

THE ARCHITECTS' JOURNAL



Standard contents

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

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[Vol. 126

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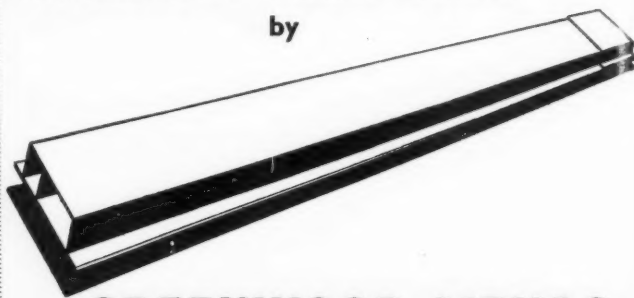
★ A glossary of abbreviations of Government Departments and Societies and Committees of all kinds, together with their full address and telephone numbers. The glossary is published in two parts—A to Ie one week, Ih to Z the next. In all cases where the town is not mentioned the word LONDON is implicit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

IHVE	Institution of Heating and Ventilating Engineers. 49, Cadogan Square, Sloane 1601/3158
IIBDID	Incorporated Institute of British Decorators and Interior Designers. 100, Park Street, Grosvenor Square, W.1. Mayfair 7086
ILA	Institute of Landscape Architects, 2, Guilford Place, W.C.1. Holborn 0281
I of Arb	Institute of Arbitrators. Hastings House, 10, Norfolk Street, Strand, W.C.2. Temple Bar 4071
IOB	Institute of Builders. 48, Bedford Square, W.C.1. Museum 7179
IQS	Institute of Quantity Surveyors. 98, Gloucester Place, W.1. Welbeck 1859
IR	Institute of Refrigeration. Dalmeny House, Monument Street, E.C.3. Avenue 6851
IRA	Institute of Registered Architects. 47, Victoria Street, S.W.1. Abbey 6172
ISE	Institute of Structural Engineers. 11, Upper Belgrave Street, S.W.1. Sloane 7128
LDA	Lead Development Association. Eagle House, Jermyn Street, S.W.1. Whitehall 7264/4175
LMBA	London Master Builders' Association. 47, Bedford Square, W.C.1. Museum 3891
LSPC	Lead Sheet and Pipe Council. Eagle House, Jermyn Street, S.W.1. Whitehall 7264/4175
MAFF	Ministry of Agriculture, Fisheries and Food. Whitehall Place, S.W.1. Trafalgar 7711
MOE	Ministry of Education. Curzon Street House, Curzon Street, W.1. Mayfair 9400
MOH	Ministry of Health. 23, Savile Row, W.1. Regent 8411
MOHLG	Ministry of Housing and Local Government. Whitehall, S.W.1. Whitehall 4300
MOLNS	Ministry of Labour and National Service. 8, St. James' Square, S.W.1. Whitehall 6200
MOS	Ministry of Supply. Shell Mex House, W.C.2. Gerrard 6933
MOT	Ministry of Transport. Berkeley Square House, Berkeley Square, W.1. Mayfair 9494
MOW	Ministry of Works. Lambeth Bridge House, S.E.1. Reliance 7611
NAMMC	Natural Asphalt Mine Owners and Manufacturers Council. 94/98, Petty France, S.W.1. Abbey 1010
NAS	National Association of Shopfitters. 9, Victoria Street, S.W.1. Abbey 4813
NBR	National Buildings Record. 31, Chester Terrace, Regent's Park, N.W.1. Welbeck 0619
NCBMP	National Council of Building Material Producers. 10 Storey's Gate, S.W.1. Abbey 5111
NEFMAI	National Employers Federation of the Mastic Asphalt Industry. 21, John Adam Street, Adelphi, W.C.2. Trafalgar 3927
NFBTE	National Federation of Building Trades Employers. 82, New Cavendish Street, W.1. Langham 4041/4054
NFBTO	National Federation of Building Trades Operatives. Federal House, Cedars Road, Clapham, S.W.4. Macaulay 4451
NFHS	National Federation of Housing Societies. 12, Suffolk St., S.W.1. Whitehall 1693
NHBRC	National House Builders Registration Council. 58, Portland Place, W.1. Langham 0064/5
NPL	National Physical Laboratory. Head Office, Teddington. Molesey 1380
NRDB	Natural Rubber Development Board. Market Buildings, Mark Lane, E.C.3. Mansion House 9383
NSAS	National Smoke Abatement Society. Palace Chambers, Bridge Street, S.W.1. Trafalgar 6838
NT	National Trust for Places of Historic Interest or Natural Beauty. 42, Queen Anne's Gate, S.W.1. Whitehall 0211
PEP	Political and Economic Planning. 16, Queen Anne's Gate, S.W.1. Whitehall 7245
RCA	Reinforced Concrete Association. 94, Petty France, S.W.1. Abbey 4504
RIAS	Royal Incorporation of Architects in Scotland. 15, Rutland Square, Edinburgh. Fountainbridge 7631
RIBA	Royal Institute of British Architects. 66, Portland Place, W.1. Langham 5721
RICS	Royal Institution of Chartered Surveyors. 12, Great George Street, S.W.1. Whitehall 5322/9242
RFAC	Royal Fine Art Commission. 5, Old Palace Yard, S.W.1. Whitehall 3935
RS	Royal Society. Burlington House Piccadilly, W.1. Regent 3335
RSA	Royal Society of Arts. 6, John Adam Street, W.C.2. Trafalgar 2366
RSH	Royal Society of Health. 90, Buckingham Palace Road, S.W.1. Sloane 5134
RIB	Rural Industries Bureau. 35, Camp Road, Wimbledon, S.W.19. Wimbledon 5101
SBPM	Society of British Paint Manufacturers. Grosvenor Gardens House, Grosvenor Gardens, S.W.1. Victoria 2186
SE	Society of Engineers. 17, Victoria Street, Westminster, S.W.1. Abbey 7244
SFMA	School Furniture Manufacturers' Association. 30, Cornhill, London, E.C.3. Mansion House 3921
SIA	Society of Industrial Artists. 7, Woburn Square, London, W.C.1. Langham 1984/5
SIA	Structural Insulation Association. 32, Queen Anne Street, W.1. Langham 7616
SNHTPC	Scottish National Housing. Town Planning Council. Hon. Sec., Robert Pollock, Town Clerk Rutherglen
SPAB	Society for the Protection of Ancient Buildings. 55, Great Ormond Street, W.C.1. Holborn 2646
TCPA	Town and Country Planning Association. 28, King Street, Covent Garden, W.C.2. Temple Bar 5006
TDA	Timber Development Association. 21 College Hill, E.C.4. City 4771
TPI	Town Planning Institute. 18, Ashley Place, S.W.1. Victoria 8815
TTF	Timber Trades Federation. 75, Cannon Street, E.C.4. City 5040
WDC	War Damage Commission. 6, Carlton House Terrace, S.W.1. Whitehall 4341
ZDA	Zinc Development Association. 34, Berkeley Square, W.1. Grosvenor 6636



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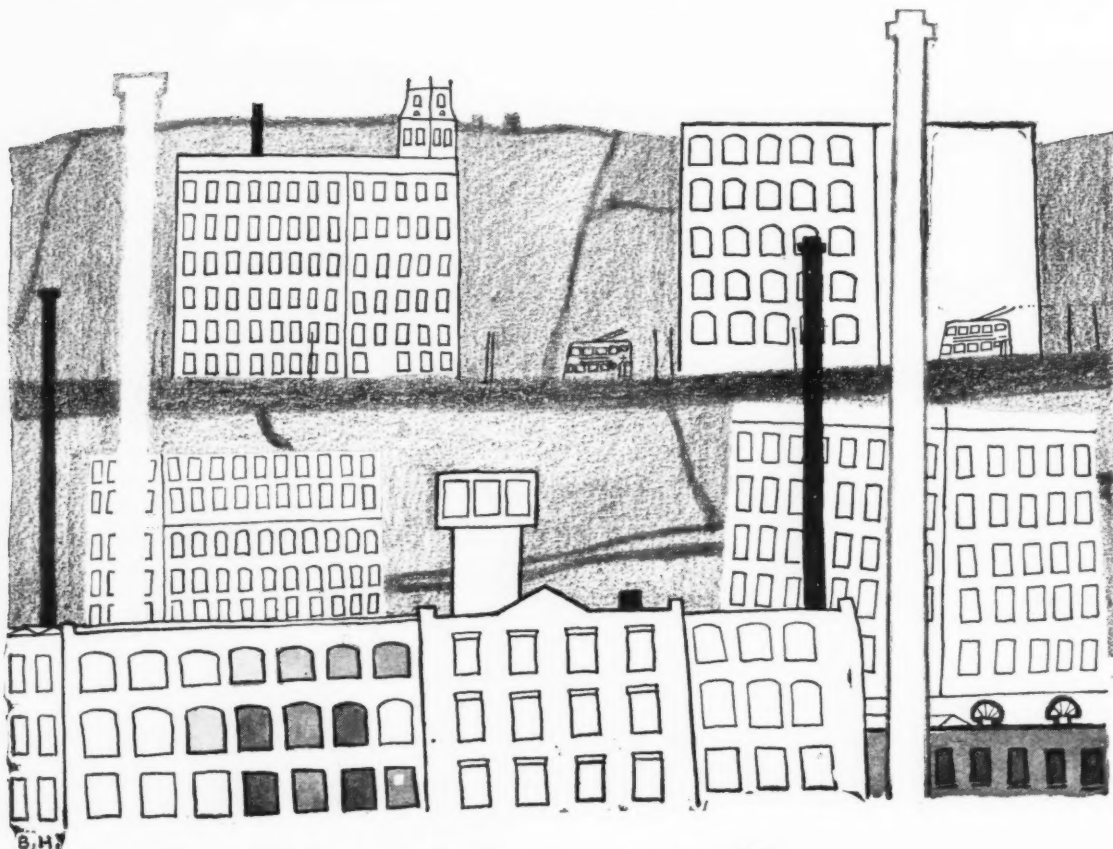
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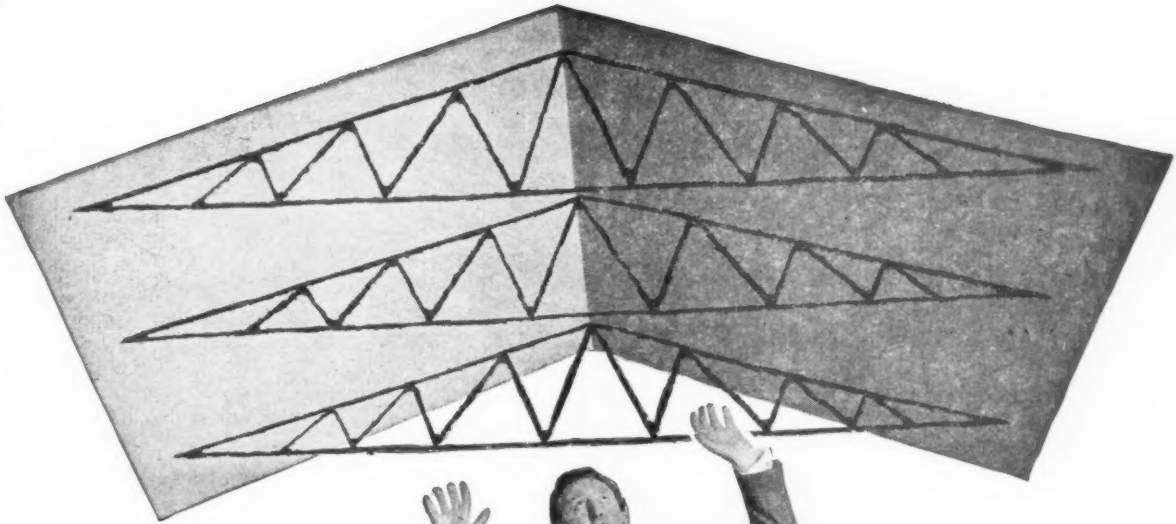
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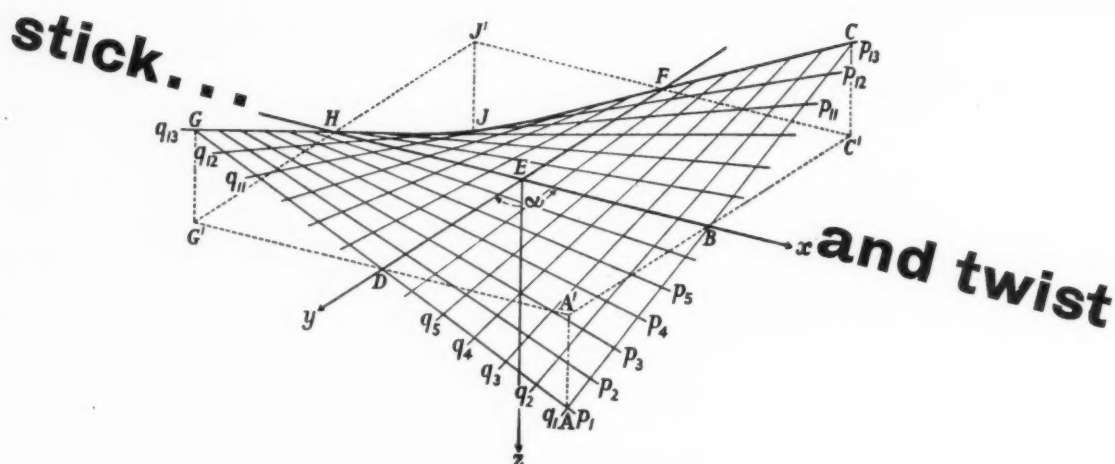
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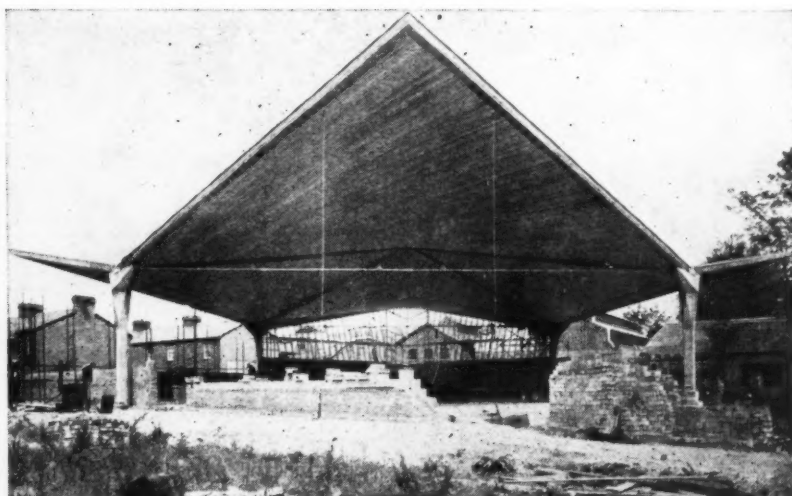
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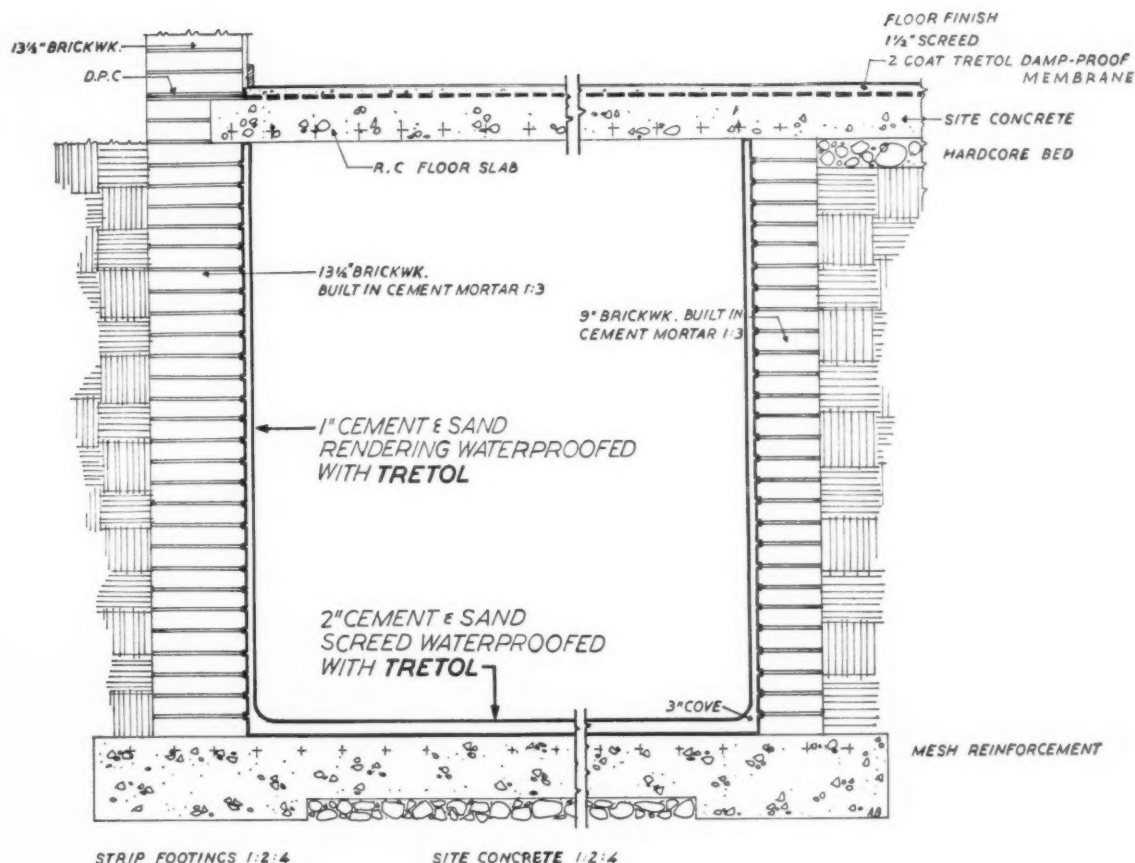
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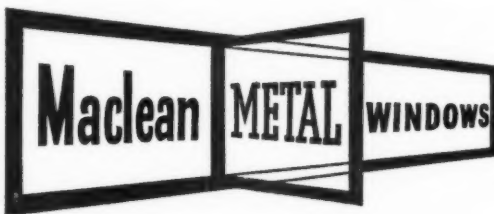


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Joseph Wilson, F.R.I.B.A., F.R.I.A.S., Glasgow

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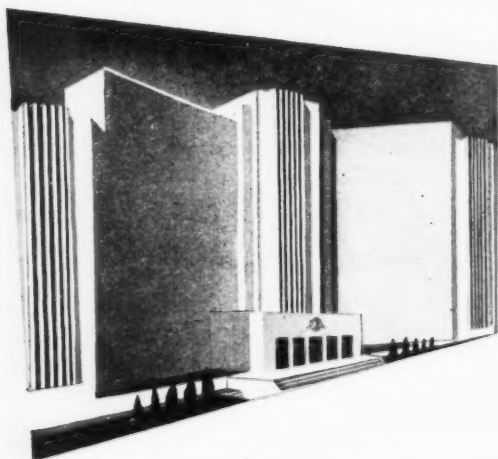
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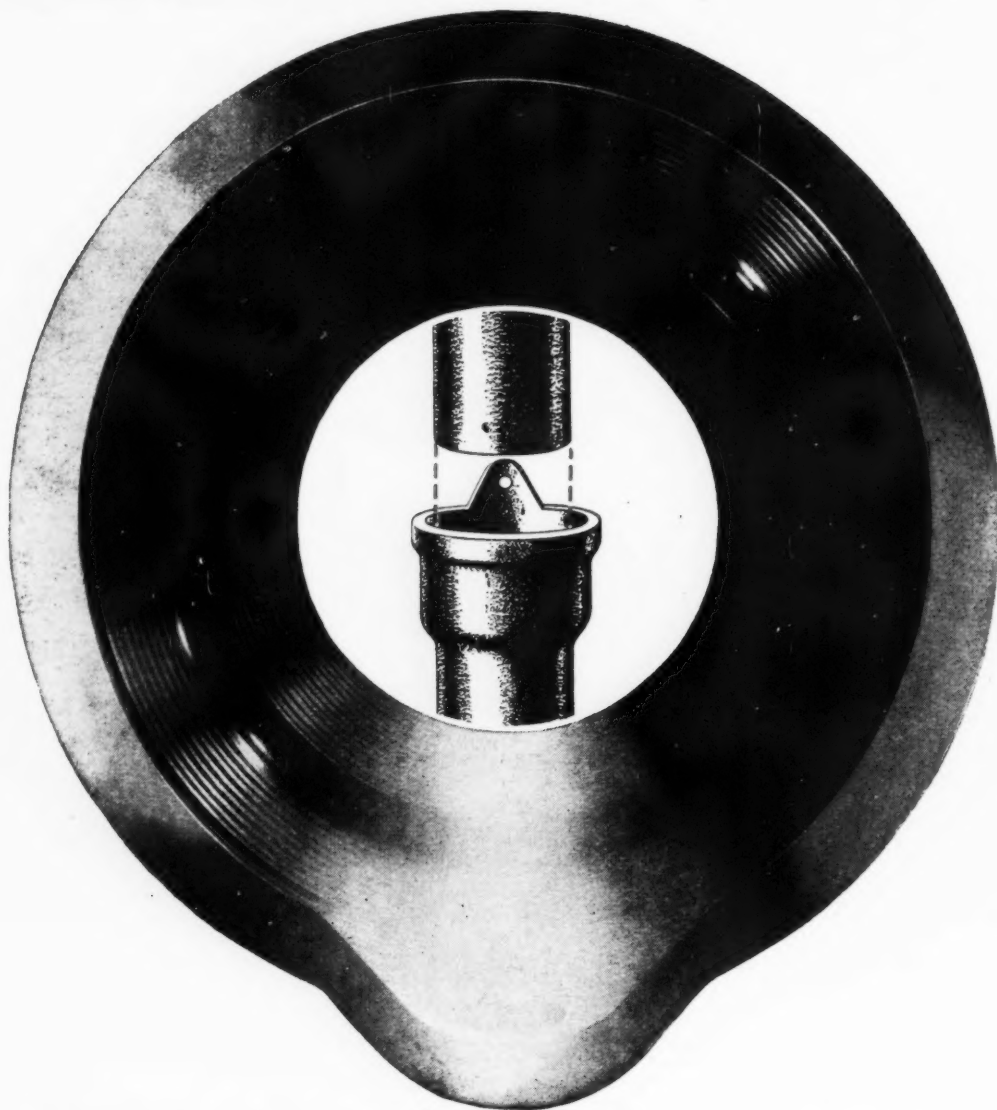
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Architect: S. C. Clark, F.R.I.B.A.

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vital facts on Utile

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 Strength: Equivalent to Mahogany but harder.
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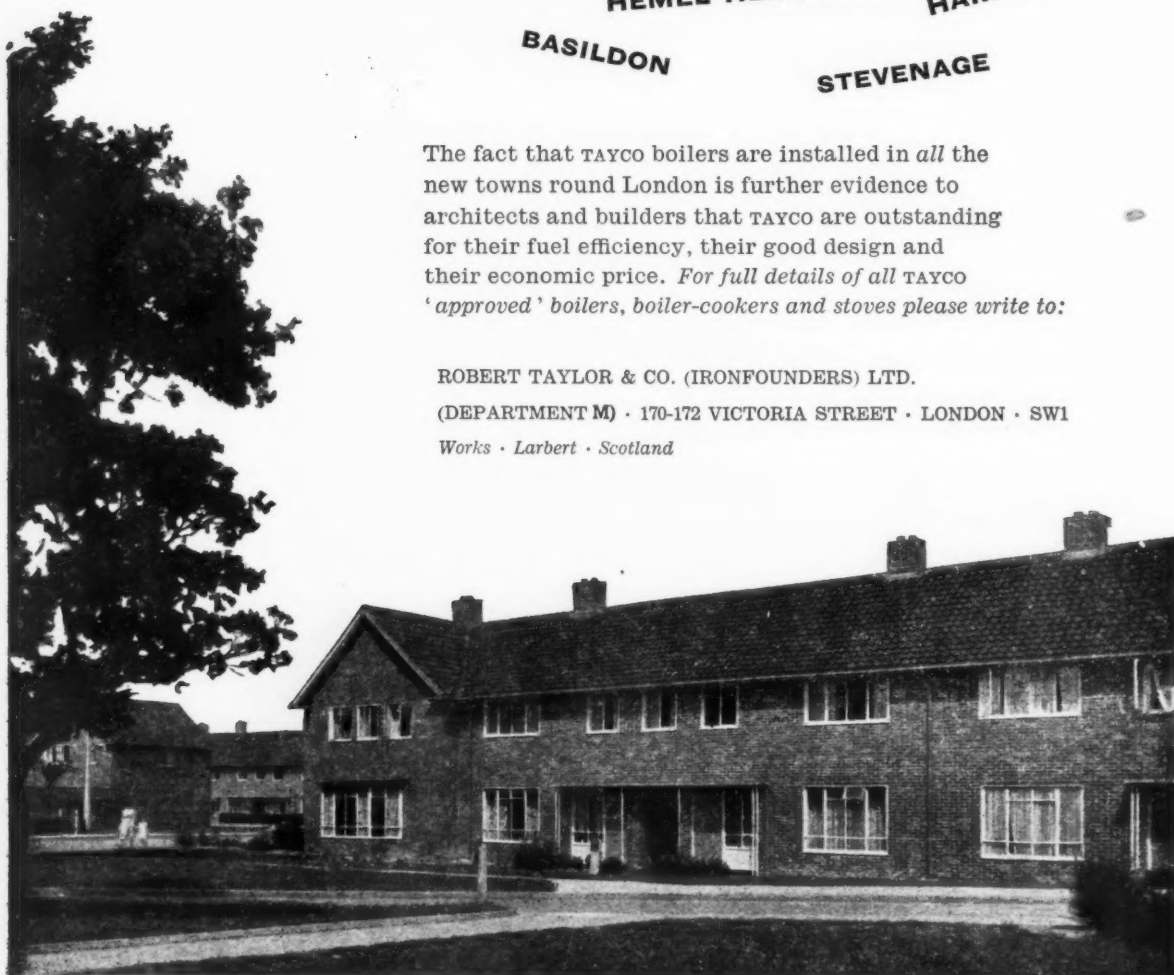
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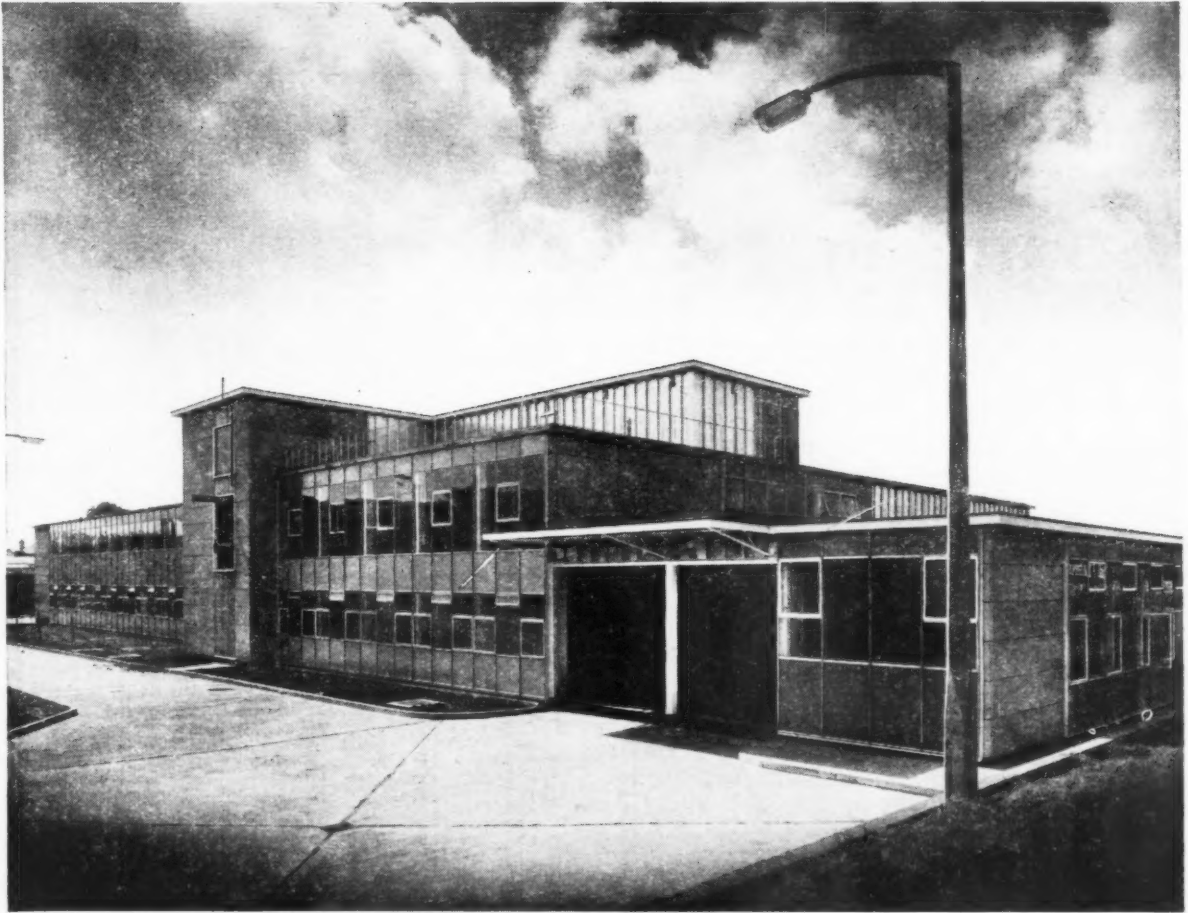
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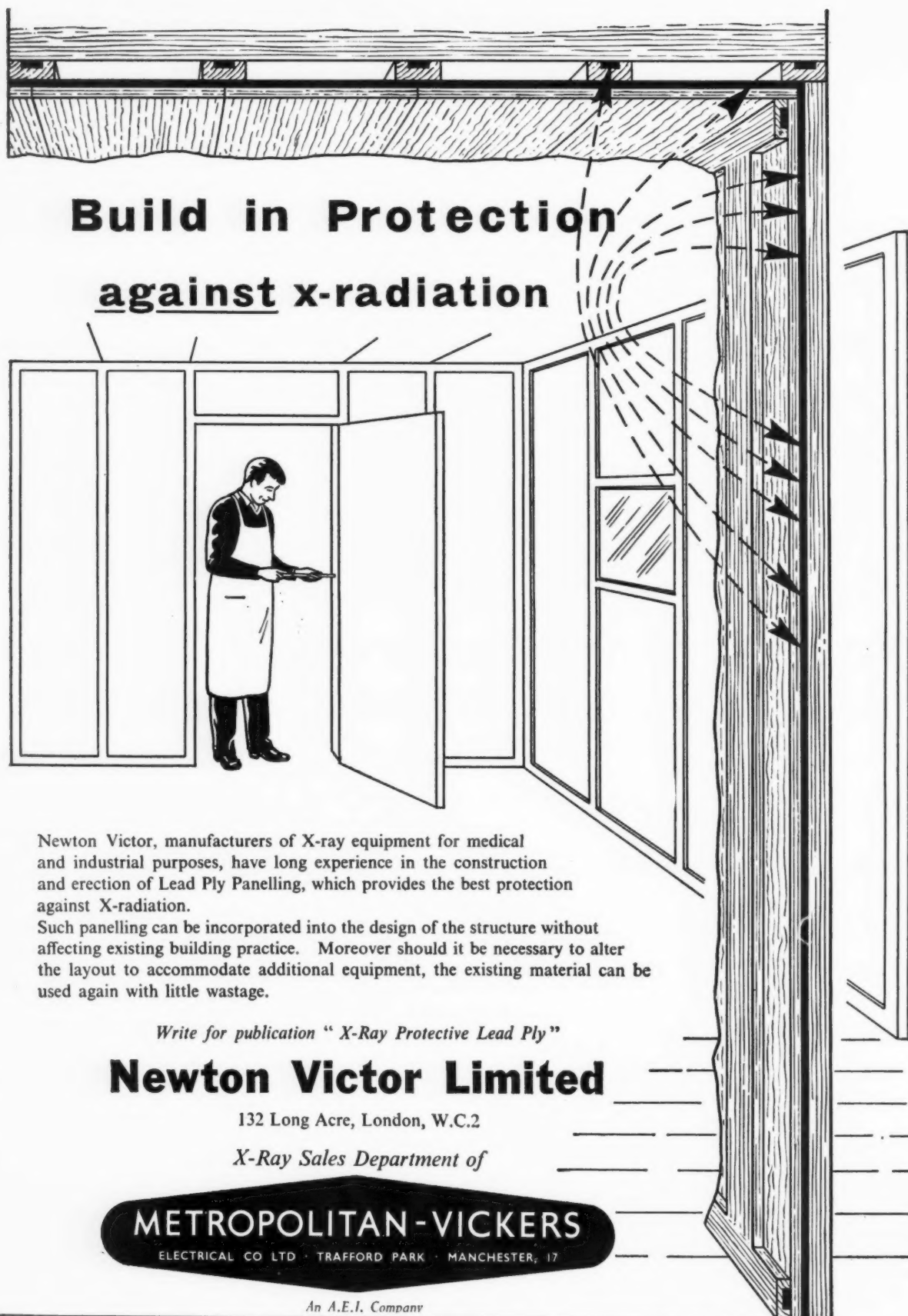
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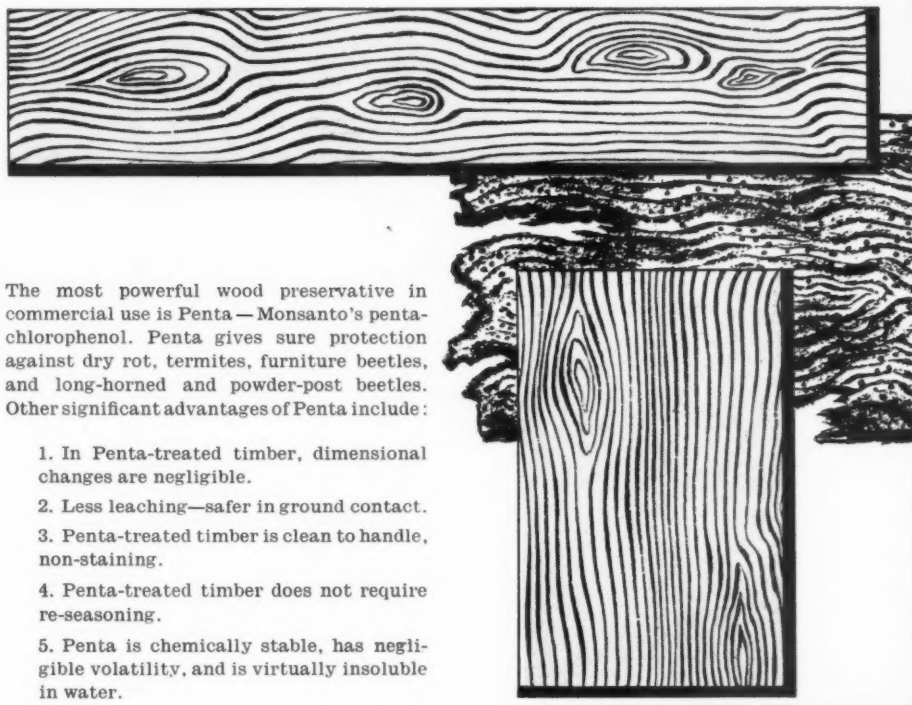
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wall-linings, etc.

Stramit roof-decking has superb sound-reduction, fire-resistance and thermal-insulation values (the U-value of Stramit with felt weathering is 0.24 without ceiling).

Weights of Stramit roofs are low. The deck, above the framing, plus felting weighs from 52 to 55 lb. per square yard (i.e. only 6 lb. per sq. ft.). This permits calculated allowances of only 15 lb. for snow and wind.

Costs, too, are low. A felted Stramit roof costs from only 27 6 to 30 - per square yard, supplied and fixed.

Stock sizes: 4 ft. wide x 6, 8, 9, 10 and 12 ft. long. Special sizes (made to order): Any width up to 4 ft. and any length (greater or less than 12 ft.).

Remember

STRAMIT ROOF-DECKING

- ... permits all-dry construction
- ... weighs only 6 lb. per sq. ft. (including felt)
- ... has a U-value of 0.24, without ceiling
- ... costs (including felt, delivery and fixing) less than 30 - per sq. yd.
- ... will resist penetration by fire from the outside for a minimum of two hours. Some Stramit slabs have a Class 1 spread of flame rating in the B.S. 476 1953 Test.

Also available :

Standard Quality (weighs approximately 3.8 lb. sq.ft.) for ceilings, partitioning, factory screens, etc.

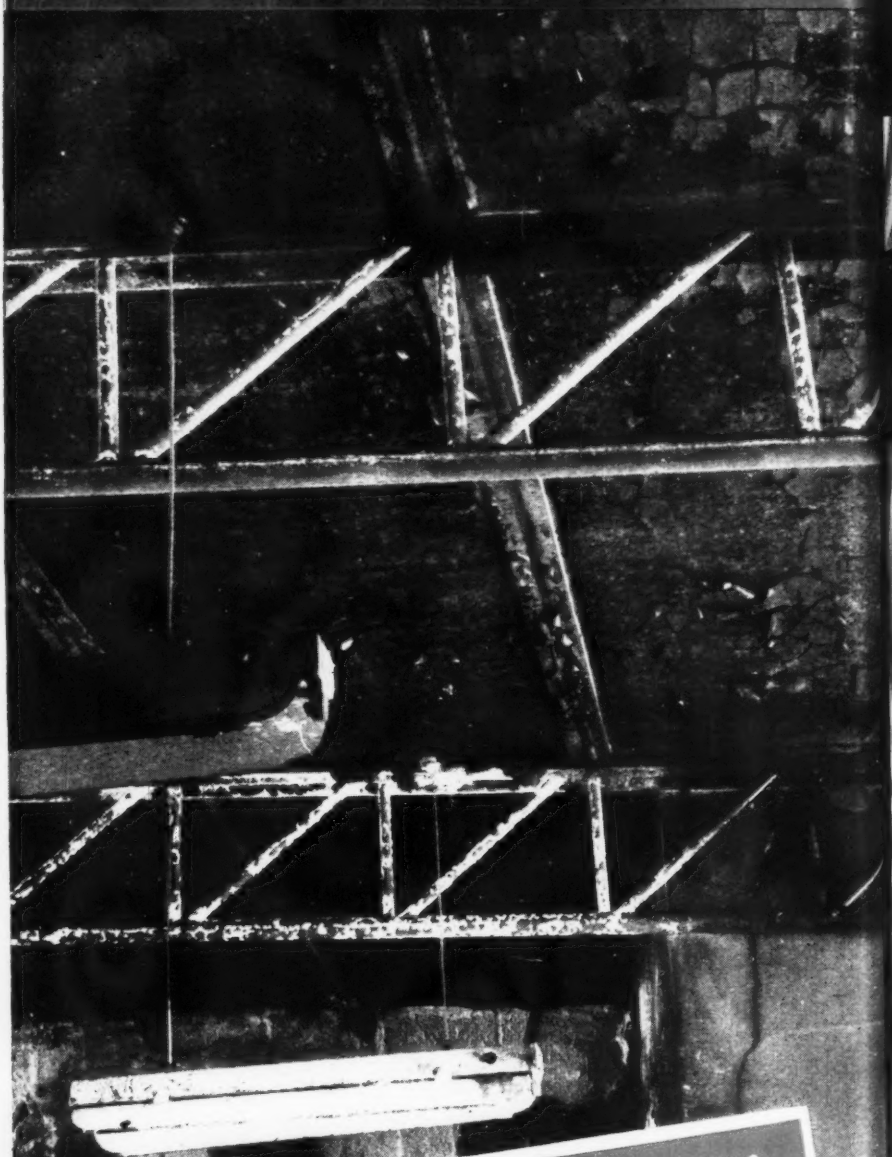
Low-Density Quality (weighs approximately 3.2 lb. sq. ft.) for non-load-bearing thermal insulation.

Stramit Slabs can be supplied with facings of asbestos-felt, hardboard, metal or fabric.

Available from leading merchants

STRAMIT
— THE TWO-INCH THICK —
BUILDING SLABS

Answer to a burning question



A TYPICAL CASE HISTORY

Shown above is part of the damage caused by a fire which raged for some hours at a school in Saffron Walden, Essex. The Stramit roof (seen intact and unburnt amidst fractured brickwork, charred woodwork and damaged steel trusses) limited the fire to the Chemistry Laboratory. And the Stramit roof-decking wasn't even asbestos lined. If it had collapsed, sparks and lighted fragments would have set fire to adjacent buildings. But the roof didn't collapse, for Stramit defies fire!

STRAMIT ROOF-DECKING

THE ARCHITECTS' JOURNAL
(Supplement), September 12, 1957

DEFIES

FIRE!

IT'S A FACT!

There's not a single case on record of Stramit aggravating a fire. And on many occasions Stramit has actually resisted the passage of fire. Even when it's under a bituminous covering, Stramit roof-decking keeps fire at bay.

Why is this? Because Stramit has high insulation properties. Even when subject to fierce flames for long periods, Stramit stands firm. It carbonises slowly and the carbon forms an effective coating that resists the spread of fire. Stramit roof-decking is available with an asbestos-felt facing which gives it a Class I rating (surface of very-low flame spread B.S. 476 (1953) Surface Spread of Flame Test) in cases where specially high demands are made on the ceiling.

FACTS prove it. A Stramit slab without joints under asbestos-based bituminous felt covering (as defined in B.S. 747, 2A and 1E) was tested at the Fire Research Station, Boreham Wood, Herts, to discover whether it afforded 'adequate protection against the penetration of fire into a building roofed in this way' as required by Bye-Law 49. It resisted penetration for a considerably longer period than some other roof constructions already acceptable under Bye-Law 49. And even after this prolonged test, lasting two hours, the felted Stramit didn't flame.

Report F.R.O. S.I. No. 725 available on request.

FACTS show that Stramit resists an oxy-acetylene flame of 5,000°F (which would melt iron in seconds) for long periods. As soon as the flame is removed, the glow disappears from the Stramit slab, which doesn't even smoulder, curl or distort.

FACTS show that the spread of flame on Stramit roofs with a finish of organic-based felt is approximately the same as for a similar amount of organic-based felt on a two-inch concrete roof.

STRAMIT BOARDS LTD, COWLEY PEACHEY, UXBRIDGE, MIDDLESEX
Phone: West Drayton 3751

Complete FIRE-FIGHTING EFFICIENCY without handwheels or surface piping!

THE NORSEN RECESS-TYPE AUTOMATIC HOSE REEL

This reel can be housed flush with the wall face and is capable of swinging through a full 180° (Nicholson Patent).

It can be mounted to swing from either side of the recess—a great advantage when positioned at the ends of corridors or narrow passages.

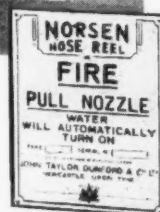
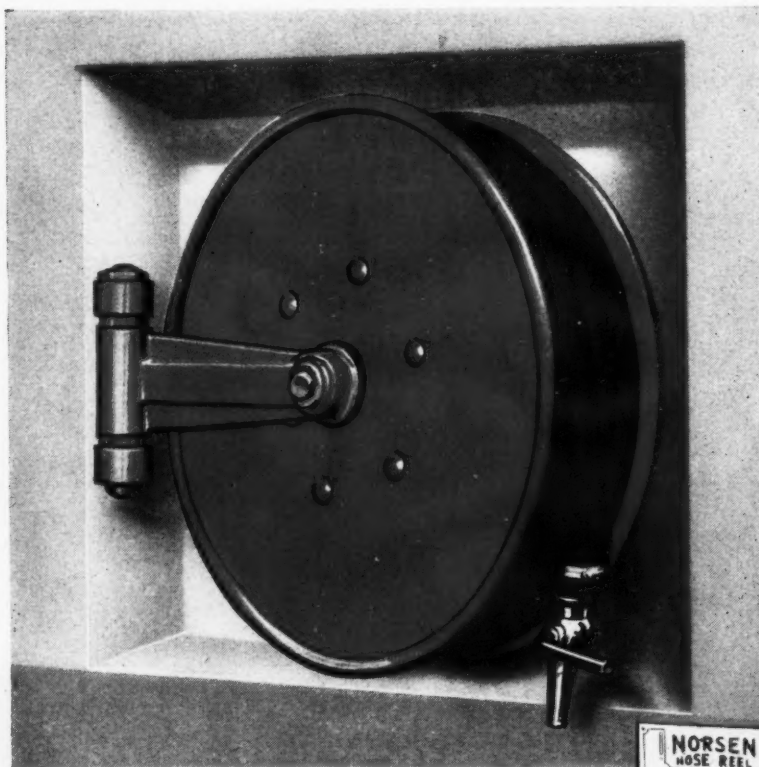
When the reel is recessed no obstruction is caused. If required, a door, decorated to conform with the general scheme, can be fitted to conceal the reel.

WALL-TYPE AND EXTERNAL SWINGING-TYPE REELS ARE ALSO AVAILABLE

★ ★ ★ AUXILIARY PUMPS

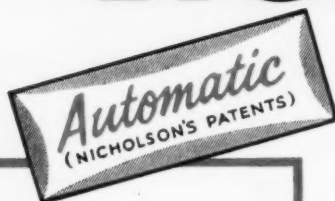
In cases where there is not sufficient water pressure, an auxiliary pump (operated by a special flame-proof switch incorporated in the reel) can be provided.

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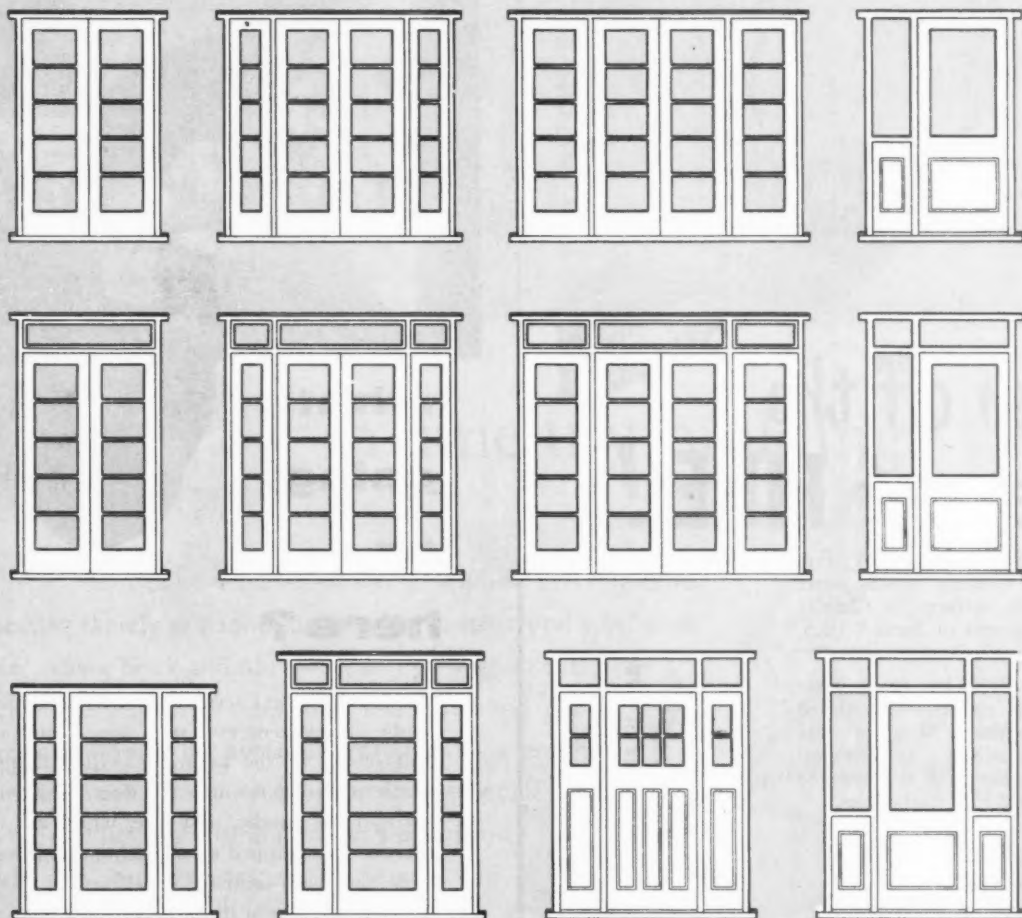
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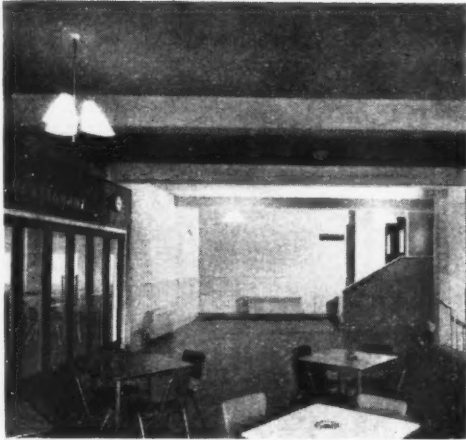
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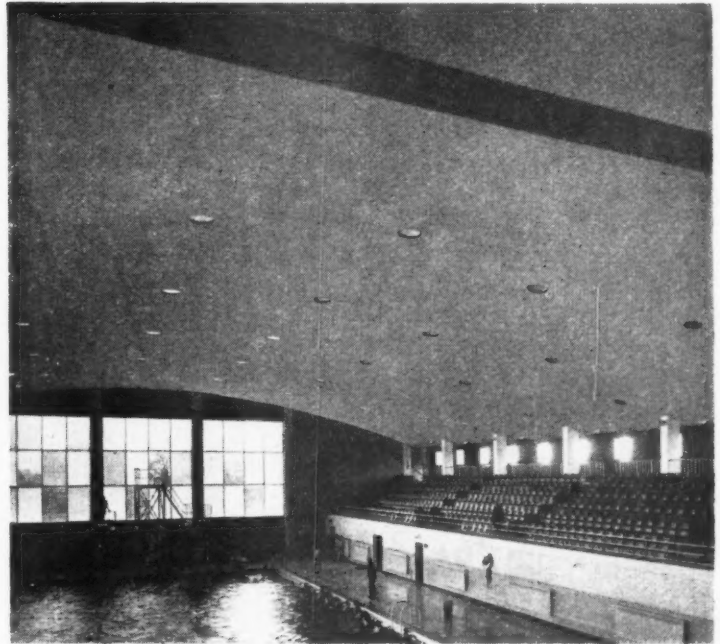
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The Public Swimming Baths, Hornchurch, Essex. Pyrok was used internally for anti-condensation, thermal insulation and acoustics and externally for weatherproofing and decoration. For Hornchurch U.D.C., Surveyor: Vincent Williams, B.Sc. (Eng.), A.M.I.C.E., M.I.Mun.E. Work carried out under the direction of Surveyor's Chief Architectural Assistant, D. Percy, A.R.I.B.A.

