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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. L. Stevenson, College of Art, Hope Street, Liverpool 1.	Royal 1826
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
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 S. Vincent Goodman, F.R.I.B.A., Shire Hall, Bedford.	Bedford 67444
CCA	Cement and Concrete Association. 52, Grosvenor Gardens, S.W.1.	Belgravia 6661
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
DOT	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 Associations of Specialists and Sub-Contractors, 14, Bryanston Street, W.1.	Welbeck 1781
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

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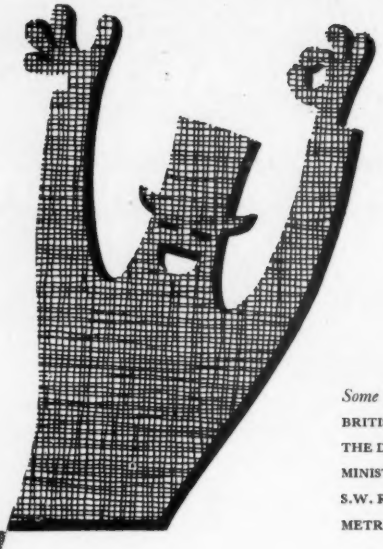

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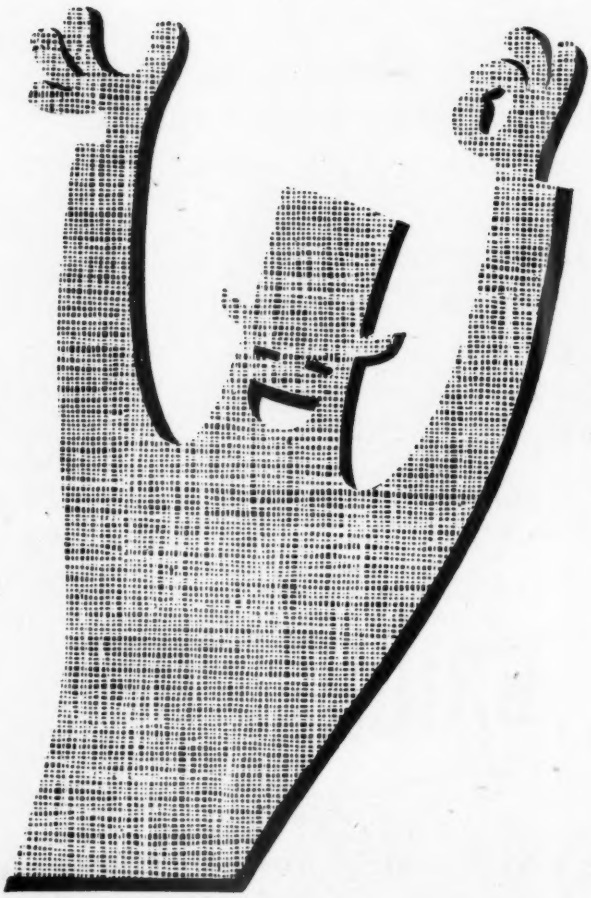

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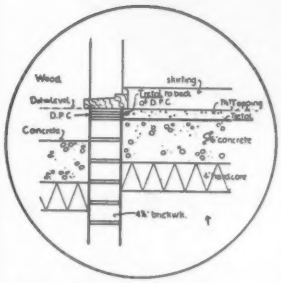

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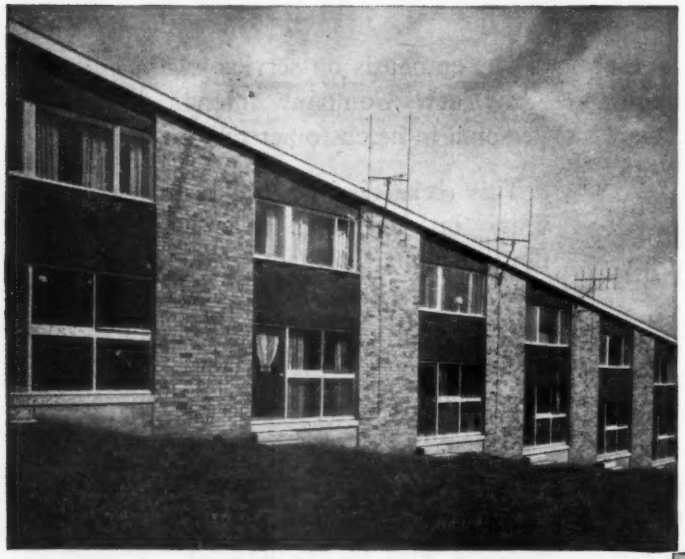
WILLIAMS & WILLIAMS NEWS SHEET

WILLIAMS & WILLIAMS Standard Metal Windows for unorthodox housing at Sheffield



These terrace dwellings on the Gleadless Valley Estate, Sheffield are specially designed to conform to an extremely hilly site. They are a cross-wall construction—the floors spanning between the walls. Frontages are purposely narrow so that the terrace can be built down a steep slope with a minimum of under-building. The interior planning is ingeniously devised to give a traditional room layout within the narrow frontage as the plans show.

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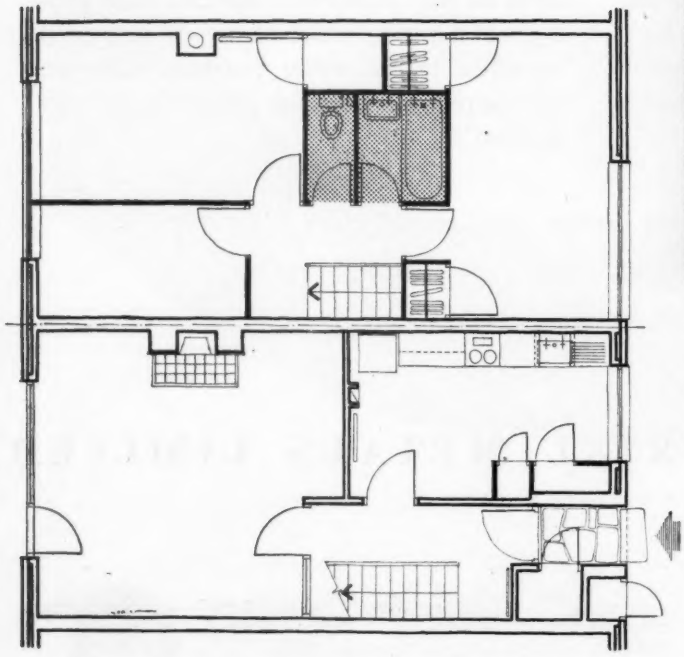

1 Terrace houses at Gleadless Valley Estate, Sheffield
Architect: J. L. Womersley, F.R.I.B.A., M.T.P.I., Sheffield City Architect.

2 A variation on the basic theme in which the individual dwellings are 'stepped' down the terrace.

3 First floor plan (above). Shaded area shows limit of skylight over bathroom and W.C. Ground floor plan below.

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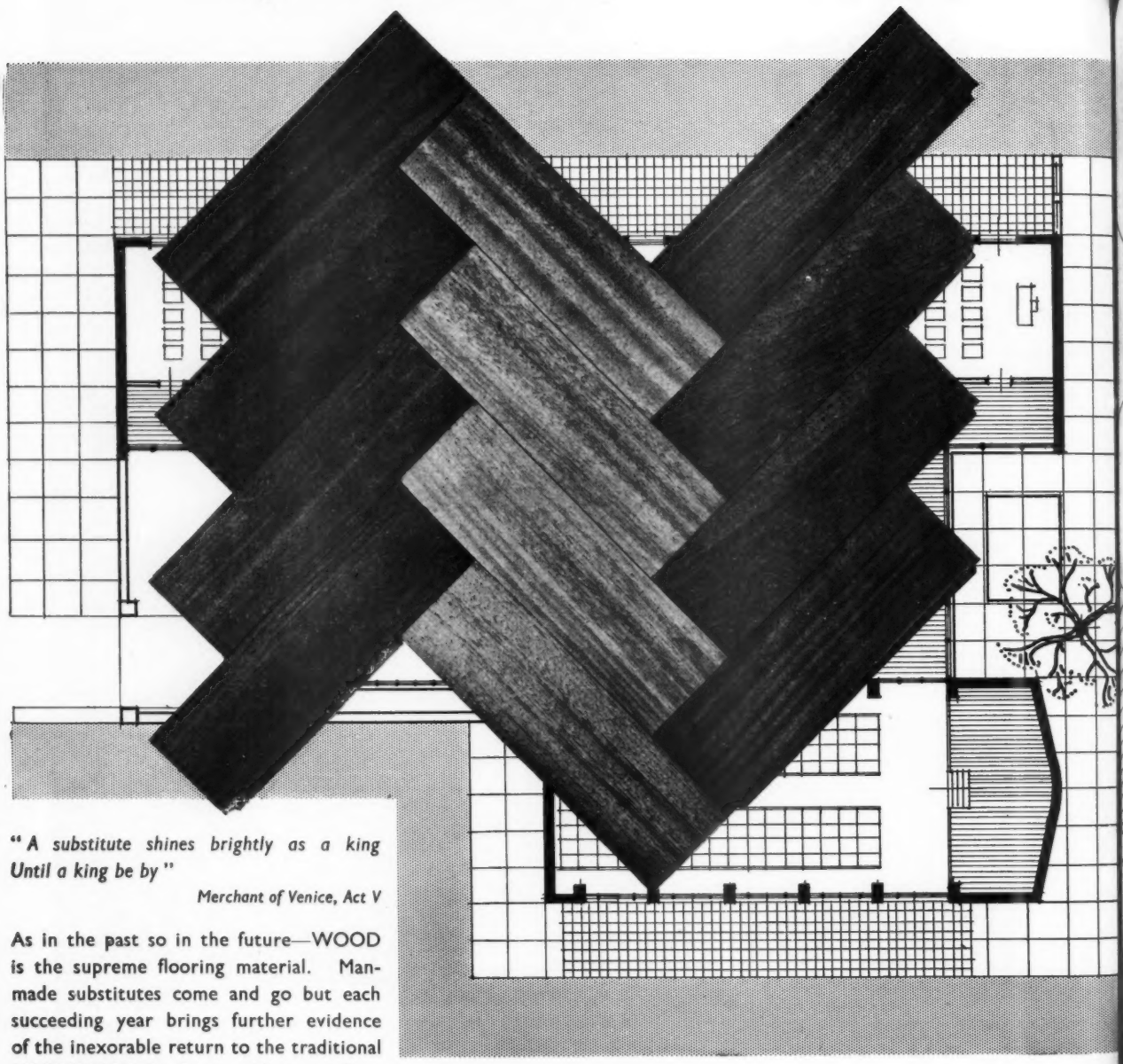

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Merchant of Venice, Act V

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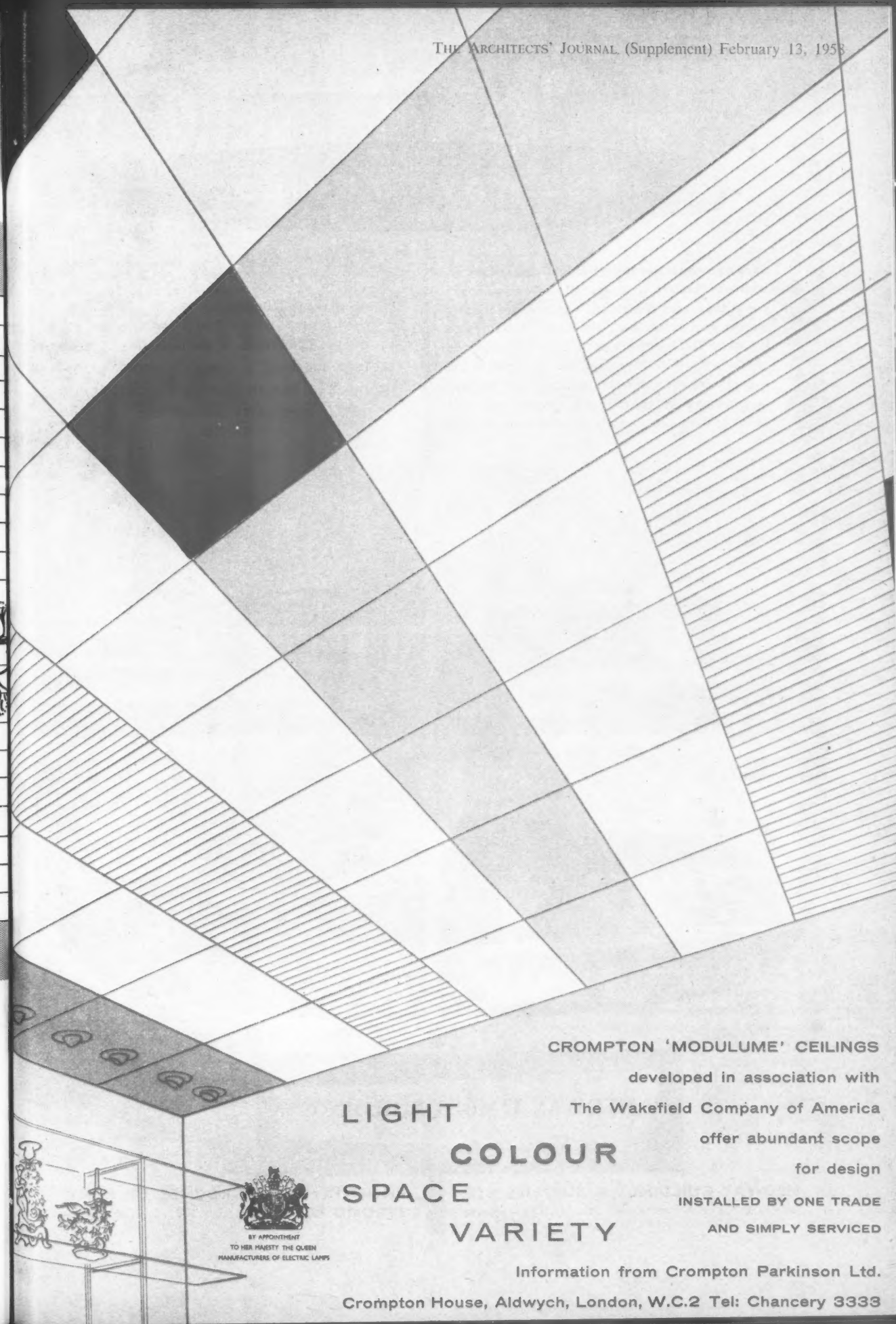

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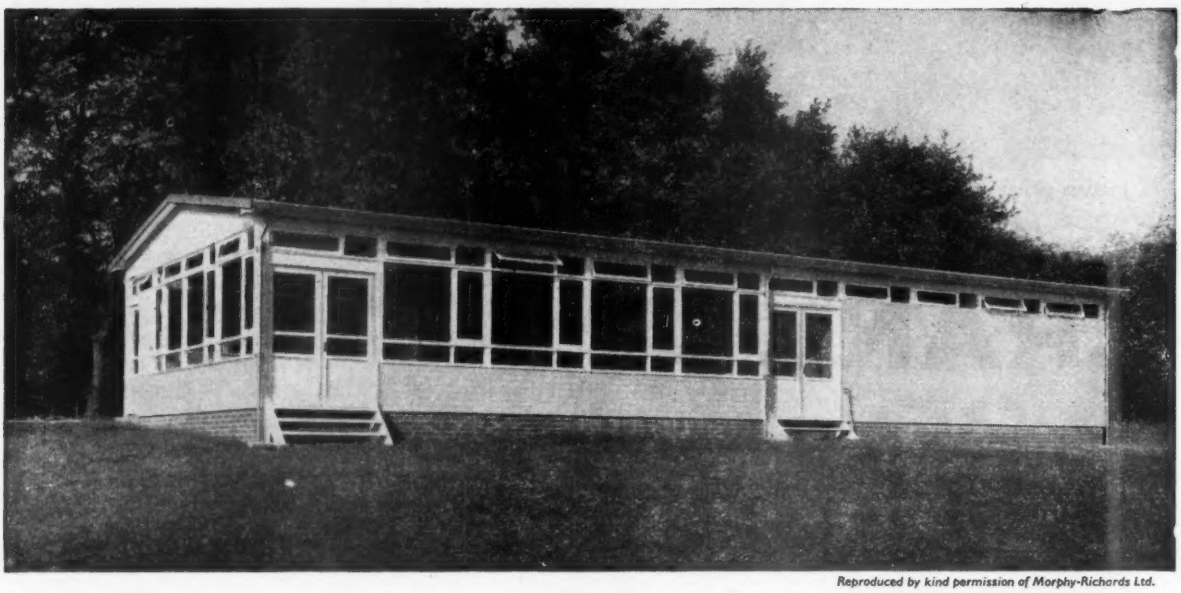

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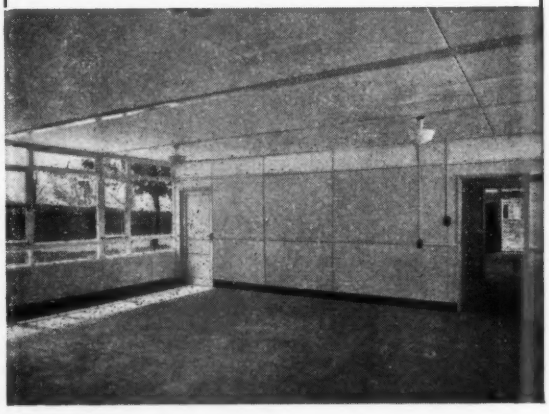

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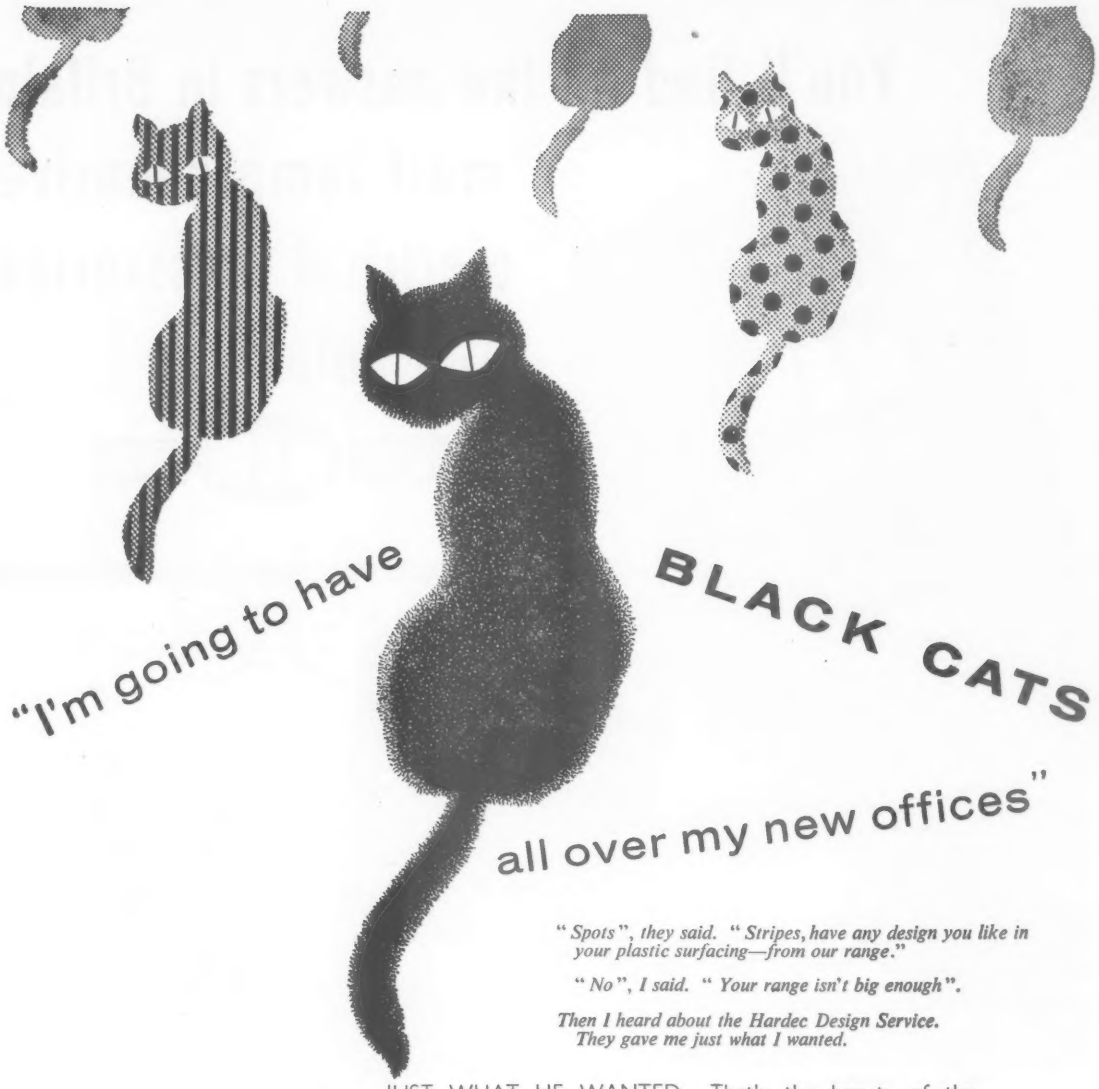

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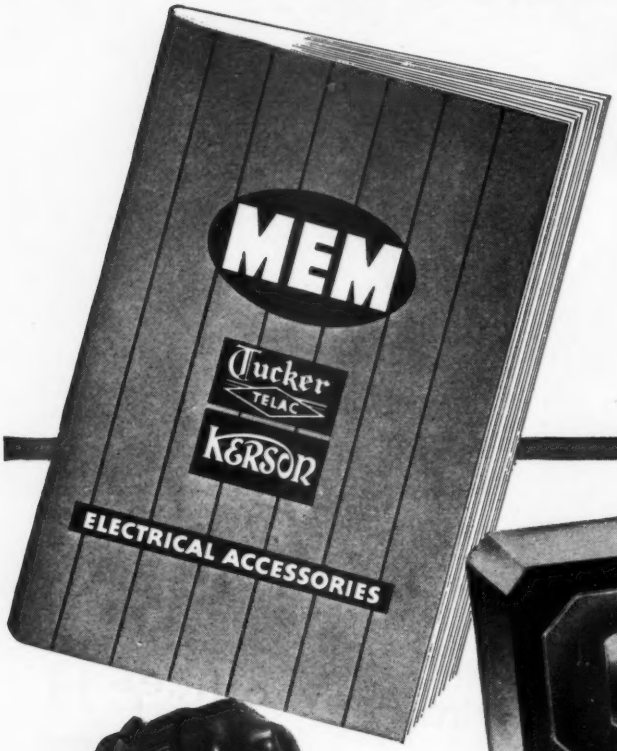

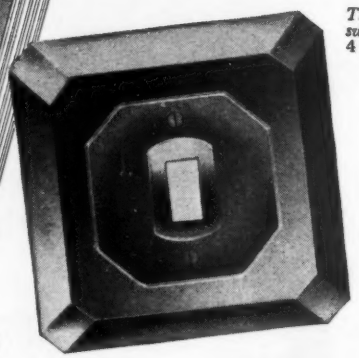

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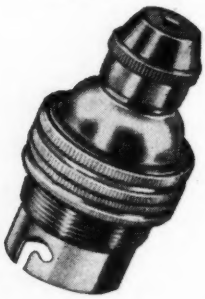

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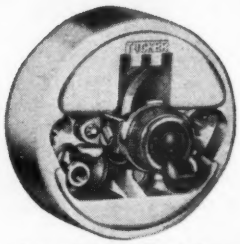

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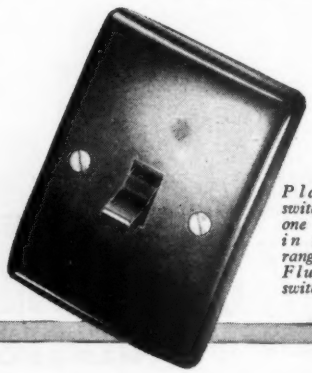

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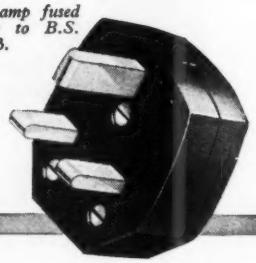

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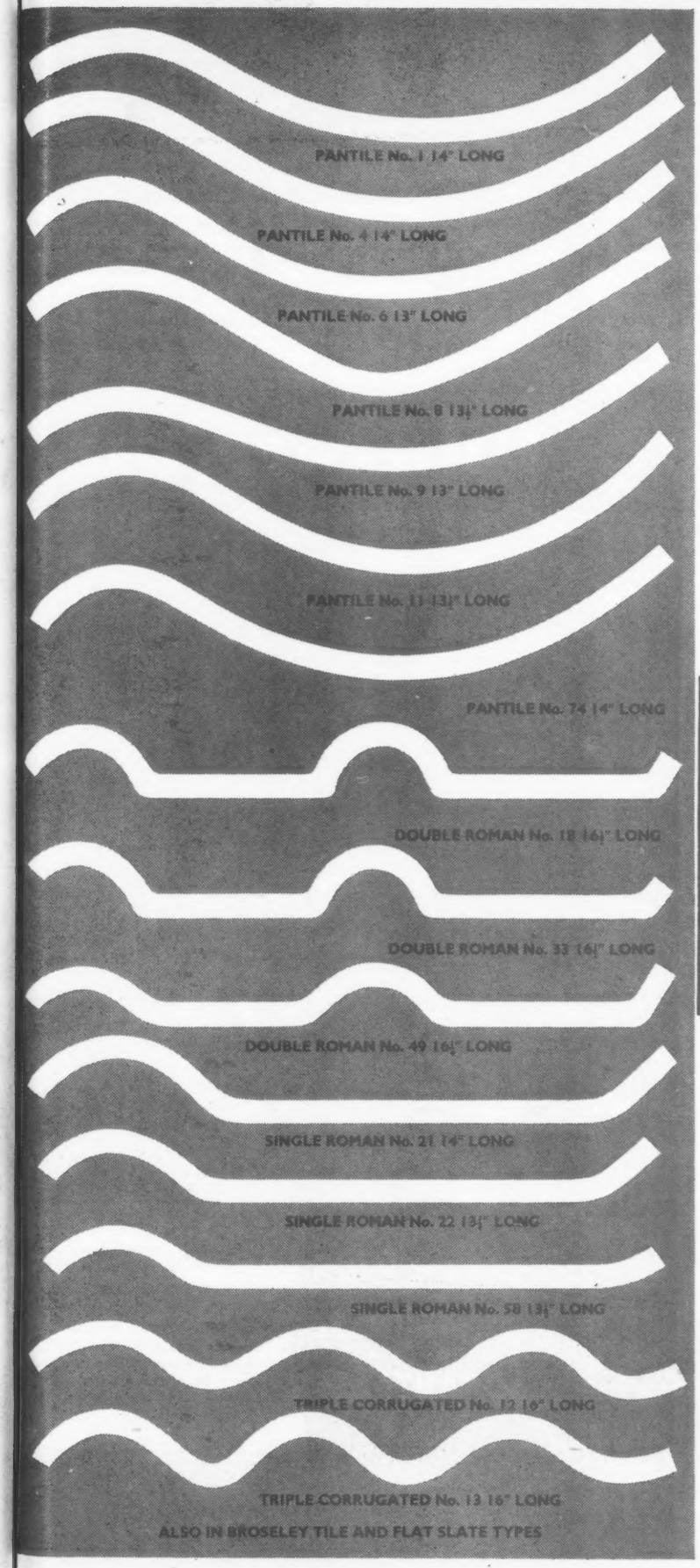

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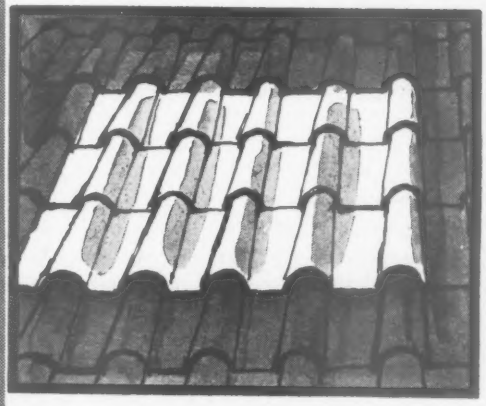

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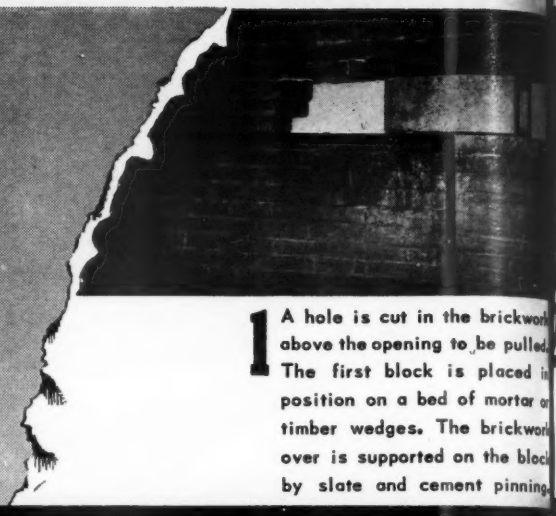

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The principle of the Udall Lintol method is that a number of courses of brickwork above the opening to be pulled—or the wall to be cut away—is replaced with a series of special high quality concrete blocks, these blocks being placed individually so that at no time is there sufficient brickwork cut away as to render the structure unstable. By the use of high tensile wires in the form of Gifford-Udall-CCL Prestressing Cables, this series of blocks is stressed together to form one complete lintol or beam.

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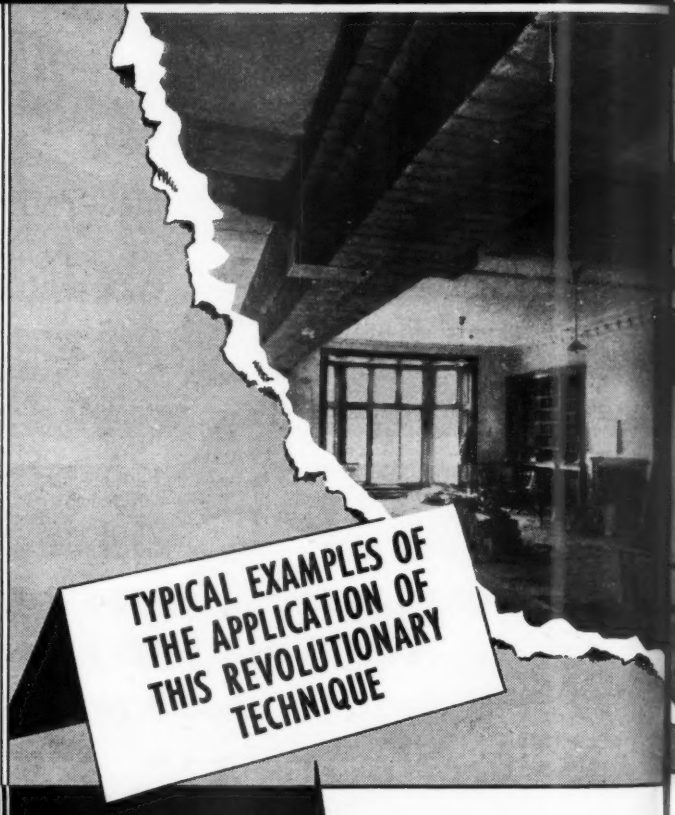
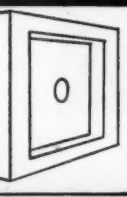


TYPICAL EXAMPLES OF THE APPLICATION OF THIS REVOLUTIONARY TECHNIQUE

©-UDALL PRESTRESSED CONCRETE SYSTEMS

NO NEEDLING
NO PROPPING
NO SHORING

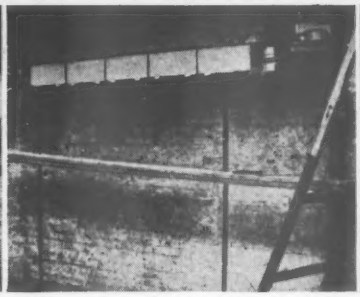


TAKE A LOOK AT THESE ADVANTAGES

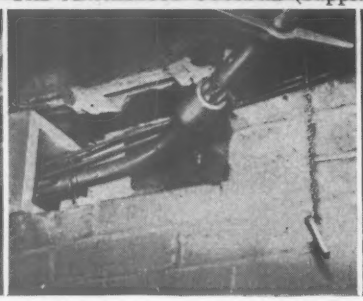
- ★ No needling or propping necessa
- ★ No long steel joists to be carr through the building and hois into position.
- ★ Great saving in cost. No pla or decorations to be made goo any part of the building other t in the part being altered.

Write NOW for full details to

2 The anchor block and two further blocks are progressively and individually placed. On the right sufficient brickwork is cut away to take curved stressing tube. The joints between blocks are made by ramming in dry cement and sand mortar.



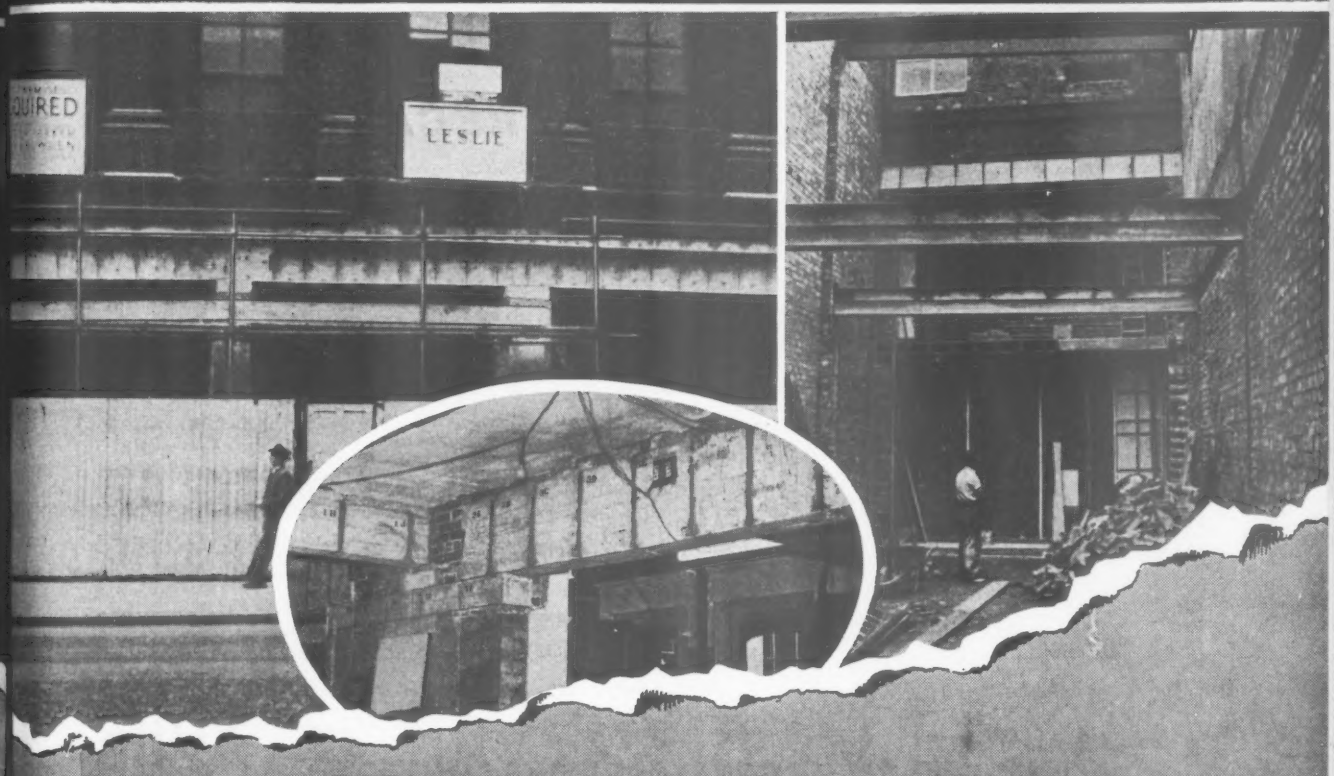
3 The whole of the Udall Lintol blocks are now placed forming a course of concrete blocks supporting the brickwork and load over on the existing brickwork below. The Gifford-Udall-CCL Prestressing Cable is inserted in the duct formed through the length of the Lintol blocks.



4 The Gifford-Udall Jack with its curved tube is used to stress and anchor the wires to a load of approximately four tons each wire. The use of the curved tube can be seen, throwing the Gifford-Udall Jack clear of the wall, with only about 18 in. of brickwork cut away.

5 The Udall Lintol, having bee stressed, is now ready to tak the full load of the brickwor and structure above. Th opening is then cut away

: Underpinning: all simplified



No disturbance to rooms or structures above or below.

Little disturbance to either side of the new opening.

No specialist knowledge is required to carry out the operation.

Normal labour can be trained and used on the first job.

★ No cracking of walls above the opening. The Udall Prestressed Lintol tends to lift the brickwork and load over when it is stressed and thus take the full load before the brickwork below is cut away.

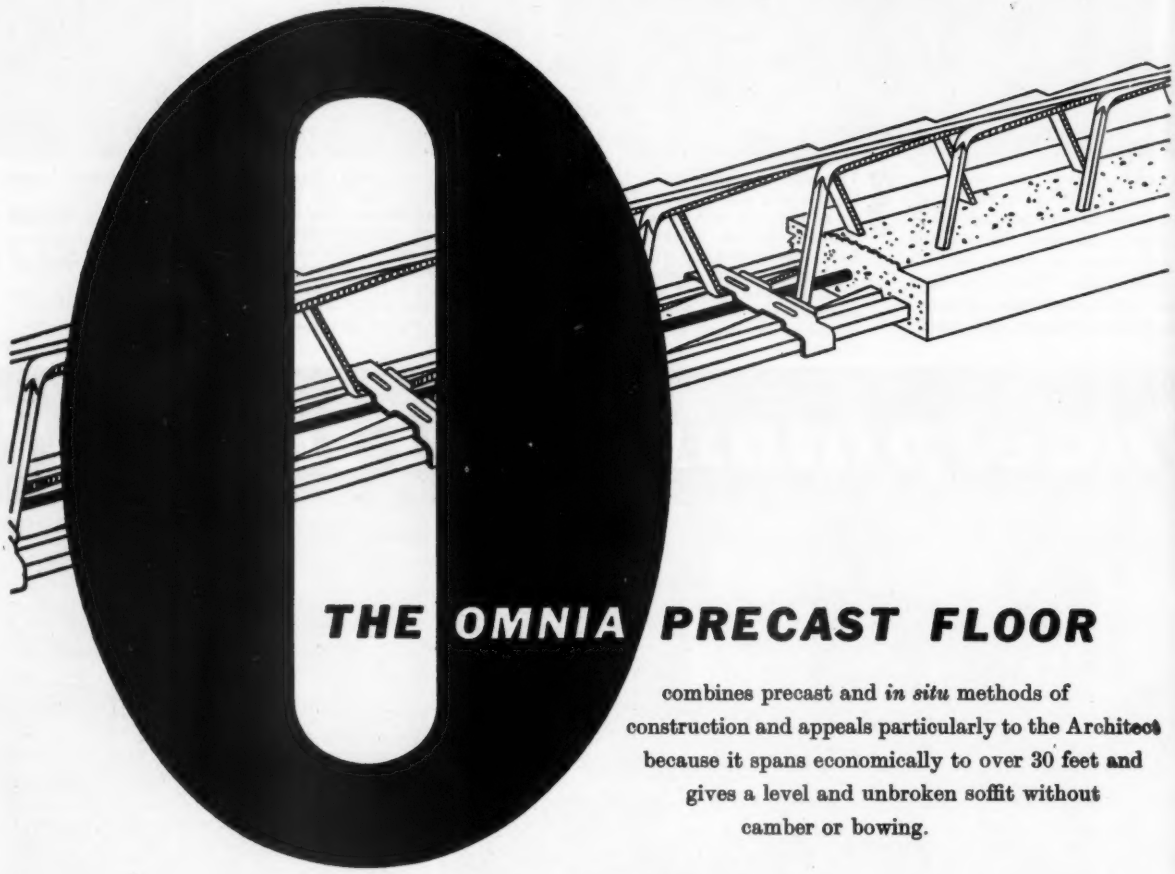
★ Large chimney breasts can be removed if required without disturbing the main stack above.

★ The CCL-Udall Service enables you to take fullest advantages of this technique. Designs for special problems gladly undertaken.

★ When necessary, stressing can be done within the span; for example, where a shop front is between two other buildings.

