:—

(*a*) **GROUP ARCHITECT**, Grade A.P.T. VII (£999—£1,230).

Candidates must be Members of the R.I.B.A., experienced in major projects for local authorities. The opportunity is presented of initiating and carrying through the new technical college for Southampton.

(*b*) **SENIOR ASSISTANT ARCHITECT**, Grade V (£814—£994).

(*c*) **SENIOR ASSISTANT ARCHITECT**, Grade IV (£727—£907).

(*d*) **SENIOR QUANTITY SURVEYOR**, Grade IV-V (£727—£994).

Candidates should possess appropriate qualifications and local government experience will be an advantage. Applicants should state their housing needs. Application forms from the Borough Architect, Civic Centre, Southampton. Closing date: 12th August, 1957. 7031

DERBYSHIRE COUNTY COUNCIL
COUNTY ARCHITECT'S DEPARTMENT

Vacancies for **QUANTITY SURVEYORS** and **QUANTITY SURVEYING ASSISTANTS**, A.P.T. Grades, I, III and IV. Salary range £543 5s. to £907 2s. 6d. per annum, according to qualifications and experience. N.J.C. Conditions of Service. Pensionable posts. Canvassing disqualifies.

Details and application forms from F. Hamer Crossley, Dipl.Arch.(L'pool), F.R.I.B.A., County Architect, County Offices, St. Mary's Gate, Derby. 6974

NATIONAL COAL BOARD—N.W. DIVISION
QUANTITY SURVEYING SECTION

SENIOR QUANTITY SURVEYOR in charge of the Quantity Surveying Section at the North Western Divisional Headquarters, National Coal Board.

Applicants must be Chartered Quantity Surveyors, experienced in all classes of work and in the operation of various forms of contract; capable of organising a programme of work and supervising a staff experienced in the preparation of Bills of Quantities for all trades, detailed approximate estimates, specification writing, valuations and measurements for interim certificates and settlement of accounts.

Salary in the scale £1,200 × £40 — £1,440 — £1,550 p.a.

Applications stating age, training, qualifications, experience and present salary to the Divisional Chief Staff Officer, 40, Portland Street, Manchester, 1, within 14 days. 7015

WOKING URBAN DISTRICT COUNCIL

Applications are invited for the following appointments in the architectural section of the Engineer and Surveyor's Department:—

(*a*) **ARCHITECTURAL ASSISTANT.** Salary A.P.T. Grade III (£656×£25—£784). Applicants must have passed Inter. R.I.B.A. and have had good general experience. Housing accommodation will be provided if necessary.

(*b*) **JUNIOR ARCHITECTURAL ASSISTANT.** Salary will range from £184 to £512 per annum, according to age, ability, and experience, but not less than £338 at the age of 22 (£358 with G.C.E.).

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

Forms of application are to be obtained from and returned to Mr. H. P. Tame, A.M.I.C.E., M.T.P.I., Registered Architect, Engineer and Surveyor, Council Offices, Woking, not later than Monday, 12th August, 1957.

M. SHAWCROSS,
Clerk of the Council.

Council Offices, Woking.
15th July, 1957. 7002

CITY OF BRADFORD
SENIOR TOWN PLANNING ASSISTANTS

Applications are invited for the following superannuable appointments in the City Engineer and Surveyor's Department, on the grades indicated:—

(*a*) **SENIOR TOWN PLANNING ASSISTANT.** Post No. 8. Grade A.P.T. IV/V (£727 15s.—£994 5s.). Commencing salary to be determined according to qualifications and experience.

(*b*) **SENIOR TOWN PLANNING ASSISTANT.** Post No. 14. Grade A.P.T. IV (£727 15s.—£907 2s. 6d.).

The successful candidate in connection with (*a*) will be required in connection with the layout of large Corporation Housing Estates and in connection with schemes of development as the result of slum clearance.

The successful candidate for (*b*) will be required to have experience in dealing with applications for development for new housing, industrial and commercial building and advertisement control.

Applicants should be A.M.T.P.I. and/or A.R.I.B.A., A.M.I.Mun.E., or A.M.I.C.E.

All applicants should have completed their National Service. No housing accommodation can be provided by the Corporation.