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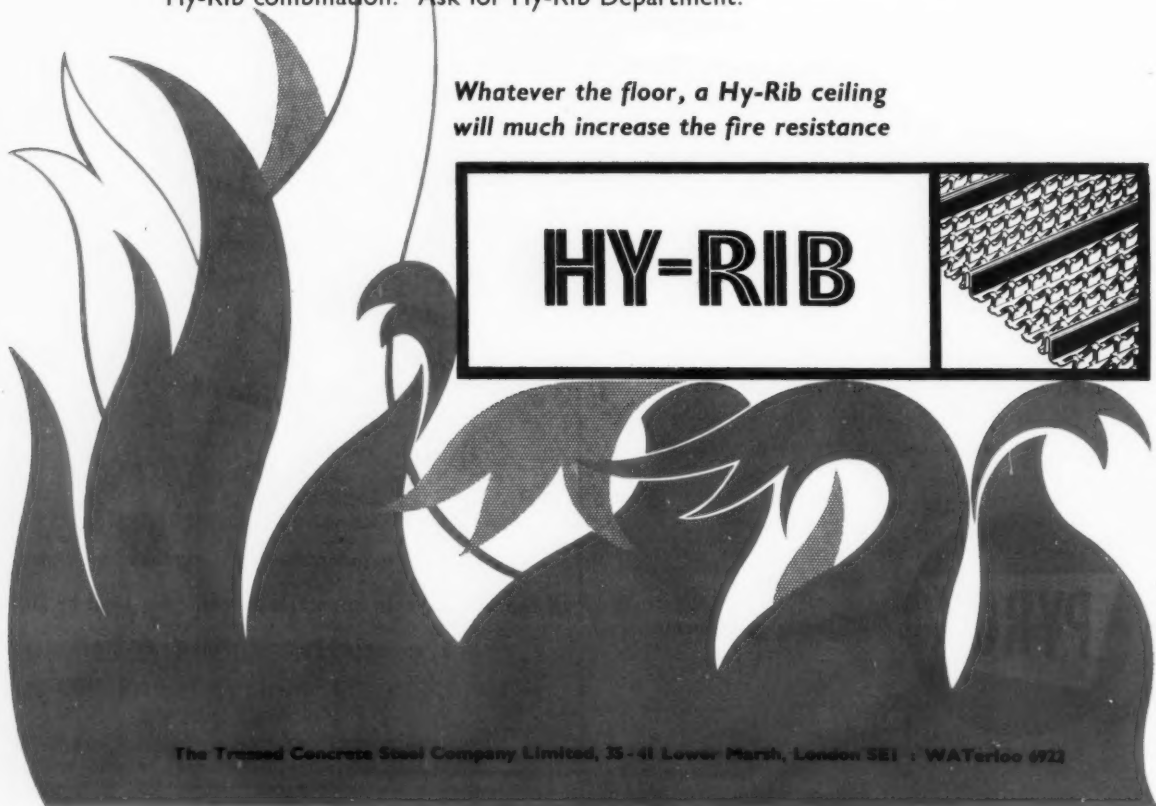
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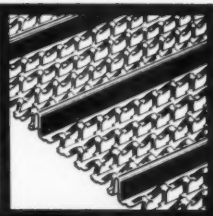
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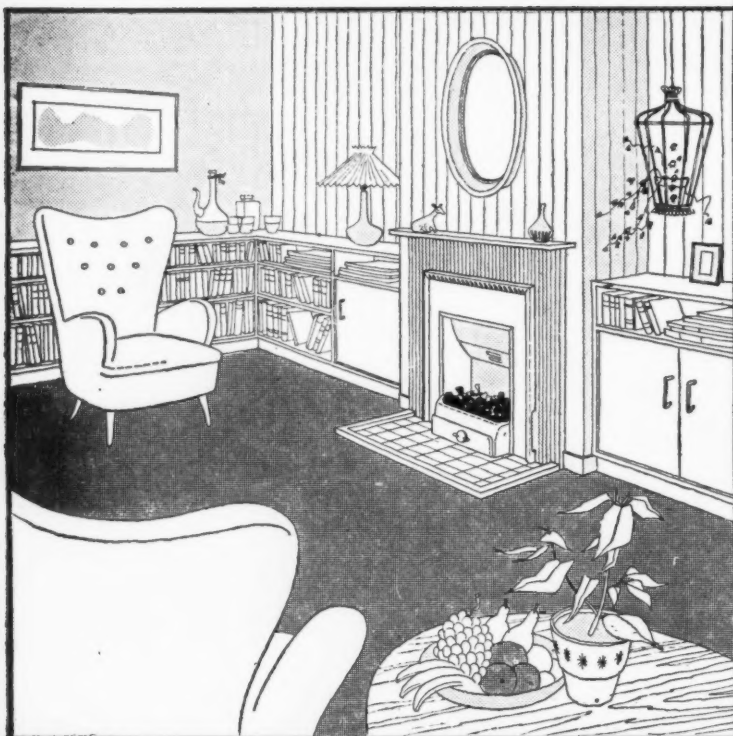


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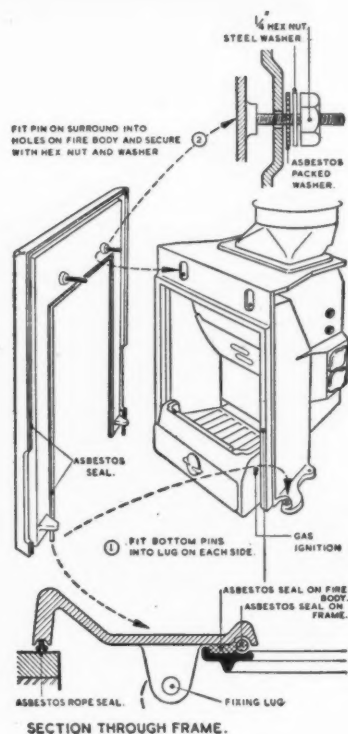


Elegant new convector surround for the high output MARVEC fire

The Marvec heats up to 2,500 cu. ft. by radiation and convection and—if it is needed—will heat the water too.



For further details of the Marvec Fire
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If the air for the convection chamber is required to be taken from outside the room in which the fire is fixed, the Convector surround can be supplied without the cut-outs in the return of the jambs.

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Using the convector surround to introduce convected air to the same room, 2,250 cu.ft. can be heated (or 2,500 cu.ft. with the non-boiler model). If convected air is used for warming other rooms, full heating up to 1,750 cu.ft. is provided, and background warmth for other rooms up to a total of 2,000 cu.ft.

Note: These figures apply to rooms of normal construction.

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Provided the system is compact the boiler can heat a towel rail in addition to supplying domestic hot water, or alternatively 45 sq. ft. of radiation surface (including unlagged piping) can be heated.

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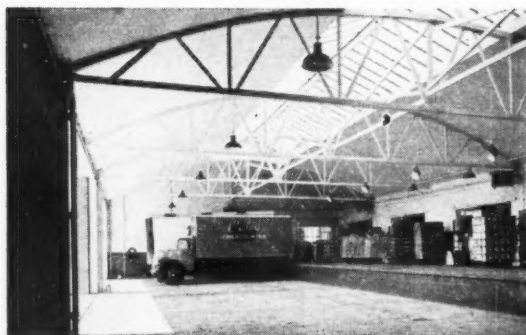
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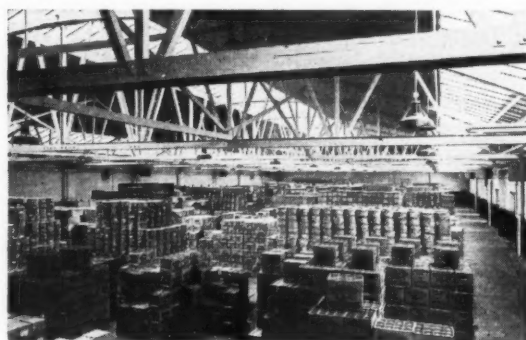
The New Associated Deliveries warehouse and garage.

Architect: RICHARD H. PICKLES, A.R.I.B.A.

The Builders for Industry



An interior view of the garage . . . and of the actual warehouse.



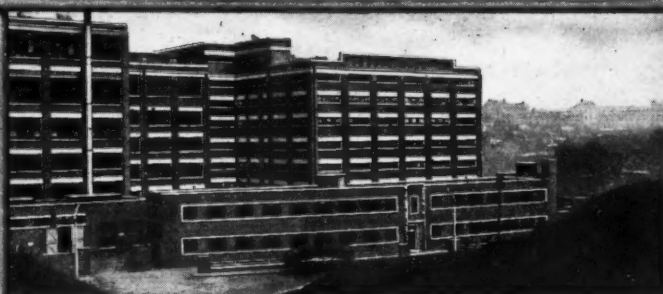
The new warehouse and garage for Associated Deliveries Limited in Bedford illustrated here, is one of the most recently completed projects which bears testimony to the fine workmanship of Robert Marriott Limited. This company has today achieved a remarkable reputation as 'Marriotts of the Midlands — the builders for industry'. The policy which has led to this success is based on pre-planning and the establishment of an organisation comparable to that of any national firm of contractors. In addition, Marriotts restrict their activities to within a 40-mile radius of their headquarters at Rushden. This ensures a close control of local labour resources, and a more direct control of the work; factors which reflect in economy in cost, and in the high quality of the work.

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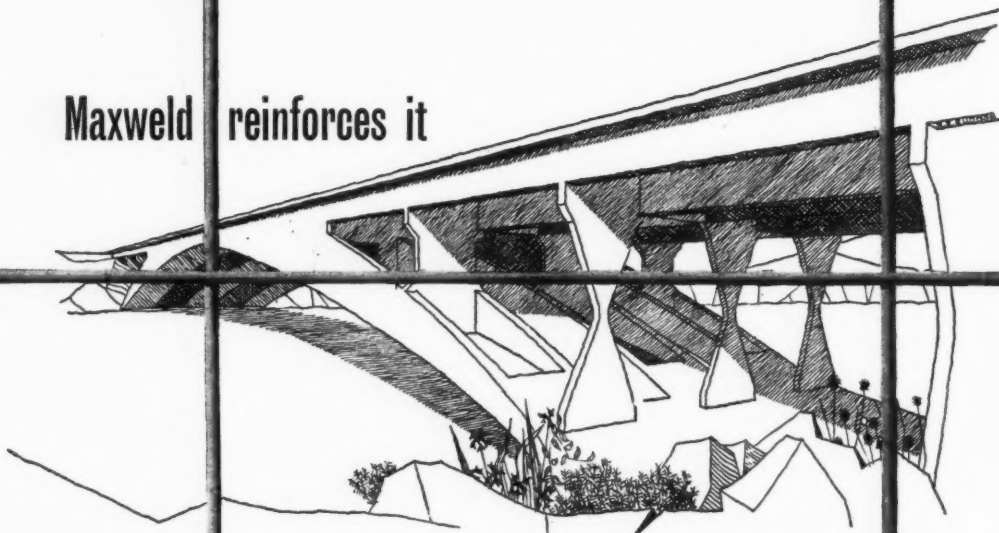
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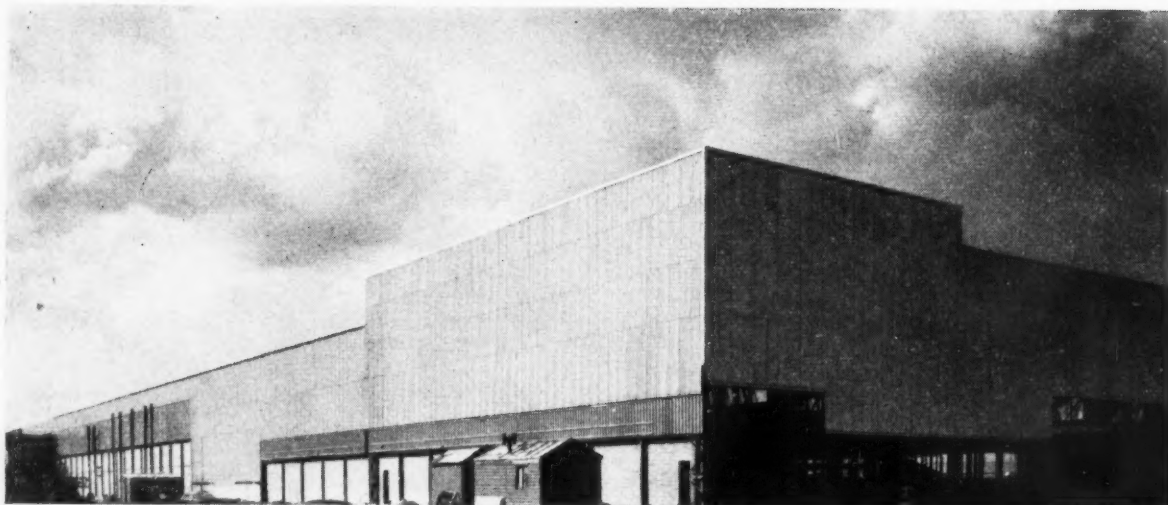
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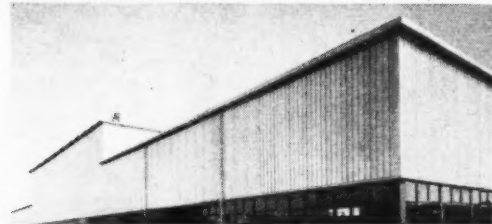
Illustrations :

- Top : Robertson Q-Panel, Type QSG, being erected at the Caterpillar Tractor Company, Tannochside.
Architects : Wilson, Hamilton and Wilson, Glasgow.
- 2 : Robertson Q-Panel, Type QF, at the Rover Company, Solihull.
Consulting Engineer : Thomas Bedford, A.M.I.C.E.
Architects : Hasker and Hall, London.
- 3 : Robertson Q-Panel, Type QSA, at the Chance-Pilkington Works.
Consultant Architects : Ormrod and Partners, Liverpool.
Main Contractors : Holland & Hannen and Cubitts, Ltd.
- 4 : Robertson Q-Panel, Type QF, at the British Thomson-Houston Works at Larne, Northern Ireland.
Contractors : Holland & Hannen and Cubitts, Ltd.
- 5 : Robertson Q-Panel, Type QF, at Metropolitan-Vickers Electrical Company, Manchester.
Design by Metropolitan-Vickers Architects Department.

2



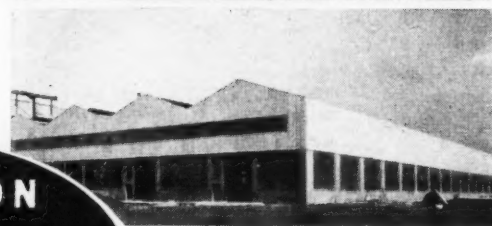
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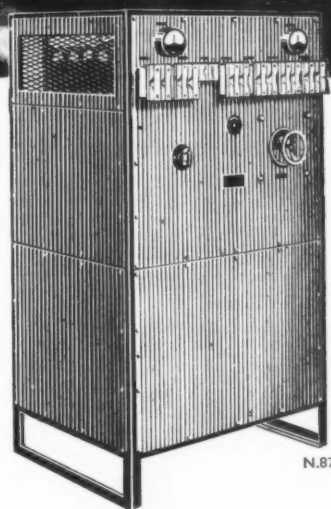


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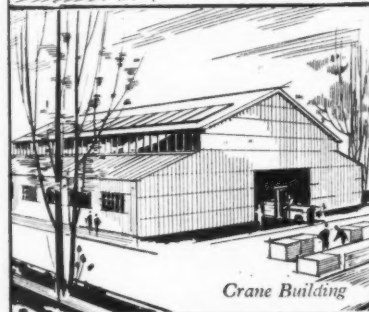
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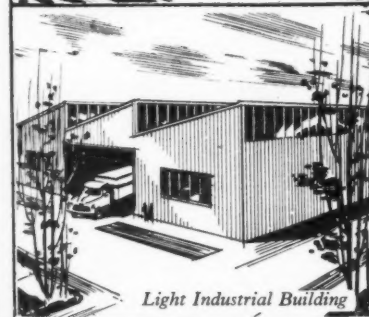
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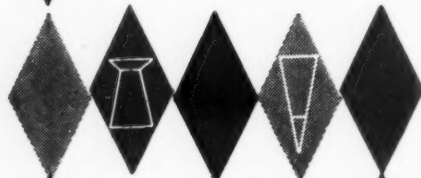
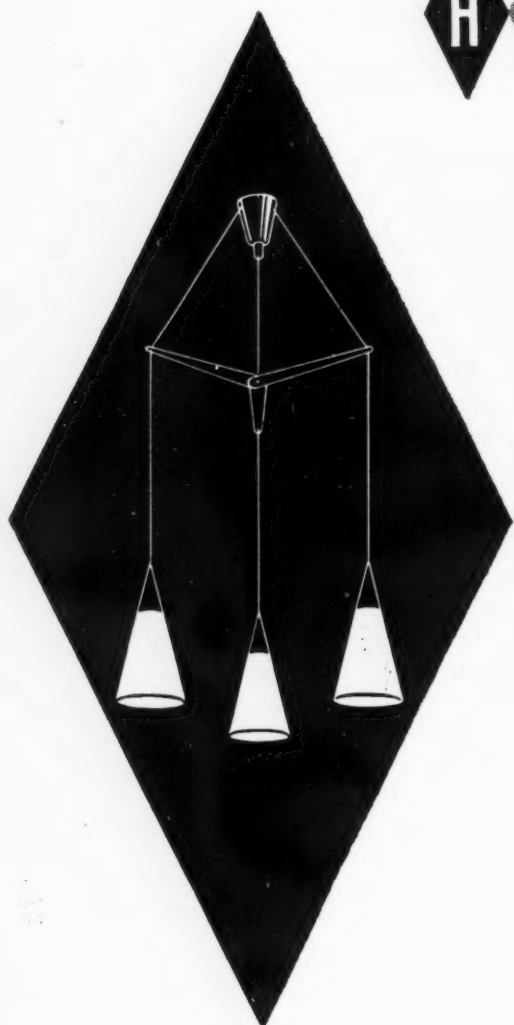
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Saint Margaret's, Westminster, is the Parish Church of the House of Commons. The present church—the third to be built upon this site since Saxon times—was completed in 1523, and no parish church in London is more rich in historical associations. It is really a large church, but so dwarfed by Westminster Abbey alongside that visitors are often surprised to discover that it comfortably seats a thousand people. Throughout the spacious and beautiful interior of St. Margaret's a comfortable temperature is maintained by means of a No. 38 L.S. Whitehall Sectional Heating Boiler, with automatic stoker, and forty Pall Mall and Hospital Pattern Cast Iron Radiators. This is another example of how Crane heating equipment can be unobtrusively installed in an ancient and beautiful building without spoiling the character of the interior in any way.

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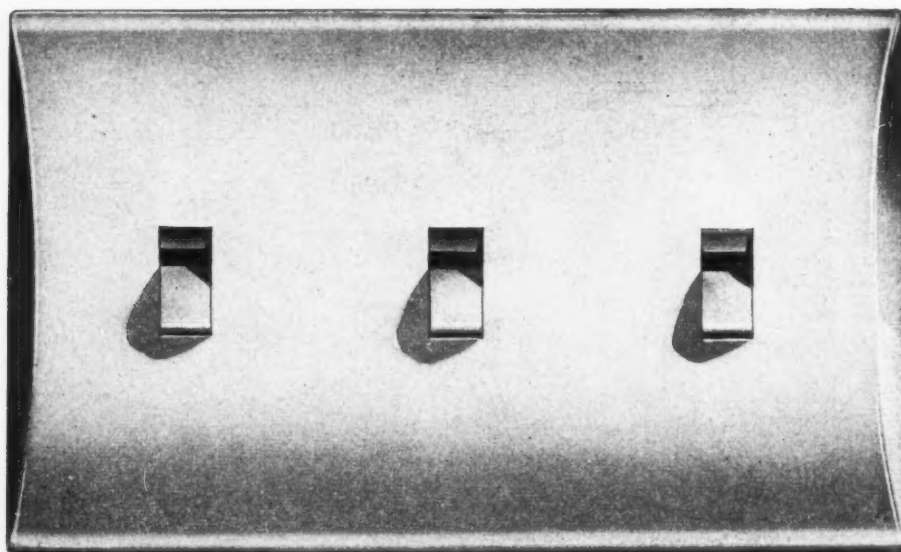
HEATING ENGINEERS: Troughton & Young (Heating) Ltd., Knightsbridge, London, S.W.3.
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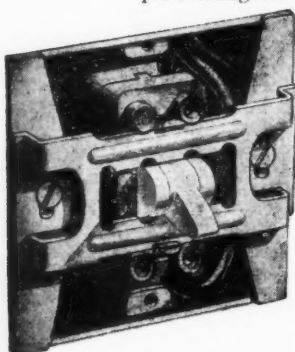


FALKS new switch makes others obsolete

Here is a handsome new switch, modern in every respect and unique being without plate fixing screws.

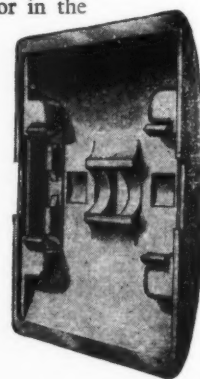
The design must appeal to every architect and its simplicity to the contractor in the saving of fixing time.

Note these special features—



The 'Snapfast' switch unit is fitted to the standard box by two screws. It is very readily wired and the box provides ample space for cable slack. Provision is also made within the switch assembly to correct "out of square" boxes.

The secret of the FALKS 'Snapfast' lies in the Spring steel inserts which register with the unit frame and securely hold the cover.



It is now the simplest of operations to snap the cover into position. Although firmly fixed it can be prised off and replaced without damage to switch or surroundings.



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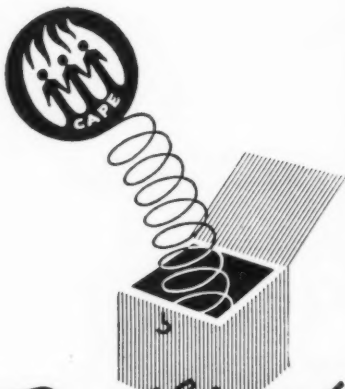
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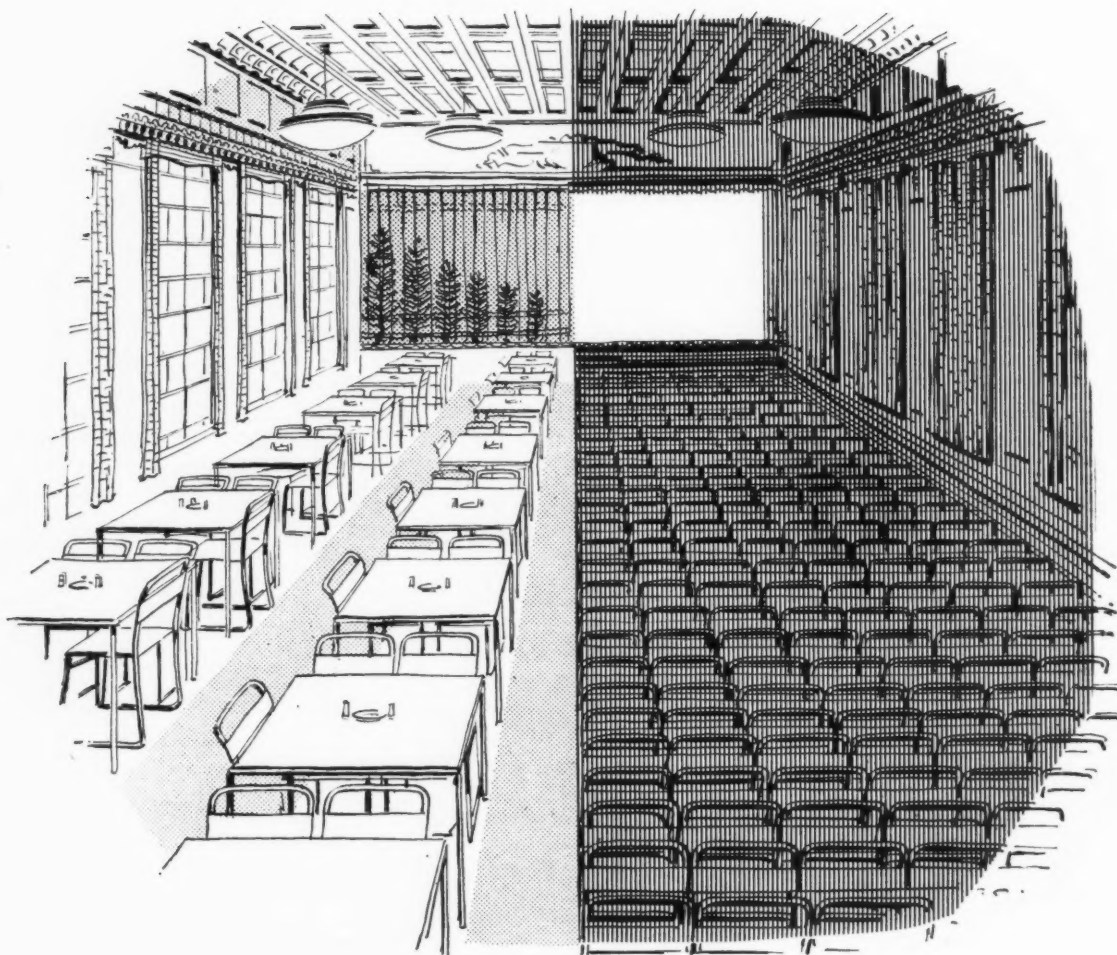
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Manchester: Floor D, National Buildings, St. Mary's Parsonage, Manchester 3. Tel: Blackfriars 7757.
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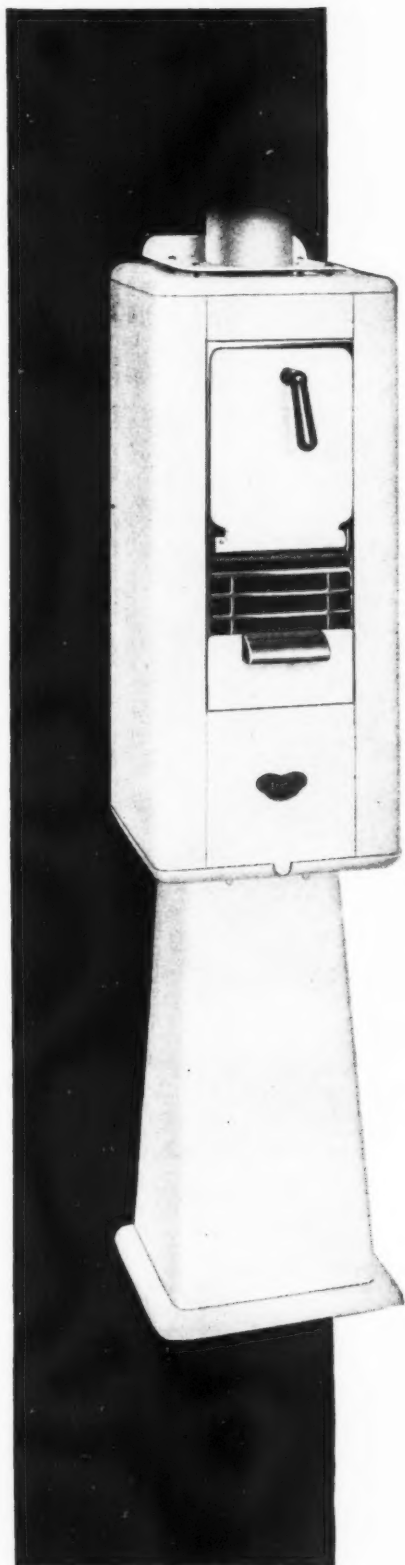


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Telephone: Tipton 1631. Telegrams: Kingfisher, Phone, West Bromwich.

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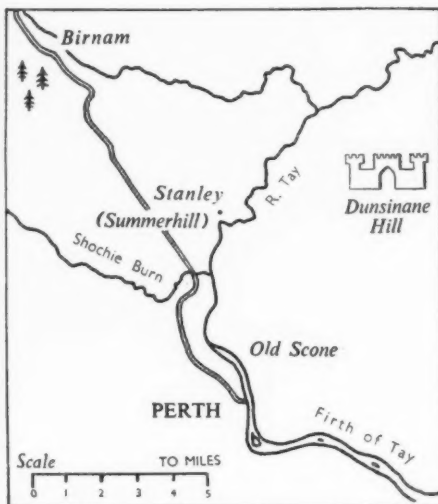
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SARO LAMINATED WOOD PRODUCTS LIMITED • Plastics Division • East Cowes • Isle of Wight • Telephone : Cowes 704/8

'Summerhill', the home of Dr. Macdonald at Stanley, in beautiful Perthshire, was built in 1895 by the Earl of Warwick for his son, the Hon. Louis Greville. Today it uses an up-to-date oil-fired central heating system, with fuel supplied by Shell-Mex and B.P. Ltd.



Modern heating in a Scottish Home suits an American wife



'In July 1954', writes American-born Mrs. Macdonald, 'we came over here from the United States to live permanently (a Scottish husband, who had lived over twenty years in America and an American wife, who had visited Scotland once). Nearly all our Scottish friends advised me strongly not to come and talked about the terrible Scottish winters, etc. Well, we are here and we are perfectly comfortable and for just one important reason; we have central heat, with an automatic oil burner, just as we had at home. I am afraid I am rather rabid on the subject of the lack of central heating in this northern country, which certainly needs it if any country does. So with us it boils down to the fact that if it were not for our oil heat, we should be completely miserable and probably leave Scotland entirely. This is quite a large house and it has kept most comfortably warm. Of course, we do not keep it all at 70°, as Americans do, but have the hall thermostat set at 62° which people here find very adequate – and some rooms are warmer than that.'

BETWEEN Dunsinane Castle and Birnam Woods – renowned for their association with Macbeth – stands this lovely house, the home of Dr. Macdonald. Among its previous occupants have been the Hon. Louis Greville, the Marquis of Zetland, the Duke of Portland, the Countess of Warwick and General Barber.

Dr. Macdonald had lived for over twenty years in America before he came to settle permanently in his native Scotland. His American wife tells how strongly their Scottish friends advised her against making their home in Scotland, owing to the weather and the 'terrible Scottish winters'. But their modern, automatic, oil-fired heating system gives them all the comfort they want; without it they 'would have been completely miserable'.

Comfort, cleanliness and convenience are the hallmark of oil-fired heating; and house-owners are finding that oil fuel, bought in bulk, is surprisingly economical. It is suitable for blocks of flats and public buildings and, increasingly, it is being installed in houses of every type and size.

From hot water supply in the smaller home to full central heating in larger buildings there are now available special oil-fired units designed for every requirement. Two kinds of oil are supplied for heating – Shell Domestic Fuel Oil for the larger installation and BP Domesticol, the new fuel specially developed for the smaller boilers with vaporising burners.

If you are designing or modifying almost any kind of building, public or private, you may well find it worth your while to make provision for this modern, convenient heating method. If you would like to know more about oil-fired heating you should write for a free copy of 'Oil Fuel at Home' to Shell-Mex and B.P. Ltd., Fuel Oil Dept. D4L, Shell-Mex House, Strand, London, W.C.2.

THE ARCHITECTS' JOURNAL
(Supplement) September 12, 1957

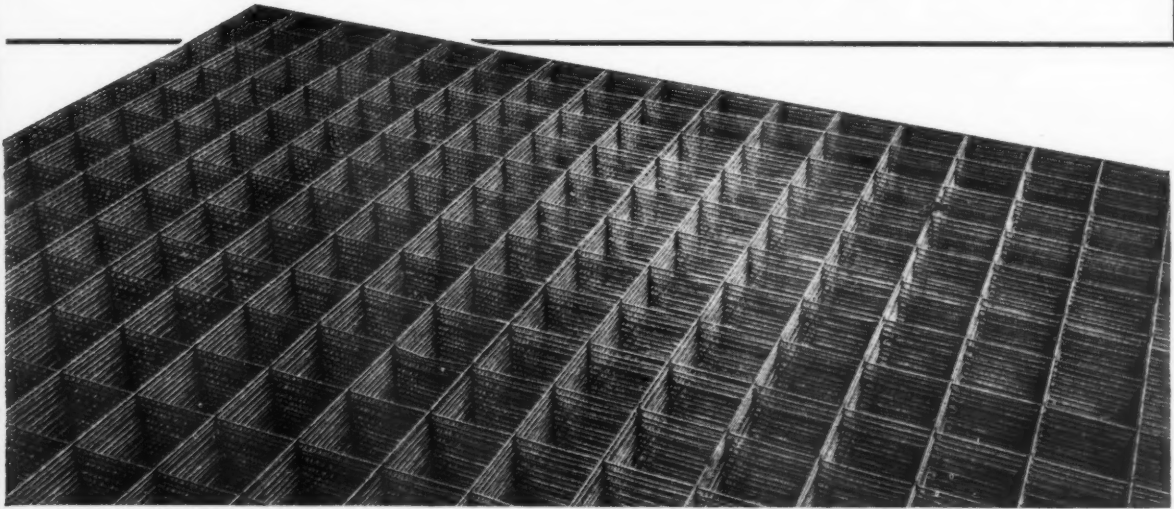
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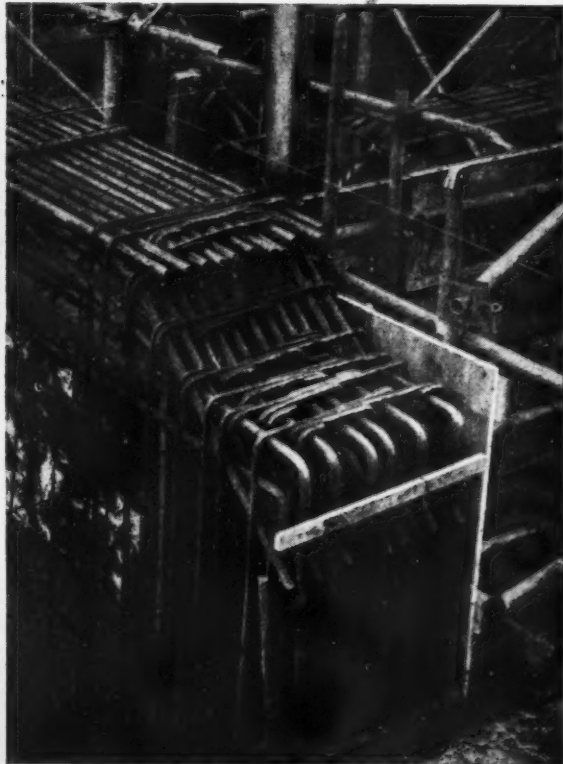


7
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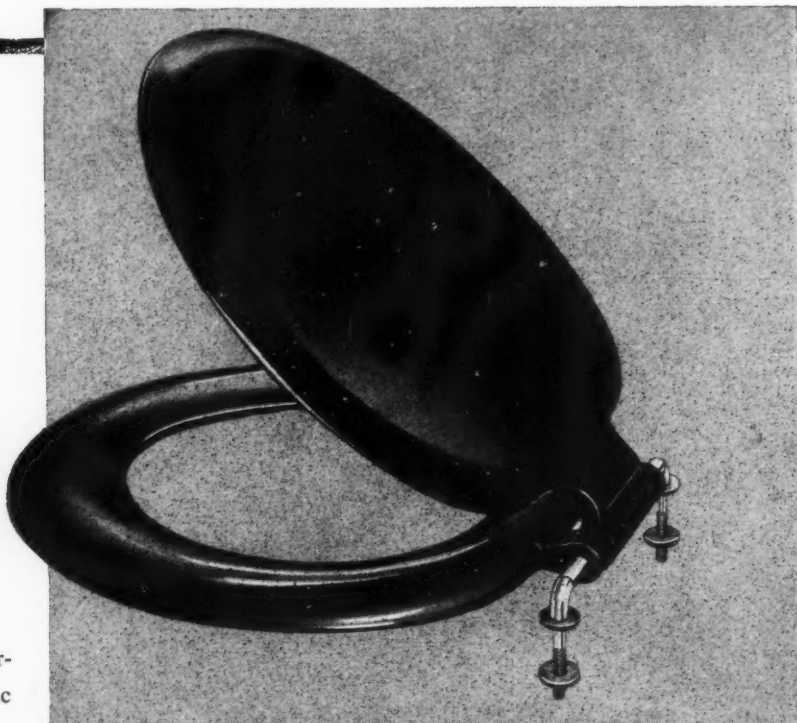
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GP.1

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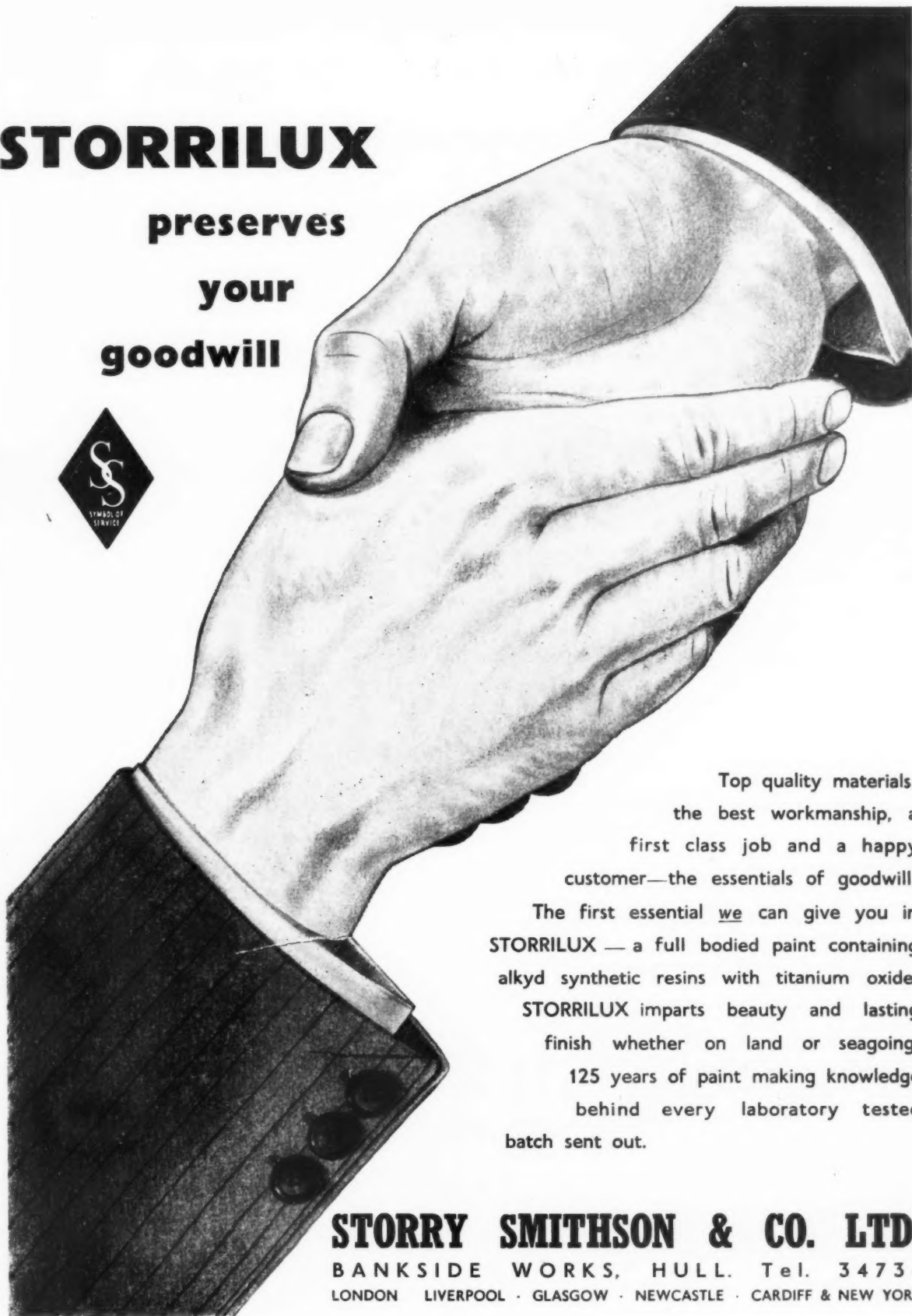
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48

pleasant, hygienic
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for one unit of electricity

The 'ENGLISH ELECTRIC' Hand-Drier usually pays for itself within a year of installation. From then on, years of trouble-free service provide substantial savings in hand-drying costs.

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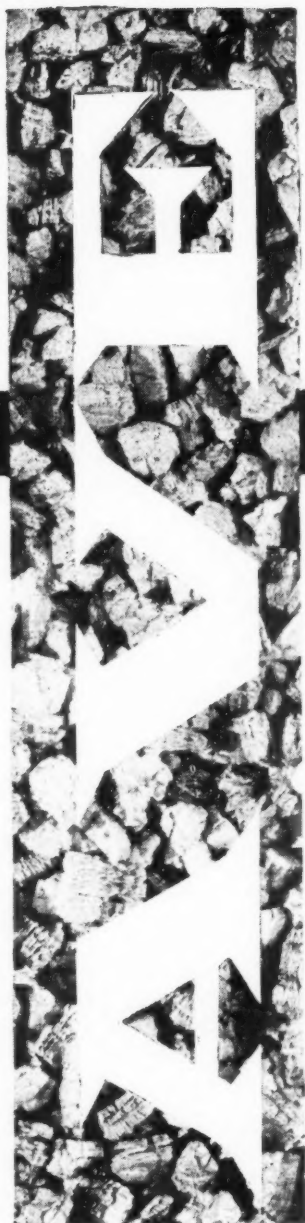


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THE ENGLISH ELECTRIC COMPANY LIMITED, MARCONI HOUSE, STRAND, LONDON, W.C.2
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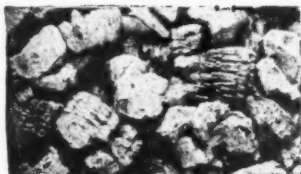
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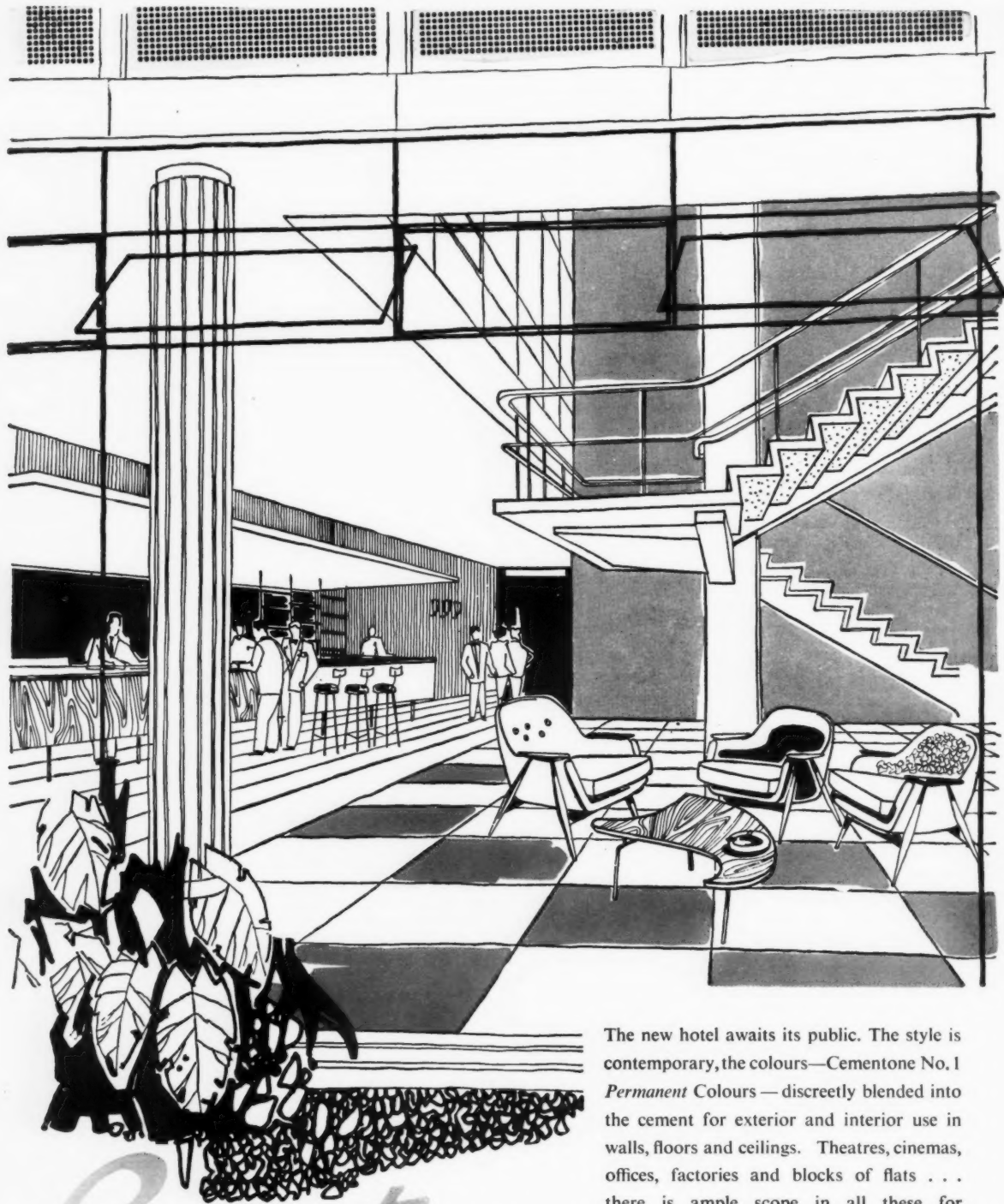
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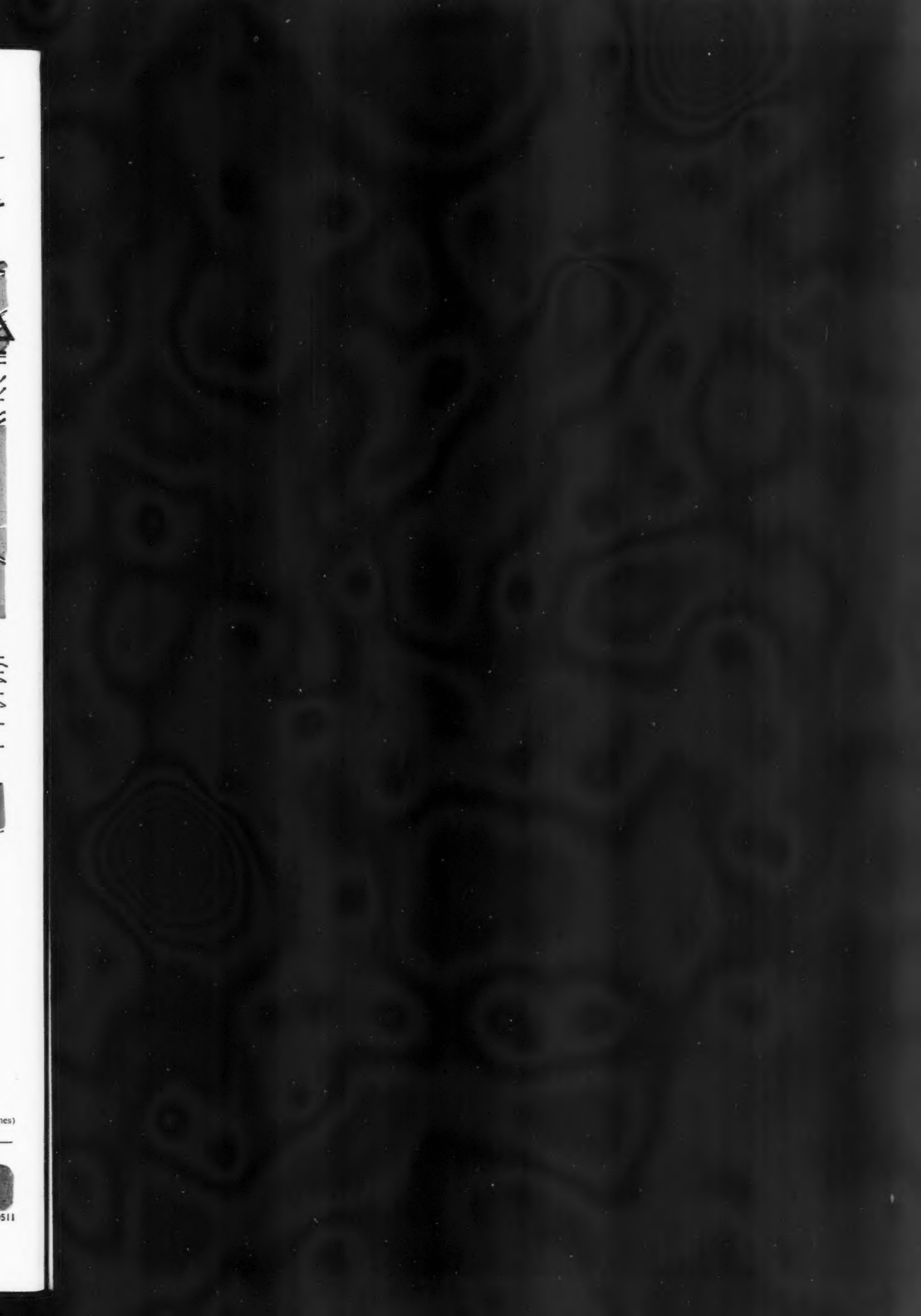
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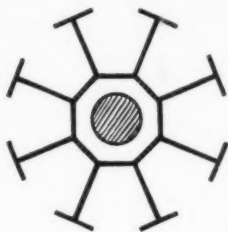
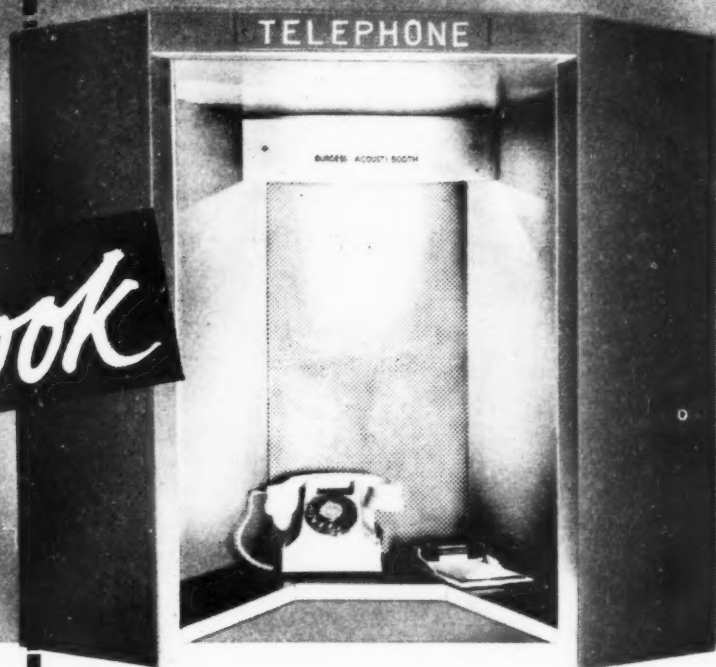
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It's quieter
and roomier
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New look

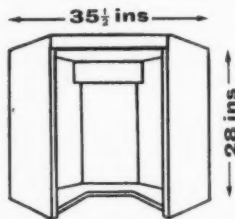
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acousti-booth



pillar
mounting



wall-booth
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Completely restyled for maximum sound-absorption and greater adaptability.