CABLE COVERS LIMITED

PRESTRESSED CONCRETE DIVISION
ST. STEPHEN'S HOUSE, WESTMINSTER, S. W. 1
TELEPHONE: ELMBRIDGE 7241



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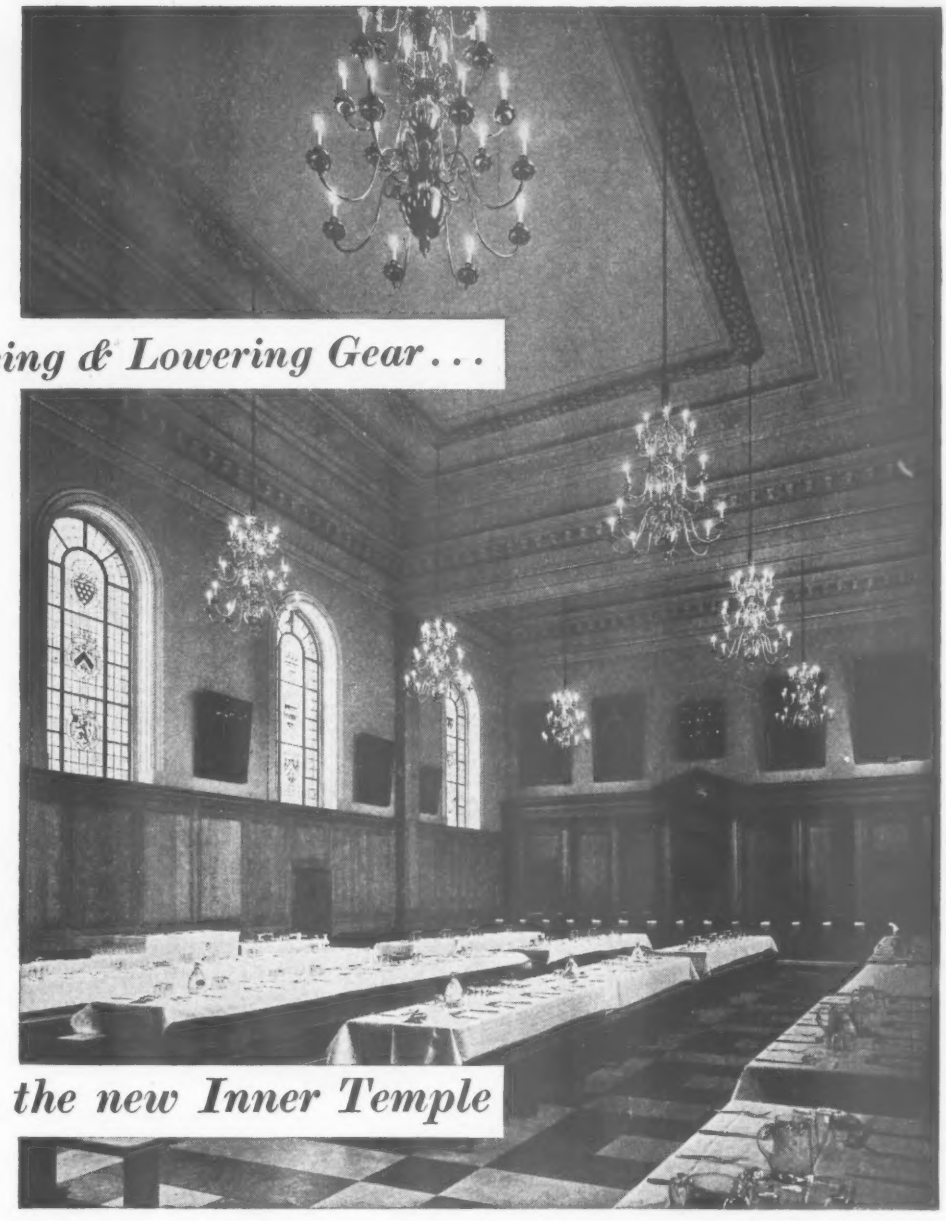

L.E.F. Raising & Lowering Gear . . .

is fitted in the new Inner Temple

The beautiful Hall of the new Inner Temple is lighted by ten heavy chandeliers weighing about 2 cwt. each. They are brought down to floor level for convenient maintenance by means of L.E.F. Raising and Lowering Gear.

L.E.F. were consulted at an early stage during building operations by the Architects (Sir Hubert Worthington, R.A., and T. W. Sutcliffe, Esq., A.R.I.B.A.) and the contractors (Bower Engineering Works Ltd.) with the result that we were able to supply equipment that was " built in " to the ceiling. All working parts are completely concealed.

When you have a problem involving inaccessible lighting fittings, we shall be glad to advise you without obligation. It is often vital to discuss your needs with us at the earliest planning stage, both from the technical point of view and also to ensure that we are able to satisfy your delivery requirements.

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TIB93

"...now it's

FORMICA

polythene piping!"

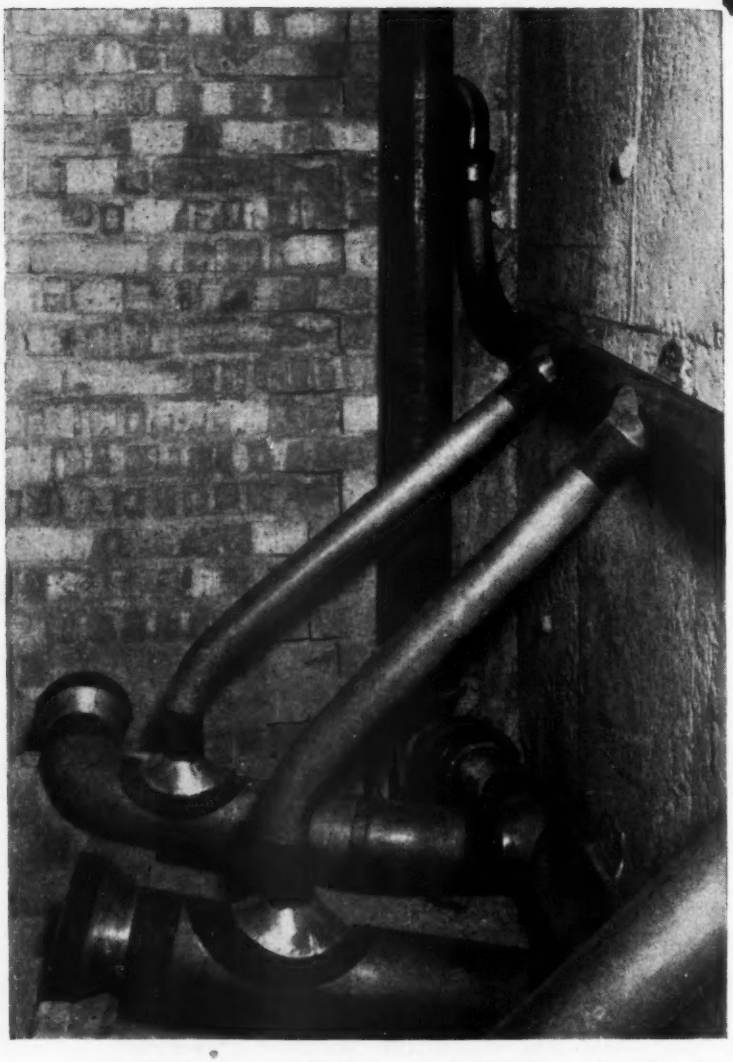
From the 1st January this year all De La Rue plastics products take the family name of FORMICA. In the case of the famous flexible, no-corrosion, never-burst polythene piping, this change of name accompanies developments in the product itself. The new FORMICA polythene piping is, from every aspect, polythene piping of the highest quality in the world—the most dependable, the most convenient, the most scrupulously manufactured. How can you be sure your piping is FORMICA polythene? By the coloured protective wrapping which distinguishes the two grades, medium and high pressure . . . By its high degree of internal and external polish . . . By this clear marking down the length of the pipe: FORMICA BS 1972/1953 POLYTHENE.

Plastics piping of **FORMICA** *quality!*

FORMICA LTD. DEPT. P211, DE LA RUE HOUSE, REGENT STREET, LONDON W.1 **FORMICA is a registered trademark*

For Compact Duct Plumbing

lead pipe



Plumbing to ranges of W.C.'s in a new block of offices in Wigmore St. W.1
Architect: Cecil H. Elsom, F.R.I.B.A.
General Contractors: Higgs & Hill Ltd.
Plumbing: Arthur Scull & Sons Ltd.

In the hands of a skilled plumber lead pipe can be bent and deviated to provide efficient disposal plumbing housed in a more confined space than is practical with other pipe materials. The flexibility of lead branch connections facilitates the accurate fixing of an appliance and also takes up any subsequent movement that would otherwise cause a fracture.

The Association's Technical Information Bureau will gladly help with problems on the use of Lead Sheet and Pipe in building work. Details of the main uses are given in a series of Information Sheets and Bulletins, which can be obtained by applying to the Association.

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LEAD DEVELOPMENT ASSOCIATION

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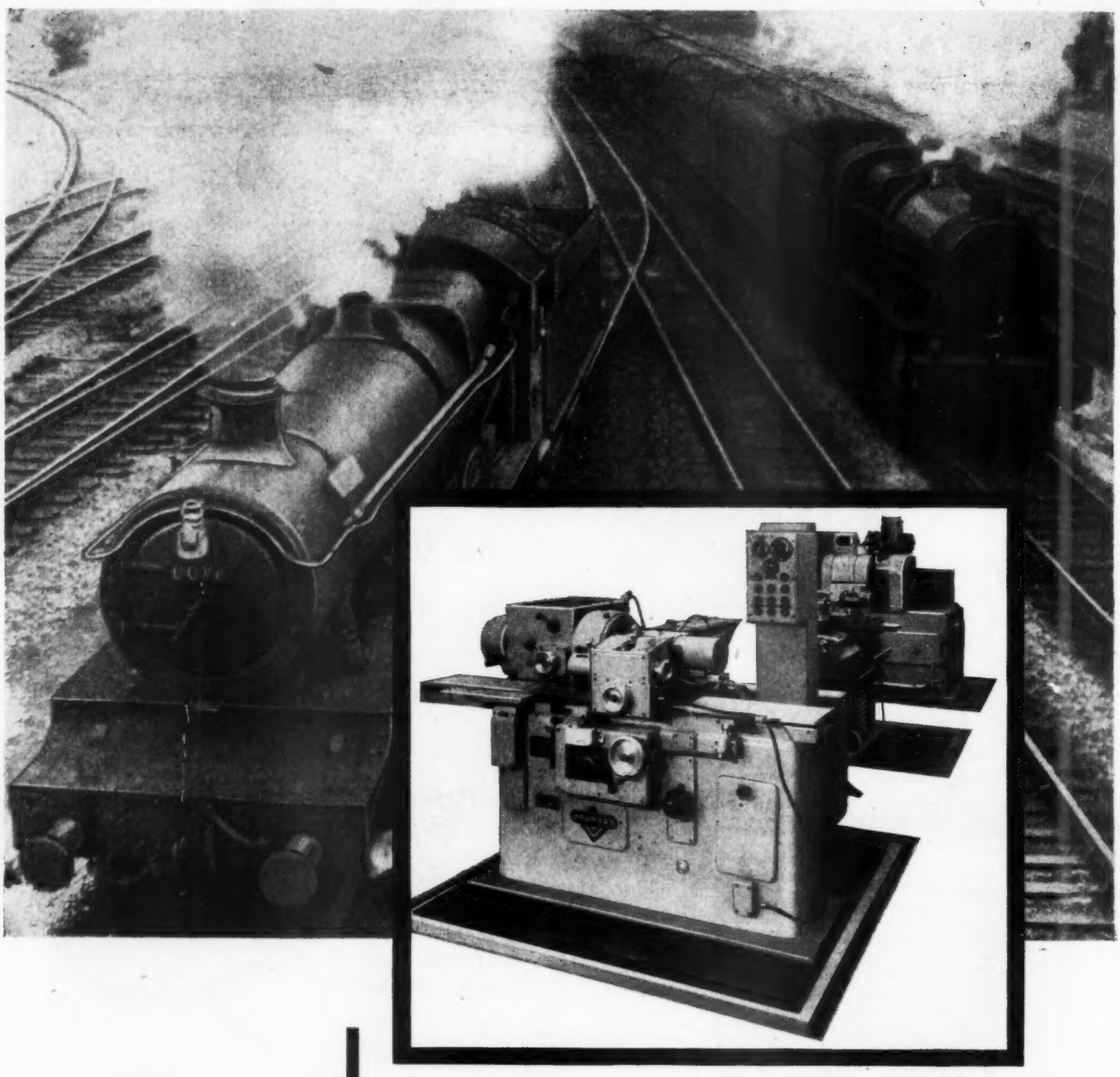

PRECISION GRINDING

to Six-Millionths near a main-line railway

Within a few yards of the railway at Colchester, Roller Bearings are being ground to micron-precision tolerances, on machines isolated from vibration on the Dunlop 'Foundation Mounting' principle. Messrs. Gamet Products Ltd. say "the limits of accuracy and the quality of production are exceptional".

Behind this modest comment lies the fact that each roller must be circular to within six-millionths of an inch, and the surface finish has to be maintained between 1.5—2.0 micro-inches.

The inner and outer rings (of some 8" diameter) must not deviate from circularity more than 0.0000197".

For advice on vibration problems of any kind and on any scale, consult:

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7SPC/PC9

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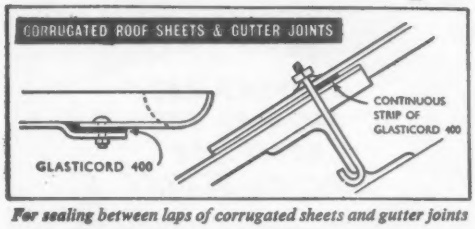
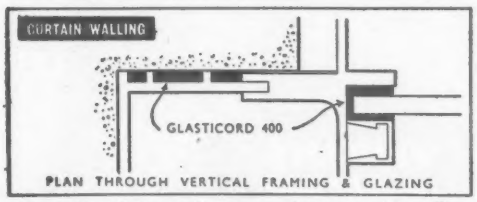
Specify GLASTICORD '400'

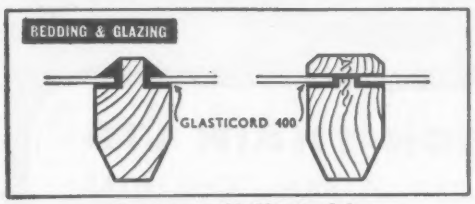
the latest development in Extruded Tape Sealers from U.S.A.



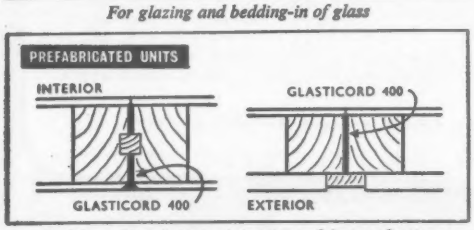
For sealing between laps of corrugated sheets and gutter joints



For sealing of joints and contact surfaces on curtain walling



For glazing and bedding-in of glass



And for sealing between joints in prefabricated units

Glasticord Extruded Tape Sealers are made under exclusive British licence from the Presstite-Keystone Engineering Products Company of St. Louis — the largest manufacturer of joint sealers in the world.

Glasticord Strip has outstanding adhesion and will form a seal in any joint — against metal, wood, glass, masonry, rubber or plastic. It remains permanently plastic and can be used between materials subject to expansion, contraction, vibration or any other form of movement.

Glasticord Extruded Tape Sealers are made in a wide range of section sizes, both circular and strip, designed to fill every building requirement.

GLASTICORD '400' has greater adhesion than any other tape sealer available today, for the purposes illustrated. Supplied in stone grey colour only.

Kelseal Limited also manufacture a wide range of joint sealers including gun mastics.

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- **FIRE RESISTING**
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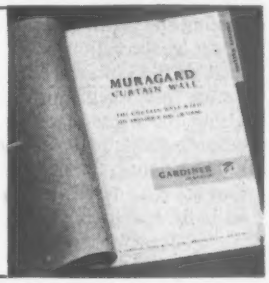

(Patents applied for in the United Kingdom and overseas)

GARDINER

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M-W.123

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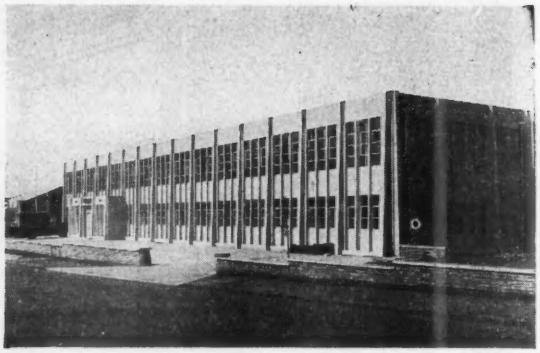
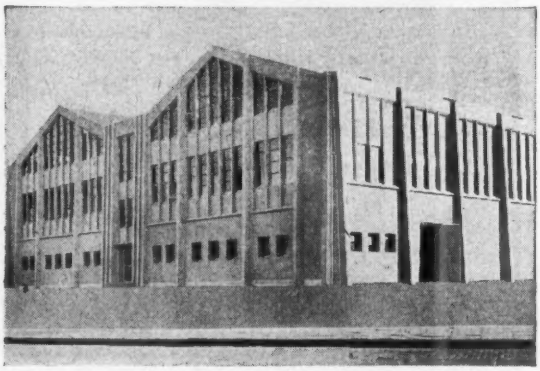


Office block for Messrs. Norrons-Tividale Ltd., Tipton, Staffs.

Interior: Central Engineering Workshop. Messrs. Bryant & May Ltd. Architects: Messrs. Hastie, Winch & Kelly



Exterior: Messrs. Bryant & May Ltd.

Beecham Buildings construct high-quality commercial and industrial buildings—from office blocks and small factories to large industrial layouts covering many acres—at prices which, over the past twelve months, have actually fallen. We accomplish it in these days of 7% by working quickly and eliminating waste.

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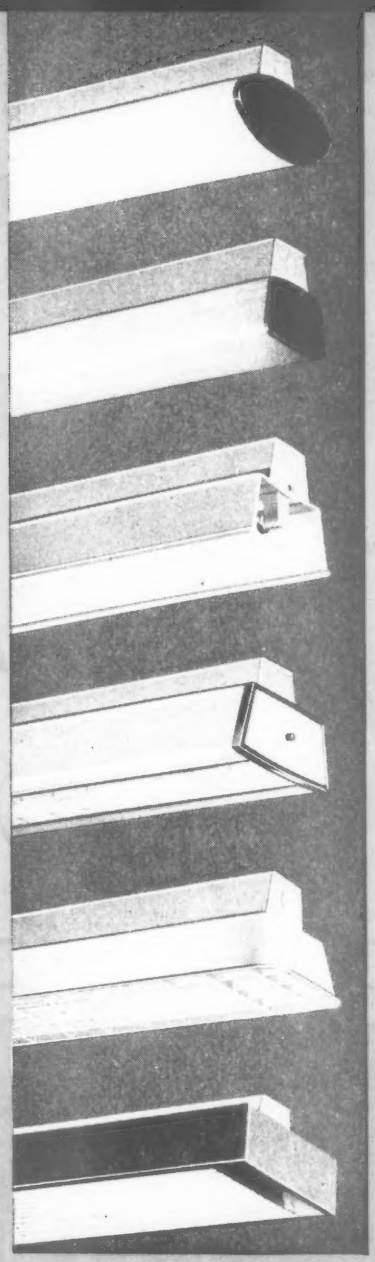

The 101 Range is an entirely new range of contemporary styled industrial, commercial and decorative fluorescent fittings—the successful outcome of team work by G.E.C. fittings designers and illuminating engineers.

The 101 Range sets a new standard of adaptability. Using as a basis channels of common cross section, various single or twin light fittings from 1½ ft. to 8 ft. in length are built without a multitude of small parts.

The 101 Range offers the industrial user for the first time vitreous enamelled closed end trough reflectors made from a single pressing, jointless and with well-rounded corners. They are lighter, less susceptible to damage and easier to handle and clean.

The 101 Range uses in its 8 ft. fittings new Osram 125 w. tubes with recessed double contact caps. This new cap design protects tube ends and allows replacement by one person from one ladder position. Other advantages of the new caps are firm support and location of tube without contact pins or independent clips, and smaller "dead region" at tube ends with consequent shadow reduction. In the 5 ft. fittings, as well as the shorter units, bi-pin holders are standard. Osram guaranteed tubes are available in these lengths with bi-pin caps.

The 101 Range *of fluorescent fittings is fully described and illustrated in a lavish new catalogue—publication F4068—which will be sent to you on request.*

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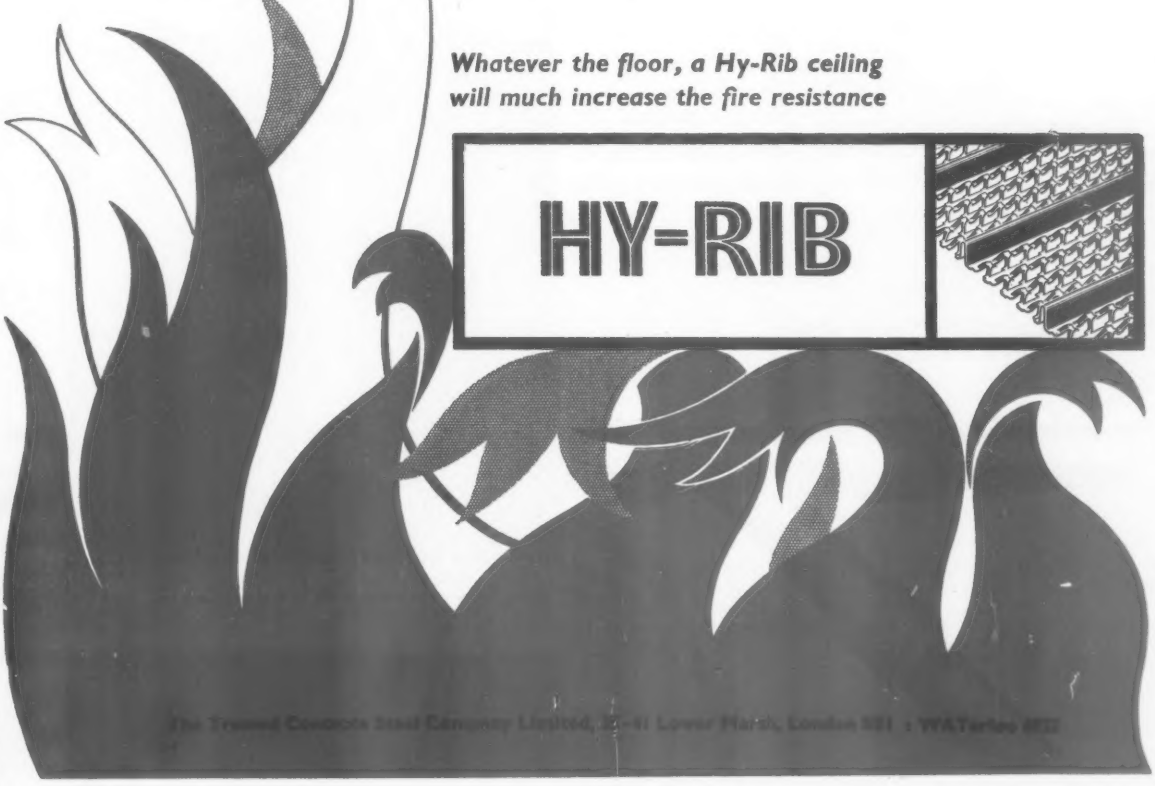
HY-RIB ceiling survives four-hour FIRE test

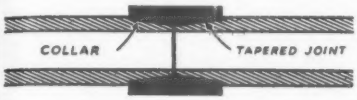
Plaster on a Hy-Rib base is true and sound — held fast and fortified by the steel mesh and tangs. And it is a very efficient fire shield. At the Fire Research Station recently a thin concrete floor — an uncertainty for a one hour rating — qualified *with a Hy-Rib ceiling close below* for four hours fire resistance. In the last stages of the test, the furnace temperature topped 1120°C., yet Hy-Rib still held the basic hemihydrate gypsum plaster intact. We will gladly advise on the fire resistance potential of any floor and Hy-Rib combination. Ask for Hy-Rib Department.

Whatever the floor, a Hy-Rib ceiling will much increase the fire resistance



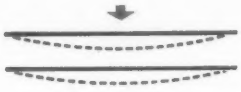
Smooth bore and clean joints

Key Pitch Fibre pipes have precision-machined taper joints which require no mortar or compounds. Combined with their smooth bore, this means a high flow factor, with no problems of root growth.



No cracking through settlement

The resilience of pitch fibre pipes ensures that no cracking occurs under normal conditions of earth settlement. This also means that bedding concrete is unnecessary.



Resistant to corrosion

Key pipes are vacuum-impregnated with pitch and are non-porous and resistant to normal effluent corrosives throughout their thickness.

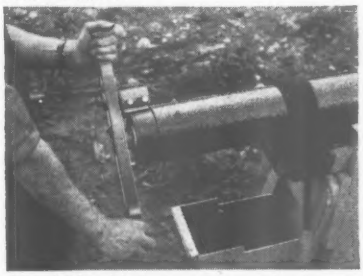
Maximum loan period

The 30-year loan period applies to all Key Drain pipes. Pitch fibre pipes have been used with notable success in the United States for over 50 years.

A piece of heavy timber is placed against the coupling and a length knocked home.

The precision-machined taper joints require no mortar or jointing compounds.

Short lengths of pipe can be cut with a coarse toothed handsaw.



A special hand lathe is used for cutting joints on short lengths.

SPEEDING THE JOB— CUTTING THE COST

500 feet an hour is a modest rate for laying Key pipes. The simple system of jointing also ensures that the pipe can be laid in all weathers. Because there is no cement to dry out, the completed drain can be tested immediately and the trench back-filled without delay. When contracts must be carried out to a tight schedule these advantages are well worth bearing in mind. On a cost plus labour basis, pitch fibre pipes are cheaper per installed foot run than other drainage systems.

Also KEY Underfloor Ducting and Cable Conduit

THOROUGHLY TESTED AND APPROVED

British Standard

Key pipes exceed the requirements of BS 2760/56 for Pitch-impregnated Fibre Drain and Sewer Pipes. This standard was approved by the Bituminous Products Industry Standards Committee consisting of representatives of Government departments and professional bodies, including the following:

Royal Institute of British Architects
Ministry of Housing & Local Government
Ministry of Works
Institution of Civil Engineers
Royal Institute of Chartered Surveyors
D.S.I.R.— Building Research Station
Institution of Public Health Engineers
London County Council

Ministry of Health Model Bye Laws

Pitch fibre pipes are deemed to comply with M.O.H. Bye Law requirements.

Building Research Station Report

Key Pipes were tested by this body and given a favourable report.

Other approving bodies

Federation Civil Engineering Contractors.

National Federation of Building Trade Employers.

Royal Society for the Promotion of Health.

Many local authorities have installed KEY pipes

Test Results

Key pipes have been subjected to detailed physical tests.

KEY PITCH FIBRE PIPES

The world's finest and most modern drainage system

A PRODUCT OF **KEY ENGINEERING COMPANY LIMITED**
Larkfield, Nr. Maidstone, Kent. Telephone: Maidstone 7461 & 7233

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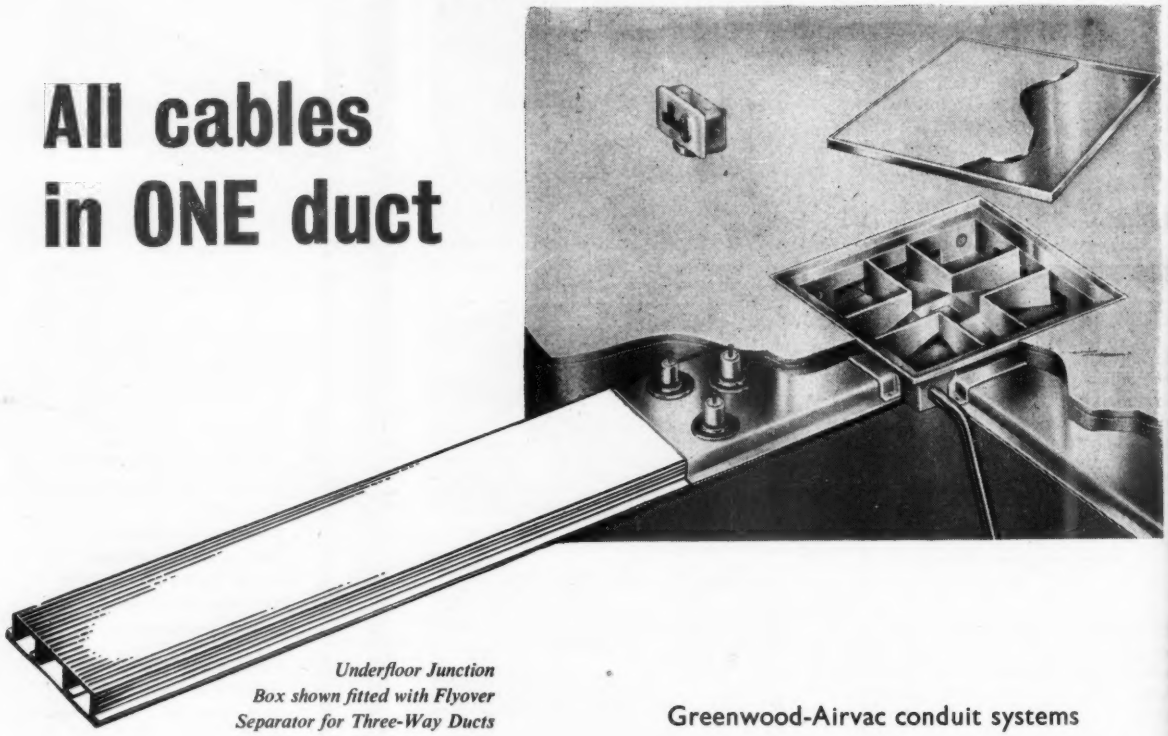
All cables in ONE duct



Underfloor Junction Box shown fitted with Flyover Separator for Three-Way Ducts

Greenwood-Airvac conduit systems provide for all cables to be housed in one duct with adequate screening between telephone and power cables. The unique construction of the underfloor system enables it to be laid where necessary in only 1½" of screed, and for applications where underfloor fitting is impracticable, a skirting system is readily available. Please write or telephone for the publication 'Greenwood-Airvac Conduit Systems' or call to see the demonstration layout in the Beacon House showroom.

Works Engineer: Metropolitan-Vickers Works Engineer's Department.
General Contractors: George Wimpey & Co. Ltd.
Electrical Contractors: W. J. Furse & Co. (Manchester) Ltd.

New Office Block for Messrs. Ferguson Pailin Ltd., Manchester. Another Greenwood-Airvac Conduit underfloor installation.

Greenwood-Airvac *conduit systems*

GREENWOOD'S AND AIRVAC VENTILATING COMPANY LTD
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BEACON HOUSE, KINGSWAY, LONDON, W.C.2. CHAncery 8135/6/7. 'Airvac', London

CRITTALL SPECIAL ALUMINIUM WINDOW

This illustration shows the Aluminium Window on the North elevation of the offices at Peterborough for The Mitchell Engineering Co. Ltd. *Chartered Architects: Howard V. Lobb & Partners.* The windows to the drawing office (lower floor) are double-glazed to avoid heat loss and to exclude noise.

ch of the day-to-day output of the Crittall factories breaks no new ground indow design or in technique of construction. But here and there, and risingly frequently, perhaps for a new bank in Singapore or a new block ats in Chelsea you may find a unique project taking shape—adding still e to the long experience and forward development work which has made name of Crittall synonymous with metal windows of the highest quality.

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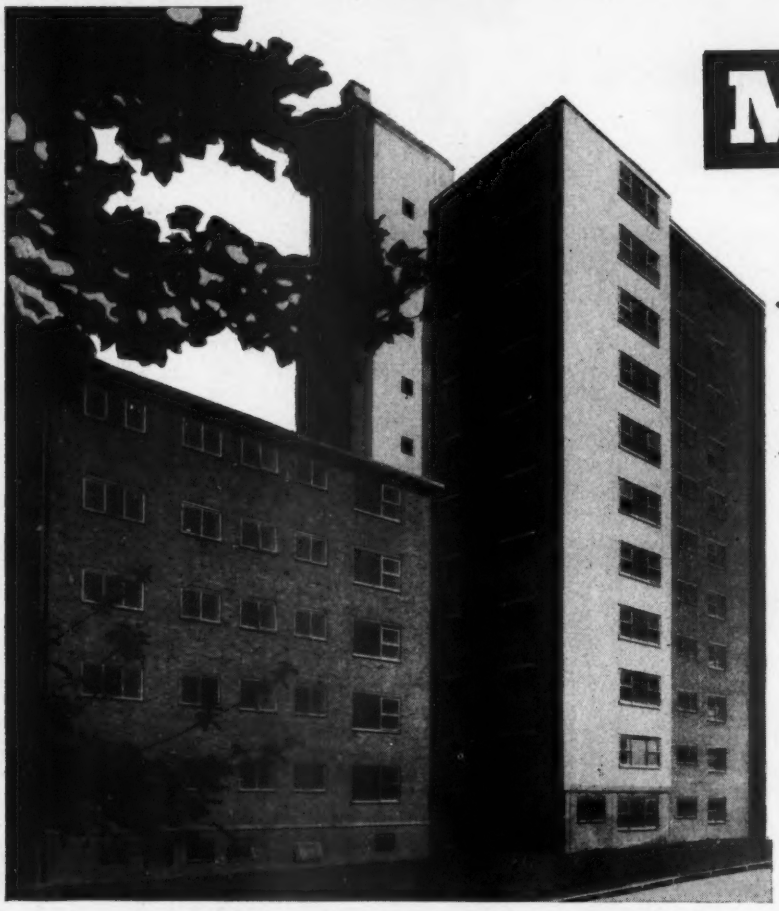

ARCHITECTS: MESSRS. REDGRAVE & CLARK, A.R.I.B.A., F.R.I.B.A.

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23°F and they worked on

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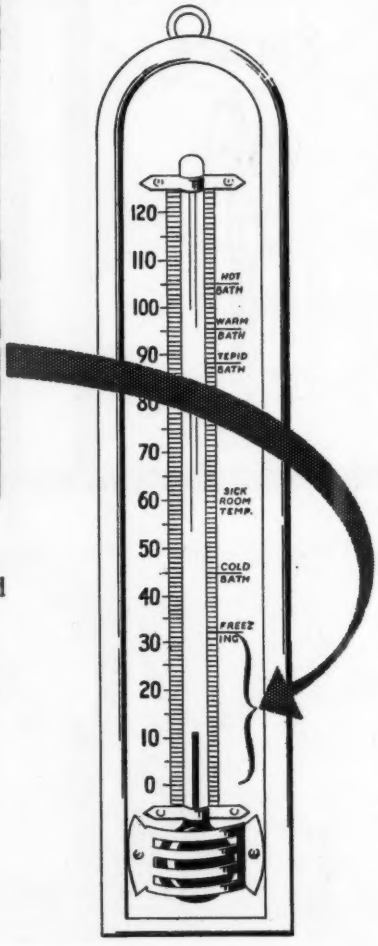

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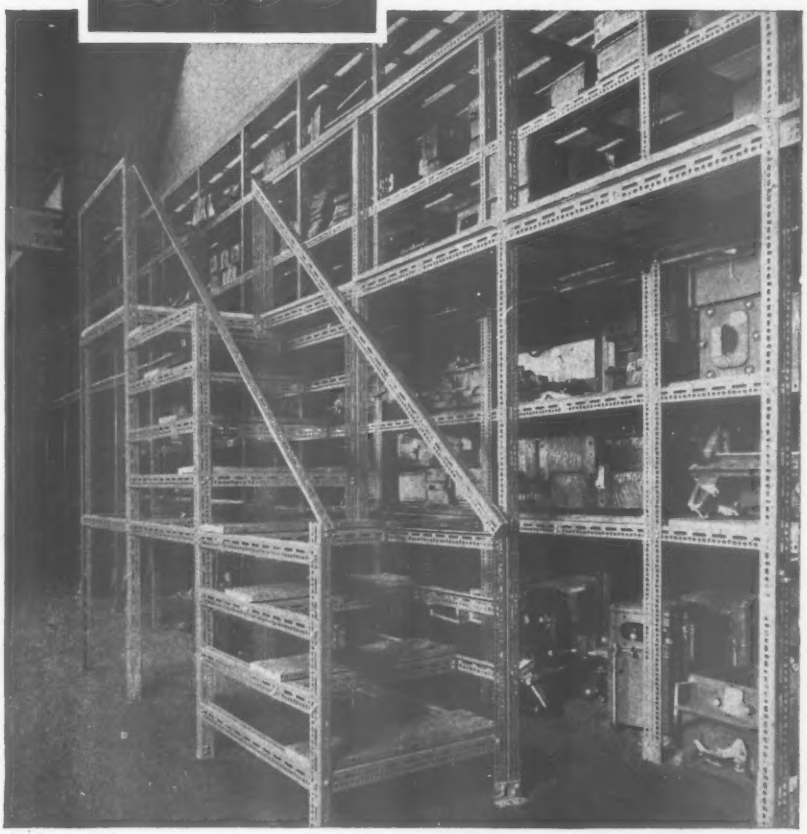

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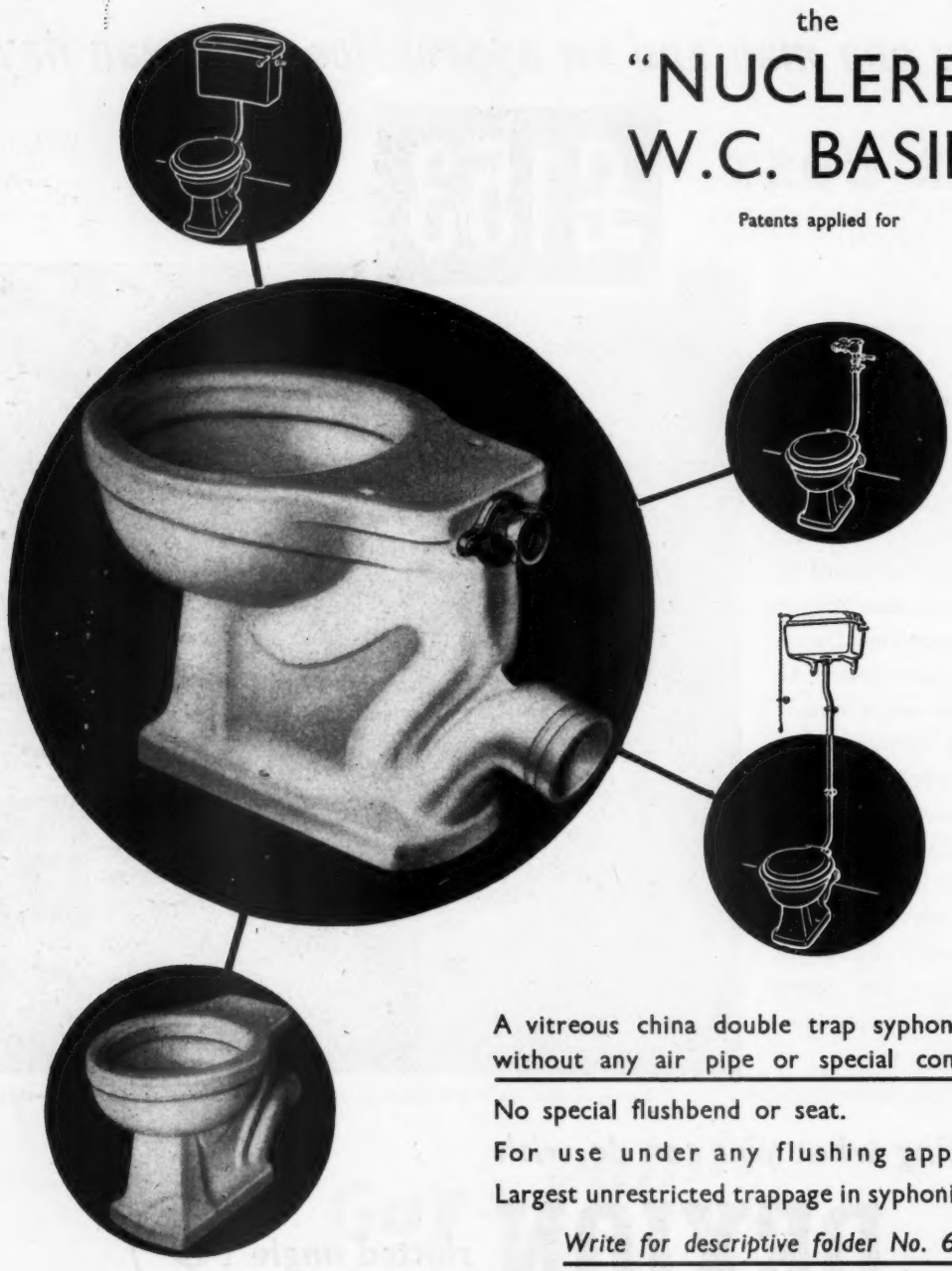