Applications on forms to be obtained from the City Engineer and Surveyor, Town Hall, Bradford, 1 (quoting post number), together with three testimonials, must be received by the undersigned by 19th August, 1957.

W. H. LEATHEM,
Town Clerk.

Town Hall, Bradford, 1. 7005

BOROUGH OF BLYTH

Applications are invited for the following vacancies:—

(*a*) **CHIEF ENGINEERING ASSISTANT.** Salary A.P.T. IV, £727 15s. p.a., rising by annual increments to £907 2s. 6d. p.a. Applicants should have experience in Municipal Engineering and hold a recognised qualification.

(*b*) **JUNIOR ARCHITECTURAL ASSISTANT.** Salary A.P.T. II, £609 17s. 6d. p.a., rising by annual increments to £691 17s. 6d. p.a. Applicants should be of Intermediate standard.

The appointments are subject to the Local Government Superannuation Acts, the scheme of Conditions of Service of the National Joint Council, one month's notice on either side and the passing of a medical examination.

Applications, suitably endorsed, must be delivered to the undersigned with names of two referees not later than 15th August, 1957.

Canvassing will disqualify, and applicants should disclose relationship with any member or official of the Council.

HOUSING ACCOMMODATION WILL BE PROVIDED IF REQUIRED.

EDWIN W. CARTER,
Town Clerk.

Dinsdale House, Marine Terrace,
Blyth, Northumberland. 6986

COUNCIL OF THE COUNTY OF ABERDEEN
COUNTY ARCHITECT'S DEPARTMENT

Applications are invited for an appointment as **ARCHITECTURAL ASSISTANT** in the County Architect's Department on salary scale A.P.T. VI-VIII (£825 to £1,005 per annum). Applicants for this post must be Associates of the Royal Institute of British Architects, and should have had not less than 3 years' practical experience.

The appointment is subject to the Local Government Superannuation (Scotland) Acts, 1937 to 1953, and the successful candidate will require to pass a medical examination.

Conditions of appointment and forms of application are obtainable from the undersigned, and should be returned not later than 5th August, 1957.

Canvassing of members of the Council, directly or indirectly, in connection with this appointment shall disqualify the candidate.

JAMES L. CRAIG,
County Clerk.

County Buildings, 22, Union Terrace,
Aberdeen.
12th July, 1957. 6987

EASINGTON RURAL DISTRICT COUNCIL
ARCHITECTURAL ASSISTANT
GRADE A.P.T. IV (£727 15s.—£907 2s. 6d.)

Applications are invited for the above appointment.

Applicants must have had previous Municipal experience, have been trained in the office of a Municipal Engineer, Architect or Surveyor, be experienced in Municipal Housing and General Architectural work, and have the qualifications specified by the National Conditions of Service.

The Council have proposals for redeveloping ten small townships between 5,000 and 12,000 inhabitants as a complementary scheme for the new town of Peterlee, and a major scheme for modernising 2,500 houses.

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

If required, housing accommodation will be provided.

Form of application, to be obtained on receipt of a stamped addressed foolscap envelope, must be returned accompanied by copies of two recent testimonials, to reach the undersigned not later than Tuesday, 6th August, 1957.

T. AGAR,
Clerk of the Council.

Council Offices, Easington, Co. Durham. 6988

METROPOLITAN BOROUGH OF FULHAM
BOROUGH ARCHITECT'S AND HOUSING DEPARTMENT

(*a*) **PRINCIPAL ASSISTANT ARCHITECT**, A.P.T. V (£844 17s. 6d.—£1,024 5s. per annum, including £30 London weighting).

(*b*) **ASSISTANT ARCHITECT**, A.P.T. III or IV (£686—£824 2s. 6d., or £937 2s. 6d. per annum, including £30 London weighting).

(*c*) **ARCHITECTURAL ASSISTANTS**, A.P.T. I or II (£543 5s.—£625 5s., or £609 17s. 6d.—£691 17s. 6d. per annum, plus London weighting of £20 or £30, according to age).

Qualifications required: For (*a*) A.R.I.B.A. and experience in the design and construction of multi-storey dwellings and in handling contracts; (*b*) and (*c*) the work will be concerned primarily with the layout and design of such dwellings.