Geometrically-planned: the new octagonal plan form has been specially evolved to enable several booths to be grouped around a pillar or 'island' and for *oblique wall-mounting* (see inset) which reduces sound intrusion to a minimum.

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Smart functional finish: all surfaces are smooth and easily-cleaned, stove-enamelled in Hammer Grey.

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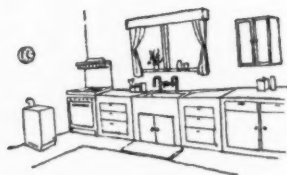
**BURGESS PRODUCTS CO. LTD., Acoustical Division,
HINCKLEY, LEICESTERSHIRE**

for quiet
amid clatter

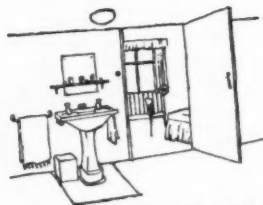
Acousti-booths by **BURGESS**

Automatic hot water and central heating are not expensive, as long as you do not waste fuel.

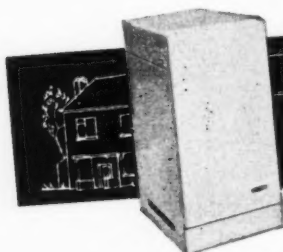
BUY A BOILER THAT WILL GIVE YOU YOUR MONEY'S-WORTH



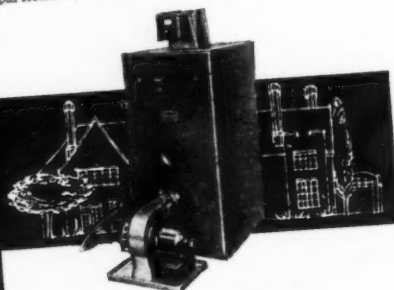
A 'Potterton' Gas-Fired Boiler will sit quietly in a corner of your kitchen and can be installed quite cheaply. Its controls are all enclosed and seldom need to be touched. In a relatively new house with good insulation it will supply hot water and background heating at a surprisingly low cost.



A 'Potterton' Oil-Fired Boiler, because it was designed for oil in the first place, will save one gallon of oil out of every five that would be consumed if you merely converted an existing boiler. It is an excellent proposition if you require whole house central heating in addition to hot water—particularly in a larger or older house.



The 'Diplomat' 44 is a typical 'Potterton' gas-fired boiler. It will supply hot water and serve 3 or 4 radiators in an average three-bedroom house. Available in a choice of 4 colours. Price £74.7.6. including Purchase Tax.



One of the DOA series of 'Potterton' oil-fired boilers, available in six sizes to suit the central heating and hot water demands of anything from the small town house to a home in the country. Prices from £213.10.0.

The 'Potterton' people have specialised, for more than half-a-century, in the production of boilers which will achieve maximum efficiency—which will, in other words, transfer the greatest possible amount of heat from the fuel to the water. That, of course, is why all 'Potterton' boilers are economical to run. In addition, they are not only thermostatically controlled but completely automatic—and for a few pounds can be fitted with clock controls so that they switch themselves off at night and on again in the morning.

The 'Potterton' people are not interested merely in selling gas-fired boilers or oil-fired boilers; they want to sell the boiler best suited to the particular job. And the person to advise you on that point, of course, is your architect or heating engineer. If you do finally decide to buy a 'Potterton' boiler, arrangements can be made for regular servicing to ensure that you always get the best results from your fuel. In the meantime, you may care to drop a line to the address below for further details.



'Potterton' Boilers make the most of your fuel, automatically

THOMAS DE LA RUE & CO. LTD. (Potterton Division) 20/30 Buckhold Road, London S.W.18.

DL713/2

This advertisement is appearing during September in Good Housekeeping, Homes & Gardens, House Beautiful, House & Garden, Housewife, Ideal Home, Women's Journal, Punch, Country Life.

Putting 11½ million people in the picture...

The advertisement on the opposite page is one of many in the De La Rue national advertising campaign for 'Potterton' Boilers during 1957/58.

This powerful advertising is appearing in newspapers and periodicals with a combined readership figure of 11,780,000. Many of these readers, if not already seriously considering the possibilities of a gas-fired or oil-fired boiler, are certainly on the lookout for a central heating system and hot water supply which are completely automatic.

For many years there has been a widespread interest in 'Potterton' Boilers for domestic use — stimulated by their outstanding success throughout industry and in commercial businesses. With this advertising, the householder is being made acutely aware of the advantages of a 'Potterton' Boiler: the automatic control, the economy, the elimination of stoking, fuel supply and storage problems.

'Potterton' Boilers achieve a maximum efficiency of 80%. More important, they *maintain* maximum efficiency for long periods. Facts and figures of actual tests are available to prove this. Designed specifically for the fuel they use, 'Potterton' Boilers are the result of over 50 years experience in boiler design and construction.

To answer enquiries brought about by this national advertising, you should have in your possession all the latest details about 'Potterton' Boilers. For any further information you require, please ring Vandyke 7202 so that you can tell your clients more about

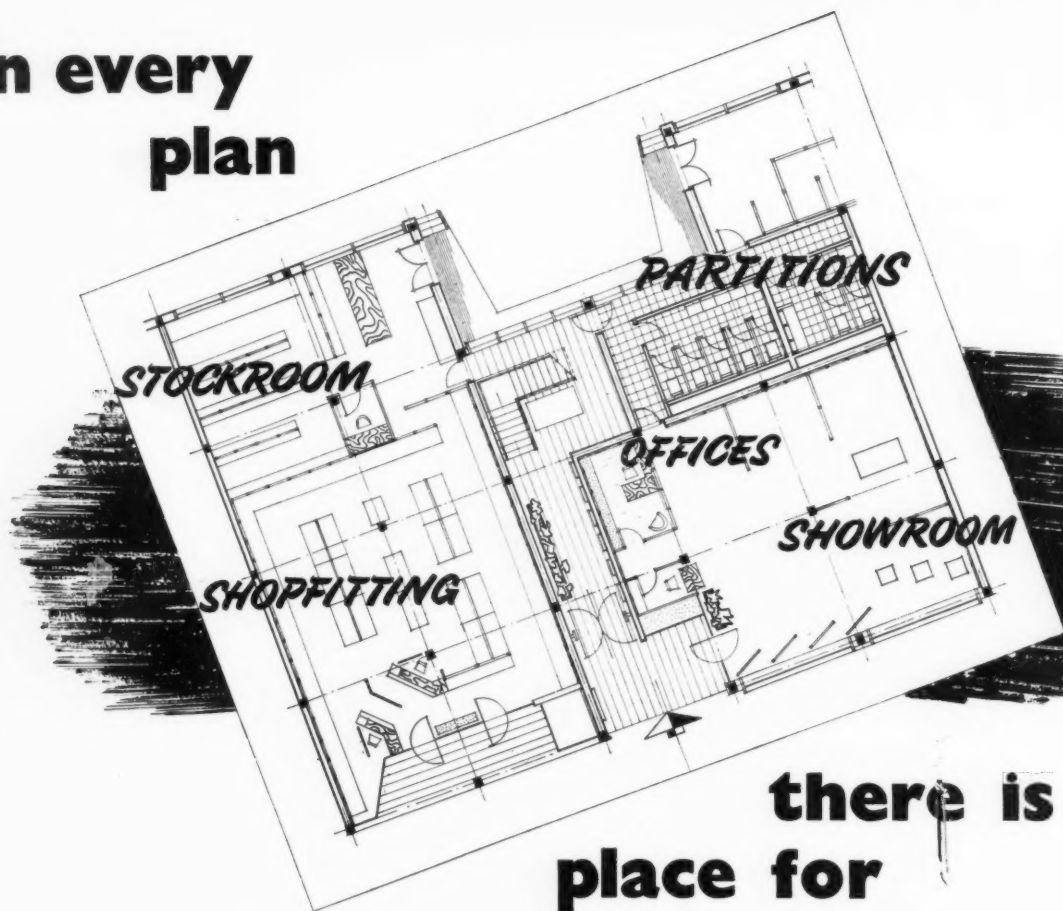
'Potterton' Boilers

OIL-FIRED OR GAS-FIRED



POTTERTON DIVISION, Thomas De La Rue & Co. Ltd.,
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plan**



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There is a wide variety of standardised parts, all of which are fully interchangeable, easily fixed and adjusted.

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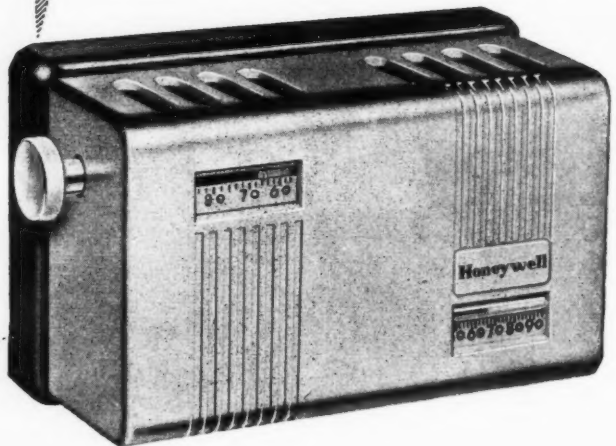
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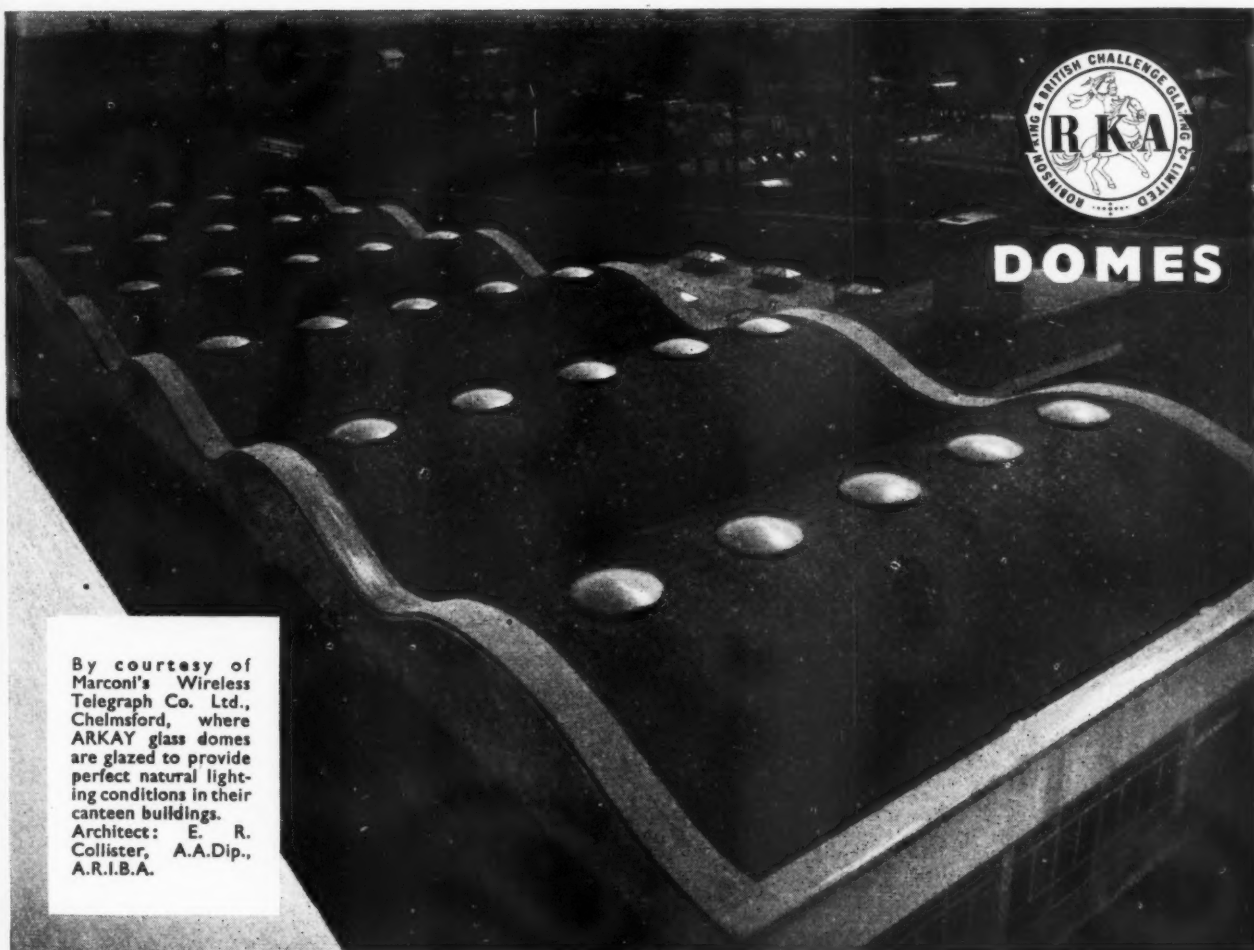
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Master of space "Bob" stands just where
Bill Sykes descends, and cops him fair.
Back at the "Shop" he takes his ease
in showers equipped with L.T.V's.*

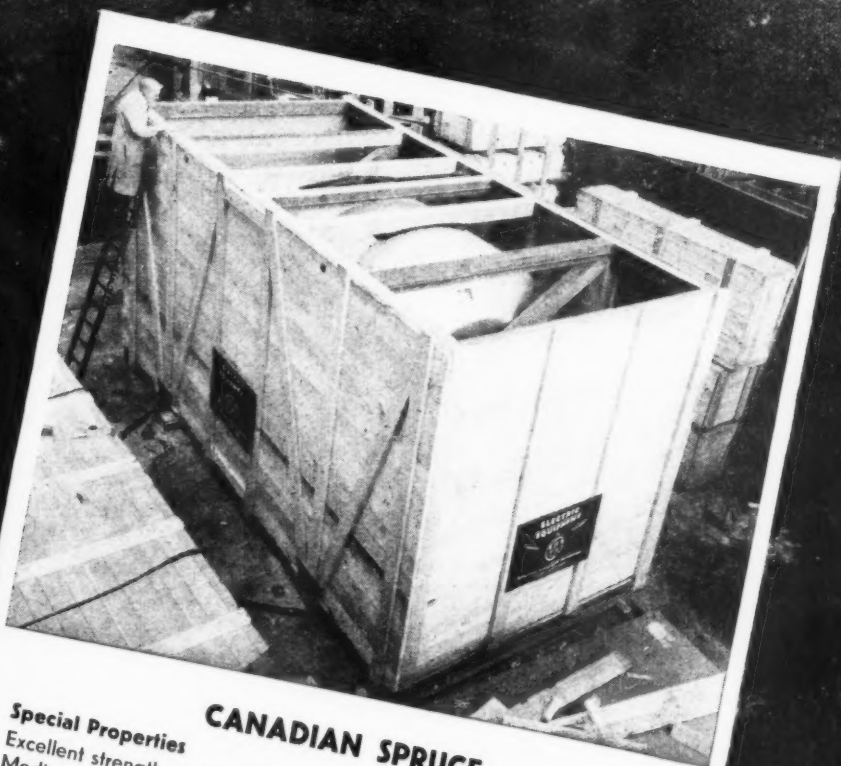
* Short for Leonard *thermostatic* valves which won't scan but nevertheless are used by discerning architects all over the world for showers and basins. More about them in pamphlet No. ZA/2.

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SUPER-VIEW
convector **FIRE**



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★ The "Super" view of the big fire ensures abundant radiant heat.

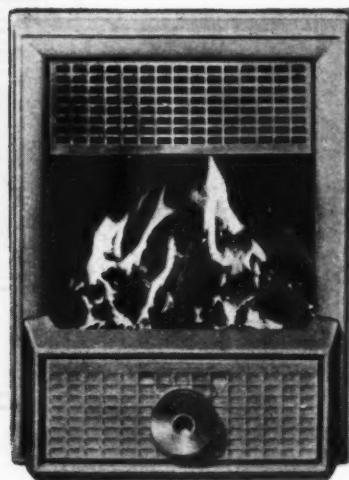
★ A large steady flow of warmed air is delivered through the convector grille over the fire.

★ A variable throat restrictor is fitted and is adjustable for all chimneys. The fire is extremely efficient on all fuels, including smokeless.

★ The **ONE** model fits 20"/24" high and 16"/18" wide standard fire openings with Milner Backs to B.S. dimensions or larger. Easy installation. No structural alterations.

★ In a choice of 8 colours of bright lustrous or vitreous enamels.

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ANOTHER EFFICIENT SOFONO FIRE

SOFONO

LOW-VIEW
inset FIRE

This new 16 inch fixed front fire is another addition to the famous range of Sofono Fires. It has several unusual features which will have strong public appeal. Some of these features are listed below and further information is available on request.

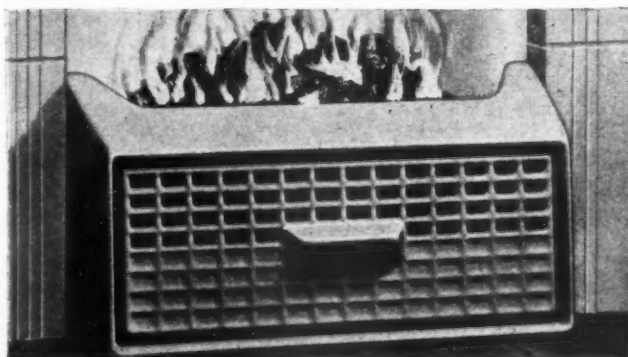
Decorative low level appearance.

Big fire-box capacity (.4 cu. ft.)

Shovel-type ashpan for easy ash removal.

No back legs on bottom grate which may be of long life chrome steel if required.

Novel design of ashpit door.



SOFONO

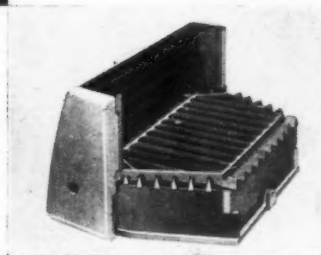
FULL-VIEW
FIRE

Introduced last season, this handsome fire met with complete trade acceptance and earned full marks from the public. Now it has been approved by the Gas Council and the B.S.I. The fire has also been accepted at the Design Centre for inclusion in Design Review



To meet the need for a self-contained unit, easily installed and as easily removed, the Self-Sealing model has recently been made available. It has the same excellent performance the same attractive styling, but is entirely self-contained, needing no bolts or other hearth fixing.

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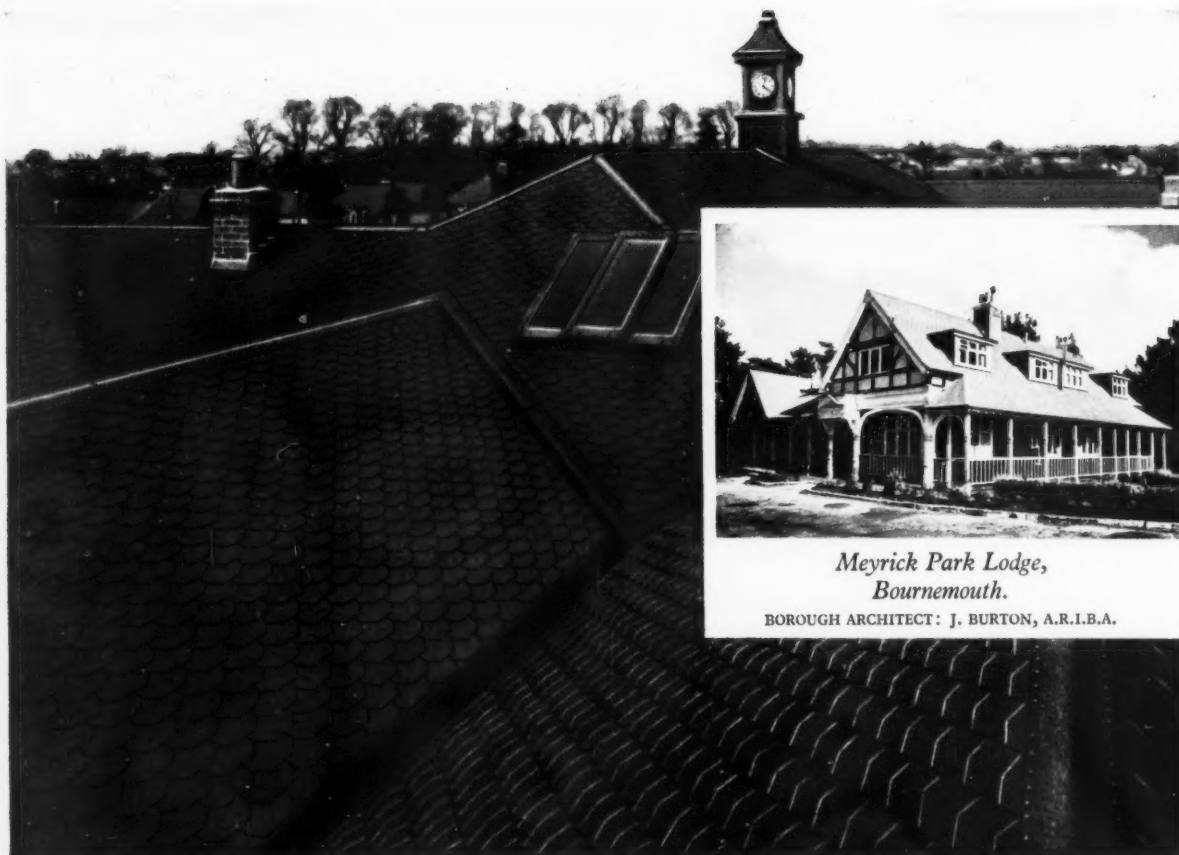
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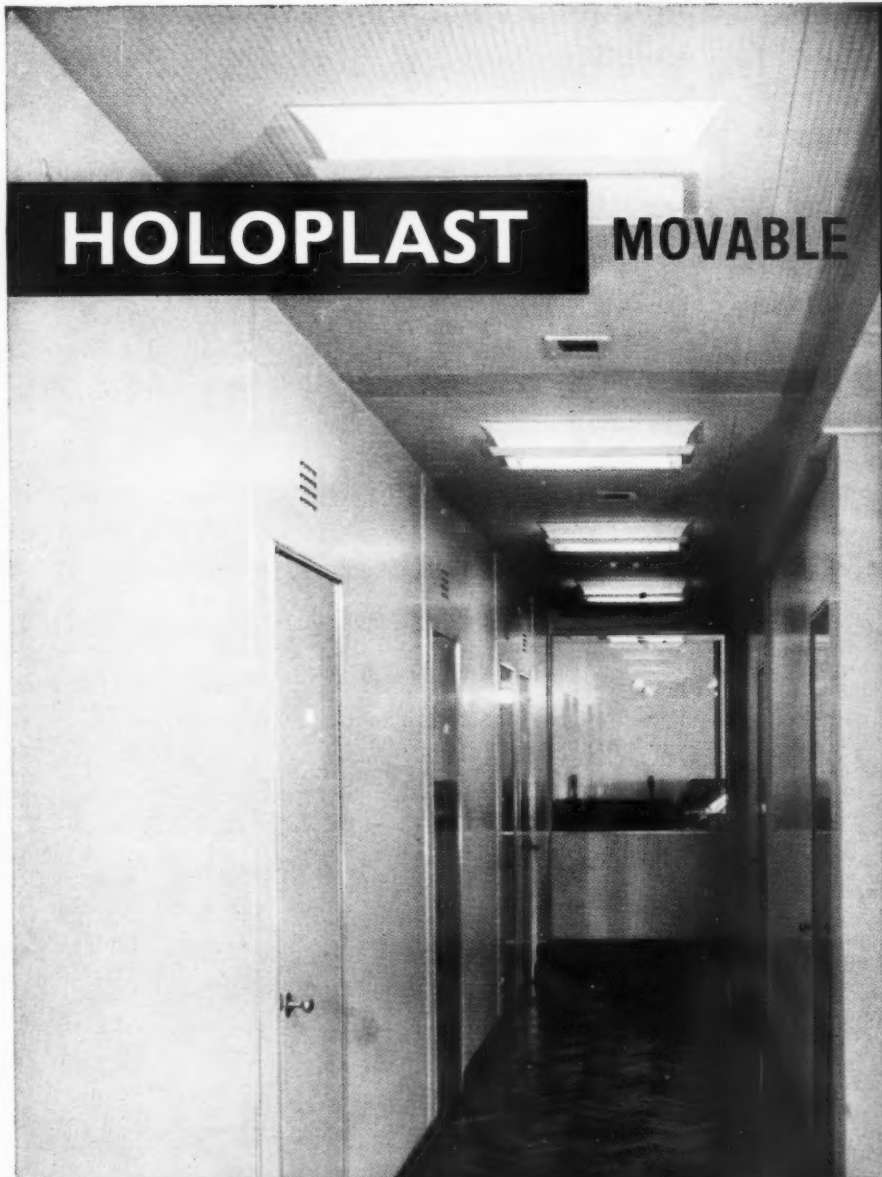
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Design in colour—

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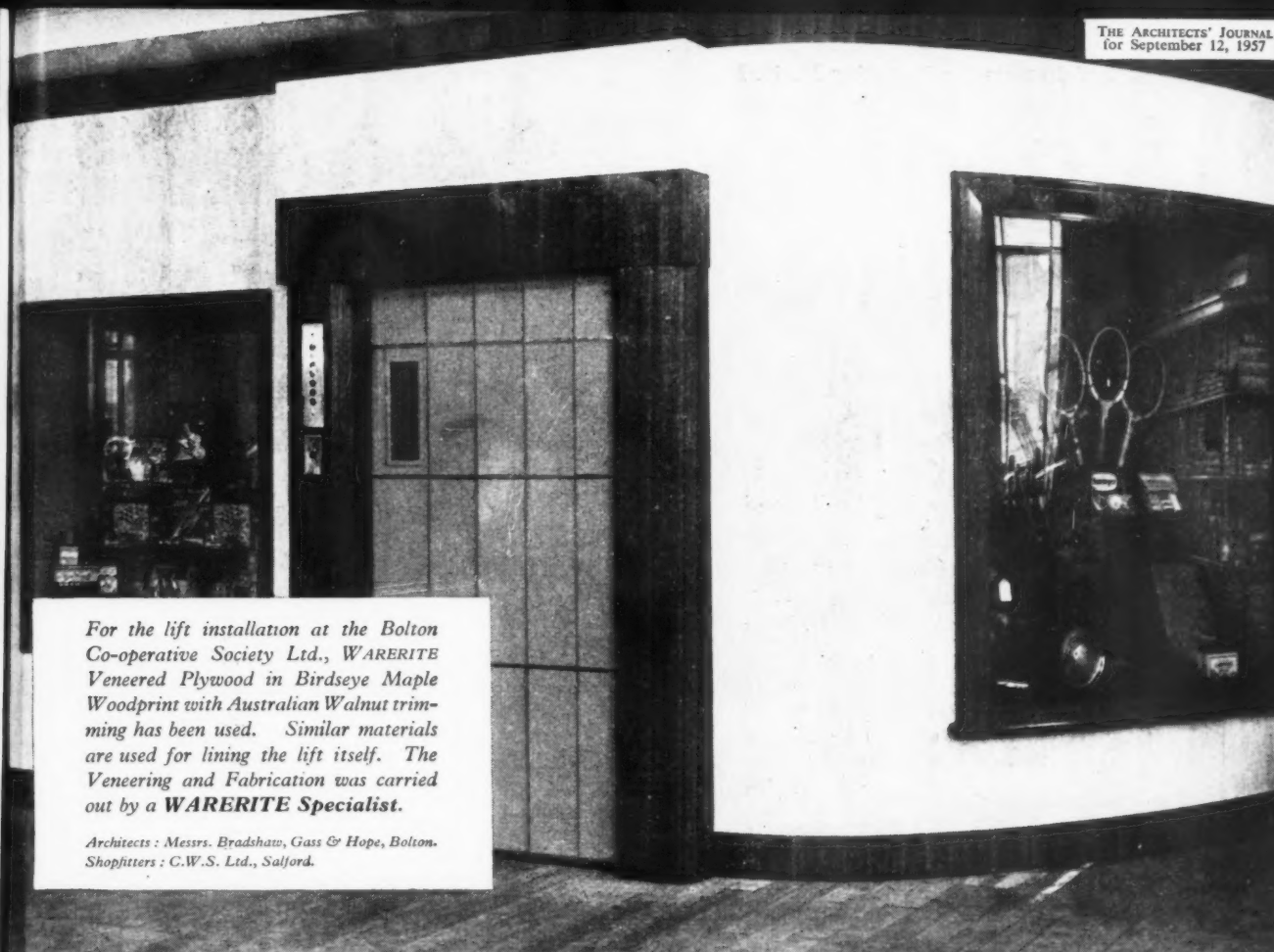
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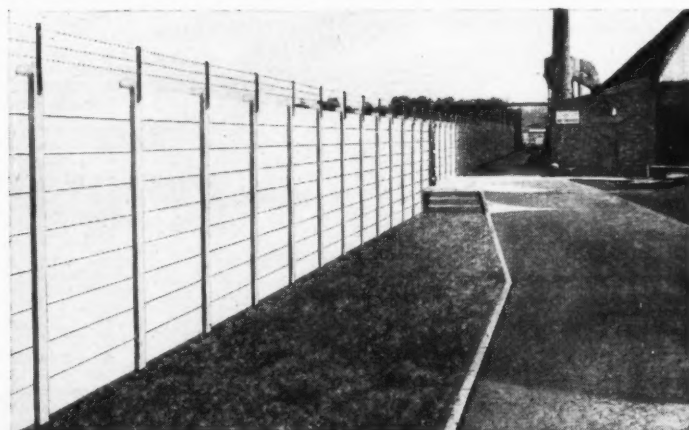
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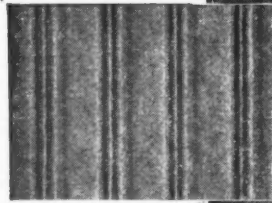
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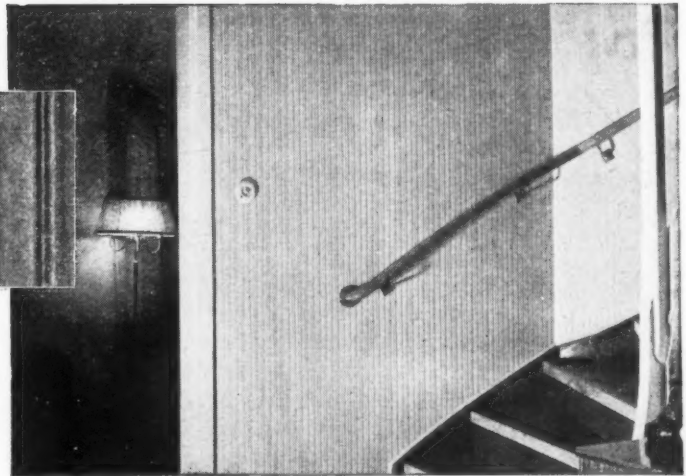
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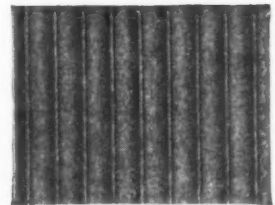
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Type 'A' Moulded Hardboard used as wall panelling in the entrance hall to private house.

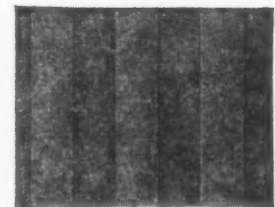


material benefits

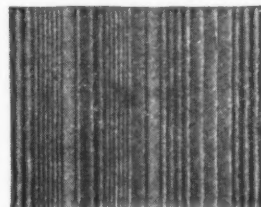
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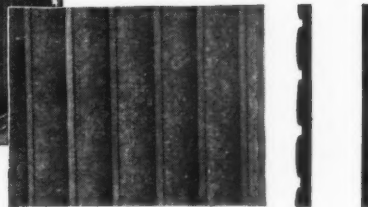
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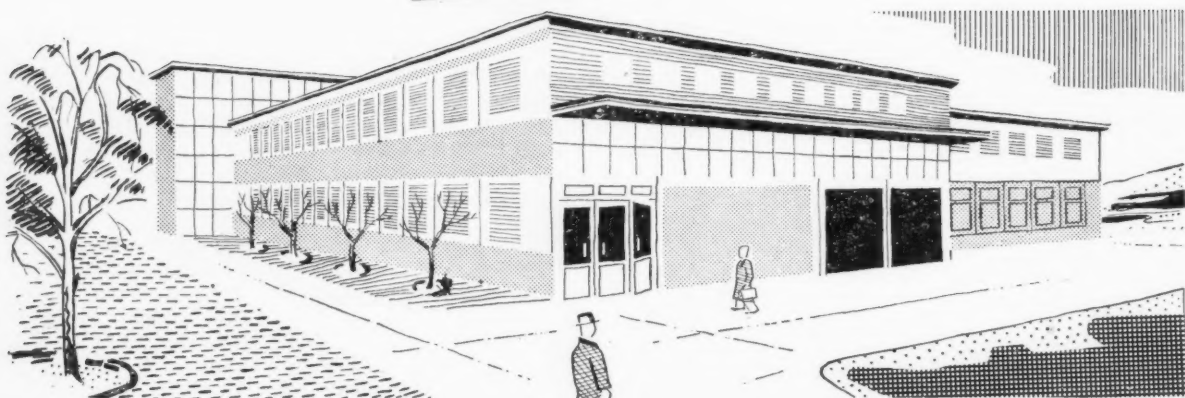
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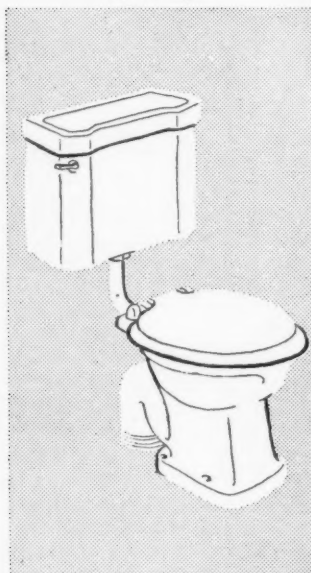
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Armitage Ware



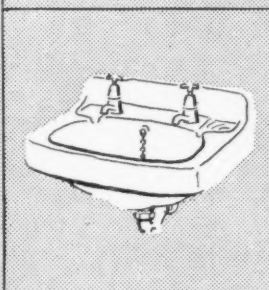
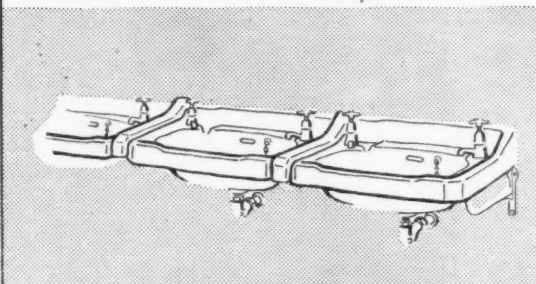
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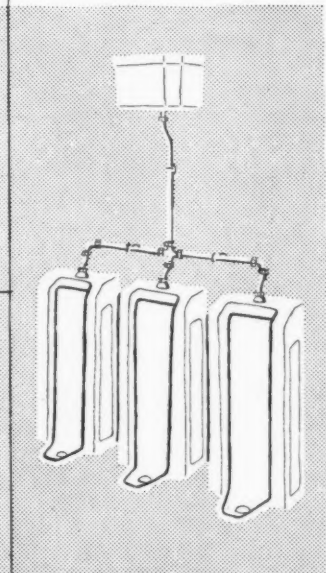
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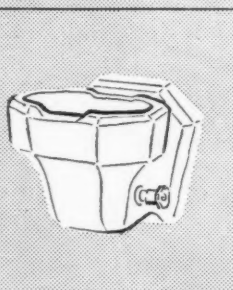


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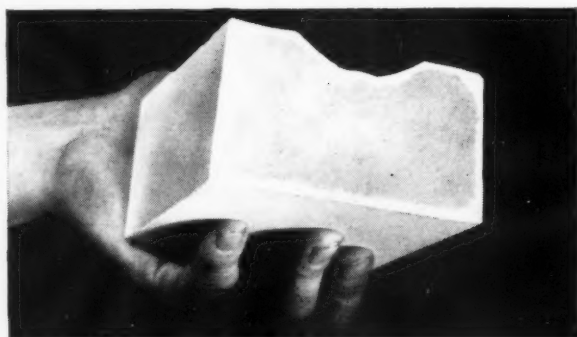
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(Photograph by courtesy of Scottish Legal Life Assurance Society and Trefol Ltd.)



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THE ARCHITECTS' JOURNAL

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NOT QUITE ARCHITECTURE

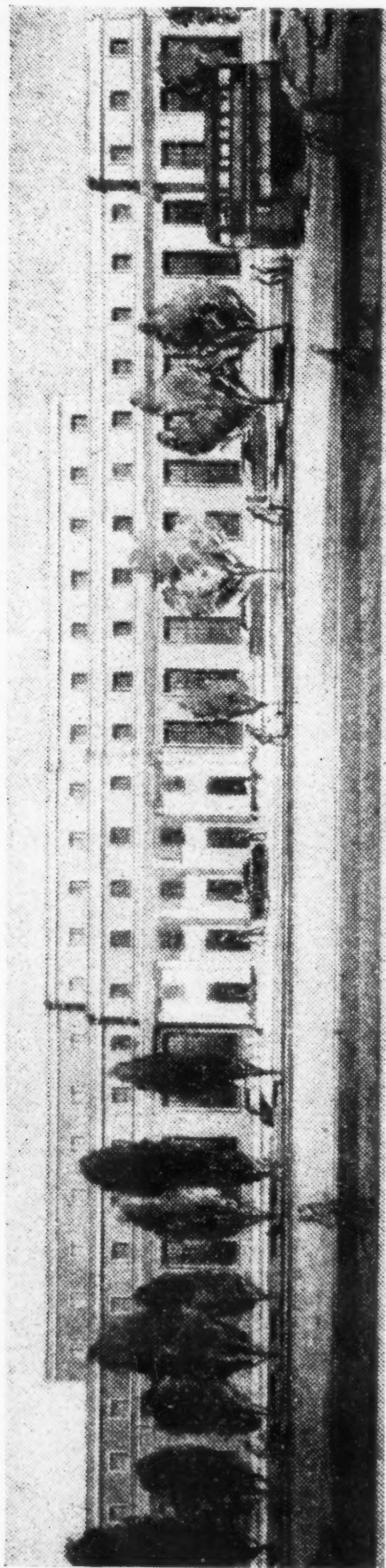
AROUND SIR HUGH'S INNATE WAYS

While Sir Hugh Casson was completing his impressions of America in the "Observer," a disciple from the JOURNAL was on the last lap of his journey to the Edinburgh Festival. Reluctantly we publish here his first and last report of the trip.

"No, sir," the seagull-stained news vendor had said, on the clog-scarred quay of now-receding Whitby: "we don't seem to get no call for the *Observer*, not just now we don't..." We had left him, kip-heavy and kipper-belching, in his worldly-Press gutter, contemplating his naval surroundings and weeping Schweppe-like as we wrung (too hard?) his fag-baggy hand. . . . On to Stockton (where, oh where, the famous dainty Tees?); then Durham, its loveliness girt and dazy with arterial motifs. . . . Newcastle-on-Tyne, but not, alas, on time (the last newspapers were snatched beneath our horrified "no's"). . . . On to Berwick, washed with the Tweed and dusty with the blue surge of *Observerless* observers, watching—with graphic Sunday faces—the culture-hungry tourists.

*

An impatient voice rose over the slop-sloppity-slop of the flagellating fan belt. "We . . . must . . . read . . . Casonova the Boarder," it improbably said. "Huh? Ugh!" My reply was emotion-choked as England became Scotland and the mist-bristling air was filled with the weird "loch-och-ochie, loch-och-ochie" of the crofter sharpening his glen. Old, but somehow familiar, names swam drowsily by: McVitie . . . Mackesons . . . Macleans . . . Harpic. Suddenly I was being awakened, just in time to switch to the Scottish Home Service ("Ceilidhean Dhuneideann") and to change down so we shouldn't overshoot the haar-bedecked city of Edinburgh.



After Woomera, The Tomb

The annual orgy of aeronautical self-congratulation that usually accompanies Farnborough week was tempered this year by allegations that the British aircraft industry was not all it might be, was being feather-bedded by the Government, was selling air-liners it could not produce, producing missiles that nobody wanted, and was in a mess generally. Under these circumstances, and remembering that architecture is the true record of human affairs, the manifest division of mind between the Hawker Hunter fighter, right, and its manufacturers' proposed new buildings at Kingston, above, should not come as a surprise to us, even if it disappoints us. The Hunter will be remembered as the masterpiece of Sir Sidney Camm, as well as one of the last of the single-seat fighters for which Hawkers were famous. The building (executive architects, Norman and Dawbarn; consultant—apparently for the façade—Sir Hubert Worthington) seems likely to be remembered—if at all—as the mausoleum under which the manned fighter was buried. Other aircraft manufacturers, notably Bristol and de Havillands, have built up excellent reputations as progressive patrons of architecture which is as twentieth-century as their products, but Hawkers appear determined to enter the missile age clothed in the glory that was Greece—in the bow-and-arrow age. Their new building is uncomfortably close to Eric Lyons' "Parkleys" flats, but this rash of good modern housing need not bother the Hawkers' admin. men. Fortunately for them, their view of it will be obscured by a large area of pre-war Tudorbethan development.



Gloomily tramless (how gay those flag-towing monsters used to be, with their tartan, stained-glass halt lamps), the unrendered city was otherwise herself. None of her would-be planners had marred her graciousness. No piazza had yet been driven through Princes Street; no new tunnel suppressed the charming gesture by British Railways' employees, who still spewed romantic clouds around the castle rock . . . and no one was taking any notice of the proposal to build a Festival Centre on the site of the Usher Hall, one of the best concert halls in Britain.

But what about that Sunday paper? . . . On we went, past the new Espresso bars (jobs here for redundant tram drivers?) . . . past the changing façades of Princes Street (still a lot of stone unturned) . . . and past the timid, pastel decorations (if ever a street could do without *small-scale* decorations this is it: even bad street furniture goes unnoticed in this magnificent setting). But "on, on . . ." as the much-quoted *Ibid* said (17.4.25—one of his best years) . . . on to the Press club, subterranean, palm-potted and—a let-down this for red-brick journalists—white-tiled. We were greeted with suspicion by Scottish colleagues, and found the reason in a *Times* Festival review. "Three feature films were submitted," said the reviewer, "by the Big Three." *Lucky Jim* was brought over from England, *Carnival* from Russia and . . . *England!*? It was a wonder we'd been allowed across the border. And why, oh why, that tactless remark that I worked a stone's throw from Westminster Abbey?

On again, spurning the half-crown tins of haggis, the "most expensive jumper in the world" and the do-it-yourself sporan kit. Quaint notices everywhere remind the visitor of ancient customs apparently no longer observed—No Parking . . . No Exit . . . Taxi Rank Only. Other notices are studied only by the furtive or the foreigner . . . Glamour Revue Tonight . . . Glasgow Trains Here. Feeling neither worldly enough for the first, nor earthy enough for the second, I slip back to the "hotel"—quoted for reasons best described not by hyphen-crazy-type adjectives but . . . by . . . lots of . . . dots. . . . And there, tea-stained and multi-fingered is surely the most observed of all *Observers* (why is crisp, mat-squatting news so much more of a delight?).

Now to close the curtains on the spartan, tartan, windowed street . . . a supper of grice . . . a hot bath . . . and page thirteen to be bed-read and re-read—another American article from the too-infrequent hand of Sir Hugh Casson. How pleasant to begin a week thus—a week that threatens, among the *kulturfilms*, Bulgaria's *Land*, Germany's *Rain*, and Bolivia's . . . you'll never guess . . . *Folk Dances*. Entertaining . . . evocative . . . informative; who, oh who can persuade this architect to give us more of his witty and unique writing. Yes, unique . . . for none of us can so divinely shape our pens, rough-Hugh them how we will. . . .

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The Editors

GOVERNMENT RESPONSIBILITY FOR EXPERIMENT

MORE and more Government departments are expected to give not merely approval to the ventures of local government and the individual, but precise and detailed advice. Recent short articles in *The Times* and the *Municipal Journal* indicate the trend. In the latter periodical for August 23 a public cleansing correspondent deplored the timidity and reluctance on the part of towns to experiment with new methods of refuse disposal—in particular, by composting. The correspondent pinned the blame for this on to the absence of any guidance from the Ministry of Housing and Local Government. It is a bit hard to blame the Ministry unduly, perhaps, because it has no direct experience in the matter. But that is not the case with the Ministry of Agriculture and its experimental husbandry farms. *The Times* agricultural correspondent recently complained that the Ministry's experimental farm policy needs revision because "no costs are provided even for well-tried methods." The correspondent continued: "most, if not all, the experimental farms are large and expensively equipped, so offering no guidance to small farmers who really need it. On each of these (experimental) farms a holding of 80-100 acres, commercially equipped and managed, with a published annual balance sheet, would be invaluable. The large farms would be more valuable for their purpose if financial results year by year were issued." Here is a farmer asking the Ministry of Agriculture to carry out what architects asked the MOE to do several years ago. It is now generally accepted that the MOE's architects' department, with its almost unique relationship with educationist and administrator, guarantees that the country can get value for money with its schools, provided local authorities accept official advice. And the MOE try almost everything out for themselves before making recommendations—they are no mere back-room boys.

It is of momentary comfort to think that in one aspect of building, architects are better served than farmers are in agriculture, or local government in refuse disposal. But isn't it time that the MOE's example spread to other Government departments? Why cannot there be similar advice on costs from, for instance, the MOHLG on housing, the MOW on office building, and the MOT on roads? If the specialist correspondents referred to above are anything to go by, the

disseminating of cost information by Government departments will be demanded more and more, and rightly so. In this matter architects and quantity surveyors have shown initiative in a gratifying way, but the lead must be maintained.



CRISIS YEAR

You architects have only 110 days left. No, that is not what's left of the grouse-shooting season, nor the number of shopping days to Christmas, but the number of days, before the year 1957 peters out, in which to produce an architectural crisis.

*

The point was made by John Summerson in 1948, and ASTRAGAL, like 99.9 per cent. of his readers, had forgotten it. But not lil' old Doug Haskell, editor of the *Architectural Forum*, for there, in the editorial of the August number, is the quote, remembered so punctiliously from nine years ago: "Crises in architecture occur with singular regularity," wrote the English Critic John Summerson in 1948, 'in fact, once in every generation. If the Functionalism crises can be dated at 1927, the next critical year will be round about 1957.'" It is a bit galling—if appropriate—that John-the-prophet's words go unremembered in his own country (though not, we trust, unhonoured, when we are reminded of them) and that were it not for an American journal, no one would have bothered to look for the crisis.

Editor Haskell thinks change is in the air, a change from the "slick, smooth, scrubbed-down effect of so many modern buildings" . . . "what the art is suffering from . . . is the multiplication of work by the inevitable second-raters." And he goes on to point out that in the face of this situation a small group of fanatics advocate the overthrow of modern architecture and its replacement by "Roman Classical." This, if a serious movement, and not just the ravings of some trans-Atlantic Richardson, is an intriguing idea which will provide a splendid hunting ground for historians of the future. But what of Britain? What movements, or crises, classical or romantic, are there here?

*

That apologia for skimmed finishes, the New Brutalist movement, is now slumbering gently, stirred only by architectural journalists and historians; the pendulum of taste has swung and the cry for lightweight, glass-and-frame, man-handable structures is over, and the demand now is for heavyweight, glass-and-monolithic-concrete stuff—at least amongst the *avant-garde*. The rank and file carry on as before. But where is the crisis? Where the anguished feelings, the desperate struggle for the New Architecture? Where is the modern movement? Where are the keen young chaps who put Leslie Martin in the same age group as Edward Maufe and think the Smithsons and the Howells middle-aged reactionaries who should make way for fresher blood? Where are they? And, where is ASTRAGAL's subject matter for this column going to come from if they don't turn up soon?

SUPER, BUT NOT SONIC

At this year's Farnborough Show—where bangs were forbidden and piloting skill was presumably a matter of getting as nearly as possible sonic—the accent was on guided missiles and their controlling devices. The only new excitement was the Saunders Roe combined jet and rocket fighter, which, apparently, the Air Ministry says it doesn't want. If the English Electric P2 is really going to be the last manned

fighter it will presumably be on show for another year or so, after which most of the glamour will be gone, except for those who are interested in transport machines. My advice to those who merely want to see close ups of high-speed flying is to make certain of going next year.

MIDDLE-AGED MASTER

When ASTRAGAL was a good deal younger he used to go on photographic trips from time to time with Herbert Felton, and still has a vivid recollection of eating enormous meals and being made to carry trunk-like suitcases full of tripods, plates, floodlights and miles of cable. Felton has been tirelessly photographing architecture and landscape since the 1920's, and his photographs have appeared in dozens of books without much more than conventional acknowledgments, quite apart from his regular work in the architectural papers. ASTRAGAL, therefore, would like to give a glad hand to Felton's *Portrait of English Cathedrals**, which is a collection of first-rate photographs supplemented with brief comments by John Harvey. It should perhaps be added that the title means what it says, and that Wales and Scotland are excluded, as also are the parish churches which have become cathedrals, such as Chelmsford and Wakefield. The four modern cathedrals, Truro, Liverpool, Guildford and Coventry, have also been omitted, but at 30s. several photographs of each of 26 cathedrals are a good deal cheaper than a set of postcards and very much better.

UNFAIR TO WHOM?

In a thoughtful editorial, the *Architect and Building News* has raised once more the vexed question of who gets the Royal Gold Medal, and (by implication) why. Stamford Street statisticians have ascertained that out of 108 medals, 67 have stayed in England, 16 have gone to France, the same number to all other European countries, six to USA, one to Russia and two to the Commonwealth. It makes you realize what a hotbed of genius our tight little islands are, and how bad architecture must be in the rest of the world.

*

Seriously though, there is room for some massive re-thinking, not only to silence the students' complaints that

* Batsford 30s.

Mies won't get his before he dies, but in more general terms as well, if the medal is to maintain its standing both as an award of merit, and as an international institution. It is fantastic that her Majesty's advisers have failed to notice the existence of any architecture in South America yet; might one respectfully suggest that the names of Oscar Niemeyer and—even more deserving—Lucio Costa be borne in mind. Nor have they noticed the contribution made by engineers (the award is not restricted to architects), but Nervi is surely ripe for the honour. And what about the contributions to architecture of the historians and theorists? Even before we go abroad to the Giedions and the Hitchcocks, Geoffrey Webb merits the medal.