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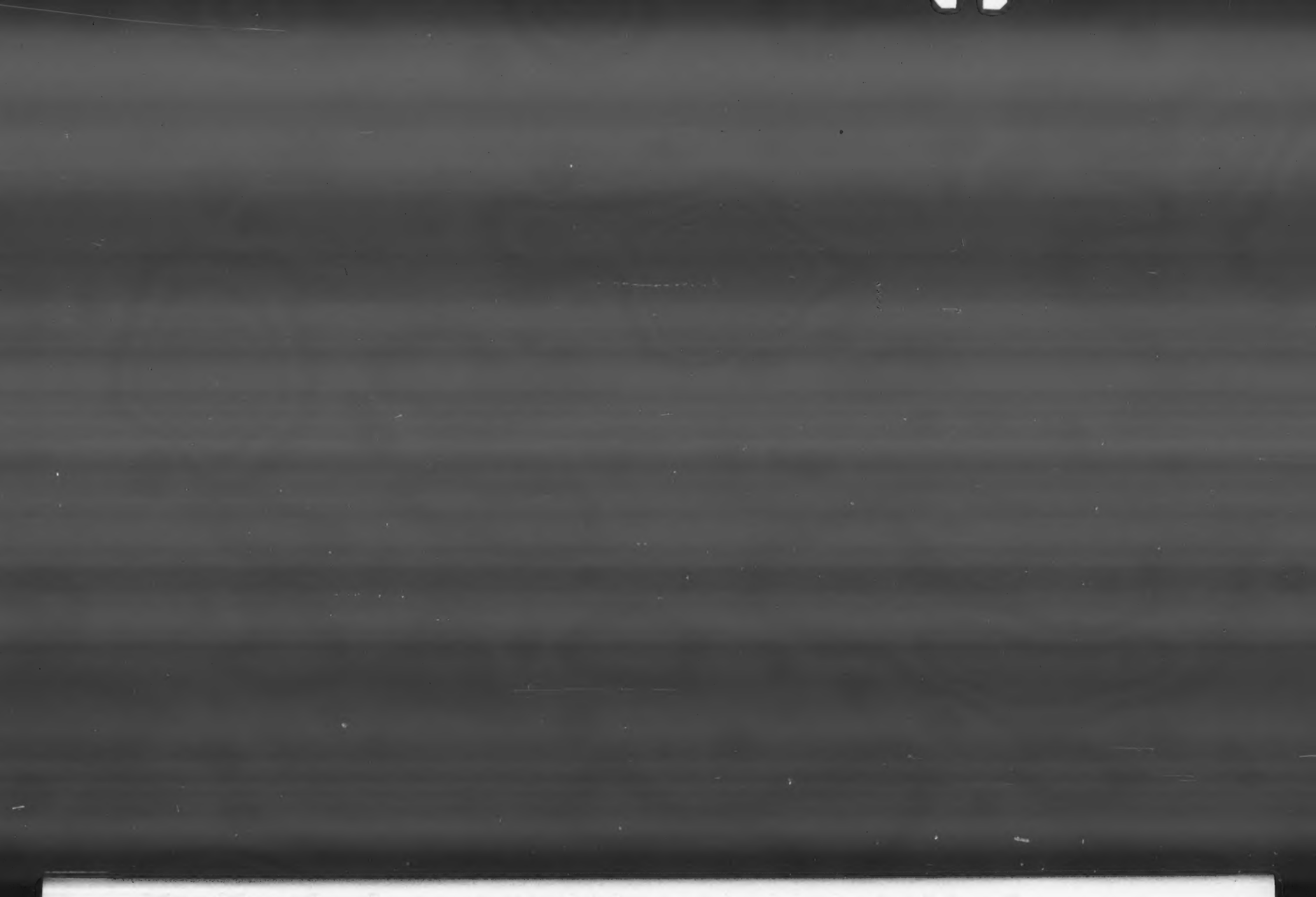
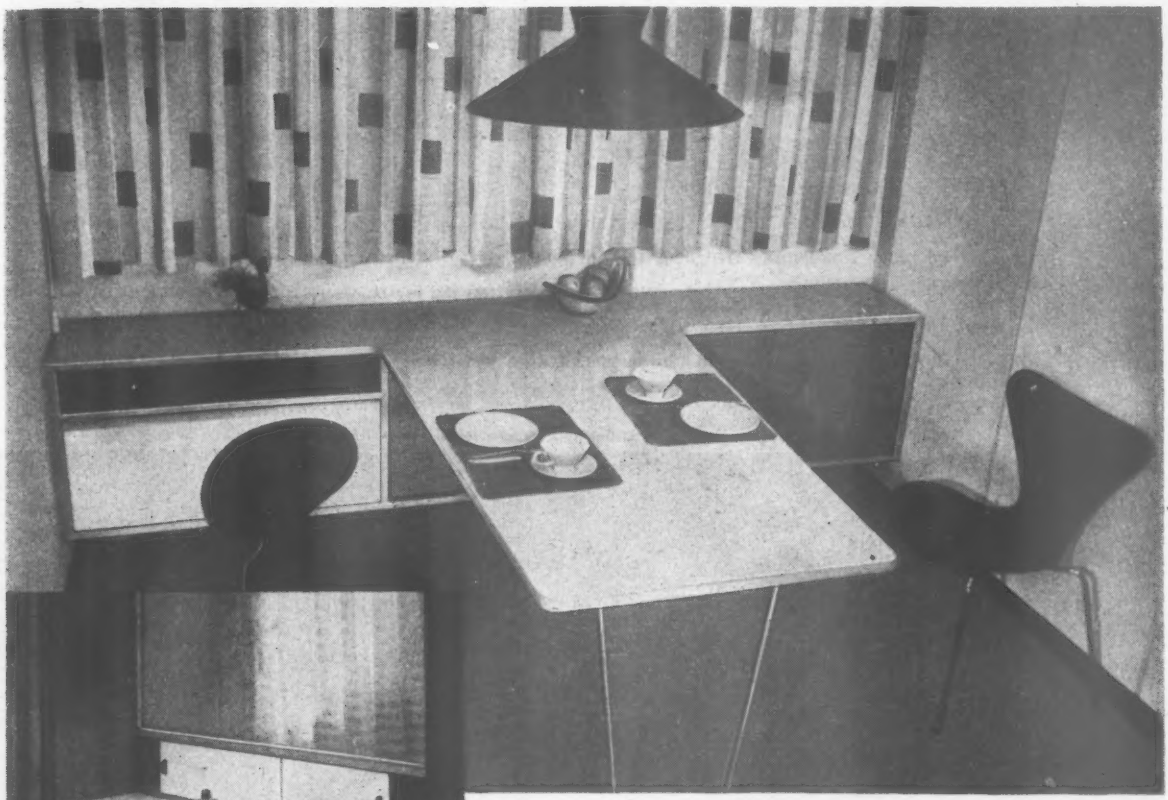


DINING CORNER *Wall panelling and table top in the new grey Irish Linen pattern sliding door in green Arabesque and Ivory panel at left.*



DRESSING ROOM *Table top in the new grey Irish Linen pattern and small sliding panels in plain white.*

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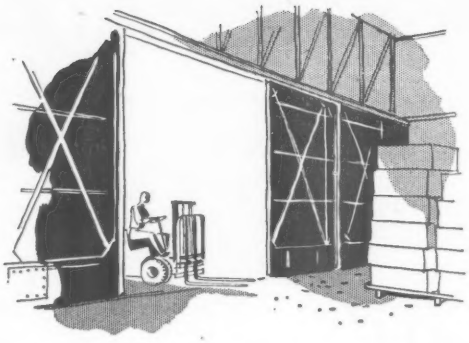

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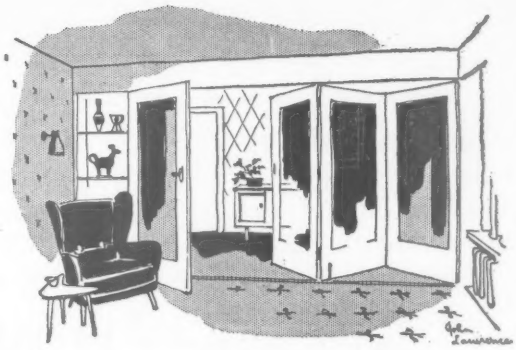
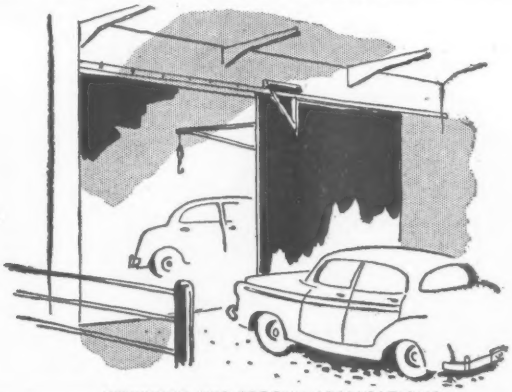


FOLDING DOMESTIC



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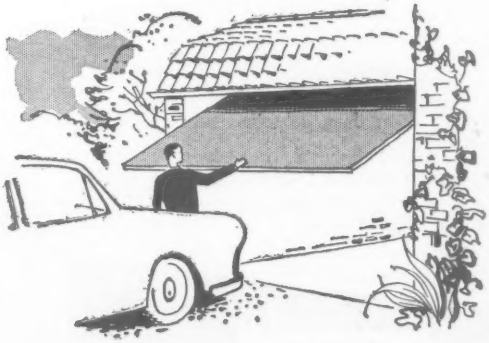
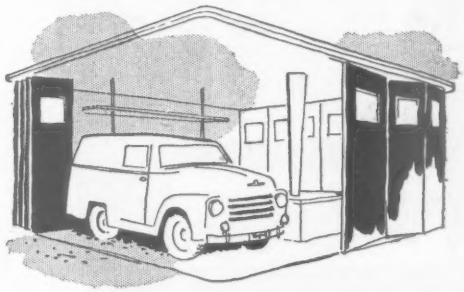


THE UPOVER



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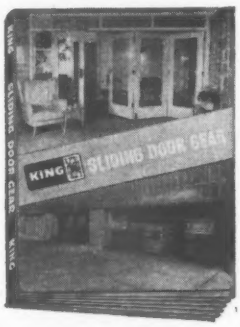

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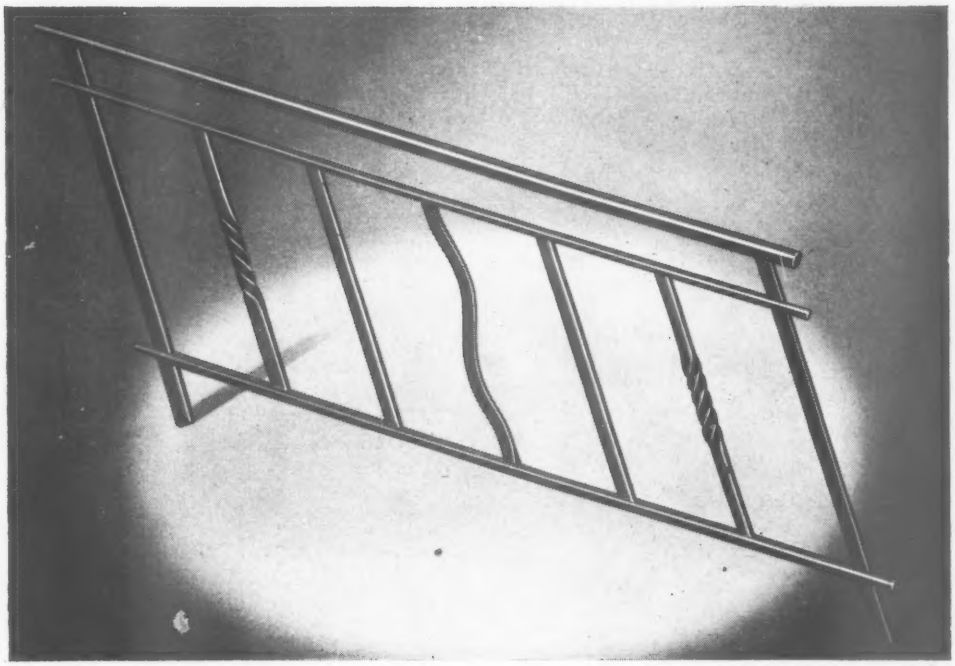

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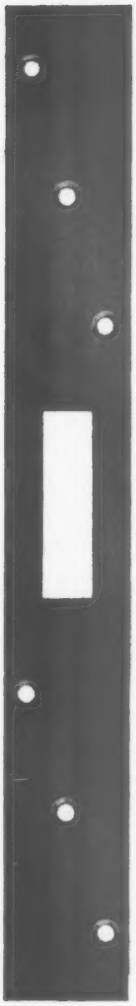

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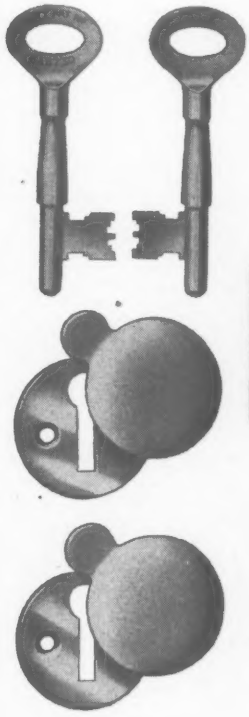

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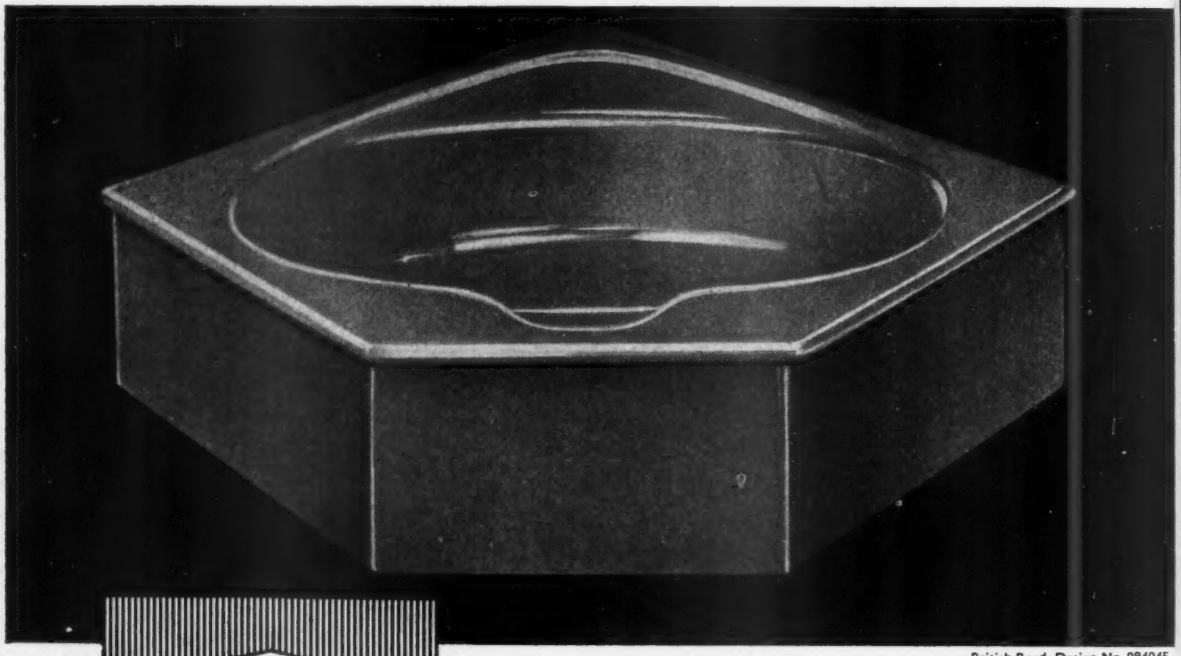
The Allied Caprice



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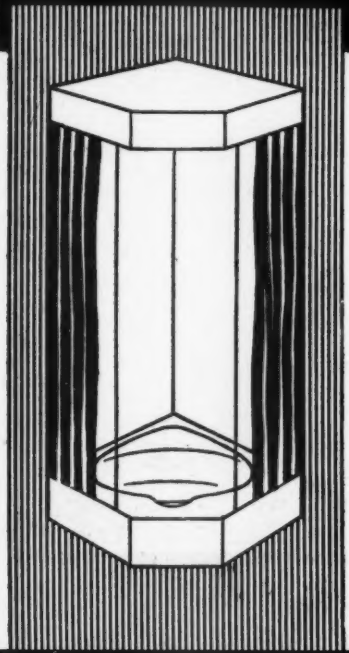

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The Caprice is not supplied with panels.

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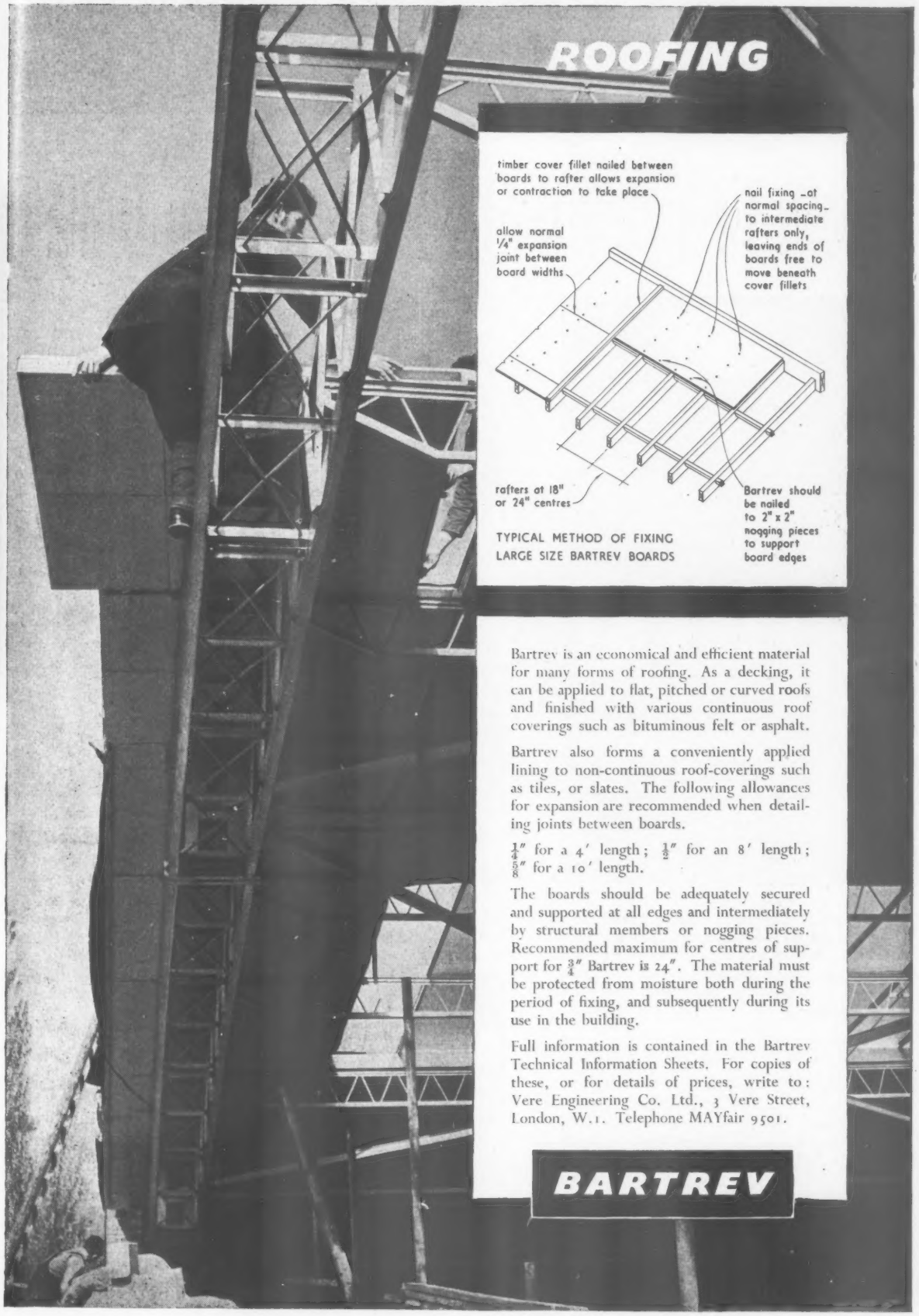

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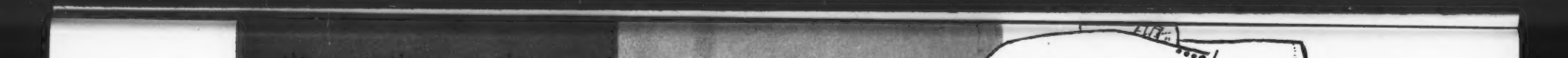

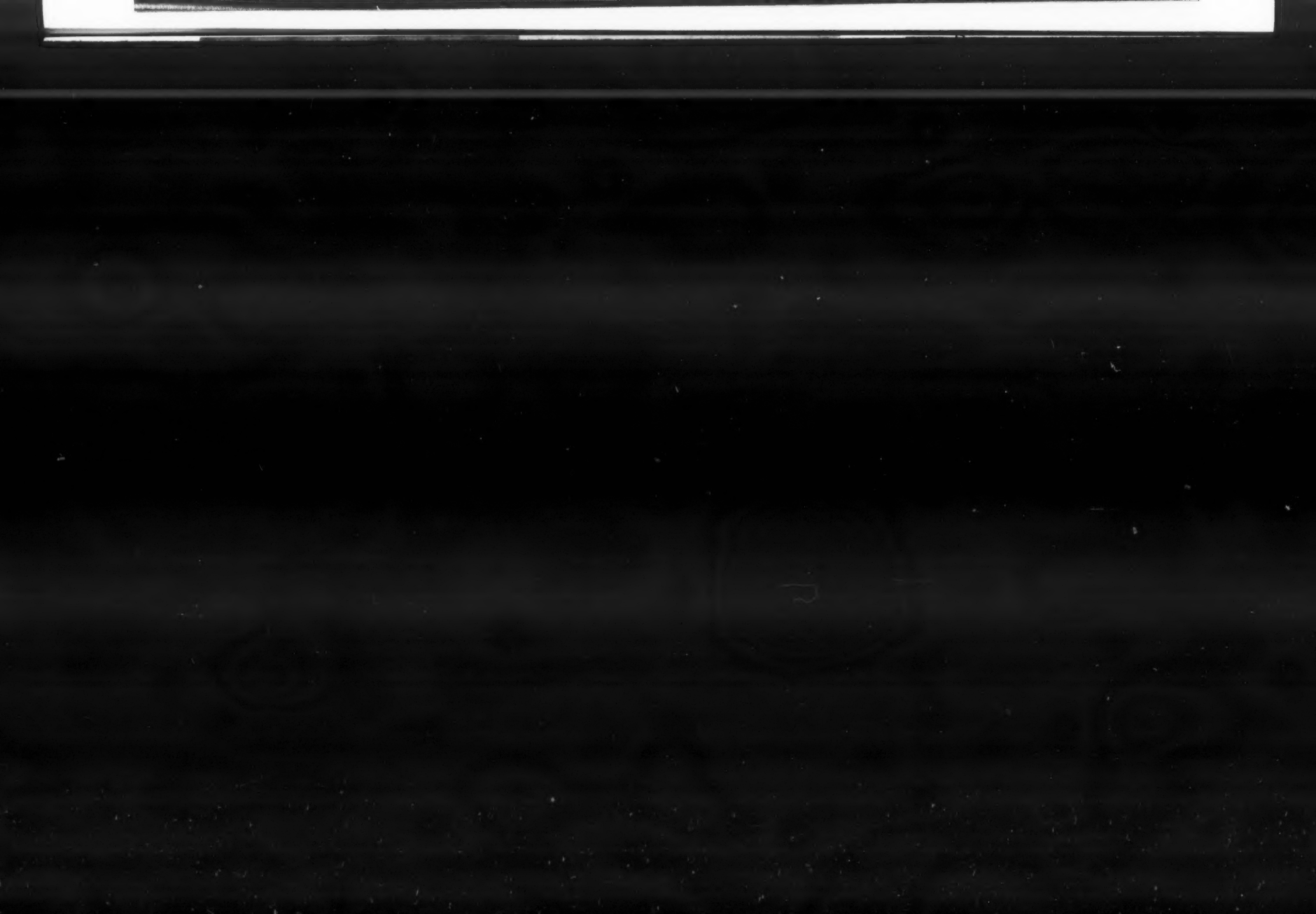

AJ

THE ARCHITECTS' JOURNAL

No. 3285 Vol. 127 February 13, 1958

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

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NOT QUITE ARCHITECTURE

BONN-BERLIN AND ON

This time it was going to be different. After all, it was only for 12 or 14 days. A little extra willpower, notes kept short and well chosen, and these impressions would remain sharp, deep, distinct. They would not merge and blur as they had done before.

*

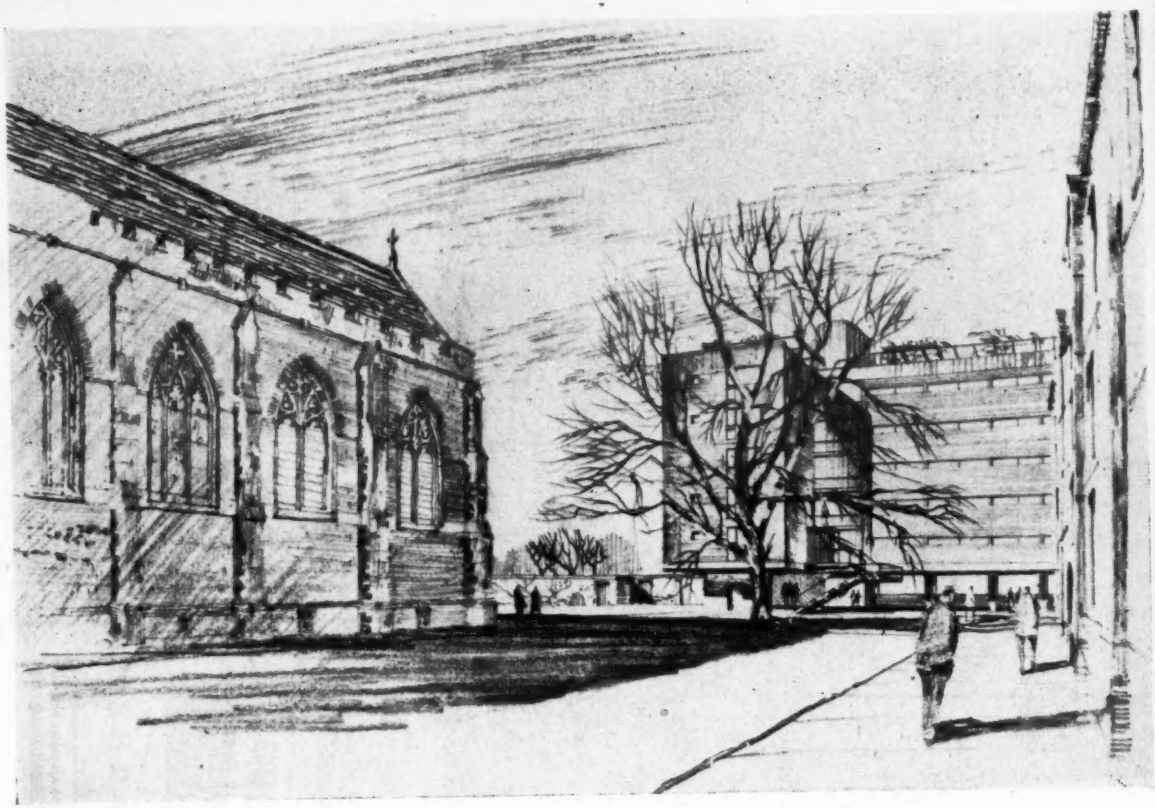
But it was not like that at all. It was probably the very first evening that started the rot. The shining Mercedes twirling around in a wrong turning, the crunch of the snow, the ruins wheeling past in the lights . . . this, one felt, is from *The Third Man, Part* 2. One fought it back, but it was no good. Too much happens, too well organized. Once again the journey became a film. There are the notes, six pages or so. But there is no bite in them, at least not now, while the film is actually running.

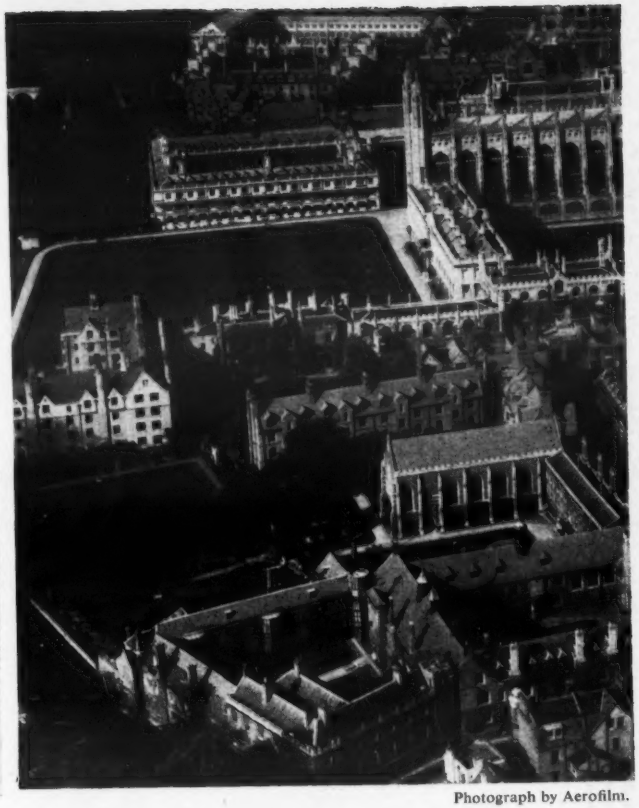
*

The hiss and sonorousness of German in the rather hot rooms. Wrench your mind off the interpreter's face. . . . A nice round little face under a rumpled urchin cut, the brown eyes flicking from face to face and back to notes. A marvellous performance . . . "Overspill" understood at once. (Was it "blood plasma" or "Strontium 90" last week?—what does she think of us?). . . . This really will not do. Think of the buildings. The British Embassy at Bonn. That too-small Royal Arms on the front side wall, like the soap holder in a tiled bathroom; the Housing Ministry in the pinewoods, all on *pilotis*; the whole rather lifeless but wonderfully finished and equipped string of them along the Rhine; the too-expensive hotels.

*

Five hundred thousand dwellings a year!

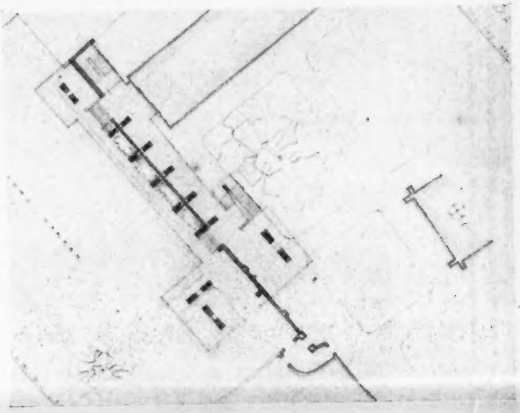




Photograph by Aerofilm.

Building On The Backs

The controversy raging in *The Times* about Basil Spence's design for an extension to Queens' College, Cambridge, is about the wrong question. It should go without saying that the design must be contemporary; the real question is whether the height, massing, materials and layout are right for the site. The aerial view shows Queens' College in the bottom left-hand corner. The perspective above shows the new building from the east, closing in Friar's Court. On the west it overlooks the Fellows Garden and the ancient bowling green, part of which has been sacrificed to make way for the new building. On the right is the ground floor plan. To keep the Fellows Garden intact, create a cloister, and allow views from the Court to the river, the building has been put on a colonnade. The construction is a reinforced concrete platform supported on brick piers harmonizing with the existing buildings. Above it rises a concrete-framed building clothed in a lighter tone of brick; the staircase shaft is sheathed in copper to give the re-entrant angle the brilliance of bright green copper. There are 45 sets of rooms for undergraduates, and two for fellows. The principal doubt raised by the design (particularly by a study of the drawings and photographs on page 240) is whether it is not too massive in proportion to its height, particularly on the south elevation; whether, in fact, the College is not trying to put too much on the site. This, the first major post-war extension on the Backs, also raises the question: What planning policy should be followed for this precious area?



As many houses as we can—as many flats as are necessary! A good slogan that . . . and when one thinks of it, one in the eye for the high-density boys from a most unexpected source.

*

And East Berlin. For a town planner who (curse it) can just remember Kaiser William and talk of the Imperial Chancellor, Alexander Platz and all that, the corpse of a great city's centre is a very terrible thing. One had heard about it, read about it and seen *The Fall of Berlin*, but in this case seeing is much more than believing. Corpse it is, from the Reichstag to the Spree.

*

The great majority of buildings are ruined or flat. In the last hours of a January afternoon and several degrees of frost, there was no wish to moralize about either side of that line where the two great forces of our world touch each other. One could mourn the ruins detached from events. It was like looking at Carthage 14 years after the deletion. The Lyons Corner House multiplied by a hundred along the Stalin Allee may not be to everyone's taste but in ratio to resources it may be a prodigious effort for East Berlin. And in a rough-hewn way all except the shrine in the Soviet Cemetery was curiously impressive . . . not that one had cared at the time about design. Those (was it?) three million dead on all Russian fronts were worth a thought on their own.

*

The car came up, the scene changed to the conference room of the Ministry of All German Affairs. Down the centre of a wall there was a good big crack. At least one British architect was delighted. It was the first crack seen in the dozen beautifully finished new buildings of the past three days. The Germans were puzzled. Then the light broke. They were pleased too . . . the crack typified for their alert visitors the present regrettable division between East and West Germany. The interpreter touched her hair, the brown eyes flicked to and fro, to and fro. She said nothing at all.

M. W.

DIARY

Spanish Castles. Exhibition of photographs at the RIBA, 66, Portland Place, W.1. Monday to Friday 10 a.m.—7 p.m.; Saturday 10 a.m.—5 p.m. Admission free.
FEBRUARY 15 TO 28

The Layout and Landscaping of Campus and Residential Area at Birmingham University. Talk by Sir Hugh Casson. ILA meeting at the HC, 13, Suffolk Street, S.W.1. 6.15 p.m. FEBRUARY 20

The Future Ownership and Administration of New Towns. Talk by Mrs. E. Layton. Chairman: Sir Parker Morris. At the HC, 13, Suffolk Street, S.W.1. 6 p.m.
FEBRUARY 26

The Editors

THE DISGRACE OF THE ROYAL INSTITUTE

THE RIBA's membership fees are increasing by £1 11s. 6d. per annum for Associates and by £2 2s. 0d. for Fellows, as described in the RIBA statement on pages 241-243. This increase follows fast on a similar increase which came into effect in January last year. The RIBA gives two reasons for this increase: it requires £100,000 more to pay for the rebuilding of No. 68 and the extension of No. 66 Portland Place; it requires a further £45,000 per annum to meet increased costs due to general financial inflation, an increase in RIBA staff, revised staff salaries, an increase in printing, postage and general expenses, and a *reduction* in estimated income from examination fees and membership fees. These increases in fees are calculated to provide a surplus of £48,000 in 1960.

As recently as 1955, Thomas Scott, then Honorary Treasurer, announced in the annual report that income had exceeded expectations, "the surplus is appreciably greater than was anticipated" and "the completion of Premises Fund now stands at £100,824, a sum which is appreciably in excess of the estimated costs of the first part of the building programme." What has happened? In two years, despite an increase in subscriptions which was to have allowed the Public Relations Committee £10,000 per annum (although never, in fact, given), a surplus has become a deficit.

The architect can console himself with the fact that if subscriptions had kept pace with inflation they would now to be about nine and twelve guineas for Associates and Fellows respectively. He also realises that if he is going to get efficient service from his professional institute, if he is going to have a body behind him which is willing and equipped to look after his interests, he will have to pay for it. But if there is going to be a steady demand from the RIBA for more money, need the burden be placed so evenly on everyone's shoulders? Might it not be worth reducing the Associate's rate for the first few years after qualifying, as dentists do? Or might not a flat rate be charged to all in private practice (somewhat lower than that charged to architects in public offices who have the compensation of extra security) and a *special* subscription be charged to private firms of architects, based on a percentage either of the annual turnover, or of the annual staff salaries, as the builders do?

A much more important matter which concerns the architect is the effect of this unfortunate financial position on the profession's relationship with other members of the building team. There are plenty of people who will see this incident in the RIBA's rebuilding and extending of 68 and 66 Portland Place as clear-cut evidence of the profession's inability to handle costs.

Can anything be done straight away to put things right? It is too late, presumably, to take any action concerning the

loan the RIBA is raising (though one wonders whether debentures, at a low rate of interest, offered to a hundred or so of the wealthier architects might not have been a cheaper way of obtaining the money). But it is not too late, surely, to take the obvious action when a ship has been imperilled of dismissing the pilot. All those responsible for the handling of the RIBA's finances *over the crucial years* should be asked to resign from the Council.

As for future policy, it seems fairly obvious. As we have said before, and as was made abundantly clear to the RIBA's Press Conference (see page 242), the day for running a professional body, with an annual turnover of £160,000, by means of clerks and the odd spare time of practising architects is over. The RIBA must employ a qualified accountant on its staff, and must take actuarial and financial advice from those properly equipped to give it.

This week's news is a blow to the profession, but it need not be a disaster if lessons are learnt from it. The vital thing is not to halt progress, or withdraw, but to reappraise the objects and activities of the Institute, and push on with those policies—as exemplified by the work of the *ad hoc* committee—which will strengthen the architect and widen his sphere of influence. But the men to carry out such a policy are, at present, only the rank and file of the RIBA Council, and not the leaders and Officers of the Council as by reputation and ability they should be.

PENNY WISE . . .

The report of the RIBA Cost Research Committee, published on page 243, finds little systematic cost control being used in the profession; it gives cautious support to those methods that are being used and outlines for itself a very ambitious programme of investigation. It intends to look further into methods of control and into the collection of information; to see how the subject might be introduced into architectural schools and to investigate the effect on costs of byelaws and clients. It also intends to organize residential courses on costs. This latter proposal we may take as the RIBA's response to the joint course at Sundridge Park recently put on by the LMBA—a response that Stanley Farrow, their new president, told the press recently he was "hoping for" (see page 245). But this and the other items in the committee's inspiring programme will call for an immense amount of work—by a committee of part-time members.

It is disappointing then (but hardly surprising, in view of the state of the RIBA finances, referred to above) that in approving the report, the RIBA Council refuses to agree to the appointment of the full-time technical officer that the committee asks for and so obviously needs. The Council suggests instead the merging of RIBA and RICS committees into a joint agency. We agree that there should be better co-operation, but costs are the vulnerable part of the architect's claim to higher prestige and it is a foolish economy to hamstring a committee which could do so much for prestige.

ENOUGH TO MAKE YOU CUT A DISC

Last week a disturbing thing happened on television. A young man came on to the screen, in something called "Cool for Cats," and said that because he wasn't getting anywhere as an architect he had cut his first disc. As it turned out this was not a suicide attempt, but a little job commissioned by a gramophone company. And when the disillusioned young man heard the record played over in the studio, he looked fearfully upset and started miming to it in the most despondent way.

*

Can we afford to lose our profession's young talent like this? If you have read the startling news about the increase in RIBA members' subscriptions (see this week's leading article) you will probably feel like cutting or slipping a disc yourself. Or were you reassured by the statement made at a RIBA Press conference that architects' subscriptions are still less than those of other professional people? If so, compare your new scale of 7½ or twelve guineas with the following subscriptions: BMA, six guineas; British Dental Association, six guineas; ICE, six to eleven guineas; RICS, nine guineas; Law Society, ten guineas, plus a further ten for the compensation fund. Not so good, is it? On the other hand, ARCUK's annual regis-

tration fee of £1 compares well with the fee paid by lawyers (£4) and dentists (£4 10s.), though you can register as a doctor for life with only eleven guineas.

A PRIZE ERROR?

Perhaps the RIBA put its fees up not only because it is financially embarrassed by its building programme, but also because it shares Peter Shepheard's view that architects today are busy and well off. Mr. Shepheard expressed this belief (amid murmurs of dissent) when he appeared last week, at 66, Portland Place, as critic of the RIBA prize entries. He was trying to find a reason for the small number of entrants (for example, only eight for a £600 studentship and three for one worth £250), and the only other suggestion he could make was that something was wrong with the prizes themselves. He made the sensible proposal that an RIBA committee should be formed to plan the awards as part of a programme of post-graduate study.

*

Mr. Shepheard's comments were witty and instructive, and although they were blush-making it is unlikely that anyone was wounded by them. Who would feel hurt if told that his drawings were "gorgeous" but his campanile was "stinkingly ugly," or that his market hall was a "cold crib" of Palladio's Basilica at Vicenza and none the worse for that? This was nicely-camouflaged, pungent criticism. Nor did the critic pull any punches when talking about the entries as a whole. Better work, he said, could be seen in any of the schools.

ASTRONOMICAL BORE

ASTRAGAL is just as perplexed as Mr. Shepheard to find that so few young people seem to want "the wads of money offered for tax-free holidays in Europe." Is there, perhaps, a following for Kingsley Amis's newest angry young man, who "suffers from acute prejudice about abroad"? Perhaps Mr. Amis has a finger on the pulse of his generation, though it is a little worrying to recall that his new character thinks of "abroad" in terms of architecture, and would like to see it all done away with. There is a clear need here for Gropius's pep-talk on education for beauty; and if you haven't come across it lately you may like to know that it turns up again in *Zodiac*, the first issue of Olivetti's twice-yearly architectural magazine.

*

The title of this international publication seems to have been chosen only for the sake of providing typographical fun on the cover. The inside is *not* much fun; it is a collection of familiar axes being ground by familiar grinders. Here, for instance, is Professor Giedion insisting that architectural history should be taught solely in terms of space concepts. If history is to be treated in this one-sided way, then we might as well be back in the nineteenth century, when it was taught in another one-sided way—in terms of ornament or structure. How about a campaign for the teaching of the history of architecture in terms of the history of architecture?

SANS GILL

And how about a campaign to get historic architecture off our modern buildings? Let's make a start by showing the Royal Academy public just what we mean by good contemporary architecture. The sending-in day for this year's show is March 21, so you have plenty of time to prepare a perspective. If the judges are overwhelmed with good entries there is just a chance that some of the usual trash will be squeezed out. After all, the RA's president himself has shown concern for a large modern building. The dear old BBC, which frightened itself in the 'thirties by its boldness in commissioning Eric Gill, has asked Charles Wheeler to name a sculptor for the White City television centre. So come forward, you bright boys, and submit your work. Show the art-loving (?) public that architecture can stretch upward without looking monstrous and sideways without sprawling.

FLAT CONTRADICTION

Which brings me to the misleading title, *Outwards or Upwards?* given by the TPI to a talk by E. G. S. Elliot, the chief technical planner designate of the MOHLG. Such simple alternatives were not possible, said Mr. Elliot, in solving the problems of urban growth. He believed that the need to conserve agricultural land was a good argument against the bad siting of new towns, but not against the building of them. And he felt that it was wrong to condemn low-density building, because people wanted more space and were going to get it, whatever the critics said. He pointed out that it would cost more than the £21,000,000, spent annually by Londoners on commuting to house them centrally at high densities.