Application forms from Town Clerk, Town Hall, S.W.6. Closing date: 6th August. 7004

STEPNEY METROPOLITAN BOROUGH COUNCIL require **ARCHITECTURAL ASSISTANT, A.P.T. IV** (£757 15s.—£937 2s. 6d.) for permanent establishment of Borough Engineer and Surveyor's Department.

Applicants should possess suitable architectural and town planning qualifications, and be experienced in design, construction and administration of large building contracts.

Commencing salary stage within the grade dependent on qualifications and experience. Form of application and conditions of appointment obtainable from Town Clerk, 227, Commercial Road, E.1. 7003

BOROUGH OF BEXLEY
FIRST ASSISTANT ARCHITECT

Applications are invited for this appointment within Grade A.P.T. IV (£727 15s.—£907 2s. 6d. per annum), plus London weighting.

Candidates should have experience in Schools and Housing projects and must have passed the Final R.I.B.A.

Forms of application and conditions of appointment obtainable from the Borough Engineer, West Lodge, Broadway, Bexleyheath, Kent, to whom completed applications must be returned by 19th August, 1957. The Council may be prepared to assist in the provision of housing accommodation. Canvassing will disqualify.

ARTHUR GOLDFINCH,
Town Clerk.
7040

CANNOCK RURAL DISTRICT COUNCIL
CHIEF ARCHITECTURAL ASSISTANT

Applications are invited from Associate Members of the R.I.B.A. for the above permanent post on the staff of the Engineer and Surveyor. Salary Grade A.P.T. IV (£727 5s.—£907 2s. 6d.).

The starting salary will be fixed at a point within the Grade, depending on the qualifications and experience of the successful candidate.

Housing accommodation in the form of a self-contained maisonette will be available, if required, at a reasonable rent. Travelling allowance will be paid on essential-user scale. It is the Council's usual practice to operate the assisted car-purchase scheme, where necessary, and to assist with removal expenses.

The appointment will be subject to the provisions of the Local Government Superannuation Acts, medical examination, and one month's notice on either side.

Applications, giving full details of age, qualifications and experience, together with the names and addresses of two referees, to reach the undersigned by Wednesday, 7th August, 1957.

JOHN P. ROBERTS,
Clerk of the Council.
Council Offices, Penkridge, Stafford. 7039

BANFF COUNTY COUNCIL
COUNTY ARCHITECT'S DEPARTMENT

Applications are invited for the following posts in the office of the County Architect and Planning Officer, 13, Cluny Square, Buckie.

(*a*) QUANTITY SURVEYOR, Grade VII (£875—£950). A house will be made available for the successful applicant.

(*b*) ARCHITECTURAL ASSISTANT, Grade VI (£825—£890).

Both posts are subject to the Local Government Superannuation (Scotland) Act, 1955.

Applications, giving full details of qualifications, experience, age, and whether married, together with copies of 3 recent testimonials, should be submitted to the undersigned by 15th August, 1957.

A. M. WILSON,
County Architect and Planning Officer.
13, Cluny Square, Buckie, Banffshire. 7041

SHARDLOW RURAL DISTRICT COUNCIL
SURVEYOR'S DEPARTMENT

Applications are invited for the following appointments, which will be superannuable and subject to medical examination:—

(1) ARCHITECTURAL ASSISTANT, within the salary range A.P.T. III (£656 to £784 2s. 6d. per annum).

(2) QUANTITY SURVEYING ASSISTANT, within the salary range A.P.T. III (£656 to £784 2s. 6d. per annum).

Applicants should have had a good general experience. Details of training, present salary and age, together with names of two referees, to be submitted to the Surveyor, Shardlow R.D.C., 4, Full Street, Derby, not later than 10th August, 1957.

F. CLAYTON,
Clerk to the Council.
7042

LANCASHIRE COUNTY COUNCIL require Graduates in architecture, civil engineering, planning or estate management as PLANNING ASSISTANTS at Headquarters, Preston, and Divisional Offices in Liverpool and Manchester.

In the preparation and implementation of statutory development plans, the department is concerned with control of housing and industrial development, design and layout of new residential areas, rehousing of "overspill" population, control of mineral workings, land reclamation, landscaping, afforestation and preservation and improvement of amenities. Opportunities offered to Graduates with general planning or specialist interests.