*

The Commonwealth situation raises an interesting problem, however, and one that will get worse before long. While there can be little doubt that both Jack Fassler in South Africa and Harry Siedler in Australia should be high on any short lists, Canada confronts us with the situation that the most deserving architect is a partnership, J. B. Parkin and Associates, who ought not to be considered separately, and probably wouldn't want to be. Some rapid re-thinking is required here because, the way things are going, more and more good buildings are going to be the product of well-balanced teams, and sooner or later the medal will have to go to ACP, and to SOM.

DISPLAY TECHNIQUES

It's not often that a display designer gets a book all to himself, but it is probably better to have a publication with some unity about it than a collection of pithy pictures from all and sundry, shuffled together with rather vague captions.

*

Mr. Pick's book*, although rather expensive, has plenty of photographs with his own explanations of what he was trying to do, and how he did it. Mr. Pick's design work is very uneven. It is hard to believe, for instance, that the same man could produce the really delightful snow crystals in Regent Street two Christmases ago and the Tudor roses for the same street during the Coronation. Clients, of course, too

* *Display Presentation*. By Beverley Pick, F.S.I.A. (Crosby Lockwood, 50s.)



A display of building materials at the Building Exhibition . . . in Moscow. Which reminds ASTRAGAL that our own Building Exhibition is nearly upon us (November 13-27), and that it will soon be too late for manufacturers to order reprints of their Information Sheets in time for the bi-annual jamboree. So if any manufacturer's eye falls by chance on this page, a flattered ASTRAGAL greets him and warns him.

often have ideas of their own, and an association representing too many shopkeepers could be worse than any single client.

*

Mr. Pick is obviously happier working for display-minded firms like ICI, Shell, and the air lines, and it seems that (like most of us) the freer his hand the better he gets. My only quarrel with his book is that it should have had more to say about stand planning in general, and that most of the stands would be more intelligible with plans. The only two plans in the book haven't even got a scale.

decorative effect on August 5, 1957." If only the first chicken (or egg) to produce an egg (or chicken) had had similar foresight. . . . The only thing that worries me, though, is how one finds room for cacti on the rear parcels shelf among all the stuffed tigers, Nenettes, paper handkerchiefs, forgotten umbrellas, route books, venetian blinds and—goodness—*that's where it is.*

ASTRAGAL

WHERE TO PUT YOUR CACTUS

Those of my friends who chart the tides and currents of thought and taste often moan that their tasks could be much simpler. If only, they say, men who have world-changing ideas, like the invention of the arch, the discovery of fire or the introduction of Espresso coffee, would note the fact on a piece of paper. This would benefit posterity and prevent futile arguments about who—apart from the Russians—thought of it first.

*

Posterity and others will doubtless be grateful to a recent correspondent to *Motor*, whose letter ended "To forestall any subsequent controversy, my car, registration No. 57LMY, first introduced cacti as a rear window



Collectors of examples of early functional design in furniture may be interested in this parasol-shaded table (dated 1810) which a colleague of ASTRAGAL collected in Amsterdam recently at an exhibition of objects from the Paris Musée des Arts Décoratifs, titled "From Gothic to Empire."

CRITICISM

What Readers Think

On August 29 J. M. Richards wrote a critical review of a garage and service station at Harlow, designed by Maxwell Gregory. Last week we published a reply by the consulting architect, D. A. Birchett (wrongly described as the architect). Here are some readers' letters.

SIR,—We were particularly interested in Mr. Richards's criticism of the garage and service station at Harlow because although unfortunately we have not seen this station, we are engaged on designing similar buildings for another petrol company.

When we were first approached on this problem in 1953, we suggested a form of construction using standard structural components. However, our clients decided against this in favour of a more traditional method, and although we are still not certain, they were probably right for four main reasons.

1. It would almost certainly have committed them in advance to a fairly large programme, with a regular flow of orders, which would in fact be difficult to ensure because suitable sites for which planning approval is obtainable are not easy to find or acquire.

2. Generally these station buildings are much smaller than the one at Harlow, and rarely consist of more than a lubrication bay, small accessories sales room, store and office, and sometimes a washing bay, even though the forecourt is quite large.

3. A number of these stations are small alterations and additions to existing buildings, with most of the work confined to the forecourt.

4. The stations are dispersed all over the country, often in isolated places where it is hard enough to get contractors to tender for such small works without reducing the work further by increasing sub-contractors work.

We consider that glazing should only be used to let the public see what facilities are available and to provide normal light. A high standard of natural light is not much help for work on motor vehicles, and large areas of glass are not only expensive, but often create bad working conditions due to poor insulation against cold and heat.

We were especially interested in the remarks about colours, as we are faced with the same problems and have so far been unsuccessful in our efforts to get these properly related to the buildings. It is not the actual colours we object to, but to the rigid application of bands which run round everything. This we feel is completely unnecessary and unsympathetic, and that by using standard designs and the same colours carefully placed, the customer will readily recognise the "brand" and admire the station more.

R. DEREK HAMMETT,
C. A. ROGER NORTON, F./F.R.I.B.A.

London.

SIR,—“The roadside service-station . . . is one of the best examples of a building that serves an identical function wherever it is placed.” Since its placing both from the consideration of site restrictions and from its position on the landscape largely controls how it functions, the use of standard components and modular planning does not necessarily follow.

The prime function of any service-station, whether we like it or not, is to sell petrol by attracting the passing motorist and if we are to avoid excessive advertising clutter and for that matter foreground clutter the element of attention must be the building itself. A sort of 20th century folly in the best tradition of the word.

Prefabricated systems may be highly suited to an expanding schools programme when building materials are in short supply, but they do not produce good architecture just like that; anyone who has designed with these systems, except those with a modular axe to grind, knows only too well their limitations. Where good architecture has resulted it is more often than not the result of an ingenious departure from the standard component—notice the detail junctions at Harlow. In any case detailing in standard systems has a long way to go before it will withstand close proximity to the motor industry.

Only a few architects have so far had the opportunity to examine the problem of the service-station at all thoroughly and there is, surprisingly enough, plenty of room for experiment and research. Any attempt at standardisation at this stage or regional control, except on the lines of the Ministry of Education, would kill this field of architecture stone dead; it has had one foot in the grave quite long enough.

JOHN BURKETT, A.R.I.B.A.

London.

OTHER LETTERS

Richard Eve, A.R.I.B.A.

Franklin Medhurst, A.R.I.B.A.

Martin Fisher

Rape Of Milford Haven

SIR,—Your article on the rape of Milford Haven is terrifying. At present the damage done to that area is little. To integrate a sea port and industry into such pleasant landscape successfully, an organization similar to the Tennessee Valley Authority will be required because regional problems will arise. Consider road transport. Traffic from both banks of the Haven must pass through St. Clear and Carmarthen; that bound for England encounters the bottleneck over the Severn at Gloucester. Intervening places such as Brecon, Monmouth, Abergavenny, Newport and Chepstow become involved—and the through streets of these are loaded to capacity already.

The issues are wider than nature conservation versus factory pollution. Here is a first class challenge in regional planning from the broadest aspects to the individual components, with the opportunity of showing how industry can contribute to a landscape and how communities finer than New Towns can be built. Since the war such challenges have been met and mastered by teams of designers working for enlightened authorities—the Hertfordshire County Council in schools and the London County Council in housing to name the obvious two. This opportunity in Wales is larger and more comprehensive, but how we shall have failed if Milford Haven becomes a slightly ameliorated Swansea or Cardiff.

That the politicians have paid so little attention surprises me. Have the Laborites—particularly the Welsh ones—failed to observe the possibilities? Or will the Labour party never overcome its fear of

having “ground nuts” called at it across the House? Is it ingenious to look for a wide outlook in the present Minister of Housing and Local Government? Or do Tory concepts entirely inhibit foresight?

Perhaps the politicians could be awakened by paper proposals from groups of architects and planners working as free-lances. If the results of these are not entirely practical and economical all but the wildest will probably prove less wasteful than the haphazard development envisaged at present. I hope, sir, that you will continue to report on activities at Milford Haven until the pressure of opinion ensures a top rating development that enhances rather than destroys the present landscape.

RICHARD EVE.

Herts.

SIR,—The analysis of industrial expansion in Pembrokeshire is good, but the proposals are parochial. If the sanctity of a National Park is to be violated in the national interest, it must be done by a public body. The proposed maritime developments will affect every activity from Newport to Fishguard, but this is only the beginning. The South Wales coalfield runs across the south of Pembrokeshire and its valuable anthracite will no doubt produce the familiar skyline under the impetus of uninhibited industrial opportunism. The proximity of coal and a “major European port” will find manufacturing industries outbidding each other for sites. Add to this the unco-ordinated scatter of houses and pylons and Britain's fifth National Park will be no more than a footpath around the north coast of the county.

Milford Haven has for long been a neglected extremity of the South Wales industrial region, and now that its possibilities have been recognized, their realization cannot be halted more than temporarily by finding a substitute. Sooner or later it will be used for its supreme purpose and its location must inevitably link its economy with the industries of the South Wales coast. The economic unit is the area stretching from Pembrokeshire to West Monmouthshire. The social and physical unit should include Cardiganshire and South Brecknockshire (another National Park). To integrate the ventures that are about to happen, a regional development board should be set up for this area, responsible directly to Parliament. Such a board should be comprised of the technical representatives of the interests concerned—agronomists, economists, sociologists, engineers, architects, etc., trained in a common discipline, i.e., planning—collaborating within a statutory brief and employing a constructional labour force to exploit the industrial potential of the region whilst retaining its amenity and developing its indigent activities. Less than this will see the industrial and residential expansion of the Midlands repeated in Pembrokeshire within two decades.

FRANKLIN MEDHURST.

Cheshire.

Thoughtless Crassitudes

SIR,—Can nobody stop Astragal and his crassitudes? Now we have the most ill-considered observations on the design of churches, with particular reference to the U.S.A.F. Chapel at Colorado Springs. In a high-handed, supercilious and holier-than-thou attitude he has passed over something of merit without thought.

He has failed to consider, seriously, any connection between aircraft design and a similar expression in church building form. Let him (if he will) examine our own earlier churches. Were they not influenced by the shipwrights?

MARTIN FISHER.

Somerset.



AA

Visit to Berlin

A recent five-day visit to Berlin arranged by the AA included several visits to the Interbau Exhibition, coach-drives through the Western and Eastern Sectors, and a sight of the almost-completed Conference Hall and le Corbusier's Unité Berlin. Gilbert Marsh, who went on the AA trip, has sent in the following report, which is illustrated overleaf.

West Berlin's prosperity is in constant danger owing to their partial dependence on subsidies and supplies from the West. The Kurfürstendamm has now become one of the important streets of Europe for its sparkle and vigorous rebuilding. Considering that apart from what can be made from scrap and rubble nearly all building materials have to be imported, the large areas of rebuilding are no small achievement. Office blocks up to a general town planning maximum of 17 storeys have become commonplace, being generally sited to give importance to street intersections.

The first multi-storey garage is nearly completed, and although traffic is fast by London standards (there is no speed limit) since there is at present one car to 18 of the population and the roads are spacious, the number of private cars is expected to double in the next ten years and existing buildings are being demolished to widen roads at already congested spots. The importance given to good traffic circulation, including a new Autobahn ring road with underpasses round the city, compares oddly with the apparent parsimony and lack of foresight which characterizes our road planning.

The development of the Berlin Underground, the U-bahn, has always been restricted by the difficulties of tunnelling in sand and the high water table which involves opening up to road level, constructing and back filling. However, a new North-South line is at present well advanced and the total length will be approximately 30 miles by 1960.

"Getting away for the weekend" is a luxury for most West Berliners, since using the border to go into the East Zone costs just under £1 return. Since the only natural open space is the Grunewald Forest and the Wansee, altogether some 20 sq. miles for 2.2 million of the population, the city and park authorities are very keen to create green spaces. A brilliant achievement has been to create new parks in the centre of the city in densely-populated areas, often where housing once stood. Unusable rubble has been piled into small hills some 100 ft. high, in some cases obscuring vast air raid shelters which were impossible to

remove. The hills have been covered with 18 in. of earth and landscaped with small trees, winding paths and flowers. It has been found that the rubble holds moisture even in the driest weather. The team responsible included architects, planners, landscape architects and engineers. In the Kreuzberg area alone, where over a mile square was left without a complete building, it is said that more rubble has been removed than from the whole city of Hamburg. Tracing the owners of property is a long and difficult task before rebuilding can take place. It is here, on the edge of the East Sector, that a current town planning competition envisages a new Tiergarten administrative quarter.

The Senate of West Berlin, although it owns no apartments, lends money at low interest rates and acts as trustee in the construction of new housing schemes until these are handed over to private companies. Rent is also fixed by the Senate. In addition to the high pre-war density in working-class areas where flats look on to internal courts, 320,000 apartments were lost through the war, and at the present replacement of 20,000 dwellings per annum the remaining deficit of 100,000 apartments will be built by 1963. It is said that there are no homeless in West Berlin, although most families have to share flats and houses at present. It has been found that by using one point block in a new housing scheme surrounded by four-storey flats, the high density can be maintained in a city starved for space, while allowing great improvements in light and air. Small week-end huts are very popular, and with small gardens and trees they cover large allotted areas. In one housing development where the site had several owners, the blocks were built to an overall scheme and costs and ownership divided out among the site owners proportionately. Their highly-developed civic sense was also noticeable where in one case the two top floors of a house were voluntarily demolished by a private owner so that a lower roof line could be maintained for new flats in relation to an old church adjacent. Some house owners, spurred on by the predominantly bright yellows and blues of new flats have painted old houses to match. It is not difficult to see why Berliners were amused at the photograph in the British Pavilion of office blocks on the Albert Embankment rising each side of an isolated house. This pavilion, incidentally, is woefully short of information and interested visitors are asked to write to the Foreign Office.

The population of West Berlin was 1.8 million immediately after the war, now it has increased to 2.2 million. 1.3 million now live in the East Sector, and when the total population has reached 6 million, satellite towns are intended to be built. Refugees enter the West Zone at the rate of 400 a day, and these must prove their need to stay. For those that are not flown to West Germany, four-storey cheap terrace houses have been built at low rents since the occupants bring little of value with them. They must wait their turn for work, since there are 100,000 unemployed in West Berlin, mostly clerical workers. Building labour is fully employed, and night work is not unusual. The Western Sectors were cut off from gas, electricity supplies and, sometimes it is said, from water during the Blockade. As to the truth of the situation, there are always different sides to every story according to the zone in which you live. Nevertheless, a new gas-producing plant has been built in what would normally be a bad town planning position. A new electric power station has also been built; the equipment was flown in and the station was working three months after East Sector supplies had been cut off. It is along the East-West border (which is sometimes the façade of houses along one side of the street, sometimes a kerb or even the centre of the road) that unexpectedly heavy traffic

has developed: new shops are doing a brisk trade with East Berliners at the unofficial rate of 1 DM to 4.5 East Marks.

It is against this background that the Interbau was designed. As readers will know the redevelopment of an almost-completely-destroyed, upper-middle-class area in the Tiergarten was seized as an opportunity to show what modern Berlin could do, and to provide a good reason to go to an isolated part of a city that exists largely for political reasons.

The decision to commission foreign architects was certainly imaginative and it does provide a rare opportunity of seeing the national characteristics of modern architecture side by side. Unfortunately, however, the block layout with its monotonous heights for differing elevations is unconvincing and the junctions between slab blocks are poor. The massing does not have the completeness of the LCC Estate at Roehampton, and it is understood that blocks were being moved about haphazardly and without reference up to the moment of excavation. The one factor that can unite the scheme is planting: this is already very promising and is beginning to provide a continuous thread at ground level. The effect of these blocks is one of unexpected space and we now have a yardstick by which to judge the massing effect of several large blocks. It would be unfair to make comparisons between the work of various architects since the scheme is now only three-fifths complete and premature criticism is of little value.

The Senate has been over-anxious to ensure that buildings designed by architects of different countries should be suitable for Berliners, who have their own tastes and conventions, and this has caused many difficulties. In addition to each building's architect, there is a German executive architect, a landscape architect, the Interbau exhibition architect and the Hausa AG architect, all of whom have something to say. Professor Ebert, who was executive architect for Professor Gropius' block, was sometimes involved in ten revisions to his sketches by various authorities. The clarity of expression has inevitably suffered, and it is understood that 75 per cent of Alvar Aalto's drawings are back in Finland, unused. However, the beautifully conceived spaces and wall planes in his flats remain, together with his abstract ceiling composition (see the photograph overleaf) in which he worked out every line. The four-storey block by Professor Gottwald, which is the cheapest to date, has a fine open plan, the only fixtures being kitchen units parallel to the cross walls on the north face and an internal bathroom. The remaining space, 15 ft. by 25 ft. approximately overall, can be divided up by partition walls according to the tenant's wishes.

Other buildings (further details were given in the JOURNAL for August 15) include St. Ansgar's Roman Catholic Church (photograph overleaf), which is unimposing externally perhaps but beautifully spacious and confidently asymmetrical inside. The architect was Professor Kreuer, and the first service was held on September 1. The "Stations of the Cross" on the right of the interior photograph have beautiful sombre colours against a white wall.

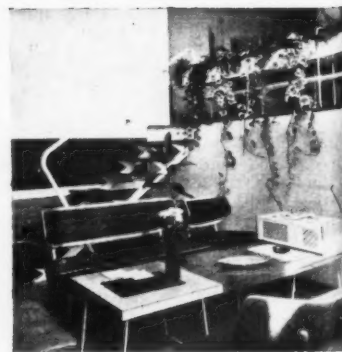
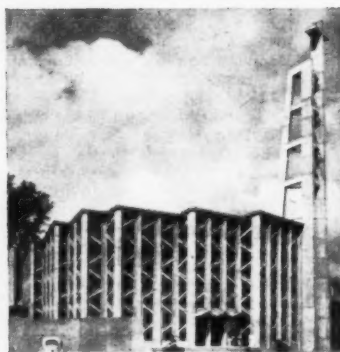
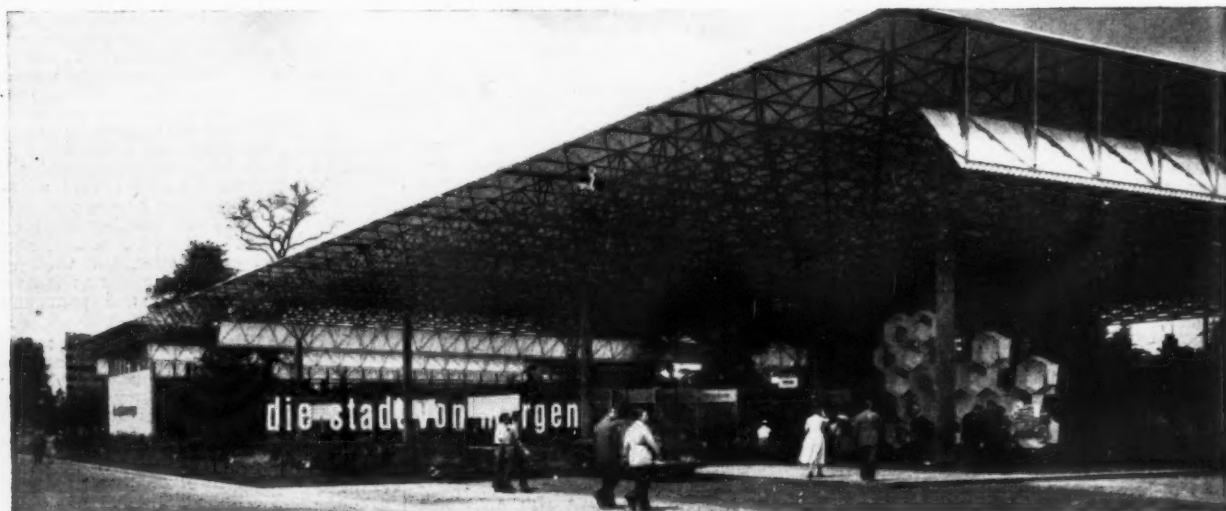
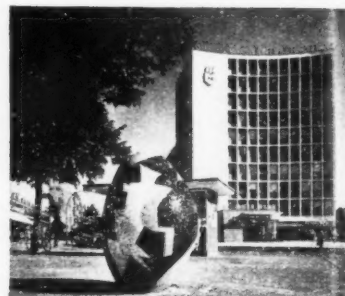
"The City of Tomorrow" Exhibition building is roofed with plastic impregnated canvas, supported on wooden "skis" attached to a tubular steel space frame on round r.c. columns spaced at 53 ft. 4 in. and 66 ft. 8 in. centres. Below this roof is laid out a thoughtful town planning exhibition on different levels, giving clear views into some of the few mature trees that remain in the Tiergarten.

The concrete work on le Corbusier's Unité Berlin is some four storeys higher than when the photo on page 384 was taken. The proportions are not as successful as might be expected, largely due to the 8 ft. 2 in.

(Continued on page 386)

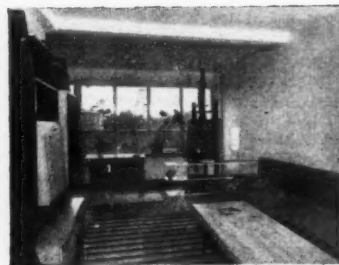
MORE PICTURES FROM THE INTERBAU, BERLIN

On these two pages are some of the features of Berlin architecture that a correspondent describes on the previous page. Right: new buildings on the Kurfurstendamm, "one of the important streets of Europe for its sparkle and vigorous rebuilding." Below: the "City of Tomorrow" exhibition building is roofed with plastic impregnated canvas, supported on wooden "skis" attached to a tubular steel space frame on round r.c. columns. The church beneath it, St. Ansgar's, has just been opened. It is "beautifully spacious and completely asymmetrical." The picture to the right of it shows the sort of interior produced in Pierre Vago's flats which have varying ceiling levels.



Below: the exterior and an interior of the Corbusier block. "The proportions are not as successful as might be expected, largely due

to the 8-ft. 2-in. ceiling heights and the repetitive window mullions." Right: top, the congress hall; bottom, the abstract ceiling composition under Aalto's block of flats.





News—continued from page 383

ceiling heights, and the repetitive window mullions.

The Congress Hall, architect Hugh Stubbins (U.S.A.), also illustrated, has a fine interior, with sweeping curves and seating for 1,200. Below the platform, 325 ft. sq., with its compensating horizontal line, is a flowing space of entrance and exhibition halls, a restaurant, studio theatre and various offices. The vigorous life of the West made the drabness of the East sector most depressing, the only large area of rebuilding seen being the much-vaunted Stalin Allee. There is indeed a certain irony that in the East, the "democratic sector," the effort appears to go into vast impressive monuments and axial avenues of reactionary architecture while in the "undemocratic" West there is the truly social achievement in building homes, in the face of many difficulties, to replace those destroyed. "To believe in anything these days is a luxury," said a German wit recently. The rebuilding of the Hausa Quarter shows that those who still believe can achieve results.

The architects who might plan a trip to the Interbau on the lines of the AA visit, will be interested to know that £30 per head covered the air charter travel for 38, all coach trips and a night at the opera.

YORK INSTITUTE

A Landscape Course . . .

The success of the new three-week course on Landscape Design first held by the York Institute of Architectural Study in 1956 led to its repetition last month. It was a "studio" course for students of architecture and planning, or for landscape students taking the ILA examinations externally, and consisted of three design problems of varying scales, each lasting a week. A. B. Grove, in private practice at Nottingham, H. F. Clark from Reading University and G. F. Chadwick from Manchester University were the tutors.

This year the course was joined by members of the staffs of local authorities in Shropshire, Somersetshire, Durham, London and Nottingham, and by overseas students from Australia and India. John Kelsey, a planning student from Nottingham, was given a grant by the York & East Yorkshire Architectural Society to enable him to attend the course. Apart from the architects, there were two planners and one horticulturalist, thereby making an interesting group which allowed a useful interchange of ideas. Within three weeks an intensive programme was carried out with the aim of concentrating the virtues and pleasures of academic life, while avoiding its pedantry. The course included discussions between students, design work under studio conditions (a rare opportunity for many landscape students), visits to great landscape gardens (which are in themselves object lessons in scale relationships), lectures and tutorials.

For the first week the "problem" was to prepare a scheme for playing fields, planting and all "outside works" for an existing secondary modern school in York of traditional construction, and to include the siting of the school garden and caretaker's house. The building stands on the higher part of a site overlooking an area which has been tipped before levelling for playing fields, and one which gives reasonable scope for imaginative design of related spaces of various sizes defined in building and plant materials, floorcape and terraces taking in a view across the Ouse valley. The sketch schemes produced exploited these possibilities to varying degrees ranging from the functional to the romantic. The second week's "problem" involved the landscaping of a local authority housing estate in a York suburb. The small-scale "problem"

The top picture on the right shows a proposal for offices in Eastbourne Terrace, Paddington, designed by C. H. Elson and Partners. Below it is a project for Montreal, which Webb and Knapp (Canadian architects) have designed for the development of Canadian National Railways' terminal area around Central Station. In addition to the 40-storey office building, the master plan shows buildings for later construction. These include the transportation centre in the foreground (with helicopter landing area on roof). The large convex-roofed building in the centre would house the CNR headquarters general offices and between this and the tallest office block is a 20-storey office block, which would face Dorchester Street between CNR's Queen Elizabeth Hotel, now nearing completion, and the International Aviation Building.



tackled in the third week was to provide a new layout for the short street leading to the west front of York Minster. This problem, analogous to that of St. Paul's in its need to reconcile the conflict between a proper setting for the Minster and the trunk road which runs through its precincts, proved to be as good an exercise in townscape as it was in the detailing of a small public space. To coincide with the course an ILA exhibition "Modern Landscape Design," previously seen this year at the Chelsea Flower Show, was held at the Institute.

. . . and a Summer School

Some twenty architectural students from schools throughout the country gathered together at York recently for the ninth annual summer school organized by the York Institute of Architectural Study. The schools at Brighton, Brixton, Middlesbrough, Oxford, Rochester and York were represented, as well as the Universities of Durham and Manchester and the Northern Polytechnic. Patrick Brown of the Canterbury School and Frank Jenkins of Manchester University were the resident tutors.

The students, working in groups of two or three, spent most of their day time in preparing measured drawings for the RIBA intermediate examination and in sketching. Stimulating studies were carried out, not only on the fine 18th century work in which York abounds, but also in such fields as

colour in street architecture (Nicholas Hills of Brighton); 19th century shop front design—there is still a notable assortment of cast-iron Victorian fronts in the city (Sidney Chapman of Manchester); the evolution of doorways from the mid-17th century to the mid-19th century (Messrs. Gibson and Pope of Newcastle). Douglas Arran (Middlesbrough), who was awarded a scholarship by the Northern Architectural Association to attend the school, produced an interesting and useful set of drawings of some little-known 17th century work. The three students from the York office of Needham, Thorp and White (Peter Millward, Robert Paton and Dorothy Whyte) are particularly to be commended for their vigorous work. It is worth noting that these three were granted special leave from their office to attend the school—a generous act which other offices might copy to the benefit of their unqualified students.

During the school the students visited famous buildings in the York area, among them Castle Howard, where particular interest was shown in the Temple of the Four Winds recently restored through a grant from the Historic Buildings Council. There was also the usual programme of evening lectures covering a wide subject range. These included a most scholarly lecture by Margaret Winney on *Sir John Vanbrugh*, Denis Thornley on *Dignity in Modern Architecture*, Anders Jespersen of Denmark on *British and European Water Mills* and a most provocative and stimulating talk by Leonard Manasseh on *Experimental Trends in High-Density Housing*.

THE TIE-LESS PENDULUM SWINGERS*

By Lionel Brett

Six years after the Festival of Britain, here we are, already looking out on our world with quite different eyes, and I think it is time somebody tried to analyse the change. Superficially, and speaking to begin with in purely visual terms, it was inevitable (as most of us foresaw at the time) that there would be a reaction from the rather feminine elegance of the South Bank Exhibition, with its light floating roofs, its doves and wires and lacy white balustrades and its expurgated Victoriana. All that has gone with the New Look, and in its place we have chunky masonry, heavy lintels, black painted tubular balustrades, and the brutal exposure of naked materials and services. The jump from intellectual abstract painting and constructivism to action painting and *tachisme* is parallel. One or two Protean figures like Picasso and Le Corbusier have seen us through, but among minor deities there has been the usual reshuffle, typified perhaps by the emergence from obscurity of Gaudi, of the early Mendelsohn, and of the English primitives Connell Ward and Lucas.

At this point we must look very hard at what is happening, because there are in point of fact several reactions going on at once. There is the reaction of the older generation of town planners and of laymen interested in amenity to the failure of the Planning Acts to stop Subtopia, which is expressed in the new Civic Trust. There is the reaction of architects to the failure to rebuild our cities on imaginative lines, expressed naturally enough in the demand that the job should be handed over to architects. And there is the reaction of the young to the tidy assumptions of the middle-aged, expressed in a rather theatrical anarchism, which looks like giving the pendulum the biggest push of the three.

Their feeling is that the post-war planners are out of touch with the real world of 1957, that our New Towns, neighbourhood centres, shopping precincts, national parks, etc., are not what is wanted and lack some essential thing that our old towns and neglected counties had, presumably spontaneously, so that nobody would ever want to paint a picture in Harlow or Bracknell; that there is something about a holiday camp or a supermarket that is more real than a garden of rest or a communal laundry; that planners waste their time controlling elevations in Watford and Redhill when they should be concentrating their minds on Liverpool and Glasgow; above all, that people of inferior imagination are busily, and with the best intentions, filing away the rough edges of character and idiosyncrasy.

This negative reaction has as its obverse a positive enjoyment of "pop art," American cars, advertising, space fiction, etc.—phenomena which we all know are just as synthetic and unspontaneous as official good taste, but do at least meet a demand.

It is natural enough that these attitudes should express themselves in a renewal of the campaign against the control of architects' designs by planners, which has been rumbling underground for years. We all agree that the siting of buildings and their size must be controlled; but that every detail of their design should be liable to official amendment is a very different thing. At a recent protest meeting of some of the brightest young stars in the architectural sky, one of the most responsible and successful said that he had had nothing but

obstruction, and never any help, from planners. It is on the face of it fantastic that Subtopia seems to flood almost unchecked across the face of England, and yet the work of our most imaginative designers is still continually sniped at and sometimes flatly prohibited by committees of local councillors, often without architectural advice. For a young designer working all hours to try to start on his own, his first chance often comes from a client a good deal older than himself, and it is not surprising if that client loses confidence in a design when it is mercilessly criticized by local officials. The delay and expense of a public inquiry is alone often enough to put him off. In a country increasingly monopolized by superhuman organizations we ought to cherish and not bully the small man struggling to make a go of it.



Turtle-necked and tie-less pendulum swingers: Peter Smithson and Ian Nairn . . .

But to scrap the planning controls which a whole generation laboured to create can't surely be sensible, even if it were politically possible. I have no doubt whatever that with all their imperfections they have done infinitely more good than harm. We have a whole great movement here, backed by volunteers all over the country, not just an administrative procedure that you can close down overnight.

Some people think we should decontrol large areas of uninteresting suburbia, and simply keep the control for the really important places. I used to think so myself, but I have come to dislike the idea of an England divided into beauty spots, or areas of special control, and the rest; just when we are beginning, through the eyes of artists and poets, to widen our vision. Any such classification is no sooner attempted than it becomes out of date and ridiculous.

The only alternative I have heard canvassed is that aesthetic control should be confined to briefing architects before they design instead of censoring them afterwards. I can well imagine this, which would inevitably be a more comprehensive affair than the present control, turning out to be still more inhibiting to the creative architect and still less effective in stopping the vandal.

I think we must keep these controls, like all sorts of long-stop laws we keep on the statute-book, but hardly ever use them and never use them to censor the qualified and imaginative designer. When this does happen, and when the responsible Minister confirms it, it is a flagrant miscarriage of justice and should be so handled in the press and in parliament. If a policeman beats up an innocent man, you do not abolish the police force. What you must try to do is to recruit better people—in this context to

recruit, as planners, people who will know by instinct when to leave well alone.

At the meeting I mentioned above, the people on the platform in favour of planning control wore suits and ties and the people against it wore open shirts or turtle-necked jerseys, thus rather too neatly suggesting that the argument was the age-old one between the tidy administrator and the anarchic artist, with the artist on the side of life and the planner against it. That is not far from the truth in many parts of the country, but that does not make it any less a tragedy when it happens, or any less a situation which we must never accept as inevitable. And that brings me to the real significance of this swing of the younger generation of architects towards anarchism. It is a sure sign that the planning machine has failed to use them effectively.

For this they are themselves partly to blame for not educating themselves in the broad outlook or accepting the dedicated anonymity that the planner needs. But the planning authorities are still more to blame for not giving their officers the scope that attracts imaginative people to the job. So long as members of planning committees have the idea that design is merely common sense, so long as they are content to write off the world of architects and designers as hopelessly divided within itself (which it always will be) without trying to find out who the best are, so long in fact as they look down on designers, designers will look down on them, and we shall get nowhere with the job of creating order out of the chaos we inherit from the last century.

This problem of harnessing the artist's energy and giving ideas wings is not a new one; but it gets more difficult as we become more egalitarian, more indifferent to quality, and more short of cash. Yet if we still want to make our conurbations habitable and renew our landscape and stop our best people from emigrating, artists and administrators have to go on trying to work together, and not give way to impatience with each other.



. . . and suited, tie-ed, anchor escapement: L. Brett

These are generalities, and possibly, as such, irritating. But they can be translated into a short list of concrete reforms in our planning administration which I believe could do as much as administrative measures can to change the atmosphere. The first thing is to restore planning to its original status in the Ministry of Housing and Local Government, with some time and money spent on thinking (or what is nowadays called research). Second, restore regional planning, the great gap in our present set-up. Third, restore local planning, the making of townscape and landscape, to the status it had in the days of Unwin and Abercrombie, as a truly creative occupation.

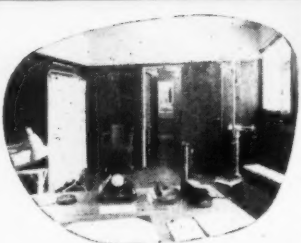
The fact that one can use the word "restore" for reforms which all age-groups strongly support shows how much latent unity there is among us. If the anger of angry young men helps to speed these reforms, then this swing of the pendulum will have played its part in keeping the clock going.

* A talk broadcast recently with the title, "Architects and Planners Today," in the BBC's Third Programme.

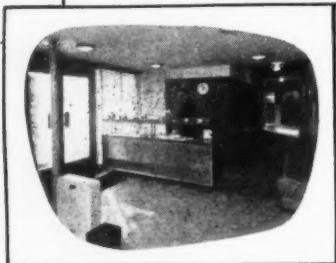
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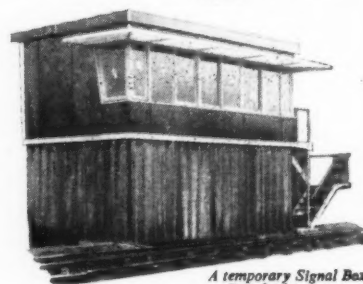
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The public hold architects in low esteem according to Peter Scher, the author of the article below, and he thinks this distrust—unthinkable in other professions such as medicine, law, and engineering—is justified, and due to the fact that the majority of architects are barely competent. The responsibility for this incompetence he places with our “inappropriate and inadequate methods of training.” Peter Scher writes from the standpoint of a young architect who has just undergone his first short spell in the profession. He was trained at the Bartlett School and is now working in a London architect’s office. At first reading the Editors were reluctant to publish his article because it contained so many hoary old criticisms of archaic teaching methods: the stupidity of too much emphasis on the presentation of drawings, on the need to have real studio programmes, with real sites and real clients, the need for site visits, visits to factories and so forth. But further consideration showed that these criticisms are still valid for some schools and may be so for the majority, despite the advances made by a few. We therefore invite any students (or teaching staff) who have further criticisms to make on current educational practice—or comment to offer on this article—to write to us. We would also be interested to learn of any schools to which the criticisms in this article apply. Letters intended for publication must give the name and address of the sender, which will be withheld from publication if requested.

TRAINING FOR AN “A.R.I.B.A.”

by Peter Scher

The JOURNAL recently published Percy Johnson-Marshall's pet theory on architectural education outlining his idea of a new university faculty in which to group architecture and all the related studies. He said that architectural education was a controversial subject and I willingly take him up, although I believe that nothing I have to say is basically controversial.

While recognising the logic of this idea of a university faculty I suggest that it has two major drawbacks. First, it would mean large-scale reorganization, not only of architectural education, but of the teaching of subjects related to architecture and the present structure of existing universities; an unending vista of arguments, committees, red-tape and delays opens up. Second, while stressing the interdependence of architecture and its related subjects, Mr. Johnson-Marshall entirely begs the question of what is wrong with the present system of architectural education and how that could be reformed. Without criticising him any further I would like to take up this second point and speaking like him, quite personally, suggest a *workable* programme for improving architectural training now.

It is the function of the schools of archi-

tecture to train men and women to create architecture as practising architects of today. In addition to this the schools may produce geniuses or scholars, but if their qualifications are recognised for “A.R.I.B.A.” exemption then to train practising architects is their inescapable basic function.

Now it is well-known that the many recognized schools provide various kinds of training and it is my contention that many do not, by any standards, provide an adequate one. I cannot speak for the related subjects such as engineering, quantity surveying, building and so on, but I suspect that these techniques, having firmer bases in either science or economics, keep fairly well abreast of the times. Their techniques are being continually subjected in practice to functional tests where success and failure are fairly clearly defined and their educational methods are bound to recognise this. On the other hand, for example, what test is there in practice of an architect's competence in cost control? Dare he tell his client that this important subject was barely mentioned in his training, let alone taught? Yet he is supposed to be qualified. And his knowledge of other technical matters could hardly be called authoritative except

after years of practice. But the magical “A.R.I.B.A.” hides all this.

Before we dare suggest rearranging entire universities and interfering with the training of other professionals and technicians, we must see what is wrong with the specific training of architects and see whether, and in what ways this can be put right.

The position then is this: in Britain we have nearly twenty schools of architecture providing a five-year course for students, the majority of whom begin around the same age and at the same educational level. The courses lead to a qualification of some kind which is recognised by the RIBA. After one year's subsequent work in an office, a pass in Professional Practice exam, finally confers full qualification as an A.R.I.B.A. That is the present framework within which to produce imaginative, technically competent and fully trained architects. What, in broad outlines, should the training be?

The teaching of design

The teaching of design is and always will be the subject of disagreement among architects because design itself is also. It seems inevitable that the bulk of design work done in schools will be in the preparation of drawings and models. It cannot be emphasised to students too much or too often that the drawings and models, in reality, are only a means to an end which is the real building. As school exercises, the designs inevitably become an end in themselves. One of the worst features of the present system is the encouragement of students to concentrate on presentation. There is no doubt that school staffs do encourage “eyewash” presentation and the full blame for this wilfully wrong emphasis in training must fall on them. As a result, a disproportionately large amount of the student's creativeness (the most important constituent of his work)—not to say his time—is devoted to presentation.

Assuming that the architect is a person whose creative aim is to design buildings, five years of designing drawings (that is what it is) can hardly be the ideal training for him. It is also in fact almost the reverse of what happens in professional practice. However, unless all designs can be “live” projects that is the system we must use. The system must then be applied with these three safeguards. First, the student must be made continually aware that the design of buildings and not drawings is the object of his training; secondly, the preparation of designs and working drawings in schools must be made as like the real thing in current architectural practice as possible and thirdly, assessment and criticism of students' work must always be based on an honest effort to see what the design *as built* would be like. For at least a few of the important designs in the five-year course I would consider desirable the imposition of a uniform standard and type of presentation such as is required in architectural competitions.

What the schools should always aim to provide is a real programme with real clients and a real site. I would say that these are desirable for every design exercise in the course, and essential for most—for two

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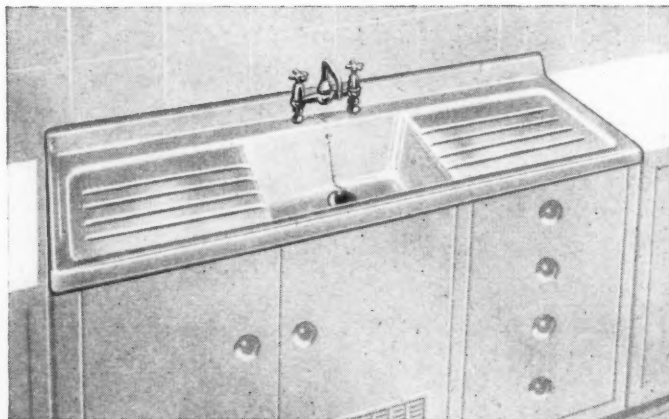
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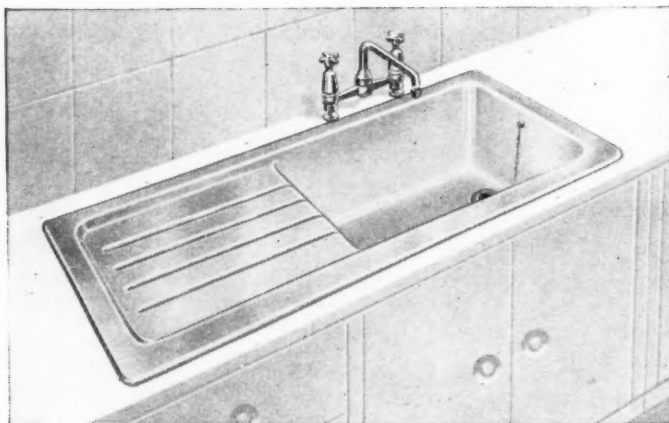
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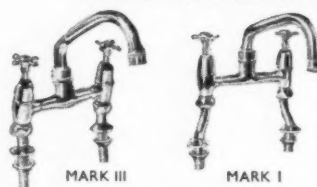
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reasons. Psychologically it is obvious that the student will do better work with real conditions, real facts and real problems to get his teeth into, and the more the exercises are like the real thing the better training there must be.

Real clients and programmes of course are not easy to arrange, but in this the school staffs have their most important responsibility. A good deal of work and expense may be involved in such preliminaries. In conjunction with the thorough preparation of the programme, lectures and discussions on all aspects of the design must be arranged with technicians, experts, building-users, servicing specialists and so on. These are, in fact, an essential part of the programme itself. Finally, students must be required to work out their designs in the fullest detail as often as possible, with particular emphasis on construction, services, cost, etc.

In many schools today these basic requirements are ignored by the staffs—or else they are left for student societies or the students themselves to arrange. Other schools' staffs do this work perfunctorily and inadequately, while yet others believe that the students should be left to train themselves. While on the subject of design I want to add a further requirement about drawing offices. The conditions for working in schools should be at least as good as and, in the interest of reality again, as far as possible similar to those of the best professional offices. Vast rooms for up to sixty students, without any dividing partitions and with poor lighting do exist and are used today. Such conditions make good, efficient work and teaching practically impossible. Students who are forced to do most of their work away from the school for such reasons are missing some of the most important features of their training. Furthermore many resident students have only small single rooms in hostels, too small for drawing-board work, and are obliged to work in their school despite the bad conditions.

The schools must therefore provide adequate drawing offices. Existing large rooms must be partitioned off for students working in groups of not more than eight or ten, and the lighting improved. In addition the drawing offices for each year of the course must be provided with their own technical libraries and samples collections, which should be kept right up-to-date. I am sure that trade organizations and manufacturers would be only too willing to help provide this service. There will, of course, be the usual school library for reference and textbooks and magazines quite independent of these.

Technical training

Unlike the teaching of design the technical training of the architect is not a matter of disagreement. Building construction and materials, structural mechanics, heating, lighting, ventilation, sanitation, cost control, professional practice and building law are precise, matter-of-fact subjects which must be taught by experts and studied and applied all the time as integral parts of design. Visits to buildings under construction, to factories where materials and com-

ponents are made and to research centres and exhibitions should also become a much bigger element of training than they are now. Again, I feel sure that trade organizations and manufacturers could and would willingly play a large part in providing this training.

However, it is the quality and scope of technical training that is so varied in schools of architecture today. Incredible this, because, as I have said, there is no disagreement on principle here and there is no lack of material or experts to impart it—everything is straightforward. Yet technical subjects are rarely taught adequately or as elements of design.

The course

After the principles that underlie training I would like to outline some essentials of the course itself. First and foremost, the course must be designed as a whole and not as a series of five unrelated and watertight sessions, in each of which certain designs are made and certain subjects are introduced. Students must constantly be made aware of the shape and scope of the complete course, what stage they are at, what they have done and should know, and what they are going to do for the remainder of their course. Throughout the first year particularly this must happen, when students are, or should be, making their first acquaintance with architecture in *all* its aspects and it is still early enough for changes of heart and mind.

The value of group work in training is still much debated and raises many difficult teaching problems. It has obvious advantages as well, however, especially in the latter part of the course. It is in group work and study that the combined training of architects and students of related subjects—about which Mr. Johnson-Marshall is so keen—could most fruitfully be carried out. "Live" programmes are still very rare in architectural schools today and, of course, represent the ideal kind of training. In my view, every school should strive to arrange as many as possible for its students, and work on at least one "live" project should be an obligatory part of every student's course. These may be particularly difficult to organize, especially for the first time, but once begun there is no reason why the system should not be as satisfactory to the clients as the services of a professional firm.

I would like to suggest that the local authorities, both as initiators of large building programmes and as education authorities, could co-operate in this. Perhaps architects' fees for this work could be waived as an incentive or, better still, spent on the necessary administration of the projects. Once again the combined training of students of all branches of building would be possible and natural here. Practical work, both on building sites and in architects' offices is invaluable to the student and should also be included in the school courses—arranged by the school either in terms or vacations. It is not always easy for individual students to find suitable jobs for themselves whereas the school

could arrange this much more easily, and with a greater advantage to both students and employers.

Each year, schools should hold an exhibition of their work open to the public if possible, but if not, the following groups ought to be invited and indeed have a right to see it:—architects and members of the allied professions and the building industry, local secondary school teachers and pupils directly interested in training to become architects, and the professional and lay Press. Exposing the schools to criticism of all kinds must also improve their health.

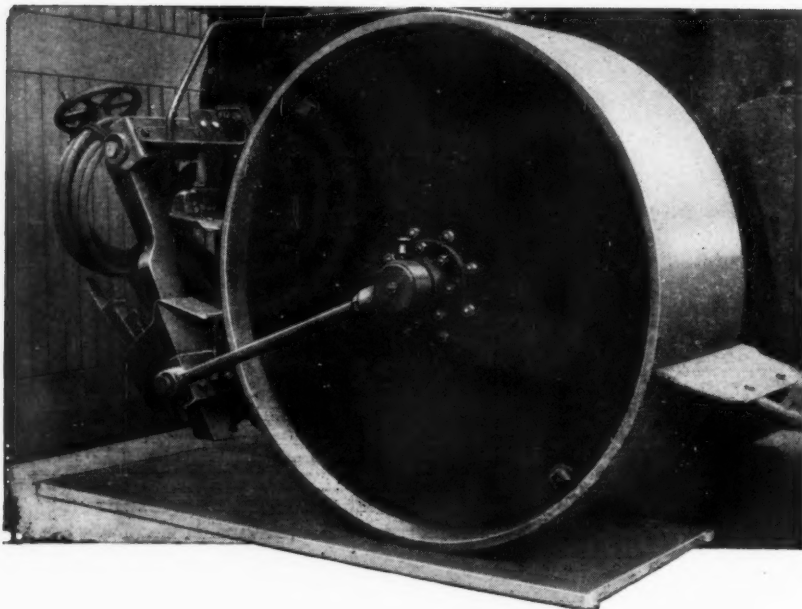
A high basic standard

What I have so far suggested is really the full exploitation of the present system and the application of a stricter authority to maintain a higher standard. I do not apologise because none of these ideas is new nor because I have no pet theory like Mr. Johnson-Marshall. Most of these ideas are already accepted and put into practice in some schools of architecture—but not *all* the ideas and not at *all* the schools. I insist that these proposals, taken as a whole, must be the guaranteed basis of all courses leading to an "A.R.I.B.A." qualification. Courses without any one of these essential constituents or schools that maintain low technical standards have no other right to recognition. The RIBA should be able to enforce changes and improvements in schools that wish to remain recognized. All this may sound like spoon-feeding the student, stifling enterprise and initiative and replacing "rich variety" with "dull uniformity." School staffs may make such nonsense their excuses for resisting change. There is a difference, however, between uniformity and a qualitative standard—an "A.R.I.B.A." should indicate a qualitative standard and a high one. Does it? Too many architects think it is funny that students following them should go on repeating the same fruitless design exercises, absorbing the same useless facts and not learning the same essential subjects. I admit only one thing—that more staff, both teaching and administrative would be required and more money would be spent if these ideas were adopted at all schools. But this proves that they are inadequate now.

I have not gone into detail anywhere and I have not discussed many important topics such as the length of the course, post-graduate study, student organizations, etc. But this is a first blast at what I consider to be a shameful situation. Shameful to all practising architects because we *know* and boys and girls entering schools of architecture and their advisers do not know.

The education of the young and the uninitiated is a sacred trust of the grown-ups and initiated in all societies. We as architects have vested that trust in the RIBA. On some matters that institute's authority is doubted but in architectural education its authority is unquestioned and absolute. It is high time that its authority was used to ensure the very best education for all who wish to become architects.

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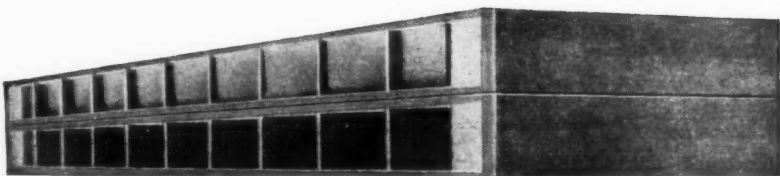


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This week Brian Grant reviews a picture-transmission system, a new gutter, a booklet on sliding-door gear, a warm-air heater and plastic shower cabinets.

Internal communications

A new picture transmission system known as Deccafax has just been introduced by Decca Radar, who are well known for radio work of all kinds, as well as for the Decca navigation system. Both sound and pictures are transmitted from a central station to any number of slightly modified television receivers and the system has been used so far at airports for announcements of all kinds. At the moment it is only possible to transmit transparencies, and the method is to transmit blank forms, set up in type, and on these essential information can be inserted with a chinagraph pencil, so that, in effect, any number of television receivers can be used as display boards with constantly changing information kept up to date from a central transmitting

station. Slides or films can be sent in the same way, and it is also possible to have a number of separate transmitting stations supplying information from different sources and building up a composite announcement or diagram.

The system is at the moment of no vital importance to the architect, though it is as well to know that such things exist. It is probable, however, that in the near future it will be possible to display documents or plans, and this opens up a number of possibilities. There will be no reason, for instance, why large firms should not move their typing pools from the central areas to some convenient suburb and dictate letters by land line to tape recorders, subsequently reading them over on the television screen, and also being able to sign them. Some system such as this is bound to come, as it will save a lot of travelling time and traffic problems in central areas, though no doubt it will be resisted as strongly as was the introduction of the typewriter. (Decca Radar Ltd., 1/3, Brixton Road, London, S.W.19.)