*

ASTRAGAL, who felt that Mr. Elliot was ignoring a lot of other costs that arise from dispersal, was relieved when Graeme Shankland, of the LCC, appealed for an end to the over-simplified flats versus houses controversy. Shankland said that although new and expanded towns were necessary, they were not of much help in the important job of urban renewal. To redevelop cities, he said, you had to loosen them up in some places—and this meant you had to provide higher densities somewhere else. Anti-flat propaganda, in his opinion, was anti-city propaganda. And anyway, as he pointed out, higher densities on large sites do not necessarily mean high flats.

THIS WEEK'S FUNNY STOREY

There is one advantage to an architect who has to design high flats. If he forgets the staircase there is always the lift to fall back on. And if you think that's a corny old joke, let me refer you to the *Illustrated Carpenter and Builder* for January 31. Here you will find a house designed by an architect for his own use. It is to be built in two stages, and the first two-storey stage has no staircase.

*

This is something that could never happen to a stage designer. If you go to the theatre and find yourself looking at a room with no staircase you can be sure there is a very good reason, as for instance in the Reece Pemberton set for *A Touch of the Sun*. This play—another of N. C. Hunter's Chekhovian, atmospheric pieces—is about the sort of family that can't afford to live at the foot of a draughty staircase. It is not, however, a family without taste. Indeed, in the last act the hero looks sadly out of the window and says something which ranks with such classically-tragic lines as "Ivan Ivanovitch, when shall we get to Moscow?" "Subtopia," says Michael Redgrave, as the audience quietly sobs, "is closing in."

GIVING RISE TO SUBTOPIA?

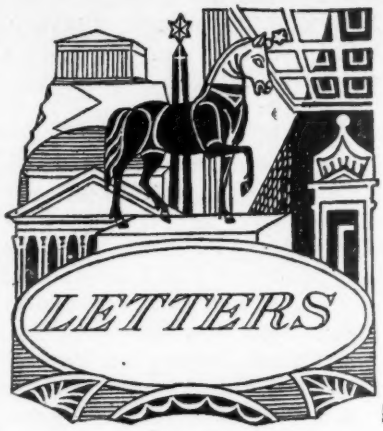
Mr. Hunter's play is set in Leatherhead, so the Subtopia referred to cannot ever be made worse by the massive concrete beam supports which may one day stride in 100-ft. steps between Victoria, Feltham and London Airport. These, as you will have guessed, would support the overhead railway proposed by the newly-formed Air-Rail Company. It is too soon to come down for or against such a proposal. The estimated cost is only £8,000,000 for the complete double track, which is cheap enough; and the train would do the trip in 12 minutes or so. But ASTRAGAL has an uneasy feeling that when, in a few years' time, the countryside is strewn with overhead rails, obtruding verticals and things in fields, some bright spark will invent a silent helicopter or something of the sort, and render the whole rail contraption out of date.

CAR PORTS

On January 30 there was a passing reference in this column to Norman and Dawbarn which ASTRAGAL would like to correct. It said: "It is a bold architect who can cheerfully design a housing scheme (as Norman and Dawbarn have done) on the cheerful assumption that garages will not be needed 'in this bubble age.'" This referred to the scheme for Queen's Road Estate, Richmond, and was inspired by ASTRAGAL'S faulty recollection of a remark made by Graham Dawbarn at a press conference, last July, where he said that nearly everyone on the estate would have garage space, but not necessarily garages because "not many people want complete enclosures for their cars in this bubble age."

In fact, the scheme makes exceptionally generous provision for covered parking and for garages: 185 car ports beneath the flats, 134 free standing garages, and 55 car ports or garages for the houses, or a total of 374 for 441 houses and flats. Mr. Dawbarn's point was simply that many people are happy to park their cars under cover and do not want a garage. ASTRAGAL entirely agrees with him, and is more than sorry that he conveyed the misleading impression, which his comment unquestionably did, that Norman and Dawbarn thought it unnecessary to provide for cars at all "in this bubble age."

ASTRAGAL



David Stern, A.R.I.B.A.
Clive Wooster, A.R.I.B.A.
H. R. Lister, A.R.I.B.A.
Geoffrey Salmon, A.R.I.B.A.
Eric de Maré, A.R.I.B.A.
R. Furneaux Jordan, F.R.I.B.A.
Elisabeth Beazley, A.R.I.B.A.
Cecil Handisyde, A.R.I.B.A.
R. B. G. Thompson, Student R.I.B.A.

The "All In" Service

SIR,—Among the many problems and "delicate" matters mentioned in the admirable report of the Ad Hoc committee, the "all-in service" provided by large contractors, particularly in the field of industrial buildings, was only briefly mentioned. The growth of this dubious arrangement however, threatens to become a major abuse of the professional consultative status of the architect.

There is at least one organization of which I have personal knowledge which, starting with a large estate agents business bringing them in touch with land for sale and clients in search of sites, now offers design services by their own staff architects and development by the group's building contractors, steelwork engineers, heating and ventilating contractors, etc.

All other considerations apart, what is the role of the architect in this situation? He is on the salaried staff of the contracting organization, introduced by the Estates Department, and bound to nominate the group's own subcontracting firms. How can he possibly design freely with the Employer's specific requirements in mind . . . and who is "The Employer"? What happens in this case, when the architect criticizes or rejects workmanship and who checks final accounts and variations?

In one example of my own experience we were asked by a client to discuss the design of a new factory, administration block, etc., to cost about £100,000. After agreement upon the general lines and cost of the proposed work, the client asked for and was given a breakdown of the professional fees and costs involved, including the quantity surveyors fees; to be considered by the director. Some weeks later we were informed that following our discussions they had been approached by a firm offering "all-in service," who undertook to carry out the same contract for the same costs, *including their architect's fees at 6 per cent,* but excluding any charge for quantity surveyor's services. The clients accepted their offer and placed the contract with the group.

By chance I came across another industrialist in the last few days who is employing the same organization to build his new factory; and in the course of conversation it became uncomfortably plain that he had appreciated neither the value of the proper client-architect relationship, nor the benefits of good competitive tendering.

Here seems to lie a large and fertile field for skilfully applied RIBA public relations work, before the current widely held view of an architect as merely a "drawer of plans" receives justification and confirmation.

DAVID STERN.

London.

Professional Status

SIR,—It is a pity that discussion of the structure of the profession which is fundamental at this time should spring from concern about status and prestige, and proceed with an unexamined preconception of what an architect is. Your editorial of January 30 concluded its discussion of the subject with a question that seemed to me to imply that there is and can only be one kind of architect.

If there is to be only one kind of architect his specification must include at least the following skills; he must be a quick, neat draughtsman, efficient and methodical in office routine; as an imaginative designer he must also be an imaginative constructor, a master of calculations about heat losses, daylight, pipe sizes, simple structures, etc., and he must know his way around programming and costing; he must be something of a physicist and chemist knowing and understanding the nature of materials and the action and interaction of natural forces; to make sure that he has a good brief from his client he must be a competent researcher, and to get the best out of all his human contacts he must be a diplomat; he must, of course, be a good manager, something of an economist, a good mixer and committee man and so forth.

If it is agreed that few men can be trained and practised during one lifetime to be really proficient at all these skills at one and the same time, or even in sequence, it follows that offices that are to be efficient must use men with different aptitudes and who are practised at different skills. Donald Gibson made this point in your new year issue.

The question then arises as to whether the present system which attempts to make every architect an all-rounder, and leaves to chance the specialization into different skills, is really making the best use of human resources.

The answer might be that in spite of the ever widening and deepening well of knowledge that an architect's office must possess, and the claim being made by other industries on first class intellects, it is still in the interests of architecture and the public for each architect to try and possess the whole well for himself. This answer must accept the risk of the profession having its knowledge spread too thinly; in short, of knowing less and less about more and more.

If on the other hand as a result of study a well-considered policy was developed and the training and structure of the profession were aimed at some degree of specialization there would emerge different kinds of architects, just as now, but all of them more proficient within their particular spheres. Whether the pattern turned out to be a hierarchy of Arch/draughtsmen, Arch/designers, and Master Architects as some would like, or a tripartite profession of Arch/designers, Arch/engineers, and Arch/administrators as others would prefer, or some other formal set-up, or a set-up with

no names at all but with architects of different kinds of qualification, let it be so, but let it come as a result of policy founded on study, and not by accident founded on a professional myth.

CLIVE WOOSTER.

Rickmansworth.

SIR,—Despite Peter Scher's wholly destructive criticism, there was obviously much food for thought in the paper, "Some Thoughts on Professional Status."

May I suggest one way of improving the professional status which is in line with the status granted to other professions? Only qualified doctors can sign certain medical documents or prescribe the use of certain drugs; only qualified lawyers can draw up deeds and conveyances or appear on behalf of other persons in Courts of Law. Why not a law to ensure that only qualified architects are allowed to submit applications and plans to Local Authorities for Town Planning and Bye-law approval? Of course, this cannot be brought about by the profession itself, but the initiative could well stem from us.

One final plea—do let us have positive and constructive suggestions on this important matter—however badly written they may be.

H. R. LISTER.

Great Yarmouth.

SIR,—Excellent though the proposals of the Ad Hoc Committee are, they are by necessity of long term nature and it would not appear that they could affect the workings of the established profession for many years. What is of immediate concern to younger architects who have recently commenced their own practices or contemplate doing so in the near future is the way in which their "public" regard the profession now. Their fortunes and the salaries of their staff depend on it. Yet in most cases they have no clear guide nor means of finding out, except by trial and error, how they can give satisfactory service from the very beginning.

It must be the clear aim of our Institute to encourage young architects with the necessary self-confidence (and clients!) to set up private practice, and it should normally follow that established architects must give advice and assistance to initiates on the best means of giving efficient service and to ensure that the reputation of the profession is maintained.

Advisory Committees could be set up very quickly composed of eminent and successful architects to advise the new practice on efficient office procedures, client relations, management methods, etc., necessary to attain a minimum standard of professional service. A Code of Practice describing among other things, Standard forms and procedures on first class practice could be prepared. This sort of background would give the new practice many of the advantages of the established office from the word go.

Let the Ad Hoc Committee therefore consider the immediate status of the small private offices and their staff. On the other side of the coin, let statistics be taken not only of successful buildings but of those that caused most wrath in the Board Room and the reasons why. By such actions we could be sure that whatever degree of status the private architect already possesses, it will be maintained until the ambitious thoughts of the Ad Hoc Committee become a reality.

GEOFFREY SALMON.

London.

"Can Architects Cure Subtopia?"

SIR,—I would like to argue with ASTRAGAL about his comments on my AA talk (AJ, February 6) because the subject is very important and I do want to make myself clear. Somewhere in my mad and mystic Nordic mind survives a profound respect for reason.

I was not myself under the impression that I was to talk about the part architects can play in preventing Subtopia. My aim was simply to try—in as logical and objective a way as I am capable of doing—to answer the question: "Can Architects Cure Subtopia?" My answer was "No, *not* purely as architects because the causes of Subtopia are wide and many (though mainly the linked ones of the Puritan tradition and the fraudulent money system) and because the problem of how to create a more beautiful and more viable environment is not *primarily* an architectural one at all, though *eventually* it must be so. Subtopia is a symptom of a *folie à millions*. It is not itself the disease.

To cure a disease you must first make an adequate diagnosis. I tried to do that in my talk and then to suggest a possible cure. I may have failed to make myself clear not because the talk was too long but because it was too short.

We are up to the eyes in a bog of mental and emotional confusion. Let us keep our feet on the ground by all means, but first let us find some firm ground on which to stand.

ERIC DE MARE.

London.

Sweet Uses of Advertisement

SIR,—Tatton-Brown has misunderstood me. He said that when faced with a work of art, fact and fiction no longer mattered. I said that, at least in the context of advertising, this was unprincipled. So it is. I am not ungrateful for the Strozzi Palace but it would not, when built, have relieved me from the responsibility of asking whether the Medicis were honest money lenders or sharks. On the contrary, it would have made me look into the matter a little more closely than I might have done, for fear I was being fooled. How much more so with modern advertising. No sensible person would buy the products of General Motors *because* General Motors had employed Saarinen—though I am very glad they did.

R. FURNEAUX JORDAN.

London.

St. Andrew's University

SIR,—In answer to Mrs. Kidston's 6 points about St. Andrews University (AJ January 23).

1. "12th Century" is a stupid slip which I should have noticed. I am grateful to her for pointing this out.

2. The size of the map was governed by the space available and could, therefore, only show principal features if confusion was to be avoided. I think it does make clear that the main faculty buildings are in the heart of the town and that the alternative sites for expansion of faculty buildings other than the Westburn Lane site are outside the town.

3. The siting of the halls of residence does not alter the fact that to build new science buildings on the outskirts would split the faculty buildings. The siting of halls is in the case of St. Andrews a more flexible problem.

4. The Unions, sited as they are immediately to the west of United College, are so close to the route between the Westburn Lane site and UC, that they are very conveniently placed for students working at either place.

5. It appears that the University have considered their expansion problem both in terms of student numbers and buildings with great care.

6. The core of a student's corporate life should, of course, be the Hall of Residence. But one only has to visit other universities where faculty buildings are scattered to see how this affects student life. It should also be remembered that only 50 per cent of the students can live in Residence ('57 figures).

When in both St. Andrews and Edinburgh I was given, and, of course, sought out view points of those who opposed and supported the university's schemes. In no other way could one arrive at an opinion. Unfortunately I did not meet Mrs. Kidston, but she may rest assured that others did put forward views similar to hers, and therefore I doubt if the article would have been very different had we met. I am most grateful to those who so patiently explained things to me.

I do feel most strongly that St. Andrews famous as it is for both golf and as a tourist centre, has something that is almost unique in Great Britain—it is truly a university town. Its essence is concentration and not dispersal. One of the things needed most in our towns today is to keep their hearts alive, rather than to spread on their outskirts.

ELISABETH BEAZLEY.

London.

Remarkably Cheap

SIR,—Your New Year number is always interesting but is of especial value to architects this time for its astonishing publication on page 95 of a very nice little factory built for about £1 10s. per sq. ft. As one of my clients is holding this up as an example to me, I would be grateful if you could publish very full details of this remarkable achievement.

On second thoughts, perhaps it is only a glimpse into the future such as ASTRAGAL gives us in his review of the coming year, 1958, which appears as the heading to this issue.

CECIL C. HANDISYDE.

London.

The Editors reply: Touché! 1958 should, of course, have been 1957. The figure of £1 10s. quoted by the manager of the factory and offices at Camberley was incorrect. The offices cost 64s. 2d. and the factory 45s. 2d. per sq. ft.

Examination Fees

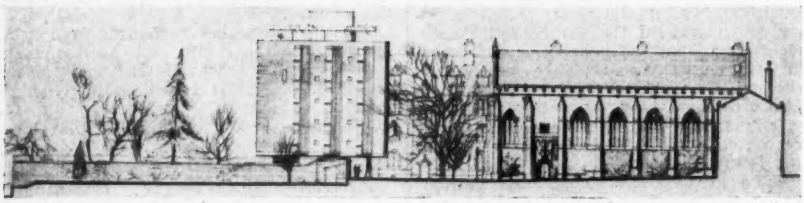
SIR,—In its report the Ad Hoc Committee made no mention of one method of "raising the status" (or "limiting the intake") of the architectural profession which has apparently been adopted by the RIBA, and which seems to me very objectionable.

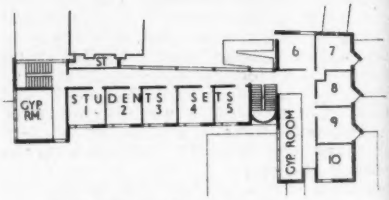
We are informed that, as from January 1 this year, the fee for admission to the external final examination has been raised from seven to 10 guineas—that is to say, to the equivalent of about a week's salary for an unqualified assistant who has reached Final standard. In view of the conditions about which Paul Ritter complains, it is hard to believe that the cost of this exam. to the RIBA is 10 guineas per candidate; but even were it so, is the RIBA justified in passing on such a cost? The exam. lasts for a week; to sit for it, therefore, may well cost a candidate (depending, of course, upon his employer) two weeks' salary. Was the decision to increase a large fee still further really taken without considering this? Or is the RIBA intending to say in effect "the architectural profession shall be composed of gentlemen, and the first qualification of a gentleman is a private income"?

R. B. G. THOMPSON.

London.

EXTENSION TO QUEENS' COLLEGE, CAMBRIDGE, BY BASIL SPENCE





typical floor plan [Scale: $\frac{1}{64}$" = 1' 0"]

The perspective at the top of the page shows Basil Spence's design for an extension to Queens' College from the Backs, which is also illustrated in the frontispiece (page 234). The photographs below show the backs of King's College, with the Holford extension on the left, the brutal gable of Friar's Court to which the new building is attached, and the President's Lodge (extreme right). But the perspective does not show the relationship of the new building to the existing buildings. This is better seen in the south elevation, above; while the roof line of the new building is comparable in height to the roof lines of the chapel and the building on the north of Friar's Court, Both of these have steeply pitched roofs, and are altogether less massive. Seen from the south, the new building looks bulkier than it really is, due to the wing which lies at right angles to the main block. The floor plan, above, shows the arrangement of all upper floors except the first, in which there are two sets for Fellows.

RIBA's FINANCIAL STATEMENT

£100,000 Deficit: Subscriptions To Go Up

Below is a rather inadequate explanation by the RIBA of their failure to manage their financial affairs competently over the past few years. Membership fees are increasing from 6 guineas to 7½ guineas for Associates and Licentiates and from 10 guineas to 12 guineas for Fellows. Examination fees are to increase by 50 per cent., rising in one instance to 150 per cent. of the original sum. The statement issued by the RIBA to explain these decisions discloses that the funds required to pay for rebuilding No. 68 Portland Place and extending No. 66 exceed the resources of the Building Fund by £100,000. It also shows that the RIBA Finance Committee were unable to assess accurately the size of the membership, or to make provision for improving salary scales, enlarging the staff, or allowing for the normal inflation of the time. The statement is followed by brief extracts from a Press Conference held at the RIBA by Jefferiss Mathews, the Honorary Treasurer since 1956. *See also this week's leading article, page 235.*

The Council of the RIBA at their meeting on December 10, 1957 approved certain financial policies, including the increase of subscription rates, to meet the rapidly changing economic position arising from both the national economy and the increased cost of providing the service required by members.

The Council had before them a report from the Finance and House Committee who had been asked to review the whole financial position. Since the decision was taken in 1956 to increase subscriptions, on a financial report prepared at the end of 1955, demands on the Royal Institute's finances have changed considerably.

The review made in 1955 is already out of date owing to a number of factors which have coincided with the national inflationary trend. These include the setting up of an organization to enquire into the conditions of professional practice throughout the whole profession, the need to improve staff salaries and to increase the staff establishment. There was an obligation to rebuild No. 68 Portland Place imposed by the terms of the lease from the Howard de Walden Estate. There were also the additions to complete No. 66 to the original designs of the late Grey Wornum; these additions being urgently required to provide increased accommodation for the new activities.

The new review has taken account of these changed conditions and of the possibility of further changes due to national economic trends in the future. The recommendations approved by the Council are based on budgeting for a three year period with an adequate surplus in each year to provide for unforeseen increases and "ad hoc" expenditure which may be necessary in each year.

The Finance and House Committee's review showed that, if the present subscription rates were continued and the present spending policy remained, an accumulated deficit of £71,000 would be reached by 1960. The policy now approved by the Council provides, without any major diminution in the activities or changes in the present staff establishment and after taking into account the financing of the building operations, for an accumulated surplus of about £48,000 in 1960. This apparently large surplus will be used not only to cover unforeseen expenditure, but principally to reduce the loan necessary to finance the building operations and so to pay off the capital cost of the buildings and, by so doing, to clear all extraordinary expenditure as quickly as possible in order to make the fullest direct use of membership subscriptions for the service to members and the furthering of architecture in the public interest.

The Committee's report before the Council set out to show members how the Royal Institute's finances were based up to the present time. It gave the following summary:

(*i*) Income for ordinary expenditure is obtained from the following sources:

	per cent approx.
(*a*) Members' Subscriptions ...	81·0
(*b*) Receipts from sale of publications	4·7
(*c*) Examination Fees	11·2
(*d*) Entrance Fees	1·8
(*e*) Rents	1·1
(*f*) Sundries	0·2
	100·0

(*ii*) There is no invested capital which can be used for ordinary expenditure—invested capital exists only in connection with Trust Funds for scholarships and other educational expenditure (including some library expenditure) and in the Building Fund.

(*iii*) The Royal Institute owns the existing building at No. 66 Portland Place for a period of 950 years on the building lease held from the Howard de Walden Estate. The original cost of the existing building has been fully paid up. No. 68 will be similarly owned for the same term.

(*iv*) The liabilities on ordinary expenditure can be summarised as follows, the percentages given being the approximate annual average for the next three year period—1958-1960 inclusive—assuming that the financial policy approved in 1956 were to continue:

	per cent approx.
(*a*) Building maintenance, rates, insurance, ground rent, heating, lighting, etc.	14·6
(*b*) Salaries, staff pension contributions and National Insurance ...	41·3
(*c*) Printing, stationery and postage	7·2
(*d*) Library (Purchase and repair of books, etc.)	1·1
(*e*) Public Relations	5·6
(*f*) Contributions to Allied Societies	12·4
(*g*) Examinations	3·7
(*h*) Grants, Subscriptions and Donations	0·9
(*i*) Publications	4·3
(*j*) Miscellaneous	8·9
	100·0

(*v*) An extraordinary liability exists at present to meet the cost of the re-building of No. 68 Portland Place and the additions of the upper floors of No. 66 which it is estimated will exceed the resources of the Building Fund by approximately £100,000 (see below).

(*vi*) The *RIBA Journal* is not self-supporting. There is at present a deficit of approximately £3,700 on distribution costs.

(*vii*) Inevitably there are annual variables in both income and expenditure. These variables may be summarized as being due to:

(*a*) On income: Membership fluctuations, including members emigrating abroad and, to a lesser extent, fluctuations in examination fees and entrance fees.

(*b*) On expenditure: Apart from such specific expenditure as the Council may vote—*e.g.*, on Public Relations—staff salaries, being based on a scale of annual increments, will vary between a minimum and a maximum. If all the staff were on the lowest rates of their scales the percentage of total income spent on salaries would be 33 per cent.: if all were on the highest rates, it would be 54 per cent. In practice, with retirement and recruitment, neither position is ever reached and the limits lie between about 38 per cent. and 45 per cent. The position will tend to be somewhat on the high side for about another six years.

Contributions to Allied Societies vary pro rata with the total individual membership, but when a new allied society is admitted (and three new overseas admissions are contemplated) the contributions increase without a pro rata increase in membership subscriptions.

The report went on to summarize the reasons for the rapid change in outlook since 1955 which were ascribed to the following causes:

(*i*) Income from membership subscriptions is now expected to fall short of estimate by about £8,800 per annum due to the anticipated rate of increase of membership not being maintained. In the past this has shown a steady upward trend, whereas present indications are that it is likely to remain for some years at the current figure. The income decline is also due to unforeseen increased emigration of members overseas.

(*ii*) Income from entrance fees and examination fees is now expected to fall short of the previous estimates due to decline in applicants and represents a reduction of about £7,000 per annum from that anticipated.

(iii) Expenditure arising from the revised staff salary sales—made necessary to bring the Royal Institute's standards to those comparable generally in industry and commerce and dictated by national inflationary trends—has exceeded previous estimates by about £14,000.

(*iv*) Estimated Expenditure arising from the revised staff establishment to meet the increasing activities of the Royal Institute, which also now makes allowances for inflationary increases, shows an excess of about £8,000 over previous estimates.

(*v*) Expenditure due to national inflationary trends is having a sharp and substantial effect on estimates covering printing, postage, members' travelling expenses, housekeeping and general administration, rates, and building maintenance, and together shows an increase over previous budgets of some £5,300 per annum. Similarly, these trends have affected budget estimates on rates and maintenance of the new buildings by about £2,000.

On the subject of Building Finance the report gave the following information:

(*i*) When the Council authorised in 1955 and 1956 the re-building of No. 68 and the additions to No. 66, the estimated costs were:

No. 68	£120,500
No. 66 additions	£84,800
	£205,300

	£
(*ii*) Increases in estimated cost reported to the Council in January, 1957	5,500
Telephone installation approved by Council in April, 1957	4,000
Provisions for furnishings, redecoration and making good existing building and No. 78 Wimpole Street	4,200
Modification of 3rd floor corridor for Library	1,000
Allow for further increases in labour and materials (5 per cent)	5,000
	£19,700

(*iii*) In February, 1956, invested capital and other funds appeared sufficient by the end of 1959 to meet the then estimated cost. Since then the decline in share values and the short-fall of surplus from General Funds has reduced the estimated balance available for building to approximately £125,000.

(*iv*) The present position is therefore:

	£
(*a*) Original estimated cost ...	205,300
(*b*) Increases	19,700
(*c*) Total	£225,000
(*d*) Building Fund Finance available	£125,000

(*e*) Short-fall on required balance £100,000

(*v*) The Committee have considered various ways of raising the additional finance required and have taken expert financial advice. Their considerations have taken account of the recent increase in the Bank Rate and the general economic position in the country. They have established that a loan for 20 years of £100,000 can be obtained at about 6¼ per cent interest which, with the sinking fund for amortisation of the loan, will cost a total of approximately £10,500 per annum. The loan would be subject to reduction by gradual repayments if circumstances permit. The Committee have therefore taken this method of financing into account in their budget estimates and financial policy.

The Committee recommended, and the Council approved, that a basic financial policy under four heads should be adopted. These were:

(*i*) That each annual budget should be balanced with an adequate surplus as a contingency against special internal expenditure which from time to time the Council might see fit to vote additional to budget provisions, and to meet national monetary factors beyond the control of Council.

(*ii*) That the first call on any actual annual surplus should be towards reduction of the loan for building finance.

(*iii*) That, as the services required of the Royal Institute to the profession are of increasing importance, the financial structure and policy must be designed to enable these services to be continued and developed along the general lines already adopted.

(*iv*) That the status of the Royal Institute and the profession is such that it has a national responsibility during the present economic situation to curtail and limit such expenditure which, in the opinion of Council, does not materially affect the policy set out in (*iii*) above.

To implement these principles it was necessary to make special arrangements for 1958 since it was not possible to obtain any benefit from increased subscription rates until 1959. On the acceptance of new subscription rates and other adjustments in regard to rebates to Allied Societies, variations in entrance fees for examinations and minor administrative adjustments, a forward policy on a three-year basis could be planned. Within this structure the Council approved these changes in the financial policy:

(*i*) *Membership Subscriptions*

That with effect from January 1, 1959, membership subscriptions be raised to the following figures:

	United Kingdom and Members overseas resident in area of Allied Society but not members of that Society	*Overseas-Members of Overseas Allied Societies and those resident outside areas covered by an Allied Society*
Fellow	From 10 gns. to 12 gns.	From 6 gns. to 7½ gns.
Associate	„ 6 gns. „ 7½ gns.	„ 4½ gns. „ 5½ gns.
Licentiate	„ 6 gns. „ 7½ gns.	„ 4½ gns. „ 5½ gns.
Student (no change)	2 gns.	2 gns.
Subscriber (no change)	1 gn.	1 gn.
Retired Member with less than 30 years' membership (no change)	1 gn.	1 gn.

(*ii*) *Examination Fees*

That with effect from January 1, 1958, examination fees be raised to the following figures:—

Probationers

Enrolment Fee from £5 5s. to £6 6s.

Intermediate Examination

Admission to Examination £6 6s. to £9 9s.

Relegated Candidates—fee per subject from £1 1s. to £2 2s.

Final Examination

Admission to Examination from £7 7s. to £10 10s.

Exemption Fee for Students of Recognized Schools from £2 2s. to £5 5s.

Relegated Candidates—fee per subject from £1 1s. to £2 2s.

Special Final Examination

Admission to Examination from £12 12s. to £15 15s.

Admission if Students, RIBA, from £8 8s. to £10 10s.

Admission if Probationers, RIBA, from £10 10s. to £12 12s.

Relegated Candidates—fee per subject from £1 1s. to £2 2s.

(*iii*) *Contributions to Allied Societies*

That the rebate to Allied Societies under the provisions of Bye-law 73 be approved for 1958 and 1959 as follows:

Allied Societies in the UK and Republic of Ireland, one-quarter.

Allied Societies overseas, one-third.

(*iv*) *Public Relations*

That the Council's previous approval of a grant of £10,000 per year for the period 1957-59 be rescinded; that a ceiling figure of £1,500 for 1958 and £3,500 for each of the years 1959, 1960 and 1961 be approved, on the understanding that the Public Relations Committee obtain prior authority for expenditure in detail up to those figures, and that it be open to them to make out a case for any particular project in excess of the ceiling figure for the consideration of the Council.

(*v*) *Publications*

That from 1958, the Kalendar be published only in alternate years, and that in years when it is not published, a supplement covering changes in membership be issued.

(*vi*) *International Union of Architects*

That the grant for the International Union of Architects in 1958 be restricted to £600, to cover the subscription, costs of attendance at working commissions and sundries; and that the Council consider as a separate issue the question of participation in the Moscow Congress.

(*vii*) *Building Finance*

That a loan of £100,000 be negotiated to complete the building finance and secured by mortgage on the RIBA building redeemable within 20 years.

(*viii*) *Surpluses*

That approval be given to the policy that the first call on any surpluses from ordinary funds be for the purpose of reducing the above debt.

REPORT OF RIBA PRESS CONFERENCE

Questions put to Jefferiss Mathews, Hon. Treasurer

New Staff

Question: *The sum of £8,000 is given as the cost of the new staff. Apart from Mr. Gordon Ricketts, the new Secretary of Professional Relations, and his assistant Miss Milne, have any other major appointments been made?*

Answer: No, there are no other big appointments other than Ricketts and his staff which is quite a considerable addition. (*We estimate this at £4,100*—THE EDITORS.) But over a two-year period there have been additions to the Public Relations staff and minor additions to lower categories to meet the additional amount of work.

The Riba Journal

Q *Could the deficit on the* RIBA Journal *be explained?*

A The comment that the *RIBA Journal* is not self-supporting is entirely due to postage which is free to members. Apart from that it does support itself.

Membership

Q *I understand the income from membership is much less than anticipated?*

A I have got a statement concerning membership from 1946 to 1957. (See table.) The increased rate at which membership

MEMBERSHIP OF RIBA

I.—TOTALS 1946-1957 (as at March each year)

	F	A	L	S	Total	Increase	Probationers enrolled
1946	1,972	5,077	2,741	2,523	12,313	—	—
1947	1,978	5,253	2,844	2,916	12,991	678	1,684
1948	1,984	5,829	2,893	2,987	13,693	702	1,740
1949	2,029	6,666	2,876	3,423	14,994	1,301	1,450
1950	2,026	7,425	2,848	4,054	16,353	1,359	1,800
1951	2,022	8,454	2,761	4,468	17,705	1,352	1,420
1952	2,057	9,315	2,681	5,005	19,058	1,353	1,163
1953	2,059	10,403	2,614	5,092	20,168	1,110	978
1954	2,056	11,333	2,546	5,074	21,009	841	917
1955	2,067	12,182	2,486	5,118	21,853	844	996
1956	2,179	12,862	2,453	5,174	22,668	815	1,016
1957	2,195	13,124	2,414	5,492	23,225	557	—

Note: Increase in Associates 1954/55 was 849, while in 1956/57 it was only 262.

II.—MEMBERS OVERSEAS (as at November 1 each year)

	F	A	L	S	Total	Increase
1954	290	2,016	89	359	2,754	—
1955	294	2,252	89	365	3,000	246
1956	318	2,464	87	383	3,252	252
1957	317	2,743	87	444	3,591	339

III.—EXIT FROM MEMBERSHIP (death, resignation, expulsion, etc.)

Year	Total
1954	255
1955	250
1956	485
1957	344(*a*)

(*a*) Up to November 5

Note: Death rate is about constant apart from very slight increase among Licentiates.

was occurring during those years is rapidly declining. Our forecasts are that it will certainly not be likely to increase, but is likely to stabilize at the present figure. At the time of the previous budget it was quite reasonably assumed that membership would continue to increase at the rate it had been. There was an error of calculation. It will be seen there was an appreciable increase of members going overseas, which means there was substantial reduction in the subscription income, and a certain increase, though not serious, of members going on the retired list at the time of previous subscription increases. The possibility of that occurring again has been taken account of in our forecasts.

Q *Could this not have been forecast more accurately?*

A It would have been very difficult to forecast this very rapid decline. A levelling off was anticipated a few years hence rather than at this time. It coincides with a considerable tightening up on the standards of examination. (*Ignoring the issue of the raising of examination standards, which suggests that the RIBA's policy lacks co-ordination, AJ Guest Editor Martyn Webb forecast a levelling off of membership in 1956 when he conducted a survey in 1953* —THE EDITORS.)

Q *What's going to be the effect on the membership of the RIBA and on the public of this document?*

A We anticipate there will be a small falling off in active membership, about the same as last time these increases were made. Although obviously it will be unpleasant, we believe the membership will realize that the immense increase in work the members have asked for will in the long run, as a result of Mr. Sheppard's committee, pay a dividend to members.

Forecasts

Q *It's difficult to assess the size of the profession in advance. What steps do you take to do so? Do you employ the equivalent of actuaries or accountants?*

A In time that side will be taken care of, and a lot more accurate information will be available as a result of the department run by Mr. Ricketts. Up to now there has not been a suggestion for obtaining expert advice. On the other hand a good deal of information is obtainable through the schools.

Examination Fees

Q *What's the justification for the increase in examination fees?*

A The value of money. They have not been increased since before the war, and are lower in general than the examination fees of comparable bodies. They now stand about comparable, perhaps rather higher than some of the other bodies, such as the civils and surveyors. But the main thing is that they were completely unrelated to the value of money. There are appreciable costs arising to the Royal Institute from examinations. If you didn't have a reasonably high entrance fee you would have an excess of somewhat irrelevant applicants. We were losing money on examinations before. Now it can be said they are about balanced. (*Extract from RIBA accounts of December 31, 1956: To examinations and prizes: £5,786. Income from examinations and other fees:* £18,081—THE EDITORS.)

Subscriptions

Q *Does the RIBA subscription rank for tax?*

A It's allowable for those in private practice but not for those in salaried employment. An assistant in private office has to get the boss to say membership is necessary condition of service. Most tax inspectors will accept that. But in public service several employers are not prepared to do it, and tax inspectors will not allow it. In conjunction with other bodies—the Law Society, etc.—we are renewing our attacks on the Chancellor, and a memo has just been sent to him making the case. We are hoping something will be produced before the Budget.

Q *Could the subscription not be kept as it is, or a bit lower, the surplus being obtained from private practitioners paying a percentage of their turnover, or on the number of men employed?*

A That has been considered and discussed, and been a recommendation by a certain section of the members in council. But for a number of reasons it has been considered impracticable step to take. But I would not say the decision now made on that point is irrevocable, and I think that is one of the things that might result from the study of the profession under Mr. Sheppard's committee.

Accountancy

Q *There has been a lot of talk about architects being the leaders of the building industry, and we have emphasized his importance in financial matters and his control of costs. It is not necessary to show that the days of inadequate cost planning are now over at the RIBA?*

A We feel this will be done by the review the council has made. Members are receiving for the first time information about the financial structure of the RIBA, which shows we are more aware of the position. I cannot accept the fact that we have fumbled before. We are all busy and efficient in our offices, and we are limited in the time we can give to the affairs of the RIBA. We have set out an explanation and a policy for the future, and if we may have failed in the past, now that we have amended the position we are aware of the importance of all economic factors.

Q *You mean you are going to employ accountants, or you are going to rely on the Ricketts set-up?*

A We do, of course, employ accountants. We are going to employ accountants or financial experts whenever any financial problems arise. There is the possibility that we might have a permanent accountant, but I don't think our problem is really an 'accountancy problem. On a purely financial basis our facts are perfectly clear. There is a membership. You levy an agreed subscription. And there is your income, with which you have to do various things. You are not dependent on a market as you are in a business.

RIBA

Cost Committee's Report

The RIBA Council has approved the following report of the Cost Research Committee. The members of the committee were: R. Baden Hellard (Chairman); R. Llewelyn Davies; A. Pott; J. Whittle; J. Wilkinson; F. R. S. Yorke; W. J. Reiners (representing the Director of the BRS); Oliver J. Cox and A. Douglas Jones joined the Committee at the beginning of 1958, after the completion of the report.

The Cost Research Committee, who were appointed by the Council in September, 1956, have now completed the first stage of their work. This report contains their findings and suggests a number of lines of action to be followed up.

Terms of reference

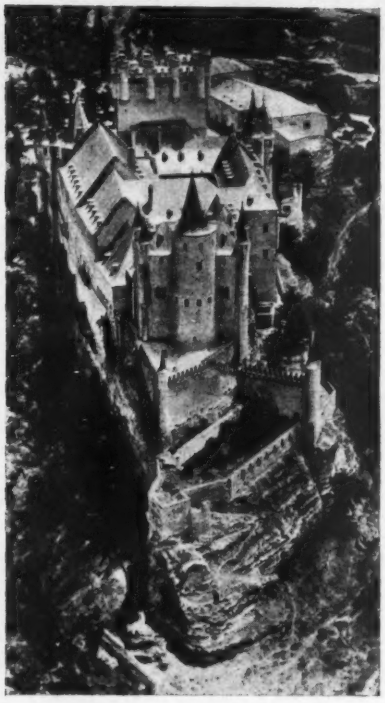
The Committee were given the following terms of reference:

(*a*) To consider the points raised at the British Architects' Annual Conference 1956, held at Norwich in relation to those aspects regarding which architects can contribute to economical building and to suggest lines of action where merited.

(*b*) To consider the formulation of some positive method by which liaison can be established between the RIBA and the RICS Quantity Surveyors' Committee.

Procedure

The Committee considered that their first task should be the study of methods by which the architect could give cost con-



The photograph of the Alcazar of Segovia (above) is included in the exhibition of photographs of Spanish castles to be seen at the RIBA from February 15 to 28. The exhibition was organized by the Spanish Friends of the Castles Association.

siderations their proper place in design alongside the visual, functional and technical factors involved. For this purpose, the term "cost control" was taken as the means of checking the effect on the cost of the building of all the decisions made during design, with the aim of sparing the client unnecessary expenditure and providing for the proper distribution of expenditure on the different parts fo the building. (See the Committee's interim report in the *RIBA Journal* of May, 1957.)

Evidence was invited from architects in private and public offices known to be interested in this problem and to have tried out new ideas, and in a note in the *Journal* of February, 1957, the Committee issued an open invitation to members to contribute their experience. Interested persons in the field of quantity surveying, building and civil engineering were also approached.

It would seem to be a reflection on the absence of any widespread use of systematic cost control in architectural practice that only one contribution was received in response to the *Journal* invitation. This and the 15 other contributions, both written and oral, received as the result of a direct request for evidence is thought to cover the major part of the profession's experience.

There is nevertheless a considerable and growing interest in the subject, as is evidenced by the recent setting up of the Architectural Association Cost Research Committee (who, it is hoped, will be concerned mainly with educational requirements for a proper understanding of cost control and will serve also as a committee of London architects investigating the subject (regionally), and the ARCHITECTS' JOURNAL Cost Research Group (dealing mainly with the framework of information needed by architects and in particular the layout of their information sheets on costs and the definition and groupings of building elements). Informal discussions have already taken place with the Chairmen of these Committees and also of the RICS Cost Research Panel (whose terms of reference include a review of the information available to the building industry and the need for a focal point for its collection, and also research into the effect on cost of standardization and repetition in design). The Committee recommend that they be empowered to establish liaison with the above Committees. The Committee are preparing a summary of the evidence collected which will be available for reference, or publication if desired.

Summary of conclusions

The following is a summary of the Committee's conclusions from the evidence available:

1. There is no single system of cost control and cost planning during design that has been established in a public or private office, either by architects or quantity surveyors, which even its protagonists consider to be the full answer to the profession's management problems in cost control.

2. There is, however, general agreement that this control is essential if the profession are to satisfy their clients at large. And a number of tentative methods of cost control have been introduced which are certainly better than nothing. [See, for example, the review in the *RIBA Journal* of October, 1957, of the Ministry of Education's Cost Study Bulletin No. 4 (second edition).]

3. There is evidence that wherever systematic control has been exercised, even though it may be only partial, it has been to the advantage of the building owner, has enhanced the architect's prestige and, indirectly, has benefited the profession as a whole.

4. The present rough methods of cost control can be used within the existing limits of the cost records available. The successful establishment of a more refined system of control would, however, call for a quality and consistency of builders' own cost records, methods and pricing which do not seem to be commonly achieved at present.

5. The effectiveness of the architect's efforts to control costs can be reduced by alteration of client's instructions during the later design stage even before commencement of work on the site.

6. There is a need for a permanent Committee of the Institute to develop interest in and encourage research into problems affecting the cost of buildings, and to correlate the efforts of other Committees and individuals working in the same direction.

Future programme of work

The Committee consider that further action is called for on the points listed below:

(*i*) to encourage research into the problem of cost control. For instance, the Committee consider that it would be helpful if the services of an officer of the Institute could be made available to forward their research into cost systems, say, by visiting a number of public and private offices, including some which have no such systems, to find out in more detail how the requirements of the profession can best be met.

(*ii*) to examine the means of collecting, organizing and disseminating information on the subject of cost control so that it is readily available to the profession as a whole.

(*iii*) to encourage the interchange of views on the problem of costs by meetings, discussions and other means, including possibly a week-end symposium at one of the residential colleges.

(*iv*) to consider means whereby the subject of cost control can be introduced into the education of the architect.