Salary commensurate with qualifications and experience, rising to £861 per annum, with prospects of further promotion.

Applications, giving age, qualifications, experience (if any), etc., and two referees, to County Planning Officer, East Cliff County Offices, Preston, by 12th August, 1957. 7045

BOROUGH OF YEOVIL
ARCHITECTURAL ASSISTANT required on Grade A.P.T. IV (£727 15s.—£907 2s. 6d. per annum). Commencing salary according to qualifications and experience. Housing accommodation provided, if required, for married man. Application forms obtainable from the undersigned to be returned by 24th August, 1957.

A. HEAL, M.I.Mun.E.,
Borough Surveyor.
Municipal Offices, King George Street, Yeovil, Somerset. 7043

LONDON COUNTY COUNCIL
ARCHITECT'S DEPARTMENT

A CONSULTANT DESIGNER is required to advise the Architect on Decorative mural treatments at the Council's housing estates. The appointment will be for a period of one year in the first instance, the fee not exceeding £1,000. The selected artist will be responsible for:—

1. The guidance of architects in the choice and location of suitable decorative treatment;
2. technical assistance to those designing schemes;
3. the execution of designs suitable for carrying out chiefly in tiles or other suitable media;
4. the development of new techniques of decorative finish.

Applicants should have had experience of working with architects.

Apply by letter to the Architect, The County Hall, S.E.1, quoting reference AR/EK 40/57. Closing date: 14th September, 1957. (1368) 7046

STAFFORDSHIRE COUNTY COUNCIL
APPOINTMENT OF AREA PLANNING OFFICER

Applications are invited for the appointment of Area Planning Officer in the Southern Area Office of the County Planning Department at Sedgley, on J.N.C. Scale "B" (£1,175 to £1,405 per annum).

Applicants must be Corporate Members of the Town Planning Institute, and should hold in addition a recognised qualification in architecture, engineering or surveying.

The person appointed will be required to assist in work on the Development Plan and Town Maps, and will be responsible for the control of development in the Southern Area.

Applicants should give details of age, education, technical training, qualifications, present and previous appointments and experience, and the names of two persons to whom reference can be made. Applications, in which relationship to any member or senior officer of the County Council should be disclosed, should be sent to D. W. Riley, County Planning and Development Officer, 41a, Eastgate Street, Stafford, not later than 7th August, 1957.

T. H. EVANS,
Clerk of the County Council.
7055

COUNTY BOROUGH OF SUNDERLAND
PUBLIC WORKS DEPARTMENT

Applications are invited for:—

(*a*) ONE CHIEF ASSISTANT (Building), A.P.T. VI (£902—£1,107 p.a.).

(*b*) ONE CHIEF ASSISTANT (Civil Engineering), A.P.T. VI (£902—£1,107 p.a.).

(*c*) ONE SENIOR ESTIMATING SURVEYOR, A.P.T. V (£814 17s. 6d.—£994 5s. p.a.).

(*d*) ONE MEASURING AND BONUS SURVEYOR, A.P.T. IV (£727 15s.—£907 2s. 6d. p.a.).

(*e*) ONE ASSISTANT ESTIMATING SURVEYOR, A.P.T. II (£609 17s. 6d.—£691 17s. 6d. p.a.).

Full particulars of these appointments may be obtained from the Public Works Manager, Ivor House, 1 and 3, Otto Terrace, Sunderland, together with forms of application which are to be returned to the undersigned not later than 6th August, 1957. Canvassing will disqualify.

G. S. McINTIRE,
Town Clerk.
Town Hall, Sunderland. 6962

HAYES AND HARLINGTON URBAN DISTRICT COUNCIL

Applications are invited for:—

(*a*) ASSISTANT ARCHITECTS (TWO) within Grade A.P.T. IV, *i.e.*, £727 15s.—£907 2s. 6d. p.a.