Another Finlock gutter

A new type of Finlock gutter known as the Royston has now been produced, having a Portland stone fascia. The gutter consists of two parts, a rear unit 9 in. wide which



The Deccafax picture transmission system in operation.

is bedded on the top course of the brick-work, and a fascia unit which is made in 2-ft. lengths of artificial Portland stone which are bedded on with mortar, the tight butt joints being almost invisible. The alignment of the fascia units is a simple matter as the units are light and easy to handle and ample adjustment is possible. At present two types of fascia are available, one plain and the other with a simple moulding, and after fixing the gutters are lined with hot bitumen and aluminium by the manufacturers, who will then give a 20-year guarantee. (Finlock Gutters Ltd., Finlock House, 25, Frant Road, Tanbridge Wells, Kent.)

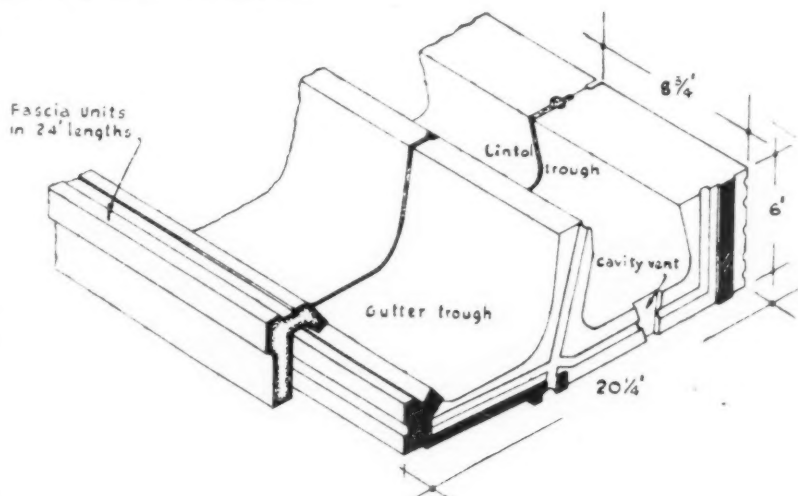
Sliding door gear

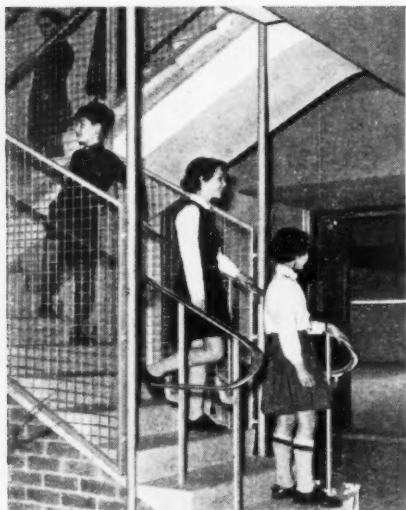
A small edition of their large sliding-door gear book has just been produced by Hill Aldam. It deals briefly with sliders of all kinds, both top hung and running on bottom rollers, both for internal and external use, and illustrates a number of fittings. A very handy little reference book. (E. Hill Aldam & Co. Ltd., Britannia Works, Wimbledon, London, S.W.19.)

Warm-air heaters

A wide range of oil-fired warm-air furnaces is now being produced by Waterbury Ltd. They all have fully automatic controls, and the model illustrated is the Downflo, which is intended for use with under-floor ductwork and low level distribution. Two models are produced, with outputs of 60,000 and 151,000 B.Th.U.'s per hour. There is also the B.300 series, with outputs up to over half a million B.Th.U.'s, and the Dantomatic, for industrial heating with

Details of the new Finlock Royston gutter.





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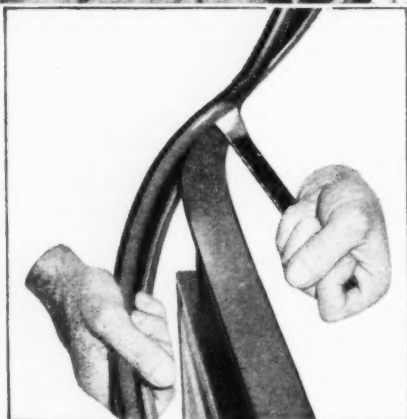
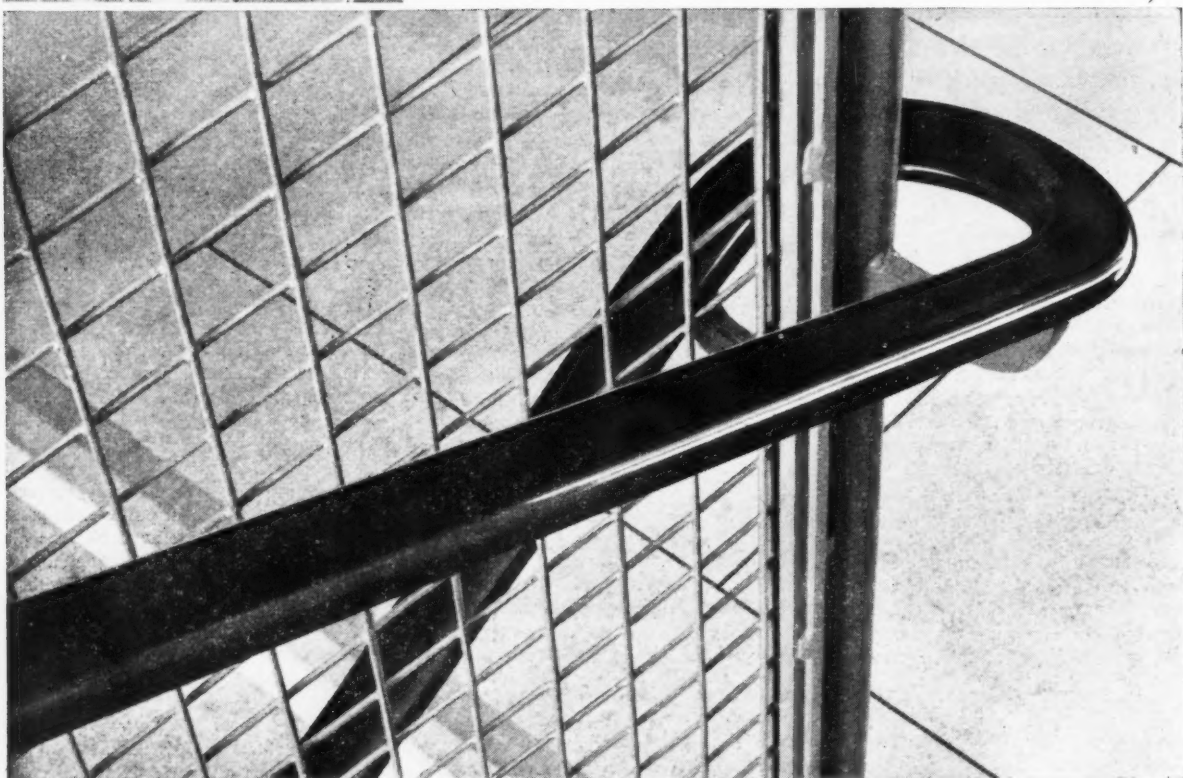
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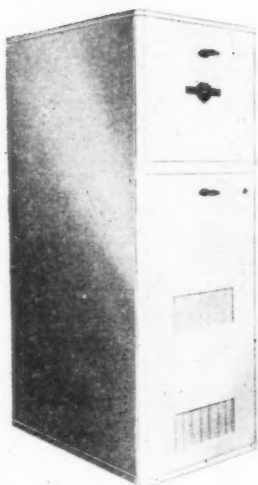
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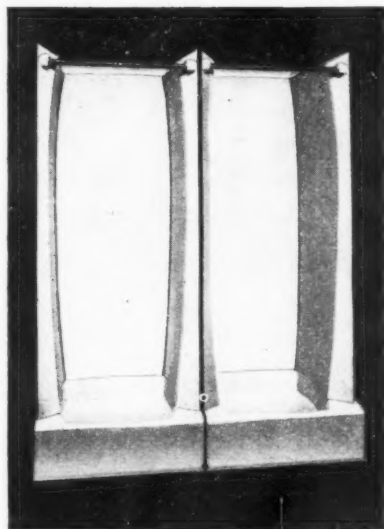


The Downflo warm-air furnace.

overhead ductwork or as a freestanding heater. Heat outputs of these models go up to 1½ million. (Waterbury Ltd., 16, Upper Grosvenor Street, London, W.1.)

Shower cabinets

Almost every week these notes seem to include some further use of glass-reinforced plastics, the latest being the Dolphin shower cabinet, which can be produced as a single



Two of the Dolphin glass-reinforced plastic shower cabinets.

unit or in ranges for changing rooms. Apart from the fittings there are only four main components, which are bolted together on caulking strips to provide a watertight joint. The cabinets can be supplied either white or in colour, and the price, complete with valve and all fittings, is £58. (Reinforced Plastic Developments, 14-15, Coleman Street, London, E.C.2.)

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INFORMATION CENTRE

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

1.17 sociology

MUM AND THE PLANNERS

Family and Kinship in East London. By Michael Young and Peter Wilmott. (Routledge & Kegan Paul. 25s.)

A number of studies have been published recently on the social consequences of moving people out of central area slums and into new housing estates some distance away. Now that clearance programmes are getting under way in the big cities, the volume of this kind of movement is growing very rapidly and large-scale physical changes are proposed both in the centre and in the reception areas. The social consequences of this drive to clear the slums away may, in the long run, prove to be more important than the physical changes themselves, but as yet we know relatively little about them, and it is most important that such knowledge as we have is studied by all who are concerned with schemes of this kind. *Family and Kinship in East London*, the latest of the social studies in this field, is a careful survey that will make interesting reading for technicians, administrators and councillors alike.

In this book the authors have approached the social problems of redevelopment from the point of view of the family—"the oldest of our social institutions." The study itself is divided into two sections. The first provides an analysis of the functions of the family in a predominantly working-class district of London—Bethnal Green. Here we are given a very clear picture of working-class family relationships in which "Mum" (the young wife's mother) emerges as the dominant figure in the whole system. The "kinship network," the "extended family," the social and economic functions that it performs for its members and the

factors which have brought it into being are all carefully examined in relation to their social and physical environment.

In the second section the scene shifts to Greenleigh, an out-county estate in Essex, and we are introduced to the disrupting consequences of moving part of the extended family (the young parents and their children) away from their old environment. The impact of this transfer on the migrants is described in considerable detail with special emphasis on the changes in their pattern of living and their relationships with their new neighbours.


There is nothing startlingly new in the impressions given of either the old or the new environment. Here the authors have simply provided valuable and well-documented confirmation of many facts that would be known—or suspected—by anyone with a working knowledge of post-war housing schemes. What is of great interest and distinguishes this study from most others of this type are the conclusions that the authors draw from the material and the experience they have collected. These are set out in the final section, "Planning and Family Life," which attempts to sum up the social implications of our present housing policy and suggest ways in which this should be revised.

As a starting point, they are convinced that so far as Bethnal Green is concerned, the social, economic and family bonds are so strong that very few of the present residents wish to leave. The cause of this relative immobility they relate to the structure of working-class society where the "three-generation" family (grandparents, parents and children) remains the real social unit. In so far as the present system of clearance and resettlement acts against this established social pattern and the wishes of the people themselves, it is, in their view, calculated to destroy rather than re-create urban society. They attack in particular current housing policy, which tends to segregate young parents and children from the rest of their relatives and create new communities with a highly artificial age structure. This policy they feel, will in the long run perpetuate some of the problems it set out to solve—overcrowding, for example, which may become a severe problem in the new housing estates a generation from now.

As an alternative they propose reducing movement out of the towns to a minimum, preserving and remodelling as many of the existing houses as possible and sacrificing all other land uses—including open space—to housing.

They are realistic enough to recognize that whatever form of redevelopment takes place some movement away from the slums is unavoidable. To meet this they advocate "movement of street and kinship groupings as a whole" to avoid "squandering the fruits of social cohesion" which they claim it should be our concern to preserve.

In general, while the book provides plenty of ammunition for a carefully aimed broadside at the current practice of most housing committees and the theory that underlies



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their policies, and can be safely recommended as an antidote to the "practical" view that no one need worry so long as houses are coming down in the clearance areas and going up in the new estates, it fails to provide a wholly satisfactory alternative. It would be unfair to be too critical of the authors on this point, for they admit the complexity of the problem in detail and try throughout to stick to general principles. The only realistic answer that the planner can give is to try to determine how far it would be possible to realise their ideas in practice.

With regard to the redevelopment areas, while it would certainly be possible—and most desirable—to rehabilitate some of the buildings not yet ripe for clearance, the number of houses actually scheduled for demolition that could be dealt with in this way at reasonable cost is very small. Even if full allowance is made for very much reduced standards of space, daylighting and access, in most cases the numbers would be insignificant. Secondly, the amount of land which, in fact, passes to non-housing use on redevelopment is also very much smaller than the authors seem to realize. No doubt it could be made smaller still or even be cut out altogether, but the social cost would be very heavy. Has a children's playground or a "quiet" space for old people no social value? Are the claims of road traffic, industry, schools and the rest to be ignored altogether?

Their suggestions for the new development areas are more realistic. Most planners would agree that mixed development at higher densities (cutting out that long walk to the shops and the pub that the Bethnal Green migrants found so distasteful at Greenleigh) with a wide range of dwelling types and a good cross-section of the population as residents is what we ought to aim for. Our failure to achieve it in practice is largely due to the strong pressure placed on the Housing Committee to build exclusively for the needs of the "top section" of the waiting list—which consists very largely of young sub-tenants with families. It is possible to criticize this scale of priorities, but it is difficult to condemn it altogether. How are priorities to be determined when (as must be the case for a very long time to come) relatively few houses are available compared with the number who need them? Is the need to preserve the social cohesion of the extended family to take precedence over the immediate need of the young family? We are asked to believe that it should on the grounds that unless this is done we are failing in the most positive aspect of our task—the creation of new communities to replace the old.

It is difficult to accept this as the only rational basis for planned redevelopment so completely as the authors appear to do. As they themselves have shown, the extended family with "Mum" at its centre has its roots in the past. Many of the forces that brought it into being have disappeared, we can expect that more will follow. Large numbers of families from Bethnal Green

chose to move to Greenleigh and in two years most of them were adaptable enough to adjust themselves without serious difficulty to new ways of living. If the "extended family" is as important to social cohesion as we are led to believe, is it unreasonable to suppose that it, too, will adjust itself to social change? We are only just beginning to realize the ways in which increased mobility is revolutionizing the way we live. The time when a motor-car and a telephone are accepted standard equipment for every family in Greenleigh may not be very far away.

No one, not even the sociologists, knows how "Mum" and the extended family will fit into this new pattern of living. But, while it is clearly wrong to ignore them altogether, as we seem to be doing now, it would surely be equally wrong to make them the foundation of the new environment.

9.63 design: general AESTHETICS OF FRAMED STRUCTURES

Skelettbauten. Franz Hart. (D. W. Callwey, Munich. DM.17.50.)

In the matter of framed structures every country has a certain marked preference: in Anglo-Saxon countries the preference has been for the curtain wall; in Germany, though curtain walls are far from unknown, the preference has been for showing the loadbearing structure in the façade. The characteristic modern German building has a loadbearing façade usually in reinforced concrete with uprights spaced at 6 or 7 ft. centres and floor to ceiling windows spanning between them. This form of construction is usually referred to in German as "Rasterbau," though "Rasterbau" is in itself a subsection of the wider category which forms the subject of this book and which is, literally translated, "skeleton building." It is not a technical work so much as a presentation of all the different structural varieties which have so far come to light, with a brief discussion of the motivation of each and a fine collection of photographs and line drawings, taken chiefly (but not wholly) from German sources.

10.161 design: building types RELIGIOUS BUILDINGS

Religious Buildings for Today. The Editors of *Architectural Record*. (F. W. Dodge Corporation. \$7.50.)

This book consists of a collection of articles and illustrations of completed buildings and projects published earlier in the *Architectural Record*, with an introduction by the editors. In an attempt to give some kind of superficial order to what is of its nature a heterogeneous collection of material, the book has been organized under four main headings: the design of churches, worship and the arts, structural expression, and the church and its school. The subject matter includes synagogues and churches of many denominations.

Its purpose appears to be to convince the architectural layman concerned with religious building programmes that revivalism

is sterile and the only valid course is to put his trust in modern architecture. Those articles which attempt to go further than this, i.e. to say what modern architecture might have to offer, are of general interest only: structural possibilities, an economic assessment, the eclectic origins of Coventry Cathedral. There is no real thesis discernible which will give the layman confidence that modern architects have a grip on the problems of church design.

17.111 construction: general STRUCTURAL INSULATION

Structural Insulation. By C. L. Haddon, M.Sc., F.R.I.C., A.Inst.P. (7s. 6d.) Reprinted from *The Industrial Heating Engineer* (December, 1956-May, 1957).

Mr. Haddon covers a surprising amount of ground in a relatively short space. When originally written for publication, the articles were probably not directed primarily towards architects, but they nevertheless constitute an easily consumed revival for out-of-practice members of the profession.

The publication is in five parts allotted to fundamentals, properties, selection, economics, and application of thermally insulating materials.

Part I deals with the usual reasons for and advantages of insulation, throwing interesting sidelights on the official and unofficial efforts being made to reduce fuel wastage.

The fundamentals of insulation and associated materials are simply and clearly discussed in this and the following section, with the help of several very useful reference tables. It is interesting to compare, for instance, the insulation values of insulating and non-insulating substances, particularly when the latter are traditional building materials.

The last three sections tackle the practical aspects of insulation, including the associated problems of fire risk, condensation, etc., and, to a limited degree, fixing methods. One feels that the last section, dealing with examples of the practical applications of insulating materials, suffers from its brevity and could originally have been expanded to at least another issue.

The lack of condensed comparative cost analysis is regretted and one feels that space might have been devoted to a comprehensive categorized summary of fixing systems, when it is remembered that upon their practicability in particular circumstances depends the choice of insulation, especially in the case of existing buildings or those of preconceived structural design. The author, although a member of its Executive Committee, quite rightly draws attention to the useful work and aims of the Structural Insulation Association, from whose excellent publications he has drawn some of his material.

All in all then, there is plenty of good stuff to be got out of this publication and it is a compliment to the author to say that the extraction is fairly painless.

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22 SOUND INSULATION AND ACOUSTICS

speech communication and the shape of rooms

Board rooms and committee rooms are often long and narrow, council chambers often segmental or semi-circular, and today we are often tempted to give actors a stage in the middle of their audience. This article by a correspondent reminds JOURNAL readers of certain elementary acoustic considerations which make these practices suspect, and makes other suggestions.

Generally it is the case that you must be able to see a person's face if you want to hear him well. This is not for lip-reading, though this may sometimes be a help; it is due to the fact that intelligibility of speech largely depends on frequency ranges above about 200 c.p.s., and these are projected directionally straight in front of the mouth. The farther a listener is to

either side or above or below the zone directly in front of a speaker, the weaker will the high frequencies be and the less well will he be understood. If you get behind a person, intelligibility may get very poor. Of course, much depends on reflection. In a small room it will be rapid and effective, and directional effects will scarcely be evident. In a larger room they will be more obvious; a lecturer will be well heard as he faces his audience, poorly heard as he turns sideways, but quite well heard again, by reflection, as he faces the chalk board. If he were quite a long way from any walls, and the ceiling were fairly high, reflections may be so delayed that they interfere with intelligibility instead of helping it. In an open field the full directional effect would be evident, and a person facing away from you, even as near as 15 or 20 ft. distance, may be almost unintelligible.

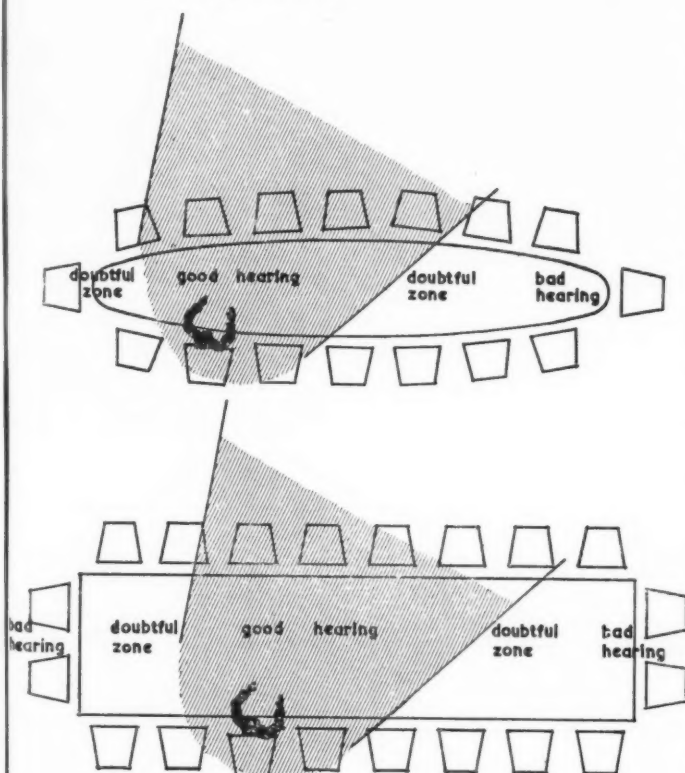
Board and committee rooms

One should think about this and visualize speaker-listener relationships based on it whenever designing places where speech communication is going to be important. In very small rooms reflections, of course, deal with the matter well enough, especially if the rooms are in a quiet environment; but it begins to be an important factor at almost any size of committee table, and the vast majority of conference or board-room troubles are due to a shape of meeting table that prevents some people from being in the good-hearing zones of other people who are speaking. It is made worse, of course, for many meeting-rooms by a noisy environment and too much reverberation, but these risks only underline the critical importance of a well-shaped table that ensures people being well-placed in relation to one another.

A simple rectangle, even if not very long, usually is on the verge of trouble, because you cannot hear the people on your own side of the table. Recall how often you lean forward and turn to look at a speaker in order to hear him.

A much longer table, a long rectangle or a narrow oval, is probably the worst shape one can use (see Fig. 1). It multiplies the number of people who are on the same side of the table and therefore puts about half the conference in a bad speaker-listener relationship. And another factor, rather insidious, creeps in here; a person speaking at one end of a long table, with half-a-dozen or more other people very near him, feels partly afraid to raise his voice to reach the far end of the table because to those clustered around him it seems almost like shouting. This is especially true of a long, narrow oval table, because the people at the end are so very near to one another. In the same way, a person part-way along the table faces towards the majority of the meeting and those away from whom he is facing are left to hear inadequately. Meeting-tables ideally should be round. Everyone then has the same chance of a good speaker-listener relationship, and the chance is a good one. Everyone can see everyone else, and everyone has an equal incentive to speak up, without seeming to deafen his

Fig. 1. Diagrams showing why these two boardroom table shapes are unsatisfactory. Because of the closeness of the nearest hearers there is a strong temptation for a speaker not to speak up and too many people are always outside the zone of good hearing.



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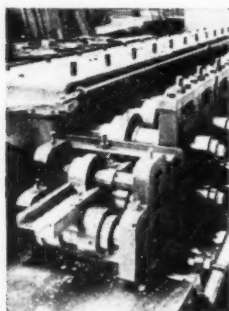
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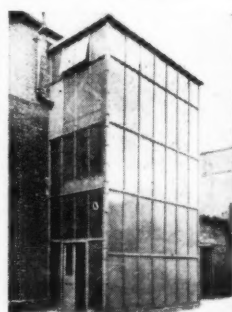
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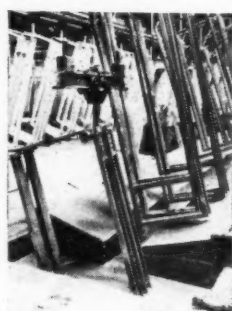
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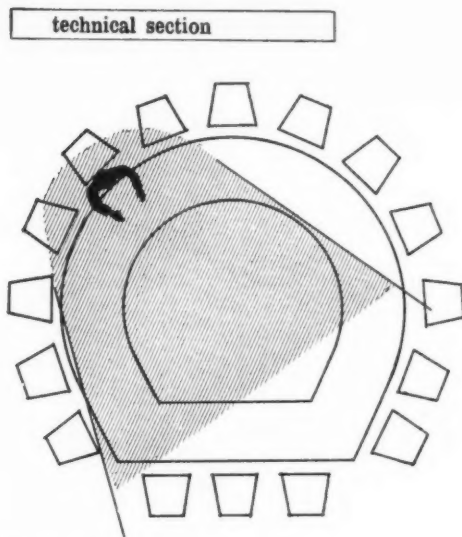


Fig. 2. A good shape for a boardroom table. Every speaker has an equal incentive to speak up and everyone is either in or close to the zone of good hearing.

neighbour. If one cannot have a circular table, a shape that comes somewhere near it should be used (see Fig. 2).

From this it is a straightforward argument that a board or meeting-room should be a shape that will call for and properly receive a circular or widely-oval conference table. A ratio of width to length of more than 1 to 1.4 or 1.5 seems likely to be heading towards the undesirable. Think how few there are of this proportion.

Council chambers

The problems enter another scale of difficulty when you come to council and parliamentary chambers. Most designers of council rooms seem to choose a semi-circular seating arrangement, with chairman and officers along the straight side, but the relatively few parliamentary and debating chambers which exist in this country and the Commonwealth also include

examples of the rather long and narrow rectangle which the Mother of Parliaments enjoys at Westminster.

The chief problems of these rooms is not the size of chamber or number of people, for any average person can make himself heard by far larger numbers than he encounters here providing he can face them directly. The difficulty is that only the chairman is so placed; all other speakers will usually have several or many people behind them as they speak.

Neither plan-form guarantees good results automatically in these circumstances but of the two the narrowish rectangle seems to offer the better chance of success, because a speaker on either side has always a wall directly opposite him and not too far away, well placed to serve as a reflector to help those behind and beside him, and near enough for the reflection to support the initial sound rather than confuse it. In the segmental plan a speaker will likely have as many or more people badly placed to hear him, and the walls are likely to be farther away and less well-placed to help them by reflection.

One must remember, of course, to check the geometry of the cross-section of the chamber; the lower part of the wall will probably have to be tilted inward to keep the reflection down among the listeners (see Fig. 3). And the total width must not be too great; 30 or 35 ft. might be considered a good working limit. Spaciousness is not an asset in rooms for debate.

It is rarely that councils or parliamentary chambers have to hold more than 200-300 people, and this is not a number so large as to be beyond the capability of unaided speech, all else being favourable. The fact that few, if any, such chambers have been built which incorporate these ideas and are successful has led to the extensive introduction of loudspeaker systems. These can be made to work fairly well, but they have to be complex if they are to meet the needs of chairman, officers, speakers from anywhere, and reporters, without revealing the quiet asides and incidental conversation so often taking place between individuals. They are expensive, and they must be well-main-

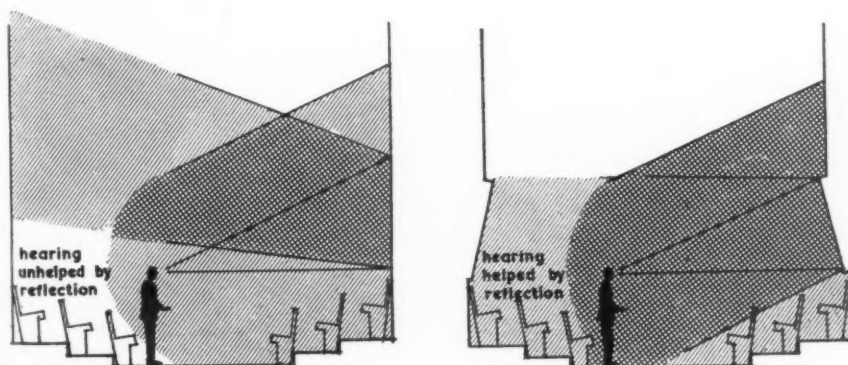


Fig. 3. Short sections through a rectangular council chamber showing, left, the tendency of vertical walls to reflect sound upwards, out of hearing of those sitting behind a front bench speaker and, right, the use of a tilted sounding board to correct this defect.

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tained. Unless they are designed so that full flexibility is possible in debate, they can inhibit or constrain the flow of argument and therefore reduce the efficiency of government. Perhaps one should not go so far as to advocate doing without them today; but even if they are incorporated, they should be regarded as only a supplement to the room, which itself should be developed to be as successful as possible unaided.

Places of entertainment

When it comes to music or the theatre, the same sorts of factors come into play, but in more varied ways. An actor has only the same zone of high intelligibility before him that any other user of his voice has. A singer, likewise—though intelligibility is not usually so critical then as in speech communication. What is less well known is that musical instruments too are often directional. Strings radiate their main high-frequency energy in a direction normal to the flat side of the belly (Sir Henry Wood used to counsel placing the strings of orchestras so that the whole audience could see the "f" holes). Horns, trumpets, trombones are also fairly directional; and the whole ensemble gives a preferential pattern of radiation in the direction it is facing.

What do such matters imply for design?

For one thing, we can see the risks in attempts to put orchestras, singers, or actors on stages out in the middle of an audience. The circular concert hall with a central platform turns up from time to time as an idea but seems a poor one. The far-projected stage for plays is less of a risk, at least if it is in a smallish theatre; but even so, it seems to be urging a technique of theatre towards acoustical impracticability, and hardly seems worth whatever else it adds to the theatre to prod so far in this direction that the actor cannot encompass his listeners in less than 180°. Even this would be asking a great deal of him in the way of special technique.

Another point already established in practice to some extent for concert rooms, is to tilt the rake of stage and seating area effectively towards one another. A clear view of every source for every listener is one of the best insurances you can take out for acoustical success. This dictated the rake of platform and seating area in the Royal Festival Hall, both starting from nearly the same level, and rising relatively steeply at once.

In the Festival Hall the seating area is raked uniformly, and the farther listeners are at an increasing disadvantage for their clear angle of view—and hearing. The ideal in theory and the best course in practice, is to raise listeners successively so that their clear angle of elevation over the people next in front is

constant. This means the floor should be curving upward as it gets remote from the source. The new, lower platform and properly raked audience-area seem to be becoming recognized practice in new concert halls.

Offices

In contrast to all these cases there are circumstances where one wants *not* to hear someone else's voice and yet has to be near the person. This entirely reverses matters. In America, and increasingly often here, the open-plan office is used, where managers, secretaries and staff are closely set in rows in large-sized areas. Sometimes a hundred or more people will be in one office space, discussing business, answering phones, dictating, and so on. How can mutual acoustic interference be reduced to the necessary level? How can the spread of sound be limited?

The stock answer is the absorbent ceiling, and as low as practicable. But experience shows that the space must also be big, with walls quite a distance apart, or reflections from these will cause everyone to hear other nearby people rather readily. A space 30 ft. wide would be too narrow to be very successful. 50 or 60 ft. widths unquestionably work in the U.S.A. This gives some idea of the "vital statistics" of the matter. American office block widths are usually based on two 25 ft. office depths plus a corridor. Ours are more like two 16 ft. office depths plus corridor, which is about 18 ft. less overall. An open office arrangement is usually based simply on the omission of partitions and corridor, utilizing the full width of the building. Viewed this way, there is a risk of disappointment in English open-plan offices with absorbent ceilings unless we widen our buildings.

Conclusion

These may to some extent be unfamiliar ideas. Partly perhaps this is because the basic ideas are themselves so elementary that they scarcely enter the technical literature, and tend, therefore, to get overlooked in teaching and in articles. One might call them forgotten fundamentals of acoustics. They ought really to be second-nature in design.

Much of the world's business, and often its most vital business, depends upon speech communication. Speakers must be able to develop their thought and argument without having to worry about acoustical difficulties or restrictions, and listeners must be able to hear clearly, without strain. Whether or not these things are possible depends upon the architect, for the room is the main mechanism of communication. The principles are simple and natural; the solutions should be equally so.

building illustrated

Secondary school in Dartmouth Road, Sydenham, London, S.E.26

SECONDARY SCHOOL

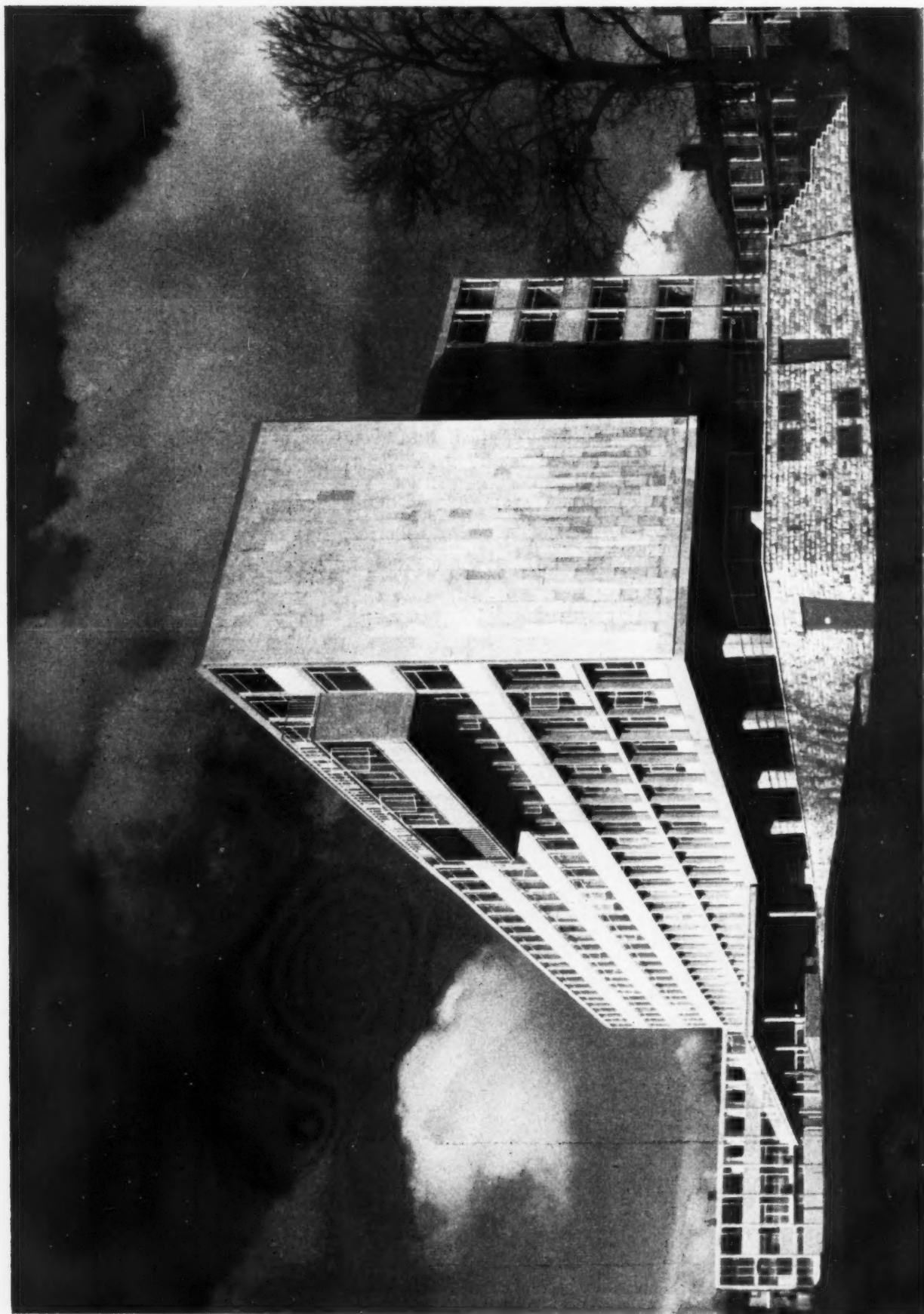
in DARTMOUTH ROAD, SYDENHAM, LONDON, S.E.26; designed by BASIL SPENCE, A.R.A. and PARTNERS consulting engineers (structural) W. S. ATKINS and PARTNERS; (heating) A. F. MYERS and PARTNERS (electrical) J. RAWLINSON, chief engineer LCC; quantity surveyors REYNOLDS and YOUNG

The extensions to Sydenham County Secondary School form a complement to the original girls' grammar school, which accommodated 600 pupils. The new buildings, which provide for an additional 1,140 pupils, consist of a 6-storey classroom and 3-storey administration block, gymnasium block, assembly hall and entrance foyer and kitchen. Since the methods of construction used vary between these four areas of the school, the cost analysis on page 409 has also been sub-divided in this way.

Viewpoint 1. The main classroom block from the east.



building illustrated



Viewpoint 2 (opposite). The main teaching block from the

analysis

CLIENT'S BRIEF: his stated requirements

Accommodation was required to provide 1,140 additional places for the existing secondary school, bringing the total to approximately 1,740 pupils. This was to consist of 28 general classrooms, geography and history rooms, five science laboratories, science lecture and preparation room, a model office and a commerce room, a needlework room two art rooms and a pottery room, five housecraft rooms and three model flats. An assembly hall with stage/small hall, music practice rooms, a library and staff administration rooms. A kitchen and 3 gymnasia with changing rooms.

SITE: topography, surroundings, access, planting

The 5.87 acre site of playing fields and courts situated to the south and west of the existing school was increased to 6.95 acres by taking in adjacent property along the southern boundary formed by the quiet, residential Cheseman Street. Along the east boundary runs Dartmouth Road, a busy road with frequent traffic, and the entrance drive to the existing school. The west boundary is formed by the end of Charlecote Grove and the entrance and boundary to public playing fields. The site contained some fine trees, many of which have been preserved. The ground falls 22 feet between the upper west and the lower east limit of the new buildings.

PLAN: general appreciation

The aim was to preserve the maximum area of open ground space on a comparatively restricted site. This has been achieved by concentrating classrooms in a compact six-storey building of E plan form with an elongated spine connecting at one end by a two-storey link to a 3-storey administration block. The classroom block is positioned at the lower end of the site and is raised on reinforced concrete columns, providing shelter space and cycle storage underneath. This places the main classroom floor on the same level as the assembly hall, kitchen and gymnasia at the high end of the site. A number of these classrooms are provided with an outdoor teaching area on their south side which is also raised on stilts and forms an extension of the shelter and cycle storage area.

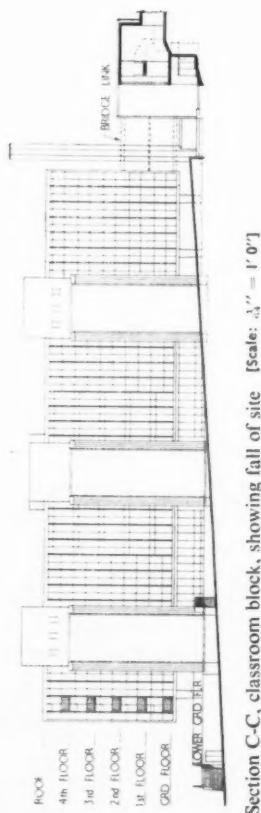
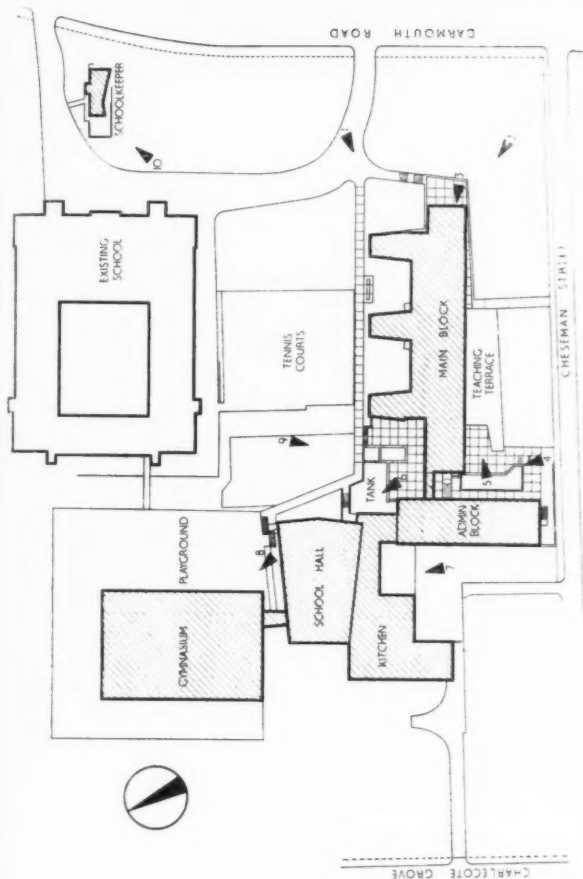
Vertical circulation to classrooms is provided by two passenger lifts at the centre of the E plan.

The entrance foyer (which is raised on precast concrete columns) forms a two-storey link with the dining foyer, assembly hall and gallery; the latter is reached by a mezzanine bridge overlooking the foyer and a biology pool below the raised structure.

The assembly hall is planned to give maximum flexibility of use, using the small hall as additional stage depth and circulation to gymnasia. Under the requirements no separate dining rooms were allowed and dining takes place in the two halls. The kitchen is adjacent to the foyer enclosing one side of a small terrace on the south side of the assembly group. The kitchen is serviced by a road off Charlecote Grove, remote from the rest of the school. The boilers are housed in a semi-basement under the medical, library and music rooms. Above these in turn are the administration offices.

The three gymnasia are sited at the western extreme of the site and surrounded by hard play area. Changing rooms on mezzanine level with viewing galleries overlooking the gyms allow immediate access to open air from both sides of gymnasia, with covered space alongside the play area. The art and geography rooms on the fifth floor command wide views over South London and the latter are provided with a projecting balcony to take rainfall measurements, etc. The housecraft rooms are on the floor below with a similar balcony off one of the three model domestic flats. The third floor is occupied by the science laboratory. A biology greenhouse is situated behind the assembly hall.

Site plan with photographic viewpoints



Section C-C, classroom block, showing fall of site [Scale: 1/4" = 1' 0"]

Viewpoint 2 (opposite). The main teaching block from the south-east. The wall is faced with sawn Derbydene stone. Spandrel panels are of galvanized sheet steel, painted lemon yellow (Archrome 15) on lower two floors and exposed aggregate slabs on the upper three. The podium is faced with 4-in. x 4-in. x 9-in. granite setts.

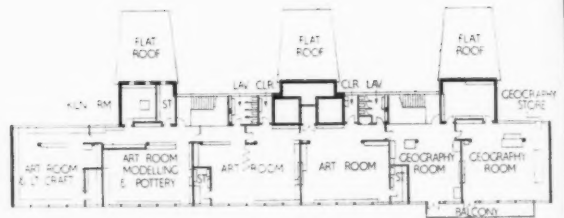
building illustrated



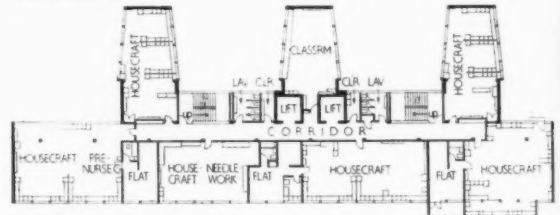
Viewpoint 3. Lower ground floor level, main block. The bush-hammered, 30-in. \times 18-in. tapered stilts at 20-ft. 6-in. centres support a 24-in. raft faced at edges with precast concrete units similar to the eaves units. The underside of the raft is left untreated. A zigzag glazed screen gives access to lifts, stairs and cloakrooms.



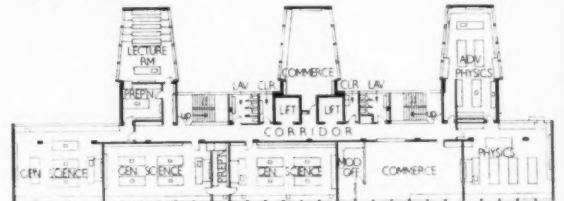
Ground floor plan [Scale: $\frac{1}{4}$ " = 1' 0"]



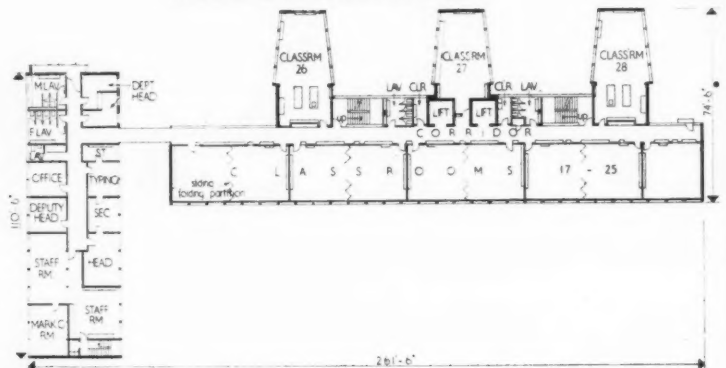
Fourth floor plan



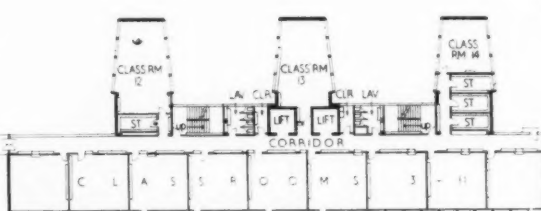
Third floor plan



Second floor plan, classroom block



First floor plan, admin. and classroom block



Lower ground floor and basement plan, admin. and classroom block

analysis

MAIN CONSTRUCTION: general appreciation

Classroom block: 6-ft. 10-in. module in six storeys with 24-in. thick vibrated concrete raft at 12 ft. above ground level supported on in situ tapered columns. South elevation above in 6-in. \times 10-in. precast concrete columns in two lengths. 5-in. thick reinforced concrete gable end walls faced with Derbydene stone; hollow tile and reinforced concrete floors and roof with spine columns and beams between roofs and corridor. Two r.c. staircases and two 30-passenger lifts with motor room on roof.

3 tapering five-storey annexes on north side in similar construction, mass concrete and r.c. strip foundations, column bases and retaining walls, the latter faced with granite setts. Mineral surfaced felt roof covering on p.c. screeds laid to fall. Two expansion joints interrupt the 205-ft. length of the main block. The external walling to south side and sides of annexes consists of galvanised steel windows with cavity spandril walls consisting of 1 $\frac{1}{2}$ -in. precast concrete panels with exposed aggregate tied back to a 3-in. breeze block skin, a 2-in. cavity and 3-in. breeze block inner skin with $\frac{1}{2}$ -in. plaster finish. The north wall of the main block consists entirely of special metal window sections between metal T-shaped mullions, which are fixed back to the edge of floor slabs. Spandril walls of 4-in. breeze block are cement rendered externally and painted to show as coloured panels behind $\frac{1}{2}$ -in. georgian wired rough-cast glass. The east walls of the annexes consist of 11-in. cavity walls with two structural brick skins. Internal partitions are generally 4-in. breeze block.

Administration block: The same module in three storeys, floors and roofs as above, gable ends in 11-in. cavity brick. Spandril walls in 8 $\frac{1}{2}$ -in. cavity construction with 4 $\frac{1}{2}$ -in. red facing bricks externally, 1-in. cavity and 3-in. breeze internally. Reinforced concrete retaining wall to change in ground level at rear of ground floor, supported at mid span by an upright reinforced concrete slab. Self-supporting two storey reinforced concrete link to classroom block side walls in continuous fixed glazing set between mild steel flat mullions. Independent r.c. boiler flue stack 70 ft. high, and hexagon shaped on plan, rising alongside classroom block.

Three gymnasias and link: steel-framed construction, part in two storeys with in situ r.c. first floor supported on 11-in. cavity brick walls and 6 in. diameter precast concrete columns. Red meranti vertical boarding on battens and 4-in. breeze block to walls of upper storey. Mineral surfaced felt roof covering on screed and 2-in. woodwool slabs. The latter supported by mild-steel angles back to back between r.s.j. purlins over gymnasias and by 2-in. softwood joists over changing rooms, with exposed plasterboard and skimcoat ceiling. Two steel framed staircases with Iroko open treads.

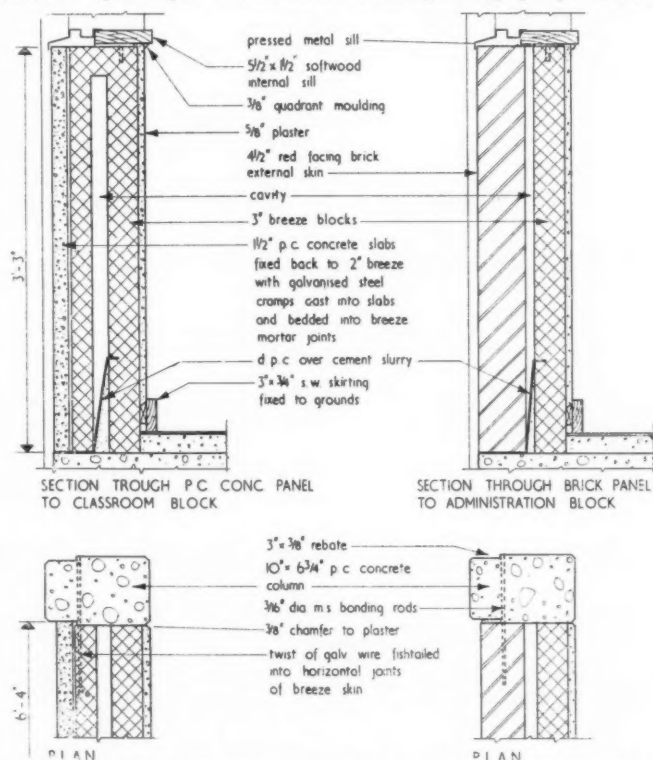
Assembly hall: Steel framed construction, with exposed portal frames diminishing in overall width towards stage with precast concrete floor slabs to raked gallery. 13 $\frac{1}{2}$ -in. brick wall at east end faced with 1 $\frac{1}{2}$ -in. Derbydene stone slabs. 11-in. cavity brick elsewhere. Felt roof covering on asbestos-cement cavity decking. Precast concrete steps on in situ stringers as external exit from gallery.

Kitchen: Part steel and load bearing brick construction in single storey with raised clerestory over island cooking units to give light and ventilation. Spandril window in yellow glass ply and asbestos fibreboard backing.

Entrance foyer: Steel frame with in-situ reinforced concrete floor, staircase and bridge at mezzanine level connecting gallery with administration block. Large fixed composite metal window with mullions at 3-ft. centres overlook the biology pool. Floor lifted above pool by three 6-in. diameter precast concrete columns.

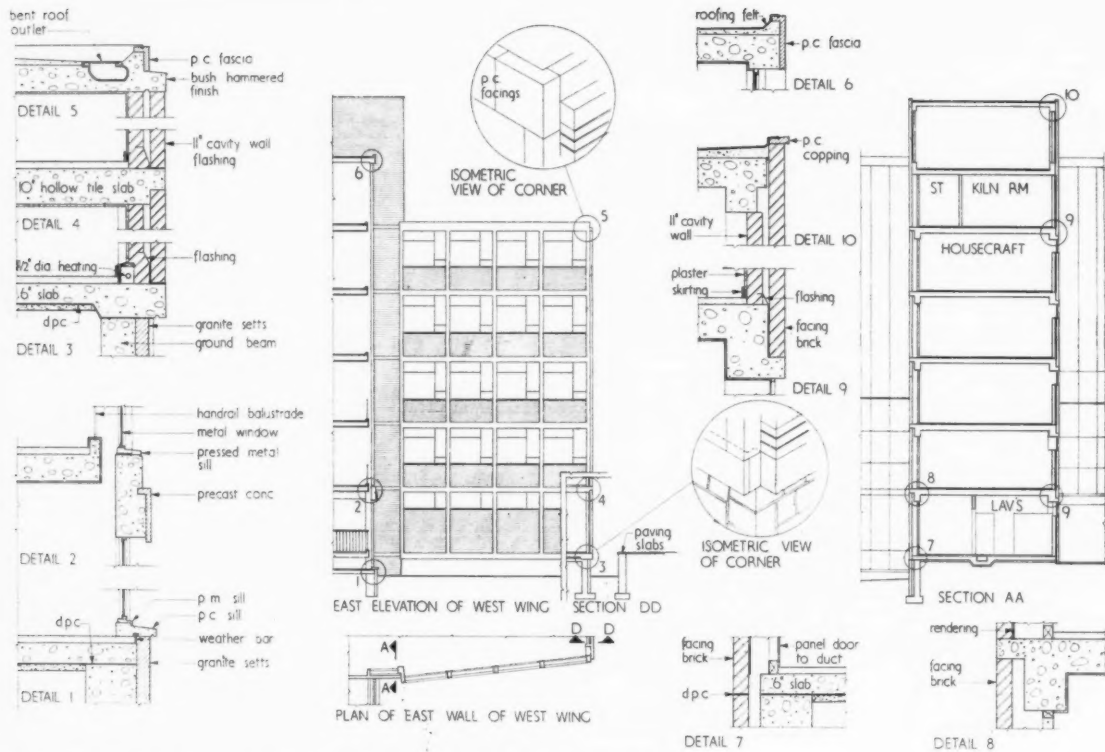


Viewpoint 4. Left, 3-storey administration block; right, classroom block. The brick-faced horizontal flue leader connects with the base of the in situ r.c. hexagonal flue, which is 6 ft. 10 in. \times 4 ft. 4 in. \times 70 ft. high. The top 3 ft. is painted with bitumen. Infill panels to administration block are of red facing brick to match the existing school and act as a foil to the teaching block, on which lower spandrel panels are lemon yellow (Archchrome 15) and upper ones are warm coloured exposed aggregate p.c. concrete.



External cladding detail sections and plans, classroom block and admin. block
[Scale: $\frac{1}{4}$ " = 1' 0"]

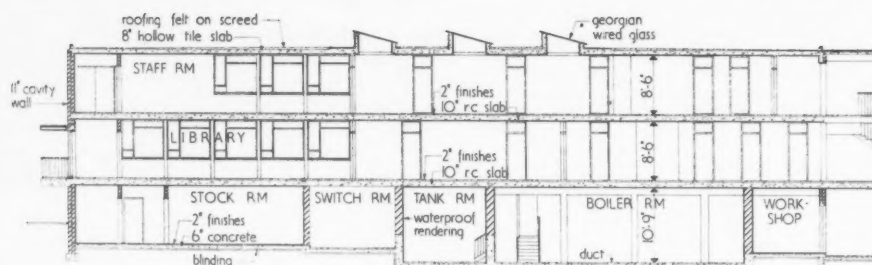
building illustrated



Sections and details, classroom block, west projecting wing [Scale: $\frac{3}{8}''$ and $\frac{1}{4}'' = 1' 0''$]



Viewpoint 5. The teaching block from the north-west. The outdoor teaching terrace is supported on 10-in. diameter precast octagonal r.c. columns at 20-ft. 6-in. centres, and covers a play space and cycle storage. The fourth floor balcony provides an extra bay in one housecraft room and a private balcony to the housecraft flat. Its roof forms a terrace to the geography room. On the lower floors cladding is set back inside columns in order to free junctions of internal partitions with external walls from the discipline of the external column grid.



Section B-B, administrative block [Scale: $\frac{3}{8}'' = 1' 0''$]

analysis

STRUCTURAL ELEMENTS

Work below ground floor level

Mass concrete strip foundation approx. 9-in. \times 27-in. wide below load bearing walls to gymnasium, kitchen, gable end walls to hall, brick infill panels to admin. block, hall and pavilions (the projecting wings to the north-east of the classroom block).

Reinforced concrete columns bases of varying sizes and depths below steel columns to hall, gymnasium and kitchen and under precast r.c. columns to admin., foyer, gymnasium covered playspace and in situ r.c. columns supporting classroom block. Retaining walls of 10-in. monolithic waterproofed concrete with 1-in. internal waterproofed rendering to admin. lower ground floor level. Reason: a high water table at lower end of site.

Walls retained changes in ground level of one-storey height.

Faced with 4-in. \times 4-in. \times 9-in. granite setts. Service crawl duct 4-ft. \times 4-ft. 6-in. connecting all blocks with boiler room is of two 4½-in. brick skins separated by a D.P.M. laid on 6-in. concrete slab base.

External walls and facings

Non-load-bearing cavity construction:

Admin., 4½-in. red facing brick, 1-in. cavity, 3-in. breeze plastered internally.

Hall and pavilion, 4½-in. grey facing brick, 2-in. cavity, 4-in. brick plastered internally.

Gymnasium, 4½-in. grey facing, 2-in. cavity, 4-in. or 9-in. grey facing internally.

Spandril panels on south classroom wall and west pavilion walls, 1½-in. \times 2-ft. 1-in. \times 3-ft. or 5-ft. 9-in. precast r.c. slabs with exposed aggregate cramped to 3-in. breeze with mortar pads, 1-in. cavity, breeze plastered internally.

Tank room, two coats waterproofed cement rendering on 9-in. common brick.

The upper floor of the gymnasium block has ¾-in. meranti boards on ¼-in. exterior quality ply on ¾-in. battens on building paper on 4-in. breeze plastered internally.

Load bearing 11-in. cavity of facing brick and breeze plastered, to kitchen and ancillary block.

13½-in. common bricks in lime mortar supporting gallery structure at east end of hall, faced with 1½-in. sawn Derbydene stone held by wire cramps shot into wall face.

$$\text{ratio: } \frac{\text{solid wall}}{\text{floor area}} = \frac{0.461}{1}$$

Frame

Precast 12-in. \times 6-in. r.c. columns 2/3 storeys high, rebated to take metal window section, reduced to 10 in. \times 6 in. above second floor.

Column grid 6 ft. 10 in. Beam spans 20 ft. 6 in. in classroom block and admin.

Precast concrete columns 6-in. dia. octagonal r.c. column grid 13 ft. 7 in. in gymnasium changing area, 10 ft. 2 in. below entrance foyer.

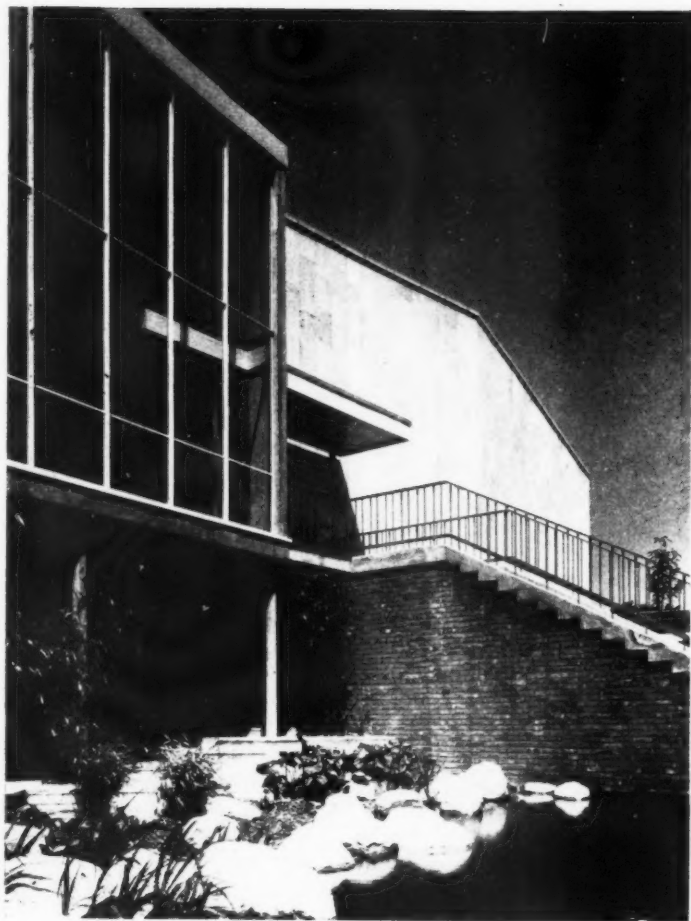
Outdoor teaching, 10-in. dia. at 20-ft. 6-in. grid. In-situ concrete columns 30 ft. \times 18 ft. tapered r.c. columns (bush-hammered), 20 ft. 6 in. grid to lower ground floor of classroom block. 9 in. \times 9 in. and 9 in. \times 12 in. r.c. columns on south side of classroom block surrounding lifts and main stairs. In situ columns to spine wall of classroom and admin. block 12-in. \times varying widths diminishing up building; grid 20 ft. 6 in. (classrooms), 6 ft. 10 in. (admin.).

Structural steel frame used in kitchen, foyer, hall and gymnasium. Hall 16 in. \times 6 in.

Portal frame at diminishing spans towards stage (61 ft. 4 in. to 46 ft. 10 in.) at 13-ft. 8-in. centres.

Kitchen 4-in. \times 4-in. box columns, 7-in. \times 4-in. r.s.j. beams spanning approx. 25 ft. at 6-ft. 10-in. centres.

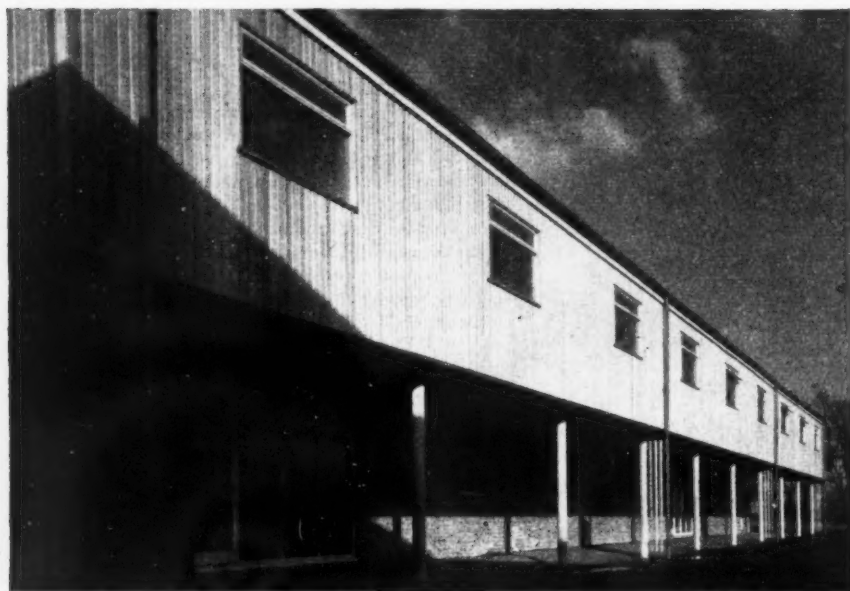
Gymnasium, 10-in. \times 4½ in. r.s.j. columns at 8-ft. 9-in. centres, 12-in. \times 6-in. r.s.j. beams spanning maximum 30 ft.



Viewpoint 6 (above). The biology tank and the steps to the main entrance. The entrance hall is supported on 6-in. diameter hexagonal columns at 10-ft. 2-in. centres with steel frame above. The end wall of the assembly hall is built of 13½-in. common bricks in lime mortar (supporting the gallery structure) with 1½-in. sawn Derbydene stone facings held by wire cramps shot into the wall face. The colour under the entrance canopy is lemon yellow, bricks are grey facings. Viewpoint 7 (below). The kitchen with the dining terrace on the right. Load-bearing 11-in. cavity end wall of breeze and grey facing brick. Spandrel panels are sealed double glazing units with lime green colouring. The tree on the right has been preserved in spite of the fact that the terrace is 5 ft. above original ground level.



building illustrated



Viewpoint 8 (above left). The gymnasium from one of the tennis courts. Precast concrete octagonal columns of 6-in. dia. at 13-ft. 7-in. centres. 4-in. breeze wall faced with t. and g. meranti boarding treated with clear plastic. The upper floor contains showers, changing rooms and kit storage. Gutters and R.W.P.s are of stove enamelled cast iron. Upper floor windows, metal section in meranti frame. Viewpoint 9 (top right). The massing of the teaching block, link, admin. block, entrance foyer and hall, seen from the north-east. Above right: the corridor at ground floor level looking towards the link to the admin. block. The suspended acoustic ceiling (unpainted) is demountable for access to services. The 1-in. g.w. glazed screen to the staircase is divided into 2-ft. squares by an iroko frame (a fire requirement). Floor finish of thermoplastic tiles. Below left: the housecraft room. Equipment consists of cookers, washing machines, copper refrigerators, irons, etc., arranged in bays. Of the five cookers in each housecraft room, two or three are electric. There are twenty 13 amp. outlets and 30 amp. outlets for 5-kW. drying cabinets. The revolving chalkboard, teacher's table and movable

work top storage units are LCC standard furniture. Column and spine beam grey (N 5). Wall, two coats of "Dresden blue" emulsion paint. The floor finish is dark red mottled 3/8-in. lino tiles. The ceiling is white. The ceiling on the right is suspended and demountable for access to services. Bottom left: the art room. The windows are fitted with venetian blinds—in this case they were not asked for originally and normal blind boxes were therefore not provided. Grilles for the re-circulated warm air heating system are seen above (intake) and below pin-up. Fluorescent lighting was recommended by LCC engineers who were consultants. (The fittings chosen are perhaps not the most suitable.) Colours: walls, light grey. The floor finish is of 3/8-in. lino tiles in mottled grey. The door to the store is lemon yellow. Below right: the library is divided into a reading section and a bookstack area. The floor finish is of cork tiles; ceiling paper from the "Palladio" range. The door leads to a division room used also as a periodicals room. Columns in the window wall are medium grey (N 5), the standard colour for the structural members (seeming a shade too dark for this situation).



analysis

Upper floor construction

Classroom and admin.: 8-in. and 10-in. suspended hollow tile and r.c. rib spans 22 ft. max. 12 in. hollow clay tiles between 4½-in. r.c. ribs with 2-in. structural r.c. topping, flat slab beam over windows 12-in. × 14-in. beam alongside corridor. External edges bush hammered. 2-in. screed. Plastered ceiling.

Service pipes are grouped to replace a run of hollow tiles and provided with an access cover on the ceiling.

Gymnasia gallery, classroom, corridors, outdoor teaching area, entrance foyer and bridge classroom-block raft: r.c. in-situ slabs and raft 6 in., 8 in. and 14 in. thick.

Reinforced concrete all exposed soffits, super fine faced, left natural. Corridor slab provided with holes to take metal straps supporting service pipes in suspended ceiling.

Cantilever construction to part of gym floor and classroom corridors to avoid column supports. External edges of foyer and outdoor teaching area superfine faced, and bridge faced with softwood concealing handrail fixings. Outdoor teaching area finished with big membrane and 12-ft. sq. p.c. conc. slabs on screed. Foyer bridge slab supported on r.s.j.'s spanning 30 ft.

Gym gallery: p.c. slabs on steel frame. 3-in. stepped r.c. slabs supported by cranked r.s.j. beams. Raft edges finished with p.c. concrete slabs held by dovetailed metal cramps. Thermoplastic tile suspended ceiling. Repetitive tread and riser floor lends itself to precasting in small units.

Staircases

To classrooms: double flight r.c. in situ, suspended between landing. Reinforced concrete tread and riser, upstand stringer, raked soffit. Superfine soffit precast granolithic treads in-situ terrazzo risers and stringer.

No. 2. Width, 5 ft., total rise 5 ft.

Admin. and entrance foyer: r.c. in-situ, cantilevered from side wall. Reinforced concrete in-situ grano finish, superfine soffit. ½-in. diameter balustrade at 5-in. c/s. 4½-in. iroko handrail. No. 2. Widths 3 ft. and 5 ft., total rise 18 ft. and 9 ft.

External to boilerhouse, lower ground floor (east end), administration hall gallery, main entrance approach and internal cloakrooms: precast concrete treads and risers. 3-in. precast r.c. units with in-situ concrete beams under, in administration and gallery. Concealed brick supports under, in cloakrooms, lower ground floor and boilerhouse. ¾-in. granolithic finish on tread and riser, fair-face concrete sides and soffit. No. 7. Widths, 3 ft., 5 ft. and 6 ft.; total rise, maximum 8 ft.

Gymnasia: welded steel frame. Stringers formed of 2½-in. diameter tubes, spaced parallel with ½-in. diameter rods, at 5-in. centres continued up as balustrades. 10-in. × 2-in. iroko treads with non-slip inserts, no risers, 3-in. iroko handrail. Finished gloss oil paint on metal, clear plastic on iroko. No. 2. Widths, 4 ft.; total rise, 8 ft. 6 in.

Caretaker's house: softwood frame. 1½-in. treads, 1-in. risers in one straight flight, 9-in. × 1½-in. strings, 1-in. square balusters at 5-in. centres, 3-in. oak handrail. Paint on softwood, clear plastic on handrail. Width 3 ft.; total rise, 8 ft. 10 in.

Gymnasium playground: mass concrete, non-slip carborundum dusting tubular metal handrail. No. 3. Widths, 5 ft.; total rise, 14 ft.

Roof construction: Classroom and administration: clay tiles and in-situ r.c. ribs.

Gymnasia: 3-in. woodwool on 2½-in. m.s. angles back to back on r.s.j. (6-in. fall on steel frame to gutter).

Kitchen, foyer, dining foyer, gymnasia gallery and link: 2-in. woodwool on 2-in. joists.

Classroom, administration link: r.c. slab.

Hall and stage: asbestos-cement cavity decking.

All roofs finished three layers of felt on bitumen on screed with mineral surface.

Roof lights

Administration, gymnasia, dining foyer and kitchen: flat pitch on concrete or timber upstands. ¼-in. georgian wired glass permanently fixed in h.w. frame with putty. Mineral flushing, paint internally.

$$\frac{\text{Number of rooflights}}{\text{total area}} = \frac{18}{375} \text{ sq. ft.}$$

Windows

Purpose-made galvanized steel, oil painted windows are used in all areas.

$$\text{Ratio: } \frac{\text{window area}}{\text{floor area}} = \frac{0.192}{1}$$

External doors

Purpose-made galvanized-steel fully-glazed doors to dining foyer, hall, lower ground floor, foyer, gymnasia entrance and link.

Fully-glazed meranti framed doors in entrance foyer, finished with clear plastic.

Softwood vertical boarded, V-jointed to boiler room, tanks, workshop.

Hardwood V-jointed boarded to staff entrance, finished in clear plastic.

$$\text{Ratio: } \frac{\text{external door area}}{\text{floor area}} = \frac{0.011}{1}$$

Glazing

Generally, single glazing throughout. Predominantly 32-oz. with ¼-in. g.w. in maximum 4-ft. widths used where fire regulations require it in doors or stair wells and for safety in gymnasia and lower panels of glass walls. Rough-cast g.w. in roof lights. Hardwood or metal bead fixing externally, putty only used in rooflights or small opening lights.

PARTITIONS

Internal partitions

Load-bearing in gymnasia, stores, kitchen, hall and vertical ducts, is in 4½-in. common flettons with ½-in. plaster both sides used in all areas (14,000 sq. ft.). Fair-faced wall in 9-in. facing bricks in gymnasia (2,920 sq. ft.).

Softwood timber studding faced with perforated insulating board and backed with glass wool in music rooms.

Folding-sliding screen between hall and foyer and in classrooms has a hollow core and hardboard face, oil painted.

Screens

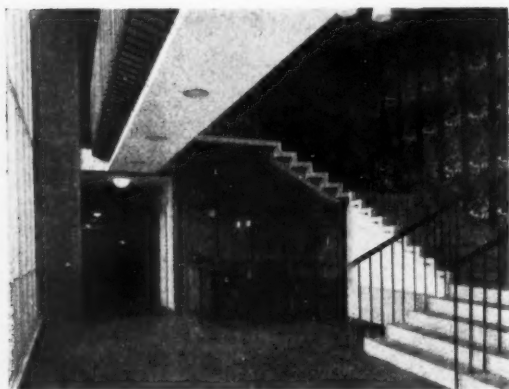
Zig-zag glazed screen to lower ground floor foyer in metal sections, finished oil paint. Main stairs have fixed glazed screen with 2-in. meranti frame subdividing glass into maximum 2-ft. square panels. Glass is ¼-in. g.w. with bead fixing (required as fire-break).

W.c. doors and partitions

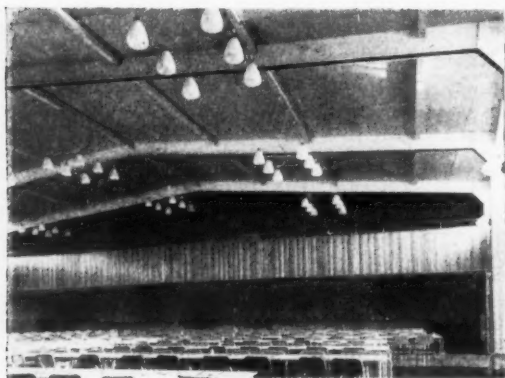
4-in. × 2-in. s.w. door frame and 1½-in. hollow-cored doors hardboard faced, painted. Aluminium-faced ply partitions in channel sections, natural finish.

building illustrated

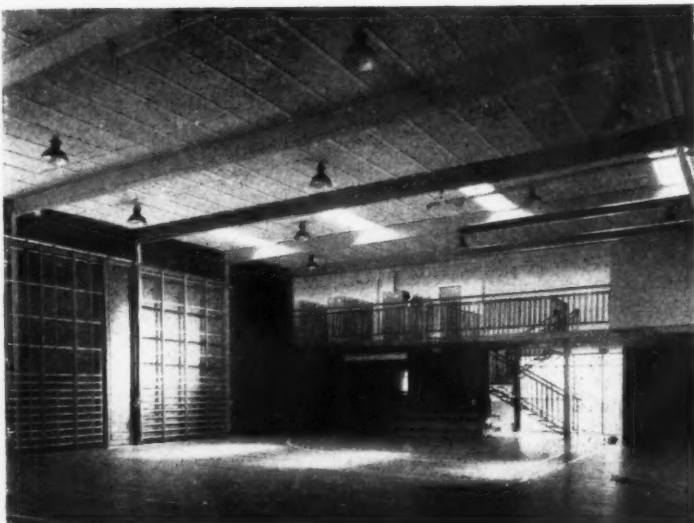
Right: the main entrance. The steps on the left are finished with *in situ* granolithic and lead to the hall and dining foyer. The bridge directly overhead leads to the assembly hall gallery and also gives a good view of the biology pond. Floor finished with polished Derbydene stone. Below: the stair in main entrance leading to admin. block. Iroko handrail supported on $\frac{3}{4}$ -in. m.s. rods. Glazed screen below top flight and landing encloses the school keeper's office. Red facing bricks are pointed with red mortar. The wallpaper, from the "Palladio" range designed by Guy



Irwin, is treated with clear plastic. Centre right: the assembly hall is fan-shaped with 16-in. \times 6-in. steel portal frames of diminishing span toward stage (61 ft. 4 in. to 46 ft. 10 in.) at 13-ft. 8-in. centres. Height at eaves, 16 ft. and at centre 18 ft. Purlins are at 8-ft. centres. The stage, which is 2 ft. 6 in. high, is used as a small hall and provides circulation to the gymnasium. The folding screen, faced with fluted hardboard gives on to the dining foyer on the left. The grilles in the proscenium wall are air extracts. Finishes: floor muhuhu block, ceiling, untreated hardboard. Walls finished in two coats emulsion paint, grey



green. Above: a view of the gallery in the assembly hall, faced with 4-in. meranti t. and g. V-jointed boards. The back wall to the hall and the gallery has perforated natural hardboard in 4-ft. width, V-jointed and fixed to battens with glass wool blanket. Ironmongery, including balcony rail, is in brass. The general character of the hall is therefore one of glowing richness, dominated by warm coloured wood. Right: one of the three gymnasiums. The walls are of warm grey facing bricks, floor of Canadian maple strip. The stair leads to the viewing gallery and kit storage. Changing rooms and showers are also on the upper level.



analysis

Internal doors

All areas, as w.c. doors. Vision panel in $\frac{1}{4}$ -in. g.w. glass.
Gloss painted.
Number of single doors, 210. Number of double doors, 13.
Fire-check doors in main stairs have mahogany veneer with clear plastic finish.

Ironmongery

Silver anodized aluminium in all areas.

FINISHES**Floor finishes**

Library, staff rooms, housecraft flats, have 9-in. \times 9-in. cork tiles in light and dark brown stripes on bay lines (54s. 6 $\frac{1}{2}$ d. per sq. yd.).
Entrance foyer has 1-in. rectangular slabs of Derbydene stone with sawn face over floor heating in screed (189s. 11 $\frac{1}{2}$ d. per sq. yd.).
Kitchen, housecraft work area and gymnasium entrances, $\frac{3}{8}$ -in. \times 6-in. \times 6-in. buff or black quarry tiles.
Gymnasium, 3-in. maple strips on impregnated s.w. battens (52s. 6 $\frac{1}{2}$ d. per sq. yd.).
Assembly hall and housecraft flats, 3-in. muhuhu block, kiln dried to withstand floor heating under windows (48s. 4 $\frac{1}{2}$ d. per sq. yd.).
Showers, semi-polished terrazzo, laid to fall with composition strips.
Cloakrooms, workshops, stockrooms, w.c.'s, stores, $\frac{3}{8}$ -in. in-situ granolithic.
Lower ground floor foyer, 1 $\frac{1}{2}$ -in. \times 2-in. \times 2-in. slabs of precast granolithic.
Dining foyer, corridors, 9-in. \times 9-in. \times $\frac{3}{16}$ -in. thermoplastic tiles.
Classrooms, practical rooms, 9-in. \times 9-in. \times $\frac{3}{16}$ -in. lino tiles and sheet in mottled colours.

Wall finishes

Generally the finish is $\frac{5}{8}$ -in. plaster.
In assembly hall (rear wall) perforated natural hardboard in 4-ft. widths, V-jointed on battens with glasswool insulation is used to increase sound absorption.
On side walls, 4-in. meranti t.g. V-jointed boards with clear plastic finish.
Foyer and gymnasium, fair-faced brick with struck horizontal joint.
Showers and kitchen, 6-in. \times 6-in. \times $\frac{3}{8}$ -in. glazed earthenware tiles on 1:3 cement mortar. Hand printed wallpaper in staff room and foyer.

Ceiling finishes

Generally skim coat on plaster board or two coat plaster on expanded metal lath finished with two coats oilbound distemper. Natural finish gloss hardboard in 4-ft. width in assembly hall.
Woodwool on steel frame in gymnasium, painted with oil-bound distemper.
Suspended ceiling in classroom corridors of $\frac{3}{8}$ -in. perforated insulation board panels, V-jointed and secured to metal angle frame spanning corridor. Part removable for access to services. Natural finish.

Decorations

Walls, two coats emulsion. Ceilings, two coats oilbound distemper. Woodwork and steel, primed, one under and one top gloss oil. Cloakroom walls, cement glazed.
Colour scheme: externally natural materials dominate with small areas of bright colours. Internally, cool neutral tints are used extensively as backgrounds, with bright colours, wallpapers and fabrics creating interest at focal points.

FITTINGS**Cloakroom fittings**

Pupils wall and island units in semi-basement and lower ground floor of teaching block are of 1-in. dia. m.s. tube frame, oak rail and slatted bench, 14 g. wire shoe basket. Finish oil paint on metal work, clear varnish on wood.

Other fittings

Standard LCC equipment is used in all areas. Work tops and frames are of solid iroko with birch panels. In housecraft rooms, softwood EJMA cupboards finished with oil paint and in corridors to practical rooms, softwood book lockers with the same finish are used. The LCC Supplies Dept. provided kitchen equipment, curtains, chalkboards and fire fighting equipment.

Gym kit lockers and changing benches

Kit lockers provided by LCC (fixed on gym. gallery). Changing benches are of softwood slats.

SERVICES**Rainwater disposal**

The classroom block has 4-in. dia. c.i. pipes concealed in service ducts and standard roof outlets. All other blocks have 3-in. and 4-in. stove enamelled c.i. box gutters and down pipes.

Waste disposal

Plumbing internal: All pipes in c.i., deep-seal traps in multi-storey blocks.

Cold water installations

3,600 gallons of cold water are stored in a 12-ft. \times 12-ft. \times 4-ft. pressed steel tank on the classroom block roof. Circulating pipework is in galvanised iron. Copper pipes where visible or in suspended floors.

Sanitary fittings

W.c.s and basins of vitreous china, sinks of fireclay and drinking fountains of porcelain enamelled c.i. Total number of fittings: 119, plus 38 chrome plated shower sprays.

Heating installation

A variety of types is used.
In cloakrooms, art, housecrafts and gymnasium, electric forced flow convactor units housed in sheet steel cabinets. (20,000 BTU/hr. each).
Assembly hall and stage, unit heaters concealed in built-in casings and supplied with fresh air through inlet grilles on external walls. (79,000 BTU/hr.). Other areas, pressed steel, easy clean wall panel radiators with heat resisting paint finish.
Below east windows of assembly hall and in entrance foyer, embedded floor heating panels are used, consisting of copper coils laid in screed fed with thermostatically controlled low pressure hot water.

Boiler type

Three oil fired, cast iron, sectional boilers. Fuel oil stored in two m.s. rectangular tanks of approx. 10,000 galls. total.

Ventilation

Extract fans are situated on roofs of stage and assembly hall and are connected by built-in casings to grilles on proscenium walls. Simultaneous action with unit heater. Kitchen: exposed trunking on ceiling of washing-up area.

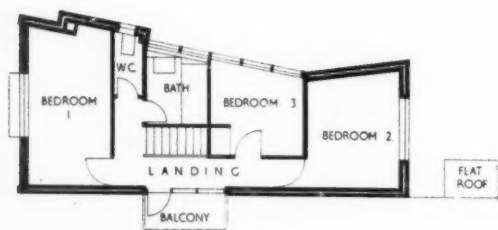
Hot water installation

Four 500 gall. storage indirect cylinders in boiler house.

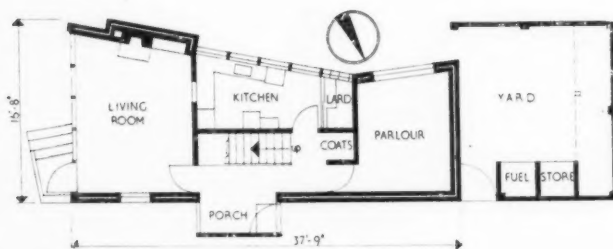
building illustrated



Viewpoint 10. The caretaker's house from the south-west. 11-in. cavity construction of facing brick and breeze plastered. Horizontal boards are $\frac{3}{4}$ -in. meranti on $\frac{1}{4}$ -in. exterior quality ply on $\frac{3}{4}$ -in. battens on building paper on 9-in. common brick plastered internally.



First floor plan



Ground floor plan, caretaker's house [Scale: $\frac{1}{16}$ " = 1' 0"]

analysis

Drainage

Separate systems. C.i. under building. C.i. covers. Tumbling bays to follow contours. Agricultural drains behind kitchen and admin.

Gas installation

3-in. gas main. M.s. tube pipework. One 1,800 c.f.h. meter serving cooking and laundry equipment in housecraft rooms.

Electrical installation

Sub-circuit wiring is of p.v.c. insulated cable drawn in to welded steel conduit feeding 1,700 lighting points, 350 13 amp. socket outlets. Total connected load approx. 900 kW. There are 86 impulse clocks, 13 fire alarm pushes and 100 radio outlets.

Classroom lighting is by 100 watt lamps in acrylic sheet shades. Chalkboard boost by four 60-watt lamps in trough fittings.

Art rooms are lit by 4-ft. 40-watt "new warm white" fluorescent lamps (LCC engineers dept. designed the installation).

Twelve multi-light fittings (designed by the architects) are used in the assembly hall, each with six 100-watt lamps. A 24-way dimmer board with 14 1,000-watt dimmers controls a variety of spots and floods mounted on a special grid above the stage.

Lifts

The 6-storey classroom block has two 30-person 150 f.p.m. lifts. Motor rooms positioned just below roof level. Top floor served by stairs only.

Paved areas

2-in. \times 2-ft. sq. precast concrete slabs in 6-ft. 10-in. sq. base divided by 2-in. \times 10-in. \times 2-ft. slabs with black vegetable dye colouring, laid to fall on 1-in. bed of sand and 4-in. hardcore.

Acoustic treatment

$\frac{3}{4}$ -in. perforated cane fibre panels in classrooms corridors giving absorption of 0.3 at 512 c.p.s.

Fire fighting equipment

13 swivel hose reels, six wool blankets in metal containers, three sand buckets, three hand extinguishers.

Fire: planning precautions

Vehicle road along north side of classroom block up to biology pool, providing access for fire fighters between pavilion blocks. Length of main block dictated by a maximum distance permitted from main stairs. Lifts returned to ground floor on relay of fire alarm.

Refuse disposal

Gas incinerator in boiler house, connected to horizontal boiler flues.

TIME SCHEDULE

Drawings	Nov. 1953
Tender date	Feb. 1954
Contract signed	Mar. 1954
Work commenced	Mar. 1954
Work completed	Oct. 1956
Type of contract	LCC

analysis

SITE AND PLAN ACCOMMODATION

Site accommodation	Area in acres	Per cent. of total	Plan accommodation	Area in sq. ft.	Per cent. of total	Area per place (1,178 places)
Building	1.37	19.71	Hall	4,961	5.12	4.21
Playing fields	2.96	42.59	Stage	1,095	1.13	0.93
Hard playing areas	1.50	21.58	Gymnasia	7,200	7.43	6.11
Planting near building	0.30	4.32	Library	1,155	1.19	0.98
Roads	0.50	7.19	Classrooms (general and practical)	42,783	44.14	36.32
Paths, paving	0.30	4.32	Staffrooms and admin.	4,464	4.60	3.79
Caretaker	0.02	0.29	Stores, sanitary	7,417	7.65	6.30
Total	6.95	100	Circulation and area occupied internal walls	27,859	28.74	23.65
			Total	96,934	100	82.29

COST ANALYSIS

Preliminaries and insurances 3s. 7½d. per sq. ft. Contingencies 1s. 0½d. per sq. ft.
(These two items have been spread among the other prices)

ELEMENT	COST PER SQUARE FOOT OF FLOOR AREA				Entrance foyer and kitchen
	Classroom and administration 72,889 sq. ft.	Gymnasia 12,230 sq. ft.	Assembly hall 6,288 sq. ft.		
Floor areas					
Work below ground floor level	s d	s d	s d	s d	
External walls and facings	4 2½	8 4	12 7½	12 11	
Frame or load-bearing element	3 7½	3 1½	8 1	2 9½	
Upper floor construction	3 4½	6 9	12 1	4 7½	
Staircases (including finishes)	6 7	2 0½	2 3	7½	
Roof construction	2 1	1 0½	1 8½	1 8½	
Roof lights	1 10½	3 9½	5 9½	6 5½	
Windows	½	4½	—	4	
External doors	3 6½	1 4½	1 5½	3 0½	
Glazing	2½	4	4½	4½	
Internal partitions	8½	8½	3½	1 5½	
Screens	1 6½	2 5½	1 3½	11	
W.c. doors and partitions	3½	—	—	—	
Internal doors	2½	2½	—	½	
Ironmongery to internal doors	3½	3½	2½	3	
Floor finishes	2½	2	2½	2½	
Wall finishes	3 8	4 8	5 3	5 3½	
Ceiling finishes	1 1½	1 1½	2 1½	1 2½	
Decorations	1 0	5½	4 11½	1 1½	
Cloakroom fittings	1 2½	10½	1 4	1 3½	
Other fittings	4½	—	—	—	
Kitchen equipment	2 8½	5	7½	1 6½	
Gymnasia kit lockers and changing benches	—	—	—	2½	
External plumbing and rainwater disposal	—	2½	—	—	
Waste disposal	6	9	8½	1 10	
Cold water installation	7½	1½	—	3½	
Sanitary fittings	1 1½	1 10½	—	3 2½	
Heating installation	7	5½	—	4½	
Ventilation system	5 6½	4 4½	3 10	10½	
Hot water installation	—	—	1 3	6 8½	
Drainage	1 7½	2 5½	—	1 9½	
Gas installation	7½	4½	2	4½	
Electrical installation	3½	—	—	—	
Lifts	5 0	4 6	4 11½	5 0½	
	3 1	—	—	—	
Total cost per sq. ft. of floor area	57 10	53 6½	71 6½	66 9½	

COST SUMMARY

No. of form entries	No. of places	Floor area	No. of sq. ft. per place	Net cost
7	1,178	96,934 sq. ft.	82.29	£293,911
Net cost per place	External works	Gross Cost	Gross cost per place	
£249 10s.	£33,573	£327,484	£278	

analysis

COST COMMENTS

This school has been designed to almost the maximum cost limit yet with an area per place of 82.29 f.s. This is a much greater area per place than any of the larger schools previously analysed (Catford, October 13, 1955; Woodland, Coventry, August 25, 1955; Mayfield, Putney, August 2, 1956; Whitley Abbey and Lyng Hall, Coventry, February 28, 1957), and has meant that the cost per f.s. has had to be reduced proportionately to an overall net cost of 60s. 7½d. (cf. Catford at 80s. 7d. per f.s.).

In order to plan down to this figure economies have obviously been made in designing work of a repetitive nature and in the choice of a mixture of techniques and perhaps to the use of a number of wet trades; unless the client required the accommodation to be completed in a certain order this latter choice may have some bearing on the contract period, which extended over 2½ years.

The cost of each element has been conveniently broken down into blocks of similar construction, providing four analyses which could be complete within themselves. This means that the various ratios will be needed for each analysis before certain elements may be compared, e.g. "external walls," "upper floors" etc.

It should be noted, however, that the service costs and the preliminaries and insurances are spread over all the elements, and therefore the special plant, etc., attributable to the 6-storey block which have been priced within the preliminaries have been included pro rata in each analysis. The co-operation of the contractor would have to be sought before any comparison could be made of the effects of storey height on cost, as outlined in the articles by James Nisbet (AJ July 19, 1956) and Richard Whittington (AJ July 26, 1956).

Certain of the elements call for comment:

Frame: The analyses reflect the difference in cost of the concrete frame for the classroom and admin. blocks and the steel frame used in the remaining buildings, the steel costs rising with the distances to be spanned.

Ceilings: The assembly hall ceiling at 4s. 11½d. is of self-finished hardboard and therefore carrying its own cost of decoration. The low figure for gymnasium ceilings is due to the main area of ceiling being that to the underside of the wood wool roof, whose cost is included in the "roof" element. The cost of painting direct on the wood wool slabs is in "Decorations." On this area therefore there are no "ceiling" costs. The 5½d. covers the cost of ceiling treatment under the upper floors in this block.

Stairs and lifts: In comparing costs of the stairs and lifts (2s. 1d. and 3s. 1d.) in the class and administration blocks, note the lifts are serving 5 floors, the stairs 6 floors plus an additional flight over each lift. The element of lifts covers only the equipment, and a study of the comparative costs of stairs and lifts would require a cost exercise of its own including enclosing walls and analysis of areas of circulation, etc.

It should be noted that the total net cost, £293,911 includes the cost of playgrounds at 1s. 11½d. per sq. ft., which is not shown in the analyses for individual blocks.

SITE ORGANIZATION

Site labour and equipment: agent, assistant agent, trades foreman and gangers permanently on site. Visiting engineer approximately once a month throughout contract period. Normal site offices for clerk of works, agent, cashier, together with site canteen and various store sheds. Usual site plant, ranging from excavations down to small electric tools.

Sub-letting: tree clearance, chain link fencing, scaffolding, wall and floor tiling, asbestos roof, decking, asphalt roofing, cement glaze, plastering, plumbing, glazing and painting. Reason: more economical and better facilities.

Job management: progress charts were made out at the commencement of the contract and the main contractor arranged to complete the works well within the agreed contract period. Due to alterations in planning the contract period was extended. In consequence no target bonus scheme was possible. The site was under the control of the agent, but twice weekly visits were made by the contracts manager.

CONTRACTORS

General contractors: Lavender, McMillan Ltd. **Sub-contractors—Asphalt:** Durable Asphalte Co. Ltd. **Concrete blocks:** J. W. Sergeant Ltd. **Reinforced concrete:** Caxton Floors Ltd. **Bricks:** Facing bricks, Broad & Co. Ltd. common bricks, London Brick Co. **Stone:** Nine Elms Stone Masonry Works Ltd. **Roofing felt and tarmac:** Durable Asphalte Co. Ltd. and Permanite Ltd. **Partitions:** metal faced plywood, Wm. Mallinson Ltd. **Aluminium channel fixings,** Flexo Plywood Industries Ltd. **Glass:** Faulkner Green & Co. Ltd. **Patent floorings:** Wood block, cork flooring and Marley tile, S. Bennett & Son (Wood Flooring) Ltd. **Structural steel:** H. Young & Co. Ltd. **Water proofing materials:** Quickset Water Sealers Ltd. **Central heating, gas fixtures, plumbing, kitchen extract plant:** Z. D. Berry & Sons Ltd. **Gas fittings:** South Eastern Gas Board. **Electric wiring:** Duncan Watson Ltd. **Electric light fixtures:** Troughton & Young Ltd., Merchant Adventurers Ltd., Holophane Ltd., Falk, Stadelmann Ltd., fixed by Duncan Watson Ltd. **Boilers:** Supplied, Ideal Boilers & Radiators Ltd., fixed, Z. D. Berry & Sons Ltd. **Stairtreads:** Ferodo Ltd. **Metal staircases:** H. & C. Davis & Co. Ltd. **Ventilation:** Fume extraction, A. Gallenkamp & Co. Ltd. **Door furniture:** A. G. Roberts Ltd. **Stage equipment:** Supplied, Strand Electric & Engineering Co. Ltd., fixed, Duncan Watson Ltd. **Grates:** Fred Hodge Ltd. **Telephones:** Clarke & Smith Ltd. **Casements:** Metal, Crittall Manufacturing Co. Ltd., wood, James Prepared Woodwork Ltd. **Window furniture:** A. G. Roberts Ltd. and James Gibbons Ltd. **Fireproof doors, joinery, garden furniture and furniture:** James Prepared Woodwork Ltd. **Roller shutters:** Tidmarsh & Sons. **Sanitary fittings:** Supplied, John Bolding & Sons Ltd., fixed, J. D. Berry & Sons Ltd. **Plaster and tiling:** Alan Milne Ltd. **Textiles:** Heals Contracts Ltd. **Wallpaper:** Coles of Mortimer Street, John Line & Sons Ltd., Arthur Sanderson & Sons Ltd., hung by H. & C. Decorations Ltd. **Furniture:** LCC and James Prepared Woodwork Ltd. **Sun blinds:** S. C. Williams Ltd. **Shrubs and trees:** Wallace & Barr. **Cloakroom fittings:** Parker, Winder & Achurch Ltd. **Lifts:** Bennie Lifts Ltd. **Clocks:** Gent & Co., fixed by Duncan Watson Ltd. **Paint:** Hadfields Ltd. **Painting:** H. & C. Davies & Co. Ltd.

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working detail

SLIDING AND FOLDING DOORS: OFFICES IN BIRMINGHAM

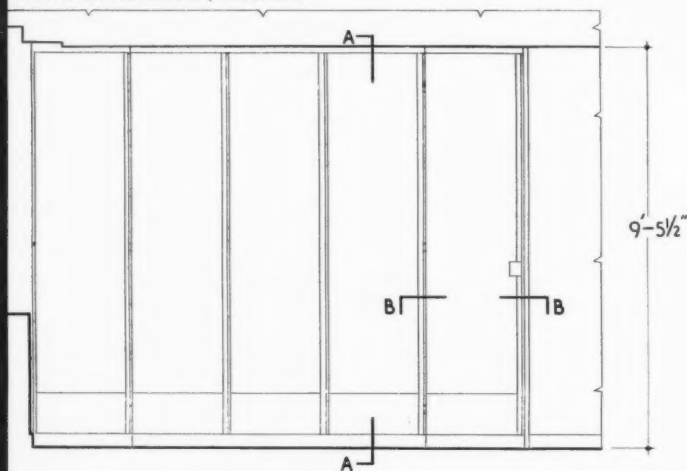
Jackson and Edmonds, architects

Though this partition is divided to suggest five leaves (by the use of sycamore beads of similar profile to the sycamore edging) the three central "leaves" are in fact solid in one plane and only the two outer leaves fold. Note the flush bottom rail-cum-skirting and the hinged lining which masters the partition when it is fully rolled aside. The horizontal line which occurs about 1 ft. 4 in. above the floor is occasioned by the fact that the plywood on to which the veneer is backed is only obtainable in 8-ft. high pieces. The architects preferred to express the join with a V-shaped checking rather than to attempt to conceal it.

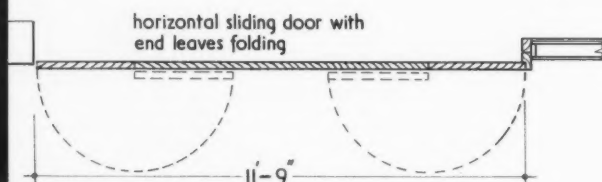
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SLIDING AND FOLDING DOORS: OFFICES IN BIRMINGHAM

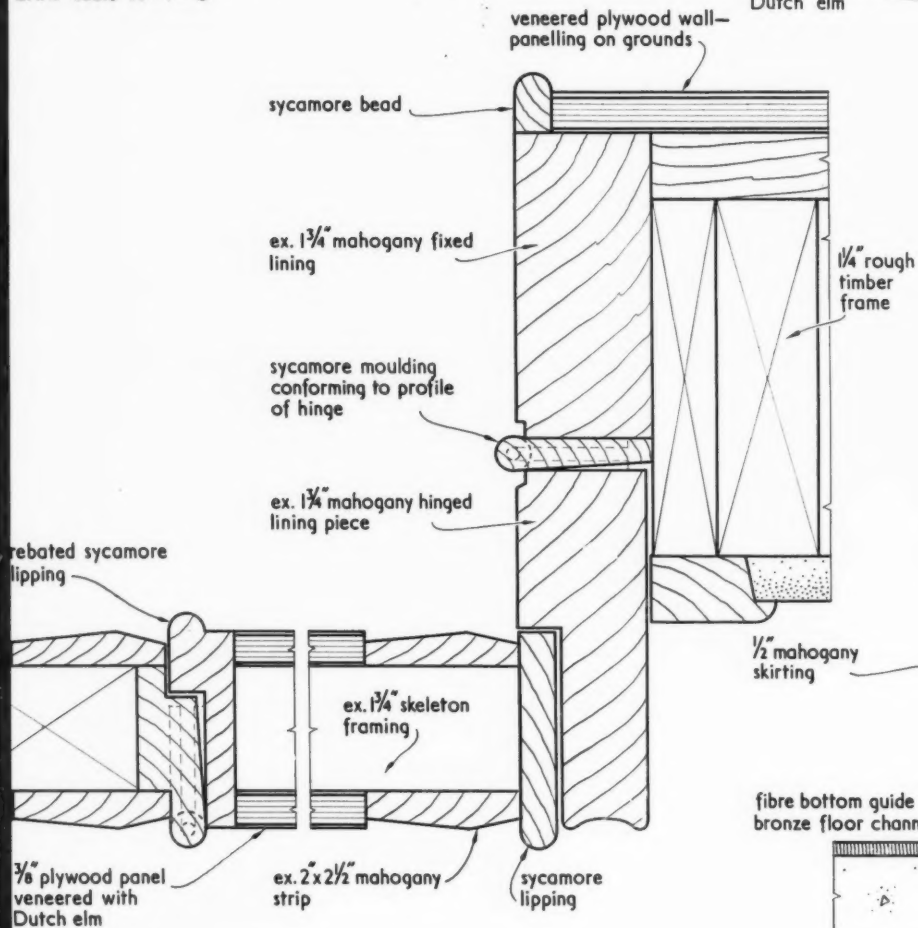
Jackson and Edmonds, architects



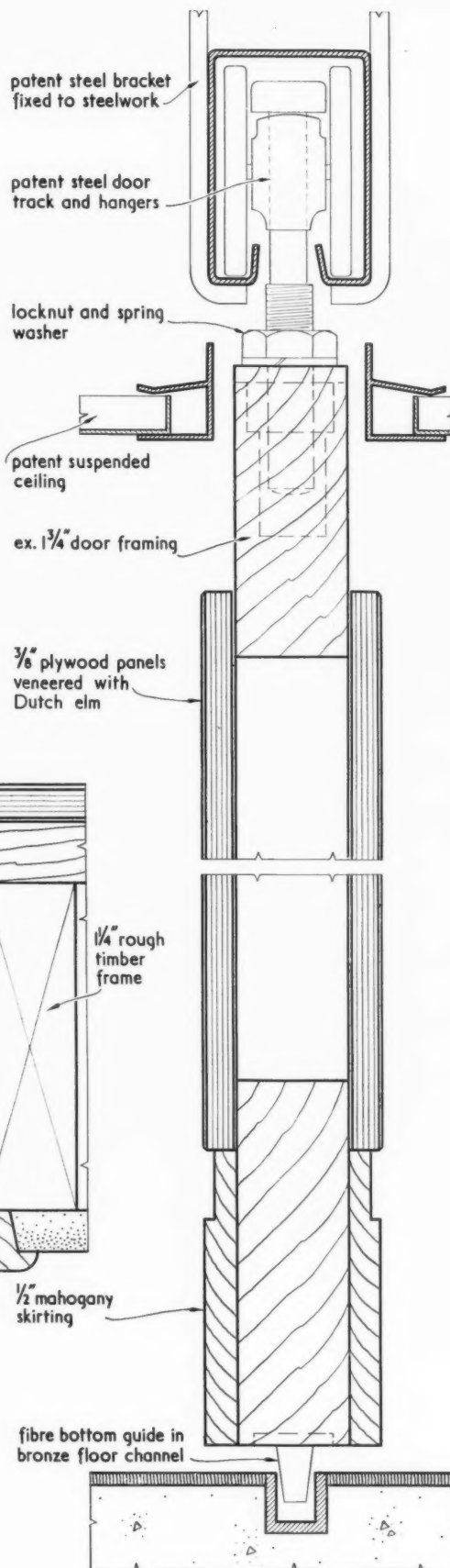
ELEVATION. scale $\frac{1}{4}'' = 1'-0''$



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



DETAIL AT B-B. scale $\frac{1}{2}$ full size



SECTION A-A. scale $\frac{1}{2}$ full size

working detail

FURNITURE AND FITTINGS: 72

RECEPTION DESK: OFFICES AT UXBRIDGE, MIDDLESEX

Leonard Manasseh and Partners, architects



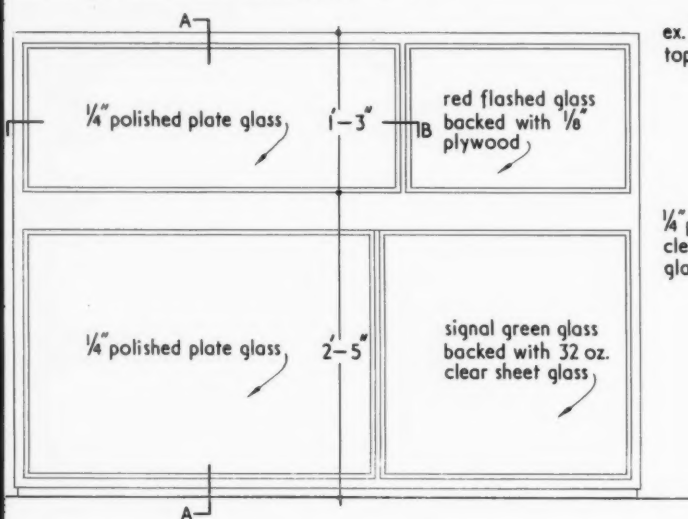
This desk gives a good example of the manner in which an exceptionally neat jointing technique (i.e. the use of brass angle trim to hold the polished plate glass panels) facilitates functional design by drawing attention to proportioning and by giving a sense of evident deliberation to the architects' decisions. Thus the unequal vertical division as between the top and bottom compartments which could so easily have become a source of irritation is here wholly convincing and in fact provides a key to the design. The architect is of the opinion that an obscured glass might have been better in the lower left hand front panel as the present choice of a clear glass compels the receptionist to keep her shoes on.

working detail

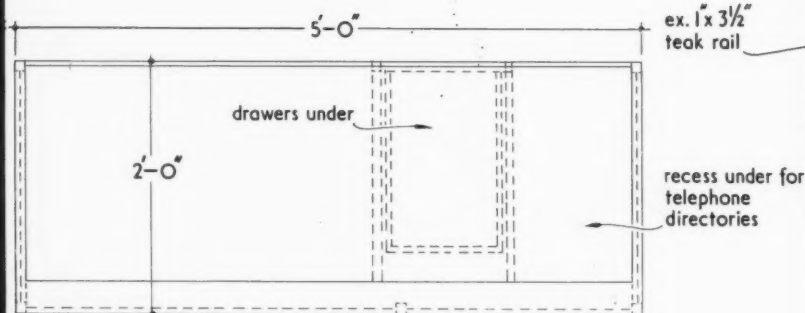
FURNITURE AND FITTINGS: 72

RECEPTION DESK: OFFICES AT UXBRIDGE, MIDDLESEX

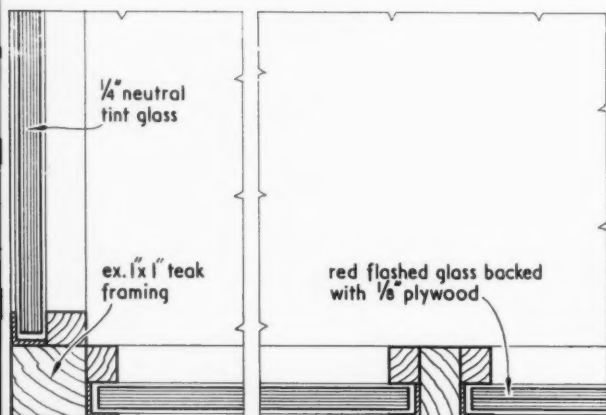
Leonard Manasseh and Partners, architects



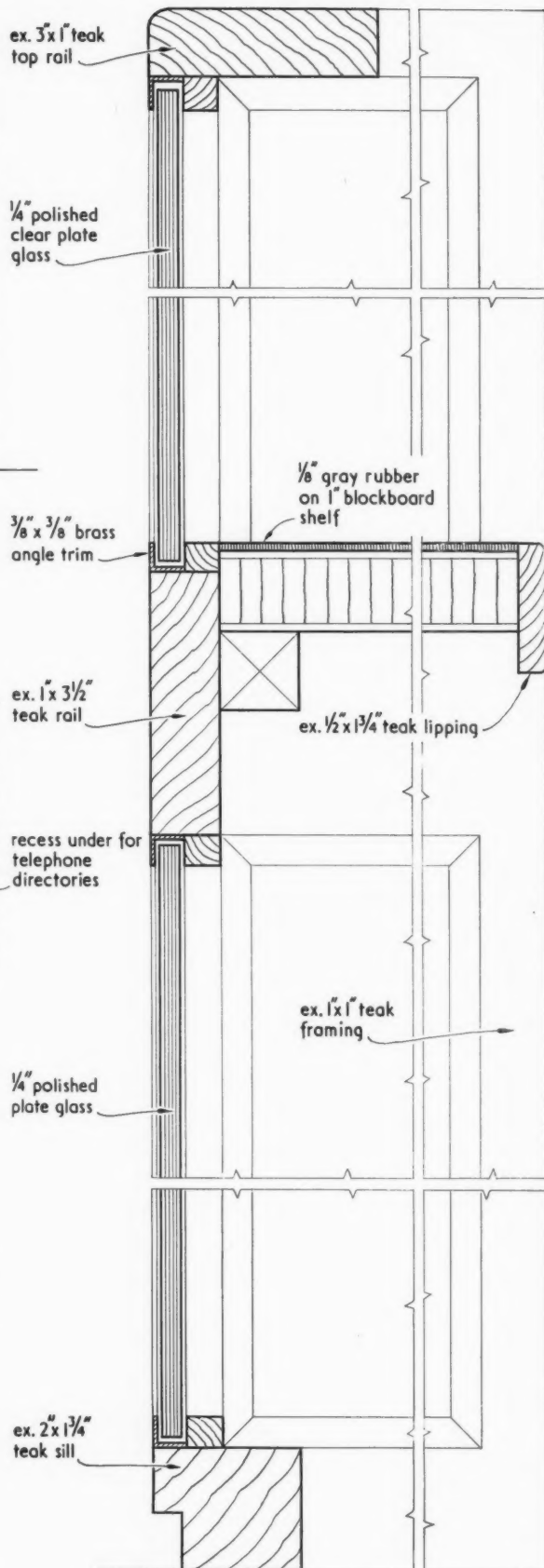
ELEVATION. scale $\frac{3}{4}$ " = 1'-0"



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



DETAIL AT B-B. scale $\frac{1}{2}$ full size



SECTION A-A.

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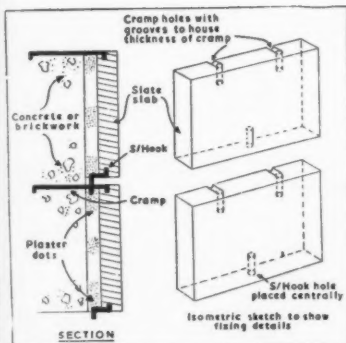
THE BROUGHTON MOOR GREEN SLATE QUARRIES LTD.

CONISTON, THE LAKE DISTRICT, LANCASHIRE

CONISTON 225/6
CANN, CONISTON

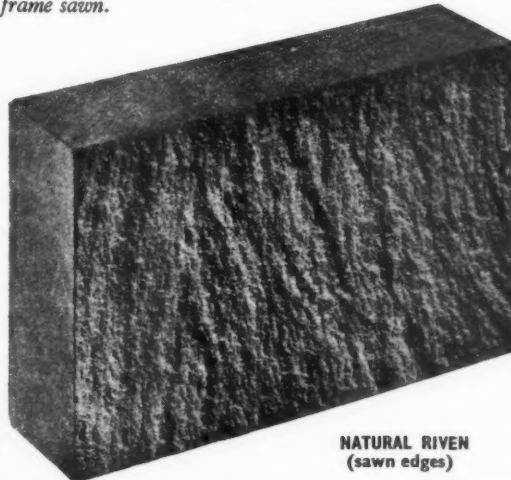
SLATE SLABS

Broughton Moor Light Sea Green Slate Slabs



FACING WITH BROUGHTON MOOR SLATE

The illustration shows the beautiful texture, character and colour of this material. Other finishes include: Fine rubbed, sanded, rough diamond, frame sawn.



NATURAL RIVEN
(sawn edges)

The Broughton Moor quarries are situated in the Lake District mountains, and from them is obtained the beautiful Olive Green and Light Sea Green Slate famous for its colour, texture and great durability

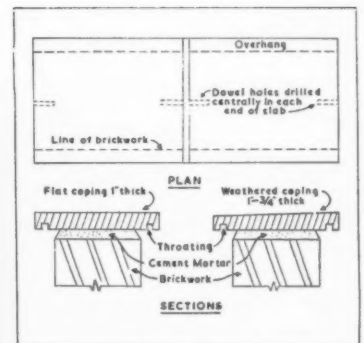
THE SLABS, after being wire sawn and blasted from the quarry face, are sawn to size and given the appropriate finish. They are readily available up to 5' 0" x 2' 0" in the Light Sea Green colour with a frame sawn, sanded or finely rubbed finish, and in thickness from 1" up.

NATURALLY RIVEN (i.e. naturally split) slabs can be supplied both in the Olive Green and in the Light Sea Green colours. In the Olive Green colour slabs can be supplied up to sizes 24" x 15" and in thickness from 3/4" up. Light Sea Green slate slabs with a naturally riven finish can be supplied in sizes up to, say, 18" x 15". Small sized slabs can be supplied with a naturally riven finish approximately 1/2" thick in both the Light Sea Green and the Olive Green colour.

ALL WORK is normally executed from Architects' prepared drawings, combined with Contractors' site details, and templates if required. A high degree of accuracy, combined with a first class standard of craftsmanship, is guaranteed.

A TYPICAL SPECIFICATION. "The facing slabs to be of Broughton Moor Light Sea Green Slate, obtainable from the Broughton Moor Green Slate Quarries Ltd., Coniston, Lancs, all 1" thick and with natural riven finish to top face, and sawn edges, to sizes as shown on detailed drawings, and having two holes drilled for cramps, and one hole for 'S' hook per slab."

HOLING of slabs can be done at the quarry for cramps, dowels or 'S' hooks, with grooves cut from the hole to the back of the slab to house the thickness of the metal.



COPING WITH BROUGHTON MOOR SLATE

SPECIAL MOULDINGS, cuttings, weatherings, or lettering will be quoted for on request. This material is ideal for work in low relief.

THE WEIGHT of Broughton Moor Light Sea Green Slate can be based on 150 ft. sup. of 1" thick material being equivalent to 1 ton.

A KEY PLAN is supplied by the quarries whenever necessary to facilitate fixing, with corresponding marks on each slab. With slabs having sawn edges, fine joints can be obtained.

DELIVERY of this material can be given promptly to all parts of the country, by road direct to site in company's transport, or to nearest station by rail carriage paid. Technical pamphlets illustrating the following uses are available on request:

Flooring	Pamphlet 1
Facings	" 2
Coping	" 3
Cills	" 4
Riven Face Slabs	" 5

A REPRESENTATIVE is available to discuss all supply and fixing problems.

Further particulars, delivered prices, samples, etc., from :-

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Coniston 225/6

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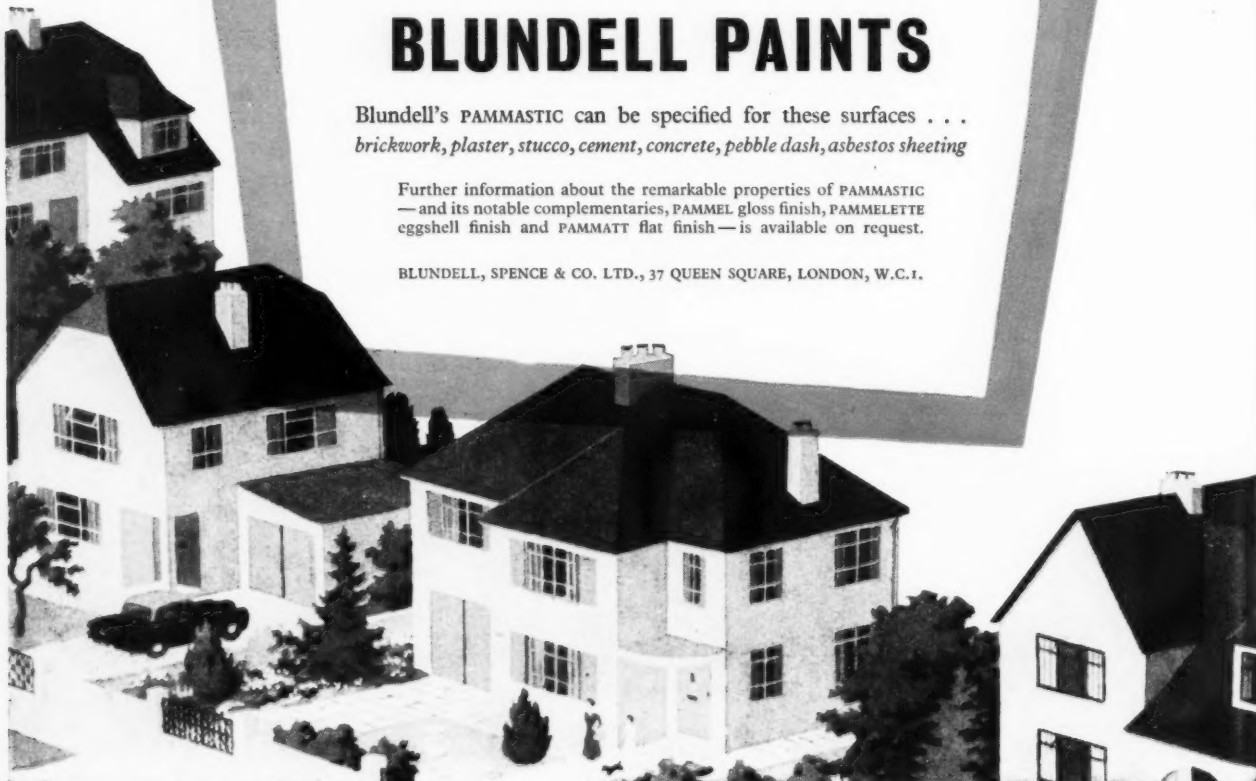
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FLAT CONVERSION ON THE CHELSEA EMBANKMENT, LONDON, S.W.3

The top floor of a Victorian mansion on Chelsea Embankment has recently been converted and redecorated for Eric Warman, the author, by Vivian Pilley. A living room with dining recess, kitchen, bathroom and two bedrooms, have been provided, and the architect was given complete control, even in the choice of fabrics, cutlery, linen, glassware, crockery, etc., so that uniformity of style should be attained. On the far wall of the living room is



a pivoted cocktail cabinet seen semi-closed, left, and open, above. The drop-down flap has a top of black and white laminated plastic sheet and the cabinet is lined with patterned aluminium. The television set is on a turntable. Against the opposite wall are mahogany shelves hung on $\frac{1}{4}$ -in. steel rods. The colour scheme includes a grey-green carpet and lime green ceiling.

The Church of St. Laurence- Jewry in the City of London . . .

Hard by the famous Guildhall stands this beautiful Church designed by Sir Christopher Wren. During the War it was reduced to a shell and all the interior fittings destroyed by Hitler's Luftwaffe.

Mr. Cecil Brown, L.R.I.B.A., was the Architect chosen to restore it to its former glory and HAMMERS are proud to have been commissioned to make the Pulpit, Choir Stalls, Bishop's Throne, the Staircase to the Organ Gallery and the Altar Rails.

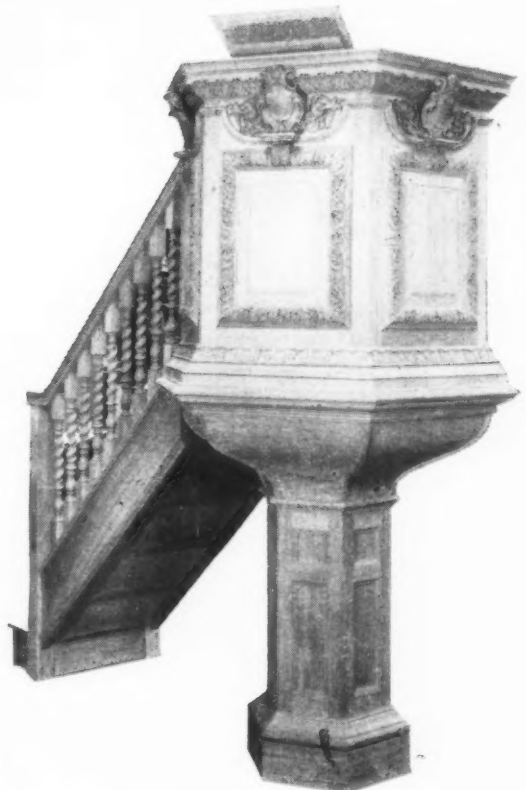
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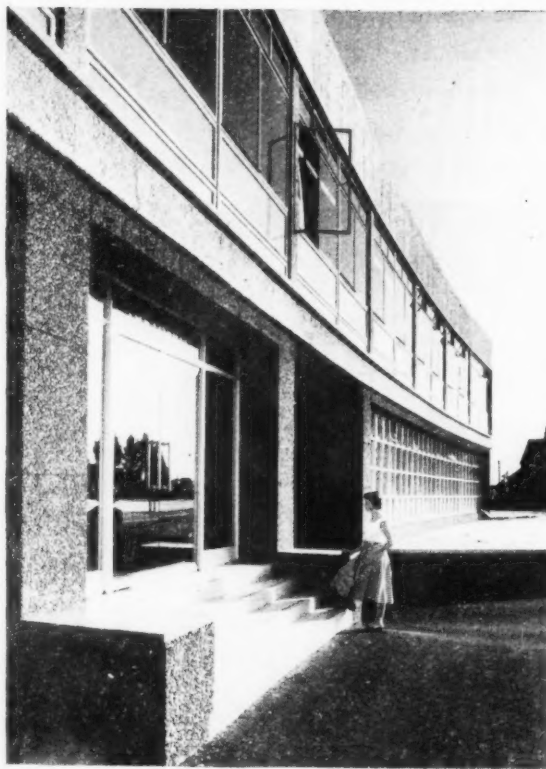
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OFFICES AT BRENTFORD, MIDDLESEX

This office building for Gevaert Ltd., Great West Road, Brentford, Middlesex, was designed by Douglas and J. D. Wood, in association with Georges Lust, architect to the client's parent company in Belgium. The consulting engineer was J. Bak. The building is 140 ft. long on a concave curve to follow the line of the road and has a r.c. frame. The facade, right is entirely clad with 1½-in. thick precast slabs. The exposed aggregate is green Genoa marble in black cement (ground floor) and white marble in white cement (first floor).



Announcements

PROFESSIONAL

Brunton, Baden Hellard & Boohyer, A/A.A.R.I.B.A., announce that they have moved their office at Brackenbury Farm, South Harefield, Middlesex, to 50, Woodcock Hill, Kenton, Middlesex (telephone: Wordsworth 3026).

Robert G. W. Forde, A.R.I.C.S., has commenced practice at 96, Mosley Street, Manchester 2 (telephone: Central 0628).

TRADE

The British Plaster Board (Holdings) Ltd. announce that they have increased the gross prices of all types of plasterboard by 1d. per sq. yd. This increase will not apply to insulating plasterboard.

The Industrial Waste Eliminators Ltd. have changed their name to Iwel Engineering Ltd., of 7-11, Old Bailey, E.C.4. They are a wholly-owned subsidiary of the Heenan Group Ltd.

Thermotank Ltd. of Helen Street, Glasgow, have formed an international products division to handle the sales and distribution to the trade of various products concerned with air-conditioning, heating and ventilating.

Correction

In the AJ for July 18 on page 108 the design of the Research Centre at Lincoln for Ruston & Hornsby Ltd. was attributed to J. C. Clavering, F.R.I.B.A. This should have been J. C. Clavering, F.R.I.B.A., in association with A. L. Wells, B.Sc., A.M.I.M.E.C.E., Chief Works Engineer, Ruston & Hornsby Ltd.

Hangars PAINTS

were used on:

The Humberside Pumping Station, West Hull and Haltemprice Joint Main Drainage Scheme



Photograph published by permission of the Joint Engineers, Wm. Morris, Esq., O.B.E., M.I.C.E. F.R.I.C.S. City Engineer, Kingston upon Hull, and R. B. Heseltine, Esq., A.M.I.C.E. M.I.Mun.E., Engineer and Surveyor, Haltemprice Urban District Council.

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It went through the Bowater Mill—had all the knots and nonsense taken out of it. You can see the results all over the town—that partition, council flat doors, library counters, cubicles at the public baths—why, your Borough's just brimful of Bowater Board!

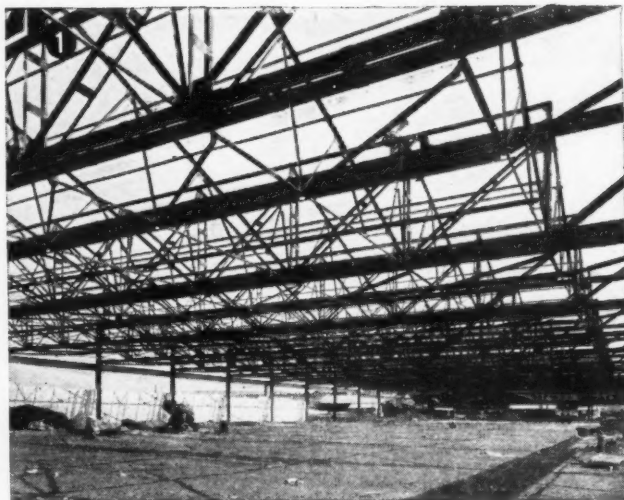


Bowater Board

Building Boards Division, Bowaters Sales Company Limited, Bowater House, Stratton Street, London, W.1. MAYfair 8080

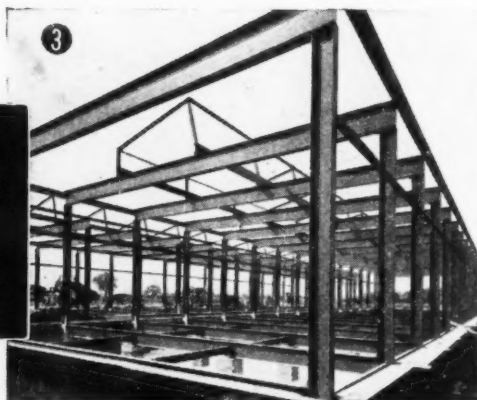
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- 1** New factory building for Messrs. William Cooke & Co. Ltd. of Rotherham. 300 ft. x 120 ft. span.
- 2** The County Primary School, Crosland Moor, Huddersfield.
- 3** College of Further Education, Grimsby, in course of erection. Stage 1.
- 4** The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

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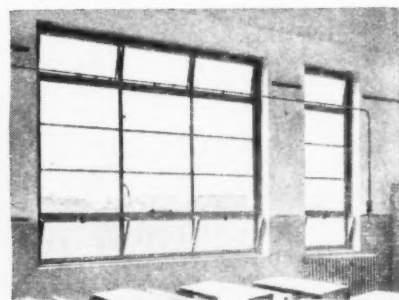
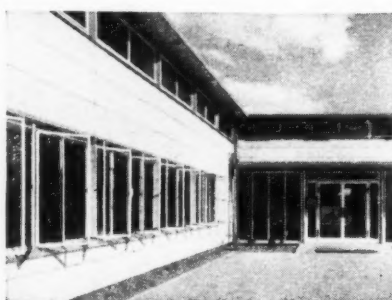
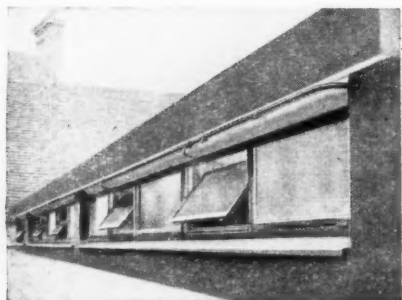
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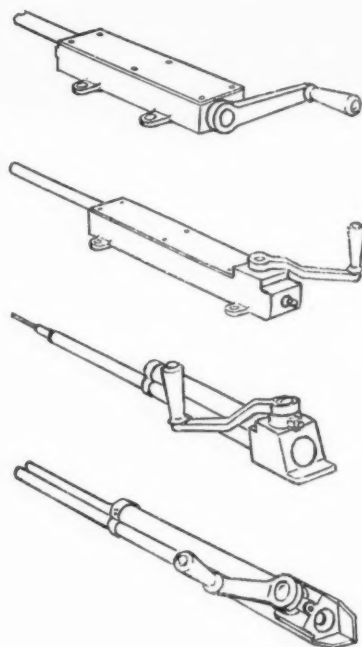
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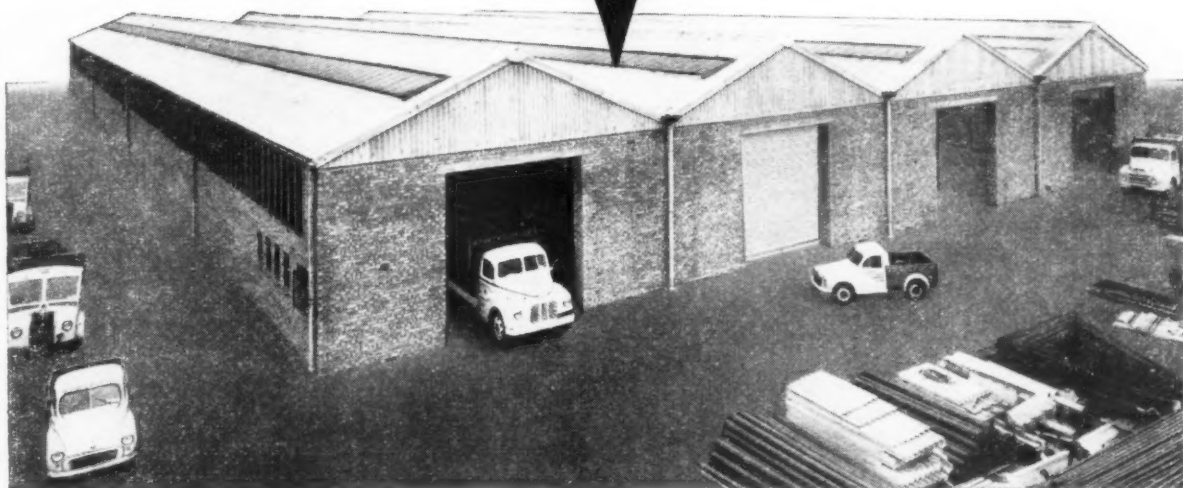
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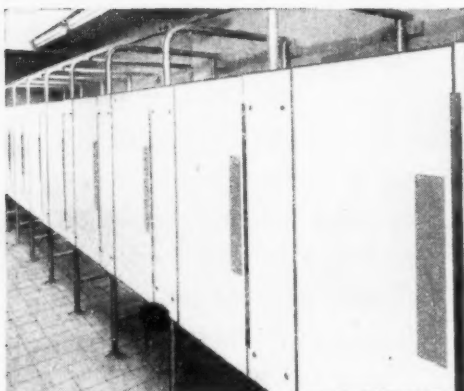
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Public Baths in Metropolitan Borough of Hammersmith make extensive use of Duramel



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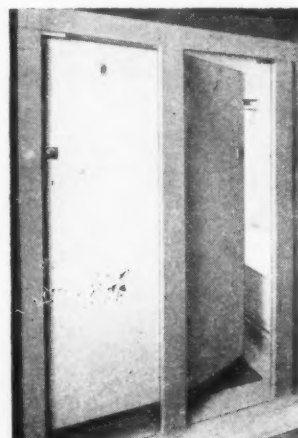
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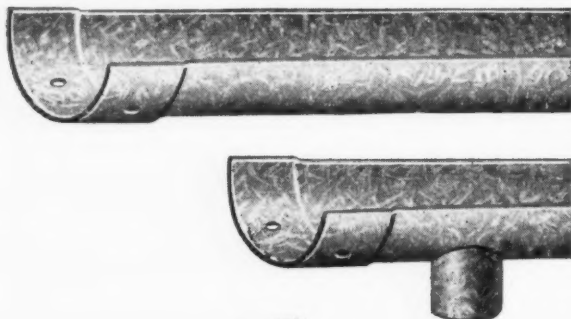
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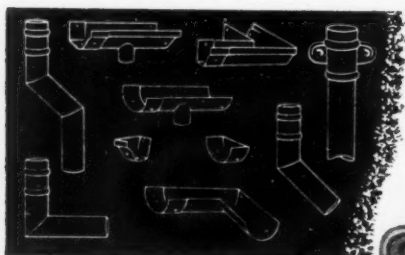
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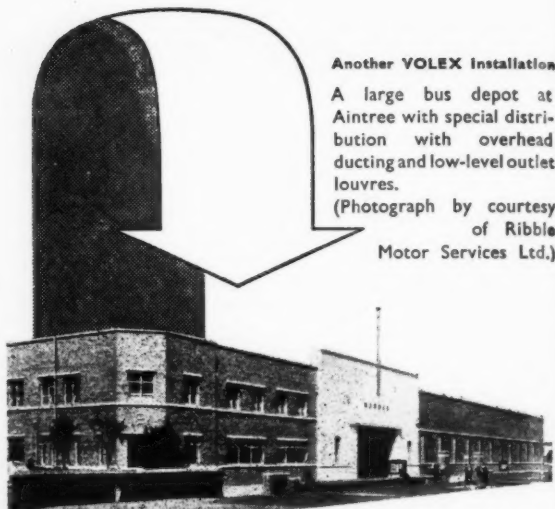


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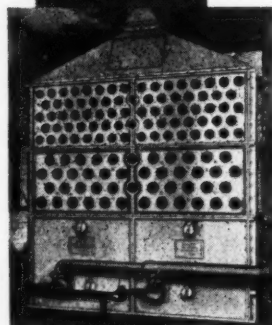
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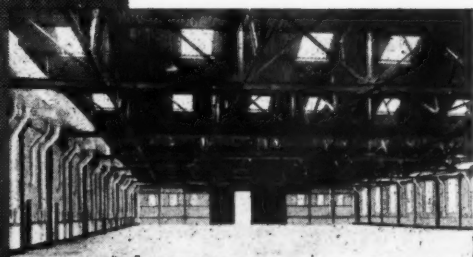
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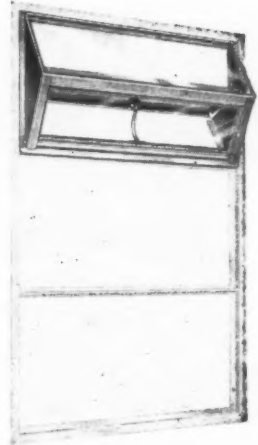
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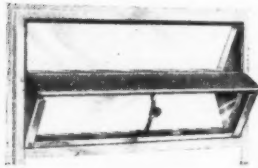
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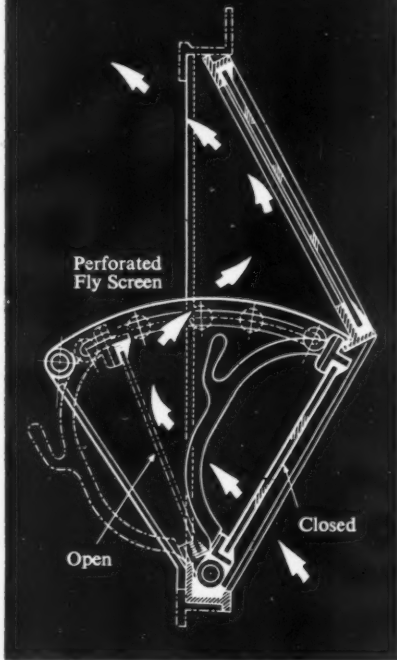


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LEFT: Illustration shows the interior view of the Air Control Window

Above: Illustration shows the exterior view



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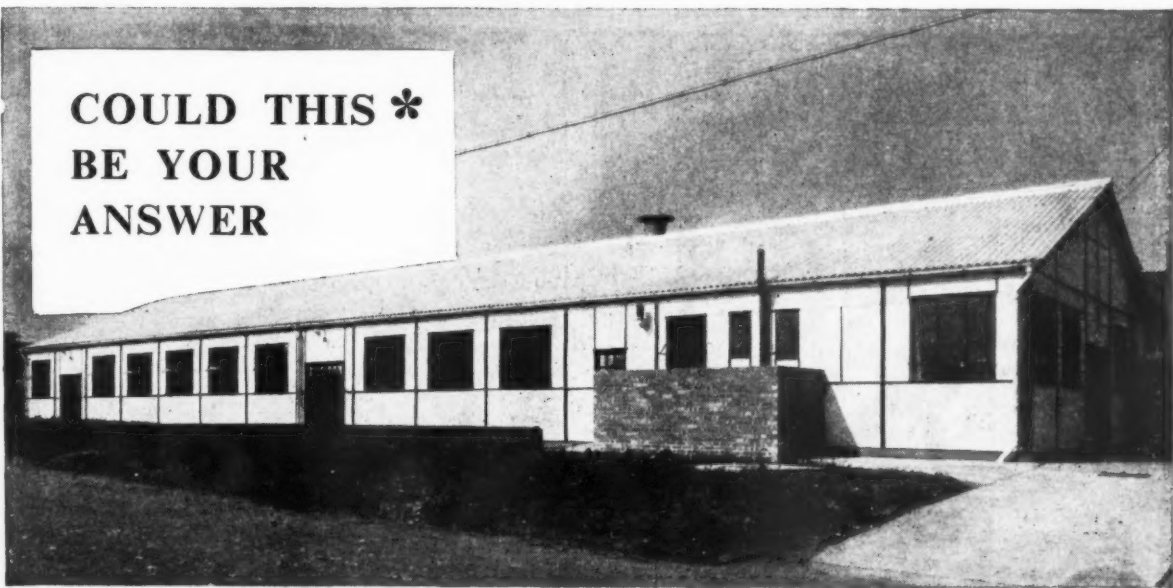
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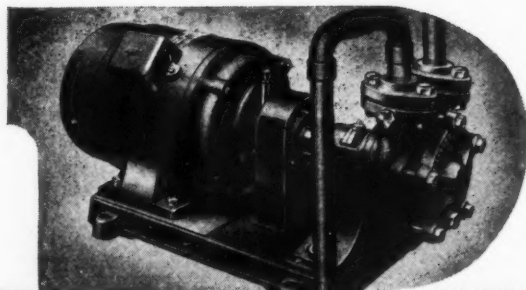
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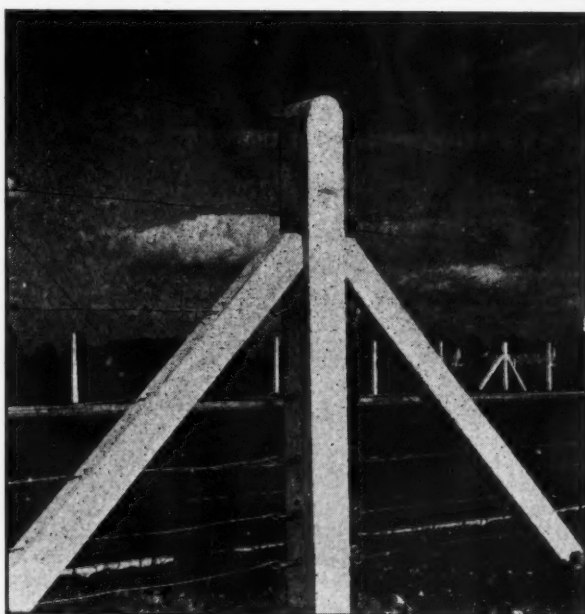
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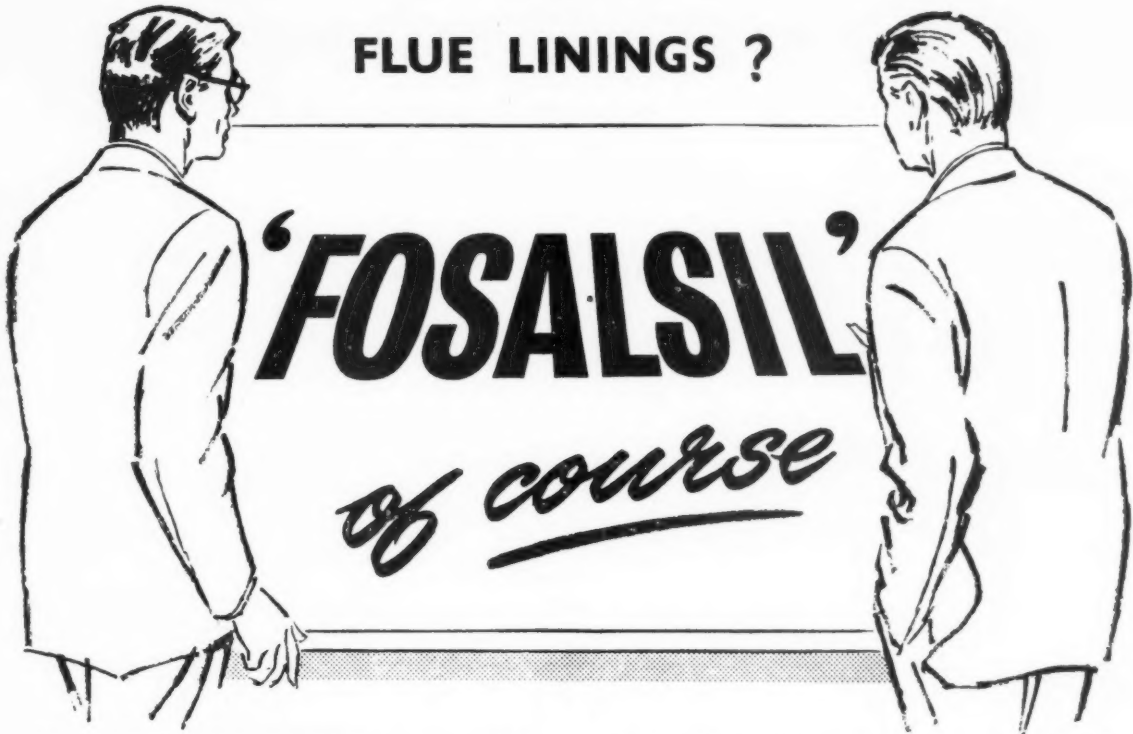
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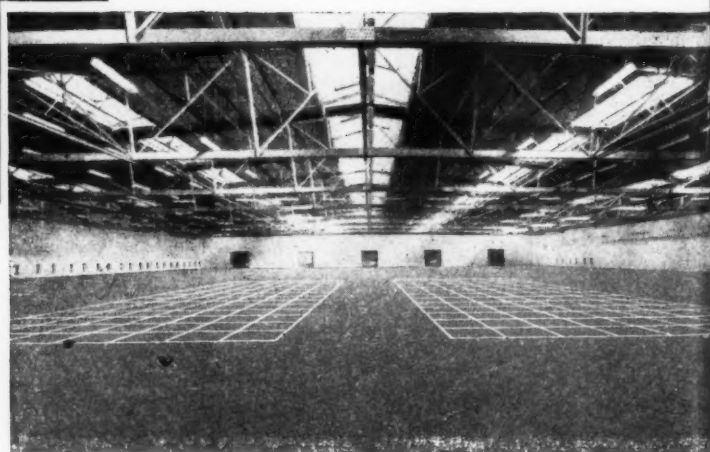
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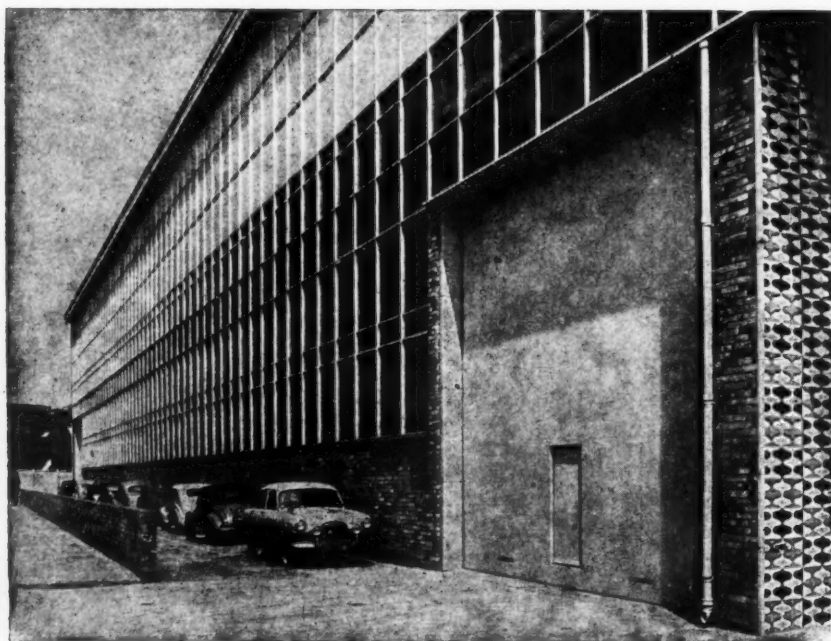
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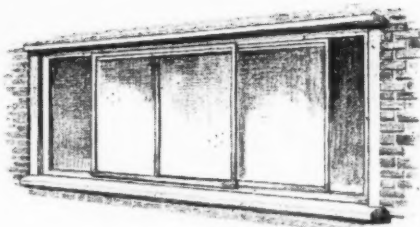
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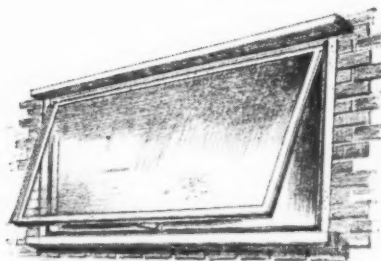
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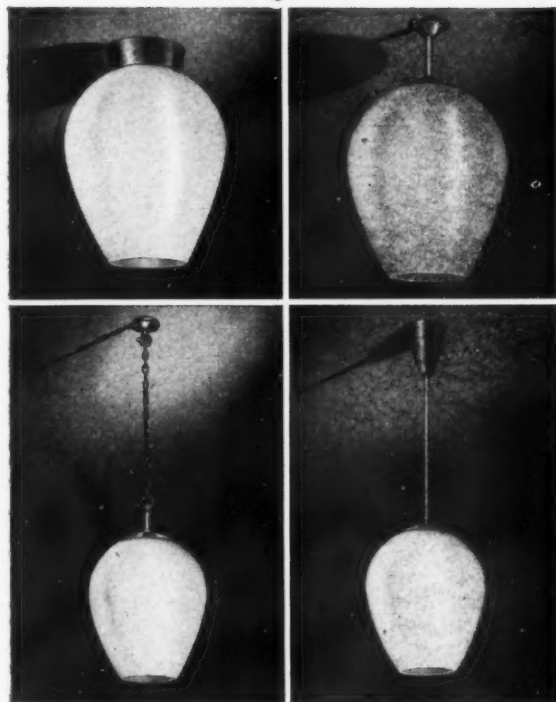
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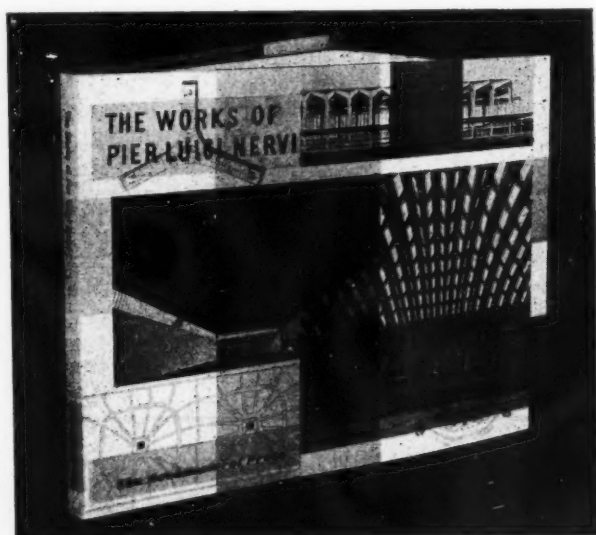
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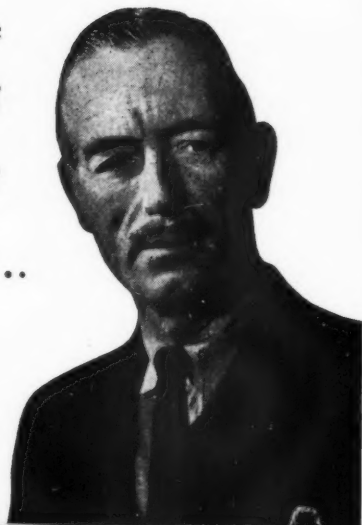
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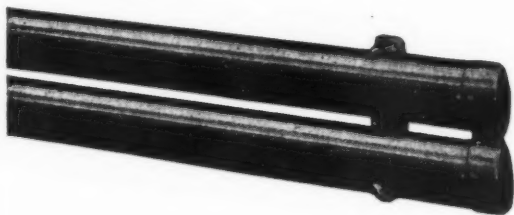
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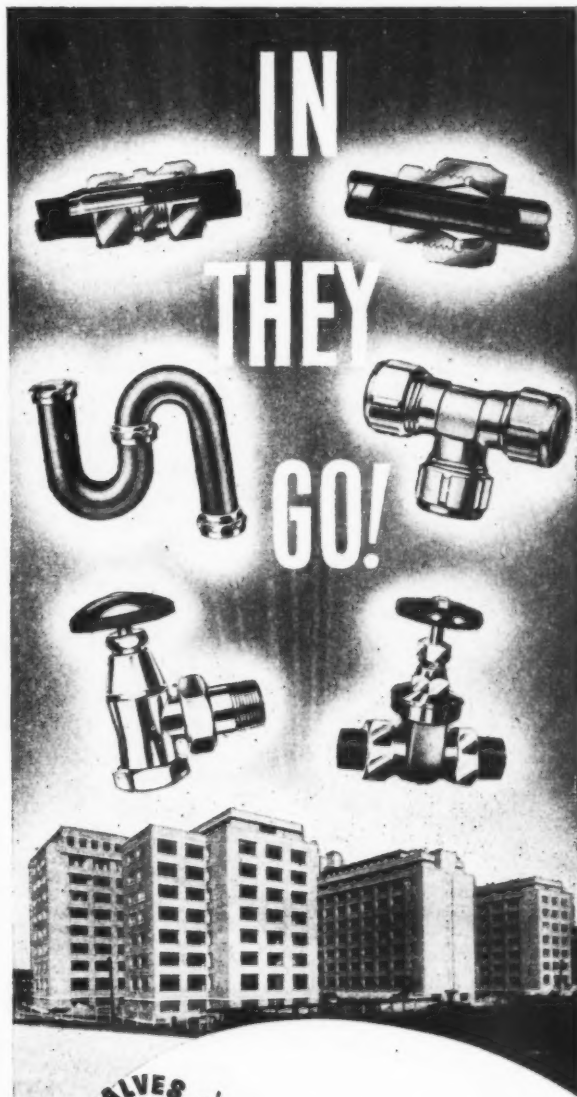


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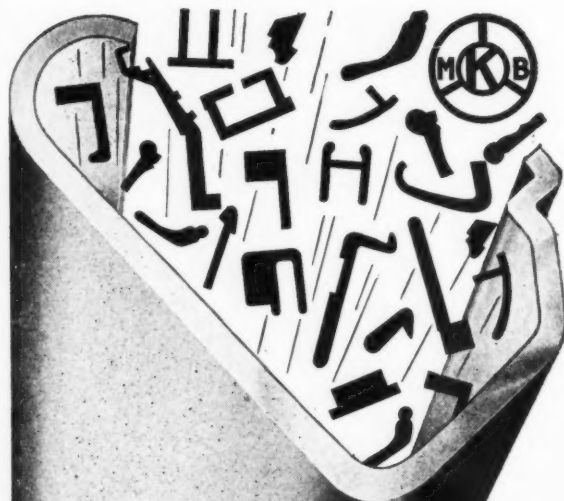
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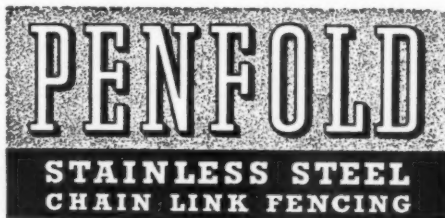
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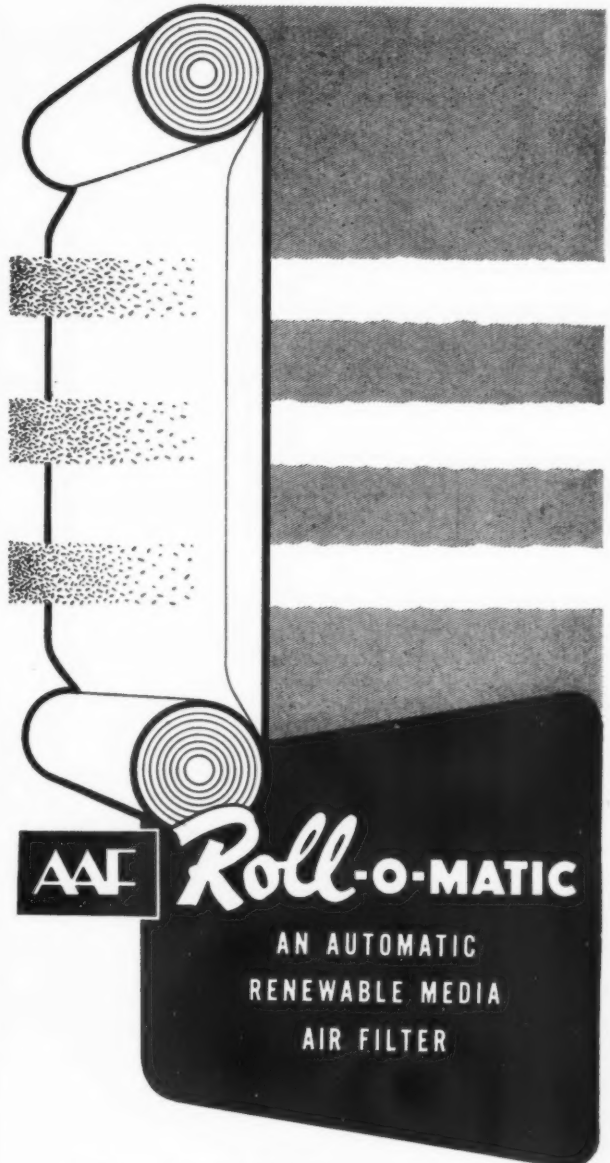
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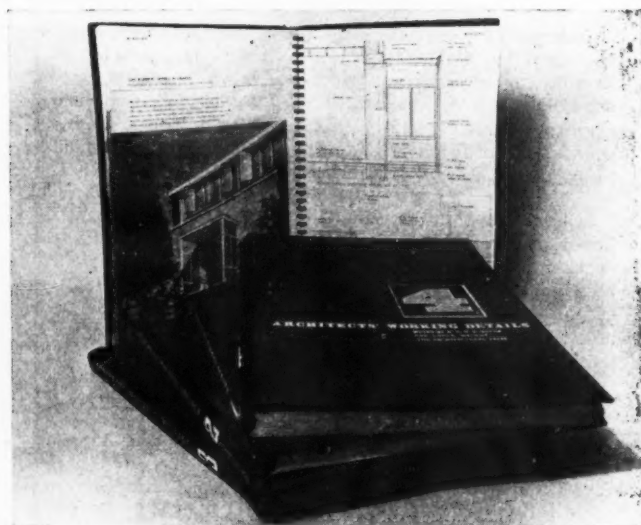
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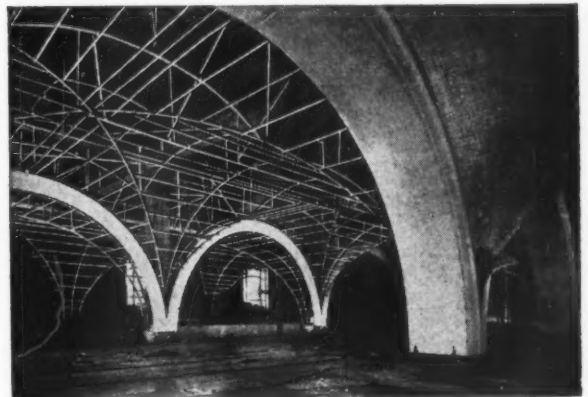
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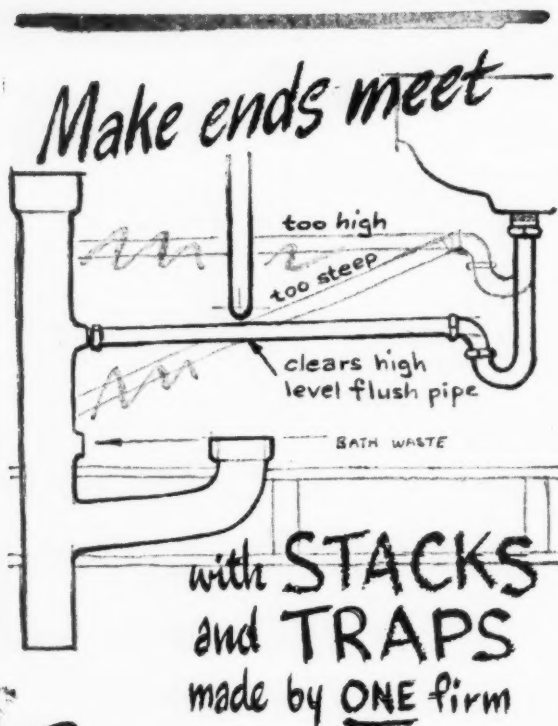
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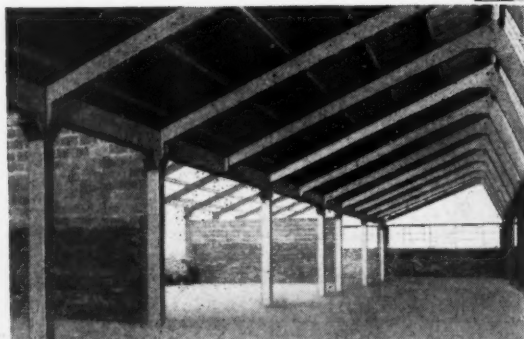
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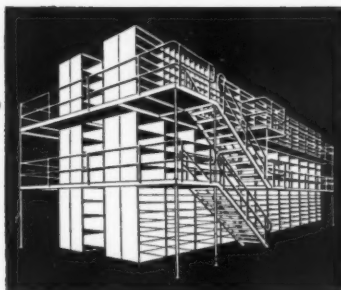
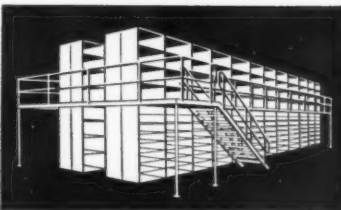
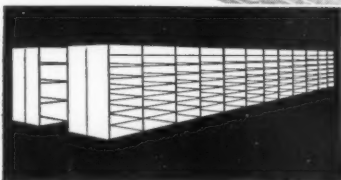
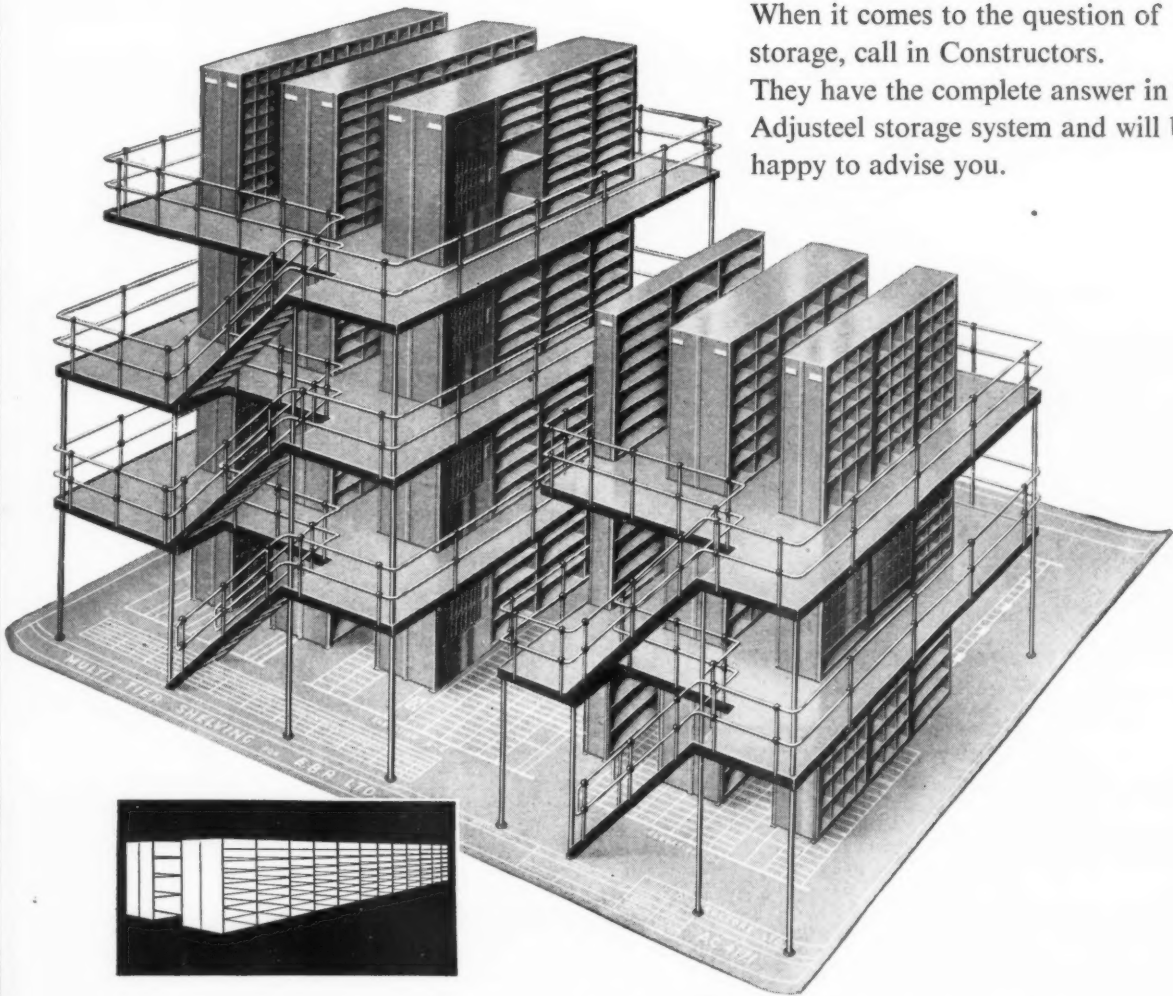
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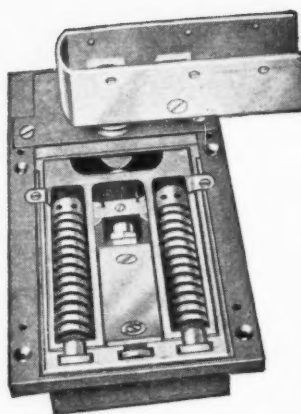
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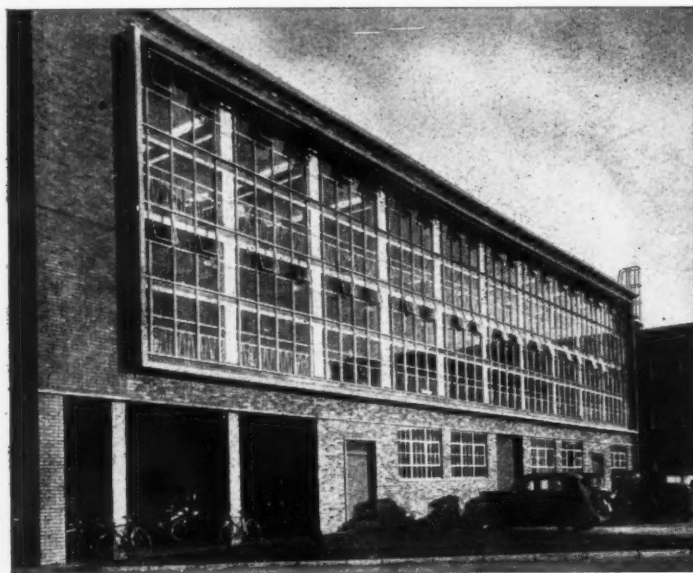
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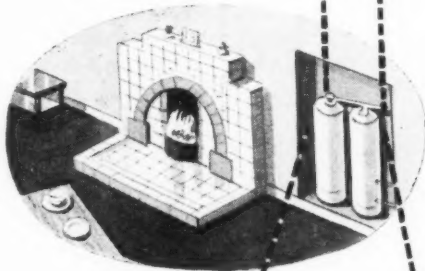
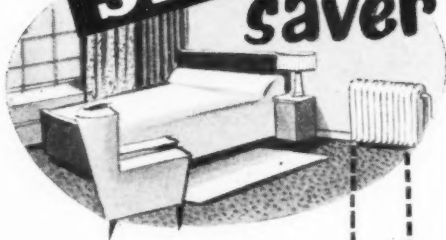
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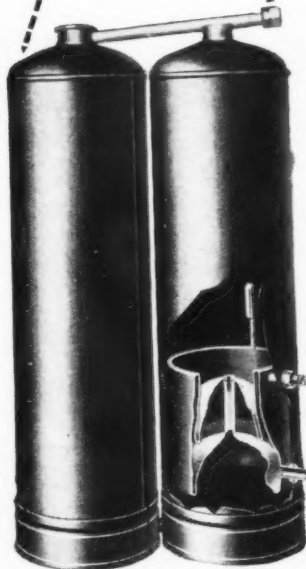
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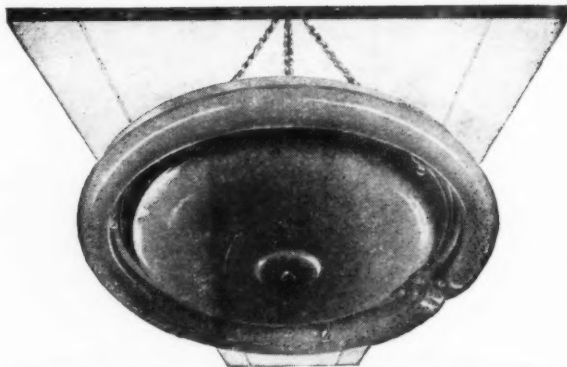
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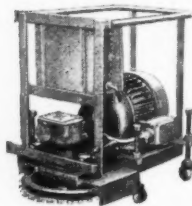
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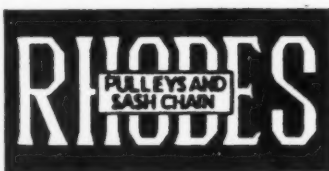
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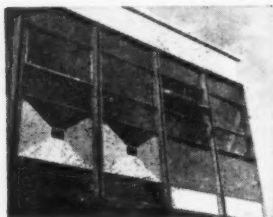
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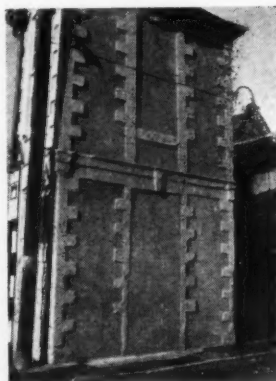
Curtain Walls Roman and Gothic Shepton Mallet

September Architectural Review
A major feature of the Review's *Machine Made America* issue, and rapidly becoming a dominant topic in discussions of the economics, technics and aesthetics of building today, *Curtain Walling* will bulk large in the September number of the Review. Michael



Curtain Walling detail of the new B.E.A. terminal off Cromwell Road, Kensington.

Brawne will contribute a full scale study of the potentialities and perils, scope, materials and methods of this fully industrialised



House in the lower town Shepton Mallet

means of clothing buildings, while in *Skill* there will be a supplement on some of the products and systems that are available on the British Market. Also in *Skill* will be new Jaeger shop *Interiors* by Dennis Lennon, as well as *Design Review* and other regular departments. Aspects of the diversity of English nineteenth-century architecture are covered by Hugh Honour's account of the improbable *Roman Church at Everingham*, and a narrative of the building activities at *Strawberry Hill* of Frances Waldegrave, recounted from original sources by Osbert Wyndham Hewett. September *Townscape* features will deal with *Shepton Mallet*, whose multi-level town-centre will be discussed by Gordon Cullen.

Universities Staircase Arcadia

October Architectural Review

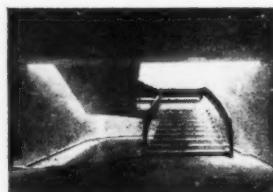
Vexed by conflicting interests and lack of comprehension of the issues at stake, the design of *Universities* has become a prob-



3 D shop lettering in Dublin.

lem that excites passion and prejudice, rather than constructive thinking. In the October number of the Review, Professor Pevsner and the Hon. Lionel Brett will attempt to put the problem back on a realistic basis in a special feature covering both the historical growth of *universities* and their present needs, emphasising

the diversity of concepts, both in organization and architecture that the term embraces. Two articles in the same issue will deal with problems of architectural lettering; Nicolette Gray contributing a study of *Lettering in Three Dimensions* and Skill, surveying the design of *Fascia*



Staircase at the MEA store, Stockholm.

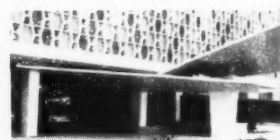
Boards. Also in *Skill* will be an illustrated description of Arne Rudberger's stunning staircase for the MEA department store in Stockholm, and other recent structures to be illustrated will include a small house by Sir Hugh Casson on the South Coast, and another well-designed adjunct to a department store—G. A. Jellicoe's roof garden on top of Harvey's at Guildford. Two historical features will deal with developments in the first quarter of the present century: Ian Nairn's delayed study of Hampstead Garden Suburb is now expanded into a larger study of *Arcadia* as a place to dwell in, and Reyner Banham will investigate the implications of recent publications on the position of *Mondrian* both as a pioneer of modern design, and as a model to be set up for emulation by architects in the future.

Smithsons Building Exhibition ONNO

November Architectural Review

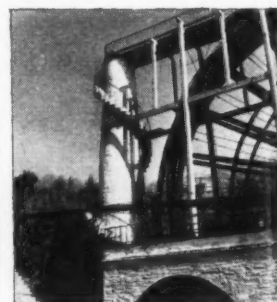
The controversial Smithsons will make their first appearance as contributors to the Review in November, with an illustrated study of the Shape of the Community, in which they set against the exhausted diagrams of CIAM planning their vision of a more humane type of city. For non-visionaries—and for visionaries too—*Skill* will provide a full coverage of the Building Exhibition from the technical point of view, as well as an *Interiors* treatment of G. A. Jellicoe's restaurant and shopping floors at Harvey's of Guildford, whose roof-garden was dealt with in the

October Review. Visionary qualities, spurred by hard practical necessities, illuminate Kenneth Browne's proposals for applying the ONNO traffic-directing technique to Park Lane and west Mayfair. Also in *Miscellany*, Ian Nairn will describe a giant waterwheel—a little-known triumph of the *Functional Tradition* in the Isle of Man, and the study of the functional tradition will be carried further by Brian Spiller's article on Georgian Breweries. Buildings described in this issue will include the new Bowater Factories by Farmer and Dark, whose cladding provides a practical follow-up demonstration of patent-glazing techniques, and Rangoon University and Technical Institute, by Raglan Squire and Partners, extensively illustrated in colour. Professor



Entrance to the Library of the new Rangoon University. Architects, Raglan Squire and Partners.

Pevsner reviews Tschudi Madsen's important book on the Origins of Art Nouveau, whose character is summed up in the title *Beautiful and, if need be, useful*, and Dr. S. Lang will provide a note on Architectural Visitors to Padua, based upon a register kept by the university there, in which practically every English architect and amateur of note signed his name when passing through. Regular features such as the *Counter-Attack* bureau will continue, and Kenneth Browne will contribute a frontispiece-drawing—this time a trailer to the coverage of the TUC building which will appear in the December issue.



Water wheel at Laxey, Isle of Man.

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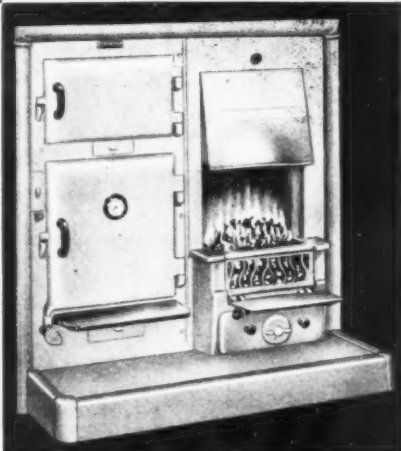
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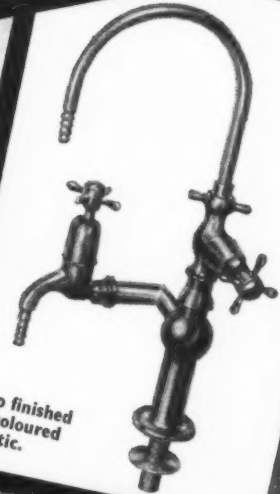
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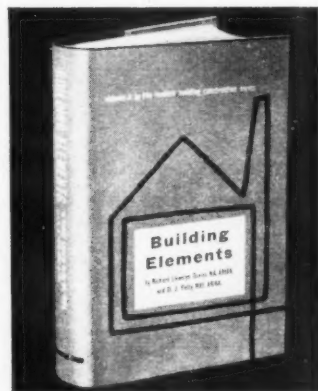
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R. RIBBLESDALE THORNTON,
Town Clerk. 7428

QUANTITY SURVEYING ASSISTANTS required by Air Ministry Works Directorate in London and Provinces. Grade and commencing salary based on not less than 3 or 5 years' previous experience under Quantity Surveyor or Building Contractor. Approved full time study will count towards 5 years period. Normally technical qualifications in Builders' quantities or building, e.g. C. & G. Final or O.N.C. or proof to equivalent standard. Duties include abstracting and billing, site measurement and preparation of estimates. Salary range £520 at age 25 to £830 London rate starting pay dependent on age, qualifications and experience. Salaries somewhat lower in Provinces. Pensionable and promotion prospects. Five-day week, 3 weeks leave a year. Applicants carry liability for service anywhere U.K. or overseas. Applicants normally should be natural born British subjects. Write stating age, qualifications and previous appointments including type of work done, to Manager, Professional and Executive Register, M.L.N.S., 1-6, Tavistock Square, London, W.C.1, quoting reference PE.105/745. No original testimonials should be sent. Only applicants selected for interview will be advised. 7188

BIRMINGHAM REGIONAL HOSPITAL

BOARD

(a) **ASSISTANT QUANTITY SURVEYORS** (Two): £700-£1,015. Final R.I.C.S. or recognised qualifications of I.Q.S. or I.A.A.S. and experience in taking off and preparing bills of quantities and settling final accounts essential.

(b) **QUANTITY SURVEYING ASSISTANT** (One): £525-£730. Intermediate R.I.C.S. or equivalent essential.

All appointments supernumerable. Apply naming two referees to Secretaries, 30, Augustus Road, Birmingham 15, immediately. 7190

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 qualifications and experience. Applicant must be corporate member of the R.I.B.A. Housing accommodation available. Medical examination under superannuation scheme. Applications to the Secretary, Glenrothes Development Corporation, Glenrothes, Fife, not later than 21st September, 1957. 7481

URBAN DISTRICT COUNCIL OF BASILDON

ASSISTANT ARCHITECT

(Special Grade £750 to £1,030 per annum)

Applications are invited from qualified and experienced Architects for the above established post in the Engineer and Surveyor's Department. The commencing salary will be fixed according to experience and where appropriate within the upper half of the salary scale. Housing accommodation will be considered.

The Urban District has a population of approximately 65,000, covers 27,000 acres and includes the New Town area and two townships designated as Expanded Towns. Rapid development will provide an increasing 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 30th September, 1957. 7482

BASILDON DEVELOPMENT CORPORATION
DEPARTMENT OF ARCHITECTURE AND
PLANNING

Applications are invited for the following posts:-

(a) **ARCHITECT, Grade A.P.T. VIII/IX** (£1,100-£1,405).

(b) **ASSISTANT ARCHITECT / PLANNER, Grades III, V, or VI** (£656-£1,107), according to experience.

(a) To lead a Housing Group. Outstanding opportunity for Architect with flair for design of contemporary houses and large layouts, as well as experience at all stages of contract management.

(b) To have experience in the implementation of a Master Plan and ability in detailed planning of Housing and Industrial Development.

All applicants to be A.R.I.B.A. Post (b) A.M.T.P.I. also.

All appointments supernumerable and subject to medical examination.

Housing available for renting.

Applications on the special form (obtainable from the Chief Architect) to the General Manager, Basildon Development Corporation, Clifford House, Basildon, Essex, endorsed with the relevant appointment by Friday, 27th September, 1957. 7448

BOROUGH OF SWINDON

BOROUGH ARCHITECT'S DEPARTMENT

Applications are invited for the undermentioned appointments in the Borough Architect's Department. The Department is engaged in a large and varied development programme, including housing schemes and industrial buildings, in connection with the expansion of the town.

(a) **QUANTITY SURVEYOR, A.P.T. Special Scale** (£750-£1,030). Applicants must have passed the Final R.I.C.S. or equivalent examination.

(b) **JUNIOR QUANTITY SURVEYOR, A.P.T. II** (£725-£845). Applicants must have passed the Intermediate R.I.C.S. or equivalent examination.

(c) **ARCHITECTURAL ASSISTANT, A.P.T. I or II** (£575 to £725 or £725 to £845) according to experience. Applicants must have passed the Intermediate R.I.B.A. or equivalent examination.

Housing accommodation is available.

Applications or forms to be obtained from the Town Clerk, Civic Offices, Swindon, must be returned by 25th September, 1957. 7483

WEST MIDLANDS GAS BOARD

BOARD HEADQUARTERS

VACANCY FOR ARCHITECTURAL ASSISTANT
Applicants for the above post on the staff of the Board Architect should be fully conversant with contemporary constructional practice and be capable of undertaking medium-sized projects with a minimum amount of supervision. The work involved consists of a wide variety of interesting projects, including commercial buildings, showroom and exhibition work in addition to industrial projects with the ancillary office, canteen and welfare buildings.

The salary will be within A.P.T. Grade X (£650-£960 per annum) of the National Salary Scales.

The post is pensionable and the successful candidate may be required to pass a medical examination.

Applications, stating age, qualifications and experience, together with the names of two referees, should be addressed to the Industrial Relations Officer, West Midlands Gas Board, 6, Augustus Road, Edgbaston, Birmingham, 15, to reach him not later than Monday, 16th September, 1957.

J. SWAN,
Secretary to the Board. 7434

BOROUGH OF REIGATE

ARCHITECTURAL ASSISTANT required on Grade A.P.T. II (£609 17s. 6d. to £691 17s. 6d. p.a.). Commencing salary according to qualifications and experience. Intermediate examination R.I.B.A. desirable. Housing accommodation provided, if necessary, for married man. Application forms obtainable from Borough Surveyor, Town Hall, Reigate, to be returned by 26th September, 1957.

HEBER DAVIES,
Town Clerk. 7449

Town Hall, Reigate,
September, 1957.

PERTH AND KINROSS JOINT COUNTY COUNCIL require **ARCHITECTURAL ASSISTANTS** for work on New Schools. The appointments will be within Grades A. & P.V. (Va) and VI (£730-£890). Applicants should hold the A.R.I.B.A. qualification or equivalent. Consideration will be given to housing requirements. Particulars of appointment and forms of application from the County Clerk, P.O. Box 15, County Offices, York Place, Perth. Applications to be lodged by 30th September, 1957. 7468

COUNTY BOROUGH OF HALIFAX

SENIOR ARCHITECTURAL ASSISTANT (SCHOOLS) required in the Borough Engineer's Dept. Salary on Special Grade £750-£1,030 p.a.). Person appointed will act as Chief Assistant in the Schools Section of that Dept. Applications, stating age, qualifications, present position and salary, experience, and names and addresses of two referees, to be delivered to the Town Clerk, Town Hall, Halifax, by 21st September, 1957. 7472

**BOROUGH OF GOSPORT
ARCHITECTURAL ASSISTANT**

Applications are invited for the above appointment from persons having passed Parts I and II of the R.I.B.A. Final Examination or its equivalent, and having at least five years' experience (including training). Salary in accordance with the N.J.C. Special Grade for Architectural Assistants (£4750-£4800-£1,030 per annum). The appointment will be subject to the following:—

- (1) The National Scheme of Conditions of Service.
 - (2) Medical Examination.
 - (3) The Local Government Superannuation Acts.
 - (4) One month's notice on either side.
- Housing accommodation, if necessary, will be made available for the successful applicant. Applications, giving age, details of experience and the names and addresses of two referees, should reach the undersigned not later than Saturday, 28th September, 1957.

EDWARD ADDENBROOKE,

Town Clerk.
Town Hall, Gosport, Hants. 7471

**COUNTY BOROUGH OF BOURNEMOUTH
BOROUGH ARCHITECT'S DEPARTMENT**

Applications are invited for the appointment of:—

- (a) ASSISTANT ARCHITECT. Salary Grade Special Scale (£4707 5s.—£4861 p.a.).
- (b) TWO ARCHITECTURAL ASSISTANTS. Salary Grade A.P.T. II (£609 17s. 6d.—£691 17s. 6d. p.a.).
- (c) ARCHITECTURAL ASSISTANT. Salary Grade A.P.T. I (£543 5s.—£625 5s. p.a.).

Successful candidates will be appointed at present salary if within the incremental scale. Candidates for post (a) must be fully qualified (by examination) members of the R.I.B.A., for posts (b) and (c) to have passed the Intermediate Examination of R.I.B.A.

Application forms and further particulars from Borough Architect, Town Hall, Bournemouth. Completed applications to reach me by 10 a.m., 28th September, 1957.

A. LINDSAY CLEGG,

Town Clerk.
7479

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

Applications are invited for the following posts:—

Three posts of ASSISTANT ARCHITECTS. Salary scale £750, by annual increments of £40 to £1,030.

ARCHITECTURAL ASSISTANT. Salary scale: £575, by annual increments of £30 to £725.

Three posts of ASSISTANT QUANTITY SURVEYORS. Salary scale: £750, by annual increments of £40 to £1,030.

QUANTITY SURVEYING ASSISTANT. Salary scale: £575, by annual increments of £30 to £725.

Candidates must be suitably qualified and experienced. Housing accommodation may be provided for the senior appointments.

The appointments will be subject to the provisions of the Local Government Superannuation Acts and the National Joint Council's Scheme of Conditions of Service so far as adopted by the Council. Medical examination.

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

Canvassing will disqualify. Any candidate who is related to a member or officer of the Council is required to disclose the fact.

ARCHIBALD GLEN, Town Clerk.

7469

COUNTY BOROUGH OF WEST BROMWICH

Applications are invited for appointments of SENIOR ASSISTANT ARCHITECTS. Salary Grade A.P.T. IV (£727 15s. to £907 2s. 6d.).

N.J.C. Conditions of Service.

Applications, naming two referees, to Borough Surveyor, Town Hall, West Bromwich, by September 14, 1957. 7435

**HEMEL HEMPSTEAD DEVELOPMENT
CORPORATION**

Applications invited for SENIOR ARCHITECT (Vacancy No. 73B). Salary scale: £902-£1,107 p.a. Applicants must be A.R.I.B.A., and must be familiar with the design and execution of large scale housing schemes or have experience of town centre or industrial development. Starting salary according to qualifications and experience.

Conditions of service similar to those in Local Government. Housing accommodation available. Applications, endorsed "Vacancy No. 73B," giving age, education, qualifications and experience, and names of two referees, should reach General Manager, Westbrook Hay, Hemel Hempstead, by 20th September. 7436

COUNTY BOROUGH OF BOOTLE

Applications are invited for the following appointments:—

(a) ASSISTANT ARCHITECT. Grade A.P.T. III (£845-£1,025 per annum).

(b) ASSISTANT ARCHITECT. Grade A.P.T. II (£725-£845 per annum).

Preference will be given to those having experience in the design and planning of schools.

Application forms, obtainable from the Borough Surveyor, Town Hall, Bootle, 20, are returnable by Friday, the 27th September, 1957.

HAROLD PARTINGTON,

Town Clerk.
7458

**EAST RIDING OF YORKSHIRE COUNTY
COUNCIL**

Applications are invited for the following permanent appointments on the staff of the County Architect:—

ASSISTANT QUANTITY SURVEYOR. N.J.C. Scales: A.P.T. III (£656-£784 2s. 6d.).

CONTRACT CLERK. N.J.C. Scales: Clerical Division I (£533-£594 10s.).

Applications, giving particulars of qualifications, age, experience, past and present appointments with salaries, together with the names of three referees, should be sent to the County Architect, County Hall, Beverley, not later than Friday, 20th September, 1957.

THOMAS STEPHENSON,

Clerk of the Council.
7447

LANCASHIRE COUNTY COUNCIL

PLANNING ASSISTANTS required at PRESTON, BLACKPOOL, LIVERPOOL, BURY and MANCHESTER. Applicants should be studying for, or possess, a qualification in planning, surveying, architecture or engineering, and should state whether or not they have had experience of development control and/or the preparation of town maps.

Salary according to qualifications and experience on a scale which rises to £1,030 per annum. Applications stating appointment applied for, giving age, qualifications, present appointment and two referees, to County Planning Officer, East Cliff County Offices, Preston, by 23rd September, 1957. 7470

ARCHITECTURAL ASSISTANTS

Required by

MINISTRY OF WORKS

For employment in London and Provinces on design and detailing work on construction and maintenance of all types of public buildings.

Salary range £550 (age 21) to £870 p.a., London (slightly less elsewhere).

5-day week. 34 weeks' annual leave initially. Starting pay according to age, qualifications and experience. Good prospects of promotion, with salaries of £1,030 p.a. and above.

Opportunities for permanent posts leading to pensions (non-contributory).

Interviews at Regional Offices, where possible. Applicants should be of Inter. R.I.B.A. standard. State age, training and experience to Chief Architect, Ministry of Works (A), Abell House, John Islip Street, S.W.1. 7484

WORCESTERSHIRE COUNTY COUNCIL

COUNTY ARCHITECT'S DEPARTMENT

AMENDED ADVERTISEMENT

Applications are invited for the following posts:—

(1) QUALIFIED ASSISTANT ARCHITECT, Special Grade (£750-£1,030).

(2) ASSISTANT ARCHITECT, Grade A.P.T. III (£845-£1,025).

Application forms and further particulars should be obtained from L. C. Lomas, F.R.I.B.A., County Architect, 14, Castle Street, Worcester, not later than 25th September, 1957. (X104) 7485

HERTFORDSHIRE COUNTY COUNCIL

ARCHITECT'S DEPARTMENT

ASSISTANT ARCHITECTS required (Special Class, £750-£1,030). Previous Local Government experience not essential.

Applications, with names of two referees, to County Architect, County Hall, Hertford, Herts., by 23rd September, 1957. 7486

Architectural Appointments Vacant

4 lines or under, 9s. 6d.; each additional line, 2s. 6d.

Box Number, including forwarding replies, 2s. extra.

LONDON office with widely varied practice

urgently requires all grades of ASSISTANTS, preferably with London experience.

Five-day week. Lewis Solomon, Son & Joseph, 21, Bloomsbury Way, London, W.C.1. Holborn 6106. 6631

CO-OPERATIVE WHOLESALE SOCIETY, LTD.

ARCHITECT'S DEPARTMENT,

BIRMINGHAM

APPLICATIONS are invited for the following appointments in the above Branch Office undertaking interesting and varied commercial and industrial projects:—

(a) ASSISTANT QUANTITY SURVEYOR, with good experience in the preparation of Bills of Quantities, measuring and adjusting variations and estimating under supervision (salary range £550 to £820 per annum).

(b) ASSISTANT ARCHITECT, capable of preparing working drawings from preliminary details (salary range £550 to £820 per annum).

There is a 5-day week in operation, and the appointments offer prospects of upgrading.

Applications, stating age, experience, qualifications and salary required, to G. S. Hay, A.R.I.B.A., Chief Architect, Co-operative Wholesale Society, Ltd., 1, Balloon Street, Manchester. 7073

ARCHITECTS-SENIOR ARCHITECTURAL

ASSISTANTS required immediately for a wide variety of work. Salary range £800-£1,000 per annum (according to experience and qualifications). Superannuation Scheme.—Application should be made in writing to Kenneth F. Masson, A.R.I.B.A., Chief Architect, S.C.W.S., Ltd., 76, Morrison Street, Glasgow, C.5. 7179

ARCHITECTURAL ASSISTANT, Inter. standard required by Birmingham Architects for work on contemporary schemes. Salary in accordance with age and experience, 5 day week. Luncheon vouchers. Box 7487.

ARCHITECT, Final standard, required as assistant to partner in Birmingham practice. Interesting contemporary projects. 5 day week. Write stating qualifications, experience and salary required. Box 7488.

ASSISTANT wanted for small city office. Must be interested in good design and detailing and willing to take responsibility. Salary £600 to £750 according to ability. Telephone Central 5766 or write Box 7489.

PRIVATE Architects Office, Charing Cross, requires senior and intermediate ASSISTANTS. Varied type of work. Good salaries commensurate with experience. Five day week. Write Box 7491. Telephone WHITEhall 7926.

POSTS, all grades ASSISTANTS, open Belfast office engaged top projects. Applications in full stating also salary and enclosing if available, copy testimonials and/or names of referees are invited in confidence to Box 7459.

LEICESTER.—ASSISTANT ARCHITECT required must be competent and enthusiastic. Apply in writing, stating age, experience and salary required. Cecil Howitt & Partners, St. Andrew's House, 48, Princess Road, Leicester. 7490

ASSISTANT ARCHITECT. Co-operative Wholesale Society, Ltd., invite applications for the position of Assistant Architect. Must be capable of preparing working drawings from preliminary details. The post is superannuable, subject to medical examination. 5-day week in operation. Applications, giving details of age, experience and salary required, to—W. J. Reed, F.R.I.B.A., Chief Architect, C.W.S. Ltd., 99, Leman Street, London, E.1. 6350

YOUNG ARCHITECTURAL ASSISTANT (male) required in West End office. Write stating age, experience and salary required. Box 6683.

MANCHESTER. ARCHITECTURAL ASSISTANTS, intermediate standard and above required in busy office having varied and interesting work in progress. Five-day week. Apply stating age, experience, salary required and any other relevant particulars. A. Vincent Booker, A.R.I.B.A., 28, Kennedy Street, Manchester, 2. 7430

ARCHITECTURAL DRAUGHTSMAN, up to Intermediate standard, required for leading firm of Consulting Civil Engineers, Westminster. 5-day week; bonus and pension schemes.—Phone Mr. Maggs, ABBey 1122, for appointment. 7414

SENIOR AND JUNIOR ASSISTANTS required for busy office in the North-East. Ability and a sense of responsibility are the essential qualities. Good starting salaries are offered, and progress will depend on performance. Pension scheme and bonus scheme are both operated.—Box 7412.

SENIOR ARCHITECTURAL ASSISTANT required for responsible post in well-known private practice. London office. 5-day week. Varied work.—Box 7380.

TWO enthusiastic JUNIOR ASSISTANTS required in busy contemporary W.I. office. At least 2 years' office experience and good draughtsmanship essential. Five-day week. Salary: £400-£500, according to ability.—Phone HUNTER 0451, or write David Stern, 24, Gloucester Place, W.1. 7460

SENIOR ASSISTANT required in busy West End office. Interesting commercial work, and must be prepared to take responsibility.—Please write, giving details of experience, etc., Box 7462.

CO-OPERATIVE WHOLESALE SOCIETY LTD.

ARCHITECT'S DEPARTMENT, MANCHESTER

APPLICATIONS are invited for the following appointments:—(a) SENIOR ASSISTANT ARCHITECTS with experience of work on commercial and industrial projects (salary range £820 to £975 per annum). (b) ASSISTANT ARCHITECTS capable of preparing working drawings from preliminary details (Salary range £550 to £820 per annum). There is a five-day week in operation and both appointments offer prospects of upgrading. Applications stating age, experience, qualifications and salary required to G. S. Hay, A.R.I.B.A., Chief Architect, Co-operative Wholesale Society Ltd., 1, Balloon Street, Manchester 4. 6623

ARCHITECTURAL ASSISTANTS, Intermediate standard, required in Cirencester and Swindon.—Applications, stating experience and salary required, to Eric Cole & Partners, Dyer Street House, Cirencester. 7386

ARCHITECTURAL ASSISTANT. Intermediate standard, required in Luton office, to deal with survey work, estate layouts, working drawings, and details for domestic, industrial and other projects.—Apply in first instance with details of experience and salary required, to Box 7477.

ARCHITECTURAL ASSISTANT required in West End office. Capable of dealing with surveys, sketch designs and drawings to contract stage.—Write in first instance, with details of experience, qualifications and salary required, to Box 7478.

APPLICATIONS are invited from **SENIOR ASSISTANT ARCHITECTS**, with considerable experience in Schools design, to work on development projects.—Apply, with details of experience, to Reginald H. Gallannagh, Esq., L.R.I.B.A., 54, Queen Anne Street, London, W.1. Telephone No.: Welbeck 5484. 7475

ARCHITECT'S ASSISTANT required, with good general experience, for West London office.—Hammond Harvey. RIV. 8848. 7474

ARCHITECTURAL ASSISTANTS for University and Hospital work. Good salary, dependent on experience. Non-contributory Pension Scheme in being after probationary period. Three weeks' holiday a year, and five-day week.—Reply, stating age, experience, etc., to Thomas Worthington & Sons, 178, Oxford Road, Manchester, 13. 7476

JUNIOR ARCHITECTURAL ASSISTANT required, with previous office experience. Must be a quick and accurate draughtsman and have a sound knowledge of building construction. 5-day week.—Hugh Macintosh & Partners, 33, High Street, Croydon. 7388

ARCHITECTURAL ASSISTANT required immediately for London Brewery. Must be good Draughtsman with sound knowledge of construction. Superannuation scheme. Please reply giving details of experience and training with salary required to Box 7351.

ARCHITECTURAL ASSISTANT required, Intermediate to Final standard, with office experience, for small busy practice. L.V. No 845.—Shaw & Lloyd, F.R.I.B.A., 74, Gt. Russell Street, W.C.1. Museum 9693. 7406

JUNIOR ARCHITECTURAL ASSISTANTS required. 5-day week. Factory and office buildings. Minimum 3 years' experience.—Write full particulars, R. H. Gallannagh, L.R.I.B.A., 54, Queen Anne Street, London, W.1. 7411

A VACANCY occurs in the Divisional Architect's Office, Longbenton, for a **JUNIOR ARCHITECTURAL ASSISTANT**, preferably with some office experience, for a post which will give opportunity to work on a wide variety of jobs. Applicants must be taking, or be prepared to take, the R.I.B.A. examinations; facilities and assistance will be given for training. Salary will be in accordance with the Board's scale of 65s. per week at 16 years, rising to 122s. 6d. per week at 21 years, with a maximum of 175s. per week at 25 years.

Applications, giving date of birth and full details of education and experience, to Staff Department, National Coal Board, Northern (N. & C.) Division, Whitley Road, Longbenton, Newcastle-upon-Tyne, 12, by 20th September, 1957. Please quote A/2. 7473

ARCHITECTURAL ASSISTANTS required for Croydon office of Chartered Surveyors, for work on new industrial and commercial development. Salary according to age and experience. Box 7444.

JUNIOR ARCHITECTURAL ASSISTANT required in architectural department at Reading. Applications marked Confidential, stating age, experience and salary required, should be addressed to R. E. Southall, A.R.I.B.A., H. & G. Simonds Ltd., The Brewery, Reading. 7457

DRAUGHTSMAN, with architectural experience, required in Drawing Office of Company specialising in Sound Conditioning. Ample scope for personal initiative.—Write, giving full details, to Hermesac Acoustics, Ltd., 4, Park Lane, London, W.1. 7466

ARCHITECTURAL DRAUGHTSMAN.—Due to expansion a leading Merseyside Commercial Organisation has a vacancy in their Architect's Dept. for a young man under 35 years of age, who has attained Inter. R.I.B.A. standard. Applicants must be able to prepare sketch plans and working drawings and have had experience of commercial buildings. The position offered is permanent and pensionable, with a good commencing salary and opportunities for promotion. Five-day week.—Applications, stating age, and details of experience and qualifications, to Box 7465.

F. W. WOOLWORTH & CO., LTD., Architect's Department, Kensington District Office. Applications are invited for the following appointment:—

ARCHITECTURAL ASSISTANT of Intermediate R.I.B.A. standard, capable of carrying out surveys, preparing sketch schemes, working drawings and details. The appointment is permanent and pensionable. Five-day week. Dining room facilities. Application, stating age, experience, qualification and salary, to District Architect, F. W. Woolworth & Co., Ltd., 26/40, Kensington High Street, London, W.8. 7461

ARCHITECTURAL ASSISTANT required for small, progressive office. R.I.B.A. Inter. standard. Please apply in writing for appointment.—J. L. M. Williams, Chartered Architect, 66, Station Buildings, Altrincham, Nr. Manchester. 7454

ARCHITECTURAL DRAUGHTSMAN required to work in London for exhibition and showroom work. Must be neat, accurate and quick, with good knowledge of construction. Salary by arrangement. The post is permanent and pensionable. Applications should be made to Sven M. Sternfeldt, L.R.I.B.A., Pilkington Brothers Limited, Glass Manufacturers, 29/30, St. James's Street, London, S.W.1. WHI. 6002. 7455

ARCHITECTURAL ASSISTANT required for Kampala, Uganda, with some years' office experience. Salary approximately £1,200 per annum with bonus, passage, etc. Single man preferred. Apply R. S. Cobb, F.R.I.B.A., Mill End, Kidlington, Oxon. 7438

BIRMINGHAM architects require **ASSISTANTS**—all grades—for large and interesting projects. Apply with all particulars, stating salary required, to Essex, Goodman & Suggitt, 21, Waterloo Street, Birmingham, 2, or telephone Midland 7871. 7443

INTERMEDIATE and JUNIOR ARCHITECTURAL ASSISTANTS required in South Coast Hampshire area. Salary according to ability and experience. Please state age and qualifications. Permanent position for right applicants. Box 7456.

SIR GUY DAWBER, FOX & ROBINSON require **JUNIOR ASSISTANT**, male or female, with present-day outlook, for interesting work in intimate office. Please write giving full particulars of experience and salary required to 122, Wigmore Street, W.1. 7445

ARCHITECTURAL ASSISTANT required, with office experience. Able to see small contracts through. Busy office, with wide variety of work. Five-day week.—Applications to Vallis & Bird, F.A.R.I.B.A., Frome. 7464

JUNIOR ASSISTANT required immediately in busy W.C. London practice. Interesting and varied work. Reply fully, age, experience and salary. Box 7457.

ARCHITECTURAL ASSISTANT required, salary range £550 to £650. Varied work, five-day week. Write, stating age, training, experience, present salary. All interview expenses paid.—G. de C. Fraser, Son & Gearey, Chartered Architects, 27, Dale Street, Liverpool, 2. 7446

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

ARCHITECTURAL ASSISTANT, with considerable experience in land and building surveying in this country and abroad, wishes to specialise in this field. Salary £800.—Box 7422.

A.R.I.B.A., aged 39, experienced and conscientious, used to control of staff, requires a position within 100 miles radius of London.—Box 7450.

A.R.I.B.A. (30), school trained, 7 years' varied experience (2 years' tropical), seeks overseas appointment for about two years. Box 7451

ARCHITECTURAL STUDENT, intermediate standard, 3½ years' experience, requires position in London office. Box 7467.

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

THE NATURE CONSERVANCY require a **CARTOGRAPHIC DRAUGHTSMAN** (20 years or over). Must be neat, quick and accurate. Knowledge of aerial photograph plotting an advantage. Starting salary between £390 and £485 (men), according to age, on salary scale rising by annual increments to a maximum of £725. Women somewhat less. 3 weeks' holiday. Five-day week.—Applications, giving details of age, education, National Service, technical training and experience, and names and addresses of two referees, to the Establishment Officer, The Nature Conservancy, 19, Belgrave Square, London, S.W.1, as soon as possible. 7463

CLARK & FENN, LTD., of 16, Old Town, S.W.4, require **DESIGNER/DRAUGHTSMAN**, with knowledge of Building construction for decorative schemes contracts. Must be capable of working with a minimum of supervision, and be conversant with organising Sub-Contractors' work. Knowledge of estimating an advantage. Good salary and prospects. 7459

THE Milk Marketing Board requires the services of a Building Surveyor, preferably an Associate of the R.I.C.S. (Division 3), in the preparation of specifications for various maintenance works, and to assist in site supervision as required. Applications to be made in writing, stating age, experience, and salary required, to the Senior Personnel Officer, Milk Marketing Board, Thames Ditton, Surrey. 7441

EDITORIAL ASSISTANT to take charge of production wanted for monthly architectural magazine. Must be tidy, methodical, fond of detail and have a good memory. Write stating age, qualifications, salary. Box 918.

COLLEGE OF ESTATE MANAGEMENT

(Incorporated by Royal Charter)

St. Alban's Grove, Kensington, W.8.

TUITION for the examinations of:

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(Including the Valuation, Building Surveying and Quantity Surveying Sections)

THE TOWN PLANNING INSTITUTE

THE ROYAL SOCIETY FOR THE PROMOTION OF HEALTH

THE INSTITUTE OF MUNICIPAL ENGINEERS

and other similar bodies and for:

THE ENGINEERING INSTITUTIONS JOINT PART I EXAMINATION.

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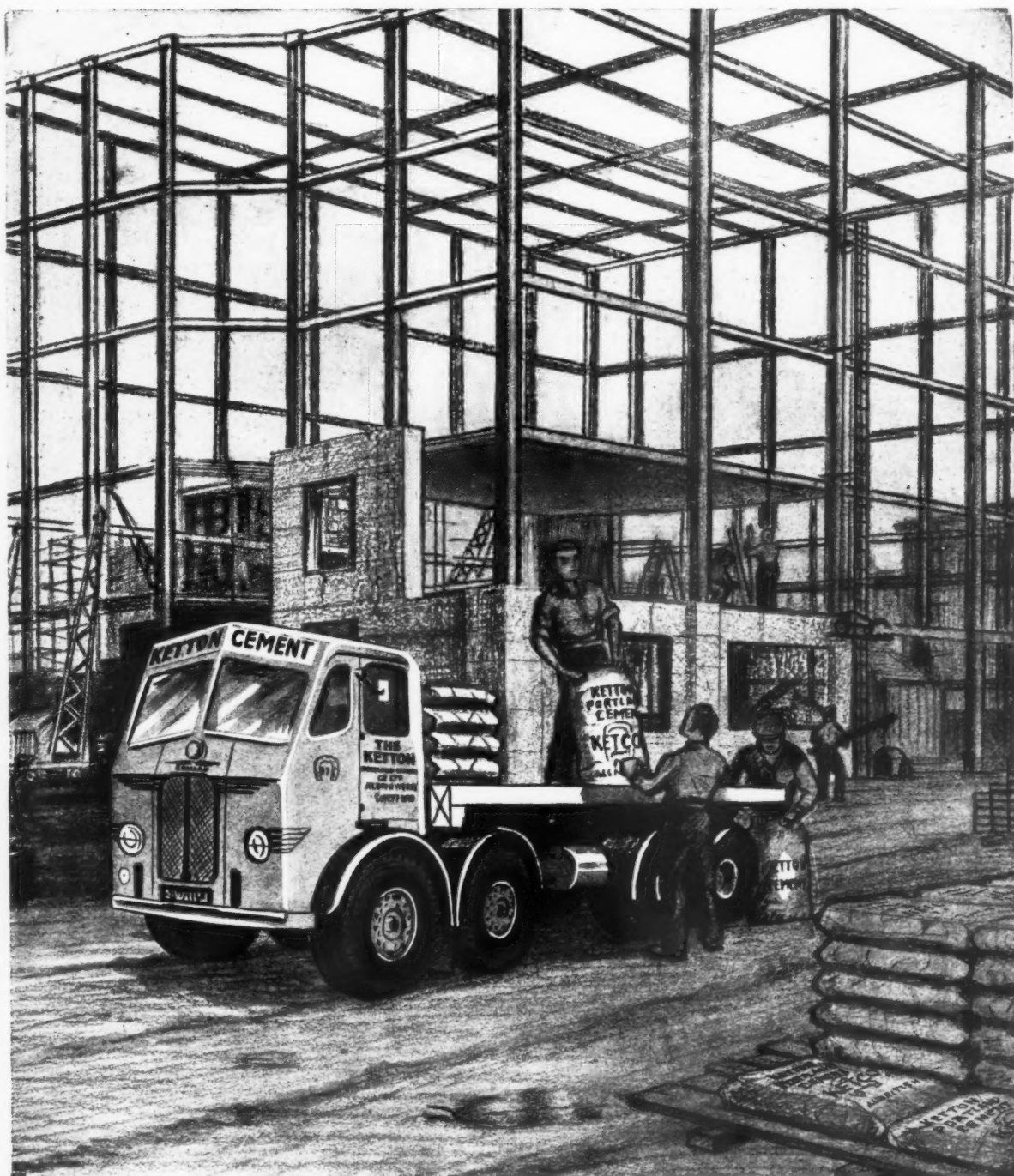
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