(*v*) to consider the relative importance, in terms of cost, of other factors which generally do not lie directly within the control of architects but which can influence costs to the client. Among these are matters such as town planning delays, variations from the standard building by-laws, the practices of Water Boards and similar authorities, and the practice of District Surveyors under the London Building Acts. Cost information so obtained would be made available to other Committees which are looking at these problems, *e.g.* the Committee on By-laws and Building Regulations. Also, the cost effects of changes in clients' instructions would be investigated further, with a view to recommending possible action to the Public Relations Committee aimed at producing better informed clients.

Council's decision

The Council, at their meeting on January 7, 1958, approved the general outline of the above programme of work and that liaison should be established with other organizations engaged in similar studies. It was not, however, considered that a compelling case had been made out for a permanent Standing Committee, and it was considered that it would be of far greater advantage to work towards an extended study of the problem by an agency sponsored jointly by the RIBA and the RICS.

The Council were concerned at the number of independent lines of investigation in progress. While thinking that this duplication of machinery ought to be reduced, they agreed to the continuation of the RIBA Committee in its existing status for a further period of time during which the possibilities of much closer liaison amounting to a merger of activities should be explored.

FIRE PROTECTION

A Symposium

The Technical Editor writes:

Building law in this country takes one of two forms. Either you have a precise set of rules which must be strictly interpreted and from which there is no appeal like the Model Byelaws; or you have a precise set of rules supplemented by the power of waiver, like the London Building Act. The first has the advantage that architects at least know where they stand; but it can lead to wasteful building if the law is not kept in line with the findings of research. The second has the advantage that it at least gives the architect the chance to prove his case and to build in accordance with the latest findings; but as the "case law" of the granting of waivers is not published he can be faced with an intolerable burden of uncertainty in the early stages of each new job: "will they stand for this?" he asks himself, "is it worth the certainty of delay and the risk of refusal?" Both of these inconveniences were well brought out at a symposium on Fire Protection organized by Turners Asbestos Cement Co. Ltd. and held at the Building Centre last week. Eric Bird, speaking on the byelaw position, pointed out that in 1953, when the last revision was made, the very tall building—16 storeys and more—had not been envisaged and that the two hours' fire resistance insisted upon was quite unrealistic in view of the low fire load which this class of building invariably carries. He suggested that we should follow the American precedent and should differentiate our byelaw requirements according to a building's occupancy and structure. H. T. Cadbury-Brown, speaking on the waiver problem, asked (though he did not quite put it this way) that the LCC should publish at least the common basis of their waivers so that these should become not, as they now are, clandestine exceptions to the law, but the basis of it. We are in strong agreement with both of these speakers. Architects have the right to ask both that the law should reflect—quickly—the best opinions and that its real requirements should be quickly and certainly discoverable.

LECTURE COURSE

Architect-Engineer Co-operation

The following course of lecture-discussions has been organized by the School of Architecture and the Department of Civil and Mechanical Engineering, the Regent Street Polytechnic. Some of the lectures have been arranged in conjunction with the Assistant Editor (costs) of the JOURNAL, who advised on the similar series of lecture-discussions on costs held by the Regent Street Polytechnic last year.

February 24: *Architect-Engineer Co-operation Since* 1930. Lecturer, David Jenkin (architect); chairman, Dr. Ronald Bradbury (City Architect of Liverpool).

March 3: *Engineering Aspects of Building Structure*. Lecturer, J. C. de C. Henderson (architect and engineer); chairman, H. J. B. Harding (engineer in private practice).

March 10: *Architectural Requirements in Relation to Structure*. Lecturer, Peter Chamberlin (architect); chairman, Ove Arup (engineer in private practice).

March 17: *Picton Street—An Example of Successful Co-operation*. Lecturer, H. J. Whitfield Lewis (Principal Housing Architect of the LCC); chairman, D. H. New (engineer, Holland, Hannen & Cubitts).

March 24: *Architect-Engineer Co-operation in a New Approach to Building*. Lecturer, D. E. E. Gibson (County Architect of Nottinghamshire); chairman, Hubert Bennett (Architect to the LCC).

March 31: *Open Discussion with all lecturers present*. Chairman, D. E. Woodbine Parish (builder).

The idea of architect-engineer co-operation was, of course, one of the battle cries of the modern movement between the wars. Since then the idea, if not its full realization, has become accepted. This course of lectures is in the nature of a reassessment of the idea, of its development since the war, and of the way it has worked out in practice. Although structural engineering is the main theme, lecturers will also consider services engineering and site construction methods.

Lecture-discussions will begin at 7 p.m. and will be held at the Portland Hall, Little Titchfield Street, W.1. Apply to the Registrar, School of Architecture, Little Titchfield Street, W.1. Fee for the course, 11s.

IUA

Building Documentation

Dargan Bullivant, holder of an AJ Research Fellowship, writes this report of a meeting held at Geneva to discuss proposals for the international distribution of technical literature.

At present architects can make very little use of new knowledge available in other countries, for the obvious reason that there is no easy way for them to know what is available. The result is that each country, to a large extent, has to rely upon its own resources of knowledge. On the initiative of the International Union of Architects a meeting took place at Geneva on November 19, 1957, to discuss plans for setting up an international centre for the distribution of books and reviews on building, architecture and town planning.

The meeting discussed the idea, put forward by the IUA, that an international centre should be set up for the distribution of technical literature on building, architecture and town planning, because a great number of problems arose from the difficulty of distributing information and literature already available, and a centralized agency was clearly needed. One way that this question might be solved is for the Bouwcentrum, which already circulates material on behalf of the Documentation Section of CIB, to act as a distributing agent. The Bouwcentrum's experience of publishing information in a form suitable for practitioners should be especially valuable. In recent years it has published an excellent series of studies of User Requirements for hospitals and houses in leaflet form to International Standard size A4 (11¾ in. × 8¼ in.) with a special classification number so that they can be easily filed and hole-punched to fit into a standard binder of excellent design. These studies are building up information for architects in an impressive way and provide for easy revision when new knowledge is available by issuing new sheets. Outstanding amongst these recent studies is a functional study of domestic kitchens carried out by a study group under the chairmanship of architect van Tijen, of Bergpolder flats fame. The report, which is well illustrated, is available as part of the series (reference A12.1, series A, Bouwcentrum Information in English).

SYMPOSIUM

Plastics In Building

A one-day Symposium, entitled "Plastics in Building," organized jointly by the College of Technology and the Midlands Section of the Plastics Institute, is to be held on Wednesday, March 19, 1958, at the College of Technology, Gosta Green, Birmingham, from 9.45 to 5. The lecture topics will include the use of plastic materials as heat and sound insulators and as floor, ceiling and wall coverings. A survey will be made of the plastic pipes available to the building industry, and of new types of material used for concrete shuttering. The fee is £2 2s.; details and application forms may be obtained from: The Registrar, College of Technology, Suffolk Street, Birmingham, 1.

LMBA

"Main problem: basic research"

At a lunch given by the London Master Builders' Association to the technical press, to meet the new president of the LMBA, N. S. Farrow, the main theme of the questions and answers was—management. This is a subject that was first aired in the pages of the AJ in 1955 in the "costs" articles, for which Mr. Farrow, as a Guest Editor, was partly responsible.

On building research, Mr. Farrow thought that although there was a need for better methods of getting results put into practice, the main problem was basic research. Answering a questioner he said there might be advantages in the industry setting up its own research organization, but that such a proposal must include all interests—architects, quantity surveyors, sub-contractors and merchants, as well as builders.

On training he felt that there were probably more applicants from the secondary and public schools than there were suitable employers to take them on as management trainees. He was very emphatic that shortage of building work should not cause reduction in the number of trainees or curtailment of training schemes. He supported the idea of some common basic training for architects, surveyors, engineers and builders, as a long term aim. "But," he said, "granted the present situation, we should develop management training as the common ground on which architects, surveyors and builders can co-operate more fruitfully." Replying to a questioner who asked about the Sundridge Park joint course held recently, Mr. Farrow said that the builders were hoping very much for a positive response from the RIBA and RICS and would gladly support any move they might make to hold further courses.

ABT

"Danger In RIBA Proposal"

A statement by the Association of Building Technicians says that the aim of the RIBA's proposal for a Society of Local Government Architects is to obtain representation on a Professions Panel which, it is hoped, will be recognized by NALGO—a body in which architects must always be a small minority. The result would be to hand over architects, neatly tied, to the very organization which caused their discontent, and the RIBA would be unable to make any public protest if the panel's recommendations were ignored. The proposals would also make it impossible for architects in any authority to force the authority to negotiate with them direct.

NO SMOKING

After June 1, 1958

As from June 1, it will be an offence, with fines up to £100, to emit dark smoke from chimneys. This is the principal effect of an Order laid before Parliament by Henry Brooke, Minister of Housing and Local Government. The Order names June 1, 1958, as the second appointed day for the Clean Air Act, 1956, and on that day all the remaining provisions of the Act will be brought into operation.

The dark smoke ban will apply equally to factories, shops and offices and the funnels of ships and railway engines. House chimneys will be subject to it, but in practice they rarely produce "dark smoke," which is defined as smoke as dark as or darker than Shade 2 on the Ringelmann Chart. The Act allows certain defences in the event of proceedings, *e.g.* if it can be proved that dark smoke was solely due to lighting up a furnace from cold or to mechanical failure.

In addition to the ban on dark smoke, the Clean Air Act will require a reduction in emissions of grit and dust from June 1. After that date all new furnaces installed for burning pulverized fuel, or more than one ton an hour of other solid fuels, will have to be equipped with grit- and dust-arresting plant approved by the local authority. In the case of other new and existing furnaces, except for small domestic boilers, failure to take practicable steps to minimize grit and dust will be an offence.

COMPETITION

Wallpapers and Fabrics

To celebrate their centenary year in 1960 Arthur Sanderson & Sons Ltd. are running a competition for wallpaper and fabric designers, with £1,750 in prizes. The panel of judges will be Sir Colin Anderson (chairman), Lady Casson, Professor Wyndham Goodden, Paul Reilly and Humphrey Spender. The competition is being conducted under the rules set out by the Society of Industrial Artists. Particulars from Centenary Competition, Arthur Sanderson & Sons Ltd., 57, Berners Street, London, W.1. Closing date for entries May 30, 1958.

CRITICISM

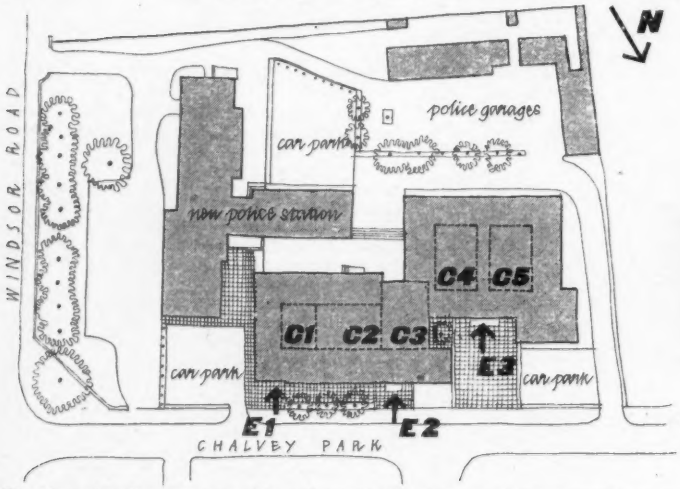
by J. M. Richards

LAW COURTS at SLOUGH, BUCKS
designed by F. B. POOLEY, county architect

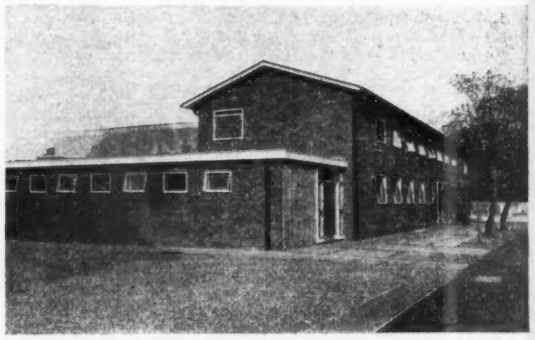
Slough is not a town where you expect to find good architecture—let alone good civic architecture, which usually occurs where there is pride of place, an attribute hardly consistent with the architectural squalor of Slough and its surroundings. And this absence of architectural standards seems even to infect outside organizations working in the area. For example, the LCC has a housing estate there, still under construction, which looks but little different from the dreariest kind of local authority housing estate and shows none of the enterprising ideas, either in planning or design, that we have come to associate with LCC work.

In the middle of this estate there is one good building —a school by the county architect; but this is not finished enough to be ready for appraisal. In the middle of Slough itself, however, is a new civic building, also by the county architect, recently finished, which has provided the town with about its only piece of civilized architecture. I should add that the county architect is not also the planning officer (as he is in some of the more enlightened county boroughs), so, apart from setting an example by putting up good buildings when he gets the chance, there is nothing he can do about the ill-planned ugliness of Slough.

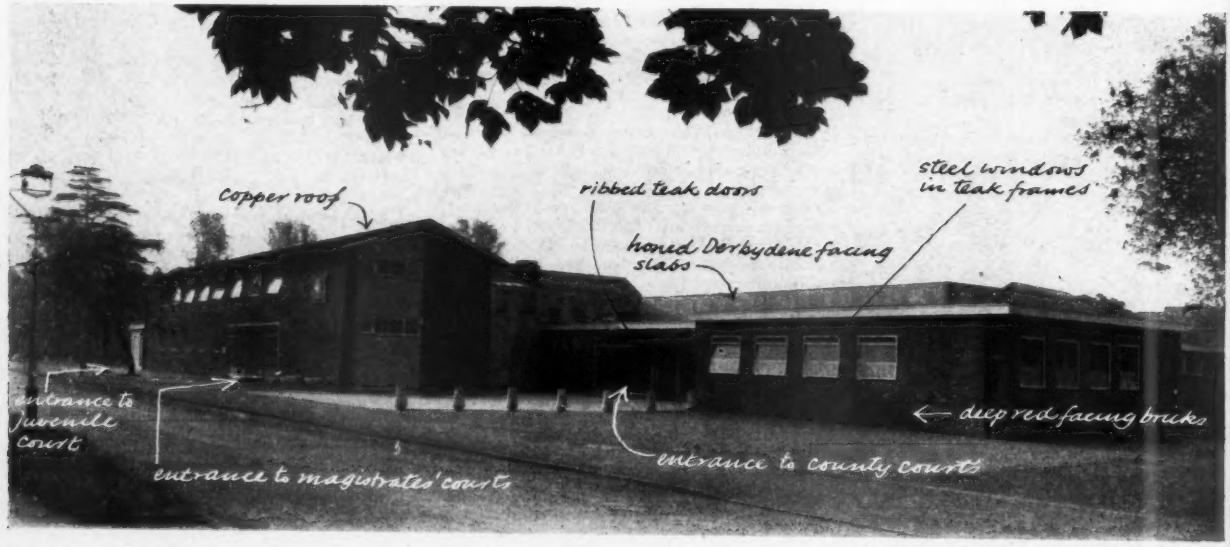
This new civic building (which was illustrated in the AJ for December 26) contains a pair of magistrates' courts, a pair of county courts and a juvenile court, each self-contained, with its own entrance, together with the offices and so on that go with them. Adjoining the courts on the same site, but linked to them only underground, is a new police station, which was built at the same time by a private architect, Mr. W. D. Hartley, of Slough. He and the county architect, Mr. Pooley, worked in close consultation, which was as it should be, and as a result the two buildings have a common scale and are well grouped in relation to one another. Consultation has also resulted in their using the same materials, notably the same deep-

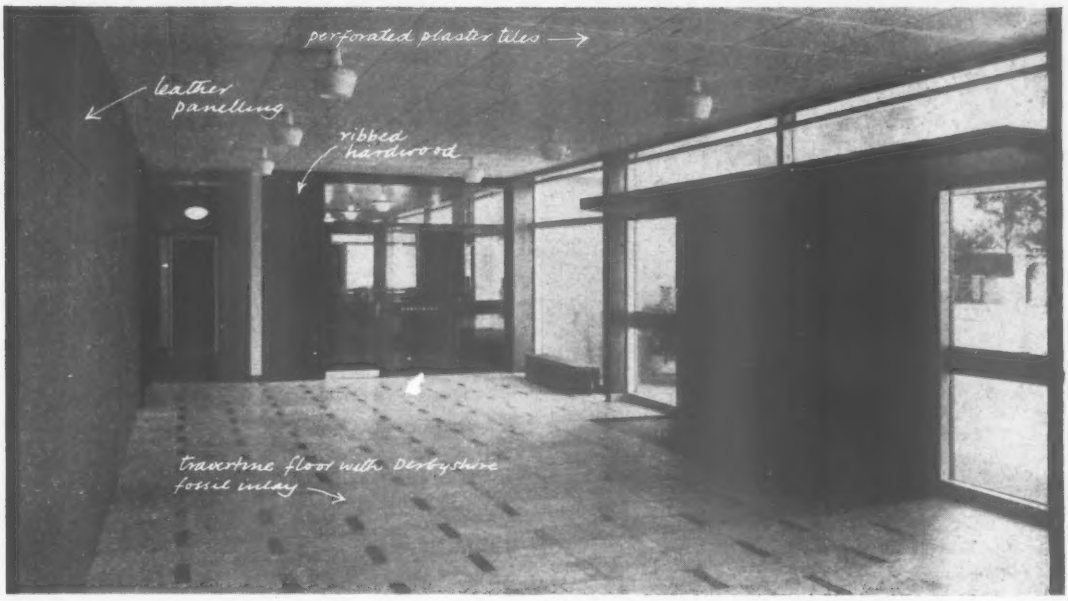


Site plan, showing entrances (E) and courts (C) The magistrates courts are on the left, the county's on the right.



Above, from the east, with the roof of the juvenile court rising above the flat roof of the offices etc. attached to it; on the right the only two storey part of the building: advocates' and witnesses' rooms on the ground floor, offices above. Below, the main (north) front.





Entrance hall to the county courts, looking towards the general office occupying the north-west corner of the building.

coloured red facing bricks, and I am not sure that this was such a good idea. It makes for a large, monotonous mass of the same colour and tone. Would not a choice of materials that allowed the two buildings to act as a foil to one another have created a more lively and interesting effect?

I shall not say much about the police station, since the law courts are meant to be the subject of this article, except that it is as neat and workmanlike a building as the law courts, though less sensitive in its proportions and detailing, and is marred by the use of blue glass panels of a colour and scale that do not accord with the brickwork and by clumsy detailing at the eaves of the main roof.

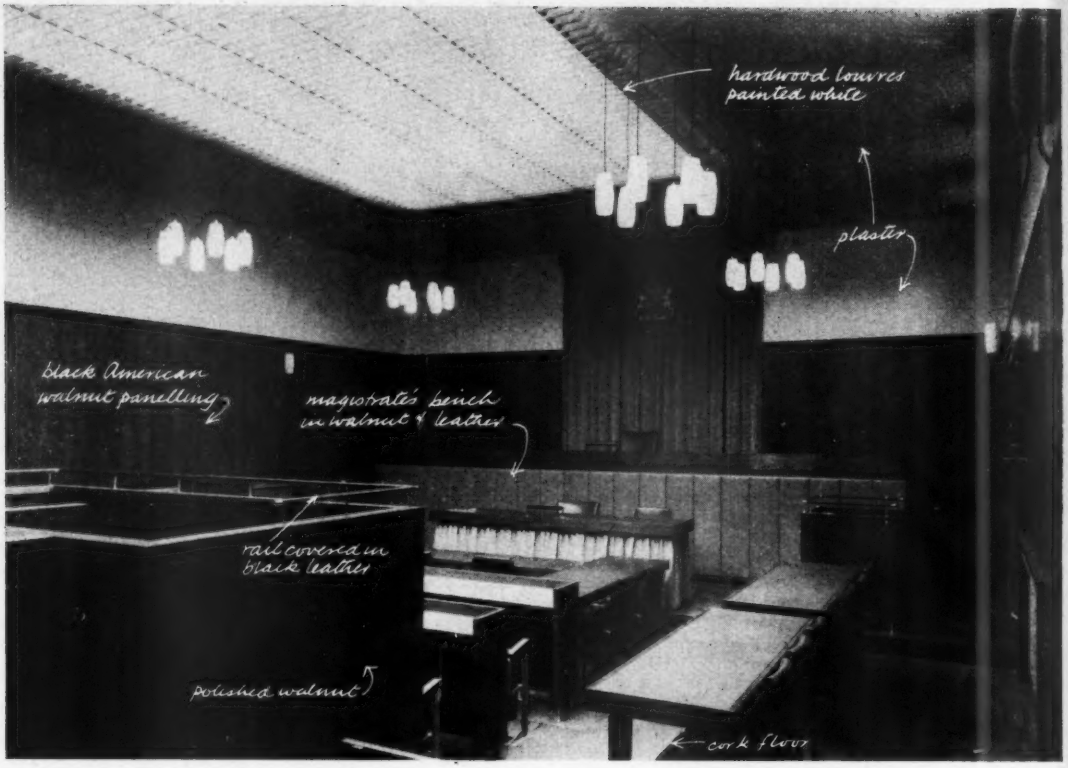
The law courts have a very sympathetic exterior, simply treated—they look like load-bearing brick buildings, which they are. The main front (difficult to photograph well because it faces north) is shown in my first picture. Except for the rather arbitrary change of material half-way along the gable wall, it is well-proportioned, with the long low façade interestingly broken up by the entrance to the county courts being set back behind its own paved forecourt. There is surprising dignity in this façade, considering that it is largely a single-storey building. Incidentally, it would be interesting to know why, in a valuable central site, it was decided to spread the buildings over it in this fashion. What was the argument against going up to several storeys, which would have made the monumental character appropriate to a law courts easier to attain and also provided some welcome open space?

The single-storey planning certainly made it easier to treat each group of courts as a self-contained unit. I suppose the disadvantages of planning the building more compactly by placing the pairs of courts that constitute each unit one above the other, were that the offices could not have been used to insulate them against noise and both courts could not have been top-lit. It would also have meant additional stairways to the upper courts, from the underground passage that brings prisoners from the police-station. I don't know how this is managed in similar buildings, like the Law Courts in the Strand, where most of the courts are on an upper floor.

Accepting the one-level style of planning of the Slough law courts, one can see that it has been worked out very well, giving spacious, well-proportioned entrance-halls (see photograph above) and conveniently placed retiring rooms and offices. It is not clear to me why the long corridor between the two county courts is needed in addition to the parallel corridors alongside them, but the only definite criticism I have to make of the planning is that the private entrances for the judges in the case of the county courts, and for the magistrates in the case of the police courts, are approached through rather depressing car parks at the back of the building, along a pathway between it and the police garages. Even the arrival of judges and magistrates should be a procedure that can be given dignity and style.

Admittedly they assume their full dignity only when in session; so much so that to give them and the proceedings over which they preside the majesty the law demands, is one of the specific functions that buildings like this have to fulfil—just as important a function as keeping the rain out and being satisfactory acoustically. It presents the modern architect with a real challenge, which Mr. Pooley and his staff have met with a considerable measure of success.

The problem is one I discussed at some length when I wrote, in this series of articles, about a church and a pub; how to arouse the responses in the human observer that are customarily aroused only when he is confronted by antique styles with all the associations these possess, and especially when he is confronted by antiquity itself. The modern architect has to use æsthetic effects—of colour, texture and proportion, to which many people have got out of the habit of responding—to create the kind of atmosphere antiquity creates of its own accord; yet if he exploits these too energetically the result is forced and



Inside one of the magistrates' courts, looking towards the bench.

theatrical, which defeats his whole purpose. Mr. Pooley has exercised enough restraint in the interiors of his courts (see photograph above) to avoid the theatrical, and has relied on well-chosen materials in sober colours, well-controlled lighting, good solid detailing and good craftsmanship to create an appropriately dignified atmosphere.

Proportion is important too, and in most courts that I have seen it has been assumed that dignity can best be achieved with the help of an impressive ceiling height. But in these courts the height is not very great —something like 14 ft. maximum floor to ceiling— and there is no loss of effect. I suspect that the impressiveness usually credited to height really depends more on the lighting. The Slough courts have top-lighting, diffused by egg-crate style ceiling panels and reinforced by small, square clerestory windows.

In the case of a courtroom the architect is, of course, strictly tied when it comes to the use of the floor space, because the layout and dimensions of the built-in furniture: magistrates' bench, the dock, the witness-boxes, the seating for advocates and officials and so on, are fixed for him by the Home Office. On the other hand, the changes of floor level required by the correct layout of a court are a great help to him in his task of giving dignity to the bench and concentrating interest at the significant points—as they are no doubt designed to do, as well as to facilitate seeing and hearing.

The least satisfactory of the Slough interiors is the juvenile court (right), a room which ought to be designed to have an intimate, far more domestic character than the others, and to avoid an atmosphere of intimidation. This high, squarish room, with large expanses of cold, hard wall-surfaces, is somewhat forbidding. In this one room, surely, normally placed windows would have been more suitable, even if they had to look into an internal court.

The juvenile court.

THE INDUSTRY

Brian Grant describes a new cooker, a traffic control barrier, an aluminium treadplate, a cast-iron sink, price reductions in some electrical equipment and new light fittings.

Solid fuel cooker

The latest addition to the Carron range of cookers is the thermostatically controlled model 508, which is also arranged with a boiler for connection to a 30-gallon storage cylinder. The unit is well insulated and has a hotplate cover, and there are two ovens. The firebox has a dumping and shaking bottom grate and is designed to keep in overnight with all types of fuel. Prices start at £60. (*The Carron Co., Carron, Falkirk, Stirlingshire.*)

Controlling works traffic

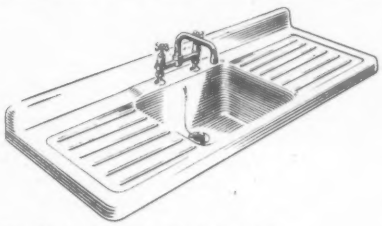
An electrically operated traffic control barrier of the French level crossing gate-type is being produced by R. B. Pullin. It has been devised not only for safety at vehicle-pedestrian crossings in factories, but also at entrances where a gatekeeper can control traffic without leaving his box. The barrier itself consists of a 3-in. diameter light alloy tube which can be any length up to a maximum of 16 ft. 4 in. The tube is counterpoised and raised or lowered by a ¼-h.p. motor. Controls can be arranged to work a pair of barriers, to raise one and lower another, or to give a warning signal when a barrier is about to be moved. The barrier and its mechanism is mounted on a central post which is grouted into the site concrete. Friction lined blocks hold the assembly to the post, so that although the barrier will be held firm in a high wind, it will swing round if an excessive force should be applied by an overrunning vehicle. (*R. B. Pullin & Co. Ltd., Phœnix Works, Great West Road, Brentford, Middlesex.*)

Aluminium treadplate

The photograph on the right shows a new Small Pattern aluminium treadplate in British Aluminium's Positive Grip series. Since the pattern is raised it does not provide traps for dirt and grease, and the new pattern has been specially designed for such purposes as kick plates on doors, and for a number of uses in the transport industry. The existing heavy and light patterns are being continued. (*The British Aluminium Co. Ltd., Norfolk House, St. James's Square, London, S.W.*1.)

Double drainer sink

A cast-iron double drainer sink has recently been introduced by Ideal. It is not the manufacturers' intention to produce a cabinet for this sink, but they can supply either cast iron built-in brackets, or cast iron legs with wall hangers. Alternatively the sink can be used with any of the existing ranges of sink cabinets. Standard finish is white, cream or opal green vitreous enamel and the retail price is £18. (*Ideal Boilers & Radiators Ltd., Ideal Works, Hull.*)



The Ideal cast-iron double drainer sink.

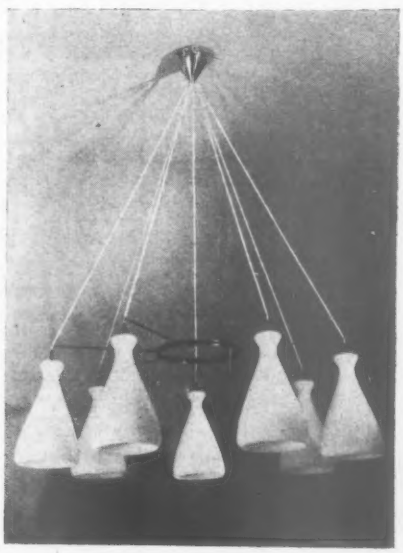
Price reductions

Any reductions in the prices of materials or equipment are rare enough to deserve mention, and we can all be glad to note that, from the first of this month, all the prices of M.K. electrical equipment have been reduced by about 3¾ per cent. (*M.K. Electric Ltd., Wakefield Street, Edmonton, London, N.*18.)

Lighting fittings

Falks, whose light fittings were not very much admired in the years before the war, have progressed steadily over the last decade or so, and now have a very pleasant range at quite reasonable prices. The latest additions are pendant fittings for 75 or 150 watt lamps, made in three shapes and in 7, 6, 5, 3 and 1 light pendants, each for the two lamp sizes, and there is also a single lamp wall bracket for a 75 watt lamp. The photograph shows the 7-light Neptune fitting, which costs £21 5s. 11d. in the 75-watt size, including purchase tax. (*Falk, Stadelmann & Co. Ltd.*, 91, *Farringdon Road, London, E.C.*1.)

Below left, part of the Small Pattern aluminium treadplate (reproduced same size) made by British Aluminium; below right, the Neptune pendant fitting, by Falk, Stadelmann.



technical section

INFORMATION CENTRE

26.130 services and equipment: miscellaneous
SOLID FUEL INSTALLATIONS

Correct Fixing of Domestic Solid Fuel Appliances. W. C. Moss (CUC. 1s. 6d.) As the introduction points out, the nature of our solid fuel appliances has changed so radically since 1940 that the traditional methods of fixing are no longer good enough. Since the majority of fitters now at large were trained before 1940, the architect can no longer assume that he can leave fitting to the builder—particularly since many of our later appliances must be carefully allowed for in the design of the surrounding structure. This book goes through the motions of fixing every major type of modern coke or coal burning appliance, pointing out as it does so the modification required by each of the design of the flue, the hearth or the back. This process brings to light a wealth of information which concerns the architect and which is often ignored by him. The main general points to be watched concern the greater heat generated in modern appliances, hence the need for a more meticulous regard for expansion; and the closer control of draught. The old time fitter, if left to his own devices, will seal all joints with fire cement, but this will crack with repeated expansion and contraction, and he must be made to use asbestos rope instead. The attempt to increase the efficiency of built-in appliances by extracting waste heat by convection has proved a disappointment in too many cases because people have failed to realize how gentle convection currents are and that they are quite unable to resist the chimney pull. If, therefore, there is the smallest leak in the joint which separates the convection channels from the flue, the chances are that virtually all the waste heat will go up the chimney. The deep ashpit fire with underfloor draught has also been causing some trouble. It must be remembered that the amount of air supplied by the duct is not by any means all that is required by the chimney: some must come from the room. If, therefore, you weatherstrip the room too thoroughly the fire will smoke. It is also unwise to trust to a single duct discharging at one point, for if the wind is coming from an unfavourable quarter you will get suction which will offset the draught. The ideal is to have a " balancing chamber " near the fire to which the ducts discharge, running at right angles to one another, and leading from different sides of the house. There are many other points which are no less important than these: they are made clearly, in good English, and illustrated with good drawings. This is an excellent book which should be in every architect's office and constantly referred to.

26 SERVICES AND EQUIPMENT
small electrical installations, 5
screwed conduit

As nearly six months have passed since the last article in this series was published, we must remind our readers of its purpose and scope. The authors are an electrical consultant, Peter Jay (who does most of the writing), and an architect, Clive Wooster (whose business it is to remind Peter Jay what architects don't know and want to know). Their common purpose is " to describe in considerable detail those points of technique which make the difference between a good and a bad installation . . . and to discuss in what ways the architect can give his client value for money." They began by describing the principles of wiring (July 25, 1957); then they went through the motions of designing an installation in tough rubber sheathed cable in an actual house (August 8 and 15, 1957); and in their fourth article (August 22, 1957) they took up a number of points relating to quality and cost. This week they resume by describing in full detail the main alternative to TRS cable: screwed conduit, its advantages and the components which make it up. In their next article they will discuss the design of screwed conduit layouts.

In the previous articles we have described installations carried out in Tough Rubber Sheathed cable. We are now going on to describe installations in screwed conduit, in which single-core cables are enclosed in steel tubing, the latter providing mechanical protection and, usually, earth continuity.

Such installations are generally more expensive than those in TRS, and if properly carried out have important advantages over them. These advantages are:

1. *Security.* It is obvious that a steel tube provides better protection against mechanical damage than a rubber sheath, provided that it is not allowed to rust.

2. *Life.* An installation in conduit should last longer than one in TRS. It is very difficult to obtain clear data here because the use of electricity has been in-

technical section

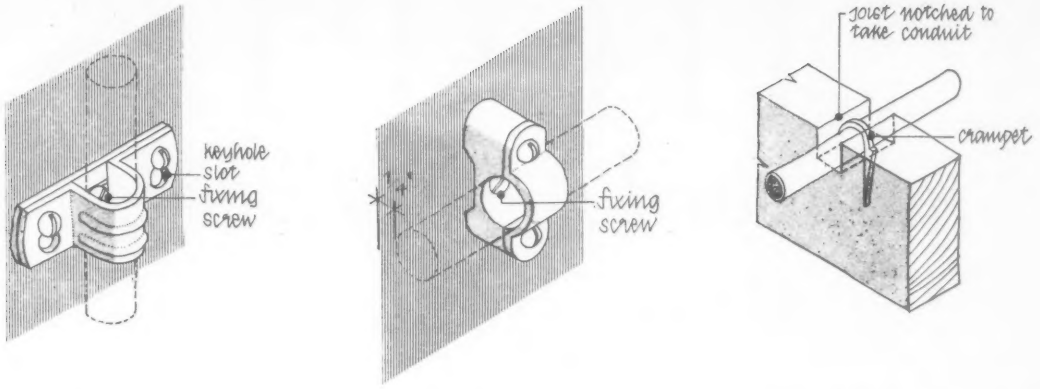


Fig. 1 (left), surface fixing of conduit by means of saddle. Fig. 2 (centre), hospital saddle for use where condensation is expected. Fig. 3 (right), conduit fixed into notched joist by means of a crampet.

creasing so rapidly in this country that installations which were put in 20 to 30 years ago, and which should only now have been reaching the end of their useful life, were in most cases so extended, altered and overloaded that rewiring became necessary several years ago.

However, and again provided that the metalwork does not rust, the conduit itself should last as long as the building. The cables it contains have a finite life, but when worn out they can be withdrawn, and new cables pulled in to the original conduit. This is a comparatively cheap operation, and should cause little disturbance.

3. *Flexibility.* It is usually possible to make minor alterations and additions to a conduit installation mainly by rewiring, carrying out little or no work on the conduit itself. This applies particularly to re-grouping of switches, increase of lighting loads, etc.

4. *Reduced fire risk.* Most of the materials used for the insulation of cable will ignite if subjected to intense heat, although many of them will support combustion only while an external source of heat is present. If the cables are enclosed in steel tube the fire risk is diminished, since the tube both restricts the supply of air and conducts the heat away.

The above are the principal advantages of conduit over the cheaper system of TRS cable. Apart from that of mechanical protection, and, to a lesser extent, that of fire risk, these advantages will only be achieved if the installation has been planned and executed properly, and it follows that it is not worth going to the expense of using conduit at all unless these advantages really are achieved. In the remainder of this article we shall describe the technique of conduit in detail, laying particular stress on those precautions necessary to ensure security, low fire risk and long life, with ease of rewiring and flexibility. For installations in TRS there is only one major problem of planning, the choice of the route to be taken by the cable. For an installation in conduit this becomes two problems, the choice of route to be taken by the conduit, and the arrangement of the cables in the conduit once installed.

These two problems are obviously closely related, but in the first instance must be treated separately.

We shall, therefore, first describe the components, method of handling and installation of conduit, and then the considerations affecting the wiring.

Components

CONDUIT: Screwed conduit installations use "heavy gauge" tube, the walls of which are thick enough to be threaded. It can be obtained in sizes ranging from ½ in. to 2½ in. external diameter, and in naming conduit sizes the external diameter is always given. The ½-in. size is not now used for mains voltage wiring. Conduit is normally welded, although "solid drawn" tube, which is seamless, should be employed in special circumstances.

"Light Gauge" tube has walls which are too thin to take a thread, and it may be obtained either welded, or "close joint," that is, bent into shape with the joint not sealed. Solid drawn and Light Gauge conduit will be discussed in a later article.

Conduit and most conduit fittings may be obtained finished in black enamel, for general use, or galvanized for damp and corrosive situations.

Enamelled conduit finished in a light grey or silver colour may also be obtained, and should be distinguished from galvanized conduit. The finish does not afford the same protection against corrosion as black enamel, and its only advantage is in appearance if left unpainted. As we do not think that conduit ever should be left unpainted this does not seem to be significant.

FIXING OF CONDUIT: Where it runs on the surface, conduit should be fixed by means of saddles, as shown in Fig. 1, and there should always be a gap between the conduit and the wall to prevent the accumulation of dirt and moisture. In cases in which severe condensation may be experienced "hospital saddles," shown in Fig. 2 should be used. When buried behind plaster, or run under suspended floors, conduit should be secured by means of crampets (Fig. 3).

BENDING AND THREADING OF CONDUIT: Conduit is purchased in straight lengths of about 12 ft. The smaller sizes may be bent in a bending block, which

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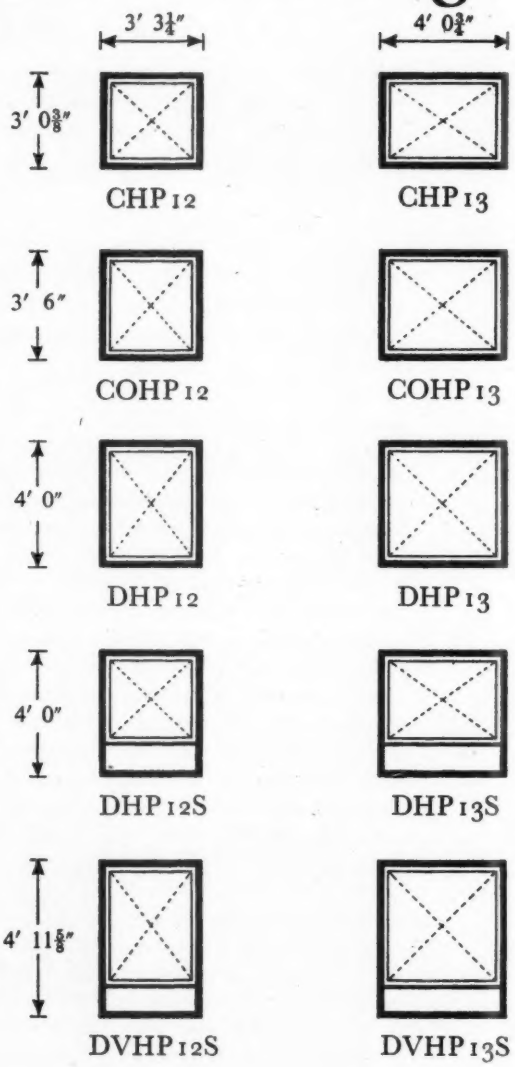

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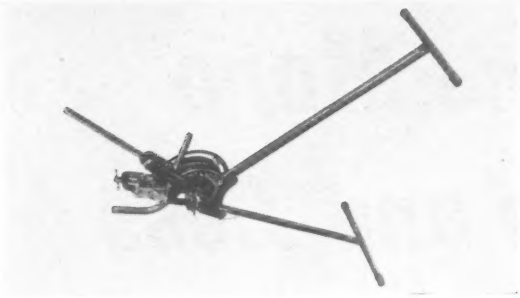

Fig. 4, conduit bending machine.

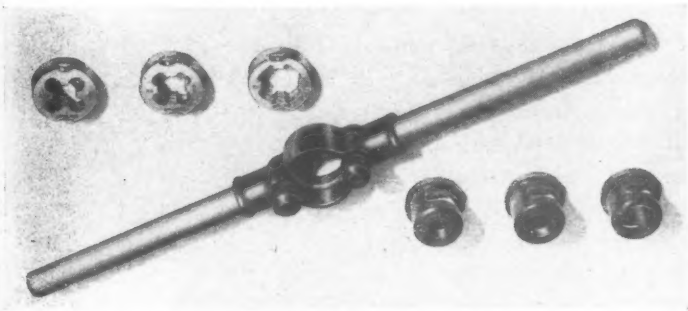

Fig. 5, tool for threading conduit.

is simply a large block of wood with a hole through it which is made up by the electrician to suit his own needs. A bending machine, shown in Fig. 4, must be used for the larger sizes of conduit, and is quicker and easier for the smaller conduits as well, but it has the disadvantage that it can only make bends of one of a small number of standard radii.

The ends of conduit are threaded with stocks and dies (Fig. 5) as with water and gas pipes, but as the sizes of tube are small as compared with those used, for instance, in hot water fitting, mechanical assistance is not normally required and threading can be carried out by hand, although a machine is sometimes used for threading the larger sizes.

WIRING CAPACITY OF CONDUITS: The two sizes of cable most frequently used in private house wiring are 3/·029 for lighting circuits and 7/·029 for ring and power circuits generally. The table gives the number of cables of each of these sizes that can be carried in $\frac{5}{8}$-in., $\frac{3}{4}$-in. and 1-in. conduit. It should be noted that in naming conduit sizes it is always the external diameter which is given.

TABLE 1: CAPACITY OF HEAVY GAUGE CONDUIT

Size of cable	Size of conduit $\frac{5}{8}$in.	$\frac{3}{4}$in.	1in.
3/·029	4	6	13
7/·029	3	4	9

This table is of fundamental importance when we come to consider the layout of conduit, and the selection of the route the cable should take through it.

These figures apply only to rubber-covered cable. Plastic covered cable may be obtained with a single thickness of plastic insulation only, or with an outer sheathing as well.

The capacity of conduit for the insulated only cable is rather greater than is shown in the table, and the capacity for the insulated and sheathed is rather less. This is one of the considerations which has to be taken into account in dealing with plastic cable, and it falls outside the scope of this article.

CONDUIT BOXES AND FITTINGS: Junctions between conduit runs are made by means of boxes. These may be round boxes (fitted with internally threaded spouts), conforming to BS 31, of which a selection is shown in Fig. 6.

Alternatively, rectangular boxes are obtainable. These are normally pressings, whereas the round boxes are castings. The rectangular boxes are frequently catalogued as connector boxes, but as this implies that they are used for connections between different lengths of cable, which is not, or should not be, the case, we prefer the alternative term *adaptable boxes.*

These boxes do not have spouts but instead have knockouts, that is, discs, corresponding to an appropriate conduit size half-punched through the sides, so that if the disc is tapped with a hammer it comes away leaving a neat hole for the insertion of the conduit, as shown in Fig. 7.

Apart from their function of forming junctions between several convergent runs of conduit, boxes are the points at which the cable is drawn in and out. The technique will be described more fully later on, but it is clear that no boxes or other fittings should be used which may damage the cable. For this reason the fittings shown in Fig. 8 should never be employed.

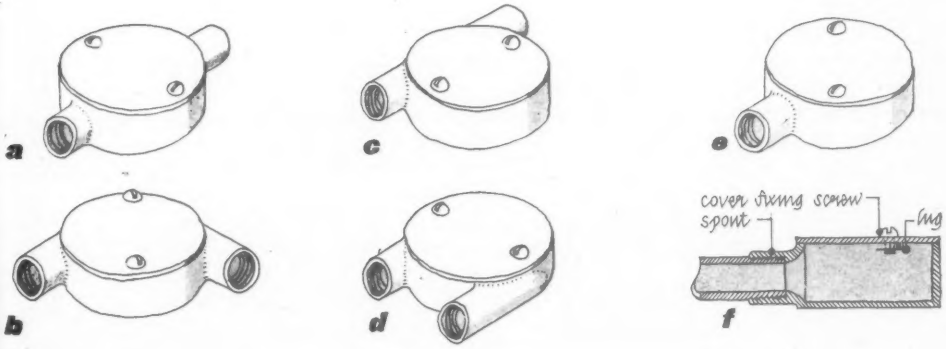

Fig. 6, selection of round BS conduit boxes. (a) *through box.* (b) *angle tangent entry box.* (c) *tangent entry through box.* (d) *branch "U" box.* (e) *terminal box.* (f) *section through terminal box.*

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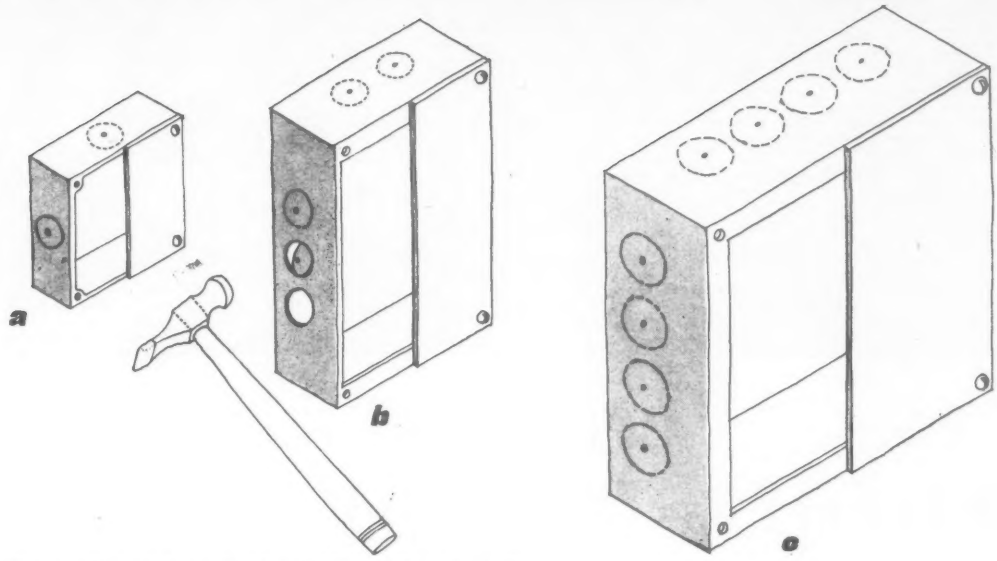


Fig. 7, adaptable boxes showing function of "knockouts."

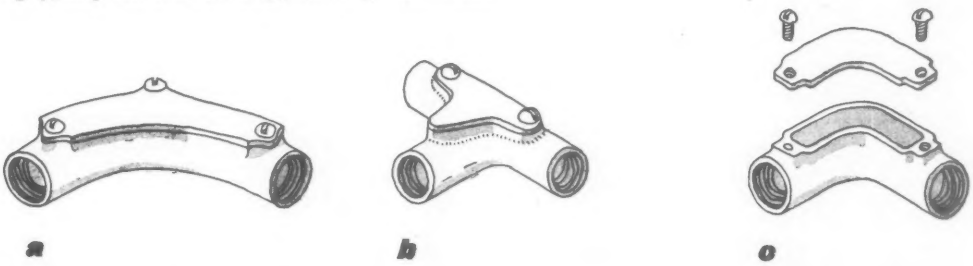
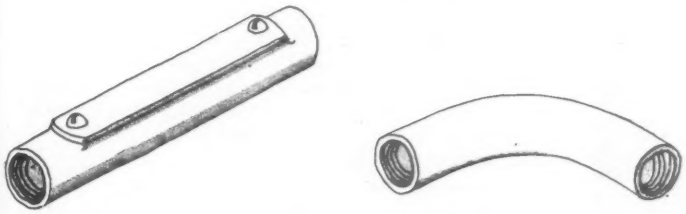


Fig. 8 (above), inspection fittings. (a) *inspection bend.* (b) *inspection tee.* (c) *inspection elbow. Fig. 9 (below left), sleeve. Fig. 10 (below right), made bend.*



They are, from left to right, inspection bend, tee and elbow. Their aperture is far too small for proper use, and round boxes should always be used instead.

The sleeve, shown in Fig. 9, is a perfectly acceptable fitting for use on a straight run. We have mentioned it particularly to distinguish it from the inspection fittings to which it is superficially similar.

OTHER ACCESSORIES: Conduits larger than 1¼-in. diameter are so difficult to bend in a machine that it is usual to purchase the bends as separate items, and they are called *made bends,* illustrated in Fig. 10. They are sometimes used for the smaller sizes of conduit as well. Such bends should be distinguished from "solid elbows" which have a very small radius of curvature, and should never be used as they may damage the cable.

There is also, of course, a large range of accessories such as conduit connectors (Fig. 11), bushes, locknuts and special purpose lids for round boxes. We shall have occasion to refer to them from time to time, and they will be illustrated as required.

CABLES: The cables most commonly used with conduit are single-core, insulated with rubber wrapped in tape and covered overall with waxed cotton braiding. Such cables used to be called "VIR taped and braided," in which VIR stands for "Vulcanized India Rubber." In fact, indiarubber is very little used for insulation today, and has been largely replaced by other types, so that the new standard terminology is "VRI cable," in which VRI stands for "Vulcanized Rubber Insulated." All the same, many people, including the authors, continue to use the original term, partly because it sounds more euphonious, partly, no doubt, from force of habit.

The function of the tape and braid is to give additional mechanical strength to withstand abrasion when the cables are drawn into the conduit, and the waxing of the braid makes the cable slide more easily. For this reason cable which has been in store for a long time is difficult to use as the wax hardens.

The tape and braid also hold the rubber in position if

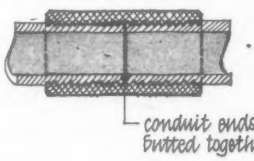


Fig. 11, method of jointing two sections of conduit by means of a connector.

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it should perish and become hard and brittle. In fact, so long as they are not disturbed, installations will continue to function for years after the rubber has completely lost its elastic properties.

We have already mentioned plastic-covered cables, and they will be discussed fully in a later article in which the variants of what we consider to be the two basic types of installation, TRS and VIR enclosed in screwed conduit, will all be brought under review. VIR cables may be obtained in a range of conductor sizes which are the same as those already described for TRS. Two grades of insulation are available. 250-V. grade cable may be obtained in sizes ranging from 1/·044, rating 5 amps, to 19/·064, rating 97 amps. 660-V. grade cable, which is similar to the 250-V. grade, but has thicker layers of insulation, is available in sizes ranging from 1/·044 up to 127/·103, rating 780 amps.

In this series of articles we shall only be considering the smaller and more straightforward installations for which 250-V. grade cable is nearly always used, and it may be assumed that we mean this grade in referring to a given cable size. The capacities of conduit given in Table 1 refer to 250-V. grade cable, and the capacity for the 660-V. grade is appreciably less.

Installation

THE METHOD OF DRAWING CABLES INTO CONDUIT: When carrying out an installation in conduit the metalwork must first be installed, and the cables are then drawn through it. A special steel tape, called a fish, is pushed into the conduit at the first box, and drawn out at the second. The ends of the cable are bared and twisted round the end of the tape, which is then steadily pulled out from the second box, and the cable after it. When sufficient cable has come through, the tape is pushed from the second box to the third, and so on until the wiring has been completed; a loop of cable should be left in each box.

If a large number of cables has to be drawn in, a single length of VIR is normally attached to the fish, and the cables themselves are drawn in on the end of this draw wire, and are not directly attached to the fish.

It is obviously most important that the conduit shall be installed in such a way that the cable can be drawn in easily and without damage, and, when rewiring becomes necessary, the cables can be withdrawn and new cables pulled in with equally little trouble.

REQUIREMENTS FOR AVOIDING DAMAGE TO CABLES: The most important precaution is that boxes should be used liberally, and they should be spaced not more than about 15 ft. apart measured along the run. Further, there should not be more than two right-angle bends, or their equivalent (*e.g.* four 45 deg. bends, etc.), between successive boxes.

The more bends there are in a run of conduit, the more frequently boxes should be used, and it is never wise to fill the conduit completely in a run containing two bends between successive boxes. Cables always twist when being drawn round a bend, and if the conduit is too full, or the bends too sharp, the cable can jam and be damaged.

Since the cables are drawn from box to box it is important that the aperture at each should be of ample size. We have already referred to this point in explaining why inspection bends, tees, and elbows, illustrated in Fig. 8, should never be employed.

Conduit should never be reduced in size in the middle of a run, otherwise it will be impossible to draw the cables in properly. In all cases in which the size of conduit is changed, the alteration should take place at a box.

CONDUIT BENDS: As explained above, if the radius of a conduit bend is too small, especially if the conduit is filled to capacity, the cables will jam. The requirement for a bend is that its radius shall be at least 2½ times the diameter of the conduit.

The solid elbow referred to in a previous paragraph, and illustrated in Fig. 12, is in effect a made bend with a very small radius. The IEE regulations allow the use of these elbows immediately adjacent to an outlet, but nowhere else. If the layout is properly considered, they need never be used at all.

Fig. 12, solid elbow.

THE AVOIDANCE OF DAMAGE AT JOINTS: The ends of every length of conduit, and all spouts and entries into boxes should be inspected, and where necessary, filed or reamed out to ensure that there are no rough edges or burrs which could tear the cable.

This requirement should be obvious, but there are other precautions which should be taken at joints which are not so generally realized.

THE NECESSITY FOR CARE AT CONDUIT JOINTS: In most conduit installations the earth continuity is completed through the conduit itself. It is, therefore, important that the joints between successive lengths of conduit, and between conduit and boxes should afford good electrical contact.

The reasons for this are as follows: in the first article of this series we explained the term earth leakage path. This is the path traversed by the current when a live conductor comes into contact with some earthed metalwork, and unless the path has a low resistance the current which flows may not be high enough to blow the fuse, so that a dangerous situation will persist.

Fig. 13 illustrates this point again, and in a conduit installation the conduit and every joint in it forms part of the earth leakage path. To give an example of the effect of one loose or rusty joint, let us suppose that a live cable forming part of a circuit fused at 15 amps. has come loose, for instance, inside an electric fire, which is earthed through the flexible lead to the plug, and thence through the conduit back to the water main.

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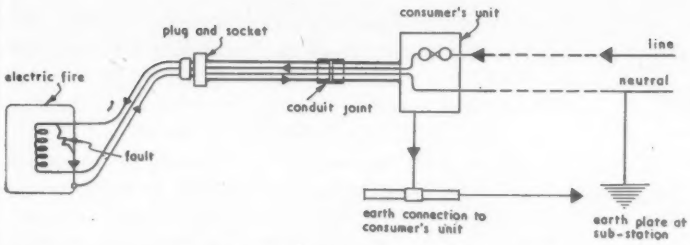


Fig. 13, diagram showing earth leakage path.

In this case we shall also suppose that all parts of the earth leakage path have a low resistance, which may be neglected, except for one loose or corroded conduit joint, which has a high resistance and limits the current to 10 amps. A current of this magnitude will not blow a 15 amp. fuse, and so it will continue to flow indefinitely.

This current, if allowed to persist for more than a second or two will have very dangerous results. In the first place, the metal case of the fire becomes live so that anyone who touches it will receive a severe shock.

Many people have at one time or another experienced an electric shock, so that it should not be necessary to emphasize the fact that it feels most unpleasant. Severe shocks can be directly lethal, especially if the current flows from one limb to another, when it affects the heart, but even shocks which are not of this kind cause muscular convulsions and the victim is likely to be injured by being flung across the room to hit his head against some sharp projection.

Apart from the risk of shock, the condition described above, in which a high resistance joint can so limit the earth leakage current that it is too small to blow the fuse, has another and more subtle effect. The joint has a high resistance, and 10 amps. are flowing through it. The heat dissipated in such a joint will be the same as that dissipated in any electrical appliance which takes 10 amps.; at a supply voltage of 240, the wattage is 240 × 10, or 2·4 kW. This quantity of heat dissipated in such a small volume will raise the joint to a very high temperature, so that it could easily set light to any inflammable material nearby.

In fact, there are grounds for thinking that more fires are caused in this way, by overheating at conduit joints, than by defective cables or connections. Naturally, no current would flow through the conduit at all unless there had been a breakdown in the insulation somewhere, but the fire risk may occur at some distance from the actual point of breakdown.

At the beginning of this article we explained that to enclose the cables in steel conduit reduces one particular kind of fire risk, that due to direct ignition of the insulating material of the cable. It may now be seen that unless proper care is taken it produces another kind of fire risk which is relatively less likely with TRS.

In a TRS installation the amount of exposed metal, and therefore the risk of shock, is generally very small, and the joints in the earth wire, which are the points at which faults are liable to develop, are comparatively few in number. In a conduit installation the amount of exposed metal is often greatly increased, since metal switchplates and socket outlets are frequently used, while every conduit joint is also a joint in the earth leakage path.

This is not written with any intention of causing alarm or suggesting that conduit installations are intrinsically unsafe, and we must repeat that in our opinion a conduit installation properly carried out is preferable to one in TRS.

On the other hand, those who are not engineers, but have to deal with electrical installations, often seem to think that provided the cables are enclosed in steel tube, and the tube appears to be in good condition, the installation must be completely safe.

We are only concerned to show that this is by no means the whole story, but provided that the precautions described in the following paragraphs are observed, it may be taken that the installation is up to a high standard.

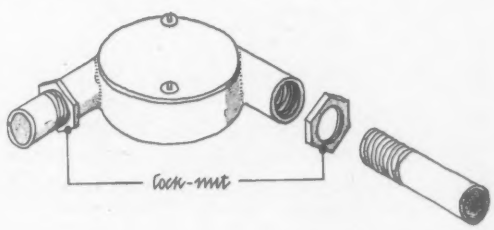
In this connection, we should like once again to draw the attention of architects to the National Inspection Council for Electrical Installation Contracting, 13, Victoria Street, S.W.1. This body exists in order to keep up the standard of electrical work, and operates by issuing a list of approved contractors, who have satisfied the Council as to their competence. We would recommend that only the contractors appearing on this list should be invited to carry out electrical work.

The object of these articles is not to enable the architect personally to inspect each detail of an electrical installation, but to explain why it is that a high standard of workmanship and practice should be insisted upon. In the absence of a consultant, the simplest way of ensuring that the work will be carried out properly is to confine work to approved contractors.

THE NECESSITY FOR ENSURING THAT JOINTS ARE TIGHT: The resistance of conduit joints will remain low provided that they are tight, and free from corrosion. It is frequently assumed that no special care is necessary to fulfil these requirements, but in fact, unless locknuts have been used, and considerable care is taken to ensure that the conduit is not under constraint when the nuts are done up, the resistance of the joints is liable to increase in the course of time.

The effect of sideways constraint, which might be caused by failing to bed one length of conduit properly down into its saddles when adding the next length, or by leaning a ladder against the conduit to

Fig. 14. use of locknuts at conduit joints.



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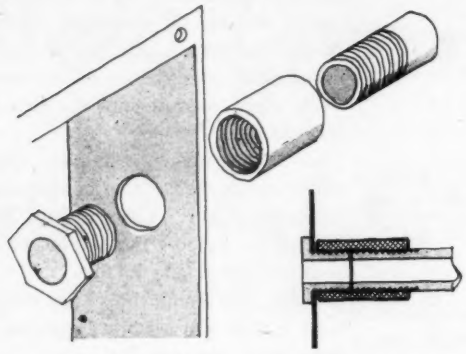


Fig. 15, method of connecting conduit to sheet steel box.

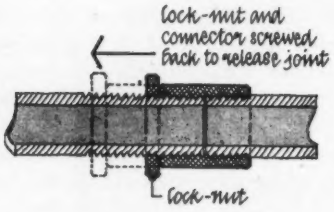


Fig. 16, running joint.

work from, is to jam the joint before the nut is properly done up. Later on, the constraint may be released and the joint work quite loose.

The way in which locknuts are used is shown in Fig. 14. At least one nut should be used on every run of conduit, and more than one if there is likely to be some exceptional strain or vibration.

CONNECTION OF CONDUIT TO AN ADAPTABLE BOX: The proper way of bringing conduit to a sheet steel box using a conduit connector and a male bush is illustrated in Fig. 15. The alternative method using a locknut and female bush, is not so satisfactory, because a female bush has fewer threads and is more difficult to tighten up than a male bush. Further, when several conduits are brought into one box in which female bushes have been used, it sometimes happens that in tightening up one bush or nut the others are loosened. This is likely to happen when the conduits have not been cut to exactly the right length. With the connector and male bush method there is more tolerance and tight joints can be achieved more easily.

In all cases the enamel should be cleaned off the sheet steel box around the entry hole, otherwise it will prevent proper metal to metal contact.

Some manufacturers make cast boxes without spouts, but with tapped entry holes. The intention here is that the conduit shall be threaded and screwed into the entry hole, and be secured by means of a locknut only. This is not to be recommended, as the walls of these boxes are only about $\frac{1}{4}$ in. thick, and it is not possible to make a good joint with this length of thread. Such boxes should either be treated as sheet steel boxes, or special adaptors may be used for them, which are designed to improve the reliability of the joint.

DIRT AND CORROSION AT CONDUIT JOINTS: It is not difficult to ensure that the threads are clean when a joint is made, but unless it is really tight there will be some corrosion in time, as the very act of threading strips off the layer of protective enamel.

Some work has been done on protective compounds for conduit joints, but it is not easy to find a material which will not itself form a barrier layer which increases the resistance of the joint. Soldering would, of course, make a permanent joint, unaffected by corrosion, but the cost would be very high, and the installation would be completely inflexible. Soldering is not therefore used with steel conduit.

In fact, if the joints are really tight there should not be much trouble, except in those cases described later on, where there is risk of corrosion not only at joints, but to the whole conduit system. For such cases the necessary precautions are described in detail.

EXPOSED THREADS AND RUNNING JOINTS: Conduit should not be threaded further than necessary, and no threads should be left exposed at a joint, since they have no protective enamel and will start to corrode. In any case, all joints should be painted after they have been tightened up.

However, there is one type of joint called a *running joint*, in which threads must be exposed. Generally speaking, round boxes are attached to conduit, and lengths of conduit are connected to each other before being fixed in position, and where the conduit has been bent, it is impossible to make up the system in any other way.

There is, however, a requirement for a type of joint which can be completed without twisting either of the conduits being connected, and the running joint, shown in Fig. 16, fulfils this function. It consists of a conduit connector and a locknut. Both are screwed on to one length of conduit, which is threaded far enough to enable them to clear the end, the conduit is then placed in position, and butted up to the length to which it has to be connected, which is threaded only to half the length of the connector. The latter is then screwed off one conduit and on to the other as far as it will go, which should be until it has about an equal number of threads on each, and the locknut is screwed back to tighten it up.

Although running joints must be used occasionally, it is bad practice to use them more than is absolutely necessary, and they should never be buried beneath plaster, or be placed in situations in which corrosion may be encouraged unless they have been given at least two coats of red lead paint.

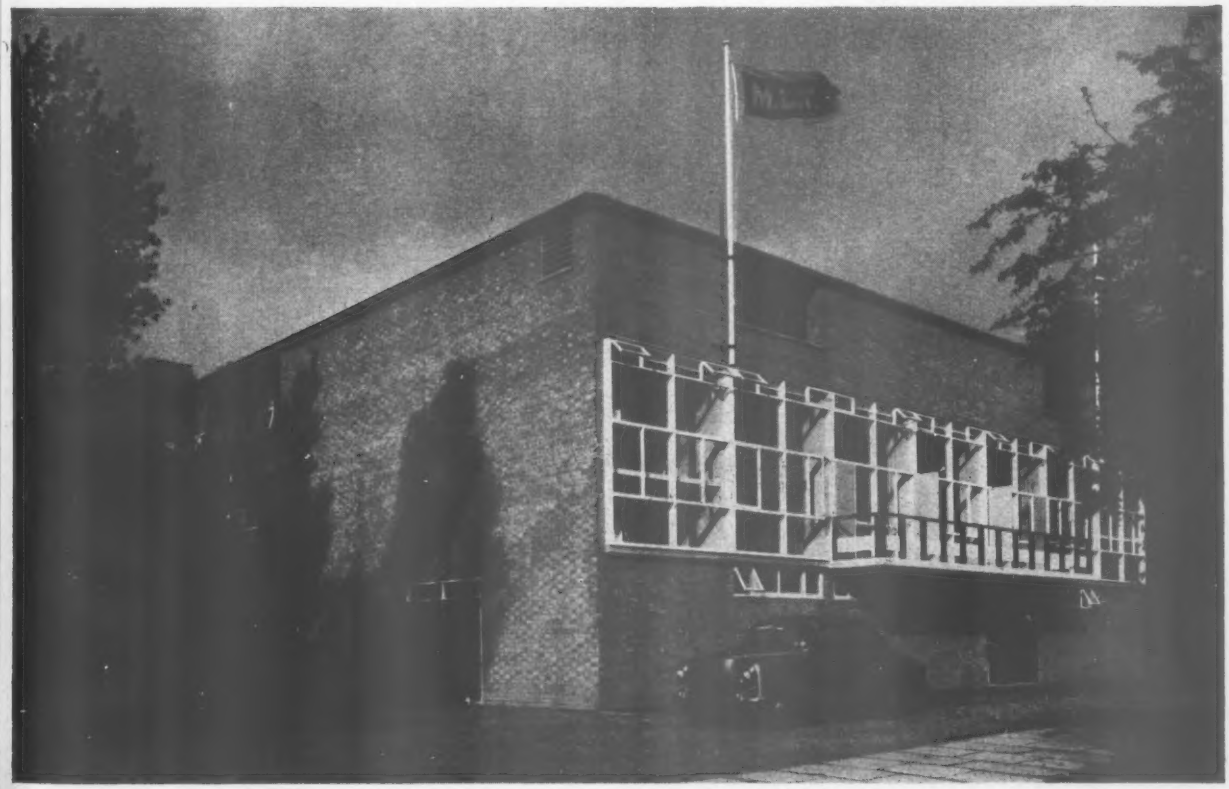
The use of running joints can often be avoided by replacing round boxes by adaptable boxes. The only way of fitting a conduit into the spout of a round box is by twisting one or the other, and sooner or later a situation is reached in which neither can be twisted, so that a running joint has to be used. An adaptable box, however, can be connected by means of a male bush as described earlier on, so that if these boxes are used at critical positions, running joints may be avoided.

THEATRE

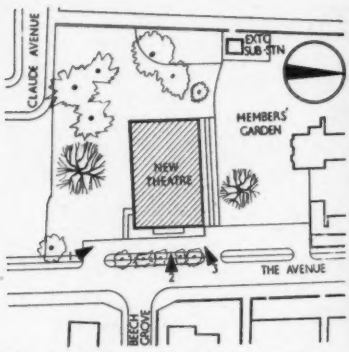
in MIDDLESBROUGH, YORKSHIRE; designed by ENRICO DE PIERRO; assistant architect PHILIP E. BELL
consultants (structural) CHARLES WEISS and PARTNERS; quantity surveyors DANIEL B. CONNAL and PARTNERS

The Little Theatre is the first new theatre to be built in this country since the war. It has been built for an amateur group, who have been in active existence since 1930, and have collected the entire amount necessary to pay for the building, some from their productions, some from donations from industry and local bodies, and the last £8,000 from the Gulbenkian Trust. It is ironical that with the £20,000 the group had collected by the outbreak of war they could have built more or less the same theatre as they have now got for £50,000. Their collecting since the war has just succeeded in keeping pace with rising costs. The architect has provided more than one would have thought possible on a " shoe-string " budget, but his achievement only reinforces our envy of the dozens of luxurious opera houses and theatres built on the Continent since the war.

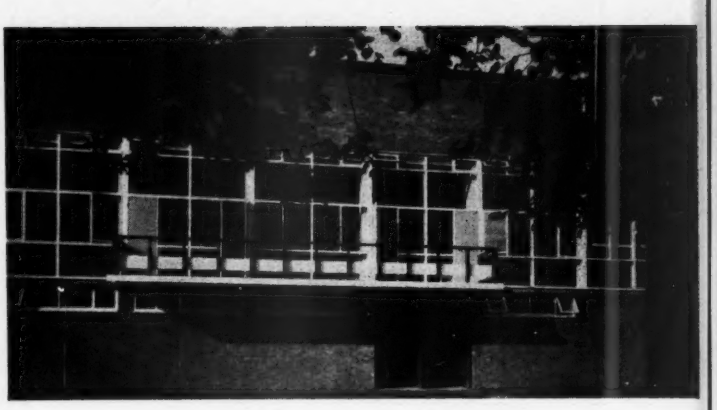
Viewpoint 1: *the south and east facades from Avenue Road.*



building illustrated



Site plan with photographic viewpoints



Viewpoint 2 (above right): the entrance doors and window to first floor bar. The rhythm of the regularly spaced structural supports has been suppressed, as at the Festival Hall, by running the window past the piers. There is a drive-in, with gravel parking at either side. The building is a simple brick box with a flat roof and no projecting scene tower. The balconies at the top are escapes from the projection booth and spot-lighting rooms. The grilles at the sides (seen in Viewpoint 1) are the outlets from the extract fans. The plan is absolutely symmetrical, which makes the off-centre main doors a little difficult to understand, especially as the main stream has to realign itself to enter the auditorium (see plan). Though quite adequate for the traffic they have to deal with, these main entrance doors have a somewhat subsidiary look, which the departure into asymmetry serves to accentuate. Viewpoint 3 (below): night view of the entrance. The name is in black letters on acrylic sheet and is illuminated by ordinary bulbs behind the balcony fascia, which also throw light upwards on to the flowers and downwards on to the pavement. Even the box-office and w.c. lights are used in this highly economical dual-role way, by lighting the soffit of the balcony through the clerestory windows. The use of exposed cast iron spigot-and-socket rain-water pipes in the foyer seems a little discordant—they would have related better to a facing-brick, natural-materials treatment of the foyer rather better than to an all-painted, mainly plastered interior. The windows which run past the structural supports also continue with unaltered basic pattern past the half-levels of the staircases. These landings come at casement fastener level, so the openers are omitted, but the divisions remain the same. This may partly result from the need to avoid the expense of plate glass by keeping the panes small but this could have been done without retaining the same pattern, where the function, space levels and view out are all different.

The foyer, with main entrance doors on the left, and the entrance to the central aisle of the auditorium on the right. The raking beams are white, and the precast gallery floor slabs and risers are painted in a seemingly random pattern using the whole colour range used in the foyer area—light grey, dark grey, geranium red, dark gree: nd butter yellow.

The first floor bar, looking down at the central auditorium door. The bar is a simple framed-up counter, with a sink an electric storage water beater and an urn.

analysis

CLIENT'S BRIEF : his stated requirements

A theatre, to be built with the greatest economy, providing as large a stage as possible and an auditorium to hold 500 seats, dressing rooms, entrance foyer and bar and the usual services. After considering various alternatives the clients finally chose a seating arrangement of stalls and a circle.

SITE

A flat, wooded site, adjacent to the Little Theatre Co. headquarters, surrounded by gardens of large, nineteenth century suburban houses, with access from The Avenue, Middlesbrough.

PLAN

A compact arrangement of rooms within a rectangle. The stage occupies more than a third of this rectangle, across one end.

MAIN CONSTRUCTION : general appreciation

Brick load-bearing walls and piers, floors partly pre-cast, partly *in situ*.
Roof, precast soffits sitting on steel space frames. Topping of lightweight insulating concrete.

	s	d
cost per sq. ft. of floor area (prices based on estimated final account)		
preliminaries and insurances	5	8

STRUCTURAL ELEMENTS

Work below ground floor level — 6 2
Strip foundations under all structural walls, *in-situ* concrete. Ground floor slab of *in-situ* concrete, mesh reinforced. Screed finish to receive cork carpet.
Reinforced brick footing, same thickness as wall, under front wall. Electrical intake basement under stage, of engineering brick and concrete with waterproofed rendering.

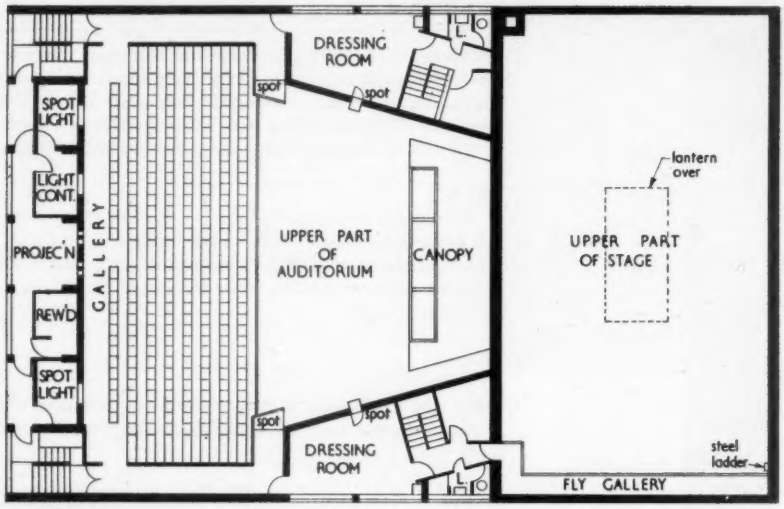
External walls and facings — 7 2
All faces, fairface brick, sand-faced flettons, the cheapest facing bricks available.

$$\text{ratio: } \frac{\text{Solid wall}}{\text{floor area}} = \frac{8{,}365 \text{ sq. ft.}}{14{,}050 \text{ sq. ft.}} = \frac{0{\cdot}59}{1}$$

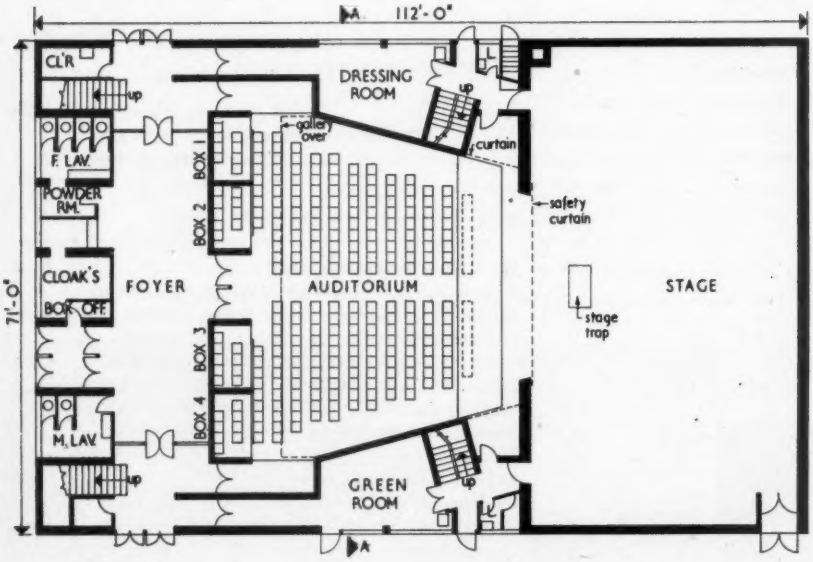
Frame or load-bearing element
(Cost included above.)
Internal wall piers at bar level, on the road side, of engineering bricks. Elsewhere, flettons, plastered or distempered.
Proscenium beam: r.c. girder with precast soffit, 26-ft. span. Girder formed by pouring into " flues " in brickwork.
Raking gallery beams over foyer and bar of r.c. precast; 15-ft. span. Walls at 10-ft. centres.

Upper floor construction — 2 8
Suspended floor over boiler room.
First floor: over cloakrooms, toilets, etc., forming floor to bar, 5-in. *in-situ* r.c.
Over greenroom and dressing rooms, splayed on plan, 4-in. *in-situ* r.c.
Passages to dressing rooms: 5-in. *in-situ* r.c.
Second floor: projection room, etc., and staircase landings, 4-in. *in-situ* r.c.
Balcony: precast concrete troughs, stepping down on raked beams and filled with mesh reinforcement

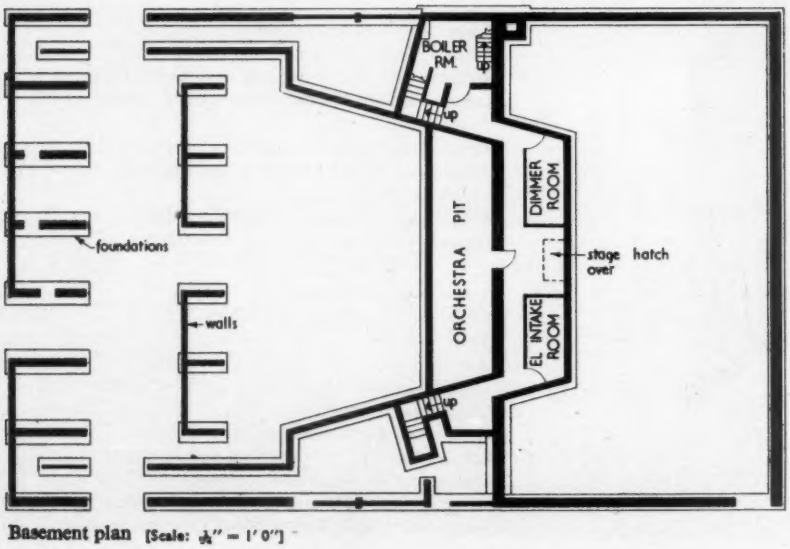
building illustrated



First floor plan

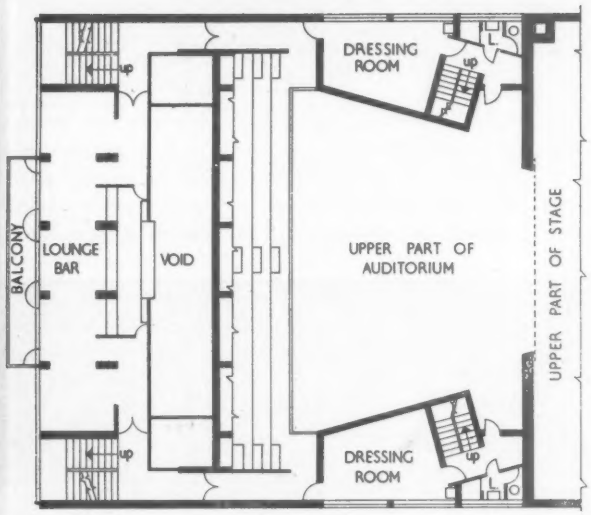


Ground floor plan

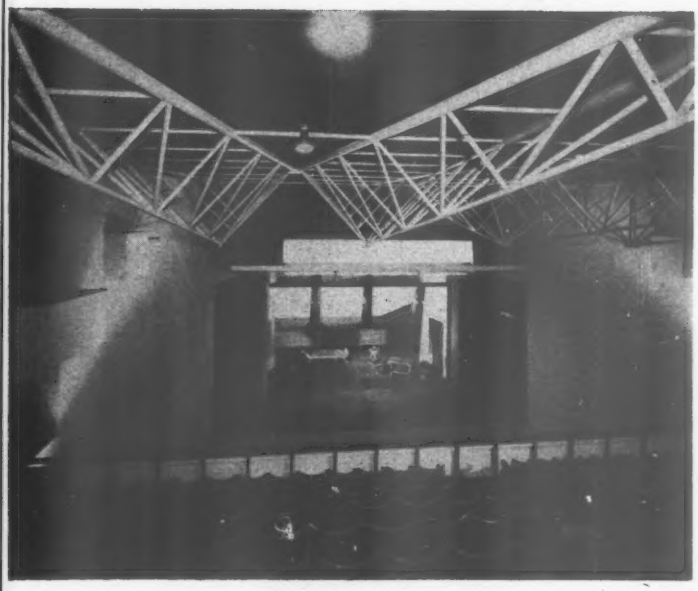


Basement plan [Scale: $\frac{1}{8}$" = 1' 0"]

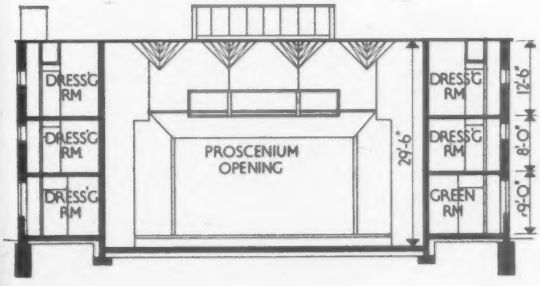
Above and below: the treads of the main staircases, at the south-east and north-east corners of the building, are 1½-in. precast concrete slabs built into the brick walls. The risers are hardwood.



Second floor plan



The auditorium roof is supported on welded-tube steel space frames, supported on the brick piers at the foyer end, and on the proscenium wall at the other. The precast ceiling slabs are painted matt black, and the space frames butter yellow. All the curtains are drawn back, including the side entrances. The cleaners' lights are swung out into position from the side spot boxes.



Section A-A [Scale: $\frac{1}{16}$" = 1' 0"

analysis

s d

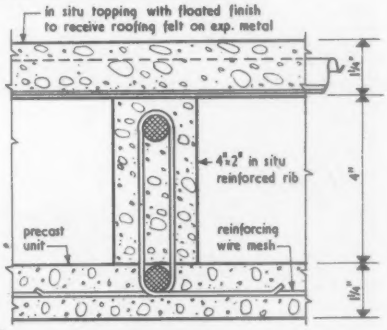
and *in-situ* concrete. Distemper on soffits, cork carpet (cost not included) between seats, screeded concrete in aisles.

Staircases 5½

Public (road side): 1½-in. precast r.c. treads and 1½-in. hardwood risers. Untreated.
Backstage: 1½-in. precast r.c. treads with no risers. (Cost includes m.s. cat ladders from stage floor and from boiler house to ground floor external door.)
Number of staircases: 4.
Widths: 4 ft. 3 in. for public; 2 ft. 6 in. backstage.
Total rise: 20 ft. 5 ; and 24 ft. 9 in.
Height from floor: or: 8 ft.

Roof construction 7 1½

Over auditorium: welded tube, 60-ft. span, space-frames with 1½-in. precast brick aggregate concrete ribbed slabs, topped with mesh reinforcement and *in-situ* foamed slag concrete with 1½-in. topping. Finished 3 layers bitumen felt.
Chosen as being the cheapest anti-vibration, heat-insulated roof.
Over stage: the roof is of similar construction, but supported on rolled steel beams spanning the stage.
Over projection boxes: same construction on r.c. beams.
Auditorium roof area: 4,982 sq. ft. Stage roof area 2,772 sq. ft. (excluding haystack lantern).



Section through roof [Scale: 3" = 1' 0"]

Roof lights 3

(Cost of haystack lantern only. Other cost included under "Windows.")
Haystack lantern over stage: r.c. roof, finished 3 layers of felt, painted deal windows. (Operating gear not included in cost.) Plan area: 210 sq. ft.
Two rooflights over projection and re-wind rooms, on road side of theatre, in painted softwood. Area of each: 5 sq. ft.

Windows 3¼

To bar, lavatories and dressing rooms: softwood, purpose made, with casement openers. Finished 3 coats of oil paint. No plate glass.

$$\text{ratio: } \frac{\text{window area}}{\text{floor area}} = \frac{1{,}337 \text{ sq. ft.}}{14{,}050 \text{ sq. ft.}} = \frac{0{\cdot}09}{1}$$

External doors 2

Resin-bonded plywood on deal frames, finished 3 coats oil paint, purpose made, with vision slits.

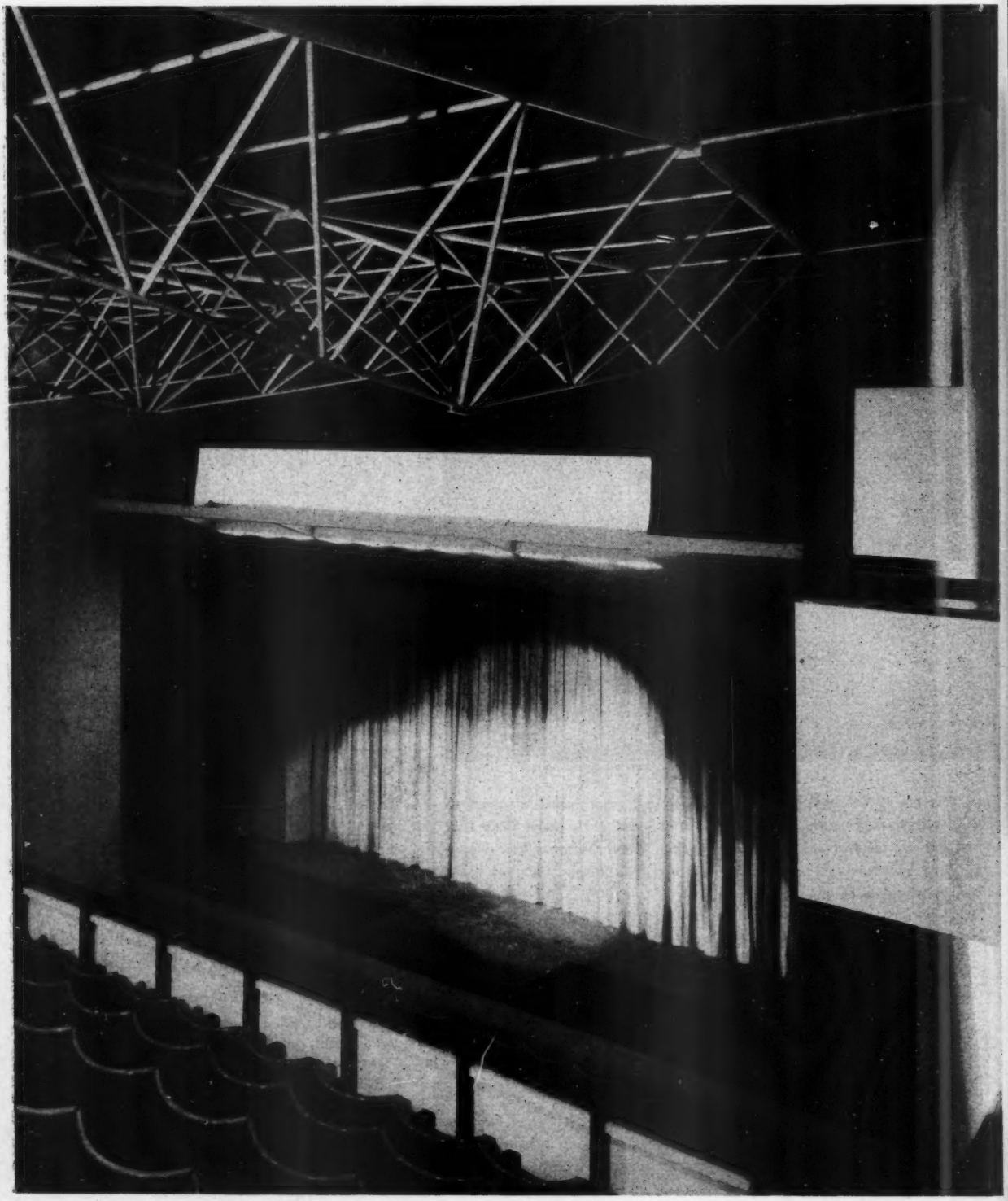
$$\text{ratio: } \frac{\text{external door area}}{\text{floor area}} = \frac{326 \text{ sq. ft.}}{14{,}050 \text{ sq. ft.}} = \frac{0{\cdot}002}{1}$$

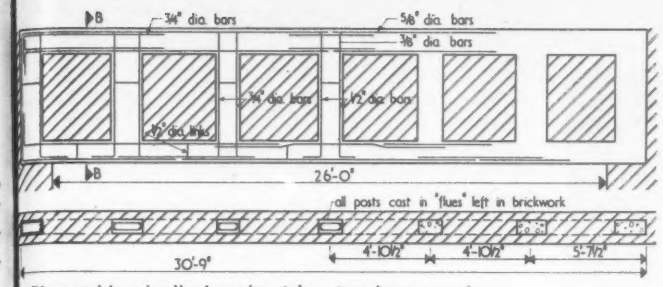
Glazing 5½

All 32-oz. glass, for cheapness, except fire barrier at ends of foyer, which is of ¼-in. wired plate, as required by fire regulations.

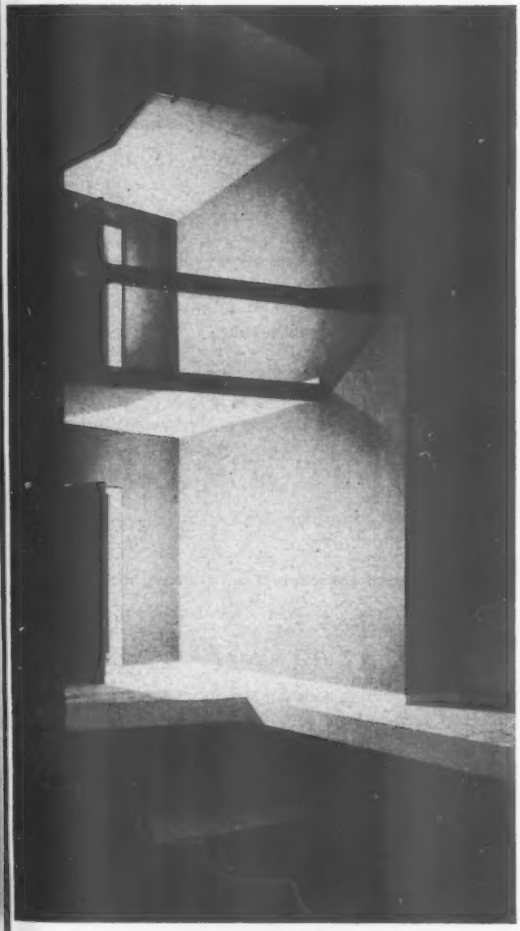
building illustrated

Another view of the auditorium from the gallery. Four of the "front of the house" lighting positions can be seen, two per side, one in the form of a small box accessible from the top dressing room and the other an extension of the side gallery, which acts as a secondary means of escape from the dressing rooms. There is also lighting in the canopy over the forestage, and at the back of the auditorium. The forestage is here built over the orchestra pit with temporary timber sections, leaving two flights of steps down into the under-stage area. The side entrances are curtained with the same material as the main tabs.





Plan and longitudinal section (above) and cross section (right) of beam over proscenium opening [Scale: ⅛" = 1' 0"]



O.P. side entrance on to the forestage, showing the orchestra pit (without its safety rail) and the permanent strip of forestage. This carries the eye outwards from the stage into the side spaces, and reduces the cut-off effect of the proscenium wall. It is a pity this level could not have been carried round the auditorium to join up with the general ground level at the base of the seating, but this would have added another 3 ft. all round the auditorium (or stolen it from the lower dressing rooms), which is the sort of luxury which has to be foregone at 49s. a square foot. The rail is removable to facilitate conversion into a piece of front-of-house scenery (part of a two-strorey house, or a Regency forestage box, for instance). The chopped-off skirting looks a little sad, and could easily have been contained behind an upstanding fascia.

analysis

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PARTITIONING

Internal partitions (including baluster walls) 11
In foyer and auditorium, brick or breeze, finished distemper on plaster.
In dressing rooms and back-stage rooms, brick or breeze, unplastered, finished distemper.
Stage, fair-faced brick, unpainted.

Type of partition:

2-in. breeze	3-in. breeze	4½-in. brick (2nd floor balustrade)	9-in. brick (proscenium and l.b. division piers)
Area in sq. yds.:			
190	60	20	460

Screens 0¾
Firescreens at ends of foyer, deal frames finished 3 coats oil paint, and ¼-in. wired polished plate.

W.c. doors and partitions
Included under doors and partitions.

Internal doors 8
Flush doors throughout, hardboard, finished 3 coats oil paint.
Special flush doors in fire screens, with slots, ply-faced, fire-resisting.
Number of single doors: 75.
Number of double doors: 5 pairs.

Ironmongery 7
Anodized aluminium throughout.

FINISHINGS

Floor finishes 1 9½
(Cost of cork carpet in auditorium not included, as provided separately by client.)
Balcony, bar, foyer and entrance, cork carpet, laid on screed.
Stage, 1 in. × 6 in. t & g boarding on fillets.
Ground floor dressing rooms and public lavatories, thermoplastic tiles.
Elsewhere, concrete, trowelled smooth without addition of a separate screed.

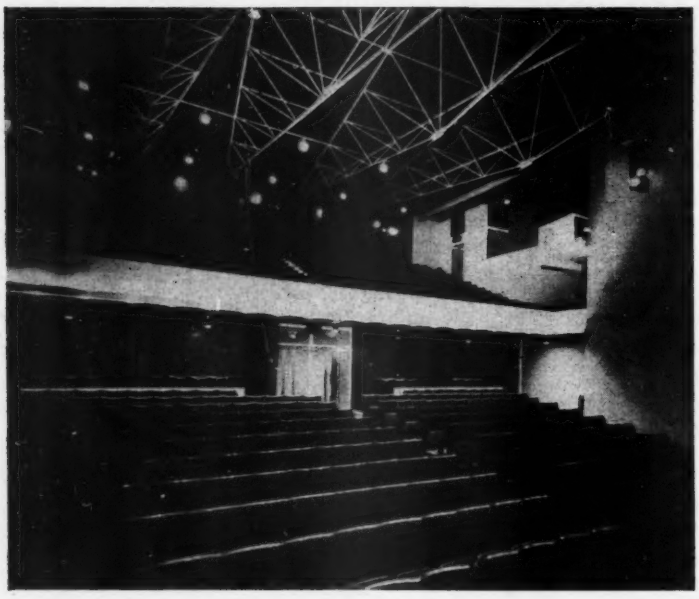
	Area in sq. ft.	*Cost per sq. yd.*
Cork carpet.	4,995	22s.
Timber boards.	1,700	17s. 6d.
Thermoplastic tiles	675	16s. 6d.
Smooth concrete (labour only)	—	1s. 2d.

Wall finishes 1 1½
Auditorium, foyer, entrance, plastered and distempered.
Backstage, fairfaced brick or breeze blocks, distempered.
Stage, bare brick or blocks.

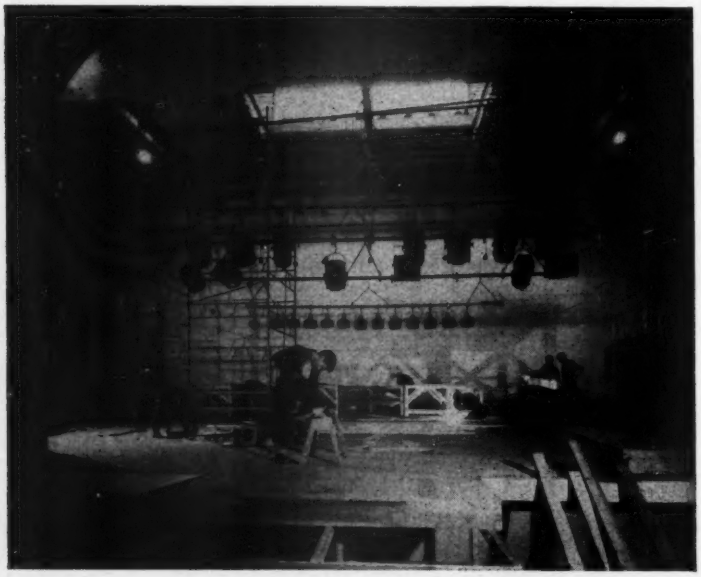
Ceiling finishes 6
Fairfaced concrete throughout, finished distemper on alkili-resistant preparation.

Roof finishes 10¾
Three layers bituminous felt, finished gravel and hot bitumen.
Area, 860 sq. yd.

building illustrated



The stalls/circle arrangement was arrived at after the architects had put forward various other arrangements which did not meet with favour from the clients. There are also four loges *under the circle. The projection booth can be seen in the rear wall. The extract fan grilles are above the circle exits at the back of the auditorium. The fans are just audible during a tense moment of silence, but not when there is normal dialogue; there is no absorbent lining to the ducts, which would presumably eliminate any possible disturbance from this source.*



The stage, showing haystack lantern, battens lowered for adjustment, and fly-gallery (right). The stage will not accommodate flown box-sets (which needs twice the proscenium-opening height plus 30 per cent., or in this case about 40 ft. instead of 26 ft. clear). It is, however, perfectly adequate for normal flies, and rolled backdrops. There is plenty of horizontal space (this was a client requirement) so that solid scenery can be pushed out of the way at the back or sides. The back wall is plastered for use as a cyclorama. This very simple backstage area seems to be perfectly adequate for a theatre of this size, and has obviously contributed a great deal to the very low cost of the building.

analysis

	s	d
Decorations (cost includes all decorations)		11½
Woodwork, oil paint.		
Plaster, concrete, brick and breeze, distemper.		
All external paintwork is white, except on r.w.p.s, which are black.		
Seven colours used inside, with white woodwork (BSS 2660 range).		

FITTINGS 4½

Box office shelves and hatch, painted deal and glass.
Canopy over proscenium, deal and ply with 3 coats of paint.
Ducting for extract ventilation.
Tank casing.
Timber plugs in concrete flooring for fixing chairs and carpets.

Stage fittings (cost not included)
Electrically-operated safety curtain, £955.
Roof lantern operating gear, £155.
Main tabs, stage curtains and stage cloth, £694.
Suspension gear and curtain tracks, £358.

Auditorium fittings (cost not included)
Seating, £2,073.
Floor covering, £670.
Note: these fittings, amounting to 7s. per sq. ft. of floor area, are not included in the cost analysis.

SERVICES

Plumbing, external and internal, and rainwater disposal 7½

Cold water installation 6½

Sanitary fittings 5½
White glazed fireclay with chromium plated fitments.

Type of fitting:	W.c.s.	Urinals.	Basins.	Sinks.	Showers.
No.	12 (4 for women 2 for men, 6 for artists)	5	15 (3 for women, 2 for men, 10 for artists)	3	2

All other fittings in dressing rooms, except one sink in the bar.

Heating installation 2 8
Heating is by low pressure hot water radiators throughout building, but on stage it is by high and low level pipe coils. Water is heated by a gas boiler and the flow is assisted by a pump. Ventilation is by two extract electric fans only from the auditorium, one on each side wall at high level, at rear of auditorium.

Gas installation 1½

Hot water installation 3½
Electric storage heaters in upper floor dressing rooms on either side.

Drainage 1 0
To main sewer in road. Glazed earthenware.

analysis

			s	d
Electrical installation			1	9

Switch fuses and fuseboards in intake room below stage.

Installation carried out in ¾-in. dia. conduit, 6-in. × 4-in. and 2-in. × 2-in. trunking, with space for added future wiring.

Room.	*No. of lighting points*	*No. of socket outlets*
Auditorium	10	
Foyer	28	
Stalls	20	
Acoustic canopy	10	
Bar office, cloakroom lavatories	9	
Bar	18	
Dressingrooms, green room, stairs and lavatories	61	
Spot control, re-wind and projection rooms	5	
Main stairs to balcony	7	
Entrance fascia signs	12	
Exit signs and boxes	9	
F.O.H. spotlights	16 (conduit only)	18

Total, approximately 205 lighting points.
Also 2 points for extract fans at high level above balcony.
Special cable for future connection to film projector.

Emergency lighting
Supplied from 2 No. 12 V. batteries charged from mains through trickle charger.
30 points in lavatories, foyer, exits, passages, staircases, stage and bar.

Stage lighting and equipment (cost not included in contract sum)
Choke control panel, operating gear and wiring, £2,183.
Additional spots, floods, etc., £408.
(A considerable amount of lighting equipment already possessed by theatre.)

Paved areas	1	4½
Car park		
Clearing site of trees, etc.		6
Increased cost of labour and materials throughout	1	8½
Total cost per sq. ft. floor area = £34,600 / 14,050 sq. ft. =	49	3

SUMMARY

Ground floor area: 7,555 sq. ft.
Floor area (including plan area of balcony, stairs, fly gallery over stage, but excluding area of balcony outside bar at 1st floor level): 13,046 sq. ft.
Basement floor area (including orchestra pit): 1,004 sq. ft.
Total floor area: 14,050 sq. ft.
Storey height of basement: 7 ft.
Price (estimated final account):
work above ground floor level, £29,940.
foundations and basement, £4,330.
external works, £1,330.
Gross total price, £34,600.
Price per sq. ft. of floor area, including basement, 49s 3d.

TIME SCHEDULE

Tender date: August 4, 1955.
Work began: November 28, 1955.
Work completed: October, 1957.
Type of contract: RIBA with quantities.

COST COMMENTS

This it seems is the first theatre to be built since the war; thus if any more are to be built, Middlesbrough sets standard for extreme economy. Since theatres are so unlike any other building type analysed, comments on the way money has been distributed are difficult to make, but it should be noted that the building cost of 49s. 3d. does not include stage fittings or auditorium seating. These would add some 7s. per sq. ft. of floor area.

The low unit cost of this building prompted a comparison with other building types—expressed as cost per person:

	£
Theatre	79
Church	90
Primary schools	154
Secondary schools	264
High flats	930
Private house	1,000
Hotel	1,220
Maisonettes	1,520
Hospital	2,600

The figures are taken from single examples, chosen at random, so should not be taken too seriously, but, if you bear in mind the variety of site and running costs among the types, the list makes an instructive commentary on social values. It is much cheaper to worship and be entertained than to stay away from home or be ill.

CONTRACTORS

General contractors: John McCreton Ltd. *Sub-contractors: site works and excavations and car parks:* Lonsdale (Tees-Side) Ltd. *Facing bricks and precast concrete:* Crossley & Sons Ltd. *Waterproofing:* Quickset Water Sealers Ltd. *Plastering:* J. B. Rodgers (Erimus) Ltd. *Heating and ventilation:* Rowells Ltd. *Electrical installations:* C. Horne & Co. Ltd. *Flush doors:* Lochhead Manufacturing Co. Ltd. *Structural steelwork:* Scaffolding (Gt. Britain) Ltd. *Plumbing and glazing:* Watson & Coates Ltd. *Cork lino and thermoplastic floors:* Semtex Ltd. *Painting and decoration:* A. Hector Grabham Ltd. *Seating:* C. R. Harrison & Sons Ltd. *Curtains, stage lighting, including remote control switchboard and dimmer equipment:* Watts & Corry Ltd. *Fire curtain and haystack lantern release apparatus:* Hall Stage Equipment Ltd. *Illuminated sign:* Emett & Co.

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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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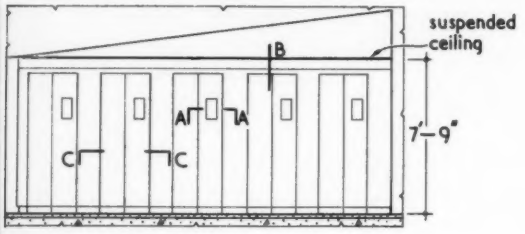
TELEPHONE BOXES: OFFICES IN LONDON, W.C.1

David du R. Aberdeen and Partners, architects

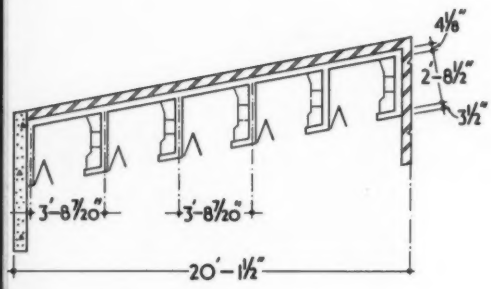
When all the doors are closed this range of telephone boxes presents as uninterrupted a wall plane as its function will admit. The principal surface is Yugoslav beech veneer, the kicking plate-cum-skirting being iroko. The continuous slatting above the door heads conceals the fresh air trunking and also helps to ventilate the cavity between the framing of the boxes and the main structure. Immediately above each door head is a hinged, top-hung panel which, on being opened, releases the top guide of the sliding door to give access to the box in an emergency. Note the "non-pinch" detail at the hinge between the folding panels (i.e. on the inside of the door) and also the detail at the forward edge of the door to ensure a tight closure.

TELEPHONE BOXES: OFFICES IN LONDON, W.C.1

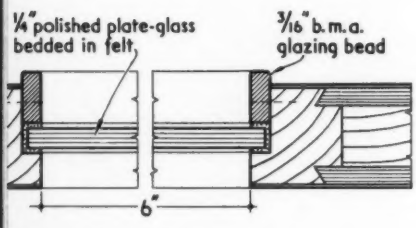
David du R. Aberdeen and Partners, architects



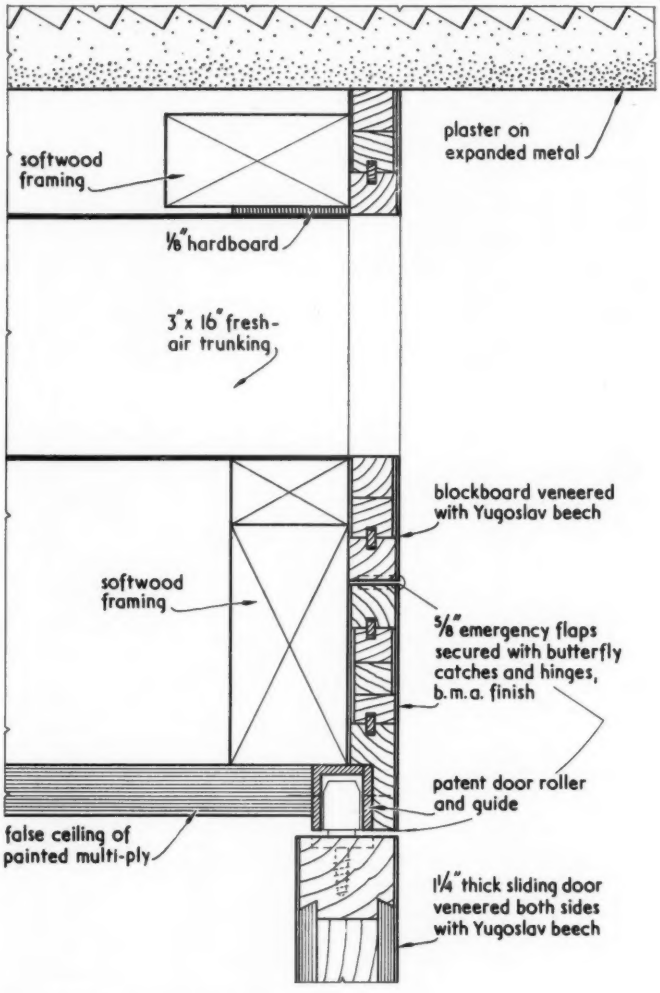
ELEVATION. scale ⅛" = 1'–0"



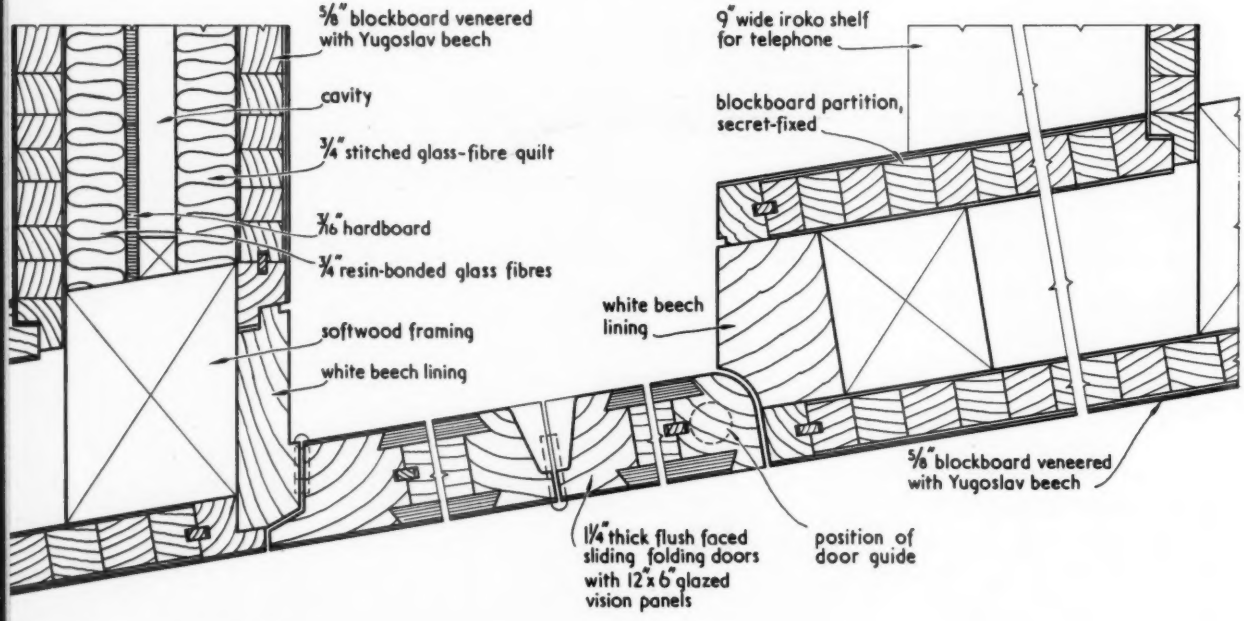
PLAN. scale ⅛" = 1'–0"



PLAN AT A–A. scale ½ full size



SECTION B–B. scale ½ full size



PLAN AT C–C. scale ½ full size

working detail

LAVATORY BASINS: OFFICES IN LONDON, W.C.1

David du R. Aberdeen and Partners, architects

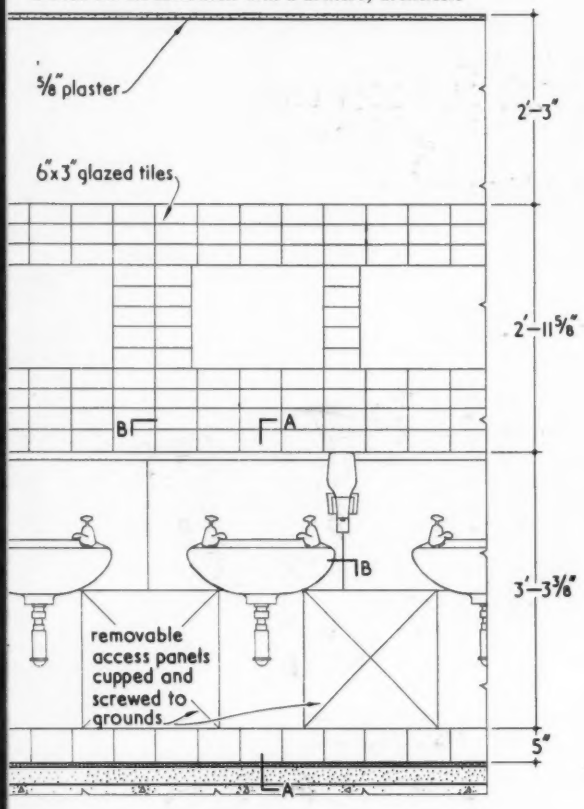
The main point of technical interest about these wash-basins is the substitution of a clamp for the usual bracket. The panels on which the basins are fixed are of melamine-faced sheet glued to timber framing, the lower panels between the basins being fixed with cups and screws to give access to the pipework behind.

working detail

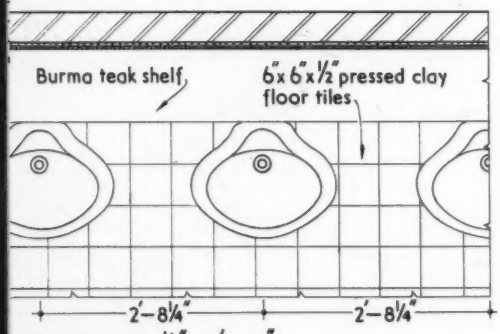
WATER SUPPLY AND SANITATION: 5

LAVATORY BASINS: OFFICES IN LONDON, W.C.1

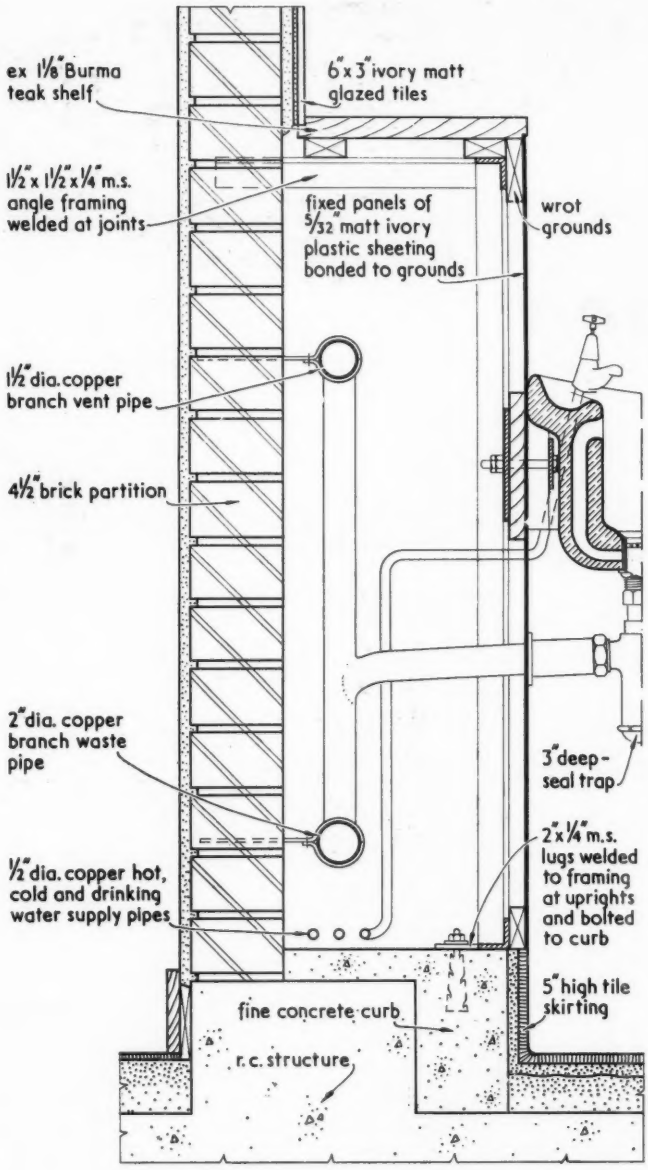
David du R. Aberdeen and Partners, architects



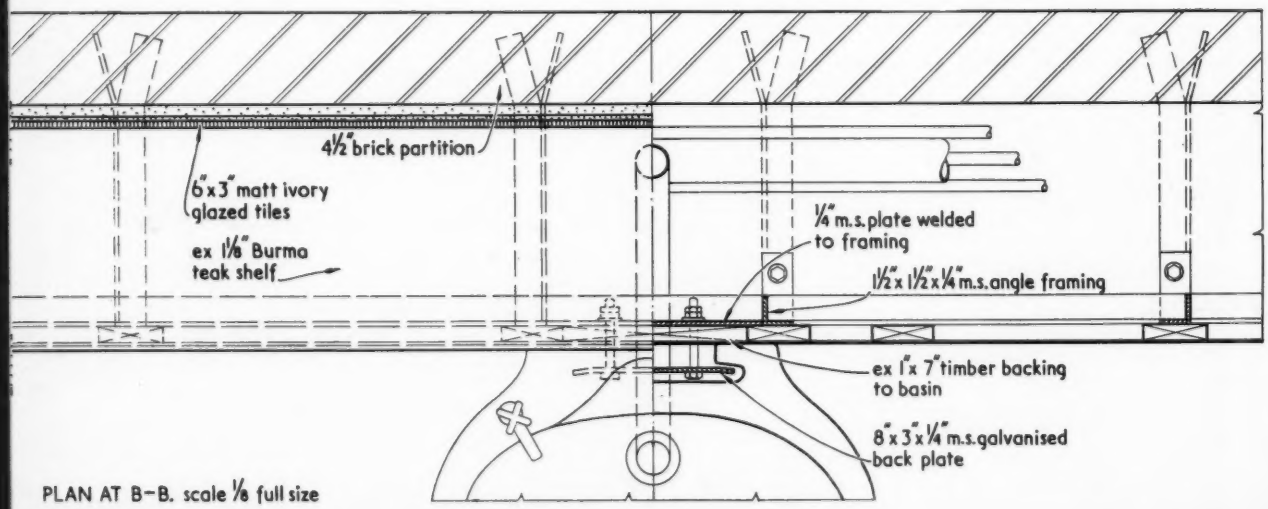
ELEVATION. scale ½" = 1'–0"



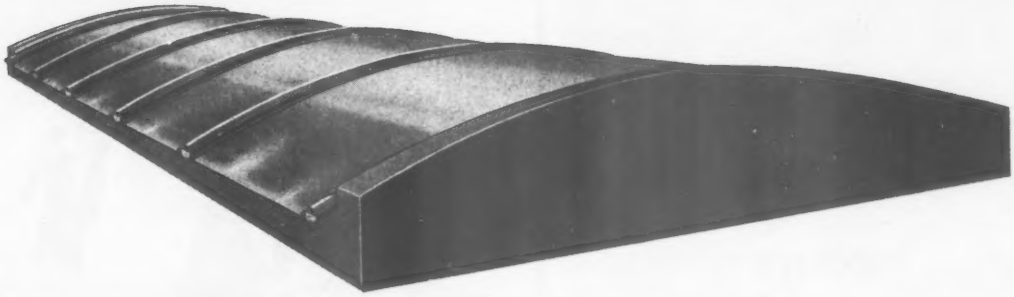
PLAN. scale ½" = 1'–0"



SECTION A–A. scale ⅛ full size



PLAN AT B–B. scale ⅛ full size



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The modern form of trouble-free roof lighting

Natural overhead lighting plays an important part, not only in industry but in schools, restaurants, offices, cinemas and municipal buildings. These roof-lights offer important advantages over all other forms of roof lighting.

Full details will gladly be supplied on application, and our technical representatives will be pleased to advise you, without obligation, on any matters relating to Newdome roof-lights.

We welcome Trade enquiries.

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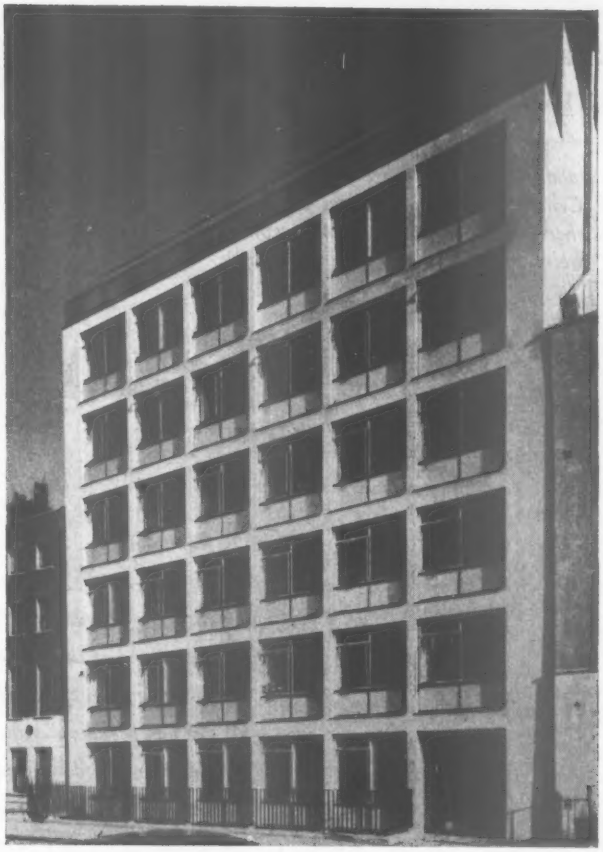
- ★ **The maximum amount of light is admitted for a given aperture due to either the total absence, or the minimum number, of glazing bars.**
- ★ **These roof-lights are easily and quickly fixed to either metal, wood or concrete curbs. They can, if required, be fitted on standard forms of metal ventilating units.**
- ★ **A pleasing, clean appearance is obtained from the interior of the building.**
- ★ **They are easily cleaned both inside and out, and are resistant to atmosphere and sulphur fumes.**
- ★ **As compared with all other translucent materials they have a high degree of fire resistance.**

GLASS BENDERS FOR OVER A CENTURY

OFFICES IN CHARLOTTE ST., LONDON, W.1

These new offices for the Jewish Board of Guardians, in Charlotte Street, London, W.1, were designed by Yorke, Rosenberg and Mardall, and built on the bombed site of St. John's Church in 16 months by Gilbert-Ash Ltd. Bored pile foundations had to pierce about 15 ft. of fill, reputedly rubbish dating from the Great Fire of London, before finding clay. The Board's requirements for a large number of very small offices, a large boardroom, a canteen, a caretaker's flat, and as much basement storage space as possible presented a planning problem, on a site with a 60-ft. frontage and a normal depth of 50 ft. The problem was solved by a light-well which permitted economical placing of the stairs and lavatories away from the valuable external wall, and ensured that, although most rooms were small, all corridors had natural ventilation and large rooms could be well lit and cross ventilated. The front elevation is clad in Portland stone with opaque glass window spandrils in hardwood frames. The rear elevation, overlooking the Board's car park, is clad in precast concrete and stock bricks. Furniture and fabrics in the boardroom were specially designed and in the entrance hall there is a tiled mural by Paul Feilers Structural engineer: J. Hajnal-Konyi; quantity surveyors: Veale and Sanders; general contractors: Gilbert-Ash Ltd.



INFORMATION CENTRE INDEX FOR 1957

An alphabetical index covering Information Centre items and special articles published in the Technical Section during the twelve months ended December 31, 1957, is being prepared. Readers who wish to have a copy—it is free of charge—should complete the form below and post it to the Technical Editor, THE ARCHITECTS' JOURNAL, *not later than March 3, 1958. This form will not be acknowledged.*

Please send me the Information Centre Index for 1957 :

Name .....
(Block letters)

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Address.....
(Block letters)

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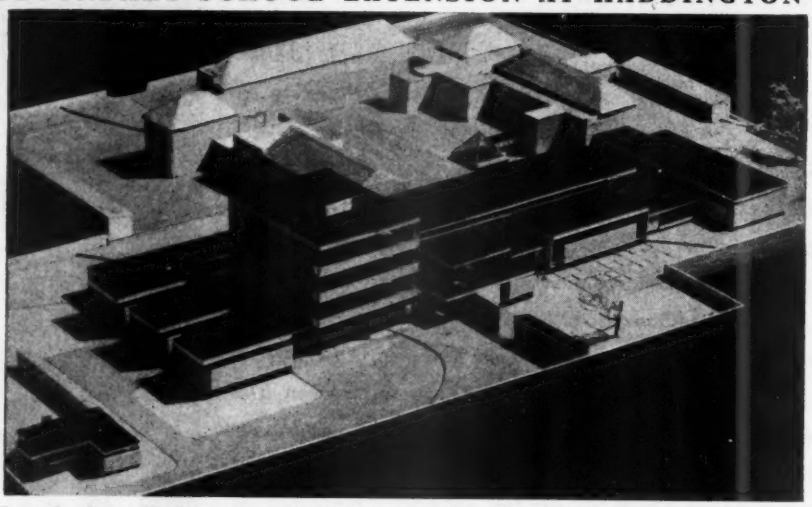
AJ 13.2.58

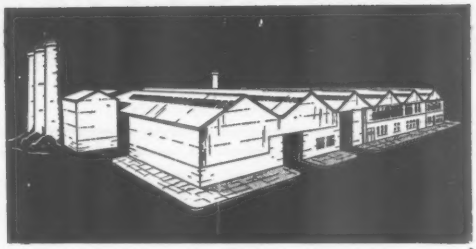
SECONDARY SCHOOL EXTENSION AT HADDINGTON



Knox Academy, Haddington, a mixed senior secondary school serving a country town near Edinburgh, is to be extended, and Alan Reiach has designed a new hall, gymnasium, dining facilities, technical and housecraft rooms, classrooms, staff rooms and library, shown in the foreground of the model. The new hall and dining area, with the U-shaped old building, form a garden court, which will contain a greenhouse and biology pool, the hall providing the link between old and new buildings. Classrooms are in a four-storey tower block above cloakrooms and staffrooms, looking out on a small garden enclosed on the south by the library. The main structure will be a combination of steel frame and load-bearing walls Estimated cost is £190,000.

Custom-built from standard components

Architects : Harry Bloomer & Son, Birmingham



use this tubular steel building technique to cut costs and prevent delays.

This Sherbourne Tubular Steel building technique brings you all the advantages of unit construction without any of its drawbacks. You get quicker delivery and erection at lower cost than for traditional forms of construction and at the same time achieve complete freedom in cladding, glazing, access, interior layout and exterior design. Formed of pre-engineered units based on mass-produced components, the standard unobstructed spans range from 105ft. to 15ft. Any number of spans may be erected side by side or end to end as required. Over 100 prominent architects, surveyors and consulting engineers have specified these buildings for use as factories, foundries, tool rooms, administration buildings, canteens, warehouses, showrooms, assembly buildings, garages, service stations, etc.
We gladly place the facilities of our Planning Department at the disposal of architects and will arrange deferred terms if desired. Write for illustrated brochure.

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London Office: 33 Manor Farm Road, Alperton, Wembley, Tel: Wembley 8671 (5 lines).

Churches
Adam & Berkeley
Lettering

February Architectural Review

The variety and scope of the buildings illustrated, and subjects discussed, in the February issue will be catholic, even for the Review. *Three Churches* around Coventry by Basil Spence will show what the imaginative use of a modicum of rationalisation can do even for a church building pro-

Church at Bell Green, Coventry, by Basil Spence & Partners.

gramme; the spectacular *Teatro de los Insurgentes*, designed by Alejandre Prieto exhibits Latin-American design at its most exuberant and effective; while Erno Goldfinger's precise *Office block in Albemarle Street* is the

Offices Albemarle Street, W.1 by Erno Goldfinger.

kind of building our cities sorely need. Historical studies will re-examine aspects of eighteenth-century architecture: *Bishop Berkeley's* contributons to architectural theory will be the subject of an article by Marcus Whiffen, while a sheaf of papers on *Robert Adam* by various hands will include some unknown Clérisseau drawings from Russia. Gordon Cullen will complete his set of townscape studies for Bristol University with an analysis of *Trowbridge*, and Jacqueline Tyrrwhitt will examine the planning of *Fatehpur Sikri*, the ideal city of Akbar the Great, somewhat in the manner of Sir Hugh Casson's memorable studies of Peking. In *Skill*, John Sharp will complete his survey of methods and materials in *Architectural Lettering*.

Milford Haven
Lamp-Standards
Achthamar

March Architectural Review

The impending ruination—or transfiguration — of Pembrokeshire, by the proposed industrialisation of the Milford Haven area, will be the subject of an important *Counter-Attack* article by Ian Nairn in the March issue of the Review, while another *Outrage* problem of a more wide-spread (though no less acute) interest, will be surveyed by Peter Witworth —the design of street-lighting standards—in a special article in *Skill*. Among buildings of interest to be described and illustrated, the most outstanding will be two industrial groups; further additions to the distinguished work already done for the *Technicolor Laboratories* by Gooday and Noble, and a complete set of *Pithead Buildings in Fifeshire* by Egon Riss, who has captured something of that sense of technological drama that has been missing from so much recent English industrial building. In complete contrast will be a *Weekend House* on the seashore at West Wittering by Wells Coates

Rothes Colliery, by Egon Riss.

and Michael Lyell. A travelogue by three recent voyagers in Turkey will document and illustrate the extraordinary sculptured church at *Achthamar*, and two historical articles will explore the frontier between architecture and technology in the early nineteenth century, W. J. Sparrow writing on the ingenious and

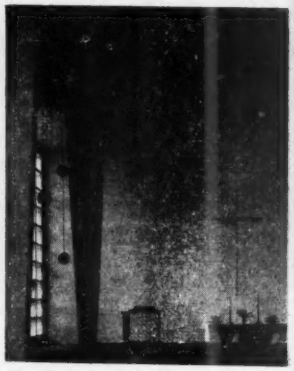
Carvings at Achthamar.

adventurous *Count Rumford*, inventor, man of action, and landscape architect, and Mary Eldridge examining the impact of plate glass in ever-larger sheets upon the design of urban *Shop-Fronts*.

Costs
European Churches
Office Blocks

April, Architectural Review

Two contrasting and controversial subjects will be tackled in important articles in the April *Review:* John Carter will discuss *Cost Analysis*, and its implications for architectural education and the management of design; and Peter Hammond will suggest a drastic overhaul of current attitudes to *Church Architecture*, and especially the need for a rational analysis of liturgical functions. New office blocks at Newport Pagnell, by Gordon and Ursula Bowyer, and Birmingham, by J. A. Madin, will



Church at Dusseldorf by W. Xongeter.

be described and illustrated, while the townscape consequences of yet another new block, in Victoria Street, Westminster, will be examined by Gordon Cullen in the context of the *Review's* long-standing proposals for a Westminster precinct. Other buildings to be illustrated include a remarkable small house on the Isle of Wight, designed by James Stirling, and an outstanding commercial Interior, the Bank of London and South America, by John Wright. The reputation of a pioneer Edwardian modernist, *Lamond of Dundee*, will be rescued from undeserved ob-

House near Cowes, by James Stirling.

scurity by M. D. Walker, and in *Tridon, or the shipwright* Reyner Banham will discuss an unexpected anticipation of mid-century architecture in an academic text of the Twenties. Regular departments such as *Design Review*, *Exhibitions*, the *Counter-Attack Bureau* and reviews of important *Books* will continue.

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.

MERTON & MORDEN U.D.C. require ARCHITECTURAL DRAUGHTSMAN. Salary within Grade A.P.T. I (£575—£725 p.a. plus London allowance up to £30) according to age. Commencing salary dependent on qualifications and experience. Applicants should be good draughtsmen with experience in architectural work including housing. Applications including names of two referees should be sent to the Engineer and Surveyor, Morden Hall, S.W.19, by 24th February, 1958. 8689

CITY OF ROCHESTER
ARCHITECTURAL ASSISTANT

Applications are invited for the appointment of Architectural Assistant in the City Surveyor's Department, at a salary in accordance with Grade A.P.T. II (£725—£845).

Candidates should have general experience, including the preparation of drawings and specifications for municipal housing schemes. Preference will be given to Registered Architects.

The commencing salary will be according to qualifications and experience.

There is a varied programme of work, including the redevelopment of clearance areas, and the development of a large area added to the City.

In an appropriate case the City Council will provide the successful candidate with suitable housing accommodation and will be prepared to refund removal expenses after twelve months' service.

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

Applications, stating age, qualifications and experience, together with the names and addresses of three persons to whom reference may be made, should be delivered to the City Surveyor, 66 Maidstone Road, Rochester, not later than Tuesday, 25th February, 1958.

PHILIP H. BARTLETT,
Town Clerk.

Guildhall,
Rochester.
30th January, 1958. 8681

COUNTY OF CORNWALL
COUNTY ARCHITECT'S DEPARTMENT

Applications are invited for the appointment of ASSISTANT QUANTITY SURVEYOR, Grade A.P.T. III (£845—£1,025) on the established staff of the Department.

Candidates should have had considerable experience in taking-off for large building projects and the settlement of final accounts, and should be associate members of the R.I.C.S. or I.Q.S.

The appointment is subject to the usual conditions of Local Government Service. Application, accompanied by the names of two persons to whom reference can be made, should reach Mr. F. K. Hicklin, A.R.I.B.A., County Architect, County Hall, Truro, not later than Friday, 28th February, 1958.

E. T. VERGER,
Clerk of the County Council.

County Hall,
Truro.
28th January, 1958. 8685

AIR MINISTRY require WORKERS-UP in Quantities Division, London. Must be fully experienced and competent to Work-up entire Bills of Quantities. Preference holders C. & G. (Quantities), O.N.C. or equivalent technical qualification. Salary range £695 at age 26 to £1,030; starting pay dependent on age, qualifications and experience. Opportunities may occur for competing for pensionable posts; promotion prospects. 5-day week. Over 3 weeks' leave a year. Applicants normally should be natural born British subjects. Write, stating age, qualifications and previous appointments, including type of work done, to P.E. 104, Manager, Professional and Executive Register, Ministry of Labour and National Service, Atlantic House, Farringdon Street, E.C.4. No original testimonials should be sent. Only candidates selected for interview will be advised. 8471

UNIVERSITY OF KHARTOUM

Applications are invited for (*a*) SENIOR LECTURESHIP or (*b*) LECTURESHIP IN ARCHITECTURE. Salary scales: (*a*) £S1,602×£S75—£S1,977 p.a., (*b*) £S1,152×£S75—£S1,677 p.a., entry point according to qualifications and experience. Cost of living allowance approximately £S100 p.a. Outfit allowance £S50. Family allowances: wife £S60 p.a., 1st child £S90 p.a., 2nd and 3rd child £S30 p.a. each (£S1 = £1.06 sterling). Passages for appointee and family on appointment, termination and annual leave. Appointment on contract for 5 years. Superannuation Scheme.

Detailed applications (8 copies) naming three referees, by 15th April, 1958, to Secretary, Inter-University Council for Higher Education Overseas, 29, Woburn Square, London, W.C.1, from whom further particulars may be obtained. 8750

AIR MINISTRY WORKS Design Branch require in London and Provinces ARCHITECTURAL ASSISTANTS, experienced in planning/preparation of working drawings and details for permanent and semi-permanent buildings. Salaries in London up to £1,015 per annum for men and £952 per annum for women. Somewhat lower in provinces. Starting pay dependent on age, qualifications and experience. Long term possibilities with pensionable and promotion prospects. 5-day week, 3 weeks 3 days leave a year. Liability for overseas service. Normally natural born British subjects. Write, stating age, qualifications, employment details, including type of work done, to any Employment Exchange, quoting Order No. Borough 100. 8582

BOROUGH OF KING'S LYNN
HOUSING ARCHITECT'S DEPARTMENT

Applications are invited for the appointment of JUNIOR ASSISTANT QUANTITY SURVEYOR, Grade A.P.T. I (£575—£725 per annum).

Candidates should be at Intermediate standard and able to assist in the preparation of Bills of Quantities and Estimates, valuation of works in progress and settlement of Final Accounts.

The appointment will be subject to the National Scheme of Conditions of Service, is superannuable, and is subject to medical examination.

Consideration will be given to the provision of housing accommodation.

Applications, giving age and full particulars of qualifications and previous appointments, and naming two referees, should be addressed to G. Holmes Esq., A.R.I.B.A., Housing Architect, Clifton House, Queen Street, King's Lynn, *not later than Monday, 17th February*, 1958.

Canvassing disqualifies.

E. W. GOCHER,
Town Clerk.

Town Hall,
King's Lynn,
Norfolk. 8690

COUNTY BOROUGH OF WEST HAM
BOROUGH ARCHITECT & PLANNING OFFICER'S DEPARTMENT

Applications are invited from suitably qualified and experienced Architects and Planners for the following permanent appointments:—

(*a*) DEPUTY GROUP ARCHITECTS, Special Grade: £750—£1,030.
(*b*) ASSISTANT ARCHITECT, Special Grade: £750—£1,030.
(*c*) ARCHITECTURAL ASSISTANTS, A.P.T. Grade I: £575—£725.
(*d*) ASSISTANT PLANNING OFFICER, Special Grade: £750—£1,030.
(Plus London Allowance)

(Starting point in Grades according to qualifications and experience).

Qualifications for posts (*a*) and (*b*) A.R.I.B.A.; (*c*) Intermediate R.I.B.A.; (*d*) A.R.I.B.A., A.M.T.P.I.

The County Borough has an extensive Reconstruction and Slum Clearance Programme, and offers varied and interesting work.

Application forms and details from the Borough Architect and Planning Officer, Thomas E. North, O.B.E., F.R.I.B.A., Dist.T.P., M.T.P.I., 70 West Ham Lane, Stratford, E.15 (returnable by 25th February, 1958). 8693

GOVERNMENT OF NORTHERN IRELAND

Applications invited from ARCHITECTURAL ASSISTANTS with recognised training and fair experience for unestablished posts in the Chief Architect's Branch, Ministry of Finance. Salary scale £537—£830; starting pay for candidates who have passed R.I.B.A. Intermediate examination will be £672. Preference will be given to ex-Servicemen. Application forms obtainable from the Director of Establishments, Ministry of Finance, Stormont, Belfast. 8663

BUCKINGHAMSHIRE
ARCHITECT'S DEPARTMENT
ARCHITECT, J.N.C. Scale "C"
£1,295 × £55 (4)—£1,515 p.a.

Point of entry according to ability. Man with energy, initiative and ideas required to work on schools, municipal housing and civic buildings.

The appointment is superannuable and subject to medical examination.

A weekly allowance of 25s. and return fare home once every two months may be paid for six months to newly appointed married officers of the Council unable to find accommodation.

Applications, on forms provided, must be returned by the 28th February, 1958.

F. B. POOLEY,
County Architect.

County Offices,
Aylesbury. 8683

BRADFORD EDUCATION COMMITTEE
TECHNICAL COLLEGE

Applications are invited for the post of ASSISTANT LECTURER Grade B in Building. Candidates should have a degree or professional qualification and industrial or research experience.

The salary scale, in accordance with the Burnham Technical Award, is from £650—£1,025 per annum, plus additions for training and graduate status.

The commencing salary will be according to qualifications and experience, and may be increased up to a maximum of twelve increments of £25 per annum in respect of approved service in industry.

Further particulars and application forms may be obtained from the Director of Education, Town Hall, Bradford, and completed forms should be returned to the Principal, Technical College, Bradford 7, as soon as possible.

A. SPALDING,
Director of Education.
8727

EAST KILBRIDE DEVELOPMENT CORPORATION

The Corporation invite applications for the following posts:—

(1) ARCHITECTS, ETC.

(1) ARCHITECT. Salary scale: £815—£1,107 per annum. Applicants must be A.R.I.B.A., with at least two years' qualified experience.

(2) ASSISTANT ARCHITECT. Salary scale: £656—£784 per annum. Applicants should at least have passed the Intermediate Examination of the R.I.B.A.

(3) DRAUGHTSMAN. Salary scale: £543—£692 per annum. Candidates should have a general experience of drawing office procedure and a particular ability in drawing maps and plans. The work will include compiling and maintaining statistical records for the architectural department.

(4) CLERK (LANDSCAPE). Salary scale: £185—£431 per annum. The duties are connected with the landscape section of the Chief Architect's department.

(2) QUANTITY SURVEYORS

(1) QUANTITY SURVEYOR (Grade II). Salary scale: £815—£1,107 p.a. Candidates should have passed the Final Examination, Sub-Division III (Quantities), of the R.I.C.S. They should have had good experience in all the duties pertaining to the profession in the execution of building projects from the probable cost stage to the settlement of Contractors' final accounts.

(2) ASSISTANT QUANTITY SURVEYORS. Salary scale: £656—£784 per annum. Candidates should have passed the Intermediate Examinations, Sub-Division III (Quantities) of the R.I.C.S., and should be able to perform the duties indicated for vacancy 2(1) above, consistent with experience.

(3) JUNIOR ASSISTANT QUANTITY SURVEYORS. Salary scale: £543—£692 per annum. Candidates should at least have passed the First Examination of the R.I.C.S. They should have served a recognised apprenticeship, and shall be expected to perform the duties as indicated for vacancies 2(2) above.

The commencing salary in each case will be in accordance with qualifications, experience, etc. The appointments are subject to the Corporation's Conditions of Service and Superannuation Agreements. Selected candidates will require to pass a medical examination. A house or flat will be made available if required. Application forms may be obtained from the General Manager, Torrance House, East Kilbride, to whom completed form should be returned not later than 24th February, 1958. Canvassing, directly or indirectly, of the members of the Corporation, will constitute an absolute disqualification. 8698

COUNTY BOROUGH OF BOLTON

Applications invited for vacancies in the Borough Architect's Department for ASSISTANTS: (*a*) Special Scale (£750—£1,030), A.R.I.B.A. essential; and (*b*) within A.P.T. II/Special Scale (£725—£1,030). Minimum qualifications R.I.B.A. Intermediate.

Posts superannuable. Subject to medical examination. Salary commensurate with experience. Previous Local Government experience not essential. Applications, giving full details of education, experience and qualifications, and names of two referees, should reach me by 28th February.

PHILIP S. RENNISON,
Town Clerk.

Town Hall, Bolton. 8723

LONDON COUNTY COUNCIL
ARCHITECT'S DEPARTMENT

Vacancies for (1) ARCHITECTS, Grade III, starting salary up to £1,090 a year. (2) ARCHITECTURAL ASSISTANTS, starting salary up to £860.

Full and interesting programme of houses, flats, schools and general buildings.

Application form and full particulars from the Architect (AR/EK/5/58), The County Hall, S.E.1. (203) 8741

CORPORATION OF LONDON
CITY PLANNING OFFICE
(CIVIC DESIGN SECTION)

require JUNIOR ASSISTANT (male or female), £8 18s., rising to £9 4s. per week, for general drawing office duties, primarily filing drawings, but including stencil lettering, tracing, etc.

Applications with details of experience, present position, age and references, to City Planning Officer, Guildhall, E.C.2, within 14 days. 8722

OXFORDSHIRE COUNTY COUNCIL
COUNTY ARCHITECT'S DEPARTMENT

(i) APPOINTMENT OF QUANTITY SURVEYING ASSISTANT.

Grade A.P.T. I (£575—£725). Passed Intermediate R.I.C.S., and with experience in Bill of Quantities, final accounts, etc., preferred.

(ii) APPOINTMENT OF JUNIOR ASSISTANT BUILDING SURVEYOR.

Higher General Division (£230—£560), according to qualifications. Capable of neat draughtsmanship, and some experience in the maintenance of property.

Both appointments subject to satisfactory medical examination, and superannuation deductions.

Applications to the County Architect, Park End Street Offices, Oxford, not later than the 22nd February, 1958.

GERALD GALE BURKITT,
Clerk of the Council.

County Hall, Oxford.
4th February, 1958. 8754

EASTERN ELECTRICITY BOARD
ESSEX SUB-AREA HEADQUARTERS
ENGINEERING DRAUGHTSMAN
(ARCHITECTURAL)

Candidates should have had a good technical training and experience in the preparation of plans and detailed drawings of buildings and civil engineering works, including substations, offices and workshops.

Salary: N.J.B. Schedule "D," Grade VI (£595—£715), plus London allowance.

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

Apply by letter, within 14 days, to E. A. Cullen, M.I.E.E., Engineer, Essex Sub-Area, Eastern Electricity Board, "Millfield," Bentley, near Brentwood, Essex. 8757

COUNTY OF CORNWALL
APPOINTMENT OF PLANNING ASSISTANT

Applications are invited for this appointment in the County Planning Department, at Headquarters, Truro, with salary within A.P.T. I (£575—£725).

Preference will be given to candidates who have passed the Intermediate Examination of the Town Planning Institute or other appropriate Professional Institute. Experience in carrying out basic surveys, ability to map and present the information by the use of modern techniques is essential.

The customary service conditions of the Local Government Service will apply, and the successful candidate will be required to pass a medical examination.

Applications, together with the names and addresses of three referees, should be addressed to the County Planning Officer, County Hall, Truro, to reach him not later than 1st March, 1958. (No application forms are being issued.)

E. T. VERGER,
Clerk of the County Council.

County Hall, Truro.
4th February, 1958. 8753

SURREY COUNTY COUNCIL

Applications invited for appointment of ASSISTANT ARCHITECT, Special Grade, £750—£1,030 p.a., plus £30 p.a. London allowance. Must be A.R.I.B.A.

Full details, present salary and three copy testimonials, to County Architect, County Hall, Kingston, as soon as possible. 8755

MANCHESTER CORPORATION
SENIOR ASSISTANT PLANNING OFFICERS, A.P.T. V (£1,175—£1,325). These appointments offer practical experience on large scale projects, many of which are due to be carried out very shortly. Housing accommodation may be available to successful candidates, if desired, at a reasonable rent. Applications, stating age, education, qualifications and experience, with the names of three referees, to City Surveyor, Town Hall, Manchester, 2, by 28th February, 1958. 8756

GLENROTHES DEVELOPMENT CORPORATION

Applications are invited for appointment as ARCHITECT (Housing). Salary on grade £728/£1,107 with advancement to £1,230 in special cases. Placing according to experience. Applicants must be corporate members of the R.I.B.A. Housing accommodation available. Medical examination under superannuation scheme. Applications to the Secretary, Glenrothes Development Corporation, Glenrothes, Fife, by 19th February, 1958. 8739

URBAN DISTRICT COUNCIL OF BASILDON
ASSISTANT ARCHITECT. Salary up to £1,030 p.a.

Applications are invited from qualified and experienced Architects for the above established post.

Housing accommodation will be considered.

The District is developing rapidly, present population 68,000, area 27,000 acres. Wide variety of interesting works.

Full particulars and application forms from and returnable to Mr. S. A. Wadsworth, A.M.I.C.E., A.M.I.Mun.E., Council Offices, High Street, Billericay, Essex, closing date 24th February, 1958. 8701

CANNOCK URBAN DISTRICT COUNCIL
APPOINTMENT OF ARCHITECTURAL ASSISTANT

Applications are invited for this vacancy in the Architect's Department at a salary within Grade A.P.T. II (£725—£845) per annum, the commencing point to be fixed according to qualifications and experience. Housing accommodation available for married applicants. Further particulars and forms of application are available from the undersigned. Closing date: 24th February.

H. C. ALLEN,
Clerk of the Council.

Council House, Cannock, Staffs.
1st February, 1958. 8700

LANCASHIRE COUNTY COUNCIL
COUNTY ARCHITECT'S DEPARTMENT

ARCHITECTS, who have recently passed their Final Examination, are invited to apply for posts with a starting salary of £750 a year in a scale which rises to £1,030. Applicants with experience may be offered higher starting salaries.

Interesting programme of Schools, Technical Colleges and similar work.

Application forms, obtainable from the County Architect, G. Noel Hill, F.R.I.B.A., M.T.P.I., P.O. Box 26, County Hall, Preston, to be returned by February 28th, 1958, quoting Ref. A/AJ. 8662

LONDON COUNTY COUNCIL
ARCHITECT'S DEPARTMENT

Vacancy in HISTORIC BUILDINGS SECTION for an ARCHITECT, Grade III (starting salary up to £1,090 a year), for the recording of buildings of architectural and historic interest. A.R.I.B.A. or equivalent preferred.

Particulars and application form, returnable by 26th February, 1958, from Architect (AR/EK/6/58), The County Hall, S.E.1. (204) 8740

CITY OF LEEDS EDUCATION COMMITTEE
LEEDS COLLEGE OF ART
Principal: E. TAYLOR, B.E., A.R.C.A.
LEEDS SCHOOL OF ARCHITECTURE AND TOWN PLANNING
Head of School: F. CHIPPINDALE, F.R.I.B.A.

A post of SENIOR LECTURER is available for an Architect with an urge to help in the Diploma Course.

Salary: Burnham Technical Scales: £1,350×£50—£1,550 (man); £1,080—£1,240 and equal pay instalments (woman).

Application forms and further particulars from the undersigned. Closing date: 21st February, 1958.

GEORGE TAYLOR,
Chief Education Officer.

Education Department, Leeds, 1. 8697

STATES OF GUERNSEY
PUBLIC WORKS DEPARTMENT

Applications are invited for the permanent and pensionable post of ARCHITECTURAL ASSISTANT, at a salary of £835 per annum, rising by three annual increments to £940.

Applicants must be Associate Members of the Royal Institute of British Architects, and capable of preparing working and detailed drawings and specifications and supervising work.

Particulars of pension arrangements are obtainable on application.

Applications, stating age, qualifications, experience, present and previous appointments and salary, together with copies of two recent testimonials, should be delivered to the States Supervisor, States Office, Guernsey, Channel Islands, not later than Monday, 3rd March, 1958. 8752

Architectural Appointments Vacant

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

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

APPLICATIONS are invited for the appointment of ASSISTANT ARCHITECTS with experience of work on commercial and industrial projects, capable of preparing working drawings from preliminary details. Five-day week in operation. Applications stating age, experience, qualifications and salary required to G. S. Hay, A.R.I.B.A., Chief Architect, Manchester 4. 8376

WOKING. ASSISTANT required for general practice. Intermediate or Associate standard. Office experience essential. Particulars to H. A. Whitburn & Son, 12 Broadway, Woking 810. 8376

ARCHITECTURAL ASSISTANTS required. Intermediate Standard or equivalent. Very good prospects for suitable applicants. Five-day week. Write giving full particulars to Johns, Slater & Haward, F./A.R.I.B.A., 32 Foundation Street, Ipswich. 8601

OPPORTUNITY for Architect (Associate level) to form part of development team of Medway Timber Building Systems at Rochester head office. Work will include development of new designs as well as application of existing systems to specific projects. Good draughtsman with sound training and modern outlook, preferably with experience on some modular building method. Post can be permanent/pensionable or can provide a few years of invaluable experience in this field. Write full details of training, qualifications, experience, salary level, in confidence to Personnel Manager, Medway Buildings & Supplies Ltd., Phoenix Wharf, Rochester, Kent. 8626

QUALIFIED SENIOR ASSISTANT required to lead a small group with direct responsibility to principal. For a man of suitable ability there are excellent opportunities but a desire to take responsibility is essential. Pension and Bonus Schemes. Salary in accordance with ability. Apply A. J. Elder, A.R.I.B.A., 65, Albert Road, Middlesbrough. 8604

ARCHITECT'S ASSISTANT. Intermediate standard, required immediately for small London office. Interesting work on varied projects. Ability to use initiative and work with minimum of supervision distinct advantage. Salary by arrangement. Please write Box 8587.

ARCHITECTURAL ASSISTANTS required in Middlesbrough of both Intermediate and Qualified standards. Salaries up to £600 and £1,150, according to ability, with good increments for good work thereafter.—Apply, giving details of age, education, experience, etc., to J. G. L. Poulson, L./F.R.I.B.A., 29, Ropergate, Pontefract, Yorkshire. 8679

DOWTY GROUP of Cheltenham have a vacancy for a SENIOR ARCHITECTURAL ASSISTANT of at least Inter. R.I.B.A. standard, to deal with general expansion work throughout the Group. The starting salary will depend on ability and past experience, and a Superannuation Scheme is in operation.—Write in tabulated form, giving details of education, qualifications and career, mentioning age, to Personnel Manager, for the attention of the Group Architect, Dowty Group, Ltd., Arle Court, Cheltenham. 8666

EXPERIENCED ARCHITECTURAL ASSISTANT required at once for busy practice in North London for interesting and varied work. Initiative encouraged and successful applicant expected to accept responsibility. Commencing salary £750—£900 per annum, according to ability.—Write, giving age, training, experience and qualifications, to Box No. 8677, or telephone for appointment: SHO 3383.

JOHN LAING & SON, LTD.,
Invite applications for the following vacancies in their Architect's Department (Chief Architect: Sydney Greenwood, A.R.I.B.A.), at Head Office in N.W. London:—

ARCHITECTS, of Final R.I.B.A. standard, and with good experience in one or more of the following: Office and Industrial Schemes, Multi-storey Flats and Maisonettes, Private and Municipal Housing.

ARCHITECTURAL ASSISTANTS of Intermediate or Final R.I.B.A. standard, and limited experience in one of the above fields.

JUNIOR ARCHITECTURAL ASSISTANTS who are studying for a recognised qualification.

These positions offer excellent opportunities for advancement and a wide variety of work in a busy office. Pension scheme after two years' service.

Five-day week, canteen, sports and social club facilities.

Applications to:
PERSONNEL MANAGER (A.A.J.),
JOHN LAING & SON, LTD.,
Building and Civil Engineering Contractors,
Page Street, London, N.W.7. 8665

RONALD WARD AND PARTNERS require ARCHITECTURAL ASSISTANTS, with contemporary outlook, and willing to use own initiative. Salary range £600 to £850. Congenial working conditions, 5-day week.—Apply: 29, Chesham Place, Belgrave Square, S.W.1. Telephone Belgravia 3361. 8668

LOUIS DE SOISSONS, PEACOCK, HODGES & ROBERTSON have vacancies in their London and Welwyn Garden City offices for experienced ARCHITECTURAL STAFF. A large amount of varied, interesting work on hand.—Write, stating age, salary and experience, to the above at: 3, Park Square Mews, Upper Harley Street, London, N.W.1. 8649

KEEN JUNIOR DRAUGHTSMAN required with aptitude for varied work in architect's department. Five-day week, canteen, pension scheme. Please write giving full particulars of education, experience, age and salary required to Personnel Manager, Schweppes Limited, 1-6, Connaught Place, W.2. 8695

OPPORTUNITY for advancement occurs for Single Young Man of Intermediate or Better Standard as SECOND ASSISTANT in Country Practice. Reply to Box 8694.

SENIOR ASSISTANT ARCHITECT required by a large Industrial Group in N.W. London with knowledge of industrial and office buildings. Salary £950—£1,000.—Write, giving age and experience, Box 8655.

ARCHITECTURAL DRAUGHTSMAN required for large industrial concern in Central London.—Apply, stating age, with full particulars of experience and salary required, to Box 8654.

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THE ARCHITECTS' DEPARTMENT seek SENIOR and INTERMEDIATE ASSISTANTS, with experience and ability to apply their knowledge to new construction techniques covering Multi-storey Flats, Houses, Offices and Industrial Buildings for contracts in the U.K. and Overseas.

Appointments are on a permanent basis, with a 5-day week, at Head Office, Hammersmith.

Salaries will be commensurate with qualifications and experience and, subject to satisfactory service, there is a Pension Scheme available.

Applications, giving full particulars, to:—
E. V. COLLINS, A.R.I.B.A.,
Chief Architect,
27, Hammersmith Grove, London, W.6. 8666

ARCHITECTURAL ASSISTANT required of good experience, must be capable draughtsman used to detailing on large contracts, salary £750 per annum, according to experience. George Watt, A.R.I.B.A., 146, Mostyn Road, Merton Park, S.W.19. Liberty 8181. 8588

WILL any ASSISTANT who prefers to work in a small private office and is interested in the preservation of important historic buildings please apply to L. H. Bond & R. W. Read 44, Castlegate, Grantham. 8399

ASSISTANT ARCHITECT required as team leader for General and Housing Work in busy practice. A.R.I.B.A. preferred; ability to take responsibility essential. Flat available if wanted; five-day week; superannuation scheme. Salary around £900 by arrangement.

Also ASSISTANT for Hospital and General work. Good prospects for competent man with office experience. Salary not less than £750.

Please write giving age and experience to Tooley & Foster, Chartered Architects, Midland Bank Chambers, Buckhurst Hill, Essex. 8746

TWO ARCHITECTURAL ASSISTANTS for Hospital and general practice. Intermediate to Final standard. Some practical experience essential. Reply in writing, giving age, experience and salary required to Young & Hall, 9 Southampton Row, W.C.1. 8747

ARCHITECTURAL ASSISTANT (A.R.I.B.A.) required on the Architect's Staff of a large Industrial Group near Birmingham. Good prospects of long-term employment for experienced and capable man. Reply stating age, qualifications, experience and approximate salary to Box 8749.

RILEY & GLANFIELD require male ASSISTANT, of Intermediate standard. Work: Church, industrial, housing and public house. Tel. CHA 7328 8744

OFFICE experienced SENIOR ASSISTANT required for small but busy practice. Munby & Smith, L/A.R.I.B.A., 1a, Middle Temple Lane, Temple, E.C.4. Tel. CEN. 3971. 8746

CORNWALL. ARCHITECTURAL ASSISTANT of Intermediate standard required for general practice. Office experience essential. Particulars to Cowell, Drewitt & Wheatly, F/L.R.I.B.A., Mansion House, Truro. 8748

JUNIOR ASSISTANT required for small general Architectural practice in S.W. London. Reply with full particulars, stating salary required to Box 8714.

A VACANCY exists for a SENIOR ASSISTANT (age 34-37) who can organise architectural surveys and is able to traverse accurately with a theodolite. Only a qualified man who can prove his ability will be appointed. Salary will be £900 to £1,100 per annum. Applications to the Site Survey Company, Blackheath, S.E.3. 8737

EXPERIENCED ARCHITECTURAL ASSISTANT required immediately, capable of preparing working drawings from sketch designs for a Main Office and Factory Project in the Kingston-on-Thames, Surrey, area. The successful applicant will work with the Company Architect on the site, and the appointment offers an opportunity for site supervision experience. It is anticipated the present project will extend over the next fifteen months. Write giving details of experience, age and salary required. Box 8725.

ARCHITECTS required by the National Coal Board in Edinburgh. Salary within the scales £815—£1,125 per annum and £1,125—£1,475 per annum. Applicants must be Associate Members of the R.I.B.A. and, if to be considered for the higher scale, have had considerable experience in the control of staff and handling of large scale Contracts. Applications, stating age, education, qualifications, experience, present post and salary, to Divisional Chief Staff Officer, National Coal Board, 3 Eglinton Crescent, Edinburgh, 12. 8724

ARCHITECTURAL ASSISTANT (near Final or recently qualified standard), required in small West End Office of Chartered Architect, dealing with the design of chain shops. Must be interested in contemporary design. Salary according to experience. Telephone for an appointment Grosvenor 2533, or apply Box 8731.

ARCHITECTURAL ASSISTANTS, Intermediate standard—age 20-30. JUNIOR—age 16-18. Required in Westminster office, general practice. No Saturdays. Apply stating age, experience and salary required. Box 8730 or Telephone VICtoria 4806.

ASSISTANT ARCHITECT required by British Transport Hotels and Catering Services, located London. R.I.B.A. qualifications or equivalent degree preferable. Apply in writing, giving full personal details to Officer for Personnel, Hotels and Catering Services, St. Pancras Chambers, London, N.W.1. 8719

NATIONAL COAL BOARD
NORTH-EASTERN DIVISION

ARCHITECTURAL ASSISTANT Grade I required in the Architect's Department, Conisborough, Nr. Doncaster.

Salary Scale: £715 × £25—£850 p.a. and up to £1,000 exceptionally.

Qualifications: Preferably Intermediate R.I.B.A. or considerable practical experience.

Apply: Divisional Chief Architect, P.O. Box No. 4, Denaby Main, Nr. Doncaster. By 14th February, 1958.

This vacancy supersedes previous advertisement calling for applicants with R.I.C.S. qualifications. 8702

ARCHITECTURAL ASSISTANTS required for at least six months work in North West England. Salary £800/£900. Five-day week. Full hotel expenses single men and generous allowances for married. Applications to Box 8729.

ARCHITECTURAL ASSISTANT wanted by Knightsbridge Architect, able to prepare working and F.S. drawings for Georgian repair and conversion works. Good prospects, conditions and salary for the right man. Box 8706.

ARCHITECTURAL ASSISTANT wanted for Exhibitions, Showrooms and Interiors. Ring Putney 3800 or write Box 8738.

JUNIOR ARCHITECTURAL ASSISTANT required in small private office in Gray's Inn, London. Good, comprehensive experience may be obtained on varied projects. Five-day week. Salary by arrangement. Apply Box 8707.

MANCHESTER: ASSISTANT required, Intermediate standard; small, congenial office, varied contemporary work. Please write Box 8708 giving age, experience and when available. Salary by arrangement.

W. H. WATKINS, GRAY & PARTNERS require ASSISTANTS for interesting hospital work, pension scheme in operation. Write or phone, 57, Catherine Place, S.W.1. Victoria 7761. 8709

ARCHITECTURAL ASSISTANT required. Intermediate standard. Good draughtsmanship essential. Apply Alfred H. Howard, L.R.I.B.A., West Way House, St. Thomas Street, Winchester. 8717

EXPERIENCED SENIOR ARCHITECTURAL ASSISTANT required, A.R.I.B.A., Birmingham office. Must be prepared to take responsibility. Varied work. Application giving details of age, experience, and salary required. Box 8715.

ARCHITECTURAL ASSISTANT required, Birmingham Office. Intermediate standard or above. Reply in writing giving full details of age, experience and qualifications. Box 8716.

ARCHITECTURAL ASSISTANT required in small, good class West End Office. Excellent opportunity to gain wide and varied practical experience. Five-day week. Box 8718.

ARCHITECTURAL ASSISTANT required of Intermediate standard with several years' office experience. West End office. Five-day week. Good salary to suitable applicant. Box 8705.

LEAMINGTON SPA ARCHITECTS require ASSISTANT, knowledge of Flats and Housing would be an advantage. Apply stating experience and salary required to Rayner and Fedeski, 28, The Parade, Leamington Spa. 8704

ARCHITECTURAL ASSISTANT required for small office, London, W.1, for preparation of working drawings, details and site supervision. Varied practice. Five-day week. Write stating age, experience and salary required to Box 8703.

Architectural Appointments Wanted

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COLOUR CONSULTANT, woman (32), architectural training, seeks post in London. Box 8726.

INTERIOR DESIGN. B.Arch. (26), keenly interested in interior design, seeks opportunity for experience. Twelve months' experience in general office. Box 8713.

A. R.I.B.A., wide experience, seeks responsible position, salary £1,200 p.a. Box 8736.

COMPETENT ARCHITECTURAL ASSISTANT, age 27, R.I.B.A. Final standard, eight years' varied experience seeks responsible position in a small practice of a London Architect. Salary required, £850 p.a. Box 8675.

ASSOCIATE Dip.Arch., 32, SENIOR ASSISTANT, with experience of handling contracts in well-known architect's office, is looking for a senior position leading to partnership in established office. Box 8743.

REGISTERED ARCHITECT requires responsible senior position; wide and varied experience including quantities and final accounts. Salary £1,100 p.a. Box 8758.

ARCHITECTURAL ASSISTANT (29), passed part final, seeks job. London area. Box 8759.

Other Appointments Vacant

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A SENIOR REPRESENTATIVE is required for the London area by leading nationally known manufacturers of prefabricated timber building systems. Sound knowledge of building construction is essential. Architectural background with experience of prefabrication or timber structures would be a considerable asset. This is an opportunity for a capable sales executive able to initiate, maintain and successfully finalise technical and commercial negotiations at high level. Send fullest details of qualifications and experience and career with age and salary levels in chronological order. Write Box 8611.

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CUMBERNAULD DEVELOPMENT CORPORATION

AN ELECTRICAL ENGINEER is required for the Department of the Chief Architect and Planning Officer on Whitley Council for New Towns Staff. Salary scale A.P.T. VII (£999—£1,230) (at present under review by Whitley Council). Local Government superannuation. Minimum qualifications—Higher National Certificate or Corporate Membership I.E.E.

Experience of heating work, other than electrical, an advantage.

Application forms from Chief Architect, Cumbernauld House, Cumbernauld, by Glasgow, to be returned not later than seven days from publication. 8742

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R.I.B.A. and T.P.I. EXAMS.—Stuart Stanley (Ex. Tutor Sch. of Arch., Lon. Univ.), and G. A. Crockett, M.A./B.A., F./F.R.I.B.A., M./A.M.T.P.I., prepare Students by correspondence, 10, Adelaide Street, Strand, W.C.2. TEM. 1603/4.

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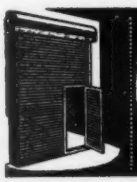
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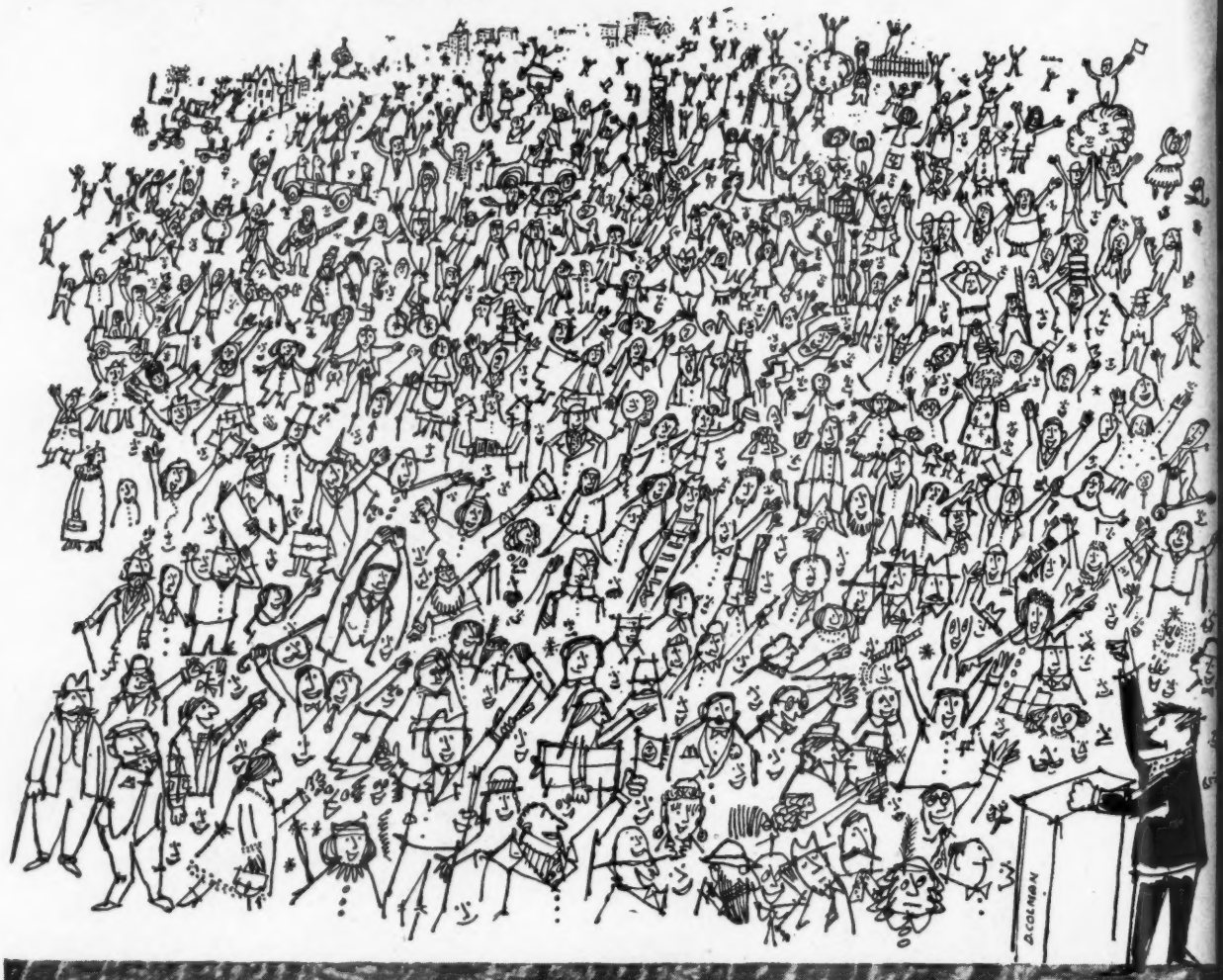

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