(*b*) ARCHITECTURAL ASSISTANT within Grade A.P.T. III, *i.e.*, £656—£784 2s. 6d. p.a., plus appropriate London "weighting" in each instance, 21-25 years £20 p.a., 26 years and over £30 p.a. Candidates for (*a*) must be capable of preparing sketch designs, full working drawings, specifications and supervision of building contracts, etc., and preference will be given to applicants who have passed the examination for Associateship of the R.I.B.A.; (*b*) must possess good architectural experience and have passed the Intermediate Exam. R.I.B.A. Housing accommodation will be made available for two of the appointments. 5-day week. Further particulars and conditions of service and form of application available from the undersigned, which when completed must be returned by 12th August, 1957.

GEORGE HOOPER,
Clerk and Solicitor.
Town Hall, Hayes, Middx. 6972

HAMMERSMITH
ARCHITECTURAL ASSISTANTS, A.P.T. IV (£727 15s.—£907 2s. 6d.), or A.P.T. V (£814 17s. 6d.—£994 5s.), plus London weighting, according to experience and qualifications. A general knowledge of design of public buildings and housing will be an advantage. Application forms, returnable by 2nd August, from Town Clerk, Town Hall, Hammersmith. 6989

WORCESTERSHIRE COUNTY COUNCIL
ARCHITECT'S DEPARTMENT

Apnointment of ASSISTANT ARCHITECT, Special Grade (£727 5s.—£861.).

Forms of application and further particulars may be obtained from L. C. Lomas, F.R.I.B.A., County Architect, 14, Castle Street, Worcester, not later than 10th August, 1957. CW 831. 7047

CITY OF WINCHESTER

Applications are invited for the post of ARCHITECTURAL ASSISTANT in the City Engineer's office (C. C. Steptoe, A.R.I.B.A., Chief Assistant Architect). It is essential that the applicant should be a neat and accurate draughtsman and have had previous experience in an architect's office. Salary, according to experience, will be within Grade II of the National Scales, and the appointment is subject to the Local Government Superannuation Act.

Applications, stating age and details of experience, together with the names and addresses of two referees, should be addressed to the City Engineer, Guildhall, Winchester, and should reach his office not later than Monday, 12th August, 1957. Canvassing, either directly or indirectly, will disqualify.

R. L. McCALL,
Town Clerk.
Guildhall, Winchester.
17th July, 1957. 7000

CITY OF BIRMINGHAM
CITY ARCHITECT'S DEPARTMENT

Applications are invited for the appointment as TECHNICAL ASSISTANT (HOUSING), Grade A.P.T. IV (£727 15s.—£907 2s. 6d. per annum). At a commencing salary according to experience.

The successful candidate will be responsible for the Investigation, Layout and Design of Dwellings for numerous small sites in the City, and applicants should possess an appropriate professional qualification.

The post is superannuable and subject to a medical examination. 5-day week.

Applications, stating age, present position and salary, qualifications and experience, and two referees, should reach the undersigned not later than 12th August, 1957.

Canvassing disqualifies.

A. G. SHEPPARD FIDLER,
City Architect.
Civic Centre, Birmingham, 1. 7033

COUNTY BOROUGH OF BURTON UPON TRENT
BOROUGH ARCHITECT'S DEPARTMENT

Applications are invited for the appointment of ASSISTANT QUANTITY SURVEYOR, Grade A.P.T. IV (£727 15s. to £907 2s. 6d.), at a commencing salary in accordance with qualifications and experience. Appointment subject to the provisions of the Local Government Superannuation Acts, 1937-1953; to the passing of a medical examination, and to determination by one month's written notice on either side.

Housing accommodation, at a rent, will be provided for the successful candidate if required.

Applications, giving age, qualifications, full details of experience and names of two referees, to the Borough Architect, Town Hall, Burton upon Trent, by 10th August, 1957.

H. T. MEADES,
Town Clerk.
Town Hall, Burton upon Trent.
16th July, 1957. 7001

COUNTY BOROUGH OF EASTBOURNE
ASSISTANT ARCHITECT.

A.P.T. II (£609 17s. 6d. to £691 17s. 6d. p.a.).

Applications are invited for the above appointment.

Applications, giving full particulars of age, qualifications, experience, present position and salary, together with the names of two referees, to be sent to the undersigned by the 7th August, 1957.

R. WILLIAMS, B.Sc., A.M.I.C.E.,
Borough Engineer and Surveyor.
2/4, Saffrons Road, Eastbourne, Sussex.
19th July, 1957. 7048

Architectural Appointments Vacant

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